SUPPLEMENTAL INSTRUCTIONS / SY-88 Version 4.00

This supplement provides information on the SY-88 whose software version is 4.00 or on later.

1. RUN-DOWN ON THE FUNCTIONS IMPROVED OR ADDED

Version 4.00 has the following improved or added functions.

1. Mode Setting Methods Improved

Settings that were selected on earlier versions by using DIP switches on their rear panels and circuit boards are menu-selectable from the DA-88's front panel.

Your settings are retained in a battery backup memory although the system is turned off.

But, MIDI-related settings are a task of DIP switches the same as with earlier versions. (☞ p.2)

2. Track Mapping Capability Expanded

The track mapping capability, which was added to Version 3.06 (see Appendix 2 of the SY-88's manual), has been expanded to include the following :

On Version 4.00 or on later you can select track pairs by specifying digital tracks as well. (☞ p.5, para. 3.2)

3. Record Delay and EE Delay Functions Added

Premature dropping into record and monitor switching can be overcome. (☞ p.5, para. 3.3)

4. Remote Disable Function Added

Controls via the 9-pin socket can be enabled/disabled. (☞ p.5, para. 3.1)

5. Shuttle Mute Function Added

When controlling the shuttle function via the 9-pin socket, audio is or is not muted, as selected. (☞ p.6, para. 3.4)

6. Version Display Menu Added

The software version number of your SY-88 can be displayed on a menu. (☞ p.6, para. 3.7)

7. TC Record Enable Function Added

Recording of timecode can be enabled via the 9-pin socket. (☞ p.6, para. 3.9)

8. Reset Function Added

The menu-controlled functions that become available on Version 4.00 or on later can be switched back to their factory-preset positions all at once. (☞ p.7, para. 3.11).

9. Read DIP Switch Function Added

The setting status of DIP switches can be stored into memory. (☞ p.7, para. 3.12)

10. Emulation Devices Changed

PCM-800 is included in place of VO-9850. (☞ p.4, table 2)

11. Others

o LINX-synchronizer-related modes are newly implemented. (☞ p.6, para. 3.5)

o Video re-Sync mode is newly implemented. (☞ p.6, para. 3.8)

o The way of responding to the Program Speed Play command has been changed. (☞ p.7, para. 3.10)

2. ENABLING/DISABLING MODES

Settings that were the task of DIP switches S1 through S3 can now be controlled from the DA-88's front panel, by means of menus.

This is true only when "9 pin (RS-422)" is selected by the S1-2 switch.

If the S1-2 switch is at "MIDI", those settings must be done by using the DIP switches as before.

The selection between "9 pin"/"MIDI" options and also the selection "Video termination" are still the task of S1-2 and S1-1, respectively.

Your settings at menus, as controlled from the DA-88's front panel, are retained in memory even when turning off the DA- 88.

The menu-settings controlled from the DA-88's front panel are available on

DA-88 Version 3.10 or on later only.

In other cases, that is, when :

an SY-88 in which ROM Version 4.00 or on later is implemented, is installed in DA-88 Version lower than 3.10,

the settings are the task of DIP switches.

When the software is updated in a DA-88/SY-88 system and thus the menu-settings become available for the first time, the following takes place upon powering up :

○ The current DIP switch setting status are read into memory, and at the same time,

○ Setting items that were not provided by the DIP switches are switched to their default positions.

When powering up the next time, the DIP switch setting status is not read in any more and the system configures itself depending on the memory.

Settings at menus are memorized in the DA-88, not in the SY- 88.

Therefore, if you remove the SY-88 from one DA-88 and install it into another DA-88, settings memorized in the latter DA-88 configures the new DA-88/SY-88 system.

Setting Procedure

1. Hold the DISPLAY key and press the ▼ key to switch the display to off-tape timecode reading mode (TC LED lit).

2. Hold the ▼ or ▲ key and press the other.

3. Press the DISPLAY key twice running and the timecode select mode will be selected.

(The procedure up to here is the same as before.)

4. Continue to press the DISPLAY key. Each time you press the key, the next menu will show. To go back to the previous menu, hold the DISPLAY key and press the ▲ key.

The display will read for example :

$$r\,c.\ \ d\,L\,\mathcal{Y}\ \ \mathcal{C}\quad (rc.dLY.\ 2)$$

showing toward the left the menu name (record delay in this case), and to the right the current parameter (2 frames in this case).

By operating the ▲ and ▼ keys you can select a parameter.

Each time you have a parameter show on the display, that is validated, and the memory is updated. Thus, your setting is not lost when quitting the menu.

Menus you will not use frequently and the ones whose use requires special care cannot be accessed unless :

"1" is selected at a "MORE" menu.

The available menus are listed on the next page.

Table 1. SY-88-related Menus

The following menus become accessible when you hold the ▲ or ▼ key and press the other after switching the display to TC mode.

Item No.	Display			Description			DIP SW
	Item	Setting		Item	Setting		
		default			default		
1		< frame mode >		Frame mode in which timecode is transmitted			
2	t (t)	< frame mode >		Frame mode of the timecode recorded on tape (display only)			
3	$t.out$ (t.out)	tc (tc)	AbS (AbS)	ABS-to-TC conversion	off	on	
The following menus are available on DA-88 SYS Version 3.10 or on later and SY-88 Version 4.00 or on later.							
4	ChS (ChS.)	$rEch$ (rEch)	$FrEE$ (FrEE)	chase mode	rechase	free	S1 #3
5	$u.SYnc$ (V.SYnc)	OFF (OFF)	on (on)	Video sync	off	on	S1 #7
6	$tC.t.$ (tC.t.)	$AnLG$ (AnLG)	$dGtL$ (dGtL)	TC timing	analog	digital	S1 #5
7	$rEmt.$ (rEMt.)	EnA (EnA)	dSA (dSA)	remote control	enable	digital	
8	$d.$ (d.)	< device type > (see Table 2)		9 pin device	(see Table 2)		(see Table 2)
9	$rc.dLY.$ (rc.dLY.)	< rec delay > (see p.5, para. 3.3)		record delay	(see paragraph 3.3)		
10	$trK.ArM.$ (trK.ArM.)	on (on)	oFF (oFF)	track arming	enable	disable	S3 #7
11	$tm.$ (tM.)	< track mapping > (see Table 3)		track mapping	(see Table 3)		(see Table 3)
12	$Sht.mutE$ (Sht.MutE)	0 (0)	1 (1)	Shuttle mute	don't mute	mute	
13	$FASt.$ (FASt.)	8 (8)	100 (100)	fast wind spd	×8	×100	S3 #6
14	$Cu.tLY.$ (Cu.tLY.)	StP (StP)	StL (StL)	cueup tally	stop	still	S3 #8
15	$morE...$ (morE...)	0 (0)	1 (1)	More Menu	no	yes	
The following menus are available only when "$morE...= 1$" (morE...=1) is set to "1".							
16	$u.$ (V.)	Example: $4. 00. 2$		Software Version (display only)			
17	$rEch.Wd.$ (rEch.Wd.)	1 (1)	2 (2)	rechase window	1 second	2 second	S1 #4
18	$uSY.$ (VSY.)	$FrEE$ (FrEE)	$rESY$ (rESY)	Video re-Sync mode	free	re-sync	
19	$LtC.$ (LtC.)	$LEAP$ (LEAP)	$5F$ (5F)	LTC mode	leap	5 frame	S1 #8
20	$tC.rEc$ (tC.rEc)	0 (0)	1 (1)	TC record enable	disable	enable	
21	$PSP.$ (PSP.)	$mutE$ (MutE)	on (on)	Pgm Spd Play mode	mute	don't mute	
22	$rESEt$ (rESEt)			Reset			
23	$rEAd$ (rEAd)			Read DIP Switch			

Table 2. 9-pin Device Types

Device Type		DIP SWITCH		
Display	Model	S3 #1	S3 #2	S3 #3
PCn̄1050	PCM-7050	0	0	0
bʋH3000	BVH-3000	1	0	0
bʋU950	BVU-950	0	1	0
bʋ8-15	BVW-75	1	1	0
PCn̄8000	PCM-800	0	0	1
bʋH2000	BVH-2000	1	0	1
dʋr-10	DVR-10	0	1	1
tASCAn̄	TASCAM	1	1	1

Table 3. Track Mapping

Track specified by commands ↓	S3 #4 = 0		S3 #4 = 1 (Pair mode)				←DIP switch
			S2 #8 = 0		S2 #8 = 1		
	S3 #5 = 0	S3 #5 = 1	S3 #5 = 0	S3 #5 = 1	S3 #5 = 0	S3 #5 = 1	
	A14d14 A14d14	*d 1-8* d 1-8	*P15A* P15 A	*P12A* P12 A	*P15d* P15 d	*P12d* P12 d	←Menu display
analog 1	1		1 & 5	1 & 2			
analog 2	2		2 & 6	3 & 4			
analog 3	3		3 & 7	5 & 6			
analog 4	4		4 & 8	7 & 8			
digital 1	5	1			1 & 5	1 & 2	
digital 2	6	2			2 & 6	3 & 4	
digital 3	7	3			3 & 7	5 & 6	
digital 4	8	4			4 & 8	7 & 8	
digital 5		5					
digital 6		6					
digital 7		7					
digital 8		8					
			↑ DA-88 TRACK				

3. ADDITIONAL FUNCTIONS EXPLAINED

3.1 Remote Enable/Disable (item no.7)

		local control	remote control
VTR	LOCAL	YES	NO
	REMOTE	NO	YES
REMOTE Sw. on DA-88	OFF	YES	
	ON	NO	
"remote" menu	EnA		YES
	dsA		NO

The REMOTE switch on the DA-88 acts only as a switch toggling between local control acceptance/ prohibition options.

With earlier versions, controls from remote were effective all the time. Therefore, if you were working by locally operating a DA-88, and you had a controller transmit an All Stop command for example intending to control other units than that DA-88, it also stopped. (This was not the case with VTRs, which are not sensitive to external commands while they are switched to LOCAL.)

The newly added Remote Enable/Disable function is used to enable or disable commands via the 9-pin socket.

$r \bar{n} E \, t. \; E \, n \, R$ (rMEt. EnA) : 9-pin control possible
$r \bar{n} E \, t. \; d \, 5 \, R$ (rMET. dSA) : 9-pin control impossible

When selecting "dSA" the following commands are invalidated:

2x	transport commands such as Stop and Play
4x	setting commands such as Edit preset
00 0c/1d	local disable/enable
02 f2 22	timecode mode select

Upon receipt of these commands, the unit responds with ACK but does not operate as commanded.

Commands effective whether "EnA" or "dSA" is selected :

6x	request for status or time
00 11	request for device type
01 e0 11	request for extended device type
01 f2 a2/a3	TC mode sense

3.2 Track Mapping (item no.11)

With Version 3.20 or on later, pair tracks can be selected by specifying digital tracks as well.

With previous versions, pair tracks could be selected only by specifying analog tracks ; and analog 3 or 4 could not be record-enabled depending on controllers. The improved track mapping allows to select pair tracks with such controllers.

3.3 Record Delay and EE Delay (item no.9)

With most of tape recorders (VTRs or ATRs) there is a delay between the time they receive an Edit (Record) command and the tape actually starts recording. Controllers are timed to transmit the command to overcome that delay. But the DA- 88/SY-88 system drops into record without delay when receiving the command : it starts recording the same time earlier as that earlier the controllers transmit the command.

Version 4.00 or later on has the capability of overcoming this premature record start.

The function defaults to "Auto" and the delay time depends on the selected device type. Example : If BVW-75 is selected as a device type, a "record delay" menu looks like this :

$$r \, c. \;\; d \, L \, \mathcal{Y}. \;\; R \, \mathcal{I} \quad \text{(rc. dLY. A3)}$$

"A" stands for Auto, and "3" means that 3 frames are the delay time for BVW-75.

As you press the DISPLAY key, the delay time display changes in sequence like this :

$$\text{Ax} \rightarrow 0 \rightarrow 1 \rightarrow 2 \rightarrow 3 \, (...) \rightarrow 9$$

When only a frame number shows, it is applied to whatever device type is selected. When selecting 0, record will start upon receipt of the command, without delay.

When selecting any other numbers than 0, the following will occur :

At the first occurrence of frame edge after receiving an Edit (Record) command, the SY-88/DA-88 counts it as frame "1", and continues to count every occurrence of frame edge ; and when it counts up to the same number as your selection, it drops into record.

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If the Video Sync Playback mode is not enabled, or if it *is* but a video reference signal is not correctly coming in, then the data frame timing (30 ms) inside the DA-88 is used, instead of video frame edges.

The same delay setting for the Edit command is also used for controlling the monitor switching (Full EE on/Selected EE on).

3.4 Shuttle Mute (item no.12)

When shuttling or jogging the DA-88 as controlled from the corresponding commands via the 9-pin socket, audio is or is not muted, as selected at the Shuttle Mute menu.

$5ht.$ $\bar{n}u t E$ 0 (Sht. MutE 0) :Unmuted
$5ht.$ $\bar{n}u t E$ 1 (Sht. MutE 1) :Muted

3.5 Cue-Up Tally (item no.14)

When a tape is located to a specific point under the action of a locate command from the 9-pin socket, the transport goes into pause mode and sends back via the 9-pin socket either of two status information :

Normally, use the default setting :

$5t P$ (StP)

because there are controllers that take the next action only when understanding that controlled units are in stop.

Whereas the LYNXII or MicroLynx synchronizer discriminates between pause and stop of tape and accordingly configures itself for the next action.

When controlling from those synchronizers, select

$5t L$ (StL).

In addition, when using those synchronizers, you have to enable the Video Sync Playback (item no.5) so the DA-88 is synchronous with video.

3.6 More Menu (item no.15)

Menus you will not use frequently and the ones whose use requires special care are displayed only when you change the More menu to look like this :

$\bar{n}o r E...$ $: 1$ (MorE...=1)

Normally, leave the menu alone, which looks like this :

$\bar{n}o r E...$ $: 0$ (MorE...=0)

3.7 Version Display (item no.16)

The display pattern used is "V. xx.xx x".

Example :

$\bar{u}.$ $4.0 0.$ 2 (V. 4.00.2)

The "4.00" shows the SY-88 version. The rightmost "2" shows an internal data for the SY-88 to recognize the DA-88 version ; don't be concerned − the user has nothing to do with that number directly.

3.8 Video ReSync Mode (item no.18)

When selecting "on" at the Video Sync Playback Mode menu (item no.5), playback is realized in a way the phase of timecode locks to rising video edges. When told to go into play, the transport controls the phase-edge correlation before starting normal play. And, with previous versions, when encountering a break in the timecode on tape during play, the phase-edge correlation is again controlled, muting the audio sound. Version 4.00 (or later on) has a mode which does not control the phase-edge correlation after once play has started. This is the default mode.

$\bar{u}5 y = F r E E$ (VSY. FrEE) : phase control not recurred
$\bar{u}5 y = r E 5 y$ (VSY. rESY) : phase control recurred

3.9 TC Record Enable (item no.20)

This determines whether the "Analog ch 3" information contained in the "Edit Preset" command is correlated with audio tracks or with a TC track using the mapping patterns.

$t\,C.r\,E\,c$ 0 (tC.rEc 0) :Analog ch 3 specifies an analog track.

$t\,C.r\,E\,c$ I (tC.rEc 1) :Analog ch 3 specifies a TC track.

> FOR NORMAL OPERATIONS, NEVER SELECT "1".

3.10 Program Speed Play Mode (item no.21)

Determines whether the sound is or is not output when the DA- 88 is referenced to an external clock (VIDEO or WORD) and receives a Program Speed Play command via the 9-pin socket.

When the clock is set to INT on the DA-88, the sound is output unconditionally, as it was the case with previous versions.

Previous DA-88 versions were programed not to output the sound when referenced to an external clock. This was to overcome problems resulting from sending out digital audio signals that happen to be not synchronous with the external clock.

Use this external-clocked pitch control only when the analog output is in use.

$P\,S\,P =\bar{n}\,u\,t\,E$ (PSP. mutE) : Muted (default)

$P\,S\,P =o\,n$ (PSP. on) : Unmuted

Because the Program Speed Play command is also used for phase control, muting the analog output by this command does not result in stopping the tape.

3.11 Reset (item no.22)

Allows to set the additional SY-88-related menus back to their factory presets. Effective on menu items

    4 through 14, and
    17 through 21 (see Table 1)

To reset those menus, press either the ▲ or the ▼ key.

3.12 Read DIP Switch (item no.23)

Used to store the current setting status of DIP switches as settings at the corresponding menus. Obviously, settings that are not previously done by using DIP switches cannot be loaded in. All other additional menu settings that originally have nothing to do with DIP switches are independent of this no.23 menu.

To execute the function, press either the ▲ or the ▼ key.

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7-segment Characters

0	〇	A	𝑅	K	𝐾	U	𝑈,𝑢
1	𝐼	B	𝑏	L	𝐿	V	𝑢̄
2	𝑍	C	𝐶,𝑐	M	𝑛̄	W	𝐻
3	𝐽	D	𝑑	N	𝑛	X	𝑌
4	𝑌	E	𝐸	O	𝑜,𝑂	Y	𝑦
5	𝑆	F	𝐹	P	𝑃	Z	𝑍
6	𝑏	G	𝐺	Q	𝑞	SP (space)	
7	𝑇	H	𝐻,ℎ	R	𝑟	⁻ (minus/ hyphen)	−
8	𝐵	I	𝑖,𝐼	S	𝑆,𝑆	= (equal mark)	⁼
9	𝑔	J	𝐽	T	𝑡,𝑇	⁻ (under- line)	−

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