

# Micro Lynx Manual Supplement No. MS 93-009

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## Micro Lynx Software Release Notes

**DATE**: 5/10/2010

MODEL: Micro Lynx

**REVISION**: All

SERIAL NO: All

SOFTWARE: **PROM Name Version** 

Machine Control MC 1.34 Control Processor CP 1.35 Keyboard KBD 1.33

**MANUAL**: 73A016

**DESCRIPTION:** 

## **Control Processor CP 1.35**

- 1. ADR Beeps
  - a. A problem has been fixed while using ADR beeps with EDIT-RECORD or EDIT-REHEARSE mode. Previously, if the user ended the edit mode early by hitting PLAY or STOP, the beeps *and* the spacing between the beeps became shorter.
- 2. Ending EDIT RECORD or EDIT REHEARSE Mode Early
  - a. If the user ended EDIT RECORD or EDIT REHEARSE mode early by hitting STOP, the machine appeared to be stuck in that state, (even though functionally, it was working correctly). This made switching between these two states confusing unless the user allowed the machine to finish the pass.

## **Software History**

#### **Machine Control MC 1.34**

## **Transport Interfaces**

1. The following transports have been added to the AUTO Serial TRAN menu:

## **Machine Control MC 1.34 (continued)**

Serial Transport	TRAN Selection	
Accom WSD	ACCOM	WSD
Fostex RD-8	FOSTEX	RD-8
Sony DVW-500	SONY	DVW-500
Sony UVW-1800	SONY	UVW-1800
Studer D-827 64Hz/48K	STUDER	D-827
Studer D-827 64Hz/44.1K	STUDER	D-827
Tascam DA-60	TASCAM	DA-60

#### 2. Accom WSD (WorkStation Disk)

- a. Use the Micro Lynx AUTO Serial TRANSPORT only if the WSD EDITOR SETUP menu item F6 Machine ID has been set to 0:RTD. Otherwise, manually select ACCOM WSD in the Micro Lynx transport menu.
- b. Problems editing with WSD 4.001:
  - i. Rehearse status can hang after rehearse punch out (i.e., the Micro Lynx Keyboard will continue to indicate that the WSD is rehearsing, even after punching out). Clear this false status by pressing [ALLSTOP] at the keyboard.
  - ii. The WSD error display at the Micro Lynx may show a +1 frame error during edits, and/or a possible -1 frame error after the edit has completed. Despite the fact that the Micro Lynx will then indicate that the WSD is not locked, this does not in fact corrupt the edit being performed.
  - iii. Burned-in time code on the WSD monitor may be one frame off when stopped or jogging. Add one frame to get the actual frame number.
- c. Relevant WSD menu's are as follows, with settings essential to Micro Lynx operation marked by a <<<---:

## MENU SELECTIONS (H for help)

F1 MAIN	F1	Output	Field	
MAIN MENU	F2	Interp	On	
	F3	Play Mode	Norm	<<<
	F4	Freeze	Off	<<<
	F5	Bypass	Off	
	F6	GPI Out		
	F7	Display	Time code	
	F8	Repeat Mode	None	
	F9	Cine Timeline	Normal	<<<
	F10	Video Content	Fields	

F2 EDITOR	F1	Editor:	On	<<<
EDITOR SETUP	F2	Protocol	Sony	<<<

## **Machine Control MC 1.34 (continued)**

#### MENU SELECTIONS (H for help) continued.

	F3	Edit Fld	F1	<<<
			1 1	
	F4	TC Fld Report	Off	<<<
	F5	Roll Delay	0	<<<
	F6	Machine ID	0:RTD	<<<
	F7	TC Offset	0	<<<
	F8	Edit Delay	8	<<<
	F9	Baud Rate	38400	<<<
	F10	Parity	Odd	<<<
F3 VIDEO	no relevant settings			
F4 MACROS	no relevant settings			
F5 SEGMENTS	no relevant settings			
F6 SYSTEM	F1	Video In	Analog Beta	
SYSTEM SETUP	F2	Video Out	D1 & Beta	
	F3	Play Ref	Ref In	<<<
	F4	Test Pattern	Color Bars 0	
	F5	Test Mode	0	
	F6	TV Std	525	<<<
	F7	Access Limit	Disk Ends	
	F8	TC Offset	01:00:00:00	<<<
	F9	System Preset		
F7 BACKUP	no relevant settings			
F8 TRANSPORT	no relevant settings			
F9 REMOTE	no relevant settings			

#### 3. Fostex RD-8

- a. The Micro Lynx should be setup for operation with the RD-8 by specifically selecting Fostex RD-8 from the transport list. Choosing AUTO Serial TRANSPORT will result in Sony BVU-950 parameters being loaded, which will not work well.
- b. Do not attempt to synchronize using LTC from this transport. In other words, the default selection of Serial TC should not be changed.
- c. The RD-8 software is itself still under development, and some changes may be expected in the behavior of the deck during the time period AFTER the Micro Lynx has achieved

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synchronization. For the tested version of the RD-8, a preroll value of 6 seconds was found to be satisfactory, but this may need to change when the RD-8 software is released.

## **Machine Control MC 1.34 (continued)**

#### 4. Sony DVW-500

- a. At the time of writing these notes, the DVW-500 tested would not execute a 2-Field lock, making the deck unsuitable for operation as a slave in general audio post-production. Therefore, either (1) the DVW-500 must always be the master or (2) the actual master deck must be correctly color referenced.
- b. Earlier versions of DVW-500 software could damage the tape formatting if Stop, Shuttle or Jog were initiated while the deck was editing. In an attempt to avoid this problem, Micro Lynx software will always issue an Edit Off command before entering any of these modes, but results unfortunately cannot be guaranteed. It is therefore highly recommended that the DVW-500 software be updated to at least the following versions:

SYS1	V3.10	SYS2	V3.11
SV1	V2.13	SV2	V1.00
DT	V2.02	DR	V1.00
APR	V1.05	VPR	V1.11
FP	V1.11	FL	V1.00
KY	V1.00	SWC	V1.00

c. The Micro Lynx AUTO Serial TRANSPORT selection will load DVW-500 parameters if any of the following models are detected: DVW-500, DVW-A500, DVW-510, DVW-A510, DVW-CA510.

#### 5. Studer D827

- a. The Micro Lynx has entries for 48K and 44.1K sample rate versions of the D827.
- b. The D827 is operated like a video deck, with capstan control being released after lock is achieved so that the deck can then precisely lock its sample clock to the selected reference, usually video. (The Micro Lynx shows it as Capst-Rls.) A non-released (Capst-Norm) version of this interface is not supported.
- c. The interface assumes a 64Hz tach rate. To change a D827's output tach rate from 1024Hz to 64Hz, it is necessary to:
  - i. change a jumper on the Tape Deck Counter Timer Board, and
  - ii. change the SETUP -> SYNCHRONIZER -> S029: INT MOVE PULSES menu from 1024 p/s to 64 p/s.
- d. When the D827 is in rehearse mode, a delay of approximately 1/4 sec. will be experienced whenever the deck is stopped or put into fast forward or rewind from the Micro Lynx Keyboard. Due to the way that the D827 processes rehearse mode requests, this delay is necessary so that the deck will:
  - i. correctly punch out of rehearse, and

- ii. correctly recognize the end of rehearse mode.
- e. The D827 menu's should be set as follows (only items relevant to Micro Lynx operation are shown):

## **Machine Control MC 1.34 (continued)**

i. Under the SETUP tree:

DECK S006: MAX WIND SPEED 15.0 m/s
EXT CLOCK REF S017: EXT CLOCK REF VIDEO xx Frm/s

SYNCHRONIZER S029: INT MOVE PULSES 64 p/s

ii. Under the FUNC tree:

CLOCK REFERENCE CLOCK REF: EXT SYNCHRONIZER SYNCHR: EXT SYNCHRONIZER TC LOCK: OFF

- 6. Tascam DA60
  - a. Serial TC lock mode is preferred at the Micro Lynx. Using LTC offers no advantages.
  - b. A preroll value of 7:00 seconds is recommended when editing with the DA-60.
- 7. The Fostex E and G Series interfaces now disable all tape lifter activity. (On the Micro Lynx, the Tran Options menu Lifter Defeat: has been set to Never.) Some cables have been shipped with the Micro Lynx lifter output connected to the Fostex GOTO-0 pin, which doubles as a Lifter and Edit pin. Operation of the lifters in this way has proved unsatisfactory however.
- 8. Two changes have been made to record punch in and out for the Otari MTR-90 Mark I:
  - a. Punch in is now achieved by pulsing the Record pin only. Former versions pulsed Record and Play together.
  - b. Record punch in and out pulse lengths have been extended to 120 milliseconds, double the previous length.
- 9. The digital dubbing versions of some digital multitrack interfaces have been discontinued. These transport interfaces are labeled Capst-Rls Hi-Prec in the Micro Lynx list.

Affected transports are: Mitsubishi X-850, Mitsubishi X-880, Sony 3324, Sony 3324S, Sony 3348.

Exactly the same interface may be achieved by selecting the normal digital interface (Capst-Rls) and by changing the Lock Delay menu value to 45. This means that the Micro Lynx will hold the deck locked for 45 frames before releasing capstan control, thus ensuring that the most precise lock possible has been achieved. The Lock Delay menu may be found under the Micro Lynx Tran Options menu (press [TRAN] again while in [SETUP] + [TRAN]).

- 10. High-speed tach versions of Studer A820 and A827 interfaces have been discontinued. The remaining interfaces assume a tach rate of 32 Hz at 15 ips (64 Hz at 30 ips). The lower rate may be selected at the transport by a jumper change. Please consult Studer documentation.
- 11. It has been noted that some Studer transports in the 800 line will occasionally fail to respond to the capstan control enable input. Previous versions of the Micro Lynx could, under these

## **Machine Control MC 1.34 (continued)**

circumstances, learn incorrect information about the playspeed of the deck, and require a CLR TRAN for synchronization to again be successful. This situation has been rectified, and, although synchronization will still fail while the Studer is ignoring capstan control, subsequent attempts to synchronize should not suffer.

Affected transports are: A800-3, A820, A827, D820, D820, D827 (new).

#### 12. Tascam DA-88

- a. Some changes in Tascam's SY-88 software have caused the Micro Lynx to occasionally take a very long time to synchronize. Specifically, after a locate, the DA-88 no longer reports the threaded/unthreaded status of the tape, which thwarts attempts by the Micro Lynx to compensate for the longer startup times that occur when the tape is unthreaded. The last production version of the SY-88 which is known to have reported this status correctly was 3.06. The current production version is 3.19, and this version exhibits the problem. Tascam has undertaken to restore the original method of reporting threaded/unthreaded status in the next SY-88 software revision.
- b. Some users had requested that the Micro Lynx should switch DA-88 record-ready channels into input mode whenever the tape is stopped, as the transport did not do so under all circumstances. This problem has now been rectified by Tascam in the most recent software releases.
- c. Other users had complained about incorrect monitor switching during shuttle. This problem has also been addressed by Tascam.
- 13. For version MC 1.34,, a new rule for code-only master operation has been created:

TO OPERATE A CODE-ONLY MASTER, SELECT <u>AUTO Serial</u> TRANSPORT AS THE MASTER TRANSPORT TYPE.

- 14. JVC BR-S611U and BR-S811U (using transport menu's BRS-610 and BRS-810):
  - a. These machines would occasionally fail to move tape, either at the beginning of a locate, or during a transition from shuttle directly into play. Both conditions have been corrected.

b. Preview status is now reported correctly.

## **Keyboard KBD 1.33**

The following improvements have been made in the KBD 1.33 software release:

- A new Rehearse-In feature has been implemented (X-Reh, RecLog). This is used by Studer machines.
- When executing a MACRO + CLR, the following screen is displayed.



## **Software History (continued):**

### **Keyboard KBD 1.33**

- Access to Track Display for more than 24 tracks is now correct.
- CLR + EDIT now properly clears sync points.
- Subframe Trim for REF and SYNCP is now available.
- Record Entry Advance in the SETUP + RDY mode now transmits correctly.
- Record In, Record Out, Rehearse In and Rehearse Out options in the SETUP + TRAN + TRAN mode now transmit correctly.
- Record Enable is now available at all times.

## **Keyboard KBD 1.32**

Internal changes only. No change to user functionality.

#### **Control Processor CP 1.34**

This software release now supports all requirements for Mediasound Version 1.0 synchronization.

## **Machine Control MC 1.33**

#### Serial Time Code

 Serially controlled transports (Sony protocol) may now be synchronized using serial time code only. The SETUP TRAN Reader Mode menu has been expanded to accommodate this feature.

Reader Mode	LTC/SerTC LTC/TT1 Serial TC Serial TT1
	Serial TC

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LTC/SerTC: All synchronization is performed using the Machine Controller's longitudinal time code reader. The Micro Lynx also asks the transport for either longitudinal or VITC time code. Arbitration between the two is performed by the transport itself. This is the normal selection for most transports.

**Note:** It is essential in this mode that the requested serial time code exactly matches the actual longitudinal time code.

LTC/TT1: The Micro Lynx requests only tape timer information from the serial transport. It is used as follows:

## **Machine Control MC 1.33 (continued)**

Longitudinal time code via the time code reader is used for synchronization, and the tape timer is used for "tach" updating only. In this mode, the tape timer time code is used in a relative sense, and does not define absolute tape position.

#### Serial Time Code

Serial TC:

The Micro Lynx asks the transport for either longitudinal or VITC time code. Arbitration between the two is performed by the transport itself. Synchronization is achieved using serial time code only, and the local longitudinal reader is completely disabled. All numeric information in the time display is collected over the serial port.

It is essential, if serial time code lock is to be used, that both the Micro Lynx and the serial transport are referenced to the same video reference source, as time code requests to the transport must synchronize to this reference.

This selection will revert internally to "LTC/SerTC" if the selected transport is not capable of serial time code locking.

Serial TT1:

The Micro Lynx requests only tape timer information from the serial transport. Synchronization is performed using control track data alone, without the assistance of a time code track. The tape timer time code defines tape position absolutely, and may be reset or preset from the keyboard. When in this mode, all operations are performed exactly as if actual time code were present.

#### Notes:

- a. The new time code selections apply to transports using Sony protocols only. For Ampex transports, no distinction is made between LTC/VITC, LTC and VITC.
- b. The default serial time code selection for any transport is loaded when the transport is selected. It is no longer reset by a CLR TRAN.

## **Automatic Detection of Serial Transport Type**

2. A new transport selection labeled "AUTO Serial TRANSPORT" will automatically detect the presence of most serial transports, and load in the appropriate transport parameters. The following table lists the serially controlled transports currently recognized, and shows the transport selection that will be invoked when each transport is found.

## **Machine Control MC 1.33 (continued)**

Serial Transport	TRAN Selection	
Sony BVH-2000	SONY	BVH-2000
Sony BVH-2180	SONY	BVH-2000
Sony BVH-2500	SONY	BVH-2000
Sony BVH-2700	SONY	BVH-2000
Sony BVH-2800	SONY	BVH-2000
Sony BVH-2830	SONY	BVH-2000
Sony BVH-3000	SONY	BVH-2000
Sony BVH-3100	SONY	BVH-2000
Sony BVU-800	SONY	BVU-800s
Sony BVU-820	SONY	BVU-800s
Sony BVU-850	SONY	BVU-800s
Sony BVU-870	SONY	BVU-800s
Sony BVU-900	SONY	BVU-950
Sony BVU-920	SONY	BVU-950
Sony BVU-950	SONY	BVU-950
Sony VO-9800	SONY	9800
Sony VO-9850	SONY	9800
Sony BVW-10	SONY	BVW-10
Sony BVW-40	SONY	BVW-40
Sony BVW-11	SONY	BVW-10
Sony BVW-15	SONY	BVW-10
Sony BVW-60	SONY	BVW-75
Sony BVW-65	SONY	BVW-75
Sony BVW-95	SONY	BVW-75
Sony BVW-96	SONY	BVW-75
Sony BVW-70	SONY	BVW-75
Sony BVW-75	SONY	BVW-75
Sony PVW-2600	SONY	BVW-75
Sony PVW-2800	SONY	BVW-75
Sony PVW-2650	SONY	BVW-75
Sony BVW-D75	SONY	BVW-75

Serial Transport	TRAN Selection		
Sony DVR-1000	SONY	DVR-1000	
Sony DVR-2000	SONY	DVR-1000	
Sony DVR-2100	SONY	DVR-1000	
Sony DVR-10	SONY	DVR-10	
Sony DVR-18	SONY	DVR-10	
Sony DVR-20	SONY	DVR-10	
Sony DVR-28	SONY	DVR-10	
Sony DVW-500	SONY	DVW-500	
Sony PCM-3402	SONY	3402 sd	
Sony PCM-7030	SONY	7030	
Sony PCM-7050	SONY	7030	
Sony EVO-9800	SONY	9800	
Sony EVO-9850	SONY	9800	
Alesis Al2	ALESIS	AI2/ADAT	
JVC CR-850	JVC	CR-850s	
JVC CR-600	JVC	CR-850 s	
Fostex D-20	FOSTEX	D-20	
Otari DTR-90	OTARI	DTR-90	
Panasonic AG-7750	PANA	AG-7750	
Panasonic AJ-D350	PANA	AJ-D350	
Tascam DA-88	TASCAM	DA-88	
Ampex VPR-80	AMPEX	VPR-80	
Ampex VPR-3	AMPEX	VPR-3	
Ampex VPR-6	AMPEX	VPR-6	
Ampex XVR-80	AMPEX	VPR-80	
Ampex VPR-300	AMPEX	VPR-300	
Ampex VPR-305	AMPEX	VPR-300	
Ampex VPR-350	AMPEX	VPR-300	
Ampex VPR-200	AMPEX	VPR-300	
Ampex VPR-250	AMPEX	VPR-300	
Ampex DCT-700d	AMPEX	VPR-300	

## Miscellaneous

- 3. Recording on a VCR will now be correctly inhibited if the cassette's record tab is missing.
- 4. CLR TRAN now leaves all SETUP TRAN menu items unchanged.
- 5. The LTC Reader time-out is now proportional to velocity at speeds below approximately 80% playspeed. This means that the LTC LED will now remain properly illuminated even at slow speeds, and will no longer flash only briefly when each new frame is decoded.

## **Machine Control MC 1.33 (continued)**

- 6. The chase algorithm has been adjusted so that a slave transport will chase to an abrupt change in master position while the master is stopped. This kind of change may take place when a generator is providing master time code and a new time code number is loaded.
- 7. The Offset Error display has been improved, and now remains "active" (i.e., non-zero) over a greater range of slave transport activity. The operation of the minus sign has also been improved.

## **Transport Interfacing**

8. The following new transports have been added.

AUTO Ser TRAN - See Item 5 above

PANA AG-7750

PANA AJ-D350 - (D3)

SONY 7030 fm - play speed controlled by 9600Hz capstan frequency

SONY DVW-500 TASCAM DA-88

- 9. Studer A800 MkIII shuttle speed control has been improved. This in turn leads to greater locating accuracy.
- 10. Refinements have been made in the unthread/threadup algorithm for the new cassette type transports.
- 11. The locking servo gain for the Fostex D-20 has been increased.
- 12. Improvements to the JVC CR-8250 interface are as follows:
  - a. The SEARCH line is now correctly released, allowing local control of the 8250 while connected to the Micro Lynx. (TimeLine Part Numbers 71C043 and 71C070, JVC Type C cables, have been modified to allow this feature.)
  - b. Tracks will now be selected properly, and no longer toggle on/off when selected at the keyboard. (TimeLine Part Numbers 71C043 and 71C070, JVC Type C cables, have been modified to allow this feature.)
  - c. Locking servo parameters have been optimized.
  - d. The keyboard will no longer tally record mode when the 8250 is in rehearse/preview.
- 13. Otari DTR-90:

a. Assemble mode is now permitted at the keyboard.

## **Software History (continued):**

## **Machine Control MC 1.33 (continued)**

- b. Punch in/out advances have been adjusted for DTR-90 software release PG260-G and higher.
- 14. Sony APR-24 interface improvements are as follows:
  - a. A new Rehearse-out Mode (Mode #5 "Rehearse then Play") sends a pulse first to the REHEARSE pin and then to the PLAY pin.
  - b. An occasional failure to stop while recording has been fixed.
- 15. The Sony VO-5850 interface (M3 card only) has been upgraded:
  - a. The SEARCH command is now cleared when the transport is stopped. This allows tape to be successfully ejected without disconnecting the control cable.
  - b. The STILL command now remains asserted at all times while the transport is stopped, preventing tape drift.
  - c. A small problem has been fixed that would occasionally latch the deck in a Fast Forward mode.
- 16. Capstan sevo performance for the Otari DTR-900-1 has been improved, resulting in faster lock times.
- 17. Record punch out on the Studer A-80 is now achieved by pulsing the PLAY pin alone, and not the PLAY and STOP pins together. The latter action was required for very early A-80's, but can cause later machines to stop unintentionally.

## **Problem Fixes**

- 18. Record and rehearse status processes have been improved, and now avoid the situation where local record activity could show up as rehearse.
- 19. Several improvements have been made in the chase sequencing algorithm and serial transport interface, in order to eliminate a very occasional failure to roll while in an edit.
- 20. MC 1.33 corrects a problem where a serial transport could occasionally be left in "vari-play" mode after synchronization was complete. This problem was also the cause of some abortive editing operations.

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21. A small error in the Studer serial track select procedures has been corrected. Symptom of the problem was that the last track to be disabled at the keyboard could not be re-enabled until some other track was enabled.

## **Machine Control MC 1.33 (continued)**

- 22. Issuing a FF or Rewind command at a very specific time during the final phase of a locate could cause the transport to shuttle in the required direction, but at a very slow speed. This has been corrected.
- 23. The troublesome "master runaway" problem has been corrected. Symptom: A Master transport, after having been given a Locate or Cue command would sometimes fail to stop at its target locate point, and continue winding until running out of tape.
- 24. It has been noted that "code only" master operation can be problematic when there is a serially controlled transport stored in the master transport menu. The fix in the past has been to select a non-serial transport when running code only operations.
  - In version MC 1.33, when the Micro Lynx detects an absence of activity on the transport serial port for al least .5 seconds, it will inhibit the selection of serial time codes and of serial time code locking. This action permits the correct operation of a code only master. Serial time code and serial time code locking will be restored upon resumption of activity on the serial port. (In other words, to operate "code only" when a serial deck is selected, disconnect the transport control cable.)
- 25. A transport will no longer attempt to execute a relocate when commanded to GOTO its current location. In previous versions, this could occur at the beginning of an EDIT when an EDIT CUE had already been executed manually.

## **Machine Control (MC 1.32)**

The following improvements have been made in the MC 1.32 software release:

- Interface for the Alesis AI-2 has been implemented.
- Internal track select is expanded to 128 tracks. (KBD 1.31 software is limited at 48 tracks.)
- A new Rehearse-In feature has been implemented (X-Reh, RecLog). A 40ms delay occurs after Rehearse has been set and before Record can be registered. This is used by Studer machines.
- Otari DTR-90 interface has been implemented.
- The Shuttle command limits for FF and REW from the keyboard have been improved. The new limits are:
  - Parallel machines: 26x play speed
  - Serial machines: 50x play speed
    - (Note: Studer serial machines are limited to their available max.)
- Interface adjustments have been made for Sony PCM-7030/50 (Software Version 4.0 and above.)

## **Machine Control MC 1.32 (continued)**

• The Capstan Servo Relay for Mitsubishi 850's and 880's is now released in non-play modes, allowing the machine to output the correct sample clock frequency. (This is consistent with the operation of other digital multitracks: 3324, D820, 900, DA800.)

## **Control Processor (CP 1.33)**

The following improvements have been made in the CP 1.33 software release:

- A problem reported when a Studer A-80 transport was selected as Master that prevented Slave transports from rolling, has been corrected.
- A problem in CP 1.30 and 1.31 software that could cause the System Unit to hang when using CLR + SYS to reset the Micro Lynx, has been corrected. The reset procedures have also been generally improved.

## **Machine Control (MC 1.24)**

This software version offers full support for:

- Ampex serially controlled machines
- Studer serially controlled machines
- Sony 3348 transport settings have been modified to accommodate the upgraded Sony 3348 transport.

## MC 1.20, CP 1.22, and KBD 1.20

This software release provides interface and operating instructions for the ACG and M3 Option cards. Specific operating information is provided for the ACG and M3 Option cards in the Micro Lynx Manual.

Modifications to existing Micro Lynx features include:

- The MAC and RS422/232 serial ports are enabled and available for use.
- The two MAC miniature 8-pin connectors located in the MIDI (I/F) and COMPUTER (MAC) sections on the back panel transmit MIDI time code. Use these sockets to connect directly to a MAC serial modem or printer port. A minor modification is required on the connector board to facilitate correct operation. The modification is described in Service Bulletin SB92-009.
- The Studer A80, JVC 610 and JVC 810 capstan wild speeds have been corrected.
- Previous problems when the Time Code Generator was set to DF and selected as group master have been corrected, it may now be selected as master in DF.
- Tape transport warnings are displayed immediately rather than being stored in the System error stack.

- The ACG Card is completely supported.
- Use of the Jog Wheel to change parameters in the Setup menus is now supported.

## MC 1.05, CP 1.10 and KBD 1.10

In SETUP mode, the Jog Wheel can be used to adjust Varispeed and ACG Ration parameters.