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INTRODUCTION

This document details the disk format, file structure, and EDL data structures associated with a 3.5" CMX EDL diskette. It is intended to provide an accurate reference for those third party manufacturers and end users who wish to transfer EDL information between a CMX editing system and another device. CMX provides this information in good faith and believes it to be accurate and true. CMX does not however warranty this information and will not be liable for any damages resulting from its use.

3.5" DISK FORMAT

The physical disk format of a CMX program or EDL disk corresponds to the IBM 3.5" disk format. This format is essentially a modified system 34 format, and is compatible with most disk controllers. A summary of the disk format and a detailed track description appears below.

Soft Sectored 3.5 " Double Density Diskette
 512 bytes / sector
 9 sectors / track
 80 tracks / side
 2 sides
 MFM encoding (double density)
 Sectors are sequentially numbered 1 thru 9
 Tracks are numbered sequentially 0 thru 79

TRACK SUMMARY

# of Bytes	Hex value of Byte	Function
80	4E	GAP 0
12	00	SYNC
3	C2	INDEX MARK
1	FC	INDEX MARK
50	4E	GAP 1
12	00	SYNC
3	A1	ID ADDR. MARK
1	FE	ID ADDR. MARK
1	TRACK NUMBER	ID FIELD
1	SIDE NUMBER	ID FIELD
1	SECTOR NUMBER	ID FIELD
1	02 (sector length)	ID FIELD
2	CRC BYTES	CRC
22	4E	GAP 2
12	00	SYNC
3	A1	DATA/DELETED DATA MARK
1	FB	DATA/DELETED DATA MARK
512	E5	DATA
2	CRC BYTES	CRC
84	4E	GAP 3
APROX 132*	4E	GAP 4

Write bracketed field 9 times per track

* Write until track is completely filled

8" DISK FORMAT

The physical disk format of an 8" CMX program or EDL disk corresponds to the IBM 3740 format. This format is an industry standard and is compatible with most disk controllers. A summary of the disk format and a detailed track description appears below.

Soft Sectored 8" Single Density Diskette
 128 bytes / sector
 26 sectors / track
 77 tracks / side
 1 side
 FM encoding (single density)
 Sectors are sequentially numbered 1 thru 26
 Tracks are numbered sequentially 0 thru 76

TRACK SUMMARY

# of Bytes	Hex value of Byte	Function
40	FF	GAP 0
6	00	SYNC
1	FC	INDEX MARK
26	FF	GAP 1
:		
6	00	SYNC
1	FE	ID ADDR. MARK
1		TRACK NUMBER
1		SIDE NUMBER
1		SECTOR NUMBER
1	00 (sector length)	ID FIELD
2		CRC BYTES
11	FF	GAP 2
6	00	SYNC
1	FB	DATA/DELETED DATA MARK
128	E5	DATA
2		CRC BYTES
27	FF	GAP 3
APROX 247*	FF	GAP 4

Write bracketed field 26 times per track

* Write until track is completely filled

LOGICAL ORGANIZATION OF A DISK

Both an 8" and a 3.5" diskette are viewed as being composed of 512 byte logical blocks. Each logical block on a 3.5" disk corresponds to a single physical sector of the disk, while each logical block on an 8" disk corresponds to 4 physical sectors. (see logical block locations) The first five logical blocks are reserved for bootstrapping the system. Since no system files are present on an EDL disk, these blocks are unused. The sixth and seventh logical blocks contain the directory for the diskette. EDL files are stored beginning at the first file block indicated by word five of the directory header. (see directory structure). This block is initialized by CMX editing systems to be block 8.

Data on the disk is stored in a contiguous/sequential fashion. This means that a file has a start point and an end point, and it occupies all the space in between. With this file structure, the directory only needs to contain the size of each file and the order of the files on the disk. The system software calculates the location of any given file by adding the length of each preceding file to the first file block location. If files are deleted, the system software marks the file as being deleted by placing a 1000 octal into the status word at that file's directory entry. Unless the disk is squeezed, (rewritten to eliminate unused blocks), the directory entry and the space that the file occupied will otherwise remain unchanged.

FILE STRUCTURE

The file structure is a subset of the Digital Equipment Corporation RT-11* file structure. It can be viewed as an RT-11* disk with only one directory segment. In addition, some of the directory entry fields (date and tentative file), remain unused. The number of allowable directory entries range between 1 and 34. Alphanumeric file names and file types are stored in a radix 50 format. (see appendix A for a description of radix 50)

* RT-11 is a trademark of Digital Equipment Corporation

LOGICAL BLOCK LOCATIONS

The logical blocks on the 3.5" disk are ordered such that data transfers may occur at a maximum rate of speed. To do this, a 2 to 1 sector interleave with a one sector track-to-track skew is employed. Logical block 0 begins at track 0, sector 1, side 0. All EDL information is stored on side 0 of the disk. Side 1 is reserved for future use. A maximum of 512 blocks may be stored on any given side. The following formula may be used when relating a logical block to a physical sector on the disk:

LOGICAL_BLOCK_NUMBER / 9 = TRACK_# and REMAINDER

(REMAINDER + 5(TRACK_NUMBER)) modulo 9 = NON_INT_SECTOR_#

IF NON_INT_SECTOR_# < 5, SECTOR_# = 2 * NON_INT_SECTOR_# + 1
ELSE SECTOR_# = 2 * NON_INT_SECTOR_# - 8

As an example of how logical blocks and physical sectors are related, the first four tracks of a 3.5" disk are shown below.

Logical Block 0	=	Track 0, Sector 1	
Logical Block 1	=	Track 0, Sector 3	
Logical Block 2	=	Track 0, Sector 5	
Logical Block 3	=	Track 0, Sector 7	
Logical Block 4	=	Track 0, Sector 9	
Logical Block 5	=	Track 0, Sector 2	
Logical Block 6	=	Track 0, Sector 4	
Logical Block 7	=	Track 0, Sector 6	
Logical Block 8	=	Track 0, Sector 8	
Logical Block 9	=	Track 1, Sector 2	(one sector skew)
Logical Block 10	=	Track 1, Sector 4	
Logical Block 11	=	Track 1, Sector 6	
Logical Block 12	=	Track 1, Sector 8	
Logical Block 13	=	Track 1, Sector 1	
Logical Block 14	=	Track 1, Sector 3	
Logical Block 15	=	Track 1, Sector 5	
Logical Block 16	=	Track 1, Sector 7	
Logical Block 17	=	Track 1, Sector 9	
Logical Block 18	=	Track 2, Sector 3	(one sector skew)
Logical Block 19	=	Track 2, Sector 5	
Logical Block 20	=	Track 2, Sector 7	
Logical Block 21	=	Track 2, Sector 9	
Logical Block 22	=	Track 2, Sector 2	
Logical Block 23	=	Track 2, Sector 4	
Logical Block 24	=	Track 2, Sector 6	
Logical Block 25	=	Track 2, Sector 8	
Logical Block 26	=	Track 2, Sector 1	
Logical Block 27	=	Track 3, Sector 4	(one sector skew)
Logical Block 28	=	Track 3, Sector 6	
Logical Block 29	=	Track 3, Sector 8	
Logical Block 30	=	Track 3, Sector 1	
Logical Block 31	=	Track 3, Sector 3	
Logical Block 32	=	Track 3, Sector 5	
Logical Block 33	=	Track 3, Sector 7	
Logical Block 34	=	Track 3, Sector 9	

The logical blocks on the 8" disk are also ordered such that data transfers may occur at a maximum rate of speed. To do this, a 2 to 1 sector interleave with a 6 sector track-to-track skew is employed. Logical block 0 begins at track 1, sector 1, side 0. All EDL information is stored on side 0 of the disk. A maximum of 512 blocks may be stored on any given side. The following formulas may be used to determine the physical track and sector for the beginning of a logical block.

$\text{LOGICAL_BLOCK} * 4 = \text{SEQUENTIAL_SECTOR_NUMBER}$

$\text{SEQUENTIAL_SECTOR_NUMBER} / 26 = \text{TRACK_\#}$ and REMAINDER

$\text{REMAINDER} * 26 = \text{FIRST_LOGICAL_SECTOR_OF_BLOCK}$

$\text{FIRST_SECTOR_ON_TRACK} = ((6 * \text{TRACK_\#}) - 5) \text{ modulo } 26$

$\text{SECTOR} = \text{FIRST_SECTOR_ON_TRACK} + (2 * \text{FIRST_LOGICAL_SECTOR_OF_BLOCK}) - 1 \text{ modulo } 26$

As an example of how logical blocks and physical sectors are related, four tracks of an 8" disk are shown below.

Logical Block 0	=	Track 1, Sector 1,3,5,7
Logical Block 1	=	Track 1, Sector 9,11,13,15
Logical Block 2	=	Track 1, Sector 17,19,21,23
Logical Block 3	=	Track 1, Sector 25,2,4,6
Logical Block 4	=	Track 1, Sector 8,10,12,14
Logical Block 5	=	Track 1, Sector 16,18,20,22,
Logical Block 6	=	Track 1, Sector 24,26
		Track 2, Sector 7,9 (6 sector skew)
Logical Block 7	=	Track 2, Sector 11,13,15,17
Logical Block 8	=	Track 2, Sector 19,21,23,25
Logical Block 9	=	Track 2, Sector 1,3,5,8
Logical Block 10	=	Track 2, Sector 10,12,14,16
Logical Block 11	=	Track 2, Sector 18,20,22,24
Logical Block 12	=	Track 2, Sector 26,2,4,6
Logical Block 13	=	Track 3, Sector 13,15,17,19 (6 sect. skew)
Logical Block 14	=	Track 3, Sector 21,23,25,1
Logical Block 15	=	Track 3, Sector 3,5,7,9
Logical Block 16	=	Track 3, Sector 11,14,16,18,
Logical Block 17	=	Track 3, Sector 20,22,24,26
Logical Block 18	=	Track 3, Sector 2,4,6,8
Logical Block 19	=	Track 3, Sector 10,12
Logical Block 20	=	Track 4, Sector 19,21 (6 sector skew)
Logical Block 21	=	Track 4, Sector 23,25,1,3
Logical Block 22	=	Track 4, Sector 5,7,9,11
Logical Block 23	=	Track 4, Sector 13,15,17,20
Logical Block 24	=	Track 4, Sector 22,24,26,2
Logical Block 25	=	Track 4, Sector 4,6,8,10
Logical Block 26	=	Track 4, Sector 12,14,16,18

DIRECTORY STRUCTURE

The disk directory contains the information as to where the EDL files are located on the disk. The directory always resides beginning at the sixth logical block location. The directory consists of two blocks of directory data (ie one directory segment). The directory contains a five word header, up to 34 directory entries, and an end of segment marker. (note that a "word" consists of 16 bits, i.e. 2 bytes)

The directory header is summarized below:

WORD 1	NUMBER OF SEGMENTS IN DIRECTORY	Hex 0001
WORD 2	NEXT LOGICAL DIRECTORY SEGMENT	Hex 0000
WORD 3	NUMBER OF THE HIGHEST SEGMENT IN USE	Hex 0001
WORD 4	ZERO EXTRA BYTES PER ENTRY	Hex 0000
WORD 5	FILES START AT BLOCK NUMBER	Hex 0008

Each directory entry consists of a status word, a file name, a file type, and the file length. The two types of status words used indicate an empty entry, (octal 1000), or a permanent entry, (octal 2000). File names may be 6 characters in length, and their alphanumeric characters are stored as 2 words in radix 50. (see appendix A) . The file type used is the radix 50 representation of "EDL". The file length is stored as a number of blocks, and the reserved field and the creation date field are filled with zeroes. A summary of a directory entry appears below. All entries are in words.

STATUS WORD	(1000 or 2000 octal)
FILE NAME	(3 alphanumeric characters in radix 50)
FILE NAME	(3 alphanumeric characters in radix 50)
FILE TYPE	(3 alphanumeric characters in radix 50)
TOTAL FILE LENGTH	(in blocks)
TENTATIVE FILE	(fill with 0)
CREATION DATE	(fill with 0)

An octal 4000 is used as an end of segment marker. This value is placed following the last directory entry to indicate the end of the directory information. An example of a minimal directory is given below. Values are shown in octal. The file name shown is an example only. All header information and entries are in words.

HEADER	1	one directory segment
	0	no next segment
	1	highest segment is 1
	0	no extra bytes per entry
	10	starting block number
Entry 1	2000	permanent entry
	12340	radix 50 for "CMX"
	151656	radix 50 for "340"
	17754	radix 50 for "EDL"
	746	total file length in blocks
	0	tentative file
	0	date
	4000	end of segment marker

EDL DATA STRUCTURE

The CMX Edit Decision List is composed of edit decision statements which are intended to work as a data base for the assembly of a video tape master. The edit decision statements are divided into two types; standard form statements, and note statements. All CMX editing systems will interpret the standard form statements. Note statements are interpreted to various degrees depending upon the model of the editing system. In addition to the standard statements and note statements, miscellaneous user information in the form of user notes may also be entered into the list. If a user note is entered with the syntax of a note form statement, systems that make use of these statements will be able to interpret them. At the beginning of the EDL, a header is used to identify a title for the list and the system framecode mode used.

Appendix B lists the legal EDL character set. Appendix D shows edits with various types of transitions that are represented by standard form statements. The edits are shown with a standard CMX menu display, the EDL entry for the edit, and a diagram depicting the edit. Appendix E shows an EDL with various types of transitions that are represented by standard and note form statements. These appendices are extremely useful when trying to understand how these complex edits are represented.

STANDARD FORM STATEMENTS

A standard form statement is composed of one line with 9 data fields. A string of one or more spaces is used as a field delimiter, while a carriage return/line feed is used to indicate the end of a line. All information is stored in ascii. All capital letters, numbers, a colon character, a space, a slash, a carriage return, and a line feed are considered to be valid characters. All other characters are disallowed. Depending upon the type of edit, one or more standard form (and note form) statements may be used to describe an event in the list. (see appendix D) Each field is individually described in the following paragraphs. Their recommended alignment within the statement appears below.

```
111^222^3333^4444^555^666666666666^777777777777^888888888888^999999999999^
:---:---:---:---:---:---:---:---:---:---:---:---:---:---:---:---:---:---:---
```

FIELD 1

The first field is a number field which identifies the edit decision. The data in this field is numeric only. If the data is not a decimal number between 1 and 999, the full statement is considered a note or a note statement. It is recommended that leading zeroes be used in numeric values of this field.

FIELD 2

The second field is a 4 character field that indicates the reel number (which must be a decimal number between 001 and 253) followed by an optional letter B. An alternate 2 character descriptor may be used to indicate a Black or an Aux source. To indicate a Black source, the letters BL are used. To indicate an Aux source, the letters AX are used. It is recommended that leading zeroes be used in this field.

FIELD 3

The third field indicates the channels involved in the edit. For this field the following nomenclature must be used:

A	- Audio 1 only
B	- Audio 1 and Video
V	- Video only
A2	- Audio 2 only
A2/V	- Audio 2 and Video
AA	- Audio 1 and Audio 2
AA/V	- Audio 1, Audio 2, and Video

FIELD 4

The fourth field describes the type of edit statement. These include a cut, a dissolve, a wipe, a key foreground, or a key out foreground. If the statement is a W, a three digit wipe code is also included in this field. The following nomenclature must be used to describe the contents of field 4:

- C - This statement includes cut information.
- D - This statement includes dissolve information.
- Wxxx - This statement includes wipe information; the wipe type being defined by a three digit number xxx that corresponds to the either a standard or non-standard CMX wipe code. The duration of the wipe is defined in field 5.
- KB - The edit includes a key; this material being used in the background. This EDL statement is the first of half of a two statement pair that contains the key information associated with an individual event.

Fields 6 and 7 define the total edit duration. An (F) in field 5 indicates a fade condition during the edit.

- K - The edit includes a key; this material being put into the foreground. This EDL statement is one of two possible statements (K and KO) that may be paired with a KB statement.

If field 6 is the same as field 7 at the start of the edit, the key effect will dissolve into the picture for the duration specified in field 5 and remain in the picture for the entire length of the edit.

If field 6 and field 7 show duration, the key effect will dissolve into the picture at the start of the edit for the duration given in field 5, and remain there for the duration specified by the sum of the foreground duration and the dissolve duration.

- KO - The edit includes a key; this material being removed from the foreground. This EDL statement is one of two possible statements (K and KO) that may be paired with a KB statement.

FIELD 5

The function of field 5 is defined by the type of transition indicated in field 4. If the transition is a cut, field 5 is filled with spaces. If the transition is a dissolve, a wipe, or a key, field 5 will contain a three character numeric value (between 001 and 255) that indicates the transition duration in frames. If the statement is a key background, field 5 may contain an (F) to indicate a fade condition during the edit.

FIELD 6

The function of the sixth field is to indicate the play source in-time. This in-time is expressed in a timecode format of hours, minutes, seconds, and frames with a colon separating each two digit numeric entry. The maximum number of hours is 23. The maximum number of minutes is 59. The maximum number of seconds is 59, and the maximum number of frames is 29. (24 for PAL)

FIELD 7

The function of the seventh field is to indicate the play source out-time. This out-time is expressed in a timecode format of hours, minutes, seconds, and frames with a colon separating each two digit numeric entry. The maximum number of hours is 23. The maximum number of minutes is 59. The maximum number of seconds is 59, and the maximum number of frames is 29. (24 for PAL)

FIELD 8

The function of the eighth field is to indicate the record in-time. This in-time is expressed in a timecode format of hours, minutes, seconds, and frames with a colon separating each two digit numeric entry. The maximum number of hours is 23. The maximum number of minutes is 59. The maximum number of seconds is 59, and the maximum number of frames is 29. (24 for PAL)

FIELD 9

The function of the ninth field is to indicate either the record duration or record out-time. This time is expressed in a timecode format of hours, minutes, seconds, and frames with a colon separating each two digit numeric entry. The maximum number of hours is 23. The maximum number of minutes is 59. The maximum number of seconds is 59, and the maximum number of frames is 29. (24 for PAL) This field is placed into the list as a reference only. Actual edit points are calculated by CMX systems using only the information contained in fields six thru eight.

NOTE FORM STATEMENTS

Note form statements are EDL statements that could either be treated as simply a note for the user or as data for the system, depending upon whether the system is equipped to use the particular type of data contained in the statement. Note form statements always begin with an ID field. If the system recognizes the first field as a valid identifier, it will attempt to use the data; otherwise it will treat the statement as a user note. SPLIT: and FCM: note form statements always precede the standard form statement that they affect. All other note form statements follow the standard form statement(s) associated with an event. Depending upon the type of edit, one or more standard form (and note form) statements may be used to describe an event in the list. (see appendix D)

Note form statements use a string of one or more spaces as a field delimiter, while a carriage return/line feed is used to indicate the end of statement. All information is stored in ascii. All capital letters, numbers, a colon character, a space, a slash, a carriage return, and a line feed are considered to be valid characters. All other characters are disallowed. Unlike standard form statements, note form statements do not have like fields. Valid identifiers for note form statements are shown below.

FCM:	- frame code mode change
SPLIT:	- audio/video split in-time
GPI	- GPI trigger
M/S	- master slave
SWM	- switcher memory
M2	- motion memory
%	- motion memory variable data

The following is a description of FCM: statement fields, and their recommended alignment within the statement. An FCM: statement appears in the list whenever a source with a timecode mode that is not current is used as a source during an event. FCM: statements must precede the standard form statements that use the new source. They also appear in the EDL header following the TITLE: statement. FCM: statements do not appear in PAL systems.

1111^22222222222222^

FIELD 1 FCM:

Field one contains the FCM: identifier.

FIELD 2 DROP FRAME or NON-DROP FRAME

Field two contains one of the two framecode modes shown. These two entries are the only valid entries in this field.

The following is a description of SPLIT: statement fields, and their recommended alignment within the statement. Split edits are made at the in-point only, and separate the video channel from all of the audio channels. Individual audio channel timing may not be split.

11111^22222222222222^333333333333^

FIELD 1 SPLIT:

This field is the split edit identifier.

FIELD 2 VIDEO DELAY= or AUDIO DELAY=

The second field identifies the type of split to occur at the edit in point. Valid entries are shown above.

FIELD 3 00:00:00:00

Field three contains the value of the video or audio delay. The value is in standard timecode format.

The following is a description of GPI statement fields, and their recommended alignment within the statement. GPI triggers may be programmed to occur during any type of event. The GPI statement field will follow the standard form statements and any other associated note form statements.

111^222222^333333^444^55^666666666666^^7^

FIELD 1 GPI
This field contains the identifier for a GPI note statement.

FIELD 2 NAMEIT
This field contains the assigned name of the GPI output. This name may be up to 6 characters in length, and contain any legal alphanumeric characters. A space is used as a delimiter for this field.

FIELD 3 PULSE or ON or OFF
This field identifies the type of GPI event that will occur. Legal types of events are PULSE , ON , and OFF . If the type is a pulse, a pulse with a duration as defined in field 4 will occur. If the type is ON, the GPI line will be turned on and remain on. If the type is OFF, the GPI line will be turned off and remain off.

FIELD 4 003
This field defines the pulse width programmed for this GPI channel. Should the type of GPI event be a PULSE, the duration of the pulse on this channel will be the indicated number of frames. Legal values are between 001 and 255. Leading zeroes are recommended. If field 3 does not indicate a pulse type GPI trigger, this field will be filled with spaces.

FIELD 5 A or RI or RO
This field defines how the GPI event will be timed. An A indicates that the GPI event will occur at the absolute R-VTR timecode value indicated in field 6. A RI indicates that the GPI event will occur relative to the in point of the R-VTR. A RO indicates that the GPI event will occur relative to the out point of the R-VTR. The offset to an in or an out point is given in field 6.

FIELD 6 00:00:00:00 or +00:00:00:00 or -00:00:00:00
This field defines the absolute timecode location of the GPI trigger, or the relative location of the GPI trigger with respect to the R-VTR in or out point. Absolute timecode locations are in standard timecode format, while relative locations are expressed as + or - a timecode value.

FIELD 7 *
This field identifies a disabled trigger. Valid entries are an asterisk to indicate "disabled", or a space to indicate "enabled".

The following is a description of M/S statement fields, and their recommended alignment within the statement. For an example of master/slave EDL entries, refer to appendix E. Master slave statements follow standard form statements of the associated event.

```
111^2222^.....333^.....444444444444^555^.....666666666666^
:-----:-----:-----:-----:-----:-----:-----:-----:-----:-----:-----:-----:-----:-----:-----:-----:-----
```

FIELD 1 M/S

This field is the master/slave identifier.

FIELD 2 001

(This field identifies the master by source reel number or MSTR (indicating the R-VTR.) Spaces are used if the M/S statement is not the first M/S statement associated with a given event.

FIELD 3 002

Field three identifies one of the slaves by reel number. Valid entries are assigned reel numbers. At least one slave must be indicated in a M/S event.

FIELD 4 +00:00:00:00 or -00:00:00:00

Field four contains the offset between the slave in field three and the master. The offset is entered as a positive or negative timecode value.

FIELD 5 002

(Field five identifies one of the slaves by reel number. Valid entries are assigned reel numbers, or a space character for no entry.

FIELD 6 +00:00:00:00 or -00:00:00:00

Field six contains the offset between the slave in field five and the master. The offset is entered as a positive or negative timecode value. This field is present only when field 5 has an entry. If field 5 has no entry, field 6 contains a space character.

The following is a description of SWM statement fields, and their recommended alignment within the statement. For an example of an event with switcher memory, refer to appendix E. SWM statements follow standard form statements of the associated event.

111^^2222^333^^^444^^555^666666^777777777777^^8^^

FIELD 1 SWM

This field is the switcher memory statement identifier.

FIELD 2 BANK

This is a fixed field.

FIELD 3 001

This field indicates the bank on the switcher that will be triggered. Valid entries are between 001 and 255; leading zeroes are recommended.

FIELD 4 REG

This is a fixed field.

FIELD 5 001

This field indicates the E-Mem register that will be used when the event is triggered. Valid entries are between 001 and 255; leading zeroes are recommended.

FIELD 6 MSTR or MSTR I or MSTR O

This field defines how the SWM event will be timed. An MSTR indicates that the SWM event will occur at the absolute master timecode value indicated in field 7. A MSTR I indicates that the SWM event will occur relative to the in point of the R-VTR. A MSTR O indicates that the SWM event will occur relative to the out point of the R-VTR.

FIELD 7 00:00:00:00 or +00:00:00:00 or -00:00:00:00

This field defines the absolute timecode location of the SWM trigger, or the relative location of the SWM trigger with respect to the R-VTR in or out point. Absolute timecode locations are in standard timecode format, while relative locations are expressed as + or - a timecode value.

FIELD 8 *

This field identifies a disabled trigger. Valid entries are an asterisk to indicate "disabled", or a space to indicate "enabled".

The following is a description of M2 statement fields, and their recommended alignment within the statement. For an example of an event with motion memory, refer to appendix E. M2 statements follow standard form statements associated with the event.

```
11^^222^^^33333333^4444^^5^^^666666666666^^7^^
:---:---:---:---:---:---:---:---:---:---:---:---:---:---:---:---:---:---:---:---:---:---:---
```

FIELD 1 M2

This field is the motion memory identifier.

FIELD 2 001

Field two identifies one of the sources by reel number or reel name. Valid entries are assigned reel numbers.

FIELD 3 045.0 or TRIG1 or VARIABLE

Field three contains the entry speed of the reel identified in field 2, the indication that a variable data trigger has occurred, or the indication that variable data of the length defined in field 6 will follow. The entry speed is expressed as frames and tenths of frames per second. The trigger is expressed as TRIG1 thru TRIG8. Variable data is stored for all variable data triggers at the end of the event in a special M2 statement. This statement contains VARIABLE in field three, DATA in field 4, and the byte count of the variable data in field 6. The data then follows in % note statements.

FIELD 4 003 or MSTR or DATA

Field four identifies a reference by source reel number or MSTR (indicating R-VTR). If VARIABLE was entered in field 3, field four will contain DATA. Valid entries are assigned reel numbers, MSTR, or DATA.

FIELD 5 A or I or O or D

Field five describes the timing relationship of the M2 trigger. This relationship may be relative to the in-point of the reel named in field 4, (I), relative to the out-point of the reel named in field 4, (O), an absolute time reference, (A), or relative to the previous trigger, (D). This field contains a space when field 3 contains VARIABLE.

FIELD 6 00:00:00:00 or +00:00:00:00 or -00:00:00:00 or 090

Field six gives the absolute or relative timecode value for the trigger, or a byte count for the VARIABLE DATA that follows in the % note statements. A semicolon is used in the timecode value to indicate drop frame information, while a colon indicates non-drop frame information. This field is unique in that it is not dependent on an FCM: statement. Valid byte counts are from 001 to 999.

FIELD 7 *

This field identifies a disabled trigger. Valid entries are an asterisk to indicate "disabled", or a space to indicate "enabled".

USER NOTES

User notes may be inserted into the list following any event. The notes typically refer to the current event, although they may contain almost any information that the user desires. The only restriction on user notes is that the notes may not begin with a standard form event number, or one of the note form statement identifiers. All unrecognized statements are treated as notes. This may occur if a standard or note form statement does not follow the correct syntax. User notes may be up to one line in length, and multiple user notes may be grouped together.

END OF FILE MARKER

A rubout and a control Z are used as end of file markers. These markers appear at the end of the EDL data.

APPENDIX A

ASCII to RADIX-50 Conversion

Each ASCII character is translated into its RADIX-50 equivalent as follows:

<u>Character</u>	<u>ASCII Octal Equivalent</u>	<u>RADIX-50 Octal Equivalent</u>
(space)	40	0
A-Z	101-132	1-32
\$	44	33
-	56	34
(undefined)		35
0-9	60-71	36-47

The RADIX-50 equivalents of three characters (C1,C2,C3) are then combined as follows:

$$\text{RADIX-50 Value} = (((C1 * 50) + C2) * 50) + C3.$$

Example:

$$\text{RADIX-50 Value of 'EDL'} = (((5 * 50) + 4) * 50) + 14 = 017754$$

The following table provides an alternate method of translating from the ASCII character set to its RADIX-50 equivalents.

RADIX-50 Value = The sum of the first character entry + second character entry + third character entry.

Example:

$$\text{RADIX-50 Value of 'EDL'} = 017500 + 000240 + 000014 = 017754$$

Note: All of these values are octal.

Single Character
or
First Character

Space	000000
A	003100
B	006200
C	011300
D	014400
E	017500
F	022600
G	025700
H	031000
I	034100
J	037200
K	042300
L	045400
M	050500
N	053600
O	056700
P	062000
Q	065100
R	070200
S	073300
T	076400
U	101500
V	104600
W	107700
X	113000
Y	116100
Z	121200
\$	124300
.	127400
Unused	132500
0	135600
1	140700
2	144000
3	147100
4	152200
5	155300
6	160400
7	163500
8	166600
9	171700

Second
Character

Space	000000
A	000050
B	000120
C	000170
D	000240
E	000310
F	000360
G	000430
H	000500
I	000550
J	000620
K	000670
L	000740
M	001010
N	001060
O	001130
P	001200
Q	001250
R	001320
S	001370
T	001440
U	001510
V	001560
W	001630
X	001700
Y	001750
Z	002020
\$	002070
.	002140
Unused	002210
0	002260
1	002330
2	002400
3	002450
4	002520
5	002570
6	002640
7	002710
8	002760
9	003030

Third
Character

























Space	000000
A	000001
B	000002
C	000003
D	000004
E	000005
F	000006
G	000007
H	000010
I	000011
J	000012
K	000013
L	000014
M	000015
N	000016
O	000017
P	000020
Q	000021
R	000022
S	000023
T	000024
U	000025
V	000026
W	000027
X	000030
Y	000031
Z	000032
\$	000033
.	000034
Unused	000035
0	000036
1	000037
2	000040
3	000041
4	000042
5	000043
6	000044
7	000045
8	000046
9	000047

APPENDIX B
LEGAL EDL CHARACTER SET

The following characters compose the legal EDL character set. All of the characters are printable ascii characters. All character values are given in hex.

ASCII	41 thru 5A	(A thru Z)
ASCII	30 thru 39	(0 thru 9)
ASCII	20	(space)
ASCII	D	(carriage return)
ASCII	A	(line feed)
ASCII	3A	(colon)
ASCII	2F	(slash)
ASCII	2B	(plus)
ASCII	5F	(minus)
ASCII	3D	(equal)
ASCII	3E	(greater than)
ASCII	25	(percent)
ASCII	2E	(period)
ASCII	28	(left paren.)
ASCII	29	(right paren.)
ASCII	2A	(asterisk)

APPENDIX C
WIPE CODE PATTERN TABLE

	1	2		1	2		1	2
00			06		12		18	
01			07		13		19	
02			08		14		20	
03			09		15		21	
04			10		16		22	
05			11		17		23	

1 Wipe Code is for normal direction wipe. Add 100 for reverse direction wipe.

2 Sketch shows effect. Normal direction of change is toward increasing white area.

Wipe codes from 24 to 85 have not been standardized since expanded wipes are only available on newer model switchers. In the basic 23 if the Switcher in question is not capable of a specific wipe pattern it will default to Number 1.

APPENDIX D
EXAMPLE OF A CUT EVENT

MENU AREA DISPLAY:

V	AI	IN	CUT	DURATION
	MSTR	01:00:00:00		
CUT - B	A-001			
	* B-002	02:00:00:00	02:00:10:00	00:00:10:00
	C-003			
EVENT #014	ALX			
	BLACK			

BREAKDOWN OF DATA IN MENU AREA:

V A1	-	Edit Mode
CUT	-	Type of Transition
014	-	Event Number
002	-	Reel Number for B-SRC
01:00:00:00	-	MSTR In-time
02:00:00:00	-	Play B-SRC In-time
02:00:10:00	-	Play B-SRC Out-time
00:00:10:00	-	Edit Duration

EDL ENTRY:

014	002	B	C	02:00:00:00	02:00:10:00	01:00:00:00	01:00:10:00
-----	-----	---	---	-------------	-------------	-------------	-------------

BREAKDOWN OF DATA IN EDL:

014	-	Event Number
002	-	Reel Number
B	-	Both Video and Audio Channel 1
C	-	CUT Transition
02:00:00:00	-	SRC In-time
02:00:10:00	-	SRC Out-time
01:00:00:00	-	MSTR In-time
01:00:10:00	-	MSTR Out-time

EXAMPLE OF A WIPE OR DISSOLVE EVENT

There are seven different ways of programming a wipe or a dissolve.

The variations depend on how the edit times are set up.

In the EDL, a wipe or dissolve has a single event number, but has two lines of information. The first line represents information from the From source. The second line represents information from the To source. Since there are always two sources involved in a wipe or a dissolve, there must be two lines in the EDL.

The following cases illustrate four variations of a dissolve. The examples also apply to wipe transitions. To convert the dissolve EDL entries to wipe EDL entries, change field 4 from "D" to "WXXX" where XXX is a valid wipe code.

DISSOLVE - CASE 1

MENU AREA DISPLAY:

			IN	OUT	DURATION
		MSTR	01:00:00:00		
DIS					
A TO B	030	A-001	02:00:00:00		
		B-002	03:00:00:00	03:00:10:00	00:00:10:00
		C-003			
EVENT #001		AUX			
		BLACK			

EDL ENTRY:

001	001	B	C	02:00:00:00	02:00:00:00	01:00:00:00	01:00:00:00
001	002	B	D	030 03:00:00:00	03:00:10:00	01:00:00:00	01:00:10:00

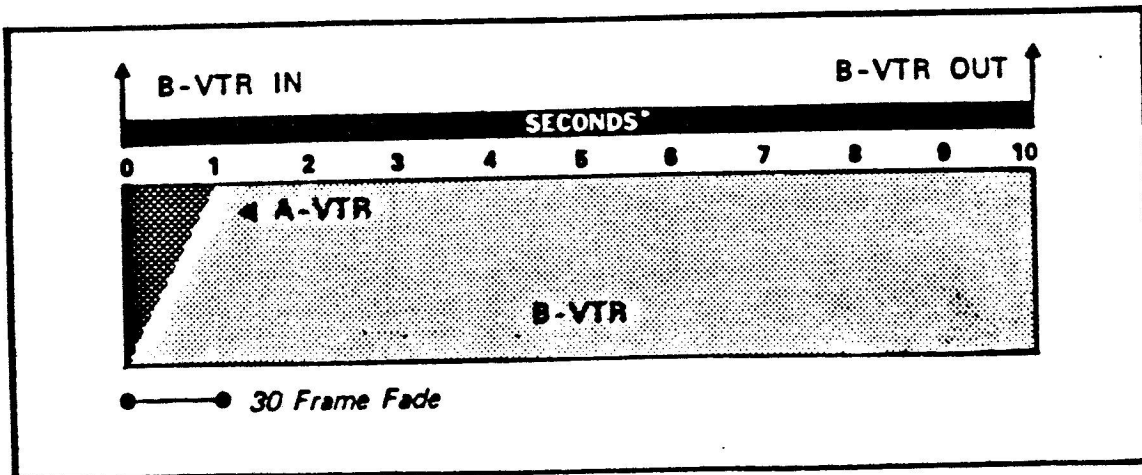
SYSTEM MESSAGE AREA DISPLAY:

DISSOLVE FROM- A TO- B
RATE= 30

SPECIAL INFORMATION:

Notice that in the Menu Area, only the To Source (B-SRC) has a defined out-time. The From Source (A-SRC) will begin to fade out at the beginning of the edit because it has no defined out-time. Notice on the first line of the EDL entry, the From Source has equal in and out-times.

DIAGRAM:



*R-VTR, A-VTR and B-VTR time in seconds; but each may have different timecodes.

DISSOLVE - CASE 2

MENU AREA DISPLAY:

			IN	OUT	DURATION
		MSTR	01:00:00:00	01:00:10:00	00:00:10:00
DIS					
A TO B	030	A-001	02:00:00:00		
		B-002	03:00:00:00	03:00:08:00	00:00:08:00
		C-003			
EVENT #002		AUX			
		BLACK			

EDL ENTRY:

002	001	B	C	02:00:00:00	02:00:00:00	01:00:00:00	01:00:00:00
002	002	B	D	030 03:00:00:00	03:00:10:00	01:00:00:00	01:00:10:00

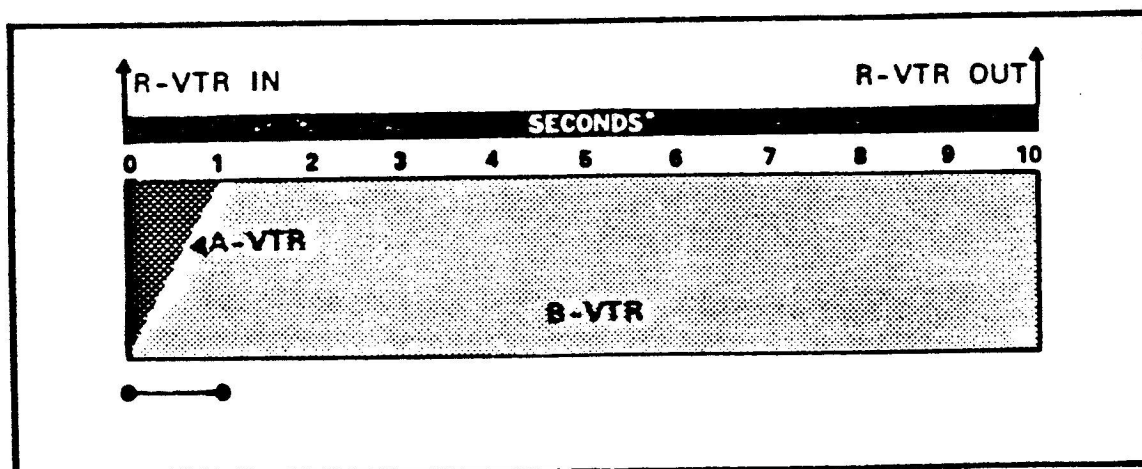
SYSTEM MESSAGE AREA DISPLAY:

DISSOLVE FROM- A TO- B
RATE= 30

SPECIAL INFORMATION:

The MSTR duration always takes precedence over the SRC duration, so instead of the edit being 8:00 long, it is 10:00 long.

DIAGRAM:



*R-VTR, A-VTR and B-VTR time in seconds; but each may have different timecodes.

DISSOLVE - CASE 3

MENU AREA DISPLAY:

			IN	OUT	DURATION
		MSTR	01:00:00:00	01:00:10:00	00:00:10:00
DIS					
A TO B	030	A-001	02:00:00:00	02:00:09:00	00:00:09:00
		B-002	03:00:00:00		
		C-003			
EVENT #003		AUX			
		BLACK			

EDL ENTRY:

003	001	B	C	02:00:00:00	02:00:09:00	01:00:00:00	01:00:09:00
003	002	B	D	030 03:00:00:00	03:00:01:00	01:00:09:00	01:00:10:00

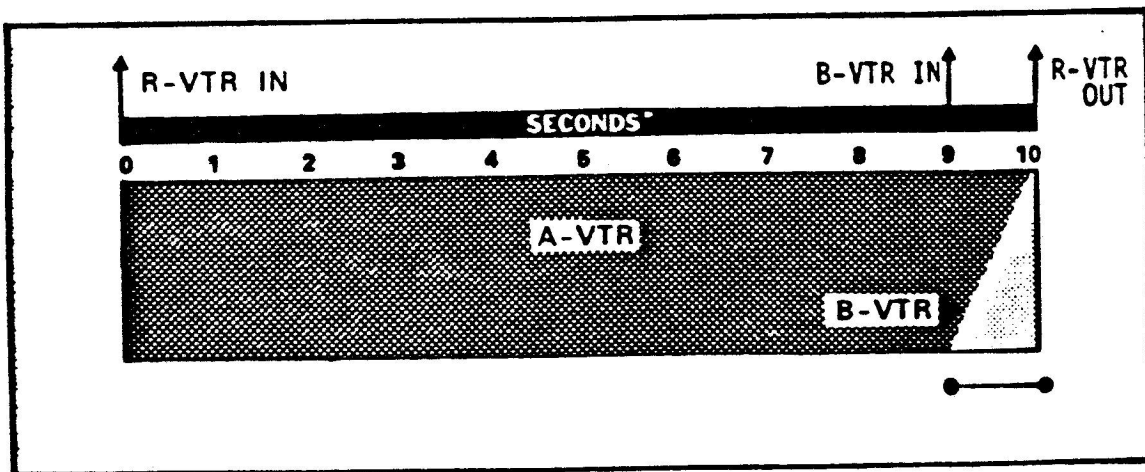
SYSTEM MESSAGE AREA DISPLAY:

DISSOLVE FROM- A TO- B
RATE= 30

SPECIAL INFORMATION:

This is a delayed dissolve. The From Source (A-SRC) has a duration 9:00 long, while the entire edit has a duration of 10:00 as defined by the MSTR. That means the To Source (B-SRC) can remain on for 1:00, which is also the dissolve rate. The edit after this one would probably be a Cut to the B-SRC to extend its scene.

DIAGRAM:



*R-VTR, A-VTR and B-VTR time in seconds; but each may have different timecodes.

DISSOLVE - CASE 4

MENU AREA DISPLAY:

			IN	OUT	DURATION
		MSTR	01:00:00:00	01:00:10:00	00:00:10:00
DIS					
A TO B	030	A-001	02:00:00:00	02:00:08:00	00:00:08:00
		B-002	03:00:00:00		
		C-003			
EVENT #004		AUX			
		BLACK			

EDL ENTRY:

004	001	B	C	02:00:00:00	02:00:08:00	01:00:00:00	01:00:08:00
004	002	B	D	030 03:00:00:00	03:00:02:00	01:00:08:00	01:00:10:00

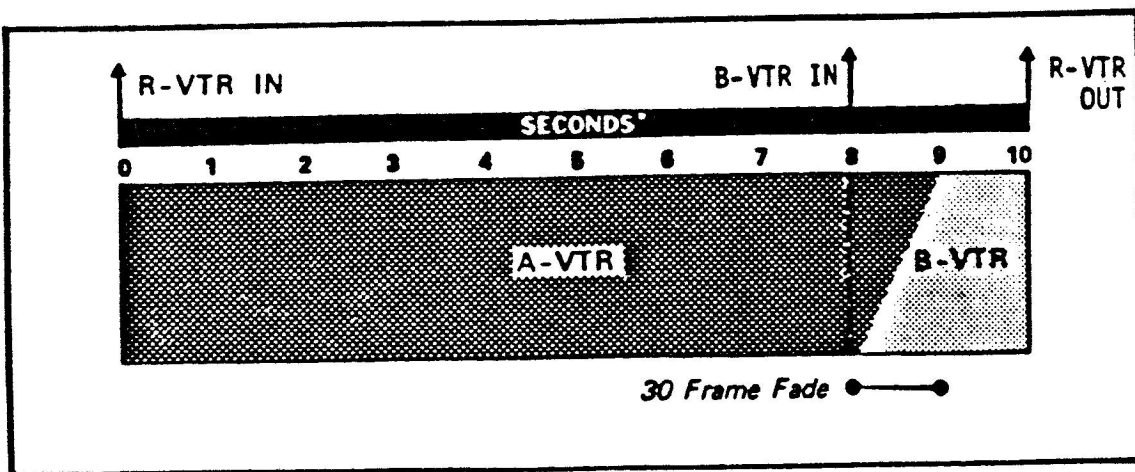
SYSTEM MESSAGE AREA DISPLAY:

DISSOLVE FROM- A TO- B
RATE= 30

SPECIAL INFORMATION:

The From Source has a duration of 8:00, the total edit duration is 10:00. Therefore, the To Source remains on for 2:00. The same effect can be achieved by not entering an out-time on the MSTR, and giving the To Source a duration of 2:00.

DIAGRAM:



*R-VTR, A-VTR and B-VTR time in seconds; but each may have different timecodes.

DISSOLVE - CASE 5

MENU AREA DISPLAY:

			IN	OUT	DURATION
		MSTR	01:00:00:00		
DIS					
A TO B	255	A-001	02:00:00:00		
		B-002	03:00:00:00	03:00:08:15	00:00:08:15
		C-003			
EVENT #006		AUX			
		BLACK			

EDL ENTRY:

006	001	B	C	02:00:00:00	02:00:00:00	01:00:00:00	01:00:00:00
006	002	B	D	255 03:00:00:00	03:00:08:15	01:00:00:00	01:00:08:15

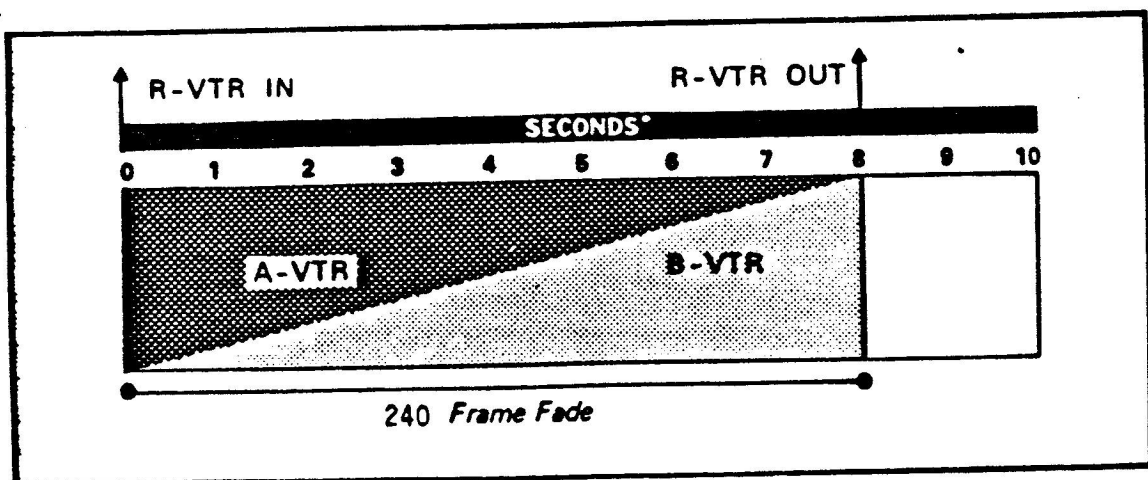
SYSTEM MESSAGE AREA DISPLAY:

DISSOLVE FROM- A TO- B
RATE= 255

SPECIAL INFORMATION

Notice the Dissolve rate (255 frames) and the edit duration (8:15) equal the same amount. Therefore, the entire edit will be the transition from the A-SRC to the B-SRC. 255 frames is the maximum transition rate.

DIAGRAM



*R-VTR, A-VTR and B-VTR time in seconds; but each may have different timecodes.

DISSOLVE - CASE 6

MENU AREA DISPLAY:

			IN	OUT	DURATION
		MSTR	01:00:00:00	01:00:10:00	00:00:10:00
DIS					
A TO B	255	A-001	02:00:00:00		
		B-002	03:00:00:00		
		C-003			
EVENT #007		AUX			
		BLACK			

EDL ENTRY:

007	001	B	C	02:00:00:00	02:00:00:00	01:00:00:00	01:00:00:00
007	002	B	D	225 03:00:00:00	03:00:10:00	01:00:00:00	01:00:10:00

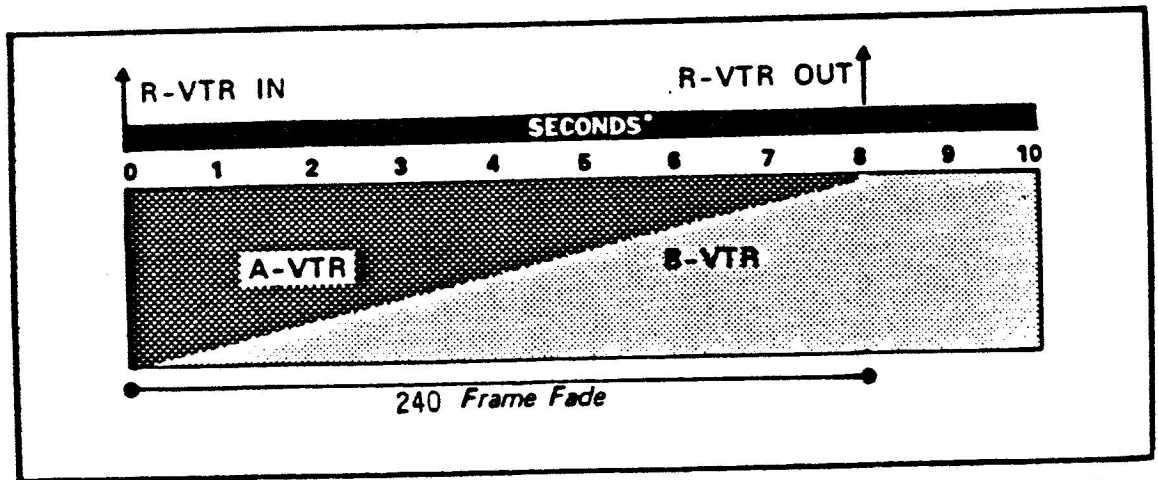
SYSTEM MESSAGE AREA DISPLAY:

DISSOLVE FROM- A TO- B
RATE= 255

SPECIAL INFORMATION:

The edit duration is controlled by the Master.

DIAGRAM:



* R-VTR, A-VTR and B-VTR time in seconds; but each may have different timecodes.

DISSOLVE - CASE 7

MENU AREA DISPLAY:

			IN	OUT	DURATION
		MSTR	01:00:00:00		
DIS					
A TO B	030	A-001	02:00:00:00	02:00:05:00	00:00:05:00
		B-002	03:00:00:00	03:00:05:00	00:00:05:00
		C-003			
EVENT #009		AUX			
		BLACK			

EDL ENTRY:

001	001	B	C	02:00:00:00	02:00:05:00	01:00:00:00	01:00:05:00
001	002	B	D	030 03:00:00:00	03:00:05:00	01:00:05:00	01:00:10:00

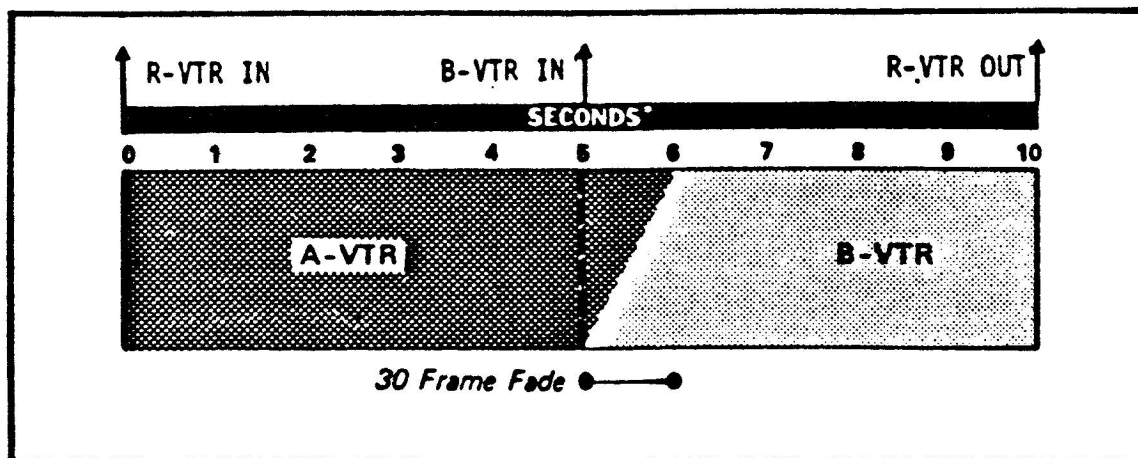
SYSTEM MESSAGE AREA DISPLAY:

DISSOLVE FROM- A TO- B
RATE= 30

SPECIAL INFORMATION

This is a delayed dissolve. Both Sources have defined out-times. The same effect could be achieved by entering a 10:00 duration on the MSTR and no duration on the B-SRC.

DIAGRAM:



*R-VTR, A-VTR and B-VTR time in seconds; but each may have different timecodes.

EXAMPLE OF A KEY EVENT

Using the Key and Key Out functions, it is possible to achieve 17 types of key edits depending on how you set up the edit times. The chart on the following page shows these variations.

In all cases, the audio will follow the Background source - not the foreground keyed material.

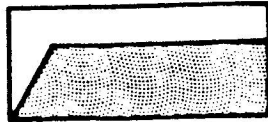
TYPES OF KEY EDITS

KEY (IN):

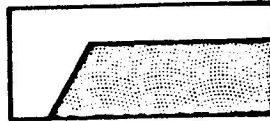
TOTAL EDIT DURATION = FOREGROUND DURATION + DELAY - FADE RATE



FOREGROUND = EDIT DURATION



FOREGROUND = DUR (w/FADE)



FOREGROUND = EDIT DUR - DELAY



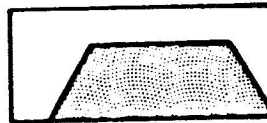
FOREGROUND = FADE RATE - EDIT DUR - DELAY



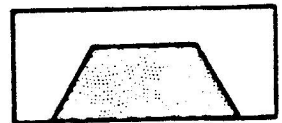
FOREGROUND = EDIT DURATION - FADE RATE



FOREGROUND < EDIT DURATION - FADE RATE



FOREGROUND = EDIT DURATION - (DELAY + FADE RATE)



FOREGROUND = EDIT DURATION - (DELAY + FADE RATE)



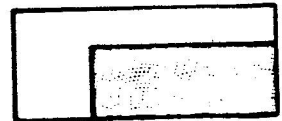
FOREGROUND = BACKGROUND DURATION



FOREGROUND - FADE RATE < EDIT DURATION



FOREGROUND < EDIT DURATION



FOREGROUND = EDIT DURATION - DELAY



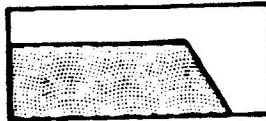
FOREGROUND < EDIT DURATION - DELAY

KEY OUT:

TOTAL EDIT DURATION MUST BE ≥ FOREGROUND DURATION + FADE RATE



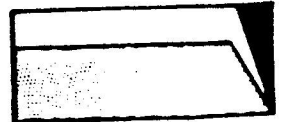
FOREGROUND = EDIT DURATION - FADE RATE



FOREGROUND < EDIT DURATION - FADE RATE



FOREGROUND = 0 DUR - FADE RATE



FOREGROUND = BACKGROUND DURATION - FADE RATE

KEY IN - CASE 1

MENU AREA DISPLAY:

		IN	OUT	DURATION
	MSTR	01:00:00:00		
KEY				
B OVR A	030	A-001 02:00:00:00	2:00:10:00	00:00:10:00
		B-002 03:00:00:00		
		C-003		
EVENT #015		AUX		
		BLACK		

EDL ENTRY:

015	001	B	K B	02:00:00:00	02:00:10:00	01:00:00:00	01:00:10:00
015	002	B	K	030 03:00:00:00	03:00:00:00	01:00:00:00	01:00:00:00

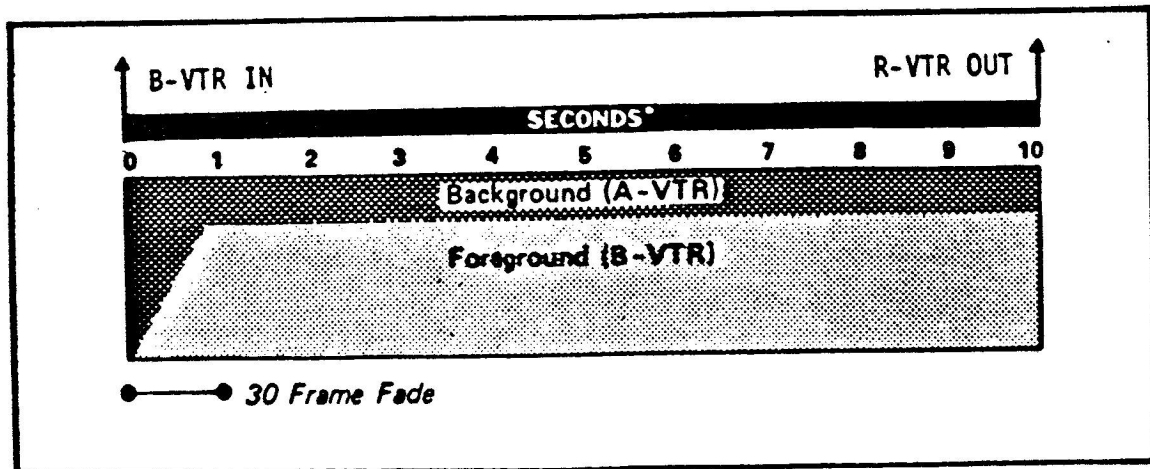
SYSTEM MESSAGE AREA DISPLAY:

KEY
 BACKGROUND= A FOREGROUND= B
 DELAY= DOWNSTREAM BLK FADER OFF
 RATE= 30

SPECIAL INFORMATION:

In the EDL entry, two new characters are introduced: K and B. The K indicates that this is a key edit, while the B to its right indicates the first line is the Background Source. Notice on the second line that the Foreground Source has the same in and out-time. This indicates the foreground will remain on for the entire duration of the edit. In the Menu Area, the foreground has no defined out-time.

DIAGRAM:



*R-VTR, A-VTR and B-VTR time in seconds; but each may have different timecodes.

KEY IN - CASE 2

MENU AREA DISPLAY:

		IN	OUT DURATION	
	MSTR	01:00:00:00	01:00:10:00	00:00:10:00
KEY				
X OVR B	030	A-001		
		B-002	02:00:00:00	
		C-003		
EVENT #016	AUX	00:00:00:00	00:00:09:00	00:00:09:00
	BLACK			

EDL ENTRY:

016	002	B	K B	02:00:00:00	02:00:10:00	01:00:00:00	01:00:10:00
016	AX	B	K	030 00:00:00:00	00:00:09:00	01:00:00:00	01:00:09:00

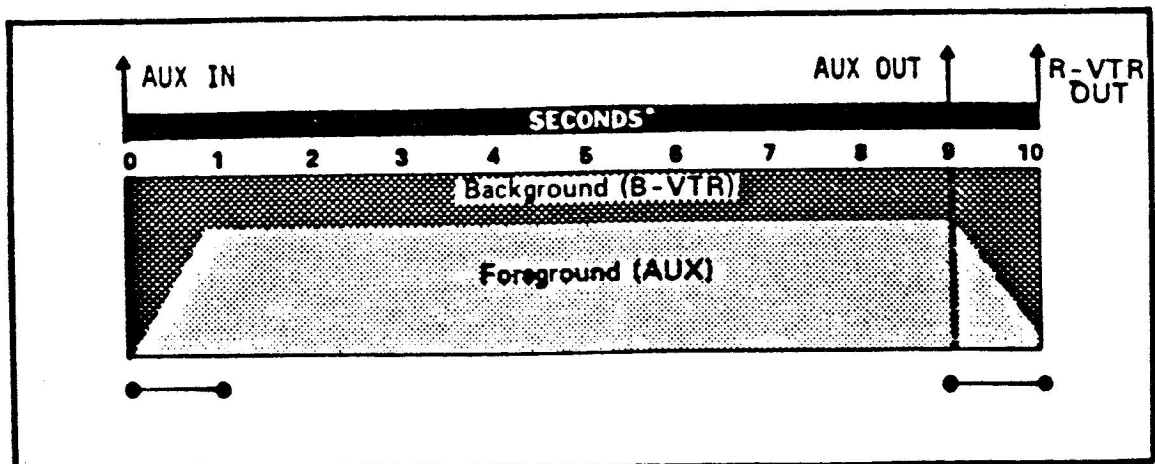
SYSTEM MESSAGE AREA DISPLAY:

KEY
 BACKGROUND= B FOREGROUND= X
 DELAY= DOWNSTREAM BLK FADER OFF
 RATE= 30

SPECIAL INFORMATION

In the Menu Area, the duration of the entire edit is defined by the MSTR, but it could also be defined by the B-SRC Background Source. In order for the AUX Foreground Source to fade out at the end of the edit, it must have a duration that is less than the entire edit by the amount of the fade-in rate. The reason for this is that the out-going fade rate is not reflected in the foreground duration. If you want to know the entire duration of the Foreground Source, add its defined duration (9:00) plus the fade-out rate (30 frames) to get the total (10:00).

DIAGRAM:



*R-VTR, A-VTR and B-VTR time in seconds; but each may have different timecodes.

KEY IN - CASE 3

MENU AREA DISPLAY:

		IN	OUT DURATION	
	MSTR	01:00:00:00		
KEY				
B OVR A	030	A-001 02:00:00:00	02:00:10:00	00:00:10:00
		B-002 03:00:00:00	03:00:05:00	00:00:05:00
		C-003		
EVENT #017	AUX			
	BLACK			

EDL ENTRY:

017	001	B	K	B	02:00:00:00	02:00:10:00	01:00:00:00	01:00:10:00
017	002	B	K	030	03:00:00:00	03:00:05:00	01:00:00:00	01:00:05:00

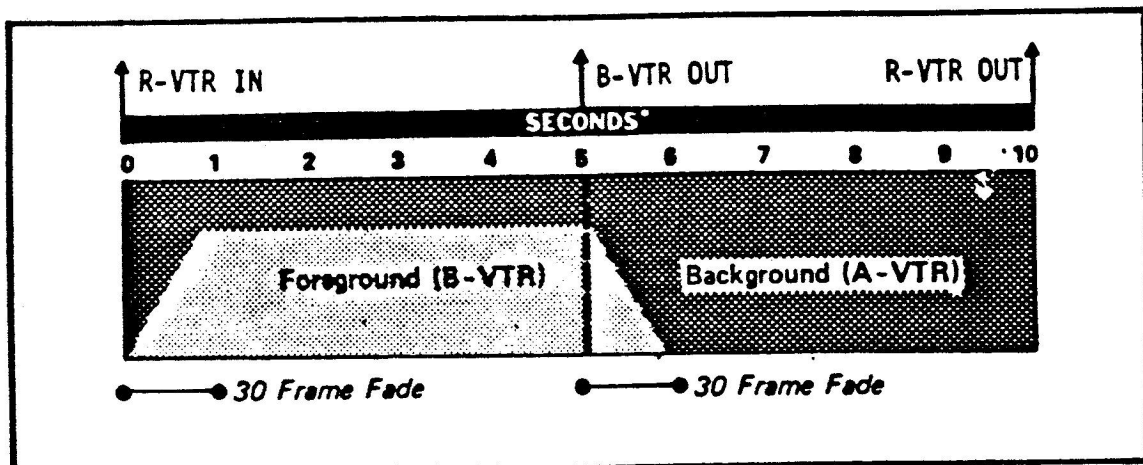
SYSTEM MESSAGE AREA DISPLAY:

KEY
 BACKGROUND= A FOREGROUND= B
 DELAY= DOWNSTREAM BLK FADER OFF
 RATE= 030

SPECIAL INFORMATION

This key edit has the foreground fading out several seconds before the Background Source ends. This is because a duration has been entered in the Foreground Source that is less than the duration of the entire edit.

DIAGRAM:



* R-VTR, A-VTR and B-VTR time in seconds; but each may have different timecodes.

KEY IN - CASE 4

MENU AREA DISPLAY:

	IN	OUT	DURATION
MSTR	01:00:00:00		
KEY			
B OVR A 030	A-001 02:00:00:00	02:00:10:00	00:00:10:00
00:00:04:00	B-002 03:00:00:00		
	C-003		
EVENT #018	AUX		
	BLACK		

EDL ENTRY:

018	001	B	C	02:00:00:00	02:00:04:00	01:00:00:00	01:00:04:00
018	001	B	K B	02:00:04:00	02:00:10:00	01:00:04:00	01:00:10:00
018	002	B	K 030	03:00:00:00	03:00:00:00	01:00:04:00	01:00:04:00

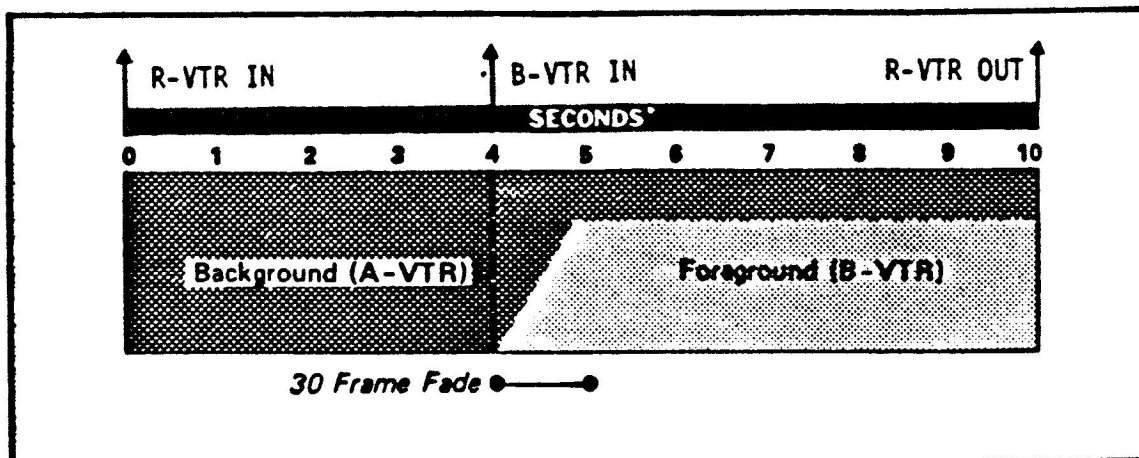
SYSTEM MESSAGE AREA DISPLAY:

KEY, OK?
 BACKGROUND= A FOREGROUND= B
 DELAY= 4:00 DOWNSTREAM BLK FADER OFF
 RATE= 30

SPECIAL INFORMATION:

This is a key with the Foreground Source delayed 4:00. The EDL entry is three lines, with the first line showing a cut to the Background Source for 4:00, which is the delay time before the foreground fades up. Because the foreground has not been given an out-time in the Menu Area, it will remain on until the end of the edit. This is indicated in the last line of the EDL entry, with the Foreground Source having the same in-time and out-time of 03:00:00:00.

DIAGRAM:



*R-VTR, A-VTR and B-VTR time in seconds; but each may have different timecodes.

KEY IN - CASE 5

MENU AREA DISPLAY:

			IN	OUT	DURATION
	MSTR		01:00:00:00		
KEY					
B OVR A	030	A-001	02:00:00:00	02:00:10:00	00:00:10:00
00:00:02:00		B-002	03:00:00:00	03:00:07:00	00:00:07:00
		C-003			
EVENT #019		AUX			
		BLACK			

EDL ENTRY:

019	001	B	C		02:00:00:00	02:00:02:00	01:00:00:00	01:00:02:00
019	001	B	K	B	02:00:02:00	02:00:10:00	01:00:02:00	01:00:10:00
019	002	B	K	030	03:00:00:00	03:00:07:00	01:00:02:00	01:00:09:00

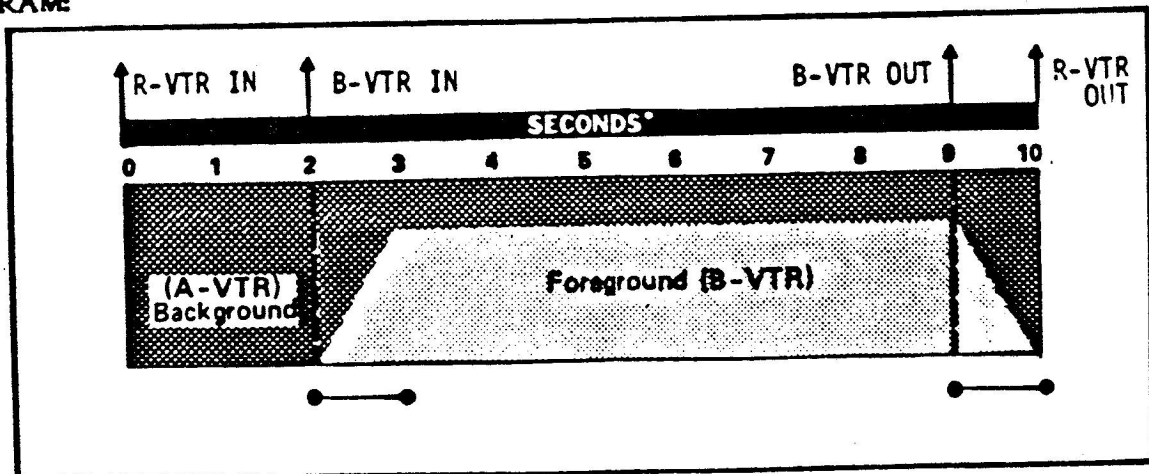
SYSTEM MESSAGE AREA DISPLAY:

KEY
 BACKGROUND= A FOREGROUND= B
 DELAY= 2:00 DOWNSTREAM BLK FADER OFF
 RATE= 30

SPECIAL INFORMATION:

This key edit shows the foreground fading in 2:00 after the Background Source starts, and fading out at the out-edit point. This occurred because the foreground was given an out-time. Notice that if you add the foreground duration (7:00), the delay duration (2:00), and the fade-out duration (1:00), it totals 10:00. If the total of these three amounts equals the duration of the entire edit (which in this case is 10:00 as defined by the Background Source), then the Foreground Source will fade out at the out-edit point.

DIAGRAM:



* R-VTR, A-VTR and B-VTR time in seconds; but each may have different timecodes.

KEY IN - CASE 6

MENU AREA DISPLAY:

		IN	OUT	DURATION
	MSTR	01:00:00:00		
KEY				
B OVR A 030	A-001	02:00:00:00	02:00:10:00	00:00:10:00
00:00:02:00	B-002	03:00:00:00	03:00:05:00	00:00:05:00
	C-003			
EVENT #020	AUX			
	BLACK			

EDL ENTRY:

020	001	B	C		02:00:00:00	02:00:02:00	01:00:00:00	01:00:02:00
020	001	B	K B		02:00:02:00	02:00:10:00	01:00:02:00	01:00:10:00
020	002	B	K	030	03:00:00:00	03:00:05:00	01:00:02:00	01:00:07:00

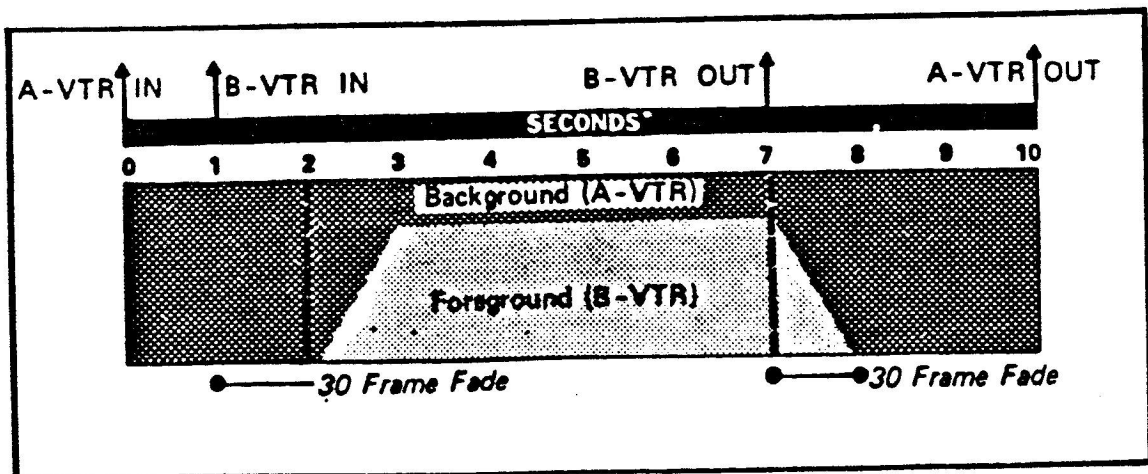
SYSTEM MESSAGE AREA DISPLAY:

KEY
 BACKGROUND= A FOREGROUND= B
 DELAY= 2:00 DOWNSTREAM BLK FADER OFF
 RATE= 30

SPECIAL INFORMATION:

This key edit has the foreground fading in and out in the middle of the edit. The foreground was delayed by 2:00 from the start of the edit. Because the foreground has a 5:00 duration, it will begin to fade out at 7:00 into the edit. Remember, the EDL does not reflect the out-going fade rate. Although the foreground has a MSTR out-time of 1:00:07:00, it won't be completely faded out until 30 frames later at 1:00:08:00.

DIAGRAM:



*R-VTR, A-VTR and B-VTR time in seconds; but each may have different timecodes.

KEY IN - CASE 7

MENU AREA DISPLAY:

			IN	OUT	DURATION
	MSTR		01:00:00:00		
KEY					
X OVR A	060	A-001	02:00:00:00	02:00:10:00	00:00:10:00
00:00:08:00		B-002			
		C-003			
EVENT #022		AUX			
		BLACK			

EDL ENTRY:

022	001	B	C	02:00:00:00	02:00:08:00	01:00:00:00	01:00:08:00
022	001	B	K B	02:00:08:00	02:00:10:00	01:00:08:00	01:00:10:00
022	AX	B	K	060 00:00:00:00	00:00:00:00	01:00:08:00	01:00:08:00

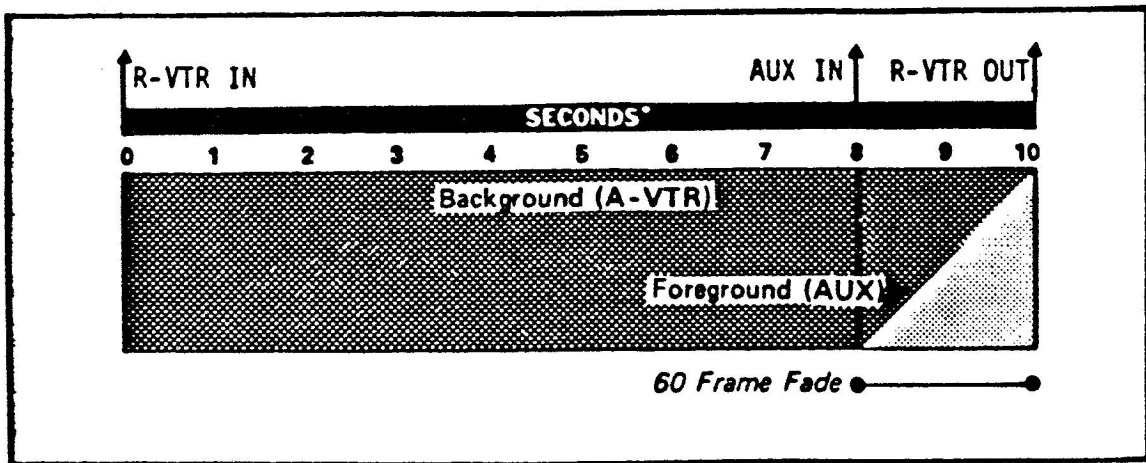
SYSTEM MESSAGE AREA DISPLAY:

KEY
 BACKGROUND= A FOREGROUND= X
 DELAY= 8:00 DOWNSTREAM BLK FADER OFF
 RATE= 60

SPECIAL INFORMATION:

This edit allows the Foreground Source to be faded up at the very end of the edit. Notice that no in or out-time was needed on AUX. The duration of the edit was defined by the A-SRC, and the Foreground Source was delayed by 8:00.

DIAGRAM:



* R-VTR, A-VTR and B-VTR time in seconds; but each may have different timecodes.

KEY IN - CASE 8

MENU AREA DISPLAY:

		IN	OUT	DURATION
	MSTR	01:00:00:00		
KEY (F)				
B OVR A	030 A-001	02:00:00:00	02:00:10:00	00:00:10:00
	B-002	03:00:00:00		
	C-003			
EVENT #023	AUX			
	BLACK			

EDL ENTRY:

023	001	B	K	B (F)	02:00:00:00	02:00:10:00	01:00:00:00	01:00:10:00
023	002	B	K	030	03:00:00:00	03:00:00:00	01:00:00:00	01:00:00:00

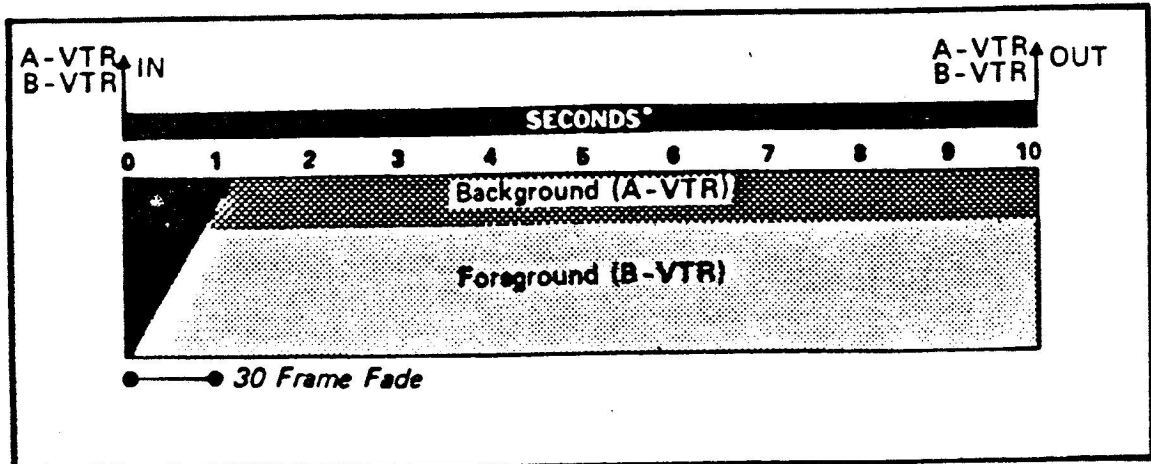
SYSTEM MESSAGE AREA DISPLAY:

KEY
 BACKGROUND= A FOREGROUND= B
 DELAY= DOWNSTREAM BLK FADER ON
 RATE= 30

SPECIAL INFORMATION:

Because FADE BLACK ON was requested, both the foreground and background fade up together at the in-edit point. The Foreground Source will remain on throughout the edit because it was not given an out-time in the Menu Area. In the EDL entry, the foreground's in and out-times are equal, indicating that it will remain on for the duration of the edit.

DIAGRAM:



* R-VTR, A-VTR and B-VTR time in seconds; but each may have different timecodes.

KEY IN - CASE 9

MENU AREA DISPLAY:

		IN	OUT	DURATION
	MSTR	01:00:00:00	01:00:10:00	00:00:10:00
KEY (F)				
B OVR A	030	A-001 02:00:00:00		
		B-002 03:00:00:00	03:00:05:00	00:00:05:00
		C-003		
EVENT #024		AUX		
		BLACK		

EDL ENTRY:

024	001	B	K	B (F)	02:00:00:00	02:00:10:00	01:00:00:00	01:00:10:00
024	002	B	K	030	03:00:00:00	03:00:05:00	01:00:00:00	01:00:05:00

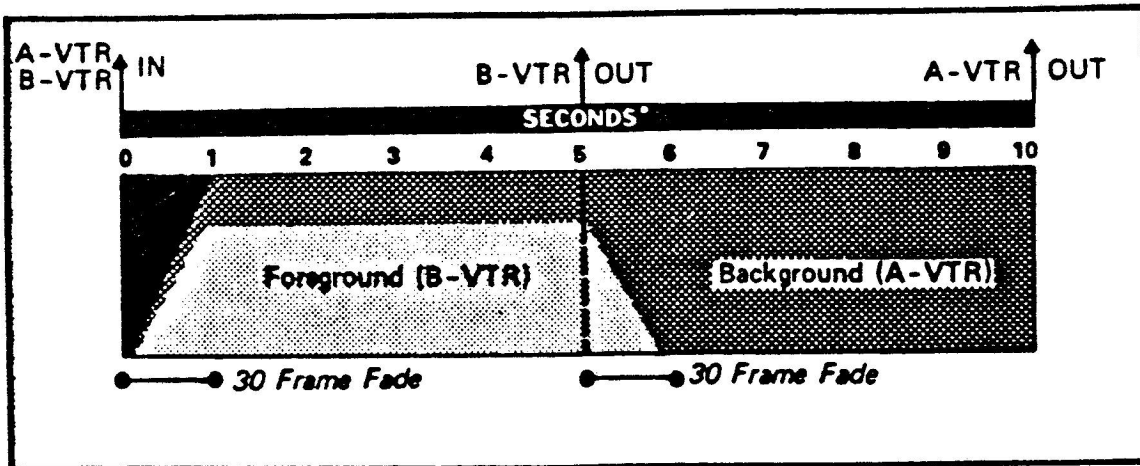
SYSTEM MESSAGE AREA DISPLAY:

KEY
 BACKGROUND= A FOREGROUND= B
 DELAY=
 RATE= 30
 DOWNSTREAM BLK FADER ON

SPECIAL INFORMATION:

Both Sources fade up from Black at the beginning of the edit, but the Foreground Source fades out 5:00 later because it was given a duration shorter than the duration of the entire edit.

DIAGRAM:



*R-VTR, A-VTR and B-VTR time in seconds; but each may have different timecodes.

KEY OUT - CASE 1

MENU AREA DISPLAY:

		IN	OUT	DURATION
	MSTR	01:00:00:00		
KEY OUT				
B OVR A	000	A-001 02:00:00:00	02:00:10:00	00:00:10:00
		B-002 03:00:00:00	03:00:10:00	00:00:10:00
		C-003		
EVENT #025	AUX			
	BLACK			

EDL ENTRY:

025	001	B	K B	02:00:00:00	02:00:10:00	01:00:00:00	01:00:10:00
025	002	B	K O 000	03:00:00:00	03:00:10:00	01:00:00:00	01:00:10:00

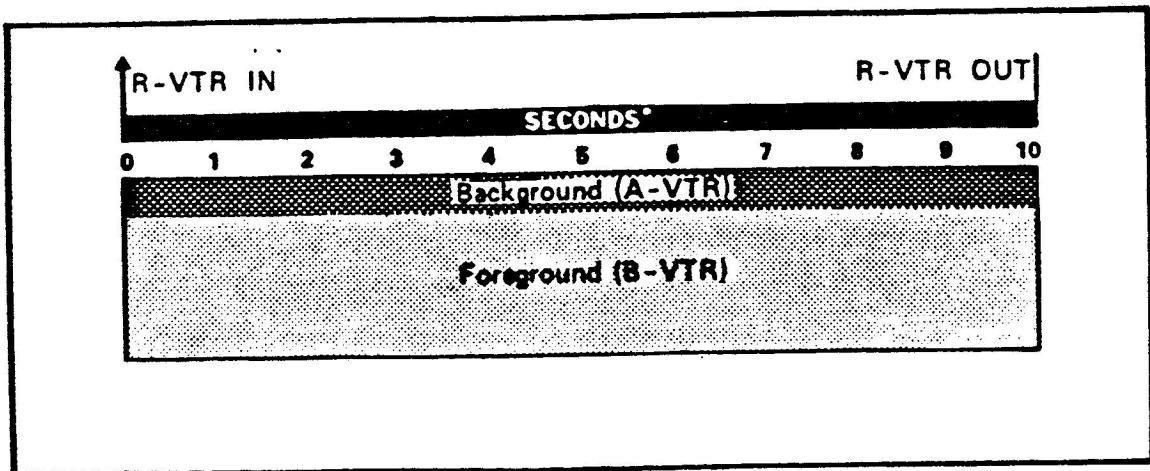
SYSTEM MESSAGE AREA DISPLAY:

KEY OUT
 BACKGROUND= A FOREGROUND= B
 DOWNSTREAM BLK FADER OFF
 RATE= 0

SPECIAL INFORMATION:

Both sources are on for the entire duration of the edit. Notice that both sources have a defined out-time.

DIAGRAM:



*R-VTR, A-VTR and B-VTR time in seconds; but each may have different timecodes.

KEY OUT - CASE 2

MENU AREA DISPLAY:

		IN	OUT	DURATION
	MSTR	01:00:00:00	01:00:10:00	00:00:10:00
KEY OUT				
B OVR A	030 A-001	02:00:00:00		
	B-002	03:00:00:00	03:00:09:00	00:00:09:00
	C-003			
EVENT #026	AUX			
	BLACK			

EDL ENTRY:

026	001	B	K B	02:00:00:00	02:00:10:00	01:00:00:00	01:00:10:00
026	002	B	K O 030	03:00:00:00	03:00:09:00	01:00:00:00	01:00:09:00

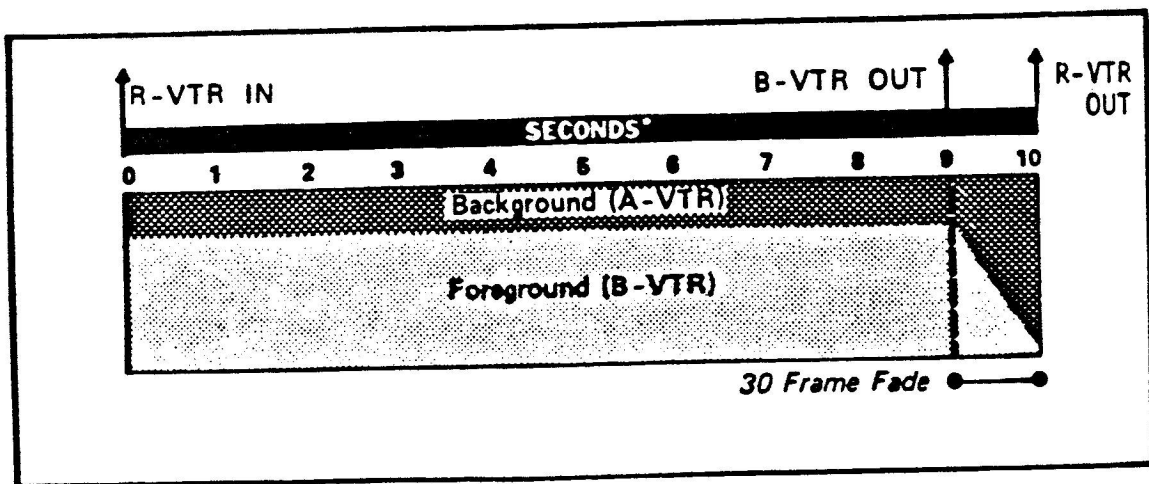
SYSTEM MESSAGE AREA DISPLAY:

KEY OUT
 BACKGROUND= A FOREGROUND= B
 DOWNSTREAM BLK FADER OFF
 RATE= 30

SPECIAL INFORMATION

The Foreground Source has a duration less than that of the entire edit. Therefore, it will fade out at the end of the edit point.

DIAGRAM:



*R-VTR, A-VTR and B-VTR time in seconds; but each may have different timecodes.

KEY OUT - CASE 3

MENU AREA DISPLAY:

		IN	OUT	DURATION
	MSTR	01:00:00:00		
KEY OUT				
B OVR A	030 A-001	02:00:00:00	02:00:10:00	00:00:10:00
	B-002	03:00:00:00	03:00:05:00	00:00:05:00
	C-003			
EVENT #027	AUX			
	BLACK			

EDL ENTRY:

027	001	B	K B	02:00:00:00	02:00:10:00	01:00:00:00	01:00:10:00
027	002	B	K O 030	03:00:00:00	03:00:05:00	01:00:00:00	01:00:05:00

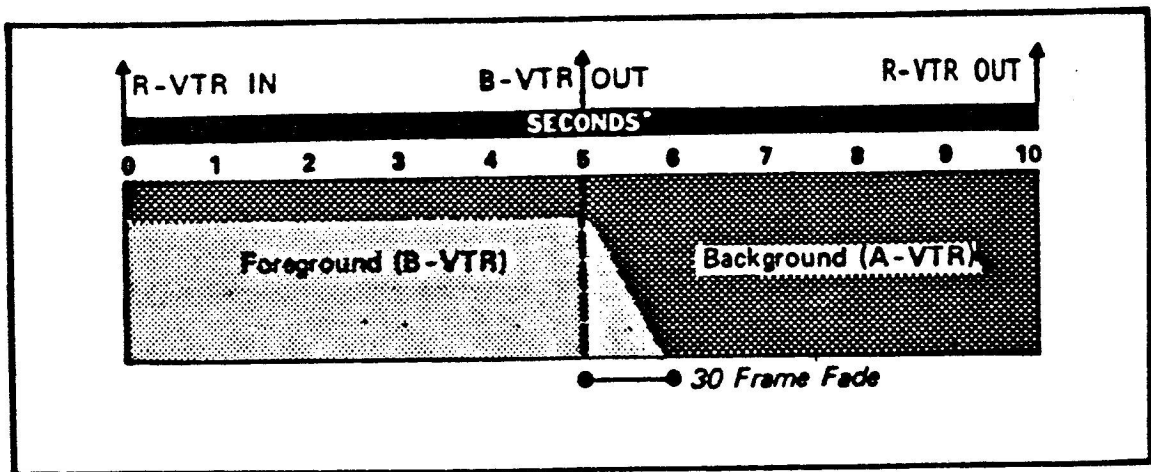
SYSTEM MESSAGE AREA DISPLAY:

KEY OUT
 BACKGROUND= A FOREGROUND= B
 DOWNSTREAM BLK FADER OFF
 RATE= 30

SPECIAL INFORMATION

The Foreground Source has a duration that is 5:00 less than the total duration of the edit. Therefore, it will start to fade out at 5:00 into the edit. Remember, the out-going fade is not reflected in the EDL. To find out how long the Foreground Source appears, including its fade out, add its duration (5:00) and the fade rate (1:00) for a total of 6:00.

DIAGRAM:



*R-VTR, A-VTR and B-VTR time in seconds; but each may have different timecodes.

KEY OUT - CASE 4

MENU AREA DISPLAY:

			IN	OUT	DURATION	
	MSTR		01:00:00:00	01:00:10:00	01:00:10:00	00:00:10:00
KEY OUT						
B OVR A	030	A-001	02:00:00:00			
		B-002	03:00:00:00			
		C-003				
EVENT #028		AUX				
		BLACK				

EDL ENTRY:

028	001	B	K B	02:00:00:00	02:00:10:00	01:00:00:00	01:00:10:00
028	002	B	K O 030	03:00:00:00	03:00:00:00	01:00:00:00	01:00:00:00

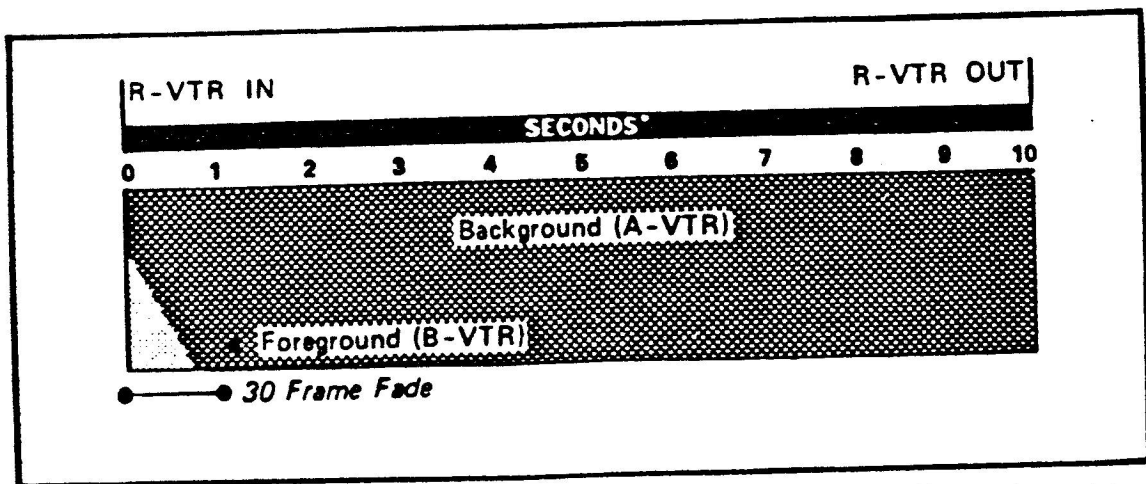
SYSTEM MESSAGE AREA DISPLAY:

KEY OUT
 BACKGROUND= A FOREGROUND= B
 DOWNSTREAM BLK FADER OFF
 RATE= 30

SPECIAL INFORMATION:

The entire duration of the edit is established by the MSTR. Notice there is no out-time established on the Foreground Source. In a Key Out edit, when there is no out-time for the Foreground Source, it will begin to fade out immediately at the start of the edit.

DIAGRAM:



*R-VTR, A-VTR and B-VTR time in seconds; but each may have different timecodes.

KEY OUT - CASE 5

MENU AREA DISPLAY:

		IN	OUT	DURATION
	MSTR	01:00:00:00		
KEY OUT (F)				
B OVR A 030	A-001	02:00:00:00	02:00:10:00	00:00:10:00
	B-002	03:00:00:00	03:00:09:00	00:00:09:00
	C-003			
EVENT #029	AUX			
	BLACK			

EDL ENTRY:

029	001	B	K B (F)	02:00:00:00	02:00:10:00	01:00:00:00	01:00:10:00
029	002	B	K O 030	03:00:00:00	03:00:09:00	01:00:00:00	01:00:09:00

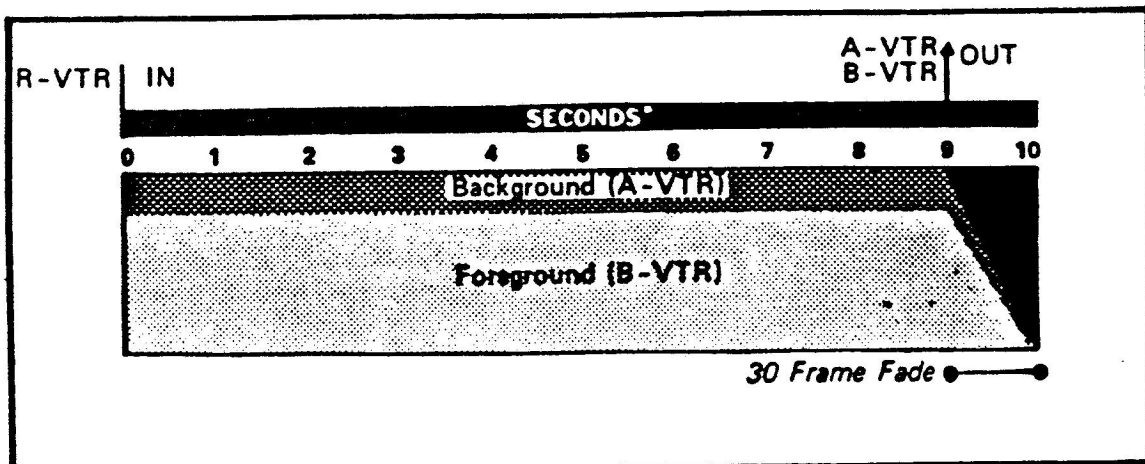
SYSTEM MESSAGE AREA DISPLAY:

KEY OUT
 BACKGROUND= A FOREGROUND= B
 DOWNSTREAM BLK FADER ON
 RATE= 30

SPECIAL INFORMATION:

This is a Key Out edit with FADE BLACK on. Both sources fade to black at the same time. Notice the Foreground Source has a duration (9:00) that is less than the edit duration (10:00) by the amount of the fade rate (1:00). The point at which the fade to black happens is determined by foreground duration i.e., if B-SRC were shortened to 1 second duration, the fade to black would happen after 1 second MSTR would record black for the rest of the edit duration.

DIAGRAM:



* R-VTR, A-VTR and B-VTR time in seconds; but each may have different timecodes.

APPENDIX F 3600 EDL'S

3600 EDL's differ from standard lists in 7 major areas. These areas are:

1. The use of alphanumeric reel names
2. The use of audio 3 and audio 4 note form statements
3. The use of an asterisk to indicate disabled events
4. The use of a NONE flag in field three of a standard form statement.
5. The use of a reel number/name conversion table in a compatible output format list.
6. The ability to generate two forms of the same list.
7. The field alignment of standard and note form statements.

ALPHANUMERIC REEL NAMES

Eight character alpha numeric reel names may be used in place of a 3 digit reel number in 3600 EDL's. To preserve compatibility, the 3600 has an optional "compatible output" mode that converts reel names to reel numbers, and places a reel name conversion chart as a note at the end of a compatible list. A => precedes the reel name conversion header, while a -> precedes the reel name conversions.

AUDIO 3 AND AUDIO 4 NOTE FORM STATEMENTS

The 3600 has the ability to use audio 3 and audio 4 channels, and incorporates this information into a 3600 EDL using an AUD note form statement. In addition to this new statement, a new entry may be used in field 3 of a standard form statement. This entry is NONE, and it indicates the absence of video and audio 1 and audio 2. A event with this entry will include an AUD note form statement to indicate the audio 3 or audio 4 channel involved in the event. The following is a description of AUD statement fields.

FIELD 1 AUD

This field is the audio 3 or audio 4 identifier.

FIELD 2 3

This field indicates if an audio channel 3 is involved in an event. Valid characters are either a 3 (audio 3 enabled) or a space (audio 3 disabled)

FIELD 3 4

This field indicates if an audio channel 4 is involved in an event. Valid characters are either a 4 (audio 4 enabled) or a space (audio 4 disabled)

DISABLED EVENT NOTATION FOR STANDARD FORM STATEMENTS

An asterisk is used in 3600 EDL standard form statements to indicate a disabled event. This asterisk appears at the end of all standard form statements that describe a disabled event.

THE NONE ENTRY IN STANDARD FORM EVENTS

In a 3600 EDL, a new entry may be used in field 3 of a standard form statement. This entry is NONE , and it indicates the absence of video and audio 1 and audio 2. A event with this entry will include an AUD note form statement to indicate the audio 3 or audio 4 channel involved in the event.

REEL NUMBER/NAME CONVERSION TABLE

A reel number/name conversion table will be placed in the compatible form 3600 EDL. (see new form and compatible form EDL's)
=> precedes the reel name conversion header, while a -> precedes the reel name conversions.

STANDARD AND COMPATIBLE FORM 3600 EDL's

The 3600 is able to store and output two forms of an edit decision list. The first form incorporates the new features mentioned above, while the second form remains compatible with other CMX editing systems.

TITLE: COMPATIBLE VERSION OF CMX 3600 EDL

FCM: NON-DRDP FRAME
 001 002 B C 10:00:00:29 10:00:03:29 01:10:04:10 01:10:07:10
 NOTE THAT SPECIAL CHRS (EXCEPT COMMA AND SPACE) CAN OCCUR IN REEL NAMES
 002 001 AA/V C 01:00:07:01 01:00:09:01 01:10:07:10 01:10:09:10
 AUD 3
 NOTE HOW 3RD & 4TH AUDIO TRACKS ARE SHOWN BY A NEW TYPE OF NOTE
 003 001 AA/V C 01:00:10:16 01:00:15:11 01:10:09:10 01:10:14:05
 AUD 3 4
 VIDEO AND AUDIO 1 & 2 ARE AS IN PREVIOUS EDL'S
 004 001 V C 01:00:15:11 01:00:16:11 01:10:14:05 01:10:15:05
 004 002 V D 045 10:00:03:29 10:00:08:29 01:10:15:05 01:10:20:05
 AUD 4
 005 002 NONE C 10:00:08:29 10:00:10:09 01:10:20:05 01:10:21:15
 AUD 4
 NOTE HOW AN EVENT WITH ONLY AUDIO 3 AND-OR 4 IS SHOWN
 006 003 AA/V C 10:00:00:00 10:00:00:00 01:10:21:15 01:10:21:15
 006 005 AA/V W189 150 01:00:00:00 01:00:10:00 01:10:21:15 01:10:31:15
 NOTE THAT 5 AND 005 ARE DIFFERENT REELS
 007 002 A2/V C 10:00:10:09 10:00:25:09 01:10:31:15 01:10:46:15
 M/S 002 001 -08:59:48:28 003 -00:00:00:09
 FIRST REEL IN M-S NOTE IS MASTER, THEN SLAVES FOLLOW (AS IN OLD EDL'S)
 008 AX A2/V C 00:00:00:00 00:00:00:00 01:10:46:15 01:10:46:15
 008 BL A2/V D 030 00:00:00:00 00:00:02:00 01:10:46:15 01:10:48:15
 GPI RLY001 PULSE 003 RI +00:00:00:10
 GPI RLY016 PULSE 003 A 01:10:47:20
 THE 3 STRINGS AX BL AND MSTR CAN NEVER BE REEL NAMES
 THEY MEAN AUX, BLACK, AND THE RECORD-MASTER (AS IN OLD SYSTEMS)
 009 005 B C 01:00:10:00 01:00:12:00 01:10:48:15 01:10:50:15
 /S MSTR 002 08:49:36:24 003 08:49:36:15
 M/S 005 -00:10:38:15
 010 005 B C 01:00:12:00 01:00:13:00 01:10:50:10 01:10:51:10
 SWM BANK 002 REG 004 MSTR I +00:00:00:15
 SWM BANK 002 REG 006 MSTR D -00:00:00:10
 SWM BANK 001 REG 001 MSTR 01:10:51:05
 011 003 V C 10:00:27:00 10:00:28:00 01:10:51:10 01:10:52:10
 013 003 AA C 10:00:27:00 10:00:28:00 01:10:51:10 01:10:52:10
 AUD 3 4
 014 002 AA/V C 10:00:27:09 10:00:31:09 01:10:52:10 01:10:56:10
 AUD 3 4
 M2 002 015 0 10:00:27:09
 M2 002 020 0 10:00:28:00
 M2 002 021 0 MSTR I +00:00:01:00
 M2 002 022 0 002 D 00:00:00:05
 M2 002 027 0 MSTR D -00:00:00:10
 015 001 B C 01:00:36:11 01:00:36:26 01:11:00:00 01:11:00:15
 015 001 B K B 01:00:36:26 01:00:41:11 01:11:00:15 01:11:05:00
 015 AX B K 020 00:00:00:00 00:00:00:00 01:11:00:15 01:11:00:15
 AUD 4
 M/S MSTR 003 08:50:18:07 005 -00:09:57:23
 SWM BANK 003 REG 002 MSTR I +00:00:00:15
 GPI RLY012 PULSE 003 RI +00:00:00:15
 GPI RLY001 PULSE 003 A 01:10:11:00
 016 001 AA/V C 01:00:41:11 01:00:51:11 01:11:00:15 01:11:10:15
 17 001 AA/V C 01:00:46:11 01:00:50:11 01:11:05:15 01:11:09:15
 J18 001 AA/V C 01:00:51:11 01:00:57:11 01:11:10:15 01:11:16:15
 019 001 AA/V C 01:00:52:11 01:00:55:11 01:11:11:15 01:11:14:15
 AUD 3 4
 NOTE THAT EVENT 17 COULD BE ELIMINATED, BUT EVENT 19 IS NEEDED
 SINCE IT INSERTS AUDIO 3 AND 4
 020 002 AA/V C 10:00:18:10 10:00:33:10 01:11:29:15 01:11:44:15
 AUD 3 4
 M2 002 045 0 10:00:26:23
 M2 002 030 0 002 A 10:00:19:25
 M2 002 006 0 002 A 10:00:21:04
 M2 002 TRIG1 002 A 10:00:21:11
 M2 002 030 0 002 D 00:00:04:24
 M2 002 006 0 002 A 10:00:23:11
 M2 002 TRIG2 002 A 10:00:23:15
 M2 002 030 0 002 D 00:00:02:09
 M2 002 090 0 002 A 10:00:22:15
 M2 002 030 0 002 A 10:00:25:03
 PROGRAMMED AND VARIABLE DM2 TRIGGERS IN THE SAME EVENT
 M2 002 VARIABLE DATA 090
 % 59A812A840A800000000000000000000000000107090C100F16191A191E191C211523
 % 03FBE6E3E2E4DDE2E1E4DAE7DCE4DDEBDFE7E4E9E8EAECEDF4FAFE000000FCEBE7E2
 % EBDFE6E2E7E6E9E7E9EBEBECEDEF0003000200000000
 021 BL AA/V C 00:00:00:00 00:00:00:00 01:11:44:15 01:11:54:15
 =>
 => CONVERTED CMX_3600 EDL REEL NAME CONVERSIONS:
 -> PART2 =001 SHOW#6-S=002 5 =003