

TASCAM

TEAC Professional Division

SX-1 Digital Production Environment

SX-1 Version 1.50

Sony P2 Protocol Documentation

This manual describes the changes and additions to the Sony P2 support for the SX-10S V1.50 software. See also the V1.10 release note for other issues that were addressed after V1.00

Additions:

P2 Master reads and uses Rec-arm tally messages. In V1.00 and V1.10, the SX-1 does not send out requests for EDIT PRESET STATUS, or use the information in the status map that indicates Rec-arm status. Without this, the SX-1 will ignore audio track arming that occurs at the remote machine, and the front panel channel REC buttons will not light. Only actions from the SX-1 itself would work. In V1.50, the SX-1 continually follows the status of the external machine and updates its internal maps and channel REC button LEDS accordingly. This allows a higher level of confidence when the controlled device is out of sight away in a machine closet or room.

REC=4 devices now can choose digital or analog track mapping. In V1.00 and V1.10, remote devices that had RECS=4 specified would use the ANALOG rec-arm bits in the P2 protocol. Thus for devices that had 4 digital tracks, it was necessary to choose recs=8 and ignore the assigned buttons for 5 thru 8. Some devices would map these bits to Timecode tracks and other functions that the user would prefer not to have affected.

In V1.50 the choices have been expanded:

- 2A 2 Track using A1 and A2 Analog assignments
- 2D 2 Track using D1 and D2 digital track assignments
- 4A 4 Track using A1 A2 A3 A4 analog assignments.
 Most 2 Track analog devices map the timecode track to A3 and have nothing in A4.
- 4D 4 Track using D1 D2 D3 D4 digital assignments.
- 8 8 Track using D1 – D8 digital assignments
- 16 16 Track using D1 – D16 digital assignments.
- 24 24 Track using D1 – D24 digital assignments.
- 32 32 Track using D1 – D32 digital assignments.
- No Rec Arm assignments.

Rec arms now disabled when in Mixdown mode From V1.50, when the SX-1 goes into Mixdown mode, any tracks Rec-armed over P2 will be turned off until MixDown mode is exited. This is for safety and to make the behavior similar to the SX-1's internal recorder. If the resulting mix is to be recorded to the external P2 device, another pass is required after

exiting MixDown and loading the MixDown takes.

P2 Slave support. V1.50 adds the ability to control the SX-1 *from* an external device using the P2 protocol. This is a large feature, and is fully described below.

P2 Slave

The SX-1 can re-use the RS422 port for P2 Master or P2 Slave. To set up P2 Slave, use the LCD Transport / Machine Control List page.

- First make sure there is no P2 Master or other RS422 device already in the list.
- If so, use the DELETE LAST menu until there is no “422” entry in the list.
- Select ADD, select RS422 in the submenu and turn the 4th encoder until P2 SLAVE is highlighted in the menu.
- Press OK
- Make sure that the SX-1 HDR entry has CHASE=LTC Master set.

It is still possible to control the SX-1 if it is set to chase LTC or MTC, in which case motion control commands will be translated and sent to the designated timecode master, if one is in the machine control list, and just EDIT ON/OFF & Arming commands will be available.

Note: The RS422 port on the SX-1 is pre-wired to be a Master (Controlling Device). When using the SX-1 as a P2 Slave, it is necessary to provide a cross-over connection to make the SX-1 look like a Controlled Device.

RS-422 Controller to Controller Cable (crossover cable)

9 pin D-sub male		9 pin D-sub male
Tx+ 3 ----- / twisted	-----	7 Rx+
Tx- 8 ----- / pair	-----	2 Rx-
Rx+ 7 ----- / twisted	-----	3 Tx+
Rx- 2 ----- / pair	-----	8 Tx-
shell ----- shield	-----	shell

The physical and electrical characteristics of the RS422 port are otherwise identical to the

Sony P2 Specifications.

Timing: The SX-1 will reply to incoming commands within 9ms. The time required to actually execute the command and update the STATUS MAP will vary and may be much longer. See note *6 for details about deferred commands.

Lists of supported commands: Any command not in these lists will get a NAK reply.

From Controlling device				Return from SX-1			
Command	CMD 1	CMD 2	DATA	NAME	CMD1	CMD 2	DATA
LOCAL DISABLE	00	0C		ACK	10	01	*1
DEVICE TYPE REQUEST	00	11		DEVICE TYPE	12	11	*2
LOCAL ENABLE	00	1D		ACK	10	01	*1
TASCAM ID REQUEST	01	E0	11	TASCAM ID	E1	11	C6 (=SX-1)
STOP	20	00		ACK	10	01	
PLAY	20	01		ACK	10	01	
REC	20	02		ACK	10	01	*3
STANDBY OFF	20	04		ACK	10	01	*1
DMC START	20	0D		ACK	10	01	
FAST FORWARD	20	10		ACK	10	01	
JOG FORWARD	21	11	*4	ACK	10	01	
VAR FORWARD	21	12	*4	ACK	10	01	
SHTL FORWARD	21	13	*4	ACK	10	01	
REWIND	20	20		ACK	10	01	
JOG REVERSE	21	21	*4	ACK	10	01	
VAR REVERSE	21	22	*4	ACK	10	01	
SHTL REVERSE	21	23	*4	ACK	10	01	
CUE UP WITH DATA	24	31	*5 *6	ACK	10	01	
SYNC PLAY	24	34		ACK	10	01	*7
CHASE	21	37		ACK	10	01	*1
PROGRAM PLAY FAST	21	38	*8	ACK	10	01	
PROGRAM PLAY SLOW	21	39	*8	ACK	10	01	
ANTI-CLOG TIMER DISABLE	20	54		ACK	10	01	
ANTI-CLOG TIMER ENABLE	20	55		ACK	10	01	*1
DMC SET FWD	21	5C	*9	ACK	10	01	*1
DMC SET REV	21	5D	*9	ACK	10	01	
FULL EE OFF	20	60		ACK	10	01	
FULL EE ON	20	61		ACK	10	01	*10
SELECT EE ON	20	63		ACK	10	01	*10
EDIT OFF	20	64		ACK	10	01	*6
EDIT ON	20	65		ACK	10	01	*6

From Controlling device				Return from SX-1			
Command	CMD 1	CMD 2	DATA	NAME	CMD1	CMD 2	DATA
TIMER-1 PRESET	44	00	*5	ACK	10	01	*1
EDIT PRESET	41	30	*11	ACK	10	01	*6
TAPE/AUTO SELECT	41	32	XX	ACK	10	01	*1
SERVO REF SELECT	41	33	XX	ACK	10	01	*1
HEAD SELECT	41	34	XX	ACK	10	01	*1
COLOR FRAME SELECT	41	35	XX	ACK	10	01	*1
TIMER MODE	41	36	XX	ACK	10	01	*1
EDIT FIELD SELECT	41	3A	*16	ACK	10	01	
CURRENT TIME SENSE	61	0C	*15	TIMER-1 DATA	74	00	
				TIMER-2 DATA	74	01	
				LTC TIME DATA	74	04	
				LTC TIME&UB DATA	78	04	
				LTC UB DATA	74	05	
				VITC TIME DATA	74	06	
				VITC TIME&UB DATA	78	06	
				VITC UB DATA	74	07	
				LTC INTERPOLATED TIME DATA	74	14	
				LTC INTERPOLATED TIME&UB DATA	78	14	
				VITC HOLD TIME DATA	74	16	
				VITC HOLD TIME & UB DATA	78	16	
STATUS SENSE	61	20		STATUS DATA	7x	20	*13
EDIT PRESET SENSE	61	30		EDIT PRESET DATA	7x	30	*14
TIMER MODE SENSE	60	36		TIMER MODE	71	36	00
Unsupported Commands	XX	YY		NAK	11	12	*12

Notes:

***1** Command is acknowledged, but no action is taken.

***2** The SX-1 can selectively reply to this command, set in the LCD Preferences screen, TRANSPORT page.

F01A TASCAM HDR Series (Default)

6003 Sony 3324S

101C Sony BVU950

This reply data is also affected by the Frame Rate setting of the currently loaded project.

At 25 Frame (PAL/SECAM), the value 0100 is added to the reply data. (F01A->F11A, etc)
At 24 Frame (FILM), the value 0200 is added to the reply data. (101C->121C etc)
All other frame rates have no effect on the reply data, e.g. 29.97 and 30 frame rates, drop or non-drop.

***3** If the SX-1 is currently set to emulate the Sony BVU950, the REC command is treated the same as EDIT ON (20 64), and the HDR will punch in on rec-arm'ed tracks. Otherwise this command is acknowledged but ignored. See also Note 6.

***4** Speed related commands. The SX-1 supports both single byte and double byte versions of the standard P2 speed command.

Single data byte: Calculated speed = $10^{\left(\frac{N}{32}-2\right)}$ where N is the value of the data byte.

For a double data byte command, the 2nd data byte is used as a fraction M/256 to linearly interpolate between the calculated speeds for (1st data byte=N) and (1st data byte= N+1), where N is the first data byte and M is the second data byte.

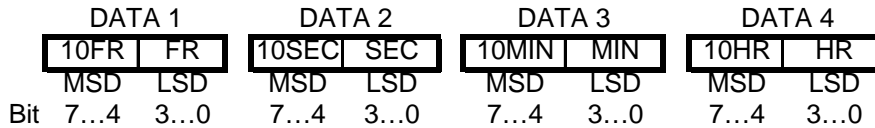
If the 1st data byte (N) is zero, the actual speed is 0.0 (Stop), instead of the 1/100 speed as expected by the above calculation. This is in accordance with many other manufacturers implementations.

The resolution of the actual speed is 1/1024 normal speed, minimum = 1/1024, maximum is 1536/1024 (1.5x normal play speed). Any speed request greater than 1.5x is treated the same as a request for 1.5x speed.

The SX-1 will smoothly ramp between the current playing speed and the newly specified speed, updating the current play speed every 1024 samples (21.3ms at 48KHz). Audio is reproduced at all supported speed rates.

***5 Cue Up With Data Format**

Binary coded decimal (BCD) format with Frames first.



***6 Deferred commands.** These commands will execute on a frame or half frame boundary, a specified number of frame edges after the command was first received. This allows an edit controller to set-up punch in/out events accurately with respect to the recorded audio.

If the transport is not moving at the time the command is received, then no defer calculation is performed, and the command is executed immediately.

Two SX-1 preferences affect the calculation of the timing.

- a) **P2 Punch Delay:** This may be set to OFF, 1 frame or 2-6 frames. When set to OFF, the SX-1 does not align the execution of the received command with any frame edge, but will execute the command as soon as it is parsed. When set between 1 and 6 frames, the SX-1 will execute the command on the frame edge that is the specified number of frames after the frame in which the command was first received.
- b) **P2 EDIT FIELD:** If the SX-1 is also receiving a valid VIDEO or TTL signal at the VIDEO SYNC IN port, this control can be used to specify which field of the frame that the command will be executed in. This setting may be over-ridden temporarily using the EDIT FIELD 41 3A command. The SX-1 does not need to be set to Master Clock=VIDEO for this function to work.

EDIT FIELD = AUTO: The command will be executed in the same field that it was received in.

EDIT FIELD = FIELD 1: The command will always be executed in the first field, regardless of whether the command was received in field 1 or field 2

EDIT FIELD = FIELD 2: The command will always be executed in the second field, regardless of whether the command was received in field 1 or field 2.

If the P2 Punch Delay is set to OFF, this parameter has no effect, and cannot be edited from the LCD.

If there is no valid VIDEO or TTL signal being received by the SX-1, then the command will be executed during field 1 of the calculated frame. The frame boundaries are assumed to line-up with the first sample at 00:00:00:00

If another command (deferred or not) is received while there is a command pending, then the pending command is executed straight away, and the next incoming command is processed. If the new command is also deferred, it will be marked for pending execution. If the transport stops moving while there is a command pending, the command is executed immediately.

When the EDIT ON command is received, the SX-1 Auto-punch Rehearsal function is automatically turned off, and the HDR performs a punch in record.

When the SELECT EE ON command is received, the SX-1 Auto-punch Rehearsal function is turned on, and the HDR simulates a punch-in record.

When the EDIT OFF command is received when the SX-1 is recording, the SX-1 will punch out of record.

***7 SYNC PLAY:** The SX-1 will ignore the data supplied in the command and will just start playing. Frame settings must be made using the Clock and Video resolve modes separate from the P2 Slave.

***8 PROGRAM PLAY:** This does not imply any video or frame resolution, it is just a different way of specifying the shuttle speed.

Calculated speed = N /10 percent of play speed, where N is the first data byte.

For PROGRAM PLAY FAST, this calculated speed is added to normal speed, i.e. the range of control is 1x (DATA=0) to 1x plus 25.5% (DATA=FF) = 1.255x

For PROGRAM PLAY SLOW, the range is 1x (DATA=0) to 1x minus 25.5% (DATA=FF) = 0.745x

As in note *5, the actual resolution of the SX-1 playback is 1/1024 normal play speed, and the current play back speed smoothly ramps between the current speed and the requested speed, updating every 1024 samples.

***9 DMC SET:** The SX-1 does not support Dynamic Motion Control, but it recognizes the DMC SET FWD and DMC SET REV commands. The SX-1 will treat them the same as VAR FWD and VAR REV with a single byte data representing SPEED. This is to support some remote control devices that use these commands for rough JOG and SHUTTLE control. The specified speed is memorized, and the DMC START command will then initiate a VAR FWD or VAR REV with this memorized speed.

This behavior is copied from the Tascam DA-98 and DA-98HR DTRS machines.

***10 FULL EE MODE.** When received, the SX-1 will turn all of the HDR record tracks input monitor parameters to ON or OFF as requested. If some of the input monitors were previously set, they will be over-ridden by this command. If a HDR track is currently recording (its REC ARM is lit and the transport is recording), then the input monitor is automatically on, and a request for FULL EE OFF will be ignored.

***11 EDIT PRESET**

Depending on the selected P2 Slave Device Type (emulated machine), the SX-1's response to the edit preset command will change. If the Device Type is set to TASCAM or Sony 3324S, then only the digital track assignments are used. If the Device Type is set to Sony BVU-950, then only A1 and A2 are used, and these are always mapped to HDR tracks 1 and 2.

	7	6	5	4	3	2	1	0	
DATA1		INS	ASMBL	VIDEO		TC	A2	A1	
DATA2	CH 8	CH 7	CH 6	CH 5	CH 4	CH 3	CH 2	CH 1	
DATA3	CH 16	CH 15	CH 14	CH 13	CH 12	CH 11	CH 10	CH 9	
	MSB								LSB

IF DATA1 BIT 6 (INS) is 0, all data is assumed to be zero.

If the SX-1 is currently in MixDown mode, all data from this command is ignored.

DATA1 BITS 5,4,2 have no effect.

If the device type = BVU-950, A1 and A2 are read and applied to HDR Channel 1 and 2, CH1-CH16 bits are ignored. HDR tracks 3-16 that are currently in record will not be cleared.

If the device type = TASCAM or SONY 3324S then A1 and A2 status is ignored and the bits CH1-CH16 are read and applied to HDR Channel 1 to 16.

If the EDIT PRESET command has less than 3 data bytes, the data for the unspecified

tracks is assumed to be 0.

If there is no audio take currently assigned to an HDR destination channel that is requested to be in EDIT mode (bit = 1), then the request for that channel is ignored.

The ASMBL, VIDEO and TC bits in data 0 are always ignored.

This command is a deferred command whose execution may be delayed to occur on a subsequent frame or video field boundary, see Note *5 for details.

***12 NAK DATA:** The SX-1 returns the data value 01 = UNDEFINED COMMAND for commands that it does not recognize. If the received command has an incorrect checksum, the data value is 04 = CHECKSUM ERROR. This is usually attributed to signal quality loss due to the use of inferior or un-shielded cables or too long of a cable run between the SX-1 and the controlling device.

***13 Status Map**

BIT	7	6	5	4	3	2	1	0
DATA	MSB							LSB
0				VIDEO REF MISSING				
1	STANDBY ON		STOP		REW	F.FWD	REC	PLAY
2	SERVO LOCK		SHUTTLE	JOG	VAR	REVERSE DIR	STILL	CUE UP ENDED
3								
4	SELECT EE ON	FULL EE ON		EDIT				CUE UP STARTED
5		INSERT					A2	A1
6								
7								
8								
9								
A								
B								
C	HDR CH8	HDR CH7	HDR CH6	HDR CH5	HDR CH4	HDR CH3	HDR CH2	HDR CH1

DATA 0/BIT 4: VIDEO REF MISSING

This bit is set when there is no video or TTL signal present at the VIDEO IN BNC connector of the SX-1.

DATA 1/BIT 7: STANDBY ON

This bit is always set.

DATA 1/BIT 5: STOP

This bit is set whenever the SX-1 HDR is stopped, except when in shuttle mode with speed=0.

DATA 1/BIT 3: REW

This bit is set when the SX-1 HDR is rewinding.

DATA 1/BIT 2: F.FWD

This bit is set when the SX-1 HDR is fast-forwarding.

DATA 1/BIT 1: REC

This bit is set when the SX-1 HDR has any tracks that are Rec-armed and the transport is currently recording. This bit is always the same as DATA4/BIT 4 (EDIT)

DATA 1/BIT 0: PLAY

This bit is set when the SX-1 HDR is playing back audio at normal (1.0x) play speed.

DATA 2/BIT 7: SERVO LOCK

This bit is set whenever the SX-1 HDR is in forward play mode or record mode.

DATA 2/BIT 5: SHUTTLE**DATA 2/BIT 4: JOG****DATA 2/BIT 3: VAR**

One of these bits is set whenever the SX-1 HDR is shuttling, i.e. playing back audio at non-1.0x speed. Which bit is set depends on what command had been received.

Jog (2x 11 or 2x 21): BIT 4

Shuttle (2x 13 or 2x 23): Bit 5

Var (2x 13 or 2x 22): Bit 3

DMC (20 0D, 21 5C, 21 5D): Bit 3

Program Play (21 38 or 21 39): Bit 3

DATA 2/BIT 2: DIRECTION

This bit is set if the SX-1 HDR is shuttling in reverse. It is not cleared until a command is received that starts the transport moving forward again.

DATA 2/BIT 1: STILL

This bit is set whenever the transport is not moving (STOP or shuttle with speed 0)

DATA 2/BIT 0: CUE UP ENDED

This bit is set whenever an SX-1 HDR locate has been completed. It is cleared when the SX-1 HDR transport moves to a different state.

DATA 4/BIT 7: SELECT EE ON

This bit is set when the SX-1 HDR is in Rehearsal mode, i.e. Recording with Auto Punch Rehearsal enabled. Data 4/BIT 4 is always set at the same time.

DATA 4/BIT 6: FULL EE ON

This bit is set whenever all 16 HDR channels have INPUT monitor ON. This can happen during record, or when the FULL EE ON command is received.

DATA 4/BIT 4: EDIT

This bit is set when the SX-1 HDR is recording or rehearsing.

DATA 4/BIT 0: CUE UP REQUESTED

This bit is set when the SX-1 HDR starts to locate, and clears when Data 2/Bit 0 is set.

DATA 5/BIT 6: INSERT

This bit is set whenever there is one or more HDR audio tracks are armed for recording. It is cleared when all HDR audio tracks have REC ARM off.

DATA 5/BIT 1: A2

This bit is set when HDR track 2 is Rec-armed. If P2 slave Device type is not set to BVU-950 then this bit is zero.

DATA 5/BIT 0: A1

This bit is set when HDR track 1 is Rec-armed. If P2 slave Device type is not set to BVU-950 then this bit is zero.

DATA 12/BIT 7-0: HDR CH8-1

These bits are set when the corresponding HDR channel is armed for recording. If P2 Slave Device Type is set to BVU-950, then these bits will be zero.

***14 EDIT Preset MAP**

BIT DATA	7 MSB	6	5	4	3	2	1	0 LSB
0		INSERT					A2	A1
1	HDR CH8	HDR CH7	HDR CH6	HDR CH5	HDR CH4	HDR CH3	HDR CH2	HDR CH1
2	HDR CH16	HDR CH15	HDR CH14	HDR CH13	HDR CH12	HDR CH11	HDR CH10	HDR CH9

DATA 0 is always the same as status map DATA 5

DATA 1 is always the same as status map DATA 12

DATA 2 follows the same rules as status map DATA 12, but indicates the state of HDR tracks 9 through 16.

If more than 3 data bytes are requested, data bytes above DATA 2 will contain zero.

***15 CURRENT TIME SENSE:** The SX-1 will reply to all requests for time data with the same data, i.e. the current timecode. Requests for the TIMER values will return the same data, and the TIMER cannot be reset to zero, although the PRESET TIMER command will be acknowledged and ignored. Requests for the User Bits Data (UB) will return zeroes.

The format of the sense data byte is as follows.

BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
		VITC UB	LTC UB	TIMER-2	TIMER-1	VITC	LTC

When both TIME and UB data is requested in the same command, 4 bytes of (zero) UB data is appended after the TIME data.

***16 EDIT FIELD SELECT**

DATA 1: 00 = AUTO (execute in same field as command is received).
 01 = FIELD 1
 02 = FIELD 2
 FF = LOCAL (revert to SX1 user preference).

RS-422 9-Pin D-Sub connector

The SX-1 RS-422 connector (9-pin D-Sub female) has limited clearance to the bank panel, so in some cases, a cable may not fully mate with the SX-1, making connection unreliable, or the locking screws may not attach correctly.

To fix this problem:

Add washers under the SX-1 DSUB connector's nuts (1 or 2 as required) so that the cable's screws can reach the SX-1 connector.

The appropriate washer is designed for DSUB: Part number
(92603306-00 :D-SUB WASHER HW-C050MN00)

A regular M3 washer cannot be used.

Appendix

TASCAM SX-1 auto detected P2 devices.											
No.	Type	Name	Recs	No.	Type	Name	Recs	No.	Type	Name	Recs
1	0x0001	BVH-2000	2	51	0x1002	BVII-850	--	101	0x3003	OMX-24	--
2	0x0010	BVH-2000	2	52	0x1003	BVII-870	--	102	0x3010	DVR-2000	--
3	0x0011	BVH-2000	2	53	0x1012	DAR-OMR-8	--	103	0x3011	DVR-2100	--
4	0x0014	BVH-2000P	--	54	0x1018	BVII-900	--	104	0x4000	DVR-10	--
5	0x0015	BVH-2000P	--	55	0x1019	BVII-920	--	105	0x4002	DVR-C10	--
6	0x0018	BVH-2180	2	56	0x101c	BVII-950	2	106	0x4003	DVR-18	--
7	0x0019	BVH-2180	2	57	0x1020	SVO-5800	--	107	0x4010	DVR-2	--
8	0x001c	BVH-2180P	--	58	0x1021	SVP-5600	--	108	0x4020	DVR-20	--
9	0x001d	BVH-2180P	--	59	0x1028	SVP-9020	--	109	0x4021	DVR-C10	--
10	0x0020	BVH-2500	2	60	0x102c	SVO-9620	--	110	0x4022	DVR-28	--
11	0x0024	BVH-2500P	--	61	0x1034	DAR-OMR8	--	111	0x4023	DVR-P20	--
12	0x0030	BVH-2700	2	62	0x1048	VO-9800	--	112	0x5000	APR-5003V	--
13	0x0040	BVH-2800	2	63	0x104c	VO-9850	--	113	0x5024	APR-24	--
14	0x0044	BVH-2800P	--	64	0x1080	BVII-900	2	114	0x5033	ATD-750	--
15	0x0048	BVH-2830	2	65	0x10e0	Nagra-T	2	115	0x6002	PCM-3402	2
16	0x004c	BVH-2800P	--	66	0x10e1	Nagra-D	4	116	0x6003	PCM-3324S	24
17	0x0050	BVH-3000	2	67	0x10f0	VO-5850	2	117	0x6005	3348 HRV	48
18	0x0052	BVH-3000P	--	68	0x10ff	DMR-2000	--	118	0x6007	3348 HR	48
19	0x0054	BVH-3000P	--	69	0x2000	BVW-10	--	119	0x7000	PCM-7030	1
20	0x0060	BVH-3100	2	70	0x2001	BVW-40	--	120	0x7001	PCM-7050	1
21	0x0062	BVH-3100P	--	71	0x2002	BVW-11	--	121	0x7002	PCM-7010	1
22	0x0064	BVH-3100P	--	72	0x2003	BVW-15	--	122	0x7003	PCM-800	8
23	0x0070	Stdr D820	48	73	0x2010	BVW-35	--	123	0x7004	PCM-7040	1
24	0x0071	Stdr TLS1	--	74	0x2018	BVW-35P	--	124	0x70a2	A1-2	--
25	0x0072	Stdr A807	2	75	0x2020	BVW-60	--	125	0x70e0	M20	8
26	0x0073	Stdr A812	2	76	0x2021	BVW-65	--	126	0x70e1	M20 *2	16
27	0x0074	Stdr A820	24	77	0x2022	BVW-95	--	127	0x70e2	M20 *3	24
28	0x0075	Stdr A820	24	78	0x2023	BVW-96	--	128	0x70e3	M20 *4	32
29	0x0081	Stdr A820	24	79	0x2024	BVW-70	--	129	0x70e4	M20 *5	--
30	0x0090	CB Dubber	8	80	0x2025	BVW-75	--	130	0x70e5	M20 *6	48
31	0x0091	CB AK ES1	--	81	0x2026	BVW-85P	--	131	0x70e6	M20 *7	--
32	0x0092	CB VS-1	--	82	0x2029	BVW-65P	--	132	0x70e7	M20 *8	64
33	0x0093	TL Lynx	--	83	0x202a	BVW-95P	--	133	0x8001	DRU-8	8
34	0x0094	MRP-16	--	84	0x202c	BVW-70S	--	134	0x8008	EVO-9800	2
35	0x0095	DCT-700	--	85	0x202d	BVW-75P	--	135	0x800c	EVO-9850	--
36	0x0096	AMP VPR-3	2	86	0x202f	WBR-700	--	136	0x8010	DSR-85	--
37	0x0097	AMP VPR-6	2	87	0x2030	BVW-50	--	137	0x8011	DSR-80	--
38	0x0098	AMP XVR80	2	88	0x2040	PVW-2600	--	138	0x8012	DSR-60	--
39	0x0099	VPR-300	4	89	0x2041	PVW-2800	--	139	0x8013	DSR-70	--
40	0x009a	VPR-80	2	90	0x2042	PVW-2650	--	140	0x8014	DSR-2000	--
41	0x00a0	CB P2MMC	--	91	0x2045	BVW-D265	--	141	0x8015	DSR-1800	--
42	0x00a1	CB TG-2	--	92	0x2046	BVW-D75	--	142	0x8016	DSR-1600	--
43	0x00a2	PioneerDVD	--	93	0x2047	BVW-9000	--	143	0x8017	DSR-1500	--
44	0x00b0	CB SR-GEN	--	94	0x2050	IJW-1600	--	144	0x9000	DEM-1000	--
45	0x00b1	CB SR-RDR	--	95	0x2051	IJW-1800	--	145	0x9010	HDDE-500	--
46	0x00e0	HDD-1000	8	96	0x2052	IJW-1700G	--	146	0xa000	ASC-VR	--
47	0x00f0	HDV-1000	--	97	0x20e0	HDW-500	4	147	0xa001	IJVR-5000AP	--
48	0x00ff	DMR-2000	--	98	0x20f0	HDV-10	--	148	0xa002	IJVR-3000	--
49	0x1000	BVU-800	--	99	0x20f9	HDV-500	--	149	0xa007	M2 AU-850	--
50	0x1001	BVU-820	--	100	0x3000	DVR-1000	--	150	0xa010	LVA-7000	--

TASCAM SX-1 auto detected P2 devices.

No.	Type	Name	Recs	No.	Type	Name	Recs	No.	Type	Name	Recs
151	0xa011	I/A-3000	--	201	0xd051	DADR-5032	32	251	0xf012	AbekasA82	--
152	0xa020	CDP-3100	--	202	0xd052	DADR-5048	48	252	0xf013	VPR 2/300	--
153	0xa030	PCM-9000	--	203	0xd053	DADR-5064	64	253	0xf014	VPR-305	--
154	0xa040	BKDE-550	--	204	0xd081	DPS-PVR	--	254	0xf015	VDR-V100	--
155	0xa04d	GalVirVTR	--	205	0xd090	DN-C680	--	255	0xf016	VDR-V100	--
156	0xa050	Doremi V1	2	206	0xd091	DN-M51050R	--	256	0xf017	VDR-V100	--
157	0xa070	MAV-555	4	207	0xd0a0	AVID AS 4	4	257	0xf018	VDR-V100	--
158	0xa080	AG-7750	--	208	0xd0a1	AVTD AS 8	8	258	0xf019	AT-D350	--
159	0xa081	AG-7650	--	209	0xd0a2	AVTD AS16	16	259	0xf01c	DA-60	1
160	0xa082	DS-850	--	210	0xd0a3	AVID AS32	32	260	0xf01e	HD-1200	--
161	0xa086	AG-8700	2	211	0xd0a8	AVTD AV 4	4	261	0xf01f	BR-S822E	--
162	0xa0a1	SM Atom	8	212	0xd0a9	AVTD AV 8	8	262	0xf020	QuickErm	--
163	0xa0f0	HDL-5800	--	213	0xd0aa	AVID AV16	16	263	0xf021	AG-D224	--
164	0xb000	DVW-A500	--	214	0xd0ab	AVTD AV32	32	264	0xf022	RCT-5/625	--
165	0xb001	DVW-A510	--	215	0xd0b0	RADAR	8	265	0xf023	RCT HD rt	--
166	0xb002	DVW-CA500	--	216	0xd0c0	GX2000	2	266	0xf024	RCT HDnrt	--
167	0xb003	DVW-CA510	--	217	0xd0c1	GX8000	8	267	0xf025	DCT	--
168	0xb010	DVW-500	--	218	0xd0c2	GX8016	16	268	0xf026	BR-S800E	--
169	0xb011	DVW-510	--	219	0xd0c3	GX8024	24	269	0xf027	DTR-90	--
170	0xb012	DVW-C500	--	220	0xd0c4	GX8032	32	270	0xf028	DTR-90	--
171	0xb013	DVW-C510	--	221	0xd0c5	GX8040	--	271	0xf029	MotionWrk	--
172	0xb030	DVW-250	--	222	0xd0c6	GX8048	48	272	0xf02a	Stud D424	2
173	0xb040	DNW-A100	--	223	0xd0c7	GX8056	--	273	0xf031	Pion 9601	--
174	0xb041	DNW-A100	--	224	0xd0c8	GX8064	64	274	0xf032	BR-S85E	--
175	0xb045	DNW-A45	--	225	0xd0d0	Dolby Drv	8	275	0xf033	AG DVCPRO	--
176	0xb046	DNW-A75	--	226	0xd0d1	Dolby Drv	16	276	0xf034	AKAT DR8	8
177	0xb048	DNW-A30	--	227	0xd0d4	dAVE SP	--	277	0xf035	AKAT DR16	16
178	0xb049	DNW-30	--	228	0xd0e0	Protools	24	278	0xf036	DD1500	8
179	0xb04a	DNW-220	--	229	0xd0e1	Protools	48	279	0xf039	Akai DD8	8
180	0xb04c	DNW-220	--	230	0xd0e2	Protools	64	280	0xf03a	IVC BRD92E	2
181	0xb060	MSW-M2000	8	231	0xd0f3	Zeta 3	--	281	0xf03c	ES/2	--
182	0xd000	DME-5000	--	232	0xd0f8	CB MC-1	--	282	0xf043	TCR-4	4
183	0xd001	DME-9000	--	233	0xd0f9	I/ANC I/F	--	283	0xf044	TCR-8	8
184	0xd002	DME-3000	--	234	0xf000	IVC CR850	2	284	0xf088	Sondor	--
185	0xd010	ScreenSnd	--	235	0xf002	BCN-52	--	285	0xf0a0	MPX3	--
186	0xd011	SL 9000i	--	236	0xf003	AbekasA62	--	286	0xf0a1	VIVID	--
187	0xd012	Axiom	--	237	0xf004	AbekasA64	--	287	0xf0a2	MPX-3A	--
188	0xd013	APS	--	238	0xf005	AbekasA60	--	288	0xf0b0	Luxor 48	--
189	0xd014	Scenaria	--	239	0xf006	AbekasA53D	--	289	0xf0b1	Luxor 96	--
190	0xd015	Omnimix	--	240	0xf007	AmpexVPR6	--	290	0xf0b2	Pyramix	--
191	0xd016	VisionTrk	--	241	0xf008	AbekasA57	--	291	0xf0b3	V T	--
192	0xd017	Avis Air	--	242	0xf009	DCR100	--	292	0xf0d1	StarSync	--
193	0xd018	Avant	--	243	0xf00a	KR-M800	--	293	0xf01a	MMR-8	8
194	0xd019	Axiom MT	--	244	0xf00b	SA-R911	--	294	0xf01a	MMP-16	--
195	0xd030	MAV-1000	--	245	0xf00c	VL-D500	--	295	0xf01a	TL-SYNC	--
196	0xd031	MAV-1200	--	246	0xf00d	VL-D505	--	296	0xf01a	MX-2424	24
197	0xd035	MAV-2000	4	247	0xf00e	VL-S100	--	297	0xf01d	DA-88	8
198	0xd036	BKMA-2010	--	248	0xf00f	FOSTEX	--	298	0xf01d	DA-98	8
199	0xd040	DME-9000	--	249	0xf010	D-20	--	299	0xf01d	DA-98HR	8
200	0xd050	DADR-5000	16	250	0xf011	AbekasA84	--	300	0xf01d	DS-D98	8

-- END --