



FIELD BULLETIN

Model 2600 A/V
November 23, 1990

Field Bulletin E-A/V-1B
Version 1.01 Software

To: Users of Model 2600 A/V Audio Editor

SYSTEM 2600E

SYSTEM 2600 has recently undergone substantial changes and improvements. The SYSTEM 2600 chassis has been improved, the SYSTEM 2600 Power Supply module has been completely redesigned, and—most significantly—*major* software enhancements have been added to a number of other SYSTEM 2600 modules and to both the 2600 A/V Audio Editor and the 2600 CC Compact Controller. These new features supersede previous capabilities to such a dramatic extent that they constitute a new generation of SYSTEM 2600, which will be known as SYSTEM 2600E (Enhanced).

When upgraded to the latest hardware and software revisions, the 2600 A/V Audio Editor therefore will be known as the 2600 E-A/V. The initial software for the 2600 E-A/V is Version 1.01.

FIELD BULLETIN E-A/V-1B

This Bulletin provides:

- directions for installation of Version 1.01 software;
- a description of the enhancements included in Version 1.01 software; and
- detailed application information on the operations with, and use of: Super-Sync™, the most significant feature of Version 1.01 software; the Eventide Harmonizer; and the 2600 E-TMI Track Management Interface.

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FB-E-A/V-1B, Page 1 of 17

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Adams-Smith 2600 E-A/V -- Version 1.01 Release Notes

Software Installation Instructions

NOTE NEW INSTALLATION INSTRUCTIONS

- (1) Exit the E-A/V program by pressing INIT MENU, followed by selection 8 (System Maintenance), followed by selection 1 (Quit E-A/V program and return to DOS).
- (2) Insert the 2600 E-A/V Version 1.00 Disk #1 disk into the "A" floppy disk drive and close the latch (if it's a 5-1/4 inch disk).
- (3) From the DOS prompt, type A : INSTALL followed by the ENTER key.
- (4) After a moment, a message that the installation has begun will appear.
- (5) When a message appears to insert the next disk, remove Disk #1 from the drive, insert Disk #2 and close the latch, and press ENTER.
- (6) Repeat the above step for any additional disks.
- (7) When installation of the last disk is complete, remove the disk and store all installation disks away in a safe place.
- (8) Restart the E-A/V program by typing AV followed by the ENTER key. After reading the release notes, proceed to the Initialization Menu if any new parameters need to be entered for your installation. Also, check the release notes for screens that have changed the number of input fields -- if any of these screens were used in function keys, then the function key definitions will have to be modified.

Requirements for Version 1.01 Software

- (1) Full use of all features of Version 1.01 software requires any 2600 E-SY Synchronizer modules in a 2600 E-A/V installation to have been fitted with software Version 1.00.
- (2) Version 1.01 software requires any 2600 E-SCO Serial Communications Option PCBs used with Synchronizer modules in a 2600 E-A/V installation to have been fitted with software Version 1.00.
- (3) Version 1.01 software requires four new keycaps for the 2600 E-A/V's keyboard.

2600 E-A/V Version 1.01 New Features and Changes

The most significant new feature of Version 1.01 software, Super-Sync™, has been added. Super-Sync includes the functions of Vari-Lock™ for variable speed locking of machines, and Cross-Lock™ for the locking of machines with different frame rates. A detailed description of the operation of these functions is provided below.

(2) The E-A/V now fully supports the 2600 E-TMI Track Management Interface. In addition, some new track management functions have been added to the E-A/V software which are available even to installations without a 2600 E-TMI. A separate document describes the operation of the new features under the Track Menu.

(3) Data entry for feet and frames (film-style) code has been simplified. First, any machine that has been configured to display in feet and frames will default to enter timecodes as feet and frames. During timecode entry, the FEET/FRAMES key will now act as a toggle between FEET/FRAMES and HH:MM:SS:FF mode. If the FEET/FRAMES mode is active, the numbers will automatically shift to the left as new numbers are entered, with the last two numbers representing the frames and the other numbers representing the feet. Negative FEET/FRAME numbers are now supported for trim amounts. Also, when displaying or printing EDL's, reels which are configured to display in feet and frames will show in the list as feet and frames.

(4) In the past, some timecodes such as trim amounts and durations defaulted to frames, and only switched to HH:MM:SS:FF if a space or colon was entered. With Version 1.01 software, all timecodes (except for preview/record advances) are now entered as HH:MM:SS:FF. The system option for entering durations as timecodes is therefore no longer needed and has been removed.

(5) The Eventide H3000 Ultra-Harmonizer® is now supported in conjunction with the Vari-Lock function. See the detailed description, below, of Super-Sync for operational details.

(6) IN and OUT times are no longer automatically computed for source machines. This change allows for easier adjustments of edit times based on the master's IN and OUT times.

(7) The Transport Library has been updated to match the standard Adams-Smith machine numbering and Constants values.

(8) When reading in CMX edit decision lists, any machines that are currently clutched to the master will be added to the internal list.

(9) A new system configuration parameter has been added to use the LTC Generator module as the master for loops and replays.

(10) On the E-A/V Trigger Assignment dialog, a new option has been added to operate the pulse on an ALLSTOP.

(11) Status output type 1 has always been called "all locked (mute)", but in fact its use was as a mute during loops, replays, and edits whenever the machines were not all locked. This output has not changed, but is now simply called "Mute". A new status output type 4, called "All Locked", has been added which will turn on whenever all slaves are locked to the master, regardless of whether or not a loop, replay, or edit is in progress.

- (12) A new feature has been added to the MIDI Menu to assign A/V keys to MIDI notes. Through this dialog, it is possible to set up a MIDI device such as a MIDI keyboard to control the non-menu A/V functions.
- (13) It is now possible to trigger manually from the keyboard any of the eight E-A/V events that are configured as pulse outputs. Holding down the GROUP key and pressing numeric keypad keys 1-8 will fire the corresponding pulse. This operation can also be put into a function key definition.
- (14) A bug that caused the Record Edit Active status output to come on during a preview edit has been fixed.
- (15) An additional 20 function keys have been added. Holding down the RECORD key and pressing the F1-F10 keys will invoke functions F21-F30. Holding down both the RECORD and SHIFT keys and pressing the F1-F10 keys will invoke functions F31-F40. In the LEARN Menu, the additional function key names can be displayed by pressing ENTER for either input field.
- (16) Two new EDL sort sequences have been added. Sort by Track Number will sort the list by the record track in ascending sequence. If the record tracks for two events are the same, those events will then be sorted by Master-In time. Sort by Keyword will sort the list according to the first note line of an event.
- (17) The printouts of internal E-A/V lists (EDL, memo, MIDI) now include column headers. Also, dialogs for printing lists now have an option to print a blank line between events.
- (18) Blank (zero) numbers are now displayed in EDL's and Memo Lists as blanks.
- (19) Two new machine lock types, both variations of "auto" lock, have been added. The standard auto lock type will now always cause synchronizer constant 38 to be set to 01. This specifies that when address lock has been maintained for one second, the synchronizer will switch over to freewheel mode. The new "instant" auto type causes constant 38 to be set to 0F, forcing a switch to freewheel mode immediately after achieving address lock. The new "special" auto type (also referred to as "lock-and-drop") works similar to standard auto lock, except that rather than switching to freewheel mode, all control to the transport is given up after achieving address lock.
- (20) If timecode boundaries exist for a machine, they are now used to determine if a timecode/error display should be in red. Without using boundaries, the timecode/error display will turn red whenever the offset error is more than one hour. However, on machines that can store more than an hour's worth of audio, a red display would appear whenever the machine was requested to cue from one end of the tape to the other. Defining the actual timecode boundaries for the tape will now avoid this problem.
- (21) Attempts to perform a RECORD-EDIT when no machines are record-enabled will now just give a warning rather than prevent the edit with an error message.
- (22) The third column of marks in the marks table, which is shared by the SYNC, DURATION, OFFSET, and VARI-LOCK displays, will now show a brown " (S) " in the column header if one or more machines have a SYNC point established and the SYNC column is not presently being displayed.
- (23) The UP- and DOWN-ARROW keys are now supported to scroll help screens that extend beyond one page.

(24) When displaying ERROR in the far right column on the display, the master's error (frames and subframes only) is now included. This can be useful in checking for a video master that is not locking to the system frame reference (the subframes position will drift).

(25) A bug has been fixed which in prior E-A/V software versions caused the internal date not to change at midnight (although it would normally "fix" itself when the computer was turned off and on again).

(26) The LIST GOTO dialogs for EDLs, Memo Lists, and MIDI Lists now include an additional field for asking to search again for another occurrence of the search string. Previously, the only way to exit these dialogs was through the ESCAPE key. This change allows these dialogs to be accessed more easily in function keys.

(27) It is now possible to create Memo List entries with only SYNC points (i.e., IN points are no longer required).

(28) The E-A/V now supports record tallies from record machines. If record tallies are in use, then the E-A/V will display a red "REC" status for the machine whenever its record tally is on, regardless of whether the machine was put into record from the E-A/V or manually. Also, a new system option is available to control whether Record-Edits should be aborted if the record tally turns off after the machine goes into record.

In order for record tallies to be activated for a machine, 2600 E-SY Synchronizer software Version 1.00 or later must be used. For an active low tally, constant 53 MSD should be set to 2 or dipswitch B6,S3 on the synchronizer should be set on. For an active high tally, constant 53 MSD should be set to A. Machines that are controlled by a parallel interface should have the record tally line wired to pin 20 of the SY's 50-pin transport connector. Machines that are controlled by a 2600 E-SCO Serial Control Option must be using E-SCO software Version 1.00 or later and the E-SCO must be modified as per the 2600 E-SCO Serial Communications Option Instruction Manual.

(29) The Trigger Setup dialog (GPI Menu 6) now includes a column titled "Store In EDL". Enter a "Y" in this field to cause the trigger information to be saved with edits in the Working EDL (in the past, trigger information was always saved). Triggers that are set to "Y" will only be used in re-edits and auto-assemblies if they are listed with the edit being performed. Triggers that are set to "N" will be used during re-edits and auto-assemblies even though they are not in the list.

(30) The following screens have either had fields added or removed, and any function keys that make use of them may need to be modified:

MACHINE ASSIGNMENTS PAGE 2 -- MACHINE PARAMETERS
 SYSTEM CONFIGURATION (INIT MENU 1)
 SYSTEM OPTIONS (INIT MENU 4)
 A/V TRIGGER ASSIGNMENTS (GPI MENU 4)
 TRIGGER SETUP (GPI MENU 6)
 MIDI MENU
 SET MIDI OPERATING MODES (MIDI MENU 1)
 LIST GOTO

(31) Two keyboard keys have changed (MARK SYNC and CONST/C-RCL) and two keys have been added (MK-SAV/MK-RCL and VARI/SET). See the attached documentation for correct key placement.

2600 E-A/V Super-Sync™

Starting with 2600 E-A/V Version 1.01, and if 2600 E-SY Synchronizer Version 1.00 is in use, the 2600 E-A/V Audio Editor now provides two extremely powerful features relating to the synchronizing of tape transports. The combination of these two features is known as Super-Sync™.

First, the 2600 E-A/V is capable of locking up audio or video material which has time-code at a frame count other than the system frame count. This feature, called CROSS-LOCK™, allows original source material with time-code at 24, 25, or 30 frames per second to be synchronized and edited together.

Second, the 2600 E-A/V is capable of synchronizing a transport which is running off-speed. This feature, called VARI-LOCK™, allows material to be precisely run either fast or slow in a controlled, repeatable, synchronized condition for the purpose of expanding or compressing audio to fit, or possibly of more importance, to correct for out-of-sync conditions. An added feature allows this vari-speed to occur without a change in audio pitch, by the use of an external Eventide H3000 Harmonizer.

The 2600 E-A/V always uses the actual timecode values (not synthesized numbers) for the machine when displaying and entering numbers. The 2600 E-A/V can automatically compute the vari-speed amount when the edit points are known, or compute the edit points based on a fixed vari-speed (the mode of operation is determined by the operator).

Before describing the operations of Cross-Lock and Vari-Lock, it is important to review the distinction between frame count and frame rate.

Frame count refers to the number of individual whole frames of audio or video information per unit of time, typically seconds. There are currently only three standards for this frame count: 24 frames per second (associated with film), 25 frames per second (associated with PAL video), and 30 frames per second (associated with NTSC video).

What then about the infamous 29.97 frames per second NTSC color video standard? THIS IS A RATE VALUE RELATING TO SPEED! The frame count is still 30, (0 through 29 frames), but the speed is slower, i.e., by the difference between 30 frames per second and 29.97 frames per second, or 0.1%.

In theory, BUT DEFINITELY NOT RECOMMENDED, there is no reason that 25 frame count time-code could not run at a 29.97 or 30.00 fr/sec rate, or vice versa. Frame counts are fixed values, 24, 25, or 30, while frame rates are infinitely variable. Of course, frame rates are normally set to 24, 25 or 29.97 fr/sec. Normal for picture, that is. The audio community must deal with speed changes and related speed problems on a continuous basis.

The important issue is recognizing when a situation of frame count is causing problems and/or when frame rate, involving speed, is the problem. Be aware that synchronizing issues can easily involve both frame count and frame rate problems simultaneously. Once the problems are identified, Cross-Lock and Vari-Lock can be applied separately or together to correct the condition.

Another important consideration is the issue of synchronizing video decks or any transport, such as certain digital audio transports, which require an external sync reference for final lock. Due to their design, this type of transport is not continuously controlled in a synchronized condition. It is the job of the synchronizer to position the audio or video material, using capstan speed override, to a zero frame error, and then release control of the transport. At this point the deck locks itself to an external sync reference, typically video sync.

This condition relates to Cross-Lock and Vari-Lock in two ways. First, if a transport **MUST** give up control to external sync, then it **CANNOT**, under normal circumstances, be capstan controlled in a vari-speed condition. Vari-Lock has no application for this type of transport. Second, if the time-code count does not match the system count, i.e., a Cross-Lock condition, then the external sync reference to the "Slave" must have a sync relationship to the system "Master" sync reference. This is an unusual condition which requires a special sync generator.

For example, imagine a condition in which a digital audio deck requiring external sync for ultimate lock and having 25 frame time-code is to be synchronized to an NTSC (29.97 fr/sec) video deck. In this situation, both transports must give up control to external sync. To maintain a perfect synchronous condition then, the external 25 fr/sec sync signal to the audio deck and the external 29.97 fr/sec sync signal to the video deck must themselves have a synchronous relationship. Devices to perform this function are available but rare.

Detailed operation of Cross-Lock™

[Requires 2600 E-SY Synchronizer software version 1.00 or higher]

The assigned "Master" transport must have time-code with the same frame count as the "System". The "System" count is set in the "INIT" menu, Page 1 (System Configuration). The value can be set to 24, 25, or 30 Frames per Second. Slave transports can be any frame count.

The frame count for a "slave" transport can be set in the INIT menu, "Machine Assignments", Page 2. However it is not necessary to manually set this value. If a tape is loaded which has a frame count other than the system count, then the system, when reading the time-code, will automatically set the frame count value to the correct standard after playing the machine for about five seconds. The change in frame count will be indicated by a "beep" and a warning message.

Transports which are in a Cross-Lock mode are indicated on the edit screen by an up/down arrow in the time-code column. If edits are recorded into the Working Edit List, this symbol will be displayed along with the frame count value.

After initial setup, the operation of Cross-Lock is totally transparent to the user. All editing procedures including Marking, Setting, or Capturing "IN", "OUT", "SYNC", "OFFSET", "DURATION" plus "VARI-LOCK" remain the same. Each machine's timecode values are entered and displayed in its own frame count; e.g., if the master has a frame count of 30 fr/sec, a slave has a frame count of 25 fr/sec, and the duration of the master is 24 frames, then the duration of the slave will be 20 frames (24/30 equals 20/25).

Because of the accuracy required for editing with Cross-Frame material, edit values calculated from set or marked values will most often be displayed with sub-frame precision. Pressing <SHIFT><REEL> will open up the columns to display the time-code values with colon delimiters.

Detailed operation of Vari-Lock™

[Requires 2600 E-SY Synchronizer software version 1.00 or higher]

Only "Slave" transports can be placed into a Vari-Lock mode. A clutched machine can be run in Vari-Lock mode if it is first unclutched, set to a fixed Vari-Lock speed, and then clutched again.

The Vari-Lock speed value is calculated or set as a percentage of play-speed within a range of +/-20%, to an accuracy of .001%.

In order to make a transport run at a variable speed, it must first be put into the VARI-LOCK mode. To enter the VARI-LOCK mode, point to the Slave deck using the appropriate green machine key, and press <SHIFT><VARI>. The Shifted function of the <VARI> key toggles the transport in and out of Vari-Lock. Transports which are in a VARI-LOCK mode are displayed on the edit screen in YELLOW (they must also be chase enabled). This provides a very obvious indication that a particular deck is set to the VARI-LOCK mode.

The Vari-Lock value is displayed in the third time-code column which is shared with SYNC Point, OFFSET, and DURATION. Pressing the <VARI> key, to the left of the <C:SOUND> key, sets the display to "VARI-LOCK".

Except for manually setting the Vari-Lock value or examining the auto-calculated value, it is not necessary to display the VARI-LOCK column when using the VARI-LOCK mode. In many cases it will be more appropriate to display either the SYNC point or DURATION.

The VARI-LOCK value can either be calculated by the system, using IN Points and either SYNC Points or OUT Points, or, SET by the operator. It is very important to know whether the value was CALCULATED or SET as the calculation of other values such as DURATION, IN, and OUT point depends on how the VARI-LOCK value was established. If the VARI-LOCK percentage was automatically CALCULATED, then its value is displayed within parentheses, e.g. (3.159%). If the value was SET by the operator, then the value is displayed with no parentheses, e.g. 3.159%. **THIS IS AN IMPORTANT POINT TO UNDERSTAND.**

SETTING VARI-LOCK VALUES

The first method for establishing the Vari-Lock value is to manually set the value using the <SET> key. In this mode the Set value remains a constant and causes IN, OUT and SYNC points to be recalculated as required.

To Set a fixed Vari-Lock value, first make sure the machine is in the VARI-LOCK mode (it should be displaying in YELLOW -- if not, press <SHIFT><VARI> to toggle the mode on). Next, press the <VARI> key to display the Vari column and position the green pointer to the deck to be vari-speeded. Press the <SET> key to bring up the Set Window, and enter the desired value, including minus sign and decimal point if needed.

The normal way to clear a SET Vari-Lock value is to set it to zero. Note however that if IN and OUT or IN and SYNC points have already been established, then the Vari-Lock value will not change when set to zero, but instead will just have parentheses put around it. What you are doing in this case is changing the mode from the SET condition to the CALCULATE condition (see below). If your intention is to completely disable Vari-Lock for the machine, then you should do it by pressing <SHIFT><VARI> to toggle the Vari-Lock mode off and turn the yellow display back to white.

Once a Vari-Lock value has been SET, it can be changed in one of three ways. First, simply setting it to a new value with the <SET> key will have the desired effect. Second, the <TRIM> key can be used to

trim the value by a small amount. Third, the 2600 E-MCU Motion Control Unit can be used to trim the value. This is done by pointing to the Vari-Lock value for the desired machine, setting the 2600 E-MCU to the JOG position, and turning the knob clockwise to trim the amount in +0.1% increments and counterclockwise to trim the amount in -0.1% increments. Note that to use either the <TRIM> key or jog knob to trim the Vari-Lock amount, the value must have been SET (not CALCULATED) and thus must not have parentheses around it.

The NTSC pull-up rate of 0.100% and pull-down rate of -0.100% is a very accurate factor representing the difference in frame rate between 30.00000000 frames per second and 29.97002616 frames per second.

CALCULATING VARI-LOCK VALUES

This is probably the most powerful and useful mode of VARI-LOCK because of the ease in which the Vari-Lock value is calculated by the system.

The Vari-Lock value is calculated by comparing the durations between two points on the Slave deck with two points on the Master deck. The two points used are normal edit points, either the IN and SYNC points, or IN and OUT points.

EXAMPLE: The narrator has just performed a perfect 30 second take except the length ran over by two seconds. Rather than do a re-take, let's use VARI-LOCK to correct the duration. The picture and "Clutched" multi-track recorder begin at 1:00:00:00 and end at 1:00:30:00, so these points are entered as IN and OUT Points. The desired duration is 30 seconds.

Using C:Sound, the dialog on the 2-track can be seen to begin at 12:24:15:15 and end at 12:24:47:20, so these points must be entered or captured for the slave 2-track machine.

Before these values can be entered however, it will be necessary to place the deck into the AUTO-CALCULATE VARI-LOCK mode. To enter the VARI-LOCK mode, point to the Slave deck using the appropriate green machine key, and press <SHIFT><VARI>. The Shifted function of the <VARI> key toggles the transport in and out of Vari-Lock. If the machine had previously been SET to a Vari-Lock value, that value must be cleared by setting it to zero. The important point to remember here is that the value in the Vari-Lock column must have parentheses around it in order for the CALCULATION mode to operate.

Once in the AUTO-CALCULATE VARI-LOCK mode, the transport can be set with IN and OUT points which result in a Duration different from the Master.

Continuing with our example, the 2-track IN point would be marked to 12:24:15:15 and the OUT point marked to 12:24:47:20. Pressing the <DUR> key to display Duration would show a duration for the Master of 00:00:30:00 and a duration for the Slave of 00:00:32:05.

At this point, the edit can be performed. The system will automatically control the speed of the slave deck to cause the 32 seconds and 5 frames of dialog to compress into 30 seconds of picture. If it is necessary to see the VARI-LOCK value then pressing the <VARI> key will show the VARI-LOCK values, indicating a value of (7.222%), assuming frame counts of 30 for both machines.

If an Eventide Harmonizer is connected into the system and properly configured (see below), the pitch will automatically be corrected by the VARI-LOCK value.

Trimming the OUT Point or DURATION of either the Master or Slave will cause the VARI-LOCK value to be recalculated. Trimming the IN point of either the Master or Slave will cause two parameters to change. First, the OFFSET will be recalculated per normal operation, and second, the VARI-LOCK value will change to reflect the new DURATION.

An alternative to using IN and OUT points is using IN and SYNC points. This mode allows the operator to set a point within the audio material which must be in sync with the Master. If IN and SYNC points exist for both the master and Vari-Locked slave, these points take priority in determining the VARI-LOCK amount.

Setting up the Eventide H3000 Harmonizer

The 2600 E-A/V communicates with the Harmonizer through a MIDI link, so the first requirement is to connect the E-A/V MIDI OUT to the Harmonizer MIDI IN.

Using MIDI Menu Page 5 ("Eventide Harmonizer Assignments"), set the E-A/V MIDI Channel to be used to communicate with the Harmonizer for each machine that may be controlled with Vari-Lock. Set the Harmonizer to the same channel (this is called "MIDI BASE" in the Harmonizer), and set the Harmonizer MIDI RCV parameter to ON. The Harmonizer MIDI functions are accessed by pressing the FUNCTION button three times. Valid MIDI channels are 1 thru 16. Use a MIDI channel which is not in use by any other MIDI device. Next, press the FUNCTION button two more times, and set the "SEQ=" option to ON.

Set the LINE button on the Harmonizer to IN (red light on) to enable the output of the pitch corrected audio.

The 2600 E-A/V assumes the use of Algorithm 113 (Time-Squeeze) in the Harmonizer, so this algorithm must already be loaded up in the Harmonizer. Not all Model H3000 Harmonizers have this algorithm, so if you are unable to access it from your Model H3000, contact Eventide about upgrade information.

2600 E-A/V Track Management

The Adams-Smith 2600 E-A/V Track Management system is designed to interface with the Adams-Smith 2600 E-TMI Track Management Interface, although some features are available even without an E-TMI.

The Track Management Interface is a rack-mounted unit which provides relay contact closures for the use of turning record tracks on and off, and also to read back operator settings from the machine's own remote control panel. The E-TMI communicates with the E-A/V through an RS-422 serial interface. Special cables are available for the control of various tape machines -- contact the factory for the availability of any particular machine cable.

The Track Management system is designed to act as transparently as possible for the operator. Three different operating methods are available: (1) Tracks can be assigned from the E-A/V, and if an E-TMI is installed, the tracks will be enabled on the record machine; (2) Tracks can be selected from the machine's remote control panel (or directly on the machine), and the E-A/V will store the selection in the Working EDL without any other operator input (this method obviously requires an E-TMI); and (3) An "auto" track selection feature is available where the E-A/V will automatically select the track to use based on the selected source material, notes in the EDL, and the location of current and previous recordings on the record machine (this method can be used with or without an E-TMI -- if an E-TMI is not used, the operator will have to actually enable the tracks manually). For all three methods, the track information is saved in the Working EDL, which can then be printed or used in a re-edit or auto-assembly operation. Both re-edit and auto-assembly allow for the selection of tracks from information already in the EDL, or to override the EDL information by selecting new tracks on the machine remote control panel. Finally, an existing EDL can have the auto track selection algorithm applied to part or all of it.

All of the setup and assignment functions of the Track Selection system are accessed through the Track Menu, reached by pressing the <TRACK> key. The remaining sections of this document detail the use of each of these menu selections.

2600 E-TMI Configuration

The 2600 E-TMI Configuration screen appears as follows:

Online (Y/N) -- Address 0: _ Address 1: _ Address 2: _ Address 3: _

TMI Address to configure: _

		Invert				Invert				Invert				
	Machine	Track	In	Out		Machine	Track	In	Out		Machine	Track	In	Out
1:	_____	___	__	__	2:	_____	___	__	__	3:	_____	___	__	__
4:	_____	___	__	__	5:	_____	___	__	__	6:	_____	___	__	__
7:	_____	___	__	__	8:	_____	___	__	__	9:	_____	___	__	__
10:	_____	___	__	__	11:	_____	___	__	__	12:	_____	___	__	__
13:	_____	___	__	__	14:	_____	___	__	__	15:	_____	___	__	__
16:	_____	___	__	__	17:	_____	___	__	__	18:	_____	___	__	__
19:	_____	___	__	__	20:	_____	___	__	__	21:	_____	___	__	__
22:	_____	___	__	__	23:	_____	___	__	__	24:	_____	___	__	__
25:	_____	___	__	__	26:	_____	___	__	__	27:	_____	___	__	__
28:	_____	___	__	__	29:	_____	___	__	__	30:	_____	___	__	__
31:	_____	___	__	__	32:	_____	___	__	__	33:	_____	___	__	__
34:	_____	___	__	__	35:	_____	___	__	__	36:	_____	___	__	__

"E-TMI Configuration" establishes the initial set-up parameters for the hardware interface to the transports. Up to 4 E-TMI units can be used with the E-A/V providing track select management for up to 144 tracks, 36 tracks per E-TMI. The individual E-TMIs are set to an address from 0 to 3 via dipswitches in the E-TMI chassis. Units are shipped from the factory set to address 0.

Each address can be placed "offline" or "online" individually. If an E-TMI is present in the system for a particular address, then the "Online (Y/N)" input field should normally be set to "Y" for that address. For trouble-shooting purposes, communications from the E-A/V CPU to the E-TMI chassis can be turned off by setting the "Online" field to "N".

E-TMI Configuration assigns the individual track outputs on the E-TMI, i.e., outputs 1 through 36, to the tracks to be selected on the various decks. This "mapping" of E-TMI outputs is very flexible allowing one E-TMI to control track select on multiple decks. For example, E-TMI outputs 1 to 24 can be assigned to the 24 tracks of a multi-track, E-TMI outputs 25 to 28 can be assigned to a 4-track, and E-TMI outputs 29 and 30 assigned to a video deck for insert editing and lay-backs, leaving 6 outputs on the E-TMI free for additional tracks.

Online (Y/N): -- (For each possible E-TMI address) Set to "Y" if the corresponding E-TMI address exists and is functioning properly; else set to "N".

TMI Address to configure: -- If you need to change the configuration of a particular E-TMI (besides just changing the online status), set this to the address of the E-TMI chassis to be configured.

For each E-TMI track...

Machine: -- The transport to be controlled. Select by pressing a "green" Machine Key. To clear an existing E-TMI track assignment, press the INIT or BACKSPACE key to clear the machine field and then press ENTER.

Track: -- The machine track to map to this E-TMI track.

Invert In and Out: -- Assigns the logic for track select and track sense. This parameter is transport dependent. Refer to transport interface drawing for correct logic.

Audio Track Assignments

The Audio Track Assignments screen appears as follows:

	# of Audio Tracks	Protected Tracks
R-M: ()	—	_____
A-MCH: ()	—	_____
B-MCH: ()	—	_____
C-MCH: ()	—	_____
D-MCH: ()	—	_____
E-MCH: ()	—	_____
F-MCH: ()	—	_____
G-MCH: ()	—	_____
H-MCH: ()	—	_____
I-MCH: ()	—	_____

Column 1 specifies the maximum number of audio tracks for each machine. This number is used to prevent the entering of illegal track numbers.

Column 2 allows entry of tracks to be protected from going into Record. Typically this would be used to protect time-code or sync tracks. Any track listed in this field will be prevented from being entered on the E-A/V, and selection of any of these tracks on the machine's Remote will cause an edit to be immediately aborted.

If either Source Reel or Keyword is used, it will be necessary to type in the appropriate information in the REEL/KEYWORD field.

The Auto Track Select algorithm always starts at the first line and works down, and works left-to-right on each line, when searching for a list of tracks to use.

Track-list Alternatives allow the operator to select what tracks will be made available for selection. Pairs or multiple tracks can be assigned to a single field allowing the system to select tracks in sets. If a track is to be selected by itself, then each track alternative should be listed in a separate field.

EXAMPLE --

Enable Auto Track Select (Y/N): Y Auto Track Select Machine: MTR-90__
Minimum time between edits (in seconds): 5__

Type	Reel/Keyword	***** Track-list Alternatives *****			
4	010	18+19	20+21		
5	WALTER	14	15		
5	BILL	16	17		
1		1+2	3+4	5+6	7+8
1		9+10			
--					
--					
--					
--					
--					
--					

Types: 1=Any, 2=Even Edits, 3=Odd Edits, 4=Source Reel, 5=Keyword
Minimum time between edits (in seconds): 5__

Using the above setup tracks would be selected as follows:

Edits involving Reel 010 will select track pairs 18 & 19 or 21 & 22.

Edits from the EDL having the first word of a note equal to "WALTER" will select either track 14 or 15, and edits having the first word equal to "BILL" will select either track 16 or 17.

All other Edits will be placed on tracks 1 through 10 in pairs as shown.

The minimum blank time between Edits on any one or pair of tracks will be 5 seconds.

Apply Auto Track Select To EDL

The Apply Auto Track To EDL screen appears as follows:

List to use: _ 1 = Reference EDL, 2 = Working EDL

From Event #: _____
Through Event #: _____
Record Reel ID: _____

Use this screen to apply the Auto Track Selection criteria to the selected EDL. Edits that don't match any of the criteria will not be changed.

The reel of the Primary Record Machine, as defined on the Track Select Sources screen, is the default Record Reel ID, but any other reel ID can also be specified.

The number of edits changed and not changed is reported as a message when processing of this screen is complete.

Track Select

The Track Select screen appears as follows:

Machine	Tracks
_____	_____
_____	_____
_____	_____
_____	_____

Use this screen to select tracks manually from the E-A/V. Enter the tracks for each record enabled machine. Individual tracks may be entered by separating the track numbers with a space, a comma, or a plus sign. A range of tracks can be entered by separating the start and end tracks with a hyphen. For example, the entry "1+3+5-7" would signify tracks 1, 3, 5, 6, and 7.

For quick access to this screen, press the <TRACK> key twice in a row.