CB ELECTRONICS

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SR/MR/RM/Video Slave
Serial Remotes/Synchronizers
Technical Manual
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A2.0: System Record Map

T1.00 MACRO LIST

To change the macros **Root | Unit | Generic | Menu 30: Macro protection** must be set to 0=Off

For more information see section 7.30 of the user manual.

A list of all user macro's available in table form. Macro's prefixed by * are only available with larger EPROM's

T1.01 MACRO'S 65-90

No.	Description
65	BANK: The Bank key will select between blocks of record channels dependant on Root | Unit | Rec | Menu 07:- Track Arm Keys.
66	LOOP: Loop current machine between Record in and record Out
67	Assign Record keys to current Machine
68	Shifter Reset: The shifter is used as a temporary offset that is added to the current offset. The Shifter Reset key clears the shifter offset. **Store** followed by **Shifter Reset** will add the contents of the shifter memory to the current offset and clear the shifter.
69	Shifter Decrement:
70	Shifter Increment:
71	Locate Start:
72	LOCAL: (Disables 9 pin Input's when LED illuminated)
73	Mark: Grab current machine time **Store** Followed by **Mark** = Mark Sync **Recall** Followed by **Mark** = Find specified Mark point **Shift** Followed by **Mark** = Reset Mark Pointers
74	Instant Record: Locate -3 seconds and enter record, to change the relative locate use [Store] followed by Macro Key
75	Record Out Enable/Disable, Record out is enabled when illuminated
76	Auto-Record:
77	Manual Record:
78	Review:
79	Rehearse:
80	LS Mute:
81	Auto/Manual Record: Use [Shift] to access manual record
82	Rehearse/Review: use [Shift][to access Review
83	All-Stop: All-Stop + All Chase Off
84	Locate:
85	Set Generator
86	Variplay
87	Track Arm Keys: Follow Selected Mcn
88	Track Arm Keys: Follow Enabled Mcn
89	Sondor: Framing /Focus: use [Shift] for Focus (Use with ID+ & ID- keys)
90	Erase ID: Erase DAT ID

T1.02 MACRO'S 91 - 120	
No.	Description
91	Out Overlap: Extend the record out point Enter Time followed by [Store] followed by [key] to Set
92	PNO Erase: Erase PNO
93	Pno Find: Find DAT PNO
94	ID <- : (See Section T1.08)
95	ID -> : (See Section T1.08)
96	Spare:
97	*Show Dif: Display Reader-Serial Difference
98	*Constant Offset:Fix Offset
99	*48KHz: Set Sampling Freq. @ 48KHz
100	*44.1: Set Sampling Frequency @ 44.1KHz
101	Crawl Reverse: One frame per second reverse
102	Crawl Forward: One frame one secon forward
103	Record Assign 1 (Use Store to set machine number)
104	Record Assign 2 (Use Store to set machine number)
105	Record Assign 3 (Use Store to set machine number)
106	Record Assign 4 (Use Store to set machine number)
107	Record assign 5 (Use Store to set machine number)
108	Enable/Disable Delayed Play when locate finished
109	Ready EE: Switch All Record Ready channels between Input and Replay Monitor
110	EE: Switch current machine between Input and Replay Monitor
111	Tape Mon: Switch current machine to Replay Monitor
112	FEET: Timecode Display / Footage Display (Shift followed by Feet = Local Time Display)
113	Reader: Display Timecode Reader, Recall followed by Reader will display Generator
114	Prev: Previous Loop
115	Next: Next Loop
116	Join: Join Loop
117	Insert: Insert loop
118	Generator: Display Generator, Recall followed by Generator will display Reader
119	Shuttle:
120	Jog:

T1.03 MACRO'S 121 - 150

No.	Description
121	I-Replay:Instant Replay
122	Record Ready 1: Assignable to any machine/track, enter the machine number as Seconds, the track number as frames followed by **Store** followed by Key.
123	Record Ready 2: as per Record Ready 1.
124	Record Ready 3: as per Record Ready 1.
125	Record Ready 4: as per Record Ready 1.
126	Step Forward +1:- To step fwd 1 frame hit once, to move fwd 5 frames hit 5 times.
127	Step Reverse -1: To step back 1 frame hit once, to move back 5 frames hit 5 times.
128	*Loc 1: Locate Memory 1
129	*Loc 2: Locate Memory 2
130	*Loc 3: Locate Memory 3
131	Reverse Play
132	AGAIN: Locate Last Playback Start (2 Levels)
133	AGAINP: Again with Play, Shift Again: Instant Loop, Loop from Play Start to here.
134	Wind @ *2: both fwd and rvs wind commands are converted to shuttle at 2* play speed.
135	Wind @ *4:
136	Wind @ *6:
137	Eject: Eject Current Machine, Shift followed by Eject = Eject All
138	Key Lock: Locks out the following keys:- Machine Selection, Chase On/ Off, Record Machine Selection(MR only)
139	Machines MR: Show Individual Machine status on 2 Line Display
140	Cue: Locate Record In
141	*Comm Enable: Communication Enable/Disable
142	Local Time:Select **LOCAL TIME/Timecode**
143	Rec Enable: Record Enable On/Off
144	*Red Light: Manual Red Light Switch
145	*Preview: Sony Preview Command
146	*Review: Sony Review Command
147	*S.Auto: Sony Auto Edit Command
148	*Pre-Roll: Sony Pre-Roll Command
149	*Set TG-1: TG-1 Set Reader
150	*Post Sync: One Key Post Sync 'D', Position Master so that the Timecode Slate is visible, Enter the timecode number displayed, hit this key and the offset is calculated for machine 'D', the current video position is set as Record In, and a Chase-On command is sent to Machine 'D'

T1.04 Macros 151 - 165

No.	Description
151	***REC IN +1**: Add one minute to Record in, subtract one minute from all offsets, Locate new record in.
152	***Red Light OFF**: Disable Red Light output
153	***Red Light Auto**: Auto Red light
154	***Mute**: Mute Always
155	***Auto Mute Enable**: When enabled, mute output except as defined by **Root | Unit | Generic | Menu 34: GP Output 3**
156	*PARALLEL Command Enable: MR Only
157	*PARALLEL Record Command Enable: MR Only
158	*Spare
159	*Serial A(E) type: Set Serial A(E) INPUT(illuminated)/OUTPUT(Off)
160	*Spare
161	*Standby:
162	*Edit Loops:
163	*Select Master: Select master (Used when programming User Macro's)
164	SPARE
165	SPARE
166	Instant Loop: Loop from Last Playback Start to Here
167	Instant Locate: Locate Last Playback Start
168	*Scrub: 7050/7040 Ram Scrub (Was Locate see 84)
169	*Sony: Set Current Port to Sony Protocol:
170	*SX/D88: Set Current Port to Sony SX/Tascam D88 Protocol:
171	*D827: Set Current Port to Studer D820/D827 Protocol:
172	*TLS: Set Current Port to Studer TLS 4000 Protocol:
173	*Lynx: Set Current Port to Timeline Lynx/Ampex Protocol
174	*ES Bus: Set Current Port to Audio Kinetics ES1.11 Protocol
175	*Clear Offsets: Shift= Clear All Offsets and Chase (Same as Shift Master-Chase/Offset)
176	*Field -: Previous Field Ampex Protocol only
177	*Field +: Next Field Ampex Protocol only
178	*Instant Lock: (Shift Chase)
179	*Make Master: (Shift Machine Key)
180	*Instant Fwd: Locate 10 Seconds ahead then Play (As Instant Replay)
181	*Doremi V-1: Play Segment / Ampex: Freeze
182	*Doremi V-1: Select Segment / Ampex: Edit Optimize

183	*Doremi V-1: Define Segment / Video Editor: Display Group
Macro's 184 - 200	
184	*Record Enable: Current Machine Record Enable/Disable
185	Record Track Map: Custom 1
186	Record Track Map: Custom 2
187	Record Track Map: Machine Map 1
188	Record Track Map: Machine Map 2
189	*Sync: Constant Offset Mode On/Off Shift,Sync: CMaster Chase On
190	*Cue: Locate In point
191	*Park: locate preroll before in point
192	*Insert: Video Streamer Insert On/Off (MR Only)
193	Data: Video Streamer Data line On/Off (MR Only)
194	
195	
196	
197	Delete All: Video Streamer Delete all cues
198	*Dec Offset: Decrement Offset
199	*Inc Offset: Increment Offset
200	Dec Take: Decrement Take number (Shift to Undo)
201	Auto Map System Record Tracks: Map all tracks of Record enabled machines
202	
203	
204	
205	

T1.05 DAT Specific Macro's					
Description	Macro No.	Sony PCM-7030	Fostex D25	Fostex D30	
Auto-ID Write	88				
PNO Renumber	89	O.K.	YES		
Erase ID	90	O.K (Illegal)	YES		
Write Specified PNO	91	Start ID only	YES		
Erase Specified PNO	92		NO		
Find Specified PNO	93	O.K.	YES		
Previous ID	94	O.K.	YES		
Next ID	95	O.K.	YES		

T1.06 MR Video Streamer Specific Macro's	
192	All Insertions On/Off, **Shift** Macro = BVB Mode On/Off
193	Data Line On/Off
194	Previous Data
195	Next Data
196	Delete Current Cue, **Shift** Macro = Delete All Cues
197	Delete All Cues
Other Non Specific Macro's	
112	Feet: Change Insert to Feet
142	Local Time: Change Insert to Local Time

If The Record/Lock Flag is enabled on the Video Streamer then a Box will be inserted next to the timecode insert when the system is locked, a **R** will indicate when the system is in Record.

T1.07 ADR/Taker Specific Macros	
75	Record Out Enable:
76	Auto record
77	Manual Record
78	Review
79	Rehearse
81	Auto record: Shift Macro = Manual Record
82	Rehearse: Shift Macro = Review
94	Previous ID: When ADR Mode Active this becomes Previous Loop
95	Next ID: When ADR Mode is Active this becomes Next Loop
114	Previous Loop
115	Next Loop
116	Join Loop, Keep Current In- time and change Out-Time to Next Out Time
117	Insert Loop: Shift Macro: Delete Current Loop

T1.08 ID << / ID >>

These are multi-purpose keys that change their function dependant on various parameters, the logic used is as follows:-

[Shift] followed by [ID <<] or [ID >>] Display current in and out points

[ID <<] or [ID >>]

If Auto record/Rehearse/Man/Review active or Loop displayed then Previous/Next Loop
Else-If Current machine is type DAT1 or DAT2 then :-Previous/Next ID
Else-If VARI-PLAY/Slow-motion is active then:- Reduce/Increase speed
Else-If Doremi V1 Previous/Next Segment
Else-If Sondor then adjust focus +/-
Else Previous/Next Mark point

Not currently implemented:-

Else-If MR System and Giant Display fitted then Decrease/Increase Brightness

T2.00 RECORD READY KEY'S

The Record Ready keys operate in three different ways as defined in **Root | Unit | Record | Menu 7: Track Arm Keys**

The three Settings are defined as follows:-

0= System Record Ready

The Record Ready keys may access any track on any machine controlled (Maximum 4) the bank key controls access to a maximum of 48 tracks. The number of banks is set by the setup menu.

1= Machine Record Ready

The Record ready keys control the currently selected machine only, the bank key allows access the tracks available on the currently selected machine.

2= Record Enabled Machine Ready

The record ready keys are assigned to the last record enabled machine selected.

3= Macro

The record ready keys are assigned by macro keys as follows

Macro 103..107: Ports A..E

Macro 176: System Record

T2.10 MACHINE RECORD/RECORD MACHINE READY BANK

The machine ready bank switch is used to access the all record tracks of the currently selected machine using Record Ready switches 1-T2.

MACHINE/RECORD MACHINE READY BANK SWITCH

Record Command Type >	1= Analog	2= 8 Track	3= 16 Track	4= 24 Track
Bank 1	A1..A4+ Video	D1..D8	D1..D8	D1..D8
Bank 2	Not Available	A1..A4+ Video	D9..D16	D9..D16
Bank 3	Not Available	Not Available	A1..A4	D17..D24
Bank 4	Not Available	Not Available	Not Available	A1..A4

T2.20 SYSTEM READY BANK

The System ready bank key is used to access all the system record ready switches using the first eight record ready switches as follows:-

SYSTEM READY BANK SWITCH

Bank 1	System Ready 1-8
Bank 2	System Ready 9-16
Bank 3	System Ready 17-24
Bank 4	System Ready 25-32
Bank 5	System Ready 33-40
Bank 6	System Ready 40-48

T2.30 SYSTEM RECORD READY track assignments

This controller will work with both Audio and Video machines, track assignment is complicated by this. The digital audio track assignment is simple, tracks 1-48 are numbered 1-4T2. The Video, Assemble and analog tracks are numbered as assigned in the table below.

Analog and Video Track Numbers					
Track	**Number**	**Track**	**Number**	**Track**	**Number**
Analog 1	49	Analog 3	51	Video	53
Analog 2	50	Analog 4	52	Assemble	54

System record ready switches may access any machine in the system. The machine and track are specified by entering the machine number as seconds and the track as frames followed by **STORE** then Record Ready key. For example to set up a Record Ready key 5 for machine **C** track **5** :-

[Keybd] 00:00:03:05
[Shift]
[Store]
Ready Key 5
Mc:Trk 00:00:03:05

RECALL Followed by a Record Ready key will display the selected Machine/Track for that key.
TRIM+ Followed by a System Record Ready key will increment the previous Track and store in the selected key.

T2.31 CRASH RECORD

Record Ready 56 is used as crash record Enable. When a crash record command (Record and Play from Stop) is issued ALL machines that are Crash Record Enabled (Analog+Video Track Arm 8) will enter Record. When terminated (Play or Stop) all machines that are in crash record will STOP, Crash record will then be disabled.

T3.00 Machine Connection

T3.01 RS422 Protocols

There are several different RS422 protocols available, the most common is Sony P2. This was developed to control and synchronize video machines, Video machines that are designed to be used with RS422 video editors they make very good slaves. No video machine with the exception of some non-linear machines have built in synchronizers.

T3.02 Audio Machines

Audio machines that have RS422 control will normally have built in synchroniser. These machines are often optimised using the built in synchroniser, the RS422 control can be very basic. When controlling a machine with a built in synchroniser the user has two choices.

1) Use the machine synchroniser: connect both the RS422 and timecode output of the SR to the timecode input of the machine.
2) Use the SR synchroniser: connect the RS422 only to the machine

Provided that the machine supports the appropriate commands the operation will be identical. In installations where only the RS422 connection is possible then the SR synchroniser must be used. Where the machine synchroniser is used it is preferable to use the timecode output of the SR. This will enable the operator to change the master machine without changing the timecode feed to the slave machines and allow group locates when selected.

The SR internal sync routines provide the user with a number of menu selections options and controls, these are described in section 10.43.. A single global setting (10.12 Use Master Timecode) will determine the use of Machine or SR synchroniser when a machine is initially connected.

T3.03 RS422 Inputs & Outputs

Every RS422 connector has both input and output connections, the Sony manual describes Controlling

and Controlled devices. To simplify this we normally talk about RS422 inputs (Controlled Devices) and RS422 outputs (Controlling devices). The Controlling device (Editor, Synchroniser..) has an RS422 output, the controlled device (Machine) has an RS422 input.

To complicate matters the connectors on both controlling (output) and controlled (input) devices are nearly always a female. Some RS422 connections (SSL, CB SR port A, Akai, Avid, DAR ..) can be software switched between outputs (controlling) and inputs (Machine emulation). With these machines care must be taken with the connecting cable to ensure that Tx (Transmit) is connected to Rx (Receive). The options are as follows:-

1) Switch the Rx and Tx connections automatically:- Akai
2) Switch the Rx and Tx connections with Links:- CB SR-4/3
3) Provide special Machine emulation cables:- Avid
4) Require a Tx-Rx Invert cable: SSL, DAR

T3.04 SR-3 Port A / SR-24 & RM-6 Port E

Port A on the SR may be configured as an Input or as an Output in software. as follows:-

1) Select **Root | Unit | Generic | Menu 31: Serial A Type** and select type 1= Input.

2) Either use a TX-Rx invert cable to connect to port A where the 4 internal links are configured as a SR-4 (Vertical to back panel), or Change the 4 internal links on Port A to be parallel to the back panel as per the diagram at the end of this manual.

Once configured as an input the following changes are made to the unit.

1) The controller connected to port A will control the currently selected master (B, C, D).
2) Key [A] will become a local Switch, when the LED is illuminated this will disable control from port A.

T3.05 Self Test

To check that port A/E is correctly configured as an input connect a machine to port B, configure as a master ([Shift} followed by [B]) and connect port A to port C (Use a Tx-Rx Invert cable if required). The machine on Port B may be then be controlled from either **B** or **C** on the SR-4. Note that when LED **A** is illuminated Local will be displayed when **C** is selected.

T4.00 MACHINE INTERFACE DETAILS

These notes are included for reference, they include some machine setup details and some SR Setup details, if the machine is correctly identified by the SR then there should be no need to change the setup unless the machine software has changed significantly.

T4.01 FOSTEX D-10

CHASE

The D-10 has no chase capability and must be used as a master only.

VIDEO SYNCS

The D-10 does not resolve to video syncs, it may only be used in systems with slaves that will chase timecode.

The D-10 is not recommended for video applications, if used as a master to a video machine then the lock will be +/- 1 frame.

MACHINE TYPE

DAT-1: Assemble record only audio + timecode, Returns A1, A2, A3 record ready at all times. Record ready keys are not normally required. The SR & MR remotes check that either A1, A2 or A3 record ready enables are active as record enables for the D10.

EDIT-ON

The D-10 ignores the **Edit-On** command, A **Record-On** command must be sent to enter Record! Enable Record-On instead of Edit-On command in the interface setup.

TIMECODE GENERATOR

The D-10 has no internal timecode generator, because of this it is recommended that great care should be taken when formatting DAT's. The Timecode generator must be referenced to video and the D-10 must be referenced to word clock derived from the same video syncs.

DEVICE ID

Returns the FOSTEX generic ID only

T4.02 FOSTEX D-20

D20

D20B

T4.03 FOSTEX D-25

Record Enable

1) Record enables A1, A2, A3, or assemble
2) Via the RS-422 it is possible to record on individual tracks, to enable on the SR/MR Set IFACE|General|Machine Type to 4= Dat2

RECORD TALLY BUG

The D-25 record tallies only appear on D1, D2 not on A1, A2, or A3.

Timer-1 Bug

Timer 1 position request reports timecode not timer.

Offset Command Bug

1) Offset commands cancel locates

Select-EE Status Bug

No Select-EE tally

Chase Command Bug

Does not support Chase until locked command

THIS MACHINE WILL NOT LOCK TO PULL-UP/DOWN CODE

VTR Emulation

000 FOSTEX	001 PCM-7050
002 PCM-7050	003 BVU-800
004 BVU-800	005 BVU-800

T4.04 FOSTEX D-30

RECORD MODES

1) Play & Record: A1 & A2 & A3 individually
2) Instant Start: No Record
3) Confidence Record: ASSEMBLE edit only!.
4) Sub ID Edit: A1, A2, & A3 individually available

RECORD COMMAND's

A1, A2 A3 only not D1 or D2

RECORD TALLIES

Remote A1/A2 record enable returns both A1/A2 and D1/D2 tally
Local A1/A2 record enable returns only D1/D2 tally
Remote D1/D2 record enable have no effect
Remote or Local A3 (Timecode) record enable returns A3 tally
Remote Assemble enable returns assemble tally
Local Assemble enable returns no tally (Insert flag Only)

TIMECODE STANDARD BUG

1) ID Data does not change with standard change unless he unit is powered down and up unless new standard is the same as recorded on the tape.

SERIAL PORT STARTUP

Serial port disconnection and reconnection can cause the Fostex Serial software to lock out, if this happens switch machine power off then on.

T4.05 TASCAM DA-88 / Sony PCM-800

VARI-PLAY/CHASE

Not all versions of the DA-88 software support vari-play commands. If your software does not operate correctly then DA-88's internal chase synchroniser must be used. To use the internal chase synchroniser the master timecode or timecode output of the SR-4 must be taken to the timecode input of the DA-88. VARI-PLAY commands issued from play intermittently cause the transport to stop.

TRACK ENABLE BUG

Earley Software Front panel track enable switches do not update the P2 Serial port! When Commands on the SR remote are disabled the record tallies on the remote will not reflect the current status of the machine. On Later software this is corrected!

EDIT STATUS BUG

The Edit status flag is not cleared on the RS422 port if you drop out of record on the machine, remote or due to lost lock. The Record tally operates correctly and is cleared.

UNLACED TALLY BUG

The DA-88 does not report its unlaced status when it unlaces due to timeout. To Lace the DA88 depress the stop key on the SR-4 before issuing a chase command.

LOCK TALLY BUG

1 The DA-88 Lock tally is removed when in record or edit. This can cause a problem with the Mute output when dropping out of record.
2 The Lock Tally is removed if TC Generate is enabled

SY-88 SWITCH SETTINGS

Switch settings:-

S1 Rear Panel

#1 video 75R termination = down
#2 Must be DOWN for RS422 (Switch Power Off & ON after changing)
#3 Down = Rechase Enabled
#4 Rechase when error exceeds Down = 1 sec, Up= 2 sec
#5 Timecode Output timing Up = Digital Audio, Down= Analog Audio
#6 Midi TC Source Down = Tape, Up = Input
#7 Video Resolve: Up= Lock to Video, Down= Lock to TC
#8 Controller type: Up = Video Editor, Down= Can Send Chase Command

S3 SY-88 Nearest edge

#1 OFF Tascam ID
#2 OFF Tascam ID
#3 OFF Tascam ID
#4 ON Digital 1-8
#5 OFF Digital 1-8
#6 Shuttle Speed:- ON = 8*, OFF = 100*
#7 ON Track Arming enabled from 9-pin
#8 MIDI Output MMC & MTC: OFF = Output MTC, ON = No MTC Output (reverse to Tascam Information!)

Version 4

Select TC display, Depress **^** and **v** together to enter setup
use the **^** and **v** keys to change a menu item, depress display to change menu.

1) Chase mode:- .....ChS. rEch
2) Remote Enable:-..... rent EnA
3) Device type:- .....d. tASCAn
4) Track Arm On:- .....trK.Arn.on
5) Track arm type:-.....tn. d 1-8

PCM-800 Word Clock Input

PCM-800(UC) 20001+, PCM-800(CE) 50001+

The Wordclock input is level sensitive and will not work correctly with the word clock outputs from the PCM-7030 or PCM-7050 details from Sony APM95-049R 22nd Dec 1995

PCM-800 SYSCON PCB change R9 from 100R to 10K and Remove R10. Then use an external 75 Ohm Terminator. Or use a W/C distribution Amp!

T4.06 TASCAM DA98 Sys Ver 1.0, Sync Ver 1.0 Current version 1.2 for both

TRACK ARM TALLY BUG (Fixed in Sys version 1.2, Sync Ver 1.2)

The response to the track-arm tally request is inaccurate and its use must be disabled:-
Version 1.0 Select **Root | Iface | Record | Menu 48**:- Track Ready Tallies .....3= Stat

TRACK ARMING

Version 1.2 Track tallies are both accurate and valid.

OFFSET BUG (On Version 1.2)

This machine does not accept Negative offsets (>12:00:00:00) contact teac on www.teac.co.jp to complain.

To Setup a DA98,

1) Press **ESCAPE** to display **Select Menu Group**.
2) Select **Menu Group 6 9Pin(Emulation)** using the **cursor** keys, then use **ENTER** key to select the menu.
3) Set Tascam emulation as follows:-
   Select **Eml Dev** using the **cursor** keys
   Use the **ENTER** key to enable the adjust mode
   Select **TASCAM** using the **cursor** keys.
   Use the **ENTER** key to confirm the selection

4) Set the Track map as follows:-
   Select **Trk Map** using the cursor keys
   Use the **ENTER** key to enable the adjust mode
   Select the display as below using the cursor keys:-

```
          Track Mapping
    Ana
    Dig   1 2 3 4 5 6 7 8
    Trk   1 2 3 4 5 6 7 8
```

   Use the **ENTER** key to confirm the selection
5) Press **Escape** to return to Select Menu Group

6) Select **Menu Group 3 McnID,Ofst/Tmod/Rmt** using the **cursor** keys, then use the **ENTER** key to select this menu.
7) Select **Trk Arm** using the cursor keys, then use the **ENTER** key to select this menu>

8) Use the cursor keys to select Remote Track Arming enable, then confirm with the **ENTER** key.
9) Select **Ctrl Prt** using cursor keys, then use the **ENTER** key to select this menu:-

10) Use the cursor keys to select **9Pin**, then confirm with the **ENTER** key.

11) To use ABS/recorded timecode select **Menu Group 5**, **ENTER**, select **Tape TC**, **ENTER**, select **TC Track/ABS** as required.

Locking to Word Clock
Menu 5 video resolve on:- use front panel switch to enable word clock.

T4.07 Tascam DA-60

1) Does not like repeat locate commands, locate routine uses up o 2 seconds play into park. If a locate to current position is sent the machine will wind back two seconds and relocate. Must feed master timecode and use machine chase.

2) Track arming

Optimum Setup
Suggested setup:-

- Menu 53: Chase Command type..... 5=0
- Menu 54: Start Advance ..... 6= Frames
- Menu 55: Park Offset * 5 Frms ...8= (To minimise play to park)
- Menu 60: Acceptable Error ..... 1=
- Menu 64: Locate Speed..... 4=VSLOW
- Menu 62: Slew Command Type ..... 0= Vari-Play
- Menu 65: Locate Type ..... 0= Wind then Locate

DA-60 Mark II
Use Analog track arming
Chase type 5/0
Reports $b4 in digital tracks 1-8 when any track is armed
Track 3 (Timecode) will only work when tracks 1&2 are disabled

T4.08 Tascam MMR-8 Version 5.01

MMR-8 Setup
1) Depress the [Setup] key
2) Depress the [0] key to select 000 Control Mode
2) Depress [Trim] key and adjust jog wheel until the display shows Editor or Timecode Chase
3) Depress the [store] key
4) Depress the [setup] key to exit

Other Important settings:-

- 001: Frame Reference
- 002: Sample Reference
- 003: Timecode Type
- 400: Editor Device: *Tascam MMR-8
- 403: Editor Trk Arm: *Digital Audio
- 404: Editor Chase: *Timecode
- 990: Software Version

Connect the SR3/4 to the Editor 9 pin port on the rear of the MMR-8

Use [Shift] followed by [1] to display the Offset

Synchronisation
Software revision 4.2 includes the chase and set offset commands. Use chase type 0
It will also lock using chase type 5.

T4.09 SONY PCM-3324S

TIMECODE

For accurate control it is recommended that the timecode output from the machine is connected to the SR timecode input and that this is used to update the position when valid. (Note: There is only one timecode reader per SR system, and one per box in an MR System).

TIMER MODE

Timer Mode must be switched to timecode

VIDEO SYNC LOCK ENABLE

For synchroniser to operate correctly Enable Timecode sync play on timecode board

CHASE COMMAND BUG

The RS422 Chase command does not work, returns undefined command

OFFSET COMMAND BUG

The RS422 Offset command inoperative, returns undefined command

POSITION REPORT BUG

Some 3324S's do not report there position correctly via the RS422 port, this causes problems when locking up. Typically the difference between the timecode and the time reported on the RS422 port varies from 0 to 10 frames or more!

If you have this problem then get a copy of the Sony Technical Memo APM95-005 from your local Sony service office. After this modification has been carried out the DABK-3322 9-pin interface board must be installed in the middle slot of the right hand three slots. This is shown as slot 2 on page 2-1 of the DABK-3322 manual.

LOCK STATUS BUG

The 3324 Reports Lock even in Vari-Play, or when the Play LED is flashing.

RECORD STATUS BUG

The 3324S does not report track 1-8 record status in the normal status data

TRACK ARM/E-E BUG

The 3324 will not drop out of Auto-E-E in play only stop

Tracks 1-8 will drop out of Edit when edit off is sent in stop after auto e-e command

Track arm commands upset the position reporting from the 3324

Rehearse/Auto Input bug

Once the auto input command is sent, there is no way of removing the auto input tally.

Sony Setup

Vari-Sync On/Off (Dip switch 4),

The optimum setting of this switch is 3324 software revision dependant! New software seems to work with Vari-Sync OFF

Advance Record Off

TCGEN set to EXTERNAL

Timecode sync play ON (Timecode Board)

Timer mode = Timecode

CB Setup

Chase Type 3

Start up Delay 7

Wait for code 9

Software version numbers

1) MC software is displayed on power-up 3.02

2) Servo card, 3.01 + 3.02A

3) DABK-3322 Option board on rear 3.02A

External Word Clock

When running to external word clock Programable Play will not work, **Root | IFace | Chase | Menu 62: Slew Command** should be changed to 0= Vari-P, 2= Prog-P, or 3= V->PP cannot be used. As the 3324 is no longer locking to the video frame edge

Internal Synchroniser Free Mode/Address Mode

The internal synchroniser may only be used in Free Mode when using external word clock. In this

mode the synchroniser will lock and release to external wordclock.

T4.10 SONY BETACAM

VARIPLAY

To slave a Betacam machine variplay must be ENABLED

VARIPLAY RANGE

To slave a Betacam in both forward and reverse, menu 301 Variplay Range for Synchronization on the Betacam should be set to -1.3 ~ +2.3. When shipped this menu cannot be selected, The System Setup Menu Select switch (S106 on machine tested) on the SY-61A system board must be on to allow access to this menu.

T4.11 Sony DVW-A500P

Digital Betacam

LOCATE

The A500 may be set in menu to **Stop** or **Still** at the end of a locate, this must be set to **Still** so that you may see the picture after a locate or when a slave.

Menu 401 "After Cue -> Still"

EE

The A500 does not respond to Full-EE ON or Full-EE OFF commands. The EE Flag in the status is not valid.

Machine ID

This may be set in maintenance mode to be different machines for different editors. Hold menu key down so that customise menu is enabled. Jog to the end, then hold the play key down and jog to F16 D-Type Modi and enable. Exit and re-enable the SETUP-1 Menu. use the JOG and PLAY keys at the end to access menu F-1T4.

Tracks 1..4 are Digital audio record
Track 49 or 50 are both cue
Track 51 is timecode

T4.12 Sony 7040 2.+

7040 Setup

Gen Out Regen NO
Sync Record Enable = ON

Other settings should be the same as the 7030

The machine ID of the 7040 may be changed on S302 which is an DIL 8 switch located at the rear left of the unit as follows

S302-3	S302-4	Device Type
OFF	OFF	7030
ON	OFF	7050
OFF	ON	7040
ON	ON	7040

T4.13a SONY PCM7030 5.1 Revision T110

PNO RECORD

Auto increment PNO numbers in Assemble ONLY

REHEARSE

If **Root|Iface|Record|Menu 46: Command Reenforce** is set to 2= Track Arm or 3= Both then Rehearse will not operate correctly it will switch once per second between input and tape!

AUDIO RECORD ENABLE

Audio 1 & 2 Record enable on **D1** or **D2** only. Stereo record only.

SUB CODE RECORD ENABLE

To record in the SUB CODE enable A3

CHASE SWITCH

For the Chase Enable/Disable to work correctly on the RS422 remote select the following in the 7030 menu:-

RE-CHASE ON 1 * Chase mode function
CHASE AU PLAY * Selects playback audio timing
CHASE-S ON * Use Chase switch to turn chase ON, Stop Switch to turn OFF
May be causing problems with record drop out? solved by using:- Chase On/Off

Edit Off will cause the 7030 to drop out of CHASE if it is in record, but not if it is in **PLAY!**. The solution is to send a **PLAY** command to drop out of Record! (**Iface | Record | Menu 45, Record Command 1= RECORD / PLAY**, this unfortunately stops the machine from dropping out of input monitor after a rehearse. **7030 revision 5.1 does not have this problem!**

A consequence of this is that the Rehearse will not work correctly. If you need the Rehearse function to work correctly then you must use the SR/MR synchroniser and select EDIT ON/OFF.

Note *= Factory Preset, != change from factory preset

SUGGESTED SETUP

Chase Type 0 or 4
Start Delay 5 frames
Park Offset 1 Second
Attempts 4
Acceptable error 1
Locate Speed 2= MED
Slew command 2= Prog Play
Record Command 1= Record / Play
Chase Edit On

For Wide Varispeed Operation Eg 4% Pull Up/Pull Down

Enable External Word Clock 'Sync Ext'

MAIN MENU

Sync err Off
Sync Pb Disable

T4.13b Sony PCM7030/7040/7050

SR Menu 53 Chase Type	SR Menu 45 Record Command Type	Sony PCM Menu	Limitations
0= Cmd	0= Edit On/Off	Chase-S on	Will drop out of Edit when receiving an Edit Off Command
0= Cmd	1= Record/Play	Chase-S on	Rehearse Off will not Function
0= Cmd	0= Edit On/Off	Chase-S on/off	Cannot take Sony PCM out of Chase Mode
4= +	0= Edit On/Off	Not Used	Longer to Lock Must use Video Not Wordclock

T4.14 SONY VO-9800/VO-9850

VO-9800 TRACK ENABLE

Audio-1 is permanently enabled, because of this the unit will initialise with Record disabled. To layback or record on Audio-1 use the serial setup to enable record commands to the machine.

VO-9850 TRACK ENABLE

The machine must be in EDIT (MODE SELECT SWITCH) for the EDIT commands to work.

CHASE

To slave this or any video machine ensure that the colour framing is turned OFF. The SR software will send a COLOUR frame off command to the machine on entry to play. On exit from play the SR-4 will send a "Set colour Framing to Switch" command.

TIMECODE

A timecode card must be fitted and the display selector must be set to TC in order for the locates to operate correctly.

LOW BAND TAPES

When Audio-1, Audio-2 or VITC only are used for timecode we recommend that the machine is modified to allow timecode track selection from the front panel. This allows the user to select Audio-1, Audio-2, code-track, or an external VITC to LTC converter as the timecode source for the internal timecode reader. This value is then updated by the tach if the timecode is not readable and allows the machine to perform timecode locates.

T4.15 STUDER TLS4000 Mk I

Local Control Unit

This must be disabled in order to use the RS422 remote!

RECORD TRACK ENABLES

Available for studer multi-track machines

The TLS Mk I programs the record enable for two channels with each command. There must be a time delay between each command. The commands include the monitor setting and mute status. The SR-4 will set each track between Record ready and Sync Replay, or Normal Replay dependant on the setup configuration.

Bug: Reports last serial command not actual tallies.

DEVICE TYPE

Will always report as TLS Mk 1

SHUTTLE & JOG

Not yet implemented

1) Hardware Switch at Rear

A	B
X	
	X
	X
	X

2) Middle Switch

OFF 1
ON 2

3) Baud rate links at Front Right hand side: Two Links as follows

```
1234567890
........X.
........X.
```

T4.16 STUDER TLS4000 Mk II

Local Control Unit
This must be disabled in order to use the RS422 remote!

Communication
The SR-4 will talk to one TLS4000 synchroniser only on each output port, RS422 communications using the native TLS format are used.

Record The TLS Mk II programs 4 channels with each command

DEVICE TYPE
Currently reports as TLS Mk 2

SHUTTLE & JOG
Not yet implemented

1) LEFT HAND SWITCH
1 =ON \
2= OFF > 38K4
3= OFF /
4= OFF \ EVEN PARITY, ONE STOP
5= ON /
6= ON \ RS422
7= OFF /
8= OFF

Both LED's OFF = NO COMMS
Left OFF, Right ON = OK

T4.17 STUDER D820

SHUTTLE & JOG
Not yet implemented

SETTINGS
The Internal Synchroniser must be selected (The Front Panel Lock key should operate)

RECORD TALLY BUG
Strange Track Record tallies are generated even when the machine is not in record if the machine drops out of record due to loss of lock. A special routine has been written to compensate for this. If the system locks up in stop with the record tally on then deselect the machine, and on the machine enter play, record on then off. Then reselect the machine. Alternatively turn the D820 off then on.

LOCK ERROR BUG
The D820 sometimes outputs its lock error without subtracting the offset. A Machine power cycle may cure this.

Internal Synchronise
Internal Synchroniser On
TC Lock Off

T4.18 DAR SABRE

CABLE: The 9 pin cable must have the Rx & Tx inverted (Section T5.02)

Reverse Play Bug
The Sabre will not accept reverse play commands

Chase Command Bug
Chase Not implemented
Record enable
Only when in stop, ignores reenforcement commands if enabled in any other mode and then stopped.

Menu, Full VTR Emulation/Emulation Timecode
VTR Emulation must be displayed on screen

DAR Soundstation Gold

Normal Mode
1) May not accept SR timecode
2) Does not issue Locates
3) Does not issue Record commands
4) No wind speed limits to work with non-linear video

VT Emulation
1) No Jog with Audio
2) Does not accept reverse play command
3) Front panel switched off, not possible to control both DAR and SR
4) No Machine ID , Auto Setup will not work, You will have to set all the parameters as follows:-
Chase Type ..... 5=0
Record tracks 8
5) Make sure that Video Lock is enabled on the DAR so that the Lock tally is returned.

T4.19 DAR OMR-8

The following commands are not implemented:-

1) Vari-play, Shuttle, Jog
2) Set Offset

The following tallies are not implemented:-
1) Local
2) Record tallies, if changed at the machine
3) Response to command request track ready status (43 30 02)

CHASE
Chase 0=Cmd must be used, offset must be set on the machine.

T4.20 AKAI DR-8

ID Request always reports as a BVW-75 FILM machine, Now switchable to DR-8 or BVW-7T1

POSITION REQUEST: Use 0= LTC or 3= LTC+VITC, Do Not use 4= L+V+T!

TRACK ENABLES are invalid if changed during record. The serial port reports correctly but the tracks are not enabled on the machine.

TRACK ENABLES are only possible when **SYNC** is enabled, track selection when the LTC input is enabled requires that the DR-8 is chasing an external source of timecode (SYNC ON). To use this machine as a stand alone recorder then the LTC input should be switched off.

TRACK ENABLE TALLIES are not updated to the serial port unless the **SYNC** is enabled.

The **SET OFFSET** command is not implemented on the serial port.

The **CHASE** command is not implemented on the serial port.

TO ENABLE/DISABLE THE LTC

1) **Sub Menu**, Select **SYNC**, display should read **SMPTE-LTC**, if not use inner jog wheel
2) Press **STORE/ENTER**, display should read **LTC OFF**, if not rotate outer jog wheel. Press **STORE/ENTER** to confirm selection.

To ENABLE and SELECT the MODE off the SERIAL port

1) **Sub Menu**, Select **SYNC**, display should read **RS422-MC**, if not use inner jog wheel
2) Press **STORE/ENTER**, display should read **FULL SLAVE**, if not rotate outer jog wheel. Press **STORE/ENTER** to confirm selection.
3) Display should now show **EBU 25F** or desired frame standard, if not use outer jog wheel. Press **STORE/ENTER** to confirm selection

The **SYNC** key may now be used to Enable/Disable the communications.

TRACK MAPPING

To enable the record track selects

1) **SUB MENU**, **SET UP** The display should read **RS422**, if not use the inner jog wheel to select **RS422**.
2) Press **STORE/ENTER**, use the inner jog wheel until the display shows **TRACK MAP**
3) Press **STORE/ENTER**, use the inner jog to display **DIG->ON** if the display shows **DIG->OFF** use the outer jog wheel to position the cursor under OFF, then use the inner jog wheel to change to ON.
4) Press **STORE/ENTER** to confirm selection.

T4.21 Akai DD-8 V1.01

COMMS BUG

The Akai will not answer comms for several frames when starting and dropping in and out of record

STATIONARY CODE

Stationary Code causes, the unit to occasionally drop out of Chase

DD8 RS422 SETUP

1) Select RS422 Menu page
   SYSTEM : F6 MORE : F2 REMOTE : F2 RS422
2) Select FULL SLAVE
   MODE : Set Mode using DATA+/- to FULL SLAVE
3) Select RS422 ID
   F2 ID : Set RS422 ID using DATA+/- to DD8
4) Set Edit Delay
   F3 DELAY : Set Edit Delay to 2 frames(minimum) using DATA+/-
5) Set Track Arm
   F4 TRACK ASSIGN : Set A1..A4 OFF and DIGI ON using F1..F5 and DATA+/- keys
6) F6 EXIT : SYSTEM Then chose to save with Project or in Flash Rom
7) Set track Mode
   RECORD : F2 Setup : F5 Punch : Punch Mode :
   using DATA +/- Set to TRACK KEYS

DD8 Track arm Indication

Select RECORD on Keys below the Track Keys, Enable then Disable 9/Sync to enable 9-pin control

DD8 RS422 Remote Enable

To use the Remote enable you must set 'EXT TC' in SETUP/SYNC page to 'NONE' - otherwise this switch is used as the timecode chase on/off switch.

Enable 9/SYNC

You should now have transport control and track arm.

To CHASE using the DD8 Synchroniser

DD8

1) SYSTEM
2) F2 SYNC:- Ext timecode source : select type using DATA+/-
3) F6 EXIT : SYSTEM Then chose to save with Project or in Flash Rom

SR Setup | ROOT | IFace | Chase Type 0= CMD

To CHASE using the SR Synchroniser

DD8

1) SYSTEM
2) F2 SYNC:- Ext timecode source : select NONE using DATA+/-
3) F6 EXIT : SYSTEM Then chose to save with Project or in Flash Rom

SR

1) Setup | ROOT | IFace | Chase Type 5= CMD
2) Start up Delay = 1
3) Park Offset * 5 frms = 2
4) Attempts for ZERO error = 2
5) Acceptable Error = 2
6) Locate Speed = 0 TLESS
7) Slew Command Type = 2 Prog Play
8) Play+Lock before Variplay = 1

If the SR loses control of the DD8 toggle the 9/SYNC key on the DD8

Version 1.05 with GPIO card

1) Serial track arming and tallies do not work!
2) The DD8 loses communication for a frame after receiving the chase command

Tip: To check the directory status use DISC/UTILITY/ENTER+F1

T4.22 AKAI DD1500 (Version 2.00 a/a)

To Enable the VTR CONTROL connector as a INPUT use the following key sequence:-

SHIFT + **EXT M/C**
This displays the RS422 Machine Control Setup

^ + **v**
Select the **RS422 Mode**

DATA ENTRY/NUDGE +
Until **FULL SLAVE** is displayed

^ or **v**
Select the **RS422 ID**

DATA ENTRY/NUDGE +
Until **DD1500** is displayed

F1 TRACK ASSIGN
To access the RS422 TRACK ASSIGNMENT Menu

< or **>** Select **D1-16**

^ or **v** Select **D1-16 ON** to enable remote track enables

Track Selects

To enable external control of the track selects use the **EXT M/C** switch, external control is enabled when the LED is illuminated.

ID Request always reports as a BVW-75 FILM machine, Now switchable to DD-1500 or BVW-75

Note: To improve Record in/out response time connect the Rec-On and Rec-Off GPI outputs to the corrisponding GPI inputs on the DD-1500.

POSITION REQUEST: Use 0= LTC or 3= LTC+VITC, Do Not use 4= L+V+T!

CHASE BUG

The DD1500 will accept the RS422 **CHASE** command but unfortunately it does not exit when a **STOP** command is sent. This means that there is no way of exiting chase except by using the **EXT.TIME** switch on the DD1500. When the Chase (**EXT.TIME**) is enabled via the RS422 the DD1500 behaves differently in that when the external code stops or changes direction the DD1500 stops chasing.

RECORD BUG

If you use a RECORD ABORT (SHIFT RECORD) on the DL1500, the next time you enable a track via the 9 pin remote the system will enter **RECORD!!!!**.

TRACK ARM BUG

When in play the DD1500 will only accept the first track arm command. All subsequent track arming commands are ignored until you STOP the DD1500.

T4.23 SSL SCREENSOUND

1) 'SETUP' 'SERIAL' Enable Sony Slave STD Motion Record
2) 'NETWORK' 'MACHINES' OFF SIO Linked as controller
3) Use RX/TX invert cable

T4.24 SSL AXIOM

The Axiom serial interfaces have four different modes of operation as follows:-

1) Grey Master

All four serial ports may be grey masters, The Axiom acts as master and synchronises the attached machine to the Axiom Timeline. A grey master is always slaved to the Axiom timeline. This mode suits fast responsive machines. A stop command from play, reverse play or wind is translated to a '**LOCATE TO HERE**' command, when slow (film) machines receive this command they slow to a stop, reverse direction and locate to '**HERE**'.

2) Green Master

Only one port may be either a Sony Slave, Green Master or Red Master. The Axiom acts as master in play, but the Axiom timeline follows the Green Master position in wind. A Green Master is slaved to the Axiom timeline in play but acts as master to the Axiom timeline in wind. A stop from wind waits until the machine is stopped, then the timeline and all machines locate to this position. Stop commands from play or reverse play are still translated to '**LOCATE TO HERE**'

3) Red Master

Only one port may be either a Sony Slave, Green Master or Red Master. The Axiom commands the machine, the Axiom timeline follows the Red Master machine position in all modes. Stop from play or reverse play are still translated to '**LOCATE TO HERE**'

The optimum serial setup for both **Grey Master** and **Red Master** is as follows:-

Fixed adaptive lockup = 12 in PAL and 14 in NTSC

RECORD

* The Axiom record switch acts as a **RECORD MODE**, this may be enabled at any time, Every time a command is issued a **EDIT OFF** command followed by an **EDIT-PRESET** command is sent.
* If the controlled device is in PLAY and the RECORD MODE is enabled then provided that at least one channel is armed a series of **EDIT ON** commands will be sent until the device is in record.
* If the controlled device is put into record by another remote then the AXIOM will automatically take it out of record if the AXIOM is not in RECORD MODE.
* If the controlled device is taken out of record by another remote then the AXIOM will automatically put it into record if the RECORD MODE is enabled.
* The Edit On commands will start as soon as a play tally is present and will not wait for a lock tally or even lock with the Axiom

PLAY

The Play tally will stop flashing when the master is in frame lock with the Axiom, the Axiom will not wait for a Servo Lock tally.

4) Sony Slave

The Axiom timeline is controlled by an external controller only one port may be either a Sony Slave, Green Master or Red Master. The Axiom timeline is controlled in the same way as any machine by selecting Sony Slave mode. The optimum setup for controlling the Axiom from a CB product is as follows:-

1) **LOCATE ONLY**, Non linear audio a locate is always faster than Wind.
2) **Chase type '5'**
3) Locate speed: **Very Fast** (Locate 0)
4) **Record Ready Off**, the Sony command "EDIT PRESET SENSE" causes the AXIOM to lock out, to avoid this Edit Preset and Edit preset Sense commands must be turned off.

The lock after reverse play or reverse wind is slower than the lock after play or forward wind. The Axiom appears to take longer to start moving after reversing.

Note: The 9 pin cable must have the Rx & Tx inverted (See Section T5.02)

Note 1:

In all modes the Axiom timeline is either master or follows the Sony Slave, Red Master or Green master machine. The remaining three Grey master machines are slaved to the Axiom timeline and will therefore follow in all modes.

T4.25a AVID Audiovision

The SR-3 may be used as a multi-machine controller with the Avid, by using the timecode reader the Avid may also be slaved to an external source of timecode.

1) AVID Cables:-
   The Avid machine control cable (Male 'D') will work correctly with SR-4 only in Port-A if the Links are Horizontal (SR-3) position). This cable may be used in ALL modes.

   The Avid Emulation cable (Female 'D') will work correctly with the SR-4 when connected to any port, If connected to port A then the links must be vertical (SR-4). This cable will only work correctly in machine emulation mode.

2) Ensure that all parts of the system are locked to video syncs, (Avid, Micro-Lynx, CB MC-1 if used, SR-3)

3) Connect the Avid super clock input to a suitable source of 256 * Word Clock for example the Digi-Design Video Slave Driver or the Rosendahl WIF.

   If the Micro-Lynx is used then the clock rate must be manually as follows:-
   1) SETUP : 2) ACG
   3) Use + or - keys to select correct frequency
   4) SETUP The following preferences may help: Park Ahead On

AVID Transport Control Modes:-

LOCAL

No Interaction, The Avid Timecode output may be used as a master to the system, connect to SR/MR timecode input and select READER as Master.

AVID as MASTER to SR-3

MASTER

The SR-3 master machine will be controlled by the Avid. In play the Avid will lock to the SR-3 Master machine.

SLAVE

The Avid will follow the SR-3 master machine.

In this mode the SR-3 should be set as follows
Setup | Root | Unit | Generic |Menu 31 Serial A type 1=Input
The **A** key will act as a Local/Remote switch for the system
Use **Shift** followed by **B, C, D** to select the Master

4.25b AVID as SLAVE to SR-3/4

REMOTE

Used in the Deck emulation mode. The SR-3/SR-4 can control the Audiovision. The Audiovision sends a NTSC VO9850 ident unless changed using set devicetypedata commands as below. When using the Avid in Local, positional information on the emulation port is only updated in stop!

Notes on PCI BUS Machine
1) Track arming only active when in stop

Setting the Avid ID number, the SR-4 will configure correctly if you select the 3324 id as follows, use getprop instead of set to check current settings:-
Windows
Console

Setting a PAL ID

set devicetypedata1 D1
set devicetypedata2 A8

Setting a NTSC ID
set devicetypedata1 D0
set devicetypedata2 A8

Park ahead used by remote mode
set slavedelay 80
set parkframes 85
set parkahead true
set VTRtriggerdelay 1.0 (Was 2.0)

BUG: Avid reports that the Video is always record armed

T4.26 AVID News Cutter

1) This is a DVW digital video workstation, designed to work as a stand alone system, it does not work with any other equipment. Although it can control an external machine for play in it cannot synchronise to an external RS422 or timecode.

2) There is no video emulation mode.

3) There is no timecode output.

4) There is no possibility of putting an external video machine into record.

The only way of getting program out of the system is to put the AVID into play and putting a video machine into CRASH RECORD using the internal timecode generator as the timecode source.

T4.27 CB BS-1/MC-1

TRACK ARMING (Available on MC-1 Only)
A1..A4, Video -> Port B
D1..D16, MC-1 Parallel track arm outputs 1..16

CHASE SETUP
Chase Type .....5= 0
Start up delay.....4= (Dependant on PACCN)
Park Offset * 5 Frms .....0=
Acceptable Error..... 1= Frms
Locate Speed .....2= MED (Dependant on ACCN)
Slew Command Type..... 1= Vari-Play
Wait for Code to Stabilise .....4=
Chase Locate .....1= Locate Only

Serial Position Request..... 1= Start of frame (Old MC-1 Software)

T4.28 Doremi V1 Version 1.99z

1) Must have correct Video reference input selected to report Servo Lock

2) Offset Cmd Bug:- A Sony Offset command sets the timecode output value.

3) Ensure that Menu 03 is not selected to "Chase Serial TC", in this mode the RS422 port is an Output.

4) No Still Tally.

5) Erratic Shuttle performance, to improve use enhanced shuttle mode in option menu 27.

V-1 ID Setup

1) Depress **OPTION** & **MENU** together
   Select the Option Menu 19 "Emulate" using the **^** & **v** keys
   Use the **--** and **++** keys to select V1 emulation
   Exit using the Menu key.

2) Use Option Menu 04 "Save Yes" to save any new defaults if necessary.

Note: If **MENU 34:- Enable Auto-in When NOT Play** is enabled the Record LED on the Doremi will illuminate when in Stop.

The MR/SR provides 6 commands that enable the user to access the V-1 Segment commands:-

note: only available when the SR-4 displays Doremi as the machine type (see 4 above).

1) **Select Segment .....[Macro 181]** or **[Recall]** followed by **[ID >]**
   Enter the segment number followed by **[Select Segment]** to locate the start of the segment
   This sets Doremi Option Menu 8!
2) **Play Segment from Start.....[Macro 182]**
   This command will only operate if within the selected segment (Goto Segment) or the segment mode is off.
3) **Define Segment.....[Macro 183]** or **[Store]** followed by **[ID >]**
   Define the In and Out points on the SR then enter the desired Segment number followed by the Define Segment command.
4) **Select Next Segment .....[ID >]**
   eg, 4->5, 5->6, 6->7....255->256
5) **Select Previous Segment.....[ID <]**
   eg. 7->6, 6->5, 5->4...1->0
6) **Clear Segment Mode ..... [Clear]** followed by 1) Goto Segment
   This will Locate the start of the Recording

The User display will show the Segment number as a PNO Number. Tape End will be displayed if at start or end of segment.

T4.29 Fairlight MFX-3

BUGS
1) Reports timecode standard as 24 FPS
Select **Root | iface | General | Menu 72: Timecode Standard 1= Use System**

2) Does not accept CHASE or SET OFFSET commands

Chase Setup

Chase Type = 5= -+ Current MFX software
Chase type = 4= + Older MFX Software
Park offset = 2 10 frames
Start Delay = 4
Slew Command Type 0=Variplay (1=Shuttle on very old software)

The Farlight has a configuration file
Check file 'TCS_TFG' look for line '@ setenv sony-timeout=??'

T4.30 Audio Kinetics ES-1.11/1.12

The SR-4 cannot improve the basic operation of the ES 1.11, It is essential to read the AK operation manual and parameter setup notes in order to optimise the AK 1.11.

a) Only one ES 1.11 may be connected to each serial port on the SR-4

b) Interface Cable
SR-4ES 1.11

2	4
3	1
4	8
7	3
8	2

c) ES 1.11 Setup:-
1) Disable BUS
2) Set timeline reference as video: MENU SYSTEM MASTR Mas A
3) Set ES BUS address as 001: MENU SYSTEM ESbus
4) Set Mode to External: MODE mode<-Ext
5) Select user preferences as required, Play to park on/off, Record enable....
6) It may ne necssary to set MACH|PROG| 1014 (NoWild) to $FF

7) Enable Bus

d) SR4 Setup
1) Select Serial port A,B,C, or D
2) Select serial protocol "**Setup"** Root Menu, "2"= IFACE, "3"= Type "5"= AK

Bugs
a) The ES 1.11 will only report difference when in play mode
b) Offset commands cause the ES 1.11 display to flash

Emulation Mode
The AK1.11 may also be used in emulation mode
In Emulation mode the Local Setup menu LOCK should be set to Auto or Phase

1) Chase type 4

T4.30 Audio Kinetics ES-1.11/1.12 DEBUG MODE

A debug display is available as follows:-

1) LOCAL | Option | Parameter Protrction = Off
2) MACH | PROG | Parameter 1040 (testit) set to 53
3) LOAD
4) The debug display is enabled using the Mode Key and is changed using the Menu Key

System Position System Speed Difference
Machine Position Machine Speed VLTr25 TLSVC Last Cmd

System Position: t= timeline, c=chase, r= real Master
Machine Position: l= ltc, t= tach
VLTr25: V= VITC L=LTC T=Tach r=Record Enable 25= Standard
TLSVC: T= Timeline, L= Lock Active, S= Goto Active,
V= Fast Slew v=Slow Slew l= Servo Released p= vari play
C= Chase

The Menu key selects an alternative Display for the top line
TMS TMP 0f 06ts 10000000

TMS 41= Stop, 42= Variplay, 43= Play, 4c = Record, 61= FWD, 62= RWD
TMP 18= Chase, 44= Step(jog), 46= Shuttle, 4e= Search(Goto), 51= Lock, 53= LPRS, 5a= Calibrate
3rd digit 0= Trying, 1= Successful, 3= Failed

Logical machine commands:

00 Null	10 Lifter Normal
01 Play	11 Varispeed On
02 Stop	12 Varispeed Off
03 Crawl Stop	13 Pause
04 Record	14 Edit
05 Unrecord	15 Servo
06 Crawl Rvs	16 Rec Preset
07 Crawl fwd	17 Locate
08 Rvs Play	18 Step +
09 FFWD	19 Step -
0a FRVS	1a Un-Rehearse
0b Toggle Mode	1b Sync Play
0c Rehearse	1c Init
0d Lace	1d Rehearse mode Toggle
0e Unlace	
0f Lifter Defeat	

T4.31 AUGAN 2.96/77S

Working with AES/WORDCLOCK

By supplying resolved Video syncs and Wordclock the Augan may be operated in RS422 device remote provided that it is switches to Gen-Lock Mode.
1) Switch first to AES input and then to Video clock, the display should then indicate **GL** under the sample rate.
2) Check Parameter 40 (Digital Audio Sync Source),

On the Sync Page
1) F5 sync options: F6 External clock: Sync ON, this selects video reference to the timeline.
2) F1 Mode: device (This also inverts the inputs so that no TX-RX Invert cable is required)
4) F2 VI Type: V1

The SYNC key is a remote enable switch (The Local/Remote Tally is not implemented by the Augan)

AUGAN OFFSET BUG

Older Software

When an internal offset is set on the Augan the RS422 position in Stop will be different from the position in Play. To cure reset the offset to zero. (Now corrected)

Current Software (OS2.96/71S..)

If an internal offset is set, the position displayed on the SR/MR and on the Augan will be different. The offset is used to calculate the Augan displayed position, the offset is not used on the serial port.

1) Audio output in Jog and Variplay

The audio will be muted if a speed of more than +5% is requested ($4A), when in forward the audio will be un-muted when the speed is returned to play speed, In reverse once muted the audio is never un-muted, also the jog/varispeed is not correct in this mode.

CHASE SETUP
Chase Type ..... 5=
Start up delay..... 5=
Park Offset * 5 Frms ..... 0=
Play before variplay ..... 0=
Acceptable Error..... 1= Frms
Locate Speed .....0= TLESS
Slew Command Type..... 1= Shuttle !!
Wait for Code to Stabilise ..... 2=
Chase Locate .....1= Locate Only
Max slew speed..... 6

T4.32 VPR-3 Version 7.3 PAL with Adrienne Interface (BVH-2K)

Suggested setup

Chase Type .....5= 0
Start up delay.....7= (Dependant on PACCN)
Park Offset * 5 Frms .....5=
Attempts for ZERO Error.....2= Trys
Acceptable Error.....1= Frms
Locate Speed .....2= MED (Dependant on ACCN)
Slew Command Type.....2= Vari-Play
Wait for Code to Stabilise .....4=
Chase Locate .....1= Locate Only
Sync Correction.....5= NONE

T4.33 TimeLine Lynx

Timecode
To use as a **MASTER** it is recommended that the machine timecode output is connected to the SR/MR timecode input. When using used as a Slave there is no problem. (Note: There is only one timecode input per SR system and one per box in a MR system.)

Lynx Setup
To enter the Lynx I setup menu hold the SET UP key depressed for approx 6 seconds, repeat to leave the setup menu.

To enter the Lynx II setup menu hold the Blue key on the left depressed and depress the **[SET UP]** key, repeat to leave the setup menu.

The MENU key is used to change the menu section, the FORW and BACK are used to select the item to be changed. The v, ^ and CLR keys are used to adjust the selected item.

Select the following:-
Editor 0
Address 1

Lynx Local/Remote
The **Tran Mode** switch on the Lynx is used as a local-remote switch.

SR/MR Lynx Protocol Select
Select the correct protocol on the SR/MR:
Setup | Root | Iface| Type | Menu 78: Select protocol 4= Lynx

If **4= Lynx** does not appear on the select protocol menu then this protocol is not fitted to your system, contact your agent or CB Electronics to purchase the protocol upgrade.

Subframe Offsets
To set sub-frame offsets, enter the required sub frame offset followed by **Shift** followed by **Store**, Followed by **Chase/Offset**, use **Recall** followed by **Shift** followed by **Chase/Offset** to see the current sub-frame offset.

To check with Film Module: Link pin 17 to pin 33 and pin 16 to pin 32

T4.34 FED Audio Solution II

This 4 track optical disc recorder can emulate a BVW40. The Sony P2 control input is on COM2 and requires a special cable. A1..A4 are used as the track enables.

COM2 is RS232, for long cable runs a RS422 to RS232 should be used, positioned next to the Audio Solution.

Cable details without RS422 to RS232 converter

SR-4	SR-4	FED COM-2
Tx Data -	2	3
Rx Data -	8	2
Ground	4	5

T4.35 Nagra T

The connection to the Nagra T is made via the Nagra RS422 Remote Control interface **TA-RSA** We have tested the unit with software version ???? fitted to the TA-RSA interface.

RS422 Connection to Centre Connector- Remote C

The Nagra ID can be set to Nagra T using the Status Key to select the Menu, The + and - keys to step through the menu and the Mod key to change the parameter. Select T-Audio

Menu 54 Start Advance ..... 2=
Menu 55 Park Offset * 5 frms ..... 5=
Track Arming = A1 and A2

BUG The Nagra Lock tally is only present in Insert Mode?
When switched to Insert Mode the Replay Head changes, Tracks should be enabled in stop to avoid losing lock.

T4.36 Sony DNW-A75/A100 SX Digital Video Hybrid

These machine use two different protocols one for the Tape and one for the Disk.
1) Program a key to Macro 163 or use Menu 78 (Root/Iface/Type) to enable/disable the special protocol.

Bugs
1) In Disk mode the machine will not accept variplay commands greater than +/- 1* play speed.

T4.37 FED V-MOD 100

SR-4 SETUP
When selected to 422DEV in the MASTER menu the V-Mod will answer with a BVW-40 ID, to change this select Odectics as described bellow. If this is not possible the following changes should be made to the standard BVW-40 setup:-

IFACE-CHASE
Menu 53 Chase command type.....5= 0
Menu 64 Locate Speed..... 0= Tapeless
IFACE-GENERAL
Menu 71 Pause/Stop Command .....1= Stop

RECORD
The V-Mod will only accept crash record commands

TIMECODE
If the V-MOD does not have a timecode reader it will not record timecode with video. The best way to set timecode on the V-MOD is to record a video with burnt in timecode or with a slate mark. The V-MOD may then be set to this timecode after the video is recorded.

To record with serial timecode, select 422CON in the MASTER menu, connect to the playback machine via RS422. Then depress Record ([REC] and [>]) on the V-Mod, The V-Mod will start the playback machine and record audio, video and timecode.

BUG Timecode Standard
When set to Odetics protocol the V-Mod reports an IDENT of D8 01 this indicates that it is an NTSC machine with SMPTE 30 timecode. When set to RS422 protocol the V-Mod reports an Ident of 11 21 (BVW-40 PAL)

V-MOD SETUP
To Enter Setup
1) Depress LOCK & REC simultaneously

Enable the RS-422 on the V-MOD from Setup
2) Use the **<** and **>** to select the **MASTER** menu
3) Depress the **Enter(LOCK)** key to select the master menu
4) Use the **+** and **-** to select **MASTER: Odectics** (This sets the ID as V-Mod instead of BVW-40)
5) Depress the **Enter(LOCK)** key to return to **MASTER** menu

To Select External Video Sync from Setup
2) Use the **<** and **>** to select the **VIDEO** menu
3) Depress the **Enter(LOCK)** key to select the video menu
2) Use the **<** and **>** to select the **VIDEO SYNC** menu
4) Use the **+** and **-** to select **VIDEO SYNC:COMP**
5) Depress the **Enter(LOCK)** key to return to **MASTER** menu

To Preset the Timecode Number from Setup
2) Use the **<** and **>** to select the **Timecode** menu
3) Depress the **Enter(LOCK)** key to select the master menu
4) Use the **<** and **>** to select the Timecode digit to change
4) Use the **+** and **-** to select change the digit
5) Depress the **Enter(LOCK)** key to return to **MASTER** menu

T4.38 Publison CP+

1) This DAW has no emulation mode and can only be used as a master to the SR-3
2) The 9 pin connections are non-standard

Publison Female	SR-3 Male
1	2
2	7
3	3
4	8
5	4
6-9	
7-8	

T4.39 BTS DCR 500

This machine has two analog and four digital tracks, the digital tracks may be accessed as normal (D1..D4), A1 and A2 will access D1 and D2

There are no tallies from digital tracks 3 and 4!

T4.40 STUDER V-8 Software 2.0 10/30/98

1) Depress '**UTILITY**' repeatedly until "2 ONLINE SOURCE:" is displayed.
2) select using ^ or v until "2 ONLINE SOURCE: RS-422"
3) Depress 'UTILITY' and using **^** or **v** select "3 RS-422 Track Arm: On"
4) Depress 'UTILITY' and using **^** or **v** select "4 RS-422 Mapping: 1-2"
5) Enable the 'ONLINE' key

Record Tally Bug

No Record tallies! select record tallies NV on SR-4

Ident

Same Ident as BVH-2180 ($111C), this is good for us or we can supply an unused ident, I suggest for use with OLD Editors you allow the user to switch between two idents, one unique and one BVU950 or similar.

Comms bug

The RS422 port loses communication when ONLINE is off.

Offset Bug

The V-8 accept's a chase command but does not accept the Sony SET OFFSET command.

The V-8 will accept a Chase command or may be controlled by the SR-4 synchroniser, to use with offsets the SR-4 synchroniser must be used with the current V-8 software.

Multi-machine Record Enable

The V-8 will only record as an 8 track on the current software (2.3).

Note; The V-8 will report record inhibit if the first tape is record inhibited.

Typical Internal sync settings
43 Chase type 3=
44 Start up delay 9=
45 Park offset * 5 frames 5=

T4.41 Diva

Connections

Diva	SR-4
1	7
2	3
11	2
12	8
6,7	4

Emulates a BVW60 NTSC only, set to use System Standard with SR/MR systems
Current Problems
1) No Status Replys!
2) Locates not frame accurate in PAL (Frame accurate in SMPTE)
3) Does not accept Shuttle Commands
4) All commands other than STOP or JOG ignored when in PLAY

T4.42 Otari Radar-1 revision 1.46

Record Tally BUG

The Record tallies are offset by 8 tracks ie. Track 1 reports as track 9 etc.

Record/Edit On

Use Record and Play instead of EditOn and EditOff this will enable additional tracks to be dropped in and out of record.

Track Arming

Unlike a Video machines tracks that have not previously been in record may be armed whist the machine is in record and then may be dropped into record using a **RECORD** (Not Edit On) command. Tracks that have previously been in record will go back into record immediately when record armed.

Timecode Standard Bug

The Radar does not report the current timecode standard correctly, it will always report a timecode standard of 30 NON DROP, it never reports EBU or Drop

Machine ID

Auto setup not possible because there is no unique machine ID

This machine reports as a BVU950 and should be set up as follows:-

Menu Function
42 Record tracks 4=24
43 Analog & Video 0=disable
46 Command Reenforce 2= Record (Until bug fixed)
48 Track Ready tallies 4= NV (Not Valid)
53 Chase command type = 5
54 Start up delay =2
55 Park Offset = 2 (10 Frames)
64 Locate speed = 0 (Tapeless)
56 Wait for Stable code = 2 (4 frames)
69 Machine type = 2 (ATR)

T4.43a SSL G Series Computer (4K/5K)

1) Connections

1) Connect S29 on RM-6 Hub to 'Multitrack' under patch on SSL Console (25 'D' Male - 25 'D' Female).
2) Connect Timecode out from RM-6 Hub to Master Timecode input on SSL (S113).
3) Connect S88 26 way ribbon cable (Maximum Length 2 meters) between SSL computer '78' Card Port 2 and RM-6 Hub

2) SSL Setup

1) Type **SSL** Execute, the keyboard prompt should disappear, type the access code **BERNOULLI**, this will not be displayed but the keyboard prompt should re-appear
2) Type **Setup** Execute and "Do you want to see more" should be displayed
3) Type # and set the following
   - Synchroniser type : 3
   - Master Transport Selector : YES
4) End End
5) Setup Execute
6) SSL Display's "Do you want to see more?" type "Y" to enter Engineer menu page.
7) S for Session and set "Using VITC" to YES this will enable the SSL to read stationary timecode.
8) End, End
9) SSL Display's "Do you want to see more?" type "M" to enter Maintenance menu page.
10) Type "T" to select tape machine.
11) Select a spare tape machine position and type "Delete", answer Y
12) Type in name (EG. SR-24 25FPS) followed by "Execute" and enter details as follows:-
    The Tach and Direction parameters will be constant as follows:-
    - Forward direction sense (L/H) : HIGH
    - Multiple Play speeds : NO
    - Pulses/Second at std speed:
      - 25 fps EBU timecode, 5 pulses per second
      - 30 fps SMPTE timecode, 6 pulses per second
    - Target Window : 0.0
    - Orop Out Command Type : 1
    - Drop In Command Type : 1
    - Time for Startup : 1.20
    - Time to be sure tape stopped : 1.10

    The other auto-locate parameters will depend on the machine to be controlled
13) End
14) Type the "SYNC" key to enter Sync Menu Page
15) Type the "Setup" key to enter machine setup page and enter your machine name and select the Menu No.
16) End
17) Type I to select the interface menu
    - Z8 interface No. : 2
18) End
19) Type the "SYNC" key to select the synchroniser options menu and set
    - Maximum number of masters : 5
    - Offsets may be read from synchronizer : YES
    - Single Machine Mode : NO
    - Timecode Generation : YES/NO Dependant on Machine
20) End End

T4.43b SSL G Series Computer (4K/5K)

3) SSL Display
   1) Use the Large/Small key, or use sync execute to view the machine page
   2) The Down cursor key switches between Position & Time to Sync
   3) The Left or Right Cursor keys switch between Mark & Offset

4) SSL Commands
   1) AM{Execute} Sets Port-A as the Master
   2) SYNC ON Enable synchroniser
   3) Offsets:- use A at 00:00:00:00, B at 01:00:00:00
   4) Locate C goto 00:00:00:00 Execute
   5) ABC Setup Execute :- Toggle machine selection machines ABC
   6) Sub frame offsets :- B* 00 Execute
   7) Request Subframe offset :- B*? Execute

T4.44 Sony BVU-800 (Using timecode from an audio track)

The BVU-800 was the first timecode U-Matic, some early versions (I have found them in the USA, Germany and Russia) either have no timecode card fitted or have only a timecode amplifier fitted with no connection to the RS422 port. This technique may also be used when the timecode is not recorded on the timecode track.

If this is the case then the timecode reader on the SR/MR may be used to read the timecode as follows:-
   1) Select **Root | Unit | Code | Menu 27 TC Reader -> Port** and select the port to which the machine is selected
   2) Select the BVU800
   3) Select **Root | IFACE | General Menu 70 Position**
   4) Enable **4= L+V+T** (Request LTC, Video, and Tach)

T4.45 Ampex DCT-700

Sony Protocol
1) Reports Servo locked in all modes
   Servo lock flag removed during transition between edit and playback modes
   Servo lock flag removed during transition between Vari-Play and locked play

Ampex Protocol

T4.46 Sony PCM-3402

1) Start Delay = 13 Frames
2) Internal synchroniser is slow, and does not read stationary code
Menu 53 Chase type 3= -
Menu 54 Start up delay 9=

3) Digital Tracks 1 & 2, Analog tracks 1 & 2 (49 & 50) also arm Aux1 and Aux2

T4.48 Studer D950

The D950 has a serial interface to the SR/MR system. The studer 9 pin output should be connected to a serial input on the SR/MR system (port A on four port Hubs (SR-3, SR-24) and Port E or F on 6 port Hubs (SR-24A, SR-32). The D950 should be set up as follows:-

C:\winnt\D950System.ini File
RS422Ports=N where N is the number of ports available
(SR-3/4 N=4, SR24A N=4)

RS422First=M where M is the number of the first machine port
(SR-3/4 M=2, otherwise M=1)

The Serial port should be defined as follows
5= {9} COM8 baud=38400 parity=0 data=8 stop=1

where {9} is the com port, ports 1-4 are standard IBM ports, 5-12 are stallion box ports Stallion 00 = COM5, 01= com6...

The cable connections are as follows:-

CB. 9'D' Male on Cable — Studer 25'D' Male on Cable

Link 3 to 18
Link 8 to 20

Ground 4 .....7 Ground
Tx+ 7 ..... 15 Rx+
Tx- 2 .....17 Rx-
Rx+ 3 .....19 Tx+
Rx- 8 .....25 Tx-

D950 Status Display

Machine Status

# Machine Sony ID	RDY	REC	Lock	Status	Mst
1 avid D1.A8	YES	no	ok	ok	<-
2 BVW-75 21.24	no	no	ok	End	
3 A500	no	no	ok	ok	
4 OMR-8	no	no	ok	No Comm	

External names checked = names from SR/MR, not checked of user defined names

T4.49 Philips DCR 6024 Voodoo

Device ID= 0s E0 'HDD-1K' where s= Standard

Timecode Standard

This machine can record at 23.98, 24, 25 or 30 fps the device type tally follows the standard

Video Reference

When Insert/Assemble is enabled the voodoo will always reference to video input. When insert or Assemble is off the voodoo will switch to the selected reference.

Special Setup

To ensure correct record select **Menu 48**:- Track Ready Tallies 4=NV
To ensure that the machine follows exactly the track arming **Menu 46**: Command Reinforce 2= Track Arm.

Bugs in the Serial Protocol

1) Edit On with no tracks selected = Crash Record!

2) Video or Audio Inhibit sets the record inhibit flag in the P2 protocol

3) Track arm from RS422, all tracks are armed in pairs only, it is no possible to arm individual tracks.

CMD	Mcn	Tally
D1	D1 & D2	D1 & A1
D2	D3 & D4	D2 & A2
D3	D5 & D6	D3
D4	D7 & D8	D4
D5	D9 & D10	None!
D6	D11 & D12	None!
A1	Cue	None!
A2	Cue	None!
A3	LTC	A3
A4	Cue	None!
None	Crash Arm	A1,A2,A3,D1,D2,D3,D4,Video!

4) D1-D4 Tallies in status request byte 12

5) Edit Preset request 61 30 02
Voodoo Reply 71 30 AV should be 72 30 AV DD where AV = A1..A4 & Video Insert tally and DD = D1..D8 Insert Tally

T4.50 Midi Machine Control MMC

Use the CB P2MMC bidirectional MMC and MTC Interface

T4.51a Tascam MX-2424 Using Midi Interface

1) Use with Midi Protocol and internal chase synchroniser only (section 4.50). The TL Bus is NOT Timeline Lynx compatible.

2) The MX-2424 will lock to MTC or LTC.

3) The Tascam MX-2424 will park ahead by 20 frames when parked to stationary code.

4) The Midi ID Device ID is not used by the MMC interpreter.

Bugs

1) The Lock Deviation always reports 0 Error, the Actual Offset always reports the current requested offset.

2) There is a 1 frame difference between the Midi Position out and the timecode output.

MX 2424 Setup
Menu 000 Control Mode = *Timecode Chase
Menu 001 Frame reference = * Video
Menu 004 Timecode Type =
Menu 301 MMC Tracks/ID = *24 [one ID]
Menu 340 Remote Assign = *RC-2424
Menu 900 Store Settings = *User Default : SAVE

T4.51b Tascam MX-2424 Using P2 on remote Port Software 2.XX or Later

Notes Version 3.01
1) Accepts Rehearse command but gives RECORD Tally!
2) Arming Digital tracks 1-4 tallies on Analog tracks 1-4.
3) Tascam ID = MMR-8 (8 Track) ID, requires non-standard request, now implemented.
4) 20 frame (25 frame SMPTE) park ahead when chase enabled
5) If Sample lock is flashing (No video Ref) then the track arming will not work from the remote but will work from the front panel.
6) No Lock Tally in Play, unless chasing to timecode
7) Does not accept Vari-play or Programable Play commands

SR/MR Setup
1) Root|IFACE|Chase| Menu 53:- Chase Type 0= CMD
   Using Chase type 5 locks in reverse play but not forward play!
2) Root|IFACE|Record| Menu 42:- Record Tracks 4=24

MX 2424 Setup
Menu 000 Control Mode = *Timecode Chase
Menu 001 Frame reference = * Video
Menu 004 Timecode Type
Menu 340 Remote Assign = *P2 In
Menu 360 P2 Device = *Tascam MX-2424
Menu 361 P2 Track Arm = *Digital Audio
Menu 362 P2 Punch Delay = *3 frames
Menu 364 P2 Chase Control = *Ensbled: LTC Software (3.XX or Later)
Menu 900 Store Settings = *User Default : SAVE

Tascam Software Comparison

Machine Control Function	2.11 P2 via Remote	3.01 Beta P2 via Remote	P2MMC 2.11 & 3.01
24 Track Arm	Yes	Yes	Yes
Capstan Lock Tally Play	No	No	Yes
Capstan Lock Tally Chase	Yes	Yes	Yes
Chase to Timecode On/Off	Yes	Yes (Menu 364)	Yes
Set Offset	Yes	Yes (Menu 364)	Yes
Video Editor (Chase using Vari-Play)	No	No	Yes
P2 Position Error (Request Middle of Frame)	-1	-1	
P2 Position Error (Request Start of Frame)	0	0	

T4.52 Tascam DA-78HR

1) Use with Midi Protocol and internal chase synchroniser only (section 4.50).

2) The DA-78HR will lock to MTC or LTC.

T4.53 JVC CR-600U

1): Will not Respond to two byte Jog/Shuttle commands
2): Play tally always active when tape in contact with head
3): Does not respond to offset status request
4): Device ID = BVU800
5): Hours Bit 7 set if negative timer

T4.54 Panasonic AG-DS850

1) Status bytes offset 0B,0C & 0D all respond as $FF

T4.55 360 Systems TCR-4, TCR-8

Use the Native protocol:
The native serial protocol is enabled by pressing Menu, then 0 for Setup, 3 for External Control, and 1 for RS 422 Emulation.
Use the Jog wheel to dial this to TCR NATIVE MODE, and press Enter.
Press Stop to return to normal operation.

T4.56a Pioneer DVD-V7300D

Advanced Setup
To Enable External Video Lock
1) Switch to **PAL** or **NTSC** on Rear of the DVD player, **NOT Auto**
2) Remove any disc in the unit
3) Using the infra-red remote Enter advanced setup by depressing setup for approx one second
4) Select **Baud Rate** using the down arrow key
5) Set to **9600bps** using the right arrow key
6) Select **Rev Step/Rev Play** using the down arrow key
7) Set to **Frame** using the Right arrow key
8) Select **External sync** using the down arrow key
9) Set to **PAL** or **NTSC** using the right arrow key
10) Select **AV Sync Compensate** using the down arrow key
11) Set to **Off** using the right arrow key
12) Turn off Advanced setup using the Setup key

The unit will display **Locking to External Sync** whilst locking. If a DVD is present when Video syncs are connected or the unit is switched on, it must be ejected to allow the DVD player to lock to video syncs.

Use **Shift** Followed by **Play** to select the fist title on the Disc.

Slaving a DVD
The DVD has a consistent start time, this is used to slave the unit
1) When Slaving a DVD to a DVD master no park offset is necessary (section 7.44)
2) When slaving a DVD to any other machine use a one second or more park offset (Section 7.44), ad a start advance of 1 frame (section 7.43).

T4.56b Pioneer Cable

SR/MR 9 'D' Male Pin	SR/MR Function	Cable	Pioneer Function	Pioneer 15 'D' Male Pin
4	Ground	Screen	Ground	1
2	Rx Data -	Red	Tx data	2
8	Tx Data -	Black	Rx Data	3

T4.57 Sony MSW-M2000P Beta-Sp, Digi-Beta, Beta-SX, IMX

Record
1) 4 Track 24 Bit or 8 Track 16 Bit Digital Audio

Chase
1) Use Shuttle for reverse play lock

Machine ID
This machine has user selectable Sony ID,
Select the Maintenance Menu
There is a two frame offset between the LTC output and the RS422 position when using MPEG IMX format.

T4.58 Accom WSD/HD

Problems
1) Short Locates, does not perform very well
2) Jog is not very good at 24F
3) When set to 25 the screen position is not the same as the output timecode! the timecode at the output is a frame count, the timecode displayed is converted to real time at the original frame rate. This is correct for 24-30 but not for 24-25.
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T4.59 SONY DMX-R100

This Console has 3 RS-422 ports, 1 input and 2 Outputs (Out 1 & Out 2) It also has Midi In/Out/Through and MTC connections)

You Can select one of 6 Machines using Out 1,2 or Midi.

To Assign A Machine to a Port
1) select **Machine Control** on the Touch Screen
2) The virtual key labled NC below the Virtual Machine key is used to select the output port.

LTC or MTC must be provided for the Automation.

FWD and RWD keys issue Fast Forward And Fast Rewind and not Shuttle commands and follow these tallies when the Machine control display is enabled.

T4.60 FEG Prima-SY2

This Synchroniser may be used in its Sony P2 Emulation Mode

Bug

This unit does not report servo lock when in play

Device ID: BVW-40

T4.61 Harrison Series 12 and MPC

The Harrison automation can use either a timecode feed via the Harrison Timecode Reader or a Serial timecode feed from a SR/MR System.

Timecode Link
If timecode is used as the link to the automation then the WACT Transistion table will only work from Stop to Play or Play to Stop.

The Locked Play only (Timecode-2) output should be used (Timecode & GPI/O 25'D' pins 10 & 12, Ground pin 11) as the Harrison automation is confused by stationary timecode.

Serial Link
When Serial-E on the SR/MR Controller is specified as a Harrison Serial Link it may be used in place of the Harrison Timecode Reader. This connection is made to 'High Speed 2' on the video drawer. See table T5.09 for the connection details.

In this mode the WACT Transistion table is avialable in all transitions.

To check memory usage connect a terminal to 'low speed' 25 pin 'D' on the video drawer. setup terminal for 38K4, N, 8, 1

25 pin D Male on Cable -- 9 pin D male on cable

1=	
2= RxD+	7
3= TxD+	3
14= RxD-	2
15= TxD-	8

Note: This is a RS422 connection

Recordist Softkeys
The Harrison console has opto isolated inputs for four recordist soft keys, these may be used for special functions ie **Man On** and **Man Off**. These inputs are active edge triggered.

Connections to the Monitor Logic input (**J18** Logic Input 25 pin D) are as follows

External Mute 1	Low= 1, High= 14
External Mute 2	Low= 16, High= 3
External Dim	Low= 5, High= 17
Slate	Low= 19, High= 6
Recordist Soft key 1	Low= 8, High= 20
Recordist Soft key 2	Low= 22, High= 9
Recordist Soft key 3	Low= 11, High= 23
Recordist Soft key 4	Low= 25, High= 12

Open collector outputs are also available (**J17** Logic Output 25 pin D) as follows

Mute	14
Mute	2
Dim	3
Dim	16
Ground	1,4,7,10,13,15,18,21 or 24

T4.62 Fostex D-15

1) Always reports that Assemble is enabled
2) Always reports that Selected E-E Enabled
3) Defaults to NTSC with No tape or Blank Tape even with PAL video syncs connected
4) Does not support Sony PNO Number requests (Manual states that it should!)

This is a good machine for ADR Backup as it has a simple Auto-ID enable

T4.63 Fairlight Vivid

Bugs
1) The Device type code includes incorrect timecode standard information.
2) This machine cannot be used as a slave.

T4.64 Leitch Video Server 420, 440

1) Use as master only, to slow a response to be used as slave
2) Insert edit/assemble edit not possible
3) ID incorrect 1st byte always $AA and does not include the standard
4) To perform a frame accurate crash record or assemble use Cue to record in command followed by Record or Edit On when source is 3 frames ahead of parked position.

T4.65 AMS Encore/DFC

Device ID Number $F13D
Connections to AMS MC-1 port change with in/out type. A one to one cable may be used to connect in either Controller or Controlled device Mode. It is not possible to use as a bidirectional (Controller/Controlled Device) with the SR-4 port A or SR-24 Port E.

To use as 9 pin Controlled Device, using as master gives automation from stop.
1) Transport, MCS Preferences (Ctrl-F5)
2) Referece Source:- Slave to 9 Pin
3) Exit from Menu
4) Connect AMS MC-1 port to an Output port on the MR/SR system.

To use as 9 pin controller
1) Transport Group Select (F5)
2) Select Machine from list
3) Click on Assign Machine
4) Exit from Menu
5) Transport, MCS Preferences (Ctrl-F5)
6) Reference source:- 9 pin And Video
6) Ensure that Single machine follows timeline is not selected!
7) Exit from Menu
8) Connect AMS MC-1 port to an Input port on the MR/SR system
9) All control must now come from the AMS and not from SR/MR for the automation to work correctly.

Bugs
No Pre-Roll (locate) tally
No Cued tally
After Locate gives Shuttle tally
No Jog tally, Shuttle instead
Standby tally changed by Jog, should be on in Play
Still Tally not set in stop but set by Jog
If changinging the standard of a controlled machine then disconnect the RS422 to allow AMS to register new standard.

Fixed Bugs
No Reverse direction tally
Variplay reverse gives vari-play+play+forward tallies
Shuttle Forward gives Fast forward+shuttle
Jog Forward gives Jog+Fast Forward

T4.66 Genex 8500 FWareRev V2.08.06

Bugs
1) Does not read stationary timecode.
2) The Genex 8500 implements offsets from 00:00:00:00..11:59:59:24 correctly. Offsets from 12:00:00:00..23:59:59:24 (Negative Offsets) are not interpreted correctly, 12:00:00:00 is interpreted as 00:00:00:00, 13:00:00:00 as -01:00:00:00 and 23:00:00:00 as -13:00:00:00 ect.
3) The 8500 cannot calculate offsets through 24 hours eg master at 23:00:00:00 slave at 00:01:00:00
4) Insert tally always set in Edit Preset Tally (7x 30),
5) Assemble tally set in Status Tally (7x 20) if no tracks armed, insert tally set (correct) if tracks armed!
6) RS422 positional data offset by -1 frame
7) Status edit d1..d8 preset data not implemented

9) Slave machine can issue stop commands when not able to chase

Multiple Machines
1) Pre-stripe command does not work on multiple machines
2) Edit Mode Auto/All in from front panel
3) Ejet only morks on machine one (Front panel and serial remote!)
4) Lock between multiple Genex machines when running as master!

Notes
1) Use Chase command
2) ID $D1C6
3) Lock tally always Set

www.genexaudio.com

T4.67 Sony DSR 2000

1) Status 13 gives wrong data once every 8/9 requestes

2) Record Enable on D1 and D2 only

3) Menu 401 after cue Still not Stop

4.68 Sony J3 Player

This low cost multi-format machine operates as both a master and slave.

The J3 does not have a timecode output this does does not cause a problem with SR/MR/RM systems as they do not use timecode.

Lock up times are good from park.

Locates
There are two problems with locates
1) Locates are slow once within 30 seconds of locate point.
2) Once a locate command has been received further locate commands are ignored unless a transport command is sent before.

Chase to moving master
Chase to a moving moving master does not work as locates are too slow when close to point. Ensure that **Setup | Root | Unit | Chase | Menu 19:- Wait for Slaves?** is set to 1= Yes when using the J3 as a slave.

Main settings
Chase type 5= -+
Start Advance 3=
Locate Speed 4= VSlow
Locate Type 1= Loc+Wind
Machine type 0= VTR
Pause/Stop Command 1=Stop

4.69 Panasonic AJ-3700AE D5-HD

The SR/MR should display D-5 when connected see note 1 if not.

1) To use at 24P or 24PSF select Device ID Default2 as this gives the correct Standard.
use Setup | Interface | C + F + F6 on the machine

T4.70 Digi-Design HD 5.3.1 Machine control.dll 5.3.1

General Notes on spees and software

Set colours to 1000's not millions
Maximise window to stop Apple finder operation
Use Latest version of sync IO 1.02
CS-8 or above Revision software
ATTO Drive setup should be optomised to suit the disk drives

Playback Engine

256/512 Samples, lower for quicker lock
CPU Usage 65-70%
Voices 64 = 32 track
Sample Rate
DAE Plkayback buffer = Level 2 or Lower, Avid normally 2
Minimise system memory = OFF

Disk Allocation

Recomended Setting tracks per disk = Fast & Wide = 32 per disk, 16 if using quick punch

Setups | Peripherals | Machine Control

9 Pin Remote
Port = GeeThree Stealth Serial Port or Griffin GPort Serial Port or KeySpan USB port.
Machine ID
Pro Tools(PAL)

Setups | Peripherals | Synchronization

Device = SYNC I/O
Port = Digi Serial Port
Minimum Sync Delay = 30 Frames
Sync I/O Setup
Enable Sync I/O Setup: Checked
Enable Dub Window: Not Checked

Windows | Show Session Setup

Sync I/O Setup
Clock Reference = Video reference
Video Format = PAL
Positional Reference = Auto LTC/VITC
Indication: both Locked and speed cal are both on

Setups | Preferences | Operations.

Delay after play: 30 frames
Open Ended Record allocation: limit the number of minutes for recording to 20 or 60 minutes maximum
Enable RS422 track arming
Online Options: Record Online At Timecode Lock
QuickPunch Crossfade Length = drop-in cross fade
Levels of Undo = 5

Track Arming

Possible In Stop Only, If it is not possible to track arm try to track arm protools directly in local as the error messages are not displayed in remote.

Quick Punch

This must be enabled when in Remote Mode
Operations/Quick Punch
When In stop the Record indication will be a Black P in a white circle
When in Play the Record indication will flash Red
When in record the Record indication will be solid Red.

Enable Remote
Setups/Peripherals/Machine Control/9-Pin Remote Enable
Select the Port and Emulation e.g. Protools PAL/NTSC Emulation setting as required.

Set Timecode Standard
Windows/Show Session Setup
note: The Timecode Standard is not linked to the device name so that every time you change the standard you have to change the device name.

Notes:
1) Use the special machine emulation cable or the standard machine cable with a Rx/Tx invert cable.
2) The correct stealth driver must be used.
3) Emulation works on Modem, Printer Port or Griffin G port also Keyspan USD, **NOT** on Digi-Serial ports.
4) Pro-control Record GPI input operate when Transport=Pro Tools. If Transport=Machine then
5) Protools serial latency is improved by using a faster computer 800MHz+.
6) Protools 6 works better as a slave than 5.3, but does not yet have the post-production features.
7) In timecode chase mode the Protools only follows in play?

4.701 Protools 5.0 - USD

USD Setup: Position Reference LTC

Enable transport control window
Windows | Show Transport

Click on Transport = Machine or Transport = Pro Tools
Select machine or pro tools as required

Select Online Machine

T4.702 Digi-Design Protools 5.1.1

Normal Build
Will operate as 8 Track only

CB3 Build
Will operate as 24 Track Only, suggested emulation Sony 3324

Track Arming
Possible In Stop Only, If it is not possible to track arm try to track arm protools directly in local as the error messages are not displayed in remote.

Quick Punch
This must be enabled when in Remote Mode
Operations/Quick Punch
When In stop the Record indication will be a Black P in a white circle
When in Play the Record indication will flash Red
When in record the Record indication will be solid Red.

Enable Remote
Setups/Peripherals/Machine Control/9-Pin Remote Enable
Select the Port and Emulation that you wish to use.

Set Timecode Standard
Windows/Show Session Setup
note: the Timecode Standard is not linked to the device name
Disable Generate Timecode Using USD

Notes:
1) Use the special machine emulation cable or the standard machine cable with a Rx/Tx invert cable.
2) The correct stealth driver must be used.
3) Works on Modem or Printer Port or Griffin G port, **NOT** on Digi-Serial port.
4) Pro-control Record GPI input operates when Transport=Pro Tools. If Transport=Machine then Protools Record follows the setting of the Transport=
5) Pro-Control On Line Key, Blue Clock to the left of the transport bar
   Operates as follows
   Transport = Machine: Enable/Disable Protools
   Transport = Pro-Tools: Enable/Disable Chase to External machine

6)
SR/MR Setup
1) Chase Type: 5= +-
2) Park Offset * 5 Frms 0=
2) Play Before Variplay: 1= On
3) Wait for code to stabalise 5=

Switch USD to Local (Depress all Three upper keys Clock,Poaition, Frame Rate)

4.703 Protools Windows 6.2 PC

Tests made with multiple tracks (Mono and Stereo) and Quicktime picture (10:1 compression) within Protools
HP XW-8000 3.06GHz Dual Xeon Processor 1 Gigabyre Memory, Windows XP Professional.
Remote control via COM1 using KKSystem RS232-RS422 interface.

Stereo tracks are counted as single tracks for track arming.

When used as a slave it is best if Chase to timecode is enabled

Running system as follows
Pro-Tools as Master with two DA-88's chasing on MR system with Protools on port-A and DA-88 on ports E & F

To control System from SR/MR system following
1) Select Master= Remote on Pro-Tools

To Control system from Pro-Tools
1) Select Master= Protools from Pro-Tools, note CB System will show 'Local' message.

Bug: The system was also connected to a Pro-Control, when the pro-tools was put into record from The MR system

T4.704 Digi-Design Protools 6.2.2 MAC

Tested on G5 machine

Remote control Setup:
1) Setups | Peripherals | Machine Control | 9 pin Remote

Track Arming Enable/Disable:
2) Setups | Preferences | Operation | Remote Mode | Ignore track Arming Uncheck

Bug: This version If you enable Chase LTC then the Track Arming is disabled! Reported to Digi-Design. Fixed on 6.2.3

T4.704 Digi-Design Protools 6.2.3 MAC

Tested on G5 machine

Remote control Setup:
1) Setups | Peripherals | Machine Control | 9 pin Remote

Track Arming Enable/Disable:
2) Setups | Preferences | Operation | Remote Mode | Ignore track Arming Uncheck

4.705 Pro-Tools LE 6.1.1

MMC Out Using MPU401/002 Out1/002 Out 2 Games Port

Enable using
Setups | Peripherals | Machine Control
Transport = MMC
1) MMC Out using Command keys and timeline locates work
2) Record key sends Midi Record On
3) Depressing the record key as per protools to drop out of record sends second Record comand!

MMC In Using MPU401 Games Port/002 In
Enable using
Setups | Peripherals | Synchronisation
Enable control of Protools via MMC
Transport = Pro-Tools
1) Transport commands and locates work
2) Record On Works repeated depresions will taqke pro-tools in and out of record
3) Record Off does not work
4) Track arming does not work
5) Position requests, status requests, track arming requests all ignored

MTC Out
Windows | Show Session Setup | Timecode Settings
Enable MTC To Port

Bugs
No Full position output on stop or locate or jog one frame

Controllers

T4.706 Digi-Design Protools Summery

The following preferences may be located in other locations on different versions of protools

Preferences | Operations|
Open Ended Record Allocation:- Limit to 20 Minutes

Preferences | Machine Control |
Remote Mode Delay After Play:- Set to approx 15

New Mode 'Track Punch' introduced in 6.4 that will only work with HD hardware
Tracks must be Track punch mode before they can go into/out of Record

Using Protools as a slave

5.1.3 & 5.3.1
On Protools set
Remote Mode Delay after Play = 15 Frames
On CB System Set
Menu 53: Chase type 5= -+
Menu 54: Start Advance 0=
Menu 58: Wait for Lock Tally 1= No
Menu 61: Serial Position Request 0= Mid
Menu 68: Protools Play, No Audio 0= Off

6.2.x
On Protools set
Remote Mode Delay after Play = 15 Frames
On CB System Set
Menu 53: Chase type 5= -+
Menu 54: Start Advance 0=
Menu 58: Wait for Lock Tally 1= No
Menu 61: Serial Position Request 1= Start
Menu 68: Protools Play, No Audio 1= On

6.4.x
On Protools set
Remote Mode Delay after Play = 15 Frames
On CB System Set
Menu 53: Chase type 0= Cmd

There are currently two Pro-tools lockup problems

1) Hardware speed

To check this select
Menu 53: Chase type 1= P
Menu 55: Park Offset * 5 Frames 5=

Then chase Protools to master machine, the actual error is not important.
Does it remain constant?,
If the error is changing then possibly faster hardware will cure this problem.

Note: Do not forget to reset menu's 53 & 55 after making this test!

2) Inconsistent lockup using chase type 5=

This is a known bug with Protools and should be fixed on the next version. On Version 6.2 and above using Chase type 0= Cmd will avoid this problem.

4.71 Pyramix Virtual Studio

To Enable Machine Emulation
View|General Settings|Controllers|
Add or use suitable controller eg CBSync
Highlight Selected controller
Properties
Driver: Sony 9 pin
Enable
Propertes: Select Machine eg Pyramix virtual Studio
Enable 'Report Timecode Type to request' otherwise always NTSC (Not working on last software release)
Note By Default this is OFF!

Shuttle Still Settings: Stop
Track Mapping : Default
Edit On Delay : 0
Configure Serial Port:- Select Port eg Com1
OK, OK, OK

To enable 'On the Fly' track arming
Project | Information & Settings | Record Page | Dubbing Mode Section.
Ensure the "Enable Dubbing" button is checked, then now the behavior WHILE RECORDING OR PLAYING depends on the "Confirm Track Arming" button:
Not Checked:
Any Edit Preset command will instantaneously start recording (or stop recording if currently recording) all referenced tracks in the command. This mode goes along your Multitrack Mode (Menu 8: 0 = Ready)

Checked:
Any Edit Preset command will just switch any referenced tracks to ready (or not ready if currently recording). All tracks will start (or stop) recording as soon as an Edit On command is received. This mode goes along your Video Mode (Menu 8: 1 = Ready/Record)

Note: Currently the tally always reports the armed state whenever recording or ready. Pyramis will make the necessary changes as soon as possible to report On for ready tracks when not recording and On only for recording tracks whilst recording.

Settings | Information+Settings | Record Tab
Prompt for Record name after Record: set to OFF

To stop locating to zero when tc stopped
Settings | General | Timecode | source : Set to LTC (Not Auto)

Bugs On version 4.1.19 RCS 16.04.2003 that now are fixed
1) Always Reports Tape Begin
2) Track arming can only be changed when stopped, DO NOT CHANGE WHIST RUNNING!

Bugs
1) Chase On works but Chase OFF does not!
2) Set Offset

4.72 Euphonics System 5 Console

Setup using 007 interface
Console: Midi 2 Controller
Connect RM-6 port F (remote) to S3 Master
Enable Rec to connect track arming

As Controller
1) Requests Track Arming Tallies Once per 3 seconds, maximum update delay when not issueing commands is 3 seconds!
2) 48 Track Arms, in system mode make sure two keys are not mapped to the same track!
3) If film track arming is fitted then change record ready command type as follows:-
Unit | Record | Menu 8: Record Track Arm
to 1= Ready/Record. The system will then mimic normal sony track arming.

As Machine
Emulates 3324 NTSC Only!

TT007

Depress S1, Display should indicate

Port Mode
<< S1 >[Master If not, use knob to select 'Master'

Depress S1 a second time, display should indicate

Machine
<Type >>[Normal

Depress Next

Machine
<<Record = Edit

Depress Next

Machine
< Track Arm >[ON

Depress Next

Machine
<<Stop >>[Stop

Depress Next

Machine
<<Type >[Normal

Desk
Setup

Record in Motion = Rec Only (Play+Rec)
Track Arm in Motion = Arm+Rec (Arm Only)
On Transport Stop = Disarm (Stay Armed)
Arm while stopped = Allowed (Not Allowed)

TC Lock: 200nS

4.73 HARRISON IKIS

Keyboard Interface:
To set as Sony 9 pin Controller: Set the four Jumpers towards TC Reader
To set as Harrison Reader: Set the four Jumpers towards Router

Connect to RM-6 port F or keyboard port A (links as per SR-3), if connecting to keyboard port C or D a Tx-Rx invert cable should be used.

On the Main computer Check System About and ensure that the Sony P2 module is loaded and that at the bottom of the Status window is written 'CB Ext 9pin' not 'TC Reader'. Slave machines will continue to say TC Reader.

Note1: There is no ground connection in Harrison or Sony 9 pin mode, The case must be used for ground.
Note2: The Manual is currently misleading, the silk screen on the PCB is correct.

4.74 Sondor Nova Projector

To use with Biphase
Depress the **Sync Input** key and select interlock input 1..4 using shuttle wheel
Depress the **Lock** key to lock/unlock (only when stationary)
Note depressing the **Stop** key will cause the machine to stop and enter Hode mode: the Lock key will flash and the system will keep track of incoming biphase. A short depression of the **Stop** key will allow the projector to resync to the incoming biphase.

Hoding the **Stop** key for 2 seconds will clear the hold mode.

Setting the Counter
Press Setup and turn the encoder

To use with RS422
Depress the **Sync Input** key and select RS422, depressing the **Lock** key will then enable the RS422 remote.

When using RS422 the SR/MR remote may be used to control the Framing and Focus as follows:-
Ensure that one Macro key is set to macro 89 and labled Sondor
Select the Sondor machine
Framing: Depress the **[Sondor]** key, you can then adjust the Framing using the **[ID <<]** and **[ID >>]** keys.

Focus: Depress **[Shift]** followed by the **[Sondor]** key, you can then adjust the Focus using the **[ID <<]** and **[ID >>]** keys.

Note: if a remote is fitted then the RS422 connection is to the remote and not the projector!

CS10 provides

4.76 Waveframe

As Controller:
Changing the vtr capture distance in the Wavefrm.ini.
It defaults to 30,000 (for random access machines)

4.77 Soundtracs DS-00

The Soundtracs DS-00 has a RS-422 output (RS422A) this may be connected to the RS422 input on any SR/MR system.

CB Server Software may be run on the internal computer using COM1 via a RS232-RS422 interface (Soundtracs do not currently support COM2). Com1 is located behind a panel at the front of the desk. Soundtracs also use com1 on some versions of the console check with Soundtracs to prevent problems.

The soundtracs touch screen support for windows programs Must be Enabled.

Loops from soundtracs:-Enable tape mode

To enable full control the unit sould be set as follows
Frame rate: As appropriate
Source: 9 pin direct
Machine Control: 9 pin disk
Offline: 9pin Slave

4.78 NUENDO Version 2.0 build 33

Use 9 pin control to Track Arm, Locate, Play and Record only.

Will not Jog, Shuttle or Wind

Use Chase TYPE 5 +-

No Record drop out

Edit Off does not work, Play also does not work

4.79 Merging V-Cube

Vcube V1
Accepts Chase command
ID $F0B0 NTSC follows standard

Bug: Jog, Shuttle, Variplay, programable play all report as variplay
Bug: Jog @zero will report Stop

4.80 Soundmaster Atom

ID $a1a1 PAL

Tally bugs
Jog/ shuttle both report as ffwd or frwd

Command Translation
Variplay = Play
Programable Play = play

4.81 Omneon Spectrum

ID BVW75

Need to setup the position tally on Spectrum
Open the Player Configuration properties
Select Sony Protocol – BVW
Select the correct media port channel for player in use a/b
If there is no timecode on clip then use Timecode generator as required

If there is a problem then check the timecode position request on SR/RM

Setup/root/iface/generic/Menu 74: Position
set to 1=LTC
Setup/root/iface/chase/Menu 65: Locate Speed
Set to 0=TLESS
Setup/root/iface/chase/Menu 66: Locate/Wind
Set to 0=Locate

Setup the chase type as follows
Setup/root/iface/chase/Menu 54- Chase type
Set to 4= +

Bugs

G4.01 Locate always has a pre-roll of 1 second 12 frames?, This disappeared when the SSL was restarted?

If both group locates are enabled on the RM-6 and VITC is enabled on the SSL the SSL will display the wrong timecode value when locating as it subtracts the tach from the timecode!

We may have to do something about tapeless machines as they will not have the correct position! Play to park would be a good solution.

At the end of locate the SSL displays WAITING, why?

When only one machine is connected the Master flag is not displayed.

OFFSETS: When changing master, the offsets are updated but the master offset is not reset to zero! Check with SSL do they update the mix offset?
The SR/MR can be configured to ignore Offset commands from the SSL by setting Menu 29: SSL Can Set Offsets to 1= No.

Setup | Root | Unit | Code | MENU 29:- SSL Can Set Offsets

Commands to in local or not connected, these commands for instance Set Offset cause error messages to be displayed. we can look into checking if machineis enabled/present.

Hardware requirements

The Studio Computer must have a Z8 Communications Interface (82E78) or S88 interface card fitted. If you have an SSL Events Controller/Adams Smith interface/Motionworker this card will be fitted. The Z8 Computer and Master Transport Selector are not required.

S29E connection

The tape machine connection on the underside of the console should be taken to the s29 connection on the RM6. To check that the TACH rate and direction are set correctly remove the timecode connection between the SSL and the RM-6. Check that the positional display is correct using the transport keys.

Note that the tach and direction settings are the same for all machines independent of tach rate. To check set session to 'Using VITC No' and use timecode directly from a tape machine as the master timecode source. The SSL Position display box should be as follows:-

Stopped Time Only

Play Time
Standard (EBU, SMPTE, DROP)

If the session menu is set to 'Using VITC Yes' and the timecode input is connected to the TC Output on the RM-6. The SSL Positional Display Box should then display as follows:-

Stopped Time
Standard for one second after stop
'*' for one second after stop (Stationary Code Flag)

Play Time
Standard

If a '?' is displayed then the TACH is the wrong Rate

See Section 7 of the SSL computer operators manual for more details on the software interface

S88 connection
The S88 interface card should be in the lower rack frame, connect the 26 way IDC to the centre of the three connectors.

To check if the S88 communications are working once the SSL setup is completed:

1) Reset the RM-6
2) The error message **'No Comms from SSL'** will be displayed up after about 5 seconds if communication with the SSL are not correct

If the SSL computer is setup correctly then it should display the following error message during startup:

Z8 for Synchroniser not working.
interface no.02

If you do not see this message then check the Computer setup is as below.
If you see this message then check that the S88 cable is correctly orientated and connected to the correct interface port!

note: The SSL computer must be restarted after any change to the wiring or to the SSL synchroniser port and type setup!

SSL Menu

The SSL menus are follow a simple tree structure with the root menu access using the SET UP key. Before the menu's are setup you must use a password to access the SSL setup and select the appropriate synchroniser system.

SSL Setup

SSL Execute
The prompt should disappear, enter the password
'BERNOULLI' EXECUTE
After the cryptic comment
SETUP Execute
You should then see **'Do you Want to see more?'**
Enter # Execute
On the SSL setup page select
Synchroniser Controller **3**
Master Transport Selector **YES**
Then exit
END

You should then see **'Do you want to see more?'**

Restart system

BEGIN Execute

Once the system has restarted

You need to set several menu's correctly, you can access all of these from the setup page. The descriptions below assume that you have returned to the normal operating screen after each access.

Synchroniser Page

SET UP Execute

You should then see **'Do you Want to see more?'Y** For the Engineer menu

SYNC For the Synchroniser page

Synchroniser in use **YES**
Resolve Master Machine **YES**
Slow Lock Mode **NO**
Group Locates **YES**

End
End

Session Page

SET UP

You should then see **'Do you Want to see more?'Y** For the Engineer menu

S For the Session Page

Timecode Frames per Second **??**
Using VITC **NO**
Runup (Pre-roll) **?.??**

End

Synchroniser Interface

SET UP

You should then see **'Do you Want to see more?'M**

SYNC

I

Z8 interface no. **2**

This determines the hardware port number and may be 1, 2, or 3. 2 is the centre 26 way connector on the 82E78 card

Synchroniser Setup

SET UP

You should then see **'Do you Want to see more?'M**

SYNC

Maximum number of masters **5**
Offsets may be read from
synchroniser **YES**
Single Machine Mode **YES**
Timecode Generation **YES**

Note: On SR systems you can have 5 master machines, on MR systems you can only have 3 master machines. On the MR system you can control up to 16 machines individually or as part of the Master Group.

Machine Setup

SET UP
M
T

Select machine number 15 for PAL or 16 for NTSC

The parameters for the RM-6 machine must be set as follows

Note: The tach is generated by the RM-6 the Direction sense and tach rate are always the same. If you are using both PAL and NTSC you will need to define two versions.

Autolocate type 3
Autolocate decision interval 0.12
Forward direction sense **LOW**
Muti play speeds **NO**
Pulses/second at std speed **25(PAL) OR 30(NTSC)**
Target Window **0.00**
Drop out command type **1**
Drop in command type **1**
Time for machine to start up **1.02**
Time before sure tape stopped **1.01**
Pessimism factor (fwd) 800
Pessimism factor (bkwd) 800
Short locate time (secs) 0
Max stopping distance 1
Frames to stop from play 0.05
Frame jog card fitted **NO**

Only the items highlighted are used by the SSL as in sync on mode locates are performed by the RM-6.

Machine Name Selection

SET UP
M
SYNC
SET UP

Type in the name of each machine and select the same menu number for each 15 for PAL and 16 for NTSC

Test Menu

This menu may be used to check the S29 tach generator

!TEST
M
P

Play the master machine and the Tach and direction display will update

S88 Card on early cards fit the following links:-

J1
J7 between pins 1&2

T4.101 Studer Vista

The connection to the Studer vista requires two cables, one for CBServer and one for Machine Control. Note that the connections are not standard. The Visat connection is via a break-out cable from one 25 way 'D' to four 9 pinj connectors.

T4.101a Studer-Sony 9 pin CABLE
Vista Com5 (P3 Mic Ctrl) -> RM-6 port F,
Vista Com6 (P4 Sony 9 pin) -> RM-6 port E

Studer Function	9 pin 'D' Female on Cable	9 pin 'D' Male on cable	Sony Machine Emulation Function
		1	Chassis
Rx-	4	2	Tx-
Tx+	2	3	Rx+
Ground	5	4	Screen
		5	
Ground	6	6	Ground
Rx+	1	7	Tx+
Tx-	3	8	Rx-
		9	

The Vista has a serial interface to the SR/MR system. The studer 9 pin output should be connected to a serial input on the SR/MR system (port A on four port Hubs (SR-3, SR-24) and Port E or F on 6 port Hubs (SR-24A, SR-32). The Vista Initialisation file should be set up as follows:-

C:\winnt\D950System.ini File
RS422Ports=N where N is the number of ports available
(SR-3/4 N=4, SR24A N=4)

RS422First=M where M is the number of the first machine port
(SR-3/4 M=2, otherwise M=1)

The Serial port should be defined as follows
5= {9} COM8 baud=38400 parity=0 data=8 stop=1

where {9} is the com port, ports 1-4 are standard IBM ports, 5-12 are stallion box ports Stallion 00 = COM5, stallion 01= com6...

The cable connections are as follows:-

CB. 9'D' Male on Cable Studer 25'D' Male on Cable

T4.102 AMS-Neve DFC

Using the RM-6 with the DFC/Logic
The DFC operation may be simplified by using the RM-6 to convert a single machine control output to a multiple machine output. This allows the selection of a machine master in a multi machine system.

Problems
Currently it is not possible to run a master and change the number of tracks.

Switch Group locates off as AMS will cancel the locate if position reported is correct.

T5.00 Cables

T5.01 Power Supply

The power may be connected via the 2.1mm power connector or via the 25 pin 'D' Timecode and GP In/Out connector.

The voltage should be between 12 and 18 volts with a current consumption which is both device and voltage dependant the SR-4 requires approx 200mA at 18v, the Sr-24 400mA.

T5.02 Video Sync's

Video syncs **MUST** be supplied to the unit, 1 volt Black and Burst or 1 volt Black only, the timing of the RS422 communications and the timecode generator are determined by the video sync input.

T5.03 RS422 (Sony 9 pin) CABLE

Use on SR-4/SR-24 Ports A, B, C, D as outputs
SR-24 ports E & F as inputs

Function SR-4 (Controller)	9 pin 'D' Male on cable (Both Ends)	Cable Colour	Function (Controlled Device)
	1		
Rx-	2	Red	Tx-
Tx+	3	Yellow	Rx+
Ground	4	Screen	Ground
	5		
	6		
Rx+	7	Blue	Tx+
Tx-	8	White	Rx-
	9		

T5.04 Tx-Rx Invert Sony 9 pin CABLE

Use On SR-24 port E when connected as an output to a machine,

Function SR-24 port E	9 pin 'D' Male on Cable	9 pin 'D' Male on cable	Cable Colour
	1	1	
Tx-	2	8	Red
Rx+	3	7	Yellow
Ground	4	4	Screen
	5	5	
	6	6	
Tx+	7	3	Blue
Rx-	8	2	White
	9	9	

T5.05 TASCAM DA-88 15 PIN CABLE			
DA-88 15 pin 'D' Male on cable	SR Remote 9 pin 'D' Male on cable	Cable Colour	Function Controlled Device
	1		
2	2	Red	Tx-
3	3	Yellow	Rx+
10	4	Screen	0v
	5		
	6		
1	7	Blue	Tx+
4	8	White	Rx-
11	9	Black	Break Input

T5.06 Audio Kinetics ES1.11/1.12 Cable			
ES 1.11/1.12 15 pin 'D' Female on cable	SR Remote 9 pin 'D' Male on cable	Colour	Function Controlled Device
	1		
4	2	Red	Tx-
1	3	Yellow	Rx
8	4	Screen	Ground
	5		
	6		
3	7	Blue	Tx+
2	8	White	Rx-
	9		

T5.07 Timecode & GPIO PORT CONNECTIONS (25 pin Female 'D' on unit)

Pin	Function	Pin	Function
1	Timecode I/P +	14	Timecode I/P -
2	Ground	15	Timecode O/P 1+
3	Timecode O/P 1- (2)	16	GP INPUT 5 (Rec-Off)
4	GP INPUT 6 (Record) (8)	17	GP OUTPUT 1 (Record)
5	GP OUTPUT 2 (Lock)	18	GP OUTPUT 3 (Red Light)
6	GP OUTPUT 4 (4)	19	GP OUTPUT 5 (4)
7	GP OUTPUT 6 (4)	20	GP INPUT 1 (Stop)
8	GP INPUT 2 (Play)	21	GP INPUT 3 (Rvs-Play) (5)
9	GP INPUT 4 (Rec-On)	22	Timecode O/P 2+ (3)
10	Timecode O/P 2- (3)	23	REGULATED +5v O/P
11	O/P GROUND	24	SR-4/SR-24 +15v I/P (New SR-4 & RM-6 Unfused +5v)
12	I/P GROUND	25	SR-4/SR-24 +15v I/P (New SR-4 & RM-6 Unfused +5v)
13	I/P GROUND		

Notes

(1) Sr-4, SR-24 GP Outputs are Active HIGH TTL Level
RM-6N GP outputs are Active LOW OPEN COLLECTOR

(2) On early units pin 3 is connected to Ground

(3) Timecode output 2, muted when master is **NOT** in locked play, Only available on later units. Suitable for automation.

(4) Menu section **7.33 GP Outputs 4,5 & 6** for functions of GP outputs 4,5,6.

(5) Menu section **7.34 GP Output 3** for function of GP Output 3

(6) All GP Inputs are Active LOW TTL Level

(7) GPI Inputs 1..5 are Momentary Inputs

(8) GPI Input 6 (Pin 4), is a Continuous Record Input for use with foot switch or Record Tally. Record On on High to Low Transition, Record Off on Low to High Transition.

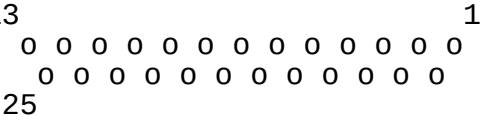
T5.07a Master Timecode Cable

25 Pin 'D' Male On Cable	Pin	Colour	XLR?
Ground	2	Screen	1
Timecode Output 1 +	15	Red	2
Timecode Output 1 -	3	Black	3

T5.07b Locked Play Timecode Output

Ground	11	Screen	1
Timecode Output 2 +	22	Red	2
Timecode Output 2 -	10	Black	3

View From Rear



T5.08 S29a Remote (SR24A Only)			
Pin	Function	Pin	Function
1		14	
2	Lamp Common (+5v Via Link)	15	Switch Common (0v)
3	Rewind Switch	16	Rewind Lamp
4	Forward Wind Switch	17	Forward Wind Lamp
5	Stop Switch	18	Stop Lamp
6	Play Switch	19	Play Lamp
7	Reverse Play Switch	20	Reverse Play Lamp
8	Record Switch	21	Record Lamp
9	Tacho Common (+5v)	22	Tacho Pulse
10	Direction Common (+5v)	23	Direction
11		24	
12		25	
13			

T5.08b S29 Remote (RM-6)			
Pin	Function	Pin	Function
1		14	
2	Lamp Common (+5v Via Link)	15	Switch Common (0v)
3	Rewind Switch	16	Rewind Lamp
4	Forward Wind Switch	17	Forward Wind Lamp
5	Stop Switch	18	Stop Lamp
6	Play Switch	19	Play Lamp
7	Reverse Play Switch	20	Reverse Play Lamp
8	Record Switch	21	Record Lamp
9	Spare Command Input	22	Locate Lp (SLL Tacho)
10	Spare Output (SSL Dir)	23	+5v
11	0v	24	+5v
12	0v	25	+5v
13	0v		

Other Commands may be implemented by combinations of switches or using diodes to

drive multiple inputs from one switch as follows (Consult S29 Connection Diagram for further information):-

Crawl Forward.....STOP+PLAY
AGAINP .....STOP+FWD
Crawl Reverse..... STOP+RVS-PLAY
INSTANT REPLAY .....STOP+RWD

T5.09 SR/MR (6 Port) Harrison Computer Interface

Disconnect the Harrison timecode reader from the Video Drawer,
Connect to the same point from the port 'E' on the SR-24H Controller.

6 port hub/Controller 9 pin 'E' Male on cable	Cable Colour	Harrison, Male 9 pin 'D' on cable.
1		
2 Tx-	Black	9 Rx Lo
3 Rx+		4 Tx High
4 Gnd	Screen	3 Gnd
5		
6		
7 Tx+	Red	8 Rx Hi
8 Rx-		5 Tx Low

T5.10a RS422 9 pin to 15 pin CABLE With Power supply

Use between CB RM-6HUB Rack mount unit and MR-6S/SR-5/SR-4-S Display unit

Function SR-6 Port F	9 pin 'D' Male on cable	Cable Colour	15 pin 'D' Male on Cable	Function SR-5/SR-4 Display Unit
	1			
Tx-	2	Red	2	Rx-
Rx+	3	Yellow	3	Tx+
Ground	4	Screen	4	Ground
	6			
Tx+	7	Blue	10	Rx+
Rx-	8	Green	11	Tx-
Reset	9	White	12	FP Reset
	2.1mm Power Plug			
Power Ground	Outer	Black+Mauve	6,13,14	Power ground
+12v	Inner	Brown	7,8,15	+12v

T5.10b 15 pin 'D' RS422 Extension Cable With Power supply				
	15 pin 'D' Female on cable	Cable Colour	15 pin 'D' Male on Cable	Function SR-5/SR-4 Display Unit
Tx-	2	Red	2	Rx-
Rx+	3	Yellow	3	Tx+
Ground	4	Screen	4	Ground
Tx+	10	Blue	10	Rx+
Rx-	11	Green	11	Tx-
Reset	12	White	12	FP Reset
Power Ground	**6,13,14**	Black+Mauve	6,13,14	Power ground
+12v	7,8,15	Brown	7,8,15	+12v

5.11 Connection to a RS232 computer port

The best way to connect is via a RS232-RS422 interface, we are currently using the K2 systems interface avalable from us or directly from the manuafactures agents (at a lower price) www .k2systems.com.

K2 Systems RS232 Interface: Switches 2&3 ON 1,4,5,6 OFF

The K2Systems port is configured as a controller and may be used with a normal RS422 lead when connecting to the system as a controller via SR-24/RM-6 Ports E, F or SR-3 port A with appropriate software (T5.03).

For use with RM-6/SR-4/SR-24 Ports A, B, C, D and SR-3 ports B, C, D a Tx-Rx invert cable should be used (T5.04).

T5.11a RS232 Output CABLE (PC=Device)

Use on RM-6/SR-4/SR-24 Ports A, B, C, D and SR-3 ports B, C, D with appropriate software.

Function SR-4	SR-4 9 pin 'D' Male on cable	Cable Colour	IBM 9 pin 'D' Female on Cable	Function IBM
	1			
Rx-	2	Red	3	Tx-
Tx+	3	No Connection		
Ground	4	Screen	5	Ground
	5			
	6			
Rx+	7	No Connection		
Tx-	8	Black	2	Rx-
	9			

T5.12 RS232 Input CABLE (PC=Controller)

Use on SR-24/RM-6 Ports E, F or SR-3 port A with appropriate software.

Function SR-24 ports E & F	9 pin 'D' Male on Cable	9 pin 'D' Female on cable	Function On PC	Cable Colour
	1			
Tx-	2	2	Rx-	Red
Rx+	3	No Connection		
Ground	4	5	Ground	Screen
	5			
	6			
Tx+	7	No Connection		
Rx-	8	3	Tx-	Black
	9			

AMS Logic Dubber tallies (50 pin 'D' male on cable) CB (25 pin 'D' male on cable)

Multi-track/Dubber Tally opto's									
Track	AMS + pin	CB 1-12 pin	AMS - pin	CB 1-12 pin	Track	AMS + pin	CB 13-24	AMS -pin	CB13-24
1/25	2	1	3	14	13/37	26	1	27	14
2	4	2	5	15	14	28	2	29	15
3	5	3	7	16	15	30	3	31	16
4	8	4	9	17	16	32	4	33	17
5	10	5	11	18	17	34	5	35	18
6	12	6	13	19	18	36	6	37	19
7	14	7	15	20	19	38	7	39	20
8	16	8	17	21	20	40	8	41	21
9	18	9	19	22	21	42	9	43	22
10	20	10	21	23	22	44	10	45	23
11	22	11	23	24	23	46	11	47	24
12	24	12	25	25	24/48	48	12	49	25

note: a current limiting resistor must be fitted! 5v= 470R, 28v = 2K7

AMS DFC Multi-Track Record Enable Relays (Continuous)									
Track	AMS N/O pin	CB 1-12 pin	AMS com pin	CB 1-12 pin	Track	AMS N/O pin	CB 13-24	AMS com pin	CB com pin
1/25	2	1	3	13	13/37	26	1	27	13
2	4	2	5	13	14	28	2	29	13
3	5	3	7	13	15	30	3	31	13
4	8	4	9	13	16	32	4	33	13
5	10	5	11	13	17	34	5	35	13
6	12	6	13	13	18	36	6	37	13
7	14	7	15	13	19	38	7	39	13
8	16	8	17	13	20	40	8	41	13
9	18	9	19	13	21	42	9	43	13
10	20	10	21	13	22	44	10	45	13
11	22	11	23	13	23	46	11	47	13
12	24	12	25	13	24/48	48	12	49	13

AMS DFC Dubber Record Enable Relays, 1-16, 17-32, 33-48 (Momentary)							
Track	N/O pin 1 (33R)	N/O pin 2	COM	Track	N/O pin 1	N/O pin 2	COM
1	2	34	18	9	9	42	25
2	3	35	19	10	10	43	
3	4	36	20	11	11	44	
4	5	37	21	12	12	45	
5	6	38	22	13	13	46	
6	7	39	23	14	14	47	
7	8	40	24	15	15	48	
8	9	41	25	16	16	49	

AMD DFC Master Enable/Tally 37 way 'D' Male on Cable					
Master Enable			Master Tally		
Relay Output	COM	NO	Opto Input	+ pin	- pin
Record	18	17	Tally 1	21	22
Play	16	15	Tally 2	23	24
Enable 3	14	13	Tally 3	25	26
Enable 4	12	11	Tally 4	27	28
Enable 5	10	9	Tally 5	29	30
Enable 6	8	7	Tally 6	31	32
Enable 7	6	5	Tally 7	33	34
Enable 8	4	3	Tally 8	35	36

note: a current limiting resistor must be fitted! 5v= 470R, 28v = 2K7

6.0 SERIAL INPUTS

The serial inputs allow other systems to control multiple machines with a single Sony P2 input. All CB systems support Sony P2 input or CB Xmc input. With the development of consoles and Digital Audio Workstations more inputs are required.

CBServer, CB Electronics GUI is designed to run on a PC with other applications (console automation, DAW) to provide a user overview and control. The C may also be used to save setups, offsets and track maps.

6.01 How many inputs

The number of inputs available will depend on the CB system chosen as follows

4 Port Systems (SR-4, SR-424, SR-24)

Port A: may be switched between Input and Output. The 9 pin connector may be selected as a controller or controlled device by 4 links on the PCB. Sony P2 Protocol or Xmc.

6 Port Systems (SR-24A, RM-6, SR32)

Port F: always an Input. The 9 pin connector is configured as a controlled device. Sony P2 Protocol or Xmc.

Port E: may be switched between Input and Output. The 9 pin connector may be selected as a controller or controlled device by 4 links on the PCB. Sony P2 protocol only.

Remote Keyboards (XSR-4, XSR-424)

Port A: Always an Input. The 9 pin connector may be selected as a controller or controlled device by 4 links on the PCB. Sony P2 Protocol or Xmc.

With SP-2 Option

Port C: Input. The 9 pin connection is configured as a controller (Use Tx-Rx invert cable T5.04).

Port D: Input. The 9 pin connection is configured as a controller (Use Tx-Rx invert cable T5.04).

T6.02 Input Protocols

With the exception of the E port on 6 port systems the inputs will switch automatically between Sony P2 or the CB Muli-Machine Xmc protocol. Most existing controllers support Sony P2. To allow multi-machine track arming the Xmc protocol is supported by Harrison and Lawo consoles. Xmc has the further advantage that Video syncs are not required for frame accurate position data.

Studer has implemented the Sony 9pin protocol with a further 16 macro commands that allow machine selection.

The CB P2MMC interface may be used as a bi-directional interface between MMC and MTC to the system.

T6.03 How Menu Settings change input Response

The menu settings change the following on the Sony P2 inputs

Menu 19:- Wait for Slaves

Enabled
The Still and Cued tallies will be set when all machines in the current group are stopped and cued.

Every time the master machine is stopped the Pre-roll tally will be set whilst the slave machines are cueing. Once cued the Cued and Still tally will be set.

The Play command will toggle Play when locked status on and off.

Disabled
The Cued and Still tallies will follow the master/selected machine.

The play command will put the master directly into play.

Menu 92:- Input Lock Tally From System/Master

The Lock tally will follow the Master/selected machine lock status or be set only when all machines in the group are locked.

Menu 93:- Rmt FWD/RWD Cmds to Video Mcn
This setting is used to send Shuttle Commands to the video machine instead of Fwd/Rwd commands so that the user may wind with picture.

Menu 94:- P2 Remote Control
The remote control input is normally routed to the master machine, this menu allows the user to control the current selected machine.

Menu 95:- External Track Arming
The P2 track arming may be routed separately from the machine control. Current options are described in section 7.95 of the manual.

7.00 Multi Machine Synchronizer Set Up

The SR/MR series of synchronizers offer two forms of synchronisation using either the SR/MR synchronizer or where available the machines built in synchronizer. The user interface is identical. The decision "which type of synchronisation to use" depends on the users requirments and the technical details of the machine and the installation.

When a new machine is connected the a system parameter (**Unit | Chase | Menu 18 Default Chase Type**) determines which type of synchroniser to use if there is a choice. Once connected the user is free to change the synchroniser type. The user selection will only be changed after a hard reset or if the type of machine connected to the port is changed.

7.10 Deciding between the SR/MR Synchronizer or the Machine's built in synchroniser.

1) SR/MR Synchronizer

Synchronizing the machine directly using a combination of locate, variplay, shuttle, jog or programable play commands. All machines without internal synchronizers (eg. VTR's) must synchronized by this method.

2) Machine's Internal Synchronizer

Provide a master timecode feed to the machine then control the machine's internal synchronizer. Most audio machines and synchronizers may be controlled in this way (DA-88's, DAT's, A820 Digital dubbers, Lynx, TLS, AK ES1.11).

To provide the same functions as the SR/MR synchronizer the machine/external synchronizer must accept three commands **Chase On**, **Chase Off** (Stop), and **Set Offset**. providing that these three commands are available the choice of synchroniser will make no difference to the user interface.

3) Synchroniser performance

The SR/MR Synchroniser performance is governed by the available machine control. All professional video recorders must be controlled by their RS422 port in order to operate with video editors, no conventional video recorder will chase timecode. Modern audio Recorders are fitted with timecode synchronizers, although RS422 ports are fitted, in general they do not always provide the same level of control as found on video machines are always operated with RS422 control.

If the machine has a built in synchroniser then there will be several factors that determine the choice of synchroniser.

Determining Factors	Use SR/MR Synchronizer	Use Machine Synchronizer
No Synchronizer in Machine eg Tape based Video	Yes	No
No Master Timecode feed to machine	Yes	No
No Video Sync Feed to Machine	No	Yes
Using Wordclock Reference only	limited to +/- 1 frame lock accuracy	Yes
Using Wordclock Reference combnined with Video syncs	Only if machine resolves first to video syncs's then wordclock	Yes
Machine does not accept Chase On command or Set Offset command	Yes	No Remote control
Machine does not accept Variplay, shuttle or Programable play commands	No	
Machine does not report position accurately	No	
Machines internal synchronizer is very slow or has problems	Yes (PCM3324S)	No

7.20 Optimisation of the SR/MR Synchroniser.

Video recorders with their powerful servos do not need much optimisation, by default they are parked on the same frame as the master.

Audio recorders often need careful setup in order to achieve fast lockup times. To synchronise quickly is necessary to minimise the distance from lock once play speed has been achieved.

7.21 Sync type

There are 5 selections of Sync type **(Setup | Root | IFace | Chase | Menu 53:- Chase Type)** as follows

0= Cmd The machines internal synchronizer is used, The machine must receive a feed of master timecode and accept **Chase On** and **Set Offset** commands.

1= Play This is a test mode used for setting the **Start-up Delay**, a **Play** command is sent at the appropriate point, but no attempt is made to synchronise the machine.

2= PS Not currently implemented

3= - Using vari-speed commands the machine is slewed to a relative position of -1 frame, the machine is then accelerated to be coincident with the master, at this point a **Play** command is issued and the machine is released to resolve to video syncs. If an error is detected within the first 5 seconds of lock the process is repeated.

4= + Using vari-speed commands the machine is slewed to a relative position of +1 frame, the machine is then decelerated to be coincident with the master, at this point a **Play** command is issued and the machine is released to resolve to video syncs. If an error is detected within the first 5 seconds of lock the process is repeated.

5= -+ Using vari-speed commands the machine is slewed to be coincident with the master, at this point a **Play** command is issued and the machine is released to resolve to video syncs. If an error is detected within the first 5 seconds of lock the process is repeated.

7.22 Park Ahead

Parking the audio machine ahead of the master machine allows for three common problems

1) Audio machines will unlace to protect their heads (eg. DA-88 after 7 seconds). As soon as movement is detected on the master machine the slave is instructed to lace-up, this can take as long as one second.

2) Allows the master timecode to stabilise and correct for any master locate error.

3) An advance play command can be sent earley to the slave and allow for any startup delay and acceleration time.

The SR/MR allows park ahead of 0 .. 45 frames in 5 frame increments. By default this is set to one second on tape based audio recorders.

7.23 Machine Start-up Delay (Play/Advance)

No mechanical system will start instantly, typically one to seven frames are required between receiving the **Play** command until the machine reaches play speed, on slow film systems this may be as long as 10 frames. When park ahead is used it is possible to issue a play command before the master and slave are coincident, but adjusting the play advance **(IFace | Chase | Menu 54:- Start up delay)** the difference between master and slave when the slave achieves play speed may be minimised.

To set the Park ahead set **Menu 53:- Chase type** to **1= P**, in this mode a play command will be issued at the appropriate point in time. Repeat using instant replay and adjust for +/- 1 frame error. The optimum error depends on the sync type used sync type 3 -1 frame, sync type 4 +1 frame, sync type 5 0 frames.

7.24 Pre-Roll

When more than one machine is used it will take time for all machinesto become synchronised after a play command is issued. A user defined pre-roll is used with the **[Auto]** and **[Rehearse]** commands and may also be used with the **[Locate]**

commands. The **Pre-Roll** is set by entering the desired value then **[Store]** followed by **[<]** (Reverse Play). The default **[Locate]** is to locate with pre-roll, **[Shift]** followed by locate will locate without pre-roll. **Setup | Root | Generic | Menu 32: Locate with Pre-roll** may be used to reverse this.

7.25 Post Roll

Post-Roll is used to ensure that the exit from record is always clean. The Default post roll is 12 frames. Post-Roll may be set using **[Store]** followed by **[>]** (Play).

7.26 Delay

Delay is used to allow external machines or the Talent and even the operator time to catch up after a locate. The default delay is one second, to set the delay use **[Store]** followed by **[Stop]**.

7.30 Setting up the System

7.31 Defining the Master

Any machine on the system, the generator or the reader may be defined as the master. The master machine is defined using [**Shift**] followed by a machine key (**A, B, C, D, E (SR-24)**), [**Reader**] or [**Generator**]. Once the master has been defined and offsets set for all the slaves the master machine may be changed as required. Note: on MR systems only machines controlled directly by the controller may be defined as a master machine and not machines controlled by the MR-3's.

The master of a multi-machine system is the machine to which all commands are sent. The other chase enabled machines then follow the selected master.

The master is the machine over which the user has direct control. Each user has his own reasons for selecting a particular machine as master, here are some:-
1) Film because it is the slowest.
2) Video so that the user can jog the picture directly.
3) The record machine so that it is first to lock.
4) A machine that slaves badly or not at all.
5) The Generator as a perfect machine.
6) The Reader where the master is not directly controlled.

The system will only operate correctly if the selected master is resolved (locked) to video syncs.

Note. When configured as a SR-3, where [**A**] is an input ([**E**] on the SR-24) [**A**] should never be defined as the master. This is an input and not an output. Any controller connected to this input will controll the selected master machine.

Pefect Master Mode

The timecode generator may be selected as the master (**Shift** followed by **Gen** (Macro 118)) to enter the perfect machine mode. The generator may be used as a timecode master in a tapeless studio. To set the value of the timecode generator use the Locate/Shift Locate command.

Remote Master Mode

The timecode reader may be selected as the master (**[Shift]** followed by **[Reader]**. This is used when you have a remote source of code only. Not the code should be resolved to the same video reference as the studio.

7.32 Defining a Machine as a Slave

A machine may be selected to be a slave by selecting the machine (**A, B, C, D or E**) and using [**Chase/Offset**] or [**Shift**] followed by [**Chase/Offset**]. When the shift key is used the current Master slave Positions are used to calculate the Slave Offset.

7.33 ENTERING A OFFSET

To enter an offset, first select the machine (**A, B, C, D or E**) then type in the offset required, this will be displayed on the lower right hand display. Then use the **Store** key followed by the **Chase/Offset** key. The display will confirm by displaying offset next to the displayed number.

7.34 TRIMMING A OFFSET

To trim an offset (or any other memory) first type in the trim required, this will be displayed on the right of the lower line. Then use the **Trim+** or **Trim-** key followed by the **Chase/Offset** key. The display will confirm by displaying the new offset.

7.35 ENTERING A NEGATIVE OFFSET

On the SR and MR series remotes all offsets are calculated on a twenty-four hour clock. To enter a negative offset either calculate the required offset by subtracting from 00:00:00:00 (-01:00:00:00 = 23:00:00:00) you can use the SR-4 to perform the calculation as follows:-

1) Zero the keyboard display: **Shift** followed by **Clear/0**
2) Zero the offset: **Store** followed by **Chase/Offset**.
3) Type the required negative offset.
4) Subtract: **Trim-** followed by **Chase/Offset**.

7.36 SR/MR TIMECODE GENERATOR OUTPUTS

The SR/MR timecode generator is an integral part of the synchronization system. The timecode value follows the position of the selected master machine (including the timecode reader). If Group Locates are enabled the timecode generator will jump to the Locate point allowing chase machines to locate individually. The timecode output is also used to roll over any drop-outs in the machine timecode.

Two separate outputs are avalable from the generator as follows:-

Output 1) This output is always available. and is used by chase sync machines.

Output 2) This output is enabled only when the Master is in locked play and is normally used for the automation system.

The timecode generator timecode value is calculated as follows:- [Timecode Output] = [Master Position] - [Master Offset]. Including the master offset in the calculation allows the user to change the master without having to update the slave offsets, or change the settings for any other units connected to the SR-4 timecode output (Automation, Midi, Chase only slaves...).

7.37 Some Common Terms

a) Virtual Master / Perfect Machine

When a timecode Genearor is used as the master and all machines are slaved to the generator the term Virtusl Master of Perfect Machine is often used. The main advantage of the Virtual master is that it lockes instanstly when entering play. The disadvantage of a erfect master system is that all machines must be slaves.

b) Group Locates

When locating a number of machines there are two choices, either they can locate individually or they can all chase the current master machine. The main advantage of group locates is that locates are faster because the 'chasing machines do no have to wait until the master has cued.

T9.0 Video Synchroniser (VS-1) Interface

T9.01 Video Streamer Setup

1) The time taken by the wipe is calculated as Beats*60/BPM.
2) The Record/Lock display is enabled/disabled on the streamer by Mode | 5 | 5 | 4

T9.02 SR Wipe-length Setup

1) The Wipe length must be stored in keyboard memory Shift-9 in seconds and frames.
2) Wipes will be triggered to finish at the record in point and keyboard memory-9.

T9.03 Video Streamer Interface to the SR System

The VS-1 connects to the SR system via the GP Outputs and the master timecode output. The GP outputs on the SR are active High, the VS-1 has active low opto-isolator inputs. Diagram SR-VS1 shows a suitable interface circuit.

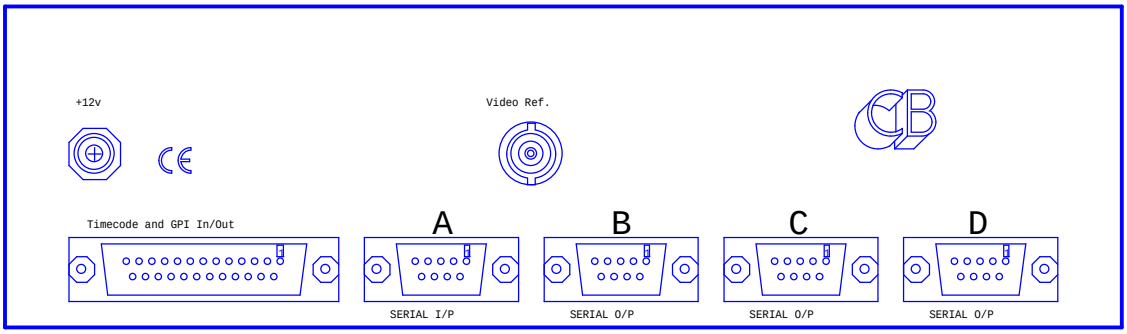
T9.04 Video Streamer Interface to the MR System

The VS-1 is connected to the MR-BUS Serial A and B are connected in parallel so that you may link the bus to other units.

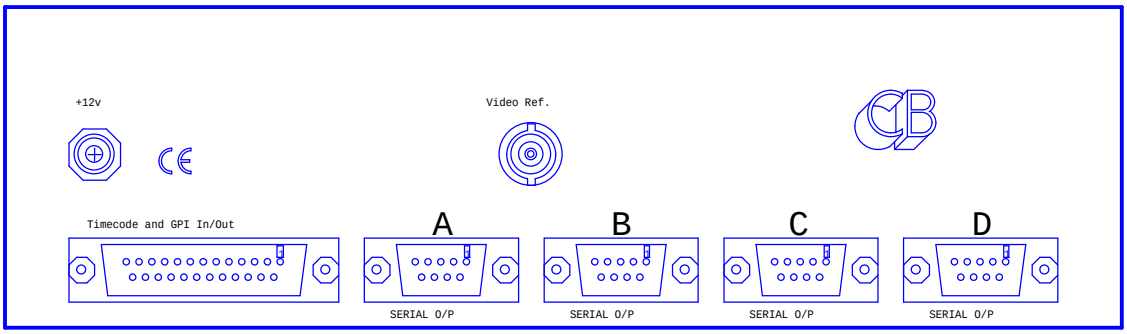
Note. The streamer will be activated on all cue points stored in its memory after the current in point.

T10.01 SR-3 and SR-4 Connections

SR-3 REAR PANEL CONNECTIONS

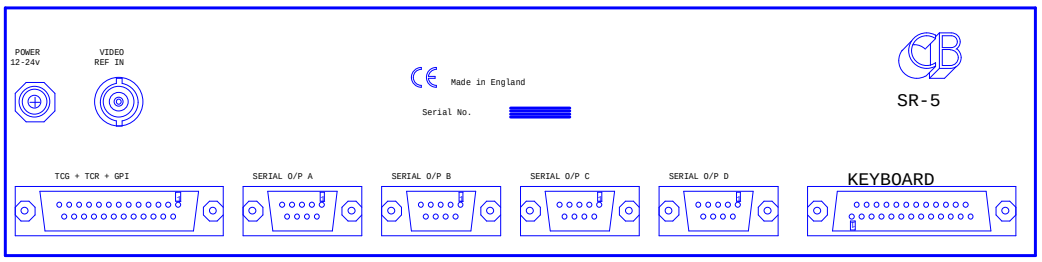


SR-4 REAR PANEL CONNECTIONS

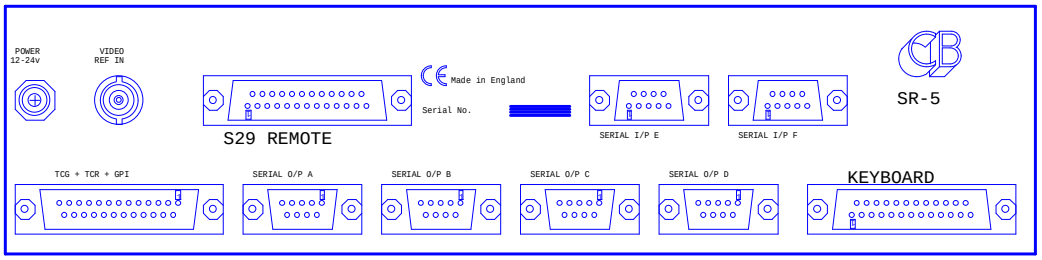


T10.02 SR-24 and SR-32 Connections

SR-24 4 PORT DISPLAY UNIT - REAR PANEL CONNECTIONS

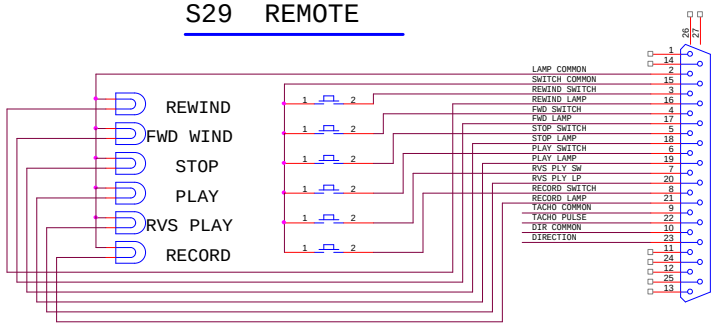


SR-24A 6 PORT DISPLAY UNIT - REAR PANEL CONNECTIONS



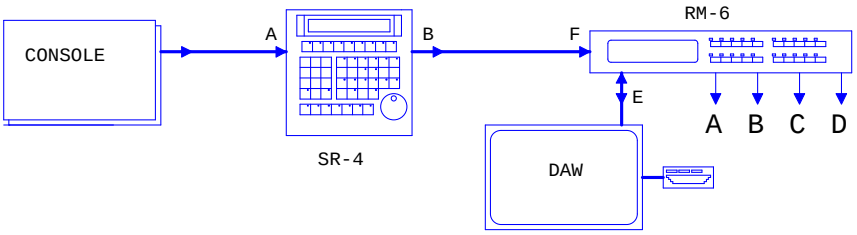
Note: Serial Ports A..D and connected as Outputs, E & F as Inputs

S29 REMOTE

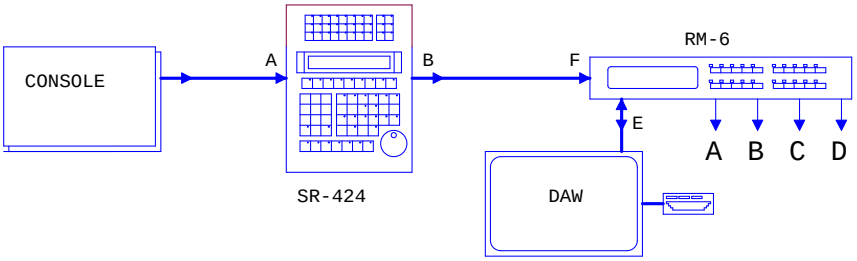


T10.03 Typical RM-6 Systems

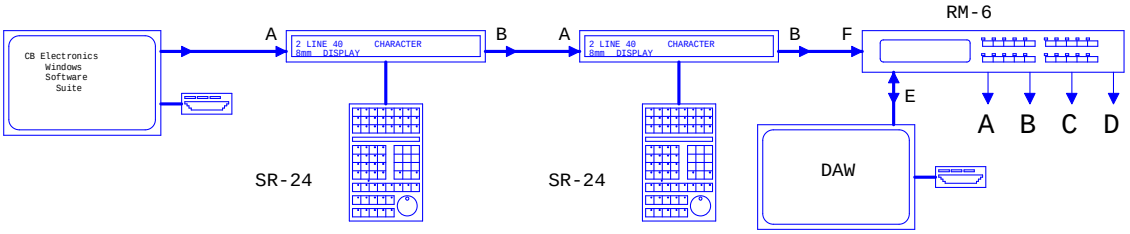
RM-6-4



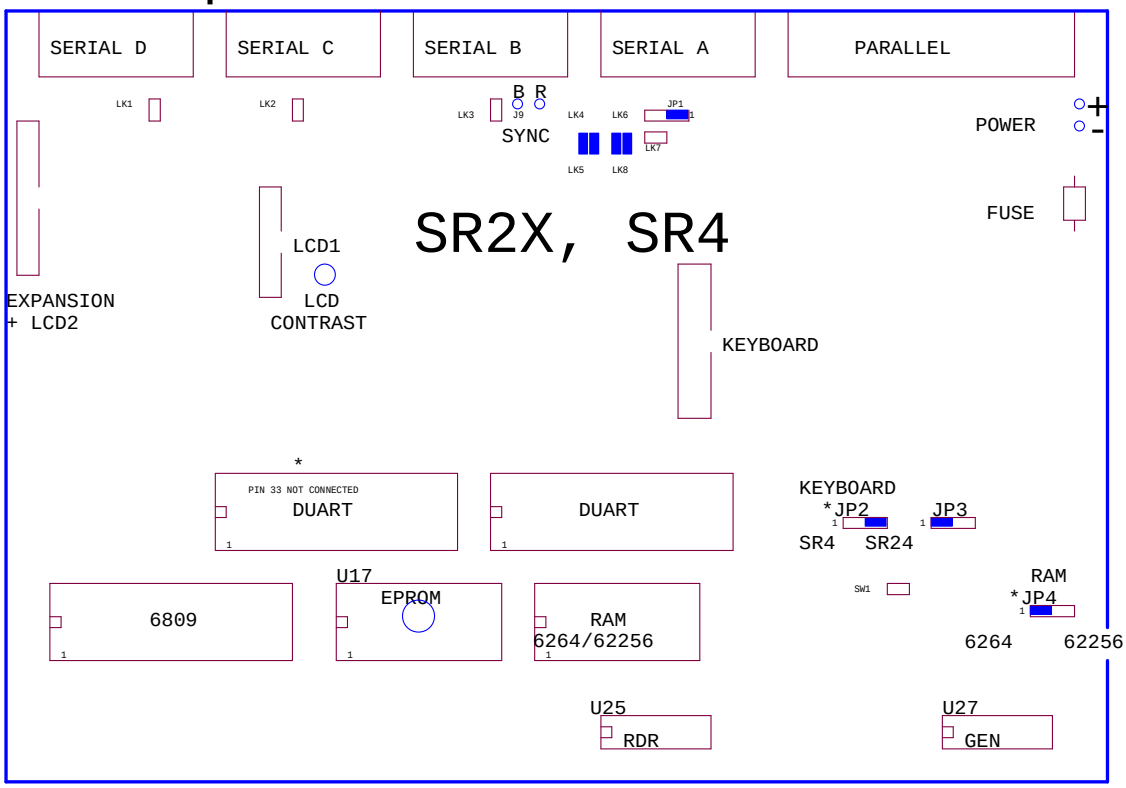
RM-6-424

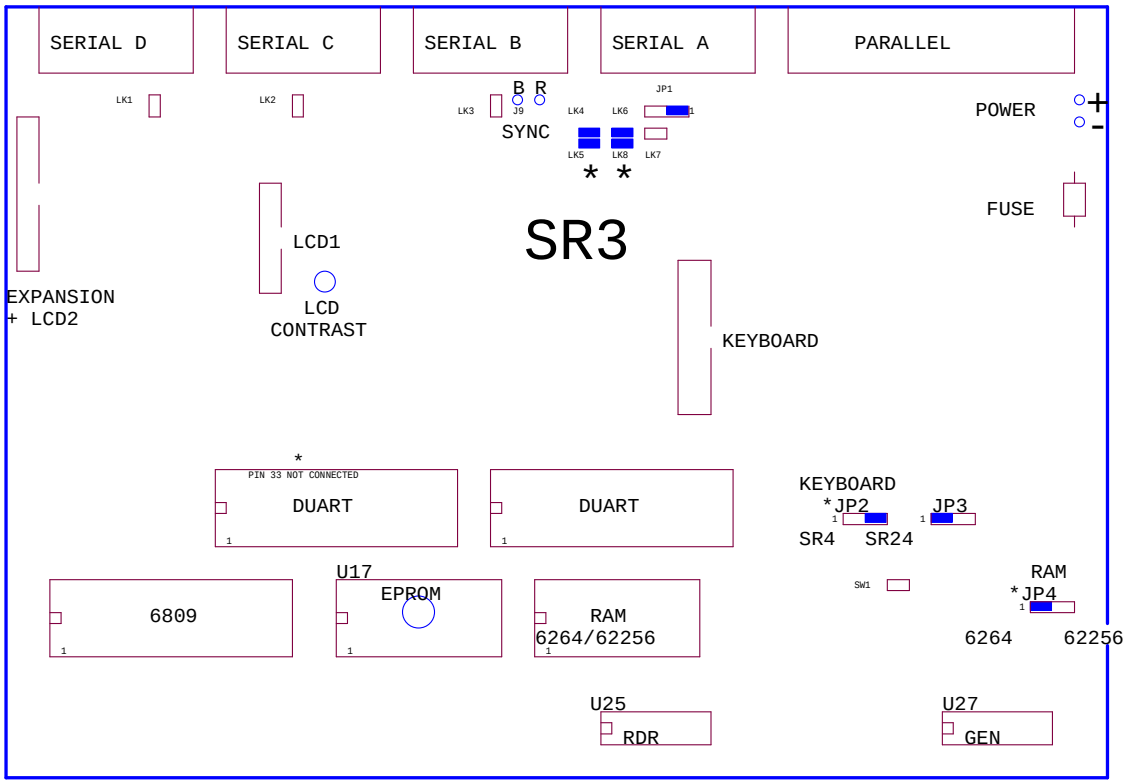


RM-6 with two Remotes and CBServer Software

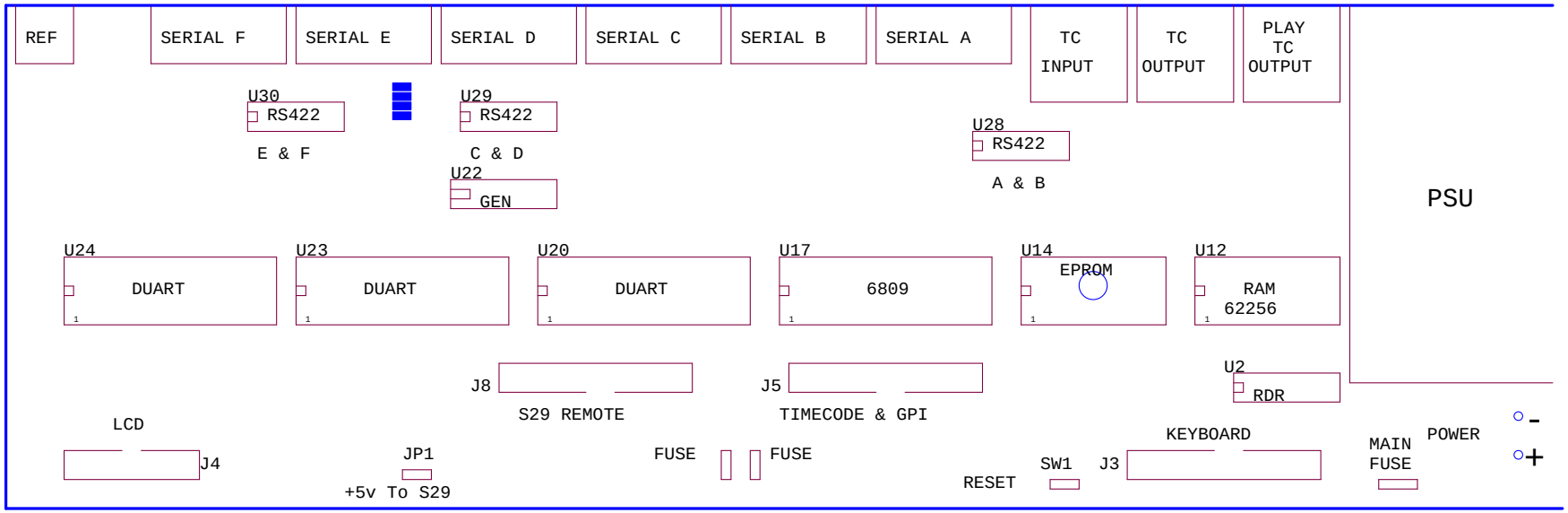


T10.04 Link positions for SR-3 and SR-4





T10.05 Link positions for RM-6



LINK POSITIONS FOR SERIAL E AS OUTPUT

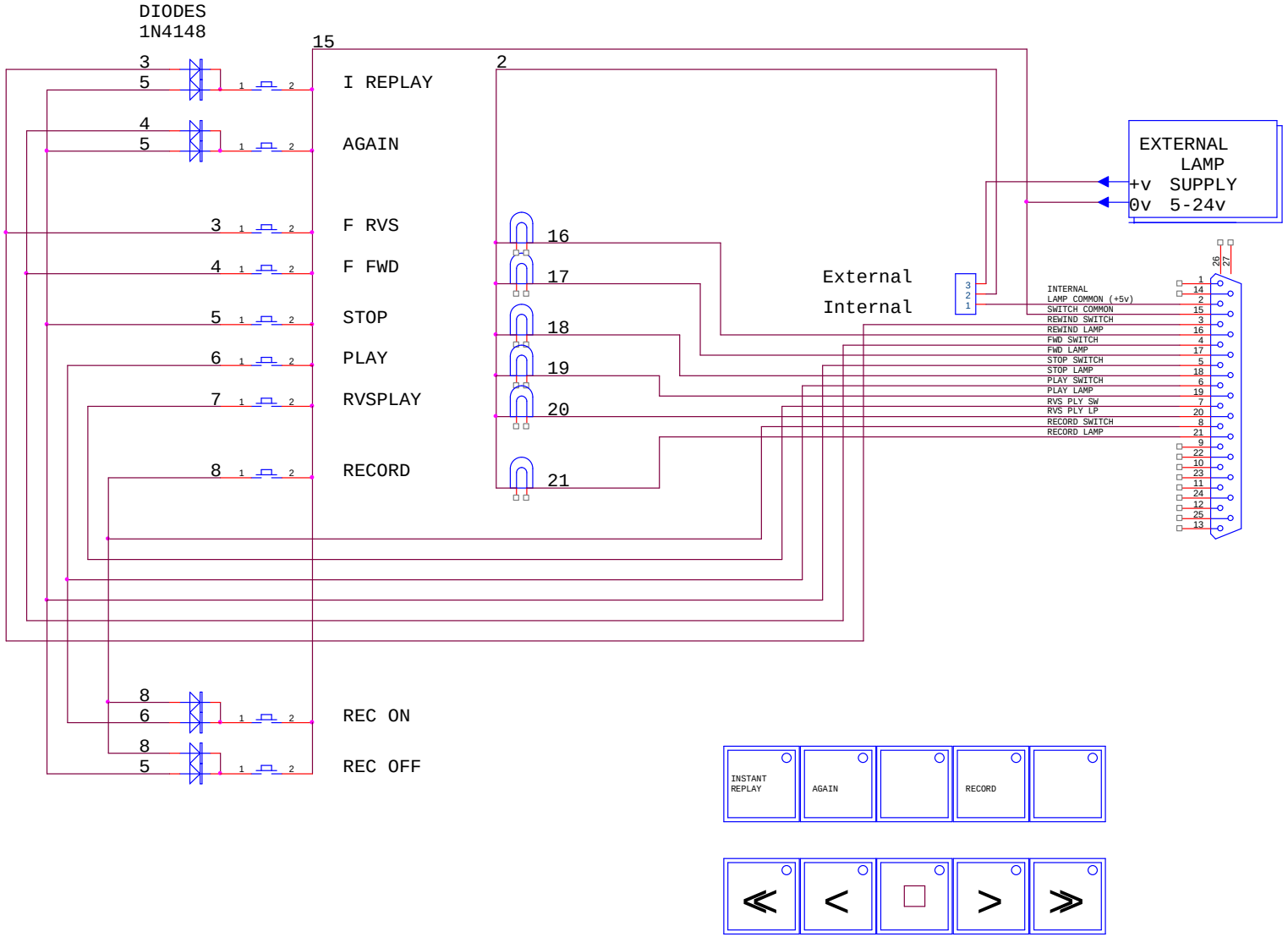
LINK POSITIONS FOR SERIAL E AS INPUT

T10.06 How To Open ‘Screwless’ RM-6

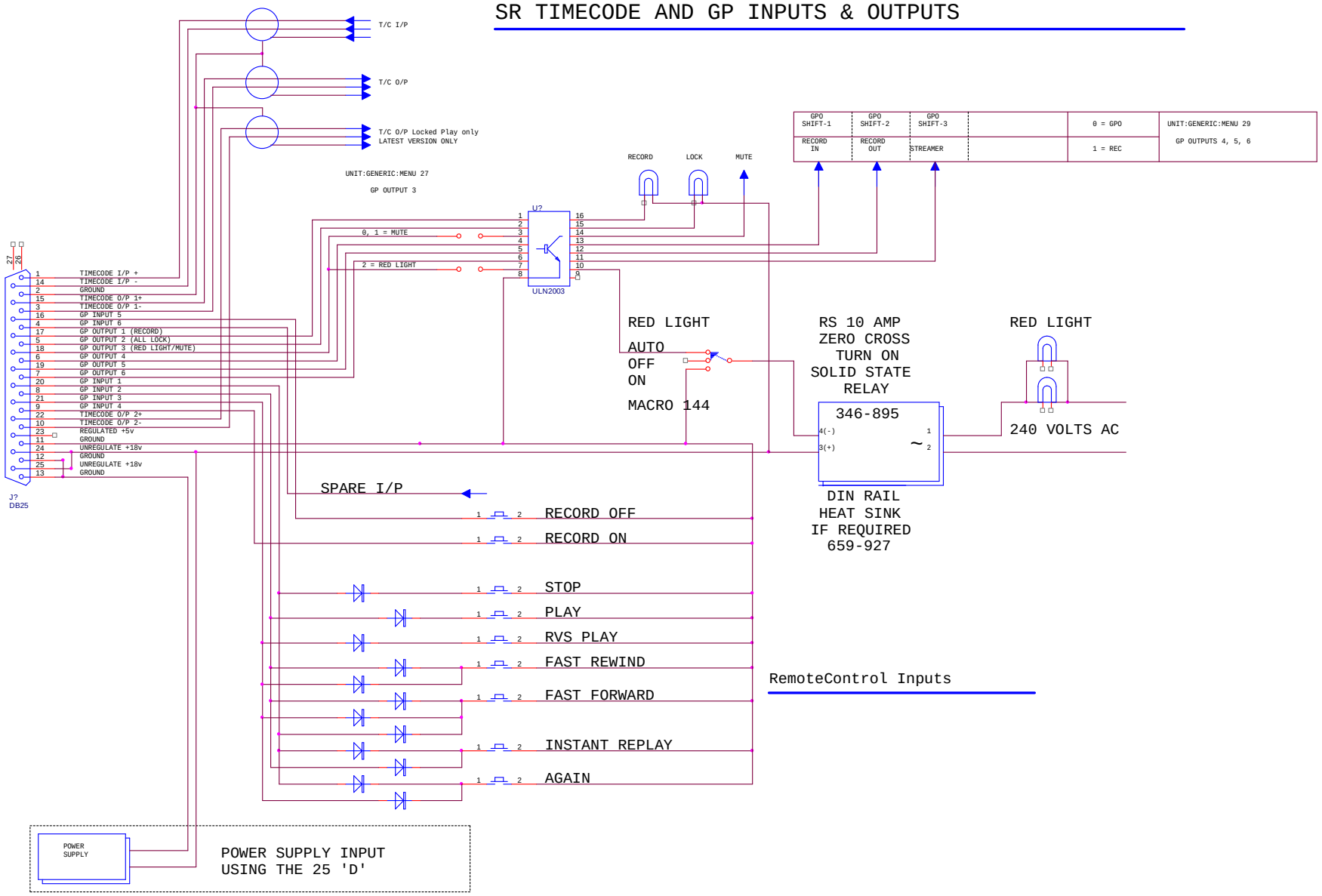
To Open the RM-6 for access, Remove the Top screw front and back on one side, Lossen the bottom screws on the same side, rotate the side outwards by approx 20 degrees. Remove the screw in the center of the Lid and lift off the top panel.
Note: when replacing the screws rotate anti-clockwise until a click is felt, then clockwise. In this way the screw uses the same thread.

T10.07 RM-6, Xmc Hub and Video Slave Connections

T10.08 S29 Parallel remote Connections (RM-6, SR-24A & SR-32 Only)



T10.09 SR-4, SR-5 GPI Connections



T10.10 RM-6N GPI Connections