TASCAM

TEAC Professional Division

RC-848

Remote Control Unit

VERSION 4.00

OWNER'S MANUAL

5700141402

CHAPTER 1 : INTRODUCTION

In this manual we use "DA" to cover both the DA-88 (Version 4.00 and earlier models) and the DA-38. We state them separately only when needed.

The RC-848 multi-function remote control unit is the heart of a professional production system of digital and analog audio and video tapes ; it has Accessory 1 and 2 connectors to control TASCAM analog machines, and a standard RS-422 interface to control VTRs or others.

The RC-848 can control a maximum of 6 DAs or synchronize a system of up to 16 DAs to sample accuracy.

More specifically the RC-848's capabilities include the following :

- Menu names you use most frequently can be stored in battery backup memory for instant access.
- Battery backup of the last menu screen displayed before selecting another machine, allowing you to directly return to that menu when selecting the corresponding machine again. This is also true of the LOCATE TIME display.
- Park position, this helps to eliminate a lag between a master and slave.
- Crossfade time for click free punch-in recordings.
- Instant reset of settings at multiple specific menus
- Automatic offset entry
- 99-point autolocator functions
- Jog/Shuttle wheel for locating specific points on audio or video tapes at variable speeds
- Split mode for punch-in recording referenced to a video picture.

SOFTWARE UPDATES

Many capabilities which were not available on earlier models have been implemented on the RC-848 ROM version 4.00 and above. Information on all changes and new features are included in this manual. If you want to make sure of the version number of your model, simultaneously press REW, F FWD, and STOP after switching on power to the RC-848 and before a momentary illumination of all LEDs stops. The initial screen will change to read 4.00 or a higher number. To go back to the initial screen, switch the unit off, then power on again.

❑ Using this manual

> Before actually using the RC-848, skim through this manual, so you will know where to look to when you need answers.

Use of capital letters : Generally, we use all upper case type to designate a particular switch, indicator, control or connector label, as in :"Press CLOCK until INT lights."

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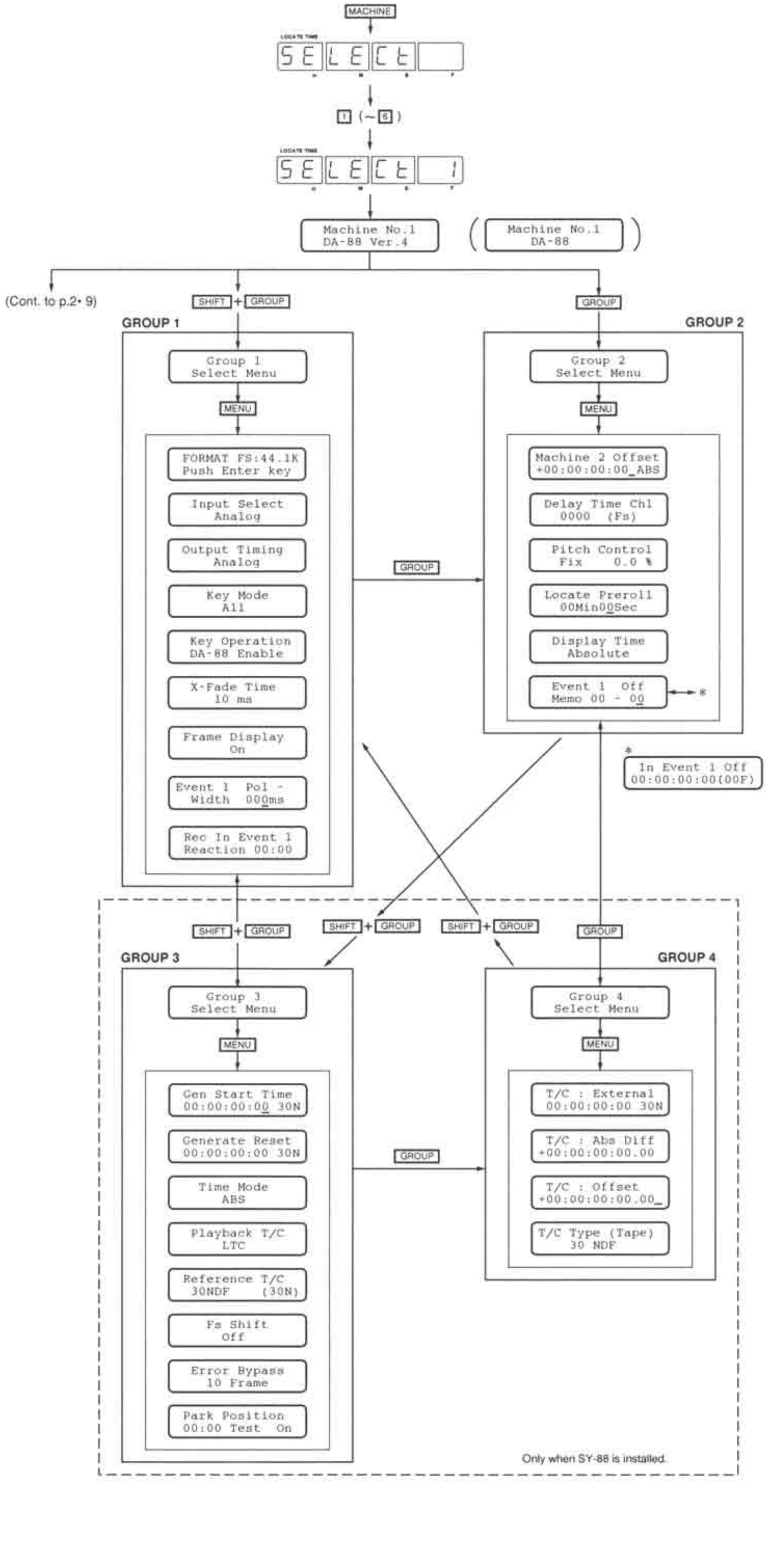
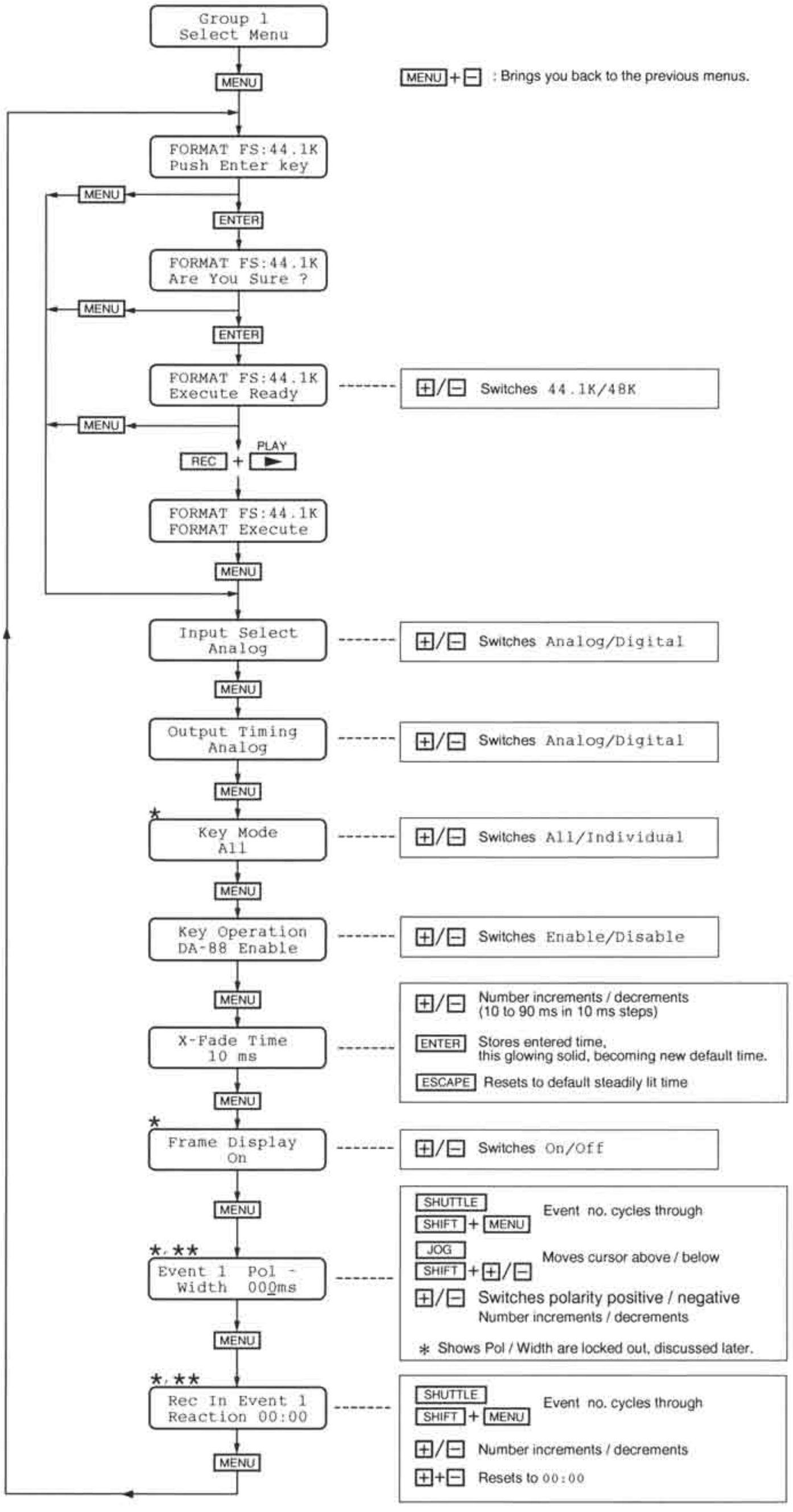
CHAPTER 2 : ACCESSING THE MENU SCREENS

OVERALL ("DA-88 Ver.4" & "DA-88")



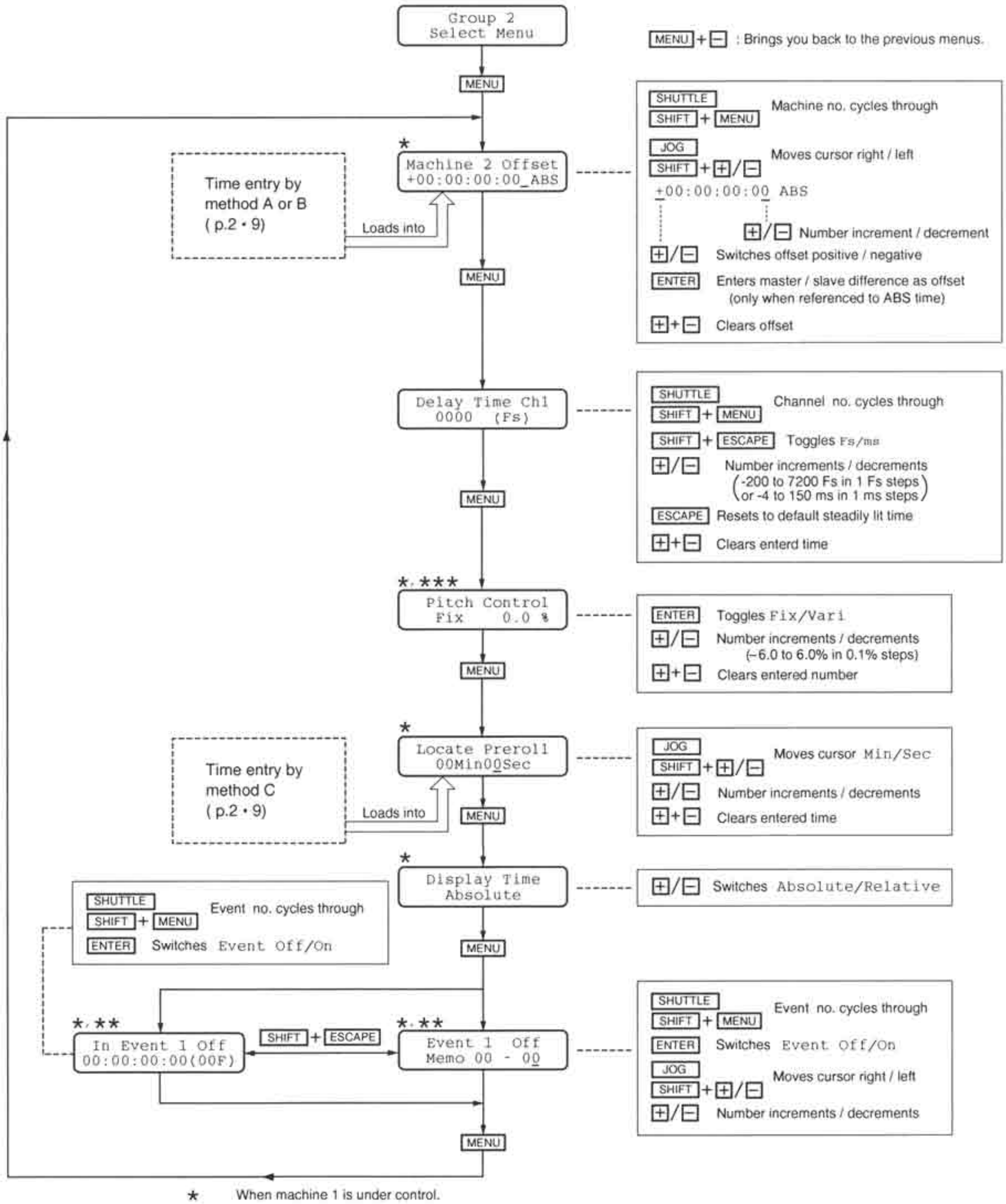
GROUP 1 ("DA-88 Ver.4" & "DA-88")



* When machine 1 is under control.

** Available only when the event output facility is enabled (p.6 •1).

GROUP 2 ("DA-88 Ver.4" & "DA-88")

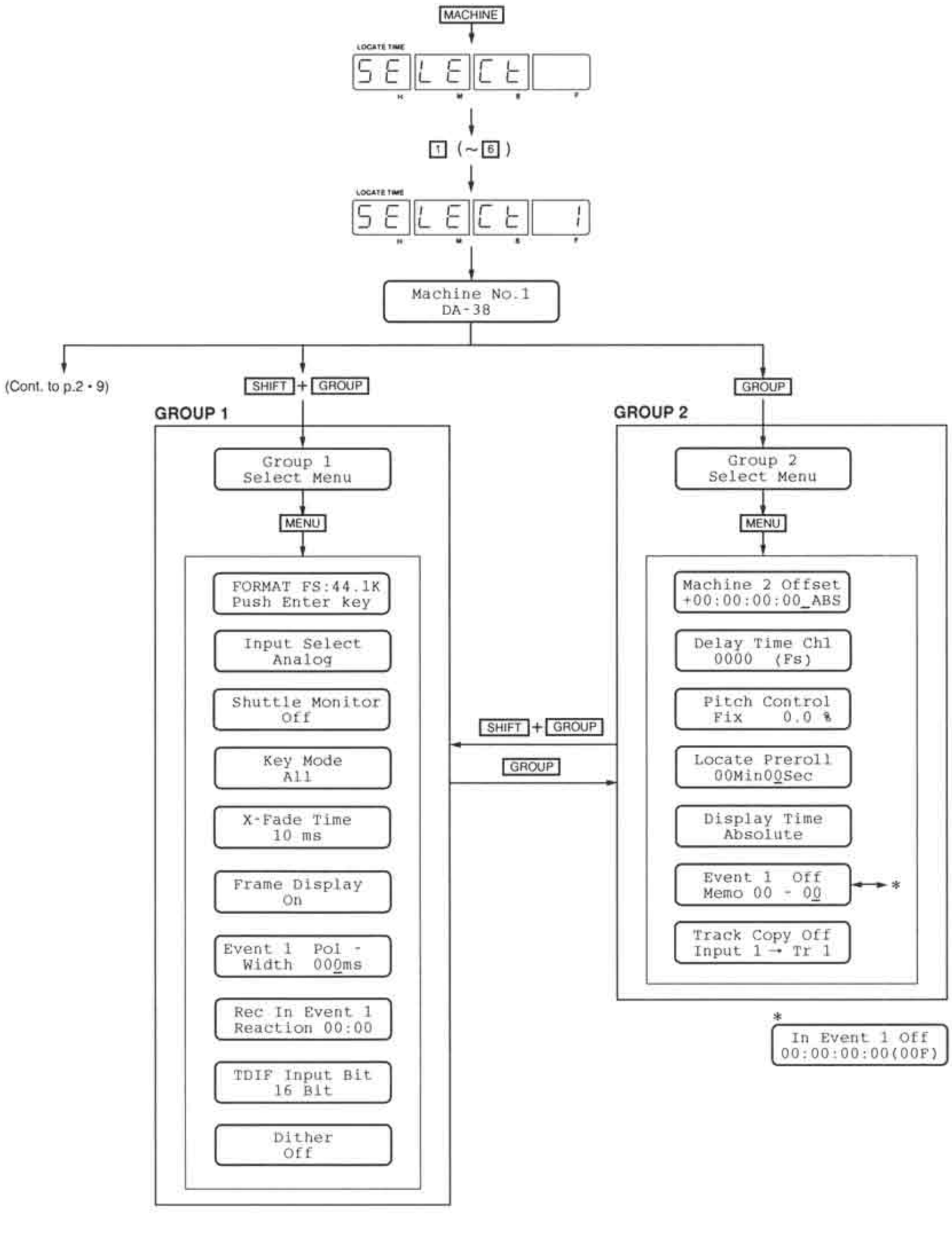


* When machine 1 is under control.

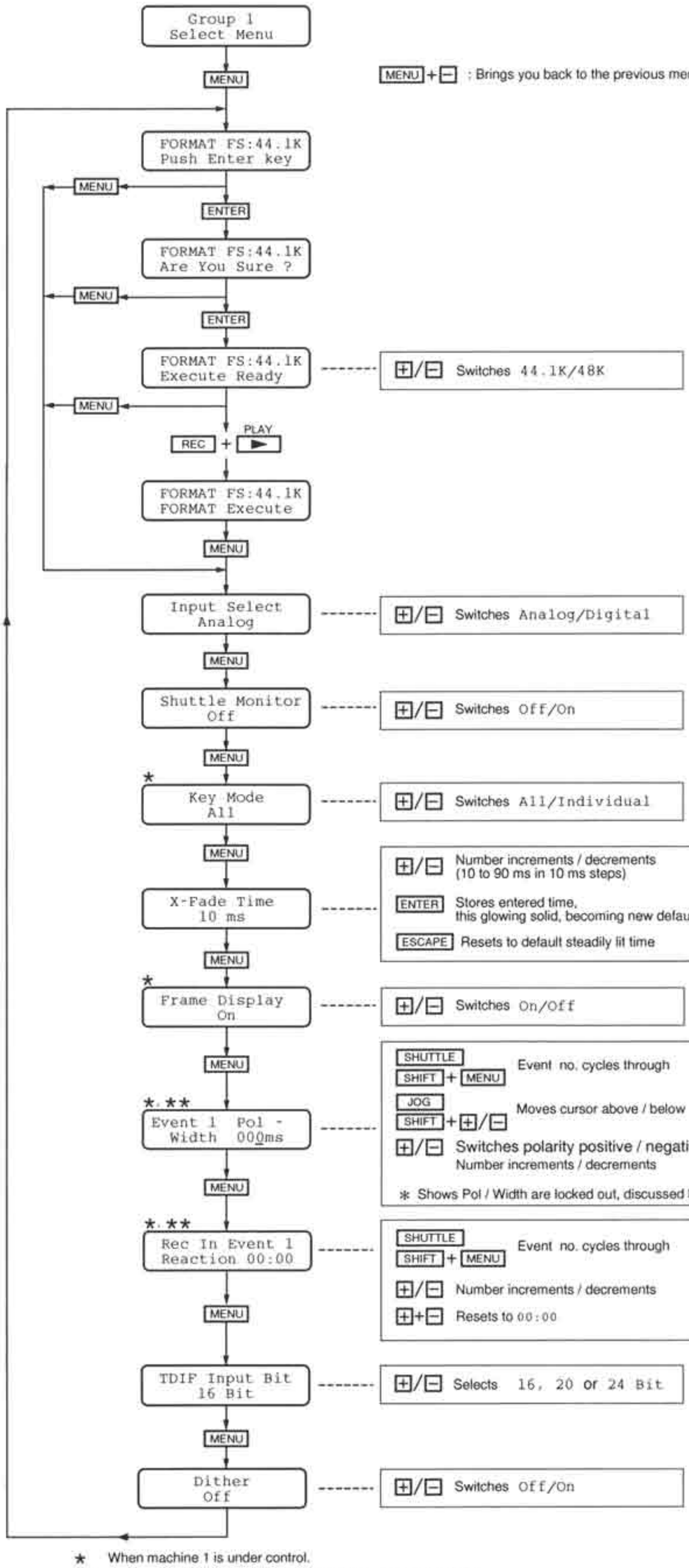
** Available only when the event output facility is enabled (p.6 •1).

*** Available only when DA-88 Ver.4 with SY-88 is under control and is referenced to LTC as selected at the Time Mode menu.

OVERALL (DA-38)



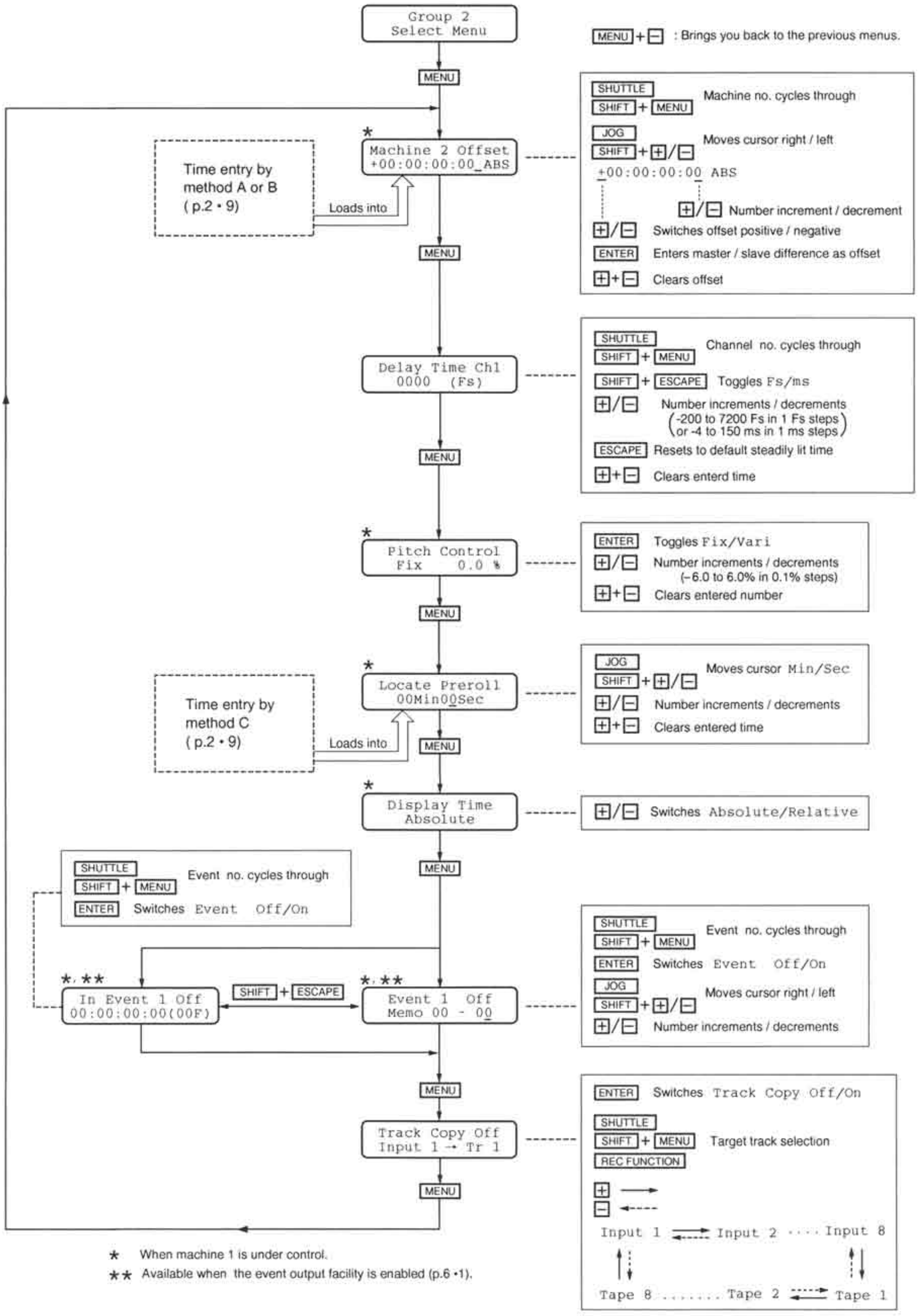
GROUP 1 (DA-38)



* When machine 1 is under control.

** Available when the event output facility is enabled (p.6 •1).

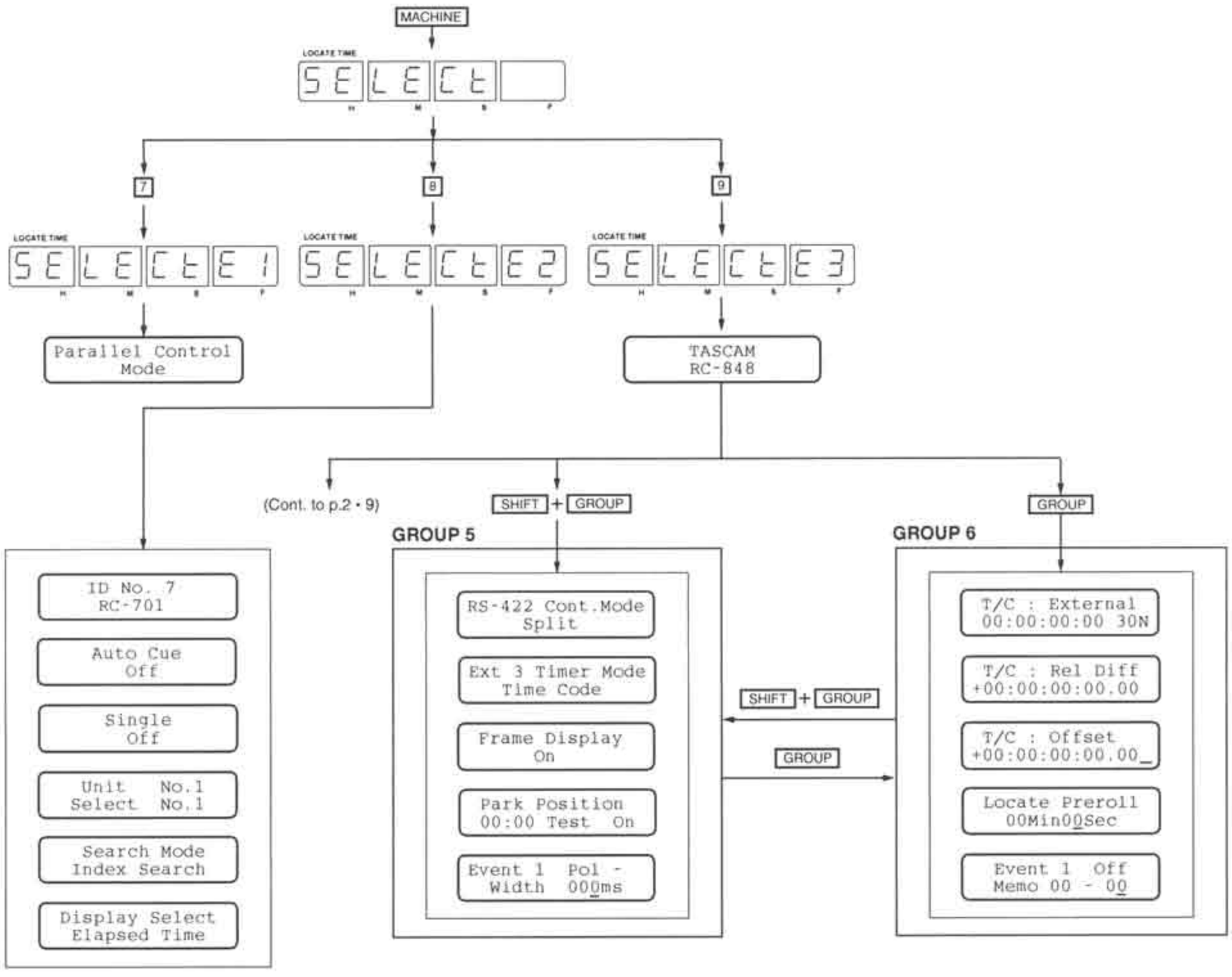
GROUP 2 (DA-38)



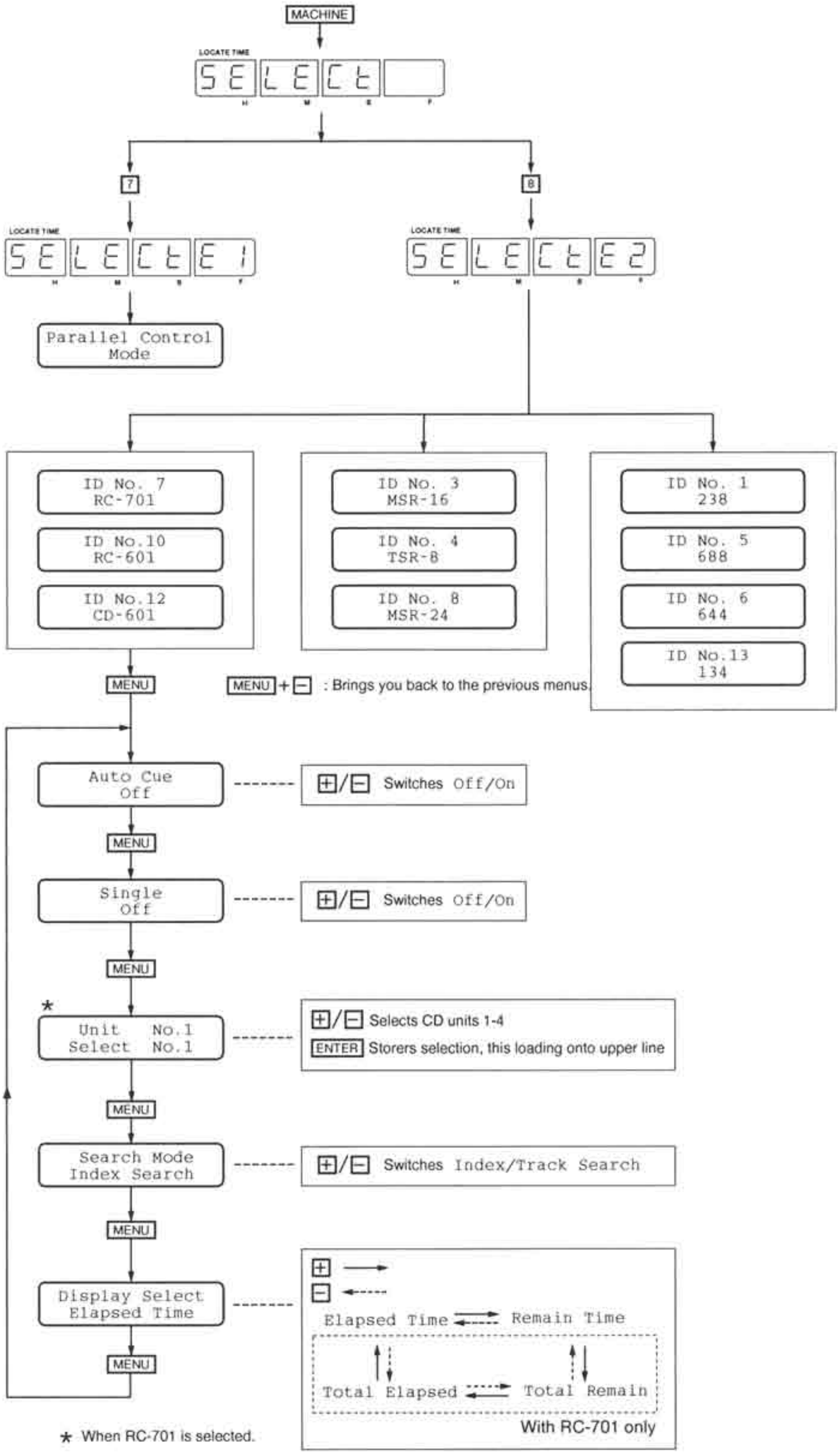
* When machine 1 is under control.

** Available when the event output facility is enabled (p.6 •1).

OVERALL (EXT 1-3)

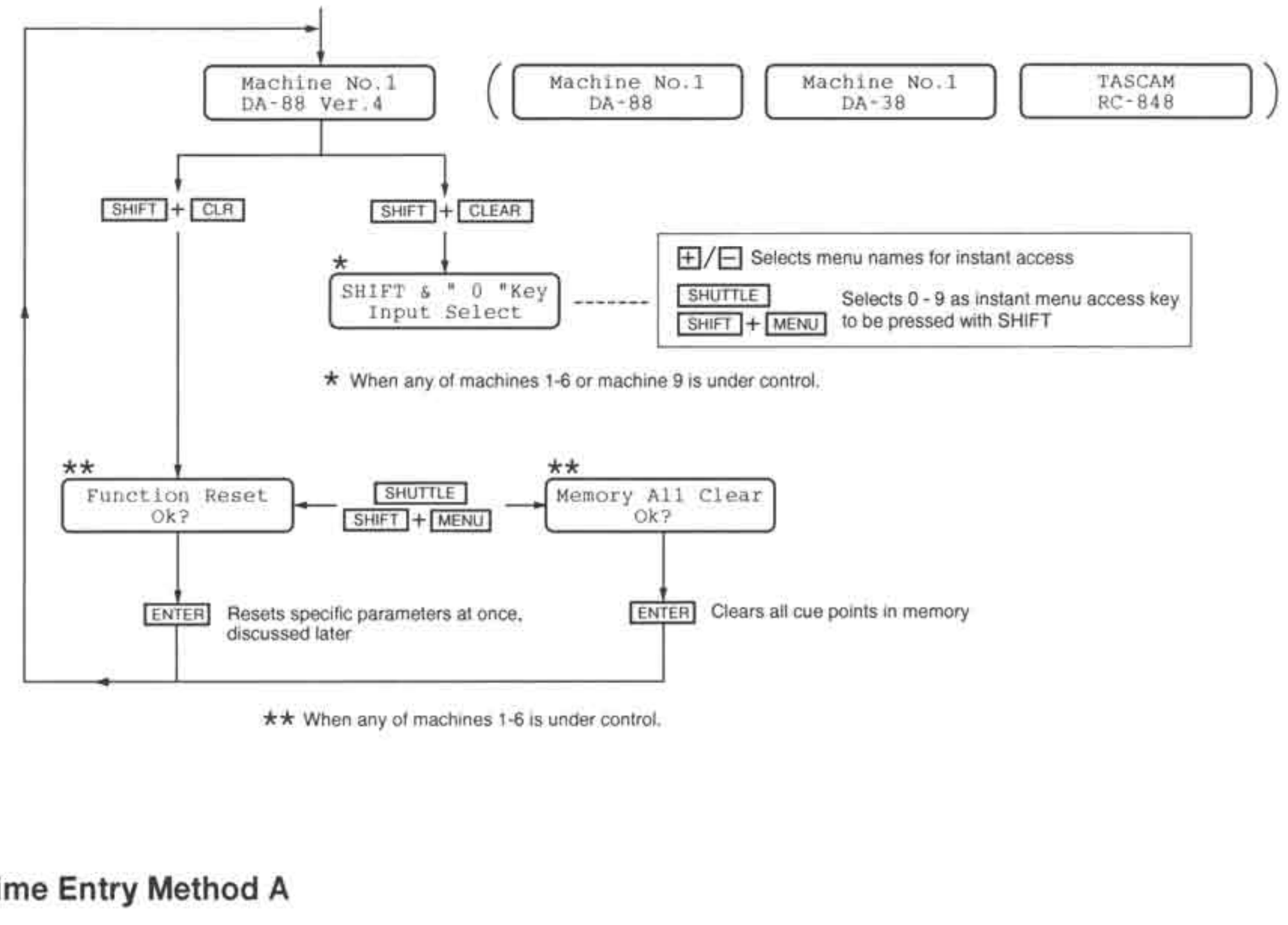


MACHINE 7 or 8

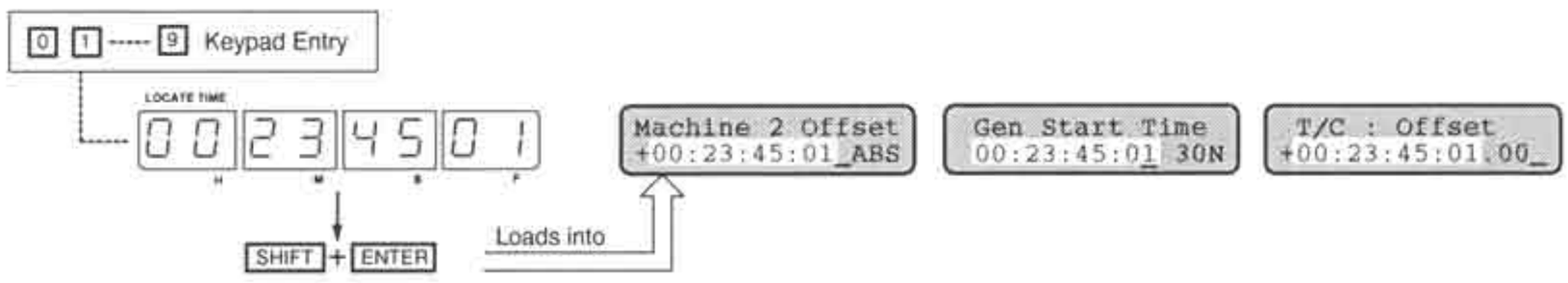


★ When RC-701 is selected.

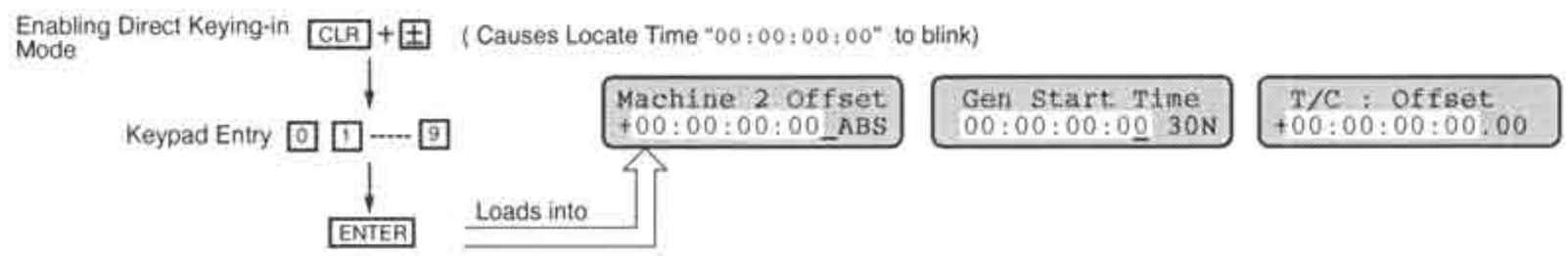
CLEAR/RESET



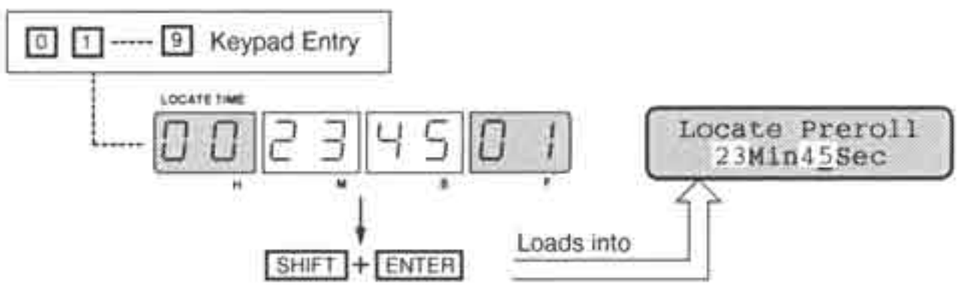
Time Entry Method A



Time Entry Method B



Time Entry Method C



INSTANT ACCESS TO THE MENUS YOU USE MOST FREQUENTLY

A maximum of 10 menus can be stored so you can directly access them by pressing SHIFT at the same time as a numeric key (0-9) at the initial screen (which can read "TASCAM RC-848", "DA-88 Ver. 4", "DA-88" or "DA-38", depending on your setup). This feature can be used when any of machines 1-6, or machine 9, is under control.

If you are using the optional SY-88 Sync Board, we suggest that you also review the section with the corresponding heading in Chapter 9.

You can select whatever menu you want, as follows :

1. At the initial screen, press **SHIFT** + **CLEAR** (not CLR). The screen will change to look like this :

```
SHIFT & " 0 "Key
  Input Select
```

2. Each time you press the **plus (+)** key, the menu names will be displayed in order on the second line. To go back to the previous menu name, press the **minus (–)** key.

   You are now selecting a menu that you can diretly access when pressing SHIFT + 0 at the initial screen.

3. Rotate the **SHUTTLE** knob or press **SHIFT** + **MENU**. The screen will change to look like this :

```
SHIFT & " 1 "Key
  Input Select
```

   Then, select another menu by operating the **+** and **–** keys, a menu that you will be able to access when pressing SHIFT + 1.

4. In the same manner, program other menus.

DIRECT RETURN TO MENUS

Each time you select another machine, the menu you were at is stored in a backup memory so you can promptly go back to that menu when selecting the machine again.

MENU SCREENS EXPLAINED

Those menu screens with no page reference are referred to only in this section of the manual.

Menus which can be accessed only when you use the SY-88 sync board are explained in the section, USING THE RC-848 WITH THE SY-88.

❑ Group 1

FORMAT FS
Selects sampling rates 44.1 and 48 kHz when formatting a tape (p.4 • 2).

Input Select
Selects Digital/Analog as the source of the DA under control (pp. 4 • 4 & 11 • 3).

Output Timing
Determines whether the DA-88 times its timecode output to coincide with the analog output or with the digital output (pp.5 • 6 & 11 • 3).

Key Mode
Determines, in a multiple DA system, whether the following keys have effect only on a master DA or on all slave DAs as well :

ALL SAFE/REC READY, ALL INPUT,
AUTO INPUT, and INSERT

When Individual is selected, they are effective only on a machine under control (pp.5 • 4 & 5).

Key Operation
Determines whether or not all controls on the DA under control are locked out.

X-Fade Time
For selection of a crossfade time for click-free dropping into and out of record (p.4 • 11).

Frame Display
The frame display is hidden when you select Off at this menu. This allows you to begin entering "seconds" when entering on the numeric keypad. "00" is then automatically entered in the frame section though it remains hidden. This feature is NOT effective when machine 7 or 8 is under control.

Event (Pol and Width)
This menu is where you select a polarity and pulse width depending on event devices in use. Event points can be programed at an Event On/Off menu (Group 2) (p.6 • 1).

Rec In Event
Allows to overcome the response or reaction time discrepancies between event devices you select at an In Event menu (Group 2), so that they are timed to start exactly at an IN memory point you select as a Rec In point for a recorder or recorders to drop into record (p.6 • 2).

Remember, this menu is related to the In Event menu, but has nothing to do with the Event On/Off menu.

❑ Group 2

Machine Offset
For entering offset values for individual machines 2-6 either manually on the numeric keypad or automatically by pressing ENTER (p.5 • 3).

Delay Time
For inserting delays in individual tracks 1-8 (p.4 • 9).

Pitch Control
For having any machine under control play at variable speeds. You can enter pitch changes before or during play (pp.4 • 5 & 9).

Locate Preroll
This screen is where a preroll time is entered for the LOC key to offer preroll up to a point recalled from memory into the LOCATE TIME window (p.4 • 7). Not to be confused with the "punch-in" preroll (p.4 • 13). Also remember that this menu and the DA-38's Autolocation Preroll function are independent of each other.

Display Time
The TAPE TIME display shows elapsed time from a user selected point or from the beginning of the tape, as controlled from this menu screen (pp.4 • 10 & 11).

Event (On and Off)
Allows you to switch individual events 1-5 on and off, and to select first and second shot points from memory for each event (p.6 • 1).

In Event
Used to select events (1-5) for them to be told to start user entered times before a Rec In point, overcoming thus the reaction or response time discrepancies between them (p.6 • 2).

See also *Rec In Event* (Group 1).

❑ Menu Functions Available Only When DA-38 Is Under Control

(Group 1)

Shuttle Monitor
Used to activate or disable the corresponding function. Remember, for the function to be actually available, both the Insert and the Auto Input monitor functions must additionally be activated (p.4 • 14).

TDIF Input Bit
At this menu you can and have to select a bit length for the DA-38 to send or receive digital data through its TDIF-1 I/O port (p.4 • 15).

Dither
The re-quantization noise is or is not be 'dithered' (or masked), as selected at this menu (p.4 • 15).

(Group 2)

Machine Offset
Allows the DA-38 to lead or lag a master within the limits of +/-2 hours.

Track Copy
Tracks can be copied within one DA-38 or from tracks of one DA-38 to tracks of another, as controlled from this menu (p.4 • 14).

❑ Menu Functions Available Only When Machine 7 Or 8 Is Under Control

Auto Cue
Switches the corresponding function on and off on CD-601 or other TASCAM CD players.

Single
Determines whether the CD player under control only plays a single track or continues to play.

Unit
Selects CD-701s when the RC-848 is used with the RC-701.

Search Mode
Determines whether the pickup of the CD player under control skips directly to a specific index signal or to the desired track (p.7 • 3).

Function Reset
Allows you to reset the following parameters to their factory preset values at once :

X-Fade Time (Group 1), Machine Offset, Delay Time, and Pitch Control (Group 2).

To do so, proceed as follows :

Press **SHIFT** + **CLR** (not CLEAR) at the initial screen, the display will change to look like this :

```
Function Reset
    Ok?
```

Then, press **ENTER**. Or if you change your mind, you can press **ESCAPE** ; you'll then go back to the initial screen.

Memory All Clear
From this menu you can clear all cue points and a relative reference point in memory at once, as follows :

Turn the **SHUTTLE** knob or press **SHIFT** + **MENU** at the Function Reset menu above. The display will change to look like this :

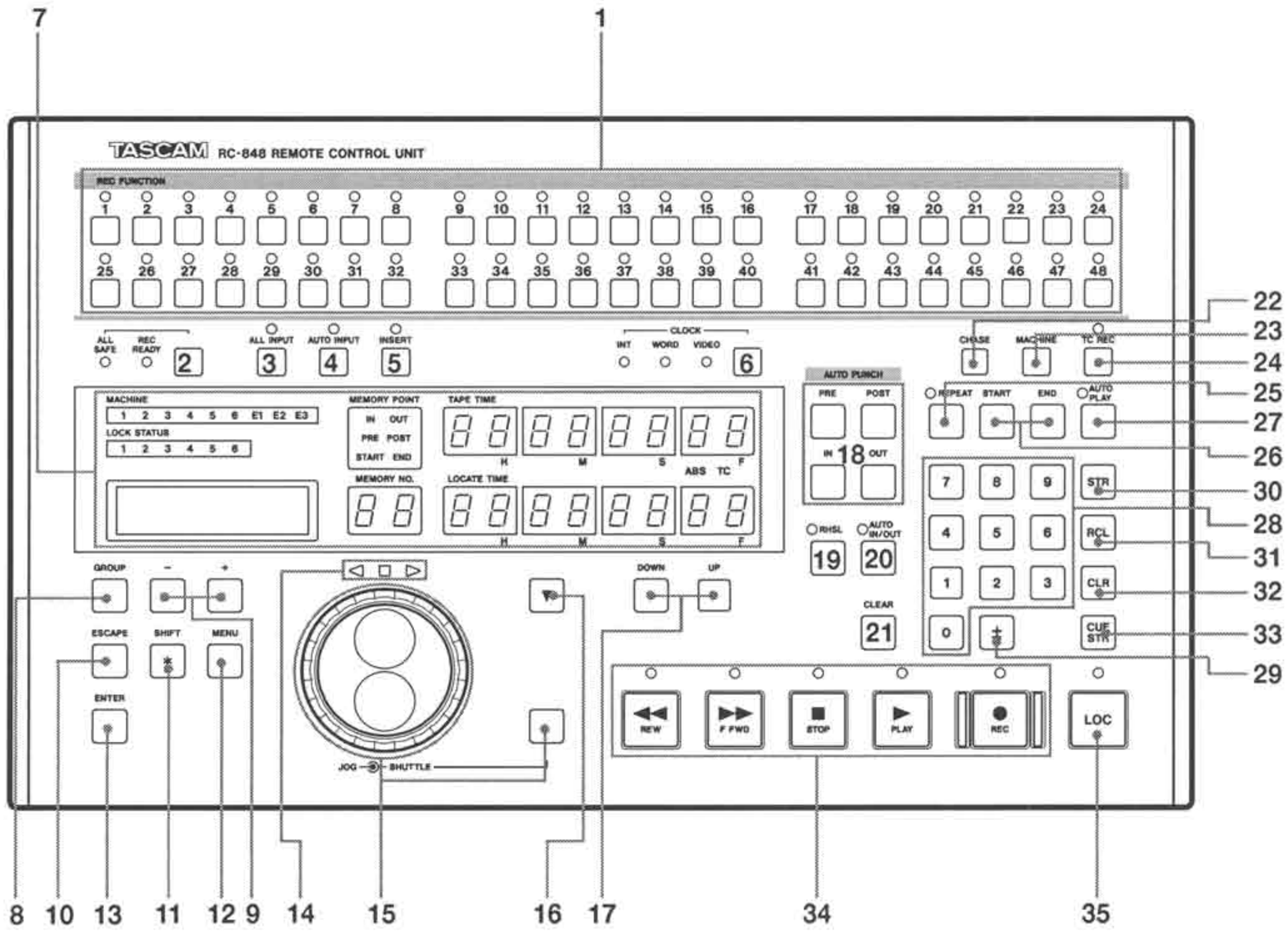
```
Memory All Clear
    Ok?
```

Then, press **ENTER**. All memories 00 to 99 for the DA under control (any of machines 1-6) is cleared.

Or, if you change your mind, press **ESCAPE**. You'll go back to the initial screen.

If you turn the **SHUTTLE** knob or press **SHIFT** + **MENU** (instead of pressing ENTER or ESCAPE), you'll go back to the Function Reset menu.

CHAPTER 3 : FEATURES AND CONTROLS



NOTE

The DA-88 can be specified as the master by setting its ID MACHINE switch to "0". It is then recognized as machine "1" by the RC-848. Likewise, the first slave which is ID-numbered "1" is recognized as machine "2", the second slave which is ID-numbered "2" as machine "3", and so on.

ADVARSEL:
Lithiumbatteri – Eksplosionsfare.
Udskiftning mä kun foretages af en sagkyndig,
og som beskrevet i servicemanualen.

If you use the RC-848 to control TASCAM analog machines or a VTR, you should also see Chapters 7, 8 and 12. Some controls on the remote provide different functions and some others cannot operate depending on the machine connected.

1. REC FUNCTION switches

For selecting tracks to be recorded.
If you connect multiple DAs to the remote in series, REC FUNCTION 1-8 will control tracks 1-8 of machine 1, REC FUNCTION 9-16 will control tracks 1-8 of machine 2, and so on.

The associated LEDs flash to indicate Record Ready, and turn solid during Record. To hit the switch whose LED is flashing is to place the corresponding track into record.
You cannot operate any REC FUNCTION switch if ALL SAFE (item 2) is activated.

2. ALL SAFE/REC READY switch

Each time this switch is pressed, ALL SAFE and REC READY alternate, putting all tracks of the DA currently under remote control into Safe mode or into Record Ready mode.

3. ALL INPUT switch

When this is on, all outputs of the DA currently under remote control are switched to carry signals directly derived from the inputs (primarily for alignment). Pressing the switch again disables the function.

4. AUTO INPUT switch

If this switch and INSERT are engaged, inputs to the channels/tracks selected by REC FUNCTION switches are sent directly to the corresponding outputs whenever the DA currently under remote control goes into rewind, fast-forward or stop mode. This allows the talent in studio to talk to the engineer in control room without having to change any setting of the mixer. AUTO INPUT is disabled when you press the switch again.

5. INSERT switch

When this is engaged, the machine will monitor source between punch in & punch out, and will then monitor tape from the punch out point forward. INSERT is disabled when you press the switch again.

6. CLOCK switch

This switch selects the clock to which machine 1 will be referenced.

INT : For use if machine 1 is operated as a stand alone unit or is to be slaved to an analog audio recorder.

WORD : For use if machine 1 is to be slaved to a digital audio recorder.

VIDEO : For use if machine 1 is a DA-88 and is to be slaved to a VTR.

☞ *All other DAs connected to machine 1 in series are referenced to the same clock as machine 1 ; and the local CLOCK switch on them does not operate. The exception is DA-88 Version 4.00 : its CLOCK switch does operate, allowing you to select the same clock as a system master when you want the DA-88 to be slaved directly to that system master (not to machine 1). To do so, the SY-88 must be installed and "LTC" must be selected at the Time Mode menu (Group 4).*

Relationships between the output signals, transport modes and switch settings

			REC FUNCTION	PLAY	RECORD	STOP F FWD, REW	SHUTTLE	
ALL INPUT ON			ON	INPUT	INPUT	INPUT	INPUT	
			OFF	INPUT	INPUT	INPUT	INPUT	
ALL INPUT OFF	INSERT OFF		ON	INPUT	INPUT	INPUT	INPUT	
			OFF	TAPE	TAPE	MUTE	TAPE	
	INSERT ON	AUTO INPUT OFF	ON	TAPE	INPUT	MUTE	TAPE	
			OFF	TAPE	TAPE	MUTE	TAPE	
		AUTO INPUT ON	ON	TAPE	INPUT	INPUT	SHTL. M OFF	TAPE
							SHTL. M ON	INPUT
			OFF	TAPE	TAPE	MUTE	SHTL. M OFF	TAPE
							SHTL. M ON	MUTE

7. Displays

MACHINE : Shows which machine is currently under remote control.

"1" refers to the DA-88 which is ID-numbered "0" or to the DA-38 which is ID-numbered "1" ; **"2"** to the DA-88 which is ID-numbered "1" or to the DA-38 which is ID-numbered "2" ; and so on. **"E1"** refers to an analog machine connected to the remote's 37-pin EXT 1 (ACCESSORY 1) parallel port ; **"E2"** to a TASCAM analog machine connected to the 15-pin EXT 2 (ACCESSORY 2) serial port ; and **"E3"** to a VTR connected to the 9-pin EXT 3 (RS-422) port.

LOCK STATUS : When a slave machine is chasing the master, the corresponding number blinks rapidly. It blinks slowly when the slave is parked at the same address as the master. It glows solid when the slave starts playing sync locked to the master.

LCD screen : Shows MENU-selectable options.

☞ *The user doesn't need to be concerned with "ID NO." shown on the screen when selecting machine E2.*

MEMORY POINT : Identifies the register into which a tape location is stored, or the register from which it is recalled into the LOCATE TIME window.

IN and **OUT** will light when the respective keys are pressed after STR and LOCATE TIMEs (which you may have entered with the numeric keys or have captured on the fly with the ▼ key) are stored into memory as the punch-in and out points. If you hold the IN key and press the OUT key, both the IN and OUT indicators will light and the display will show the difference between the two time addresses.

PRE- and **POST**roll times are first entered with the numeric keys into the LOCATE TIME window, then they are stored into memory when the respective keys are pressed after STR (p.4 • 13).

START and **END** points may either be captured on the fly with the ▼ key or be specified with the numeric keys. Then they are stored into memory when the respective keys are pressed after STR.

MEMORY NO. : Identifies the register into which you just stored a tape location either captured on the fly with CUE STORE or ▼, or entered with the numeric keys. For more information, see page 4 • 6. This display also shows the register from which a tape location is currently recalled into the LOCATE TIME window.

TAPE TIME : Shows elapsed time from the beginning of the tape inserted in the machine currently under remote control, or time code numbers if available on that tape.

The TAPE TIME display can alternatively act as a tape counter, showing elapsed time from an optionally set reference point. See page 4•10, "Relative Reference Time Indication."

ABS and **TC :** ABS will light to show that the TAPE TIME display is showing elapsed time from the beginning of the tape. Or, TC will light when the display is showing time code numbers as read off the tape inserted to the machine currently under remote control.

When both indicators (ABS and TC) are turned off, the TAPE TIME display is showing a Relative Reference time (p.4 • 10).

LOCATE TIME : Every tape location you capture on the fly or enter with the numeric keys is displayed in this window. Tape locations recalled from memory are also displayed here.

Each time you select another machine, the LOCATE TIME reading at that moment is stored in a backup memory. That reading is automatically read into the LOCATE TIME window from memory when you select the machine again.

8. GROUP switch

This brings you from one group of menus to another. For more, see Chapter 2.

9. - and + keys

These keys have multiple uses, depending on menu : they select options, enter numbers, move the cursor, etc.

Pressing the plus key at the same time as the minus key at the following menu screens :

Machine Offset, Delay Time, Pitch Control, Locate Preroll, and Rec In Event

resets these parameters to the factory preset values.

10.ESCAPE key

This aborts operations if pressed when a warning is displayed. The key is also used to store selections/ numbers at specific menus, as discussed later.

11.SHIFT key

Holding this key and pressing the -/+ moves the cursor on some specific menus such as the "Locate Preroll" (p.4 • 7).

12. MENU switch
Each time you press this switch, menus will switch in sequence on the LCD screen. The menus will switch in reverse order if you hold the MENU switch and press the minus key.

☞ *If you cannot access the desired menu with MENU, consult charts on pages 2 • 1 to 9.*

13. ENTER key
Some menu-settings are stored into memory only when ENTER is finally pressed. The key is also used to select menu options.

14. ◄, ■, and ► indicators
"◄" and "►" will light to show the direction in which the tape is rolling as you rotate the JOG/SHUTTLE wheel to the left or right. "■" will light solid when you detach the hand from the wheel and the tape stops moving. It will flash when a local SHUTTLE wheel is operated on the DA currently under remote control and the remote SHUTTLE is overridden.

15. JOG/SHUTTLE switch and the wheel
Pressing the switch allows you to use the inner JOG wheel and the outer SHUTTLE knob for locating and pinpointing a specific point on the tape inserted to the DA currently under remote control at continuously variable speeds determined by the amount of wheel/knob rotation (from 1/16 up to 8 times normal play speed).

If you detach your hand from the knob/wheel, the tape will stop, the machine going into Pause (Still) mode. Activating the JOG/SHUTTLE switch during record also, the transport will go into Pause (Still) mode.

When the switch is off, you can use the JOG wheel to move the cursor on some specific menus such as the "Machine Offset" and the "Event", and the SHUTTLE knob can be used to select machines or events at those menus.

16. ▼ key
When pressed, the TAPE TIME location at that moment is read into the LOCATE TIME window. The time location thus captured can then be stored into any of the 99 memories, as specified by entering a MEMORY NO. with the numeric keys.

TAPE TIMEs read into the LOCATE TIME window with the ▼ key can also be stored into the IN, OUT, START, and END registers by pressing the respective keys.

☞ *To store into memory whatever is read into the LOCATE TIME window, the STR switch must first be pressed.*

17. DOWN and UP keys
Time points currently recalled or read into the LOCATE TIME window will decrement or increment by 1 frame each time you press DOWN/UP, so you can "fine tune" your punch-in/out points or other time points.

18. PRE, POST, IN, and OUT
PRE and **POST** : The desired pre- and postroll times for punch- in recording can be entered into the LOCATE TIME window with the numeric keys. Then pressing PRE/POST after STR stores that time into the PRE/POST memory.

Pressing PRE causes the associated LED to start blinking and the LOCATE TIME display shows not the preroll length but the point where the preroll will start from.

IN and **OUT** : You don't need to go through the Rehearsal setting procedure (p.4 • 12) if you know in advance the exact time points where tracks should punch in and out of record. You can enter these points with the numeric keys, and press STR then IN/OUT to store them into memory as the punch-in/out point. If you press IN or OUT later on, the respective point is recalled from memory into the LOCATE TIME display.

The IN and OUT points can also be used as independent autolocating points.

19. RHSL switch
Rehearsal is the first stage of an automatic insert or punch- in recording. This key allows you to "preview" the punch-in recording before it is actually committed to tape. For more see pages 4 • 11 & 12.

20. AUTO IN/OUT switch
Lets the punch-in recording be executed actually on tape (p.4 • 13).

21. CLEAR key
This is used to disable the RHSL and AUTO IN/OUT functions.

CLEAR is also used together with SHIFT to store menu names for instant access, previously discussed on page 2 • 10.

If you enter wrong numbers into the LOCATE TIME window, press the CLR key (item 32).

22. CHASE switch
When this is pressed, the LCD screen reads "CHASE," asking you which of machines 2-6 you want to slave to machine 1. Then, for example, you can press 2 on the keypad. Machine 2 will then be autolocated to the same time point as machine 1.

Enabling/Disabling Chase mode on all slave DAs at one time, is explained in the section, Synchronizing Multiple DAs.

For digital audio machines other than the DA to be slaved, the optional SY-88 Sync Board needs be installed into machine 1.

23. MACHINE switch

When this is pressed, "Select" shows in the LOCATE TIME window, and you can use the keypad to specify which machine will be controlled from the remote. You can select only one machine at a time.

24. TC REC switch

When a DA-88 with SY-88 is under control, this switch enables to record time code into the subcode area of the tape loaded on that machine.

TC REC is also used to copy time code at the same time as digital data from one DA to another DA. For more, see pages 11 • 2 & 3.

25. REPEAT key

Enables the selected machine to play a loop determined by the START and END memory points.

26. START and END keys

Pressing START after STR puts the current LOCATE TIME (which you may have entered with the ▼ key on the fly or with the numeric keys) into memory as the start point of play loop. Likewise, pressing END after STR specifies the end point of your loop.

You can recall the start/end point into the LOCATE TIME window by pressing START/END. Then you can "fine tune" that time with the UP and DOWN keys. Pressing LOC locates the tape to the start or end point (whichever is currently displayed) ; so you can audition that point to check for accuracy.

Pressing REPEAT lets the tape play over and over between the START and END points.

27. AUTO PLAY key

Causes the machine currently under remote control to start playing automatically each time it is autolocated to any time point shown in the LOCATE TIME window.

28. Numeric keys

Unless you press STR or RCL before pressing numbers on the keypad, your numbers will enter into the LOCATE TIME window. Each time you enter one digit, the previously entered digits will shift to the left.

When STR or RCL is pressed, numbers you press will enter into the MEMORY NO.window.

If, after having pressed STR, you notice that some figures in the LOCATE TIME numbers are wrong, then you can correct them with the UP and DOWN keys. Or, if you want to correct the hour or minute numbers, you'll have to clear the entire address by pressing the CLR key before entering the correct numbers.

When MACHINE is pressed and "Select" shows in the LOCATE TIME window, only one digit (1 to 9) can be entered.

Among the menus there are some at which you need to enter numbers on the keypad. At such menus you can either enter numbers first into the LOCATE TIME window then load them on the menus shown on the LCD screen, or you can type numbers directly in menus if you press the CLR key then press the ± key before operating the numeric keypad.

29. ± key

When the TAPE TIME display is showing a Relative Reference time (p.4 • 10), if the current tape time is read into the LOCATE TIME window by pressing the ▼ key, that time number will be marked "-" or not, depending on whether the tape was rolling behind or ahead of the 0 reference point. The ± key is used to turn the - mark on or off to meet your requirements.

Another use of the ± key is referred to in the above paragraph, 28.

30. STR key

When this is pressed, the current LOCATE TIME which you may have entered with the numeric keys or captured on the fly by hitting the ▼ key, is ready to be stored into memory. That time point will be stored as a cue point when you enter numbers into the MEMORY NO.window. Or, you can press IN, OUT, START, or END to store the address to these marker points.

31. RCL key

Allows you to use the numeric keypad to enter a two-digit number into the MEMORY NO. window to recall a cue point into the LOCATE TIME window, to which any selected machine will be located when you press LOC.

32. CLR key

Used to clear the LOCATE TIME display to zero, or to override STR or RCL.

When used together with other keys, CLR allows you to :

- Restore specific parameters to their factory default values, as discussed on page 2 • 12.
- Type numbers in menus by operating the numeric keypad. For the details, see pp.5 • 3, 10 • 1 & 11 • 2.

33. CUE STR key
Hitting this key captures the current TAPE TIME on the fly and directly stores it into memory. That time point is read into the LOCATE TIME window. Each time you hit this key, a new cue point is stored into the next available memory, Storing cue points without specifying any MEMORY NO. is explained in the section, AUTOLOCATOR FUNCTIONS, page 4 • 6.

34. Transport controls
REW : winds the tape at high speed in reverse.

F FWD : winds the tape at high speed in the forward direction.

STOP : stops any tape motion.

PLAY : starts the tape to play. If this is pressed during record, the transport drops out of record.

When controlling the DA-88
If you want to send playback signals from the digital outputs, access the "Output Timing" menu, then press the +/- key to change the "Analog" to "Digital". At "Analog" a compensation circuit is activated to override the D/A-A/D conversion time.

REC : This is a master record key. When you hold this and press PLAY, the track or tracks whose REC FUNCTION indicator was blinking will enter Record mode. If you hit REC during play, the track(s) previously selected by the REC FUNCTION switches will punch into record.

35. LOC key
Fast winds the tape to the current LOCATE TIME point which may have been recalled from memory or captured on the fly with the ▼ key or entered with the numeric keys.

❑ Rear Panel

There is no connector which accepts any control signal from the exterior.

36. CONTRAST knob
This controls the LCD display contrast in continuously variable degrees.

37. EXT 1 (ACCESSORY 1) connector
This 37-pin D-sub connector is connected to the parallel port of analog tape machines.

For more information on the EXT 1 port, see Chapter 6.

38. EXT 2 (ACCESSORY 2) connector
This 15-pin D-sub connector is connected to the identical connector on TASCAM analog tape machines such as 134/134B, 644, 688 and 238 cassette decks, and TSR-8, MSR-16/16S and MSR- 24/24S open-reel decks. The TASCAM CD-601 player or the RC-701/601 CD remote controller may alternatively be connected here. Transport or Record Functions are accessible via this port.

39. EXT 3 (RS-422) connector
This 9-pin D-sub connector is for connection to a VTR or other devices with RS-422 protocol.

For more information on controlling from EXT 3, see Chapter 8 and also the section, USING THE RC-848 WITH THE SY-88.

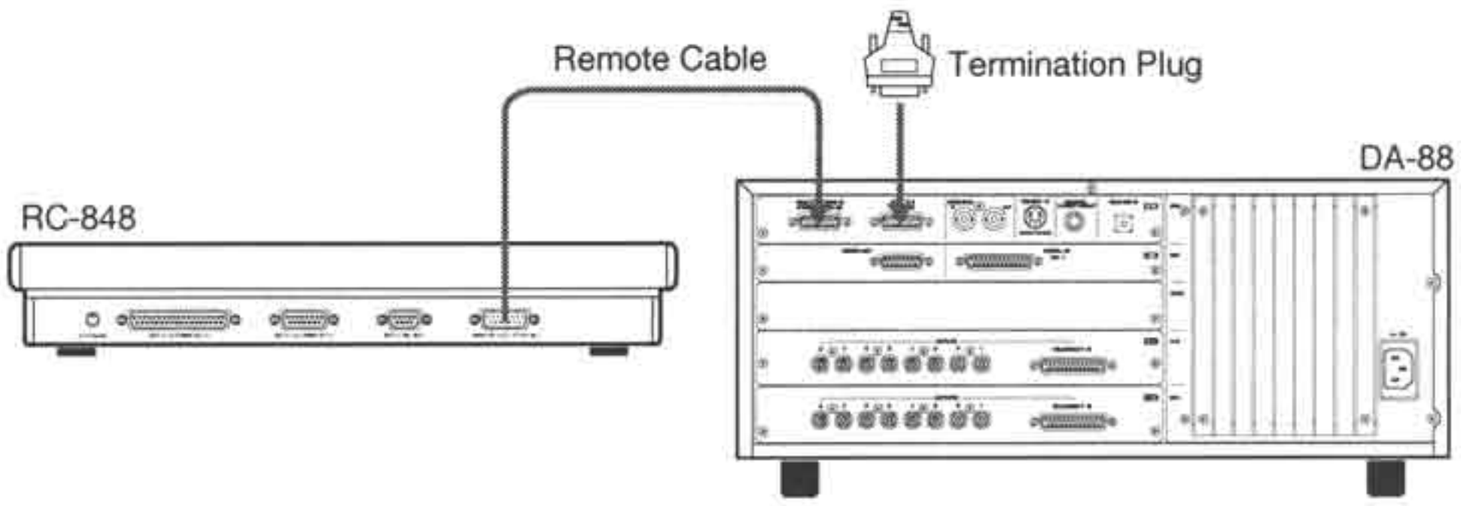
40. REMOTE OUT connector
This connects to the TASCAM DA-88/38 digital multitrack recorder. If you have multiple recorders, connect the SYNC OUT of the first recorder to the SYNC IN of the second, the SYNC OUT of the second to the SYNC IN of the third, and so on. If you connect seven or more recorders (up to 16) in this way, the remote CHASE key cannot control them. You have to press their local CHASE keys.

CHAPTER 4 : OPERATIONS GUIDE

4-1 PRE-OPERATING PROCEDURE

❑ Hookup

Before anything else check to see that the DA(s) and all other components of your system are turned off, then connect the RC-848 to the DA (or to one of the DAs) as shown.



☞ *Be sure to insert the provided termination plug into the last DA's SYNC OUT jack. When only one DA is used, the termination plug must be connected to its SYNC OUT jack.*

❑ Formatting a Tape

Before starting audio recording on a new tape, it must be striped with absolute time, ATF (automatic track finding) and other subcode data.

NOTES

- Be sure to format the tape from beginning to end in one continuous stroke. Do not interrupt the format process.
- Once formatting starts, all transport control buttons are locked out except STOP.
- Audio can be recorded while formatting the tape (discussed later in this section of the manual). But, to insure against noise and discontinuity of ABS time, it's wise of you to format the tape from the beginning all the way to the end before recording audio.

1. Turn on the DA directly connected to the remote.

   "1" will light up in the MACHINE window above the LCD screen on the remote.

   If you want to use any of machines 2-6 for formatting a tape, select it by pressing MACHINE and entering its number into the LOCATE TIME window.

2. Insert a new Hi8 tape in the DA.

IMPORTANT

- The DA is designed to operate only with Hi8 video tapes. You cannot use any other tapes.
- The DA automatically ejects tapes thinner than 8.5 µm : 150-minute or longer tapes.
- Don't use any tape which was once used for video recording.
- Audio cannot be recorded and the RECORD button will blink when the display shows a negative ABS time.

3. Rewind the tape all the way to the beginning.

4. Access the Format menu screen (Group 1). It will look like this. :

```
FORMAT FS:44.1K
Push Enter key
```

If you want to exit the format mode, press ESCAPE. The LCD display will be switched to show its initial screen. Or, if you press MENU at any time before reaching step 7, you will go to the "Input Select" menu (discussed below) quitting the "Format" menu.

5. Press **ENTER**. The display will read :

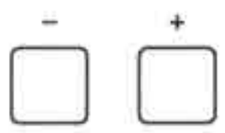
```
FORMAT FS:44.1K
Are You Sure ?
```

The sampling rate can be changed in the next step.

If you don't press ENTER within 5 seconds after having accessed the Format screen, the display will show "Push Enter Key" again.

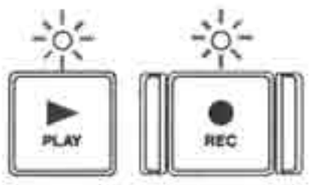
6. Press **ENTER** once more. The display will read :

```
FORMAT FS:44.1K
Execute Ready
```



You can now toggle the sampling rate between 44.1 and 48 kHz with the + and - keys. Remember, once formatting starts, you cannot change the sampling rate.

If you want to exit the format mode, press ESCAPE.



7. Hold **REC** and press **PLAY** to start formatting.

When the tape is formatted all the way to the end, it will automatically rewind, stopping at the beginning.

❑ Real Time, Simultaneous Tape Format

IMPORTANT

- Let the tape run until the end is reached even if audio recording is complete at an intermediate point of the tape. Interrupting the tape format process results in ABS time discontinuities, making proper operation impossible.
- The tapes you intend to use for synchronization (or for any others) must be formatted from the beginning all the way to the end in one continuous stroke. Tapes which were formatted in multiple strokes or were recorded in Assemble mode and in consequence formatted in multiple strokes could lead to unstable synchronization when they transit from one formatted section to the next formatted section. Such tapes must be reformatted from beginning to end if you want to use.
- During the tape formatting process, any transport controls do not operate except for STOP.
- Audio cannot be recorded and the RECORD button will blink when the display shows a negative ABS time.

☞ *Hook up a multiple DA sync system a basic example of which is shown in Chapter 5.*

WARNING

Make all connections with power OFF.

☞ *If you are using the DA-88s, assign them machine ID numbers at this stage, while they are turned off.*

1. After you have connected all components of your system, switch on power to the system. Be sure to turn on all the slaves BEFORE the master.

   If you are using the DA-38s, assign them machine ID numbers at this stage.

IMPORTANT

Assign a different ID number to each of the DAs.

2. Insert a new Hi8 tape into each of the machines.

NOTES

- The DA is designed to operate only with Hi8 video tapes. You cannot use any other tapes in the DA.
- The DA automatically ejects tapes thinner than 8.5 µm : 150-minute or longer tapes.
- Don't use any tape which was once used for video recording.

3. Select a slave DA with the **MACHINE** switch and the **numeric keypad**, then press the remote **REW** to rewind the tape in the selected machine all the way to the beginning.

CHASE

4. Press the remote **CHASE** and the "CHASE" will show in the LOCATE TIME window.

5. Enter the selected machine's ID number on the **numeric keypad**.

6 Access the Format menu screen (Group 1), which will look like this :

```
FORMAT FS:44.1K
Push Enter key
```

If you want to exit the format mode at this stage, press ESCAPE or MENU.

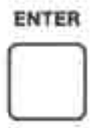
ENTER

7. Press **ENTER**. The display will read :

```
FORMAT FS:44.1K
Are You Sure ?
```

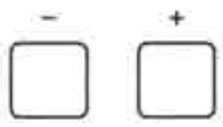
You can change the sampling rate in the next step.

If you don't perform the next step (8) within 5 seconds after having accessed the Format screen, the display will switch back to read "Push Enter Key".



8. Press **ENTER** once more. The display will read :

```
FORMAT FS:44.1K
Execute Ready
```



You can now toggle the sampling rate between 44.1 and 48 kHz with the + and - keys. Remember, once formatting starts, you cannot change the sampling rate.

If you want to exit the format mode at this stage, press ESCAPE.

IMPORTANT

It is imperative that all the slaves are referenced to the same sampling rate as the master.

☞ *When recording digital input, the DAs switch themselves for an incoming sampling rate, overriding your selection.*

9. Repeat the procedure outlined in steps 3 through 8 above for each of the remaining slaves you want to use for simultaneous tape format.

10. Select machine 1 (the master).

    If you intend to record audio while at the same time the tapes are formatted, see also the next paragraph, Audio Recording.

11. Hold **REC** and press **PLAY**, and the simultaneous format process starts, and also the audio recording process if you have so programed.

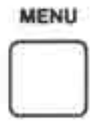
❑ Audio Recording

PRELIMINARY NOTES

- Do no use a tape once used in any different machines from the DA : a tape used for video recording for example.
- We recommend that you use pre-formatted new (blank) tapes for new recordings.
- Speaking of remembering, you can use only Hi8 video tapes in the DA. Tapes thinner than 8.5 µm (150-minute or longer tapes) cannot be used, either.

1. Check to see that all elements of your system are correctly connected.
2. Turn on the DA if you have turned it off.

   Check to see that the correct number lights up in the MACHINE window.
3. Insert a formatted Hi8 tape into the DA.

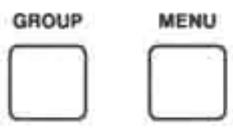


4. Press **MENU** so the LCD screen reads :

```
Input Select
Analog
```

5. If you want to record audio from digital inputs, press the + or - key. The screen will change to read "Digital." Pressing the key again will switch the screen back to "Analog."

   If you have selected "Digital," the DA currently under remote control is automatically referenced to the clock derived from its WORD SYNC IN, as confirmed by the WORD CLOCK indicator being lit on the remote.



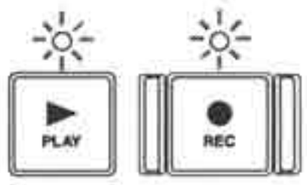
6. Press **GROUP** then **MENU** so the screen reads :

```
Pitch Control
Fix    0.0 %
```

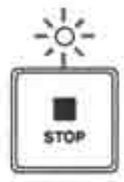
   If "Vari" shows, press **ENTER** to select "Fix."

7. Press the **REC FUNCTION** switches for the tracks to be recorded on. The associated LEDs will start flashing to show that the tracks are in Record Ready mode.

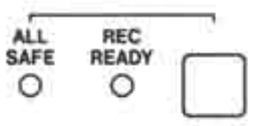
   If you intend to record analog audio, adjust the output level controls of the source machine as high as possible, without causing overscale reading on the DA's meter.



8. Hold **REC** and press **PLAY** to start audio recording.



9. To terminate recording, press **STOP**.



10. To insure against accidental erase, put the tracks into Safe mode by pressing their **REC FUNCTION** switches again. Alternatively, you can press ALL SAFE.

11. Rewind the tape to the beginning of the recording just done.

Playback

12. Make sure that your monitor speaker system is correctly connected to the DA, then press **PLAY**.

13. To stop play (definitely or momentarily), press **STOP**.

4-2 AUTOLOCATOR FUNCTIONS

A maximum of 99 cue points can be stored into memory, to which you can have the tape be autolocated by pressing LOC.

❑ Setting Cue Points

Cue points can be specified on the fly or with the numeric keys.

(1) On the Fly

Auto Storage :

CUE STR

During play, hit **CUE STR** at the desired moment.

If, when no MEMORY NO. is displayed, you hit CUE STR, the TAPE TIME display at that moment is loaded into the LOCATE TIME window and stored into the lowest memory register available. If a MEMORY NO. is displayed, say "02" for instance, the captured time is stored into the "03" memory register. If "99" is displayed, the time is stored into the "01" register. (The "00" memory register is for storing a relative reference point, page 4 • 10.)

Manual Storage :

▼

STR

During play, hit the ▼ key. The TAPE TIME at that moment will be read into the LOCATE TIME window. Then press **STR** and specify a MEMORY NO. with the **numeric keys**. To enter numbers lower than 10, first enter "0." As soon as you enter two digits into the MEMORY NO. window, the captured tape time is stored into that number's memory register.

(2) With the numeric keys

1. Enter the desired tape times with the **numeric keys** into the LOCATE TIME window.

STR

2. Press **STR**.

3. Press two digits on the keypad. They will be entered into the MEMORY NO. window. To enter numbers lower than 10, first enter "0."

   As soon as two digits are entered, the current LOCATE TIME is stored into that memory register.

❑ Checking Cue Points

RCL

1. Press **RCL**.

2. Press two digits which represent the memory from which you want to recall a cue point, this recalls the cue point in that register into the LOCATE TIME window.

❑ Changing Cue Points

To "fine tune" a cue point recalled into the LOCATE TIME window :

DOWN UP

1. Press the increment **UP** and **DOWN** keys until the display shows the correct time point.

2. Press **STR** then enter a two-digit MEMORY NO. to store the fine tuned cue point into memory. The previous cue point in that memory is erased.

To entirely change any recalled cue point :
Perform one of the "Setting Cue Points" procedures. Each time you store a new cue point into any MEMORY NO. register, the previous memory in that register is erased.

❑ Autolocating to One of the 99 Cue Points

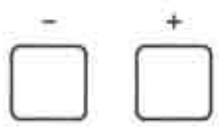
Before actually autolocating the tape to any cue point, know this :

You can locate the tape to a point plus pre-roll time if you use the locate pre-roll parameter. The default time for the locate pre-roll parameter is "0".

To enter a Locate Preroll time :

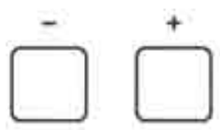
1. Access the Locate Preroll menu screen (Group 2). It will look like this :

```
Locate Preroll
00Min00Sec
```



2. Press the **+/-** key. The "Sec" number will change in 1 second increments.

To move the cursor to the "Min" section, turn the **JOG** wheel to the left. An alternative is to hold **SHIFT** and press the **minus** key.



You can reset the Locate Preroll time to zero by pressing the **plus** key at the same time as the **minus** key.

To autolocate the tape to a cue point :

1. Press **RCL**.

2. Enter the desired MEMORY NO. with the **numeric keys**.

   The cue point stored in that register will be recalled into the LOCATE TIME window.

3. Press **LOC**.

   The tape will automatically be located to the time point currently shown in the LOCATE TIME window, or to the locate point plus pre-roll as defined by the locate pre-roll parameter.

   At the end of the autolocation function, the tape will stop unless AUTO PLAY is engaged.

❑ Auto Play

Pressing AUTO PLAY after or before LOC will cause the tape to start playing whenever the autolocation function is complete.

❑ Repeat Play Between Two Memory Points

Repeat play disregards whatever Locate Preroll Time has been entered.

To set a play loop :

1. During play, capture the desired start point of loop by hitting the ▼ key. That time point will be read into the LOCATE TIME window.

   You can alternatively enter the start time with the numeric keys.

2. Press **STR**.

3. Press **START** to store the LOCATE TIME into memory as the start point of loop.

4. The same manner, capture the end point, and store it into memory by pressing **STR** then **END**.

☞ *There must be at least 5 seconds between the START and END points.*

5. Press **REPEAT** to start repeat play.

To interrupt repeat play :
Press **STOP**. To resume repeat play, press **PLAY**.

To exit repeat play mode :
Press **REPEAT** again.

If you press any transport control button during repeat play, the function pressed is activated, and repeat play will start again if you–

(1) Recall the **START** or **END** point into the LOCATE TIME window, and press **LOC** before or after **AUTO PLAY** (or, you can press **PLAY** after the LOC function is complete) ;

OR

(2) Press **PLAY** if you are within the loop or at a lower point than the start point.

☞ *If no END point is specified, REPEAT cannot operate. If no START point is specified, repeat play will be from the beginning of the tape (00:00:00:00 ABS time) to your END memory point.*

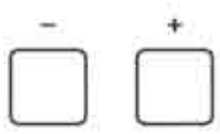
4-3 VARIABLE SPEED PLAYBACK

☞ *The remote can control the play speed of machine 1 or of DA-88 Version 4.00 with SY-88, whether it be mchine 1 or any others, provided that it is referenced to LTC, as selected at the Time Mode menu.*

1. Before or after starting play, access the Pitch Control menu screen (Group 2). It will look like this :

```
Pitch Control
Fix    0.0 %
```

2. Press **ENTER**. The "Fix" will change to "Vari."

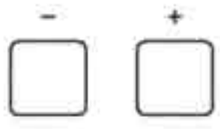


3. Each time you press the + key, the pitch will increase by 0.1%, up to a maximum of +6.0%. If you press the – key, the pitch will decrease by 0.1%, down to a minimum of -6.0%. If you hold the key, the % figures will scroll.

   If you press ENTER after entering any pitch changes, the "Vari" will change to "Fix" to show that your pitch changes are defeated although the % figures will not be reset to "0.0 %".

To clear the pitch memory :
When the LCD screen reads "Pitch Control," hold the + or – key and press the other.

4-4 ENTERING A TRACK DELAY TIME



1. Access the Delay Time menu screen (Group 2). It will look like this (we will always refer to this as "Track Delay"):

```
Delay Time Ch1
0000  (Fs)
```

   If you want to insert delays in any other tracks than 1, turn the SHUTTLE knob so that the desired track number shows.

   An alternative is to hold **SHIFT** and press **MENU**.

2. Press the + key. Each time you press the key, the display will increment in 1 sample steps, up to a maximum of 7200 samples.

   To decrement the number, press the – key. You can enter a minimum of -200 samples.

   1 sample (Fs) corresponds to 22.7 microseconds at 44.1 kHz, or to 20.8 microseconds at 48 kHz.

3. When the desired number has been entered, press **ENTER**.

   The entered time that was blinking will glow solid.

   You can press **ESCAPE** instead of ENTER to clear the entered blinking time to the default steadily lit time.

You can also enter track delay time in 1 millisecond steps within the limits of -4 to 150 milliseconds (150 ms is nearly equal to 7200 Fs). If you want to, hold **SHIFT** and press **ESCAPE** to change "Fs" to "ms." Then enter the desired time with the **+** and **–** keys; then, press **ENTER**.

To defeat the entered delay time, hold either the plus or the minus key and press the other. The display on the lower line will be reset to zero.

Setting one and the same delay time for all (1 to 8) tracks simultaneously :
Either operate the **SHUTTLE** knob, or hold **SHIFT** and press **MENU**, until "All" is displayed on the upper line. Then, enter the desired time with the **plus** and **minus** keys. Once the desired time is displayed, press **ENTER**.

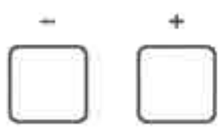
4-5 RELATIVE REFERENCE TIME INDICATION

The TAPE TIME display can be switched to show elapsed time from an optionally specified point on the tape inserted in machine 1.

☞ *Relative reference time indication is available only when machine 1 is under remote control.*

1. Access the Display Time menu screen (Group 2). It will look like this :

```
Display Time
Absolute
```



2. Press the +/– key.

   The "Absolute" will change to "Relative."

3. Press the ▼ key when the tape reaches the point you want to define as a "zero" reference point. The TAPE TIME at that moment will be read into the LOCATE TIME window. You can also enter the desired time with the numeric keys.

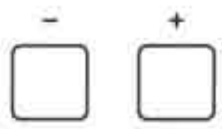
4. Press **STR**, then press **0** two times on the keypad. "00" will show in the MEMORY NO.window.

   From now on the TAPE TIME display will give elapsed time from the time point you have just stored into the MEMORY NO.00 register until you establish a new reference point or switch the display back to Absolute mode.

To locate the tape to your reference point :
Press **RCL**, and press **0** two times to specify MEMORY NO.00. The LOCATE TIME display will read 00:00:00:00. Then press **LOC**.

If a Locate Preroll time has been entered, the tape will be located to a point plus pre-roll as defined by the locate pre-roll parameter.

To establish a new reference point :
Repeat the above procedure. Each time a new reference point is stored into memory, the previous memory is erased.



To switch the display back to Absolute time indication mode :
When the LCD screen reads :

```
Display Time
Relative
```

press the **plus** or **minus** key. The "Relative" will change to "Absolute."

4-6 PUNCH-IN RECORDING

First, check to see that the recording source is plugged into the correct input jack on the rear of the DA which is currently under remote control, and which contains the tape you wish to correct (punch) (i.e., into input 2 for punching in on track 2 etc.).

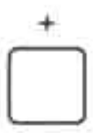
❑ Entering a Crossfade Time

Click-free punch in and out of record is ensured by a crossfade action which defaults to 10 milliseconds. If you want longer crossfades :

1. Access the X-Fade Time menu screen. It will look like this :

```
X-Fade Time
10 ms
```

   If any other crossfade time has locally been entered on the DA, that time will show.



2. Enter numbers by pressing the **+** key. Each time you press the key, the number will increment by 10 ms, up to 90 ms.

   To decrement the number, press the **–** key.

3. Once the desired longer time than 10 ms is displayed (it should be blinking), press **ENTER**.

   The display will glow solid.

- To switch all DAs (1 to 6) to the same crossfade time, select machine 1 and "All" at the Key Mode menu, then enter the desired time at the X-Fade Time screen.

❑ Rehearsal

- With the DA-88 : Check to see that REPEAT is not activated. If it is, press the key to turn its LED off or RHSL cannot operate.

- You can abort rehearsal by pressing CLEAR at any time when RHSL is blinking or on solid.

- If the exact punch-in and out points are already known to you, you can enter those time points with the numeric keys into the LOCATE TIME window, so they can be stored in the IN and OUT memories. Otherwise, specify both points on the fly as instructed here.

1. Locate the tape to a point a few seconds before the point you want recording to start from.

2. Press the **REC FUNCTION** switch of the punch-in track so the associated LED blinks to show that the track is in Record Ready mode.

3. Press **INSERT** so its LED lights.

4. Press **RHSL** so its LED starts blinking to show that the selected machine is in Rehearsal Setting mode.

5. Press **PLAY** to start playing.

6. When the desired punch-in point is reached, hit **REC**.

   That point on the tape is stored into memory defined as the punch-in point.

   DA-88 : Since you are in Rehearsal Setting mode, the monitor does not switch from tape to source (input).

   DA-38 : The monitor switches from tape to source the instant you hit REC.

7. When the point where you want to punch out is reached, hit **PLAY**.
   That point on the tape is stored into memory defined as the punch-out point.

   The RHSL LED that was blinking will turn on solid to show that the machine is switched from Rehearsal Setting mode to Rehearsal mode.

   After a 3-second postroll, the tape will rewind, stopping at a point 5 seconds prior to the punch-in point just set.

   - The preroll time defaults to 5 seconds, and the postroll time to 3 seconds. Both are optionally adjustable, as explained later.

   Note, the Locate Preroll Time (p.4 • 7) has nothing to do with the punch-in preroll time.

8. Press **PLAY** to check the punch-in and out points for accuracy.

   The monitor will switch from tape to source (input) when the punch-in point is reached, and back to tape at the punch- out point.

   If the monitor does not switch exactly at the desired points, either repeat steps 4-8 or recall the punch-in/out point into the LOCATE TIME window by pressing IN/OUT, and fine tune it with the increment UP and DOWN keys.

9. Practice the performance until you are sure that you will get it right when actually recording. Remember, once you punch in over existing material, that original signal is permanently erased.

❑ Actual, Auto Punch In and Out

The INSERT and RHSL LEDs should still light solid. All tracks should be in Safe mode except the one you intend to record on.

10. Press **AUTO IN/OUT** so its LED starts blinking.

    The RHSL LED that was on solid will turn off.

11. Press **PLAY**.

    The tape will punch in and punch out of record at the preset points. After a 3-second (or optionally set time) postroll, the AUTO IN/OUT LED that was blinking will glow solid and the tape will rewind, stopping at the preroll start point.

To review the result :
Press **PLAY**. The tape will play to the postroll end point, and rewind, stopping at the preroll start point.

To record again using the same memory points :
Press **AUTO IN/OUT**. Its LED will start blinking as before, then press **PLAY**.

To exit AUTO IN/OUT mode :
Press **CLEAR**.

❑ Setting preroll and postroll times

The preroll time is factory preset to 5 seconds, and the postroll time is to 3 seconds. You can only enter longer times than them.

1. Enter the desired time into the LOCATE TIME window with the **numeric keys**.

   The pre- and postroll times are second-accurate. To enter 6 seconds, press 6, 0, 0.

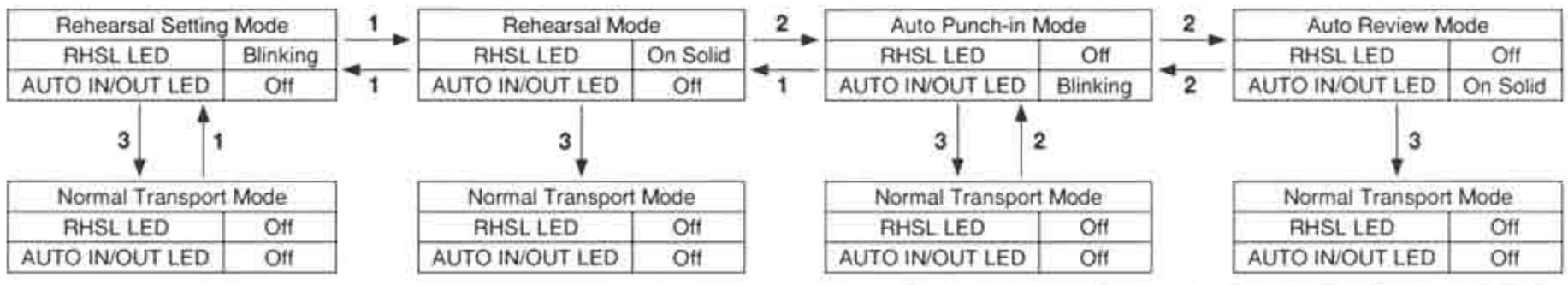
   Effective entries are up to a maximum of 59 minutes, 59 seconds.

2. Press **STR**.

3. Press **PRE** (or **POST**) to store the time just entered into memory as the preroll (or postroll) time.

   If you press PRE after a preroll time has been entered, the point where the preroll starts from is displayed in the LOCATE TIME window. So you can promptly locate the tape to that point using LOC, and fine tune it with the UP and DOWN keys.

Relationships between the punch-in related modes and the RHSL and AUTO IN/OUT LEDs



1 = Press RHSL. **2** = Press AUTO IN/OUT. **3** = Press CLEAR.

4-7 COPYING TRACKS (DA-38 only)

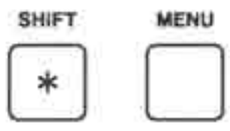
To copy track 3 to track 5 for example :

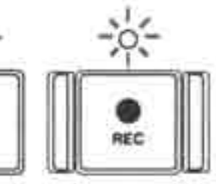
1. Access the Track Copy menu (Group 2), which will look like this :

```
Track Copy Off
Input 1 → Tr 1
```

You cannot access this menu if the DA-38 is not currently under remote control.

2. To select a target track, enter "5" in the "Tr" field in any of three ways :





○ Turn the **SHUTTLE** knob ;

○ Hold **SHIFT** and press **MENU** ; or

○ Press the **REC FUNCTION** switch that corresponds to track 5 of the DA-38. (Note, it's not necessarily the no.5 switch. It depends on the connection.)

3. To select a source track, press the **+** key until "Tape 3" shows. If you go past it, press the **–** key.

4. Press **ENTER** to change the "Off" to "On".

5. Making sure that only track 5 is record-enabled, hold **REC** and press **PLAY** to start copying.

In a similar way, you can copy tracks of one DA-38 to tracks of another. For more information, see the DA-38's manual.

4-8 SHUTTLE MONITOR (DA-38 only)

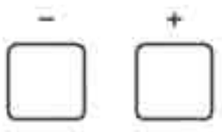
When you rotate the SHUTTLE knob for reel rocking to locate specific points on the tape, what you hear depends on whether the shuttle monitor mode is enabled or not, as shown in the table below.

To enable or disable the shuttle monitor function :

1. Access the Shuttle Monitor menu (Group 1), which will look like this :

```
Shuttle Monitor
     Off
```

You cannot access this menu if the DA-38 is not currently under remote control.



2. Press the + or the – key to change the "Off" to "On", or vice versa, as required.

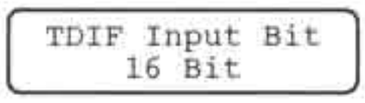
Shuttle Monitor Mode	REC FUNCTION Off	REC FUNCTION On
Off (factory preset)	Tape	Tape
On	Mute	Source (Input)

4-9 SELECTING A TDIF INPUT BIT LENGTH (DA-38 only)

To send and receive digital data through the TDIF-1 I/O port on the rear panel of the DA-38, you have to select a bit length depending on the port connection.

Three options are provided : 16, 20, and 24. Factory preset is 16.

1. Access the TDIF Input Bit menu, which will look like this :



You cannot access this menu if the DA-38 is not currently under remote control.

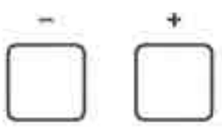
2. By operating the + and – keys, have the required option show on the screen.

Select 24 if the DA-38 is connected to another DA-38, or select 16 if it is connected to the DA-88.

4-10 ENABLING THE DITHER FUNCTION (DA-38 only)

1. Access the Dither menu, which will look like this :

You cannot access this menu if the DA-38 is not currently under remote control.



2. Press either the + or the – key to change the "Off" to "On".

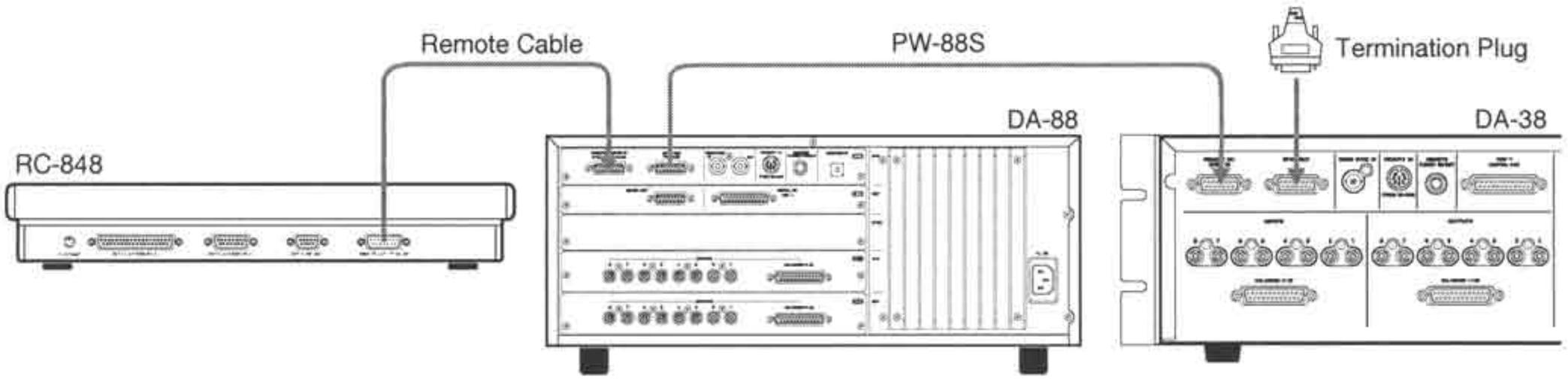
CHAPTER 5 : SYNCHRONIZING MULTIPLE DA'S

You can hook up a maximum of 16 DAs and can handle a total of 128 tracks in sync without using any external synchronizer/controller.

❑ Connections

Make sure that your whole system is turned off, connect the RC-848's REMOTE OUT to the first DA's REMOTE IN, its SYNC OUT to the second DA's SYNC IN, its SYNC OUT to the third DA's SYNC IN, and so on, as shown.

☞ *Be sure to insert the provided termination plug into the last DA's SYNC OUT jack.*



❑ Machine ID (Identification) Numbers

If your system is made up of DA-88s and DA-38s and the first machine (master) is a DA-88, locate the MACHINE ID switch on its rear and set it to "0" (remember *Note* on page 3 • 1) while the system is still turned off. If the second machine is a DA-38, select "2" (not "1") at its local "ID Selection" menu ("id.SEL") AFTER performing step 1 below.

❑ Synchronization

CHASE

1. After you have connected all components of your system turn on the system. (**Be sure to turn on all the slaves BEFORE the master.**)

   If your system includes one or more DA-38s, assign them ID numbers, as outlined above.

2. Press the remote **CHASE**.

   "CHASE" will show in the LOCATE TIME window.

3. Specify the machine you want to slave to machine 1 with the **numeric keys**.

   If "CHASE" goes out before you enter numbers, press **CHASE** again.

   The entered number should be flashing rapidly in the LOCK STATUS window, showing the slave under control is fast winding on its way to the same time point as the master. It will flash slowly once the slave is parked at the same address as the master.

   If you want other DAs (machines 2-6) to slave to machine 1, repeat steps 2 and 3 for each of them. Or use the next capability :

Enabling/Disabling CHASE mode on all machines 2-6 at one time :
Just press **CHASE** + **0**. If the lowest numbered slave is NOT in CHASE mode at this moment, it will go into CHASE mode, and so will all other slaves. Or they will all exit the CHASE mode if the lowest numbered slave is in CHASE mode.

If there are additional slave DAs, press **CHASE** on each of them.

4. Pressing any remote **transport button** will cause the master and slaves to trigger the same function.

   The LOCK STATUS number(s) will glow solid when the slave(s) start playing locked to the master.

Controls Having Effect On Machine 1
When any of machines 2-6 is under control and in CHASE mode, the following controls have effect on machine 1 :

STOP, PLAY, F.FWD, REW, REC, LOC, and JOG/SHUTTLE.

Consequently, the LEDs associated with those controls show the status of the master transport.

To release slaves from the master :

CHASE

1. Press the remote **CHASE** again. "CHASE" will again show in the LOCATE TIME window.

2. Press a number on the **keypad**. The number pressed will go out from the LOCK STATUS window to show that number's machine can act independently of the master.

   Repeat steps 1 and 2 for other slaves as required.

To release all the slaves from the master at one time :
Press **CHASE** + **0**.

❑ Entering an Offset

Offset can be entered automatically using the ENTER key or, if the necessary offset value is known, manually using the numeric keypad or the plus and minus keys.

(1) Auto Entry

This procedure can be used only when "ABS" is selected at the Time Mode menu (Group 3).

The current difference between the master and slave locations can be stored in memory as an offset, as follows :

MACHINE

1. Press **MACHINE**.

   "Select" will show in the LOCATE TIME window.

2. Press the number that corresponds to the slave you want to offset.

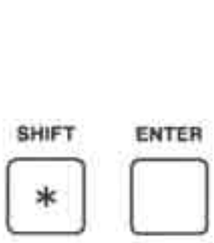
   The pressed number will light up in the LOCATE TIME window.

3. Locate the slave to the desired sync point.

4. Press **MACHINE** then **1**, and locate the master to the desired sync point.

5. Access the Machine Offset screen. It should look like this :

```
Machine 2 Offset
+00:00:00:00_ABS
```



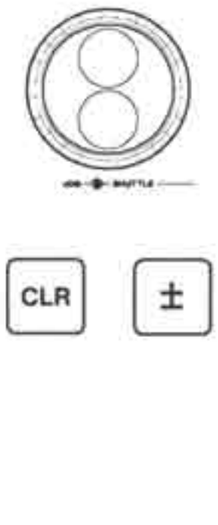
6. The display on the upper line in the screen shows the number that corresponds to the slave under control. The number will increment as you turn the **SHUTTLE** knob or press **MENU** while holding **SHIFT**.

7. Press **ENTER**.

   The RC-848 automatically calculates and displays the necessary offset value on the screen.

8. Repeat for other slaves as required.

(2) On the Numeric Keypad



1. Access the Machine Offset screen, and turn the **SHUTTLE** knob or hold **SHIFT** and press **MENU** to display the number that corresponds to the slave you want to offset.

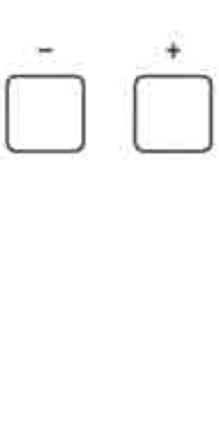
2. Enter the desired offset value on the **numeric keypad** into the LOCATE TIME window.

3. Once the desired value is displayed, hold **SHIFT** and press **ENTER**.

   The LOCATE TIME display will be read into the screen.

4. Repeat for other slaves as required.

(3) Direct Entry in the Machine Offset Menu



1. Access the Machine Offset screen, and either turn the **SHUTTLE** knob or hold **SHIFT** and press **MENU** to display the number that corresponds to the slave you want to offset.

2. Hold **CLR** and press **±**.

   00:00:00:00 will start blinking in the LOCATE TIME window, to show that the unit is in Direct Keying-in mode.

3. Enter the desired offset value on the **numeric keypad**.

   As you type numbers, they will be entered directly in the menu screen, not into the LOCATE TIME window.

   To change the + (ahead) to – (behind), and vice versa, press either of the **plus** and **minus** keys.

4. Press **ENTER** to store the setting.

   If you press ESCAPE instead of ENTER, the entered numbers are cleared and you'll exit the current mode.

5. Repeat for other slaves as required.

(4) Using the Plus and Minus Keys

1. Perform step 1 above, then use the plus and minus keys to display the desired offset value on the lower line in the screen.

   To move the cursor, turn the **JOG** wheel or hold **SHIFT** and press the **plus** or **minus** key.

   To change the + (ahead) to – (behind), and vice versa, press either of the **plus** and **minus** keys.

2. Repeat for other slaves as required.

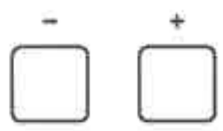
❑ Syncing with Offset

Press **CHASE** then press a number. The slave that corresponds to the number pressed will be autolocated to a point either ahead or behind the master as defined by the offset value. Repeat for each of other slaves. Or you can use the 'All Chase On' function explained on page 5 • 2.

❑ Fine Tuning Offset Values

On the Machine Offset screen move the cursor to the right of the "frames" column using either the **JOG** wheel or the **SHIFT** and **plus** or **minus** key so the screen looks like this :

```
Machine 2 Offset
+00:00:00:00_ABS
```



Then, hold down either the **plus** or **minus** key. The frame numbers will increment, and after a while, overflow, causing the second numbers to increment. Unless you release the key, the minute numbers and then the hour numbers will increment likewise.

To disable offsets :
Access the Machine Offset menu showing the desired machine number, and hold the + or – key and press the other. The display will be cleared to zero.

❑ Selecting a Key Mode

At the Key Mode menu you can select whether the ALL SAFE/REC READY, ALL INPUT, AUTO INPUT, and INSERT keys have effect on the master machine only or on all the master and slave machines at once.

1. When machine 1 (the master) is under control, access the Key Mode menu (Group 1) to check or change the current selection. The menu screen will look like this :

```
Key Mode
All
```

2. If "All" is displayed and you want the keys specified above to be effective only on the master, press either the **plus** or **minus** key to change the display to "Individual."

☞ *If you change the X-Fade Time setting when "All" is selected at the Key Mode menu and machine 1 is under control, the crossfade time of all DAs (1 to 6) is automatically changed to the same new value.*

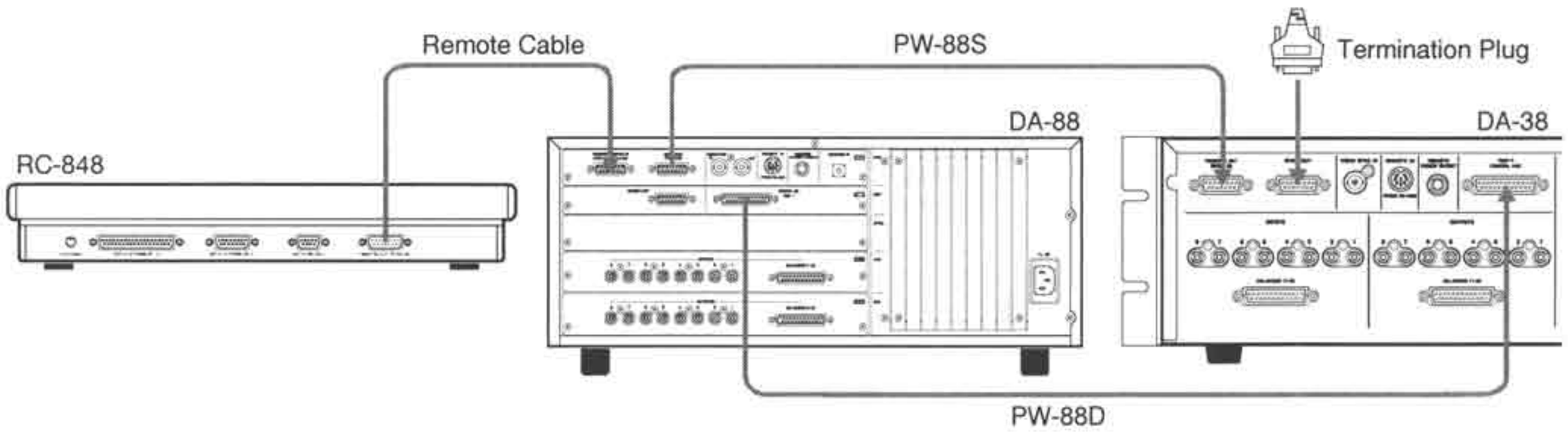
❑ Digital Dubbing Between Two DAs

With digital recording, no matter how many times dubbing is repeated, no hiss or distortion is added ; you can copy important multitrack tapes as many times as you need to create work tapes or copies for distribution without having to worry about any deterioration whatever.

Always use machine 1 as the source machine. The target machine may be any one of machines 2-6.

1. Making sure that both the source and target machines are turned off, connect one end of the optional PW-88D cable to the master's T-DIF I/O port, and connect the other end of the cable to the T-DIF I/O port on the DA you want to use as the target machine,

   The master's SYNC OUT should also be connected to the target machine's SYNC IN.



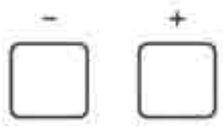
☞ *Be sure to insert the provided termination plug into the last DA's SYNC OUT jack.*

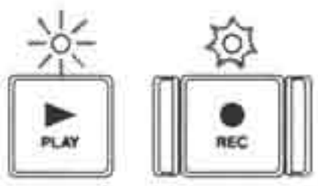
2. Turn on both machines.

3. Insert your master multitrack tape in machine 1, and insert a formatted blank tape in the target machine.

4. Check to see that the source machine's all REC FUNCTION switches are turned off.

   If you are using the DA-38 as the master (source), skip the next two steps (#5 and 6).





5. Access the Output Timing menu screen (Group 1). It will look like this :

```
Output Timing
Analog
```

6. Press the **+** or **–** key to change the "Analog" to "Digital."

7. Press all the 8 **REC FUNCTION** switches (9-16 if machine 2 is selected, 17-24 if machine 3 is selected, etc.). The associated LEDs will start flashing to show the tracks are in Record Ready mode.

8. Press **CHASE**. "CHASE" will show in the LOCATE TIME window, then enter a number to specify the target machine.

   The number just entered will start flashing rapidly in the LOCK STATUS window, showing the target machine is being located to the same time point as the source machine. The number will flash slowly when that time point is reached.

9. When the LOCK STATUS indicator stops flashing rapidly and starts flashing slowly, hold **REC** and press **PLAY** on the remote. The source machine will start playing, and the target machine will automatically start recording.

10. When dubbing is complete, press **STOP**.

To copy timecode as well :
The SY-88 Sync Board must be installed into both the source and target machines. For more information, see the section, USING THE RC-848 WITH THE SY-88.

CHAPTER 6 : CONTROLLING OTHER EQUIPMENT FROM ACCESSORY "1"

6-1 MACHINES WITH A PARALLEL PORT

If your machine has a parallel port and is connected to the EXT 1 (ACCESSORY 1) connector, press 7. "E1" will light up in the MACHINE window.

☞ *Only the transport functions of machine E1 can be controlled from the remote.*

The STOP LED will flash if machine E1 is selected while the EXT 1 (ACCESSORY 1) connection is not achieved.

6-2 EVENT OUTPUT FACILITY (AVAILABLE UPON REQUEST ONLY)

WARNING

To use this facility, a dip-switch (#3) located inside the RC-848 should be set to Up/On position, and this should be done only by a qualified service person.

5 Event output ports can be available using PLAY, FF, REW, STOP and REC output pins of EXT 1 connector (#1, 2, 3, 5 and 6). Each port can output a one-shot pulse twice.

Event point (time) is selected from MEMO 01 to 99. An IN memory can also be used as an event trigger point (discussed below).

Event pulse width can be set from 00 to 990 ms (milliseconds) in 10 ms steps.

NOTE

The Event Pol and Width menu and also the Even On/Off menu are accessible only when the #3 dip-switch is set to ON (see *Warning* above) and machine 1 or 9 is put under remote control.

Selecting a Contact Polarity and Pulse Width

1. If the RC-848 is on, turn it off, and set the #3 dip-switch as specified above.

2. Switch on power to the RC-848, and access the Event Pol/Width menu screen. It will look like this :

```
Event 1  Pol -
  Width  000ms
```

If an asterisk (*) appears to the left of "Width," it shows that Event 1 is enabled at the Event On/Off menu (discussed below) and that you cannot change the current Polarity and Width settings. To change the current settings, go to the Event On/Off menu screen first, then press **ENTER** to select "Off."

3. Select a polarity and pulse width using the **plus** and **minus** keys. (To move the cursor up/down, operate the JOG wheel or hold SHIFT and press the plus or minus key.)

4. Repeat for other events as required. The event number on the upper line changes as you turn the **SHUTTLE** knob or press **MENU** while holding **SHIFT**.

Selecting Event Points

1. Access the Event On/Off menu screen. It will look like this :

```
Event 1  Off
Memo 01 - 02
```

2. Use the **plus** and **minus** keys to enter into where the 01 is currently displayed the number that corresponds to the memory in which a first shot point is stored. Likewise, select a second shot point memory. (The cursor can be moved left and right by operating the JOG wheel or by holding SHIFT and pressing either the plus or minus keys.)

   - If you specify only one MEMO No., only one event pulse will be output.

3. When the screen looks OK, press **ENTER**. The "Off" will change to "On."

   - To modify the settings, first switch the "On"' display to "Off" by pressing ENTER.

4. Repeat for other events as required.

Programing Events to Be Triggered at an "In Event" Point

If the "Events" are referenced to points stored into numbered memories (01 to 99), the "In Events" are referenced to a point stored into IN memory.

Events referenced to an IN point can be programed to start user entered frames before that IN point, typically to overcome the response time discrepancies between the event devices.

Settings at the Event Pol/Width menu are valid to Events referenced to an IN memory, too.

1. Access the Rec In Event menu screen (Group 1). It will look like this :

```
Rec In Event 1
Reaction 00:00
```

2. Change the In Event number on the upper line as necessary by operating the **SHUTTLE** knob or by holding **SHIFT** and pressing **MENU**.

3. Enter the desired frame numbers in the Reaction field by operating the + and – keys. (Seconds can also be entered if necessary.)

4. After having entered the correct reaction time, first access the Event On/Off menu, which looks like this :

```
Event 1  Off
Memo 01 - 02
```

then, hold **SHIFT** and press **ESCAPE** to access the In Event menu, which looks like this :

```
In Event 1 Off
00:00:00:00(00F)
```

5. Enter the same number as in step 2 above, and the current IN memory point will show on the second line of the menu and to the right will show the frames you have entered in step 3 above.

6. Press **ENTER** and the "Off" will change to "On" to show that the In Event is enabled.

7. Repeat for other In Events as required.

NOTE

The time data the RC-848 uses to control events comes from the DA, and only by this data travel time (a few frames) will the event lag behind the time points you've selected at the menu.

CHAPTER 7 : CONTROLLING OTHER EQUIPMENT FROM ACCESSORY "2"

When connecting the RC-848 to any TASCAM machines* via the "Accessory 2" connector, it is necessary to use an isolation cable. This isolation cable is made by TASCAM and it is model number PW-88AC2.

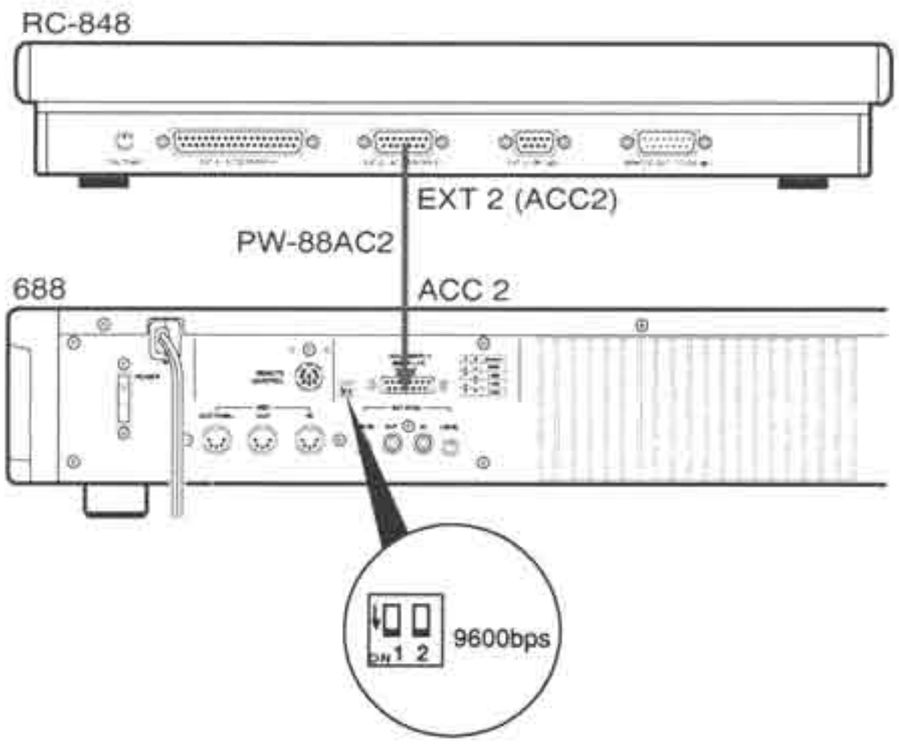
*TASCAM machines with Accessory 2 port include MSR-24/24S, MSR-16/16S, TSR-8, 238/238S, 688, 644, 134/134B, CD-601, RC-701 and RC-601.

7-1 TASCAM MULTITRACK CASSETTE RECORDERS

❑ Connections

First check to see that the machine you want to connect to the remote is turned off, and that the deck's baud rate is set to 9600.

Then connect the remote EXT 2 (ACCESSORY 2) connector to the deck's ACCESSORY 2 connector using the optional PW-88AC2 cable.



❑ Machine Selection

1. Press **MACHINE**.

   "Select" will show in the LOCATE TIME window.

2. Press **8** on the keypad.

   "E2" will light up in the MACHINE window.

❑ Remote Functions Changed/Limited

REC FUNCTION switches

1-8 (or **1-4** if the 644 is connected) : Only these switches act as the REC FUNCTION switches.

25 : Mutes all inputs of the deck at once.

26 : Unmutes all inputs of the deck at once.

48 : When machine "E2" is selected, the TAPE TIME display acts as a tape counter, and pressing switch 48 resets both the remote and deck's tape counters.

All other REC FUNCTION switches cannot operate.

TAPE TIME display

This acts as a conventional tape counter. You can press the REC FUNCTION #48 key to reset the counter to 00.00 to use any point on the tape as a starting point for time reference.

When the tape rewinds past the 00.00 point, a "-" will show in the H(our) window.

To locate the tape to the counter zero point, press **0**. The MEMORY NO. display will show 0. Then press **LOC**.

JOG/SHUTTLE switch

Puts machine E2 into Pause mode.

RHSL and AUTO IN/OUT switches

Provide the same functions as when any DA-88 is under remote control, but their LEDs flash throughout the process; they don't glow solid.

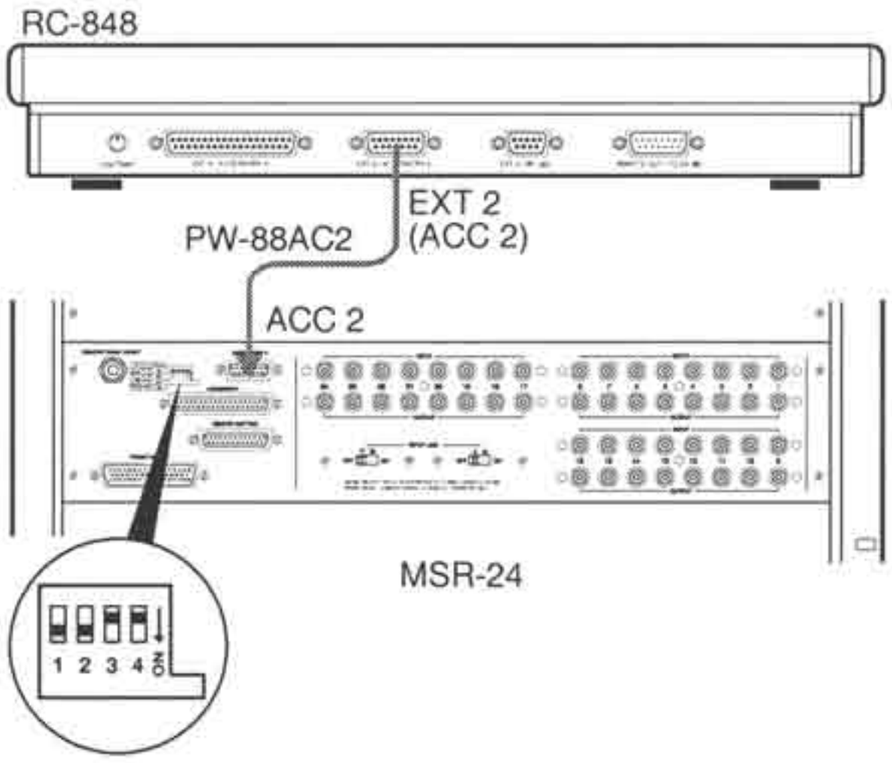
Numeric keys

When STR or RCL is activated, only 1 and 2 on the numeric keypad can operate to establish two memory points or to recall them into the LOCATE TIME window.

To locate the tape to either memory point, press **RCL**, then press **1** or **2** on the keypad. The memory point will be recalled into the LOCATE TIME window, then press **LOC**.

7-2 TASCAM OPEN-REEL RECORDERS

❑ Connections



1. Make sure that your machine is turned off.

2. Check to see that the baud rate is set to 9600 on the machine. If it is at any other position, set it to 9600.

3. Connect the remote EXT 2 (ACCESSORY 2) connector to your machine's ACCESSORY 2 connector using the optional PW-88AC2 cable.

❑ Machine Selection

1. Press **MACHINE**.

   "Select" will show in the LOCATE TIME window.

2. Press **8**. "E2" will light up in the MACHINE window.

❑ Remote Functions Changed/Limited

REC FUNCTION switches

1-8, **1-16** or **1-24** (depending on the number of tracks available on your machine) : Only these switches act as the REC FUNCTION switches.

28 : Turns on the machine's SYNC LOCK function.
29 : Turns off SYNC LOCK.

31 : Turns on the machine's INSERT function.
32 : Turns off INSERT.

33 : Turns on the machine's ALL INPUT function.
34 : Turns off ALL INPUT.

36 : Turns on the machine's AUTO INPUT function.
37 : Turns off AUTO INPUT.

39 : Turns on the machine's AUTO PLAY function.
40 : Turns off AUTO PLAY.

48 : When E2 is under remote control, the remote TAPE TIME display acts as a conventional tape counter, and pressing switch 48 resets it to 00.00. The local tape counter also is reset at the same time.

All other REC FUNCTION switches are locked out.

TAPE TIME display

This acts as a conventional tape counter, providing elapsed time from any point on the tape specified as a starting point (0.00.00) by pressing the REC FUNCTION #48 key. Reading is up to a maximum of 1 hour, 39 minutes, 59 seconds, and down to a minimum of –1 hour, 39 minutes, 59 seconds. When the tape goes past these limits, the counter is automatically reset to 0.00.00.

When the tape rewinds past the 00.00 point, a "-" will show in the H(our) window.

Numeric keys

When a TASCAM reel-to-reel deck is under remote control, you can store a maximum of 20 autolocating points into the MEMORY NO.00 to 19 registers. So, when STR or RCL is activated, pressing 20 or higher numbers on the keypad has no effect.

STOP LED

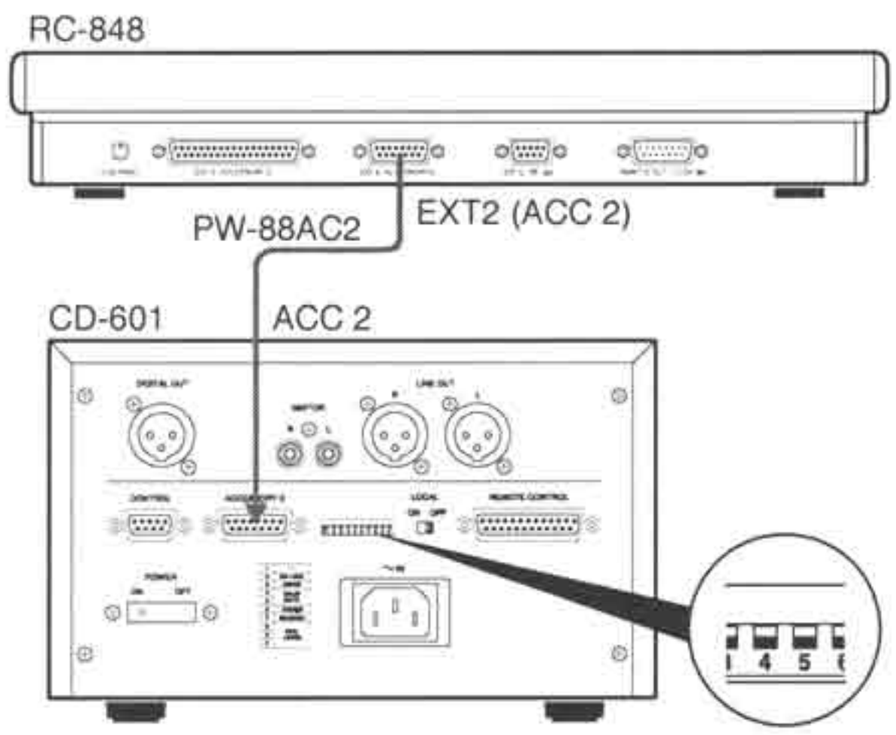
Flashes when the machine's right tension arm is dropped to its "off" position for edit purposes.

7-3 TASCAM CD PLAYERS

❑ Connections

First check to see that your CD player (or its remote control unit) is turned off and that the baud rate is set to 9600.

Then connect the remote EXT 2 (ACCESSORY 2) connector to the CD player's (or to its remote control unit's) ACCESSORY 2 connector using the optional PW-88AC2 cable.



❑ Machine Selection

1. Press **MACHINE**.
2. Press **8** on the keypad.

   "E2" will light up in the MACHINE window.

❑ Remote Functions Changed/Limited

Menu screens

Only the following menus can be accessed.

- Auto Cue
- Single
- Unit Select
- Search Mode
- Display Select

Transport Controls

Only PLAY, STOP, and LOC can operate. LOC is used to start search operations (see right column of this page).

❑ Track and Index Search Operations

1. Press **MENU** until the LCD screen reads :

   ```
   Search Mode
   Index Search
   ```

2. If you want to locate the CD pickup to the beginning of a track, press the +/- key. The "Index Search " will change to "Track Search".
3. Press numbers on the numeric keypad to enter the desired track number into the LOCATE TIME window. Then, if you have selected "Index Search," enter the desired index number.

   In "Index Search" mode the first two digits represent a track, and the next two digits represent an index (e.g. 1213 shows track 12, index 13). In "Track Search" mode if you enter three or four digits, only the last two digits are valid (e.g. 1213 only shows track 13).

4. Press **LOC** to locate the pickup to the specified point.

If you want to index search when your CD player is in the stop mode, press stop to have the player enter Pause.

7-4 REMOTE FUNCTIONS NOT OPERATIONAL

When TASCAM analog machines are put under remote control, the following cannot operate unless otherwise noted:

Machine / Key/Switch	Cassette Deck	Open-reel Deck
REC FUNCTION	YES*	YES*
ALL SAFE/REC READY	NO	NO
ALL INPUT	NO	NO
AUTO INPUT	NO	NO
INSERT	NO	NO
CLOCK	NO	NO
GROUP	NO	NO
+/-	NO	YES
ESCAPE	NO	NO
SHIFT	NO	NO
MENU	NO	NO
ENTER	NO	NO
JOG/SHUTTLE wheel	NO	NO
JOG/SHUTTLE wheel	YES*	NO
▼	NO	YES
DOWN/UP	NO	YES
PRE	NO	NO
POST	NO	NO
IN	NO	NO
OUT	NO	NO
CLEAR	NO	YES
T/C REC	NO	NO
REPEAT	YES	YES
START	NO	YES
END	NO	YES
AUTO PLAY	NO	NO
±	NO	YES
CUE STR	NO	YES

YES* : Operational, but functions limited or changed, as specified on pages 7-1 & 2.

CHAPTER 8 : CONTROLLING OTHER EQUIPMENT FROM RS-422 PORT

8-1 TURNING THE CHASE MODE OF DA-60 MKII ON OR OFF

Check to see that the DA-60 MKII is turned off, then connect the DA-60 MKII's RS-422 port to the remote EXT 3 port.

To have the DA-60 MKII go into Chase mode, press **CHASE**, then press **9** on the keypad (regardless of whatever machine is currently under remote control).

To have the DA-60 MKII go out of Chase mode, press **CHASE** then **9**.

"E3" will blink rapidly in the MACHINE window to show that the DA-60 MKII is chasing the master. When it locks to the master, the indicator will blink slowly.

8-2 HAVING A DA/VTR SYSTEM DROP INTO AND OUT OF RECORD (FUNCTION AVAILABLE UPON REQUEST ONLY)

WARNING

To use this facility, a dip-switch (#4) located inside the RC-848 should be set to Up/On position.

This switch setting should be done only by a qualified service person.

When the dip-switch specified above is set to its Up/On position :

- The initial screen reads "Video Rec ACCEPTABLE !" when pressing MACHINE then 9.
- A VTR drops into and out of Insert Record as you have the DA-88 drop into and out of record (only while in "Split" mode.)

  The Split mode is explained in Chapter 12.
- A VTR punches in and out as machine 1 does so at points selected for AUTO IN/OUT operation.
- You can operate the following REC FUNCTION switches.

When an analog VTR or a DAT is under remote control :

REC FUNCTION Switch	Is Used To
#41	control Audio 1 Insert mode.
#42	control Audio 2 Insert mode.

When a digital VTR, a TASCAM machine, or a machine not defined in the remote is under remote control :

REC FUNCTION Switch	Is Used To
#41	switch Audio 1 On/Off.
#42	switch Audio 2 On/Off.
#43	switch Digital Audio 1 On/Off.
#44	switch Digital Audio 2 On/Off.
#45	switch Digital Audio 3 On/Off.
#46	switch Digital Audio 4 On/Off.

Thus, tracks of machine 6 cannot be controlled from the remote.

USING THE RC-848 WITH THE SY-88

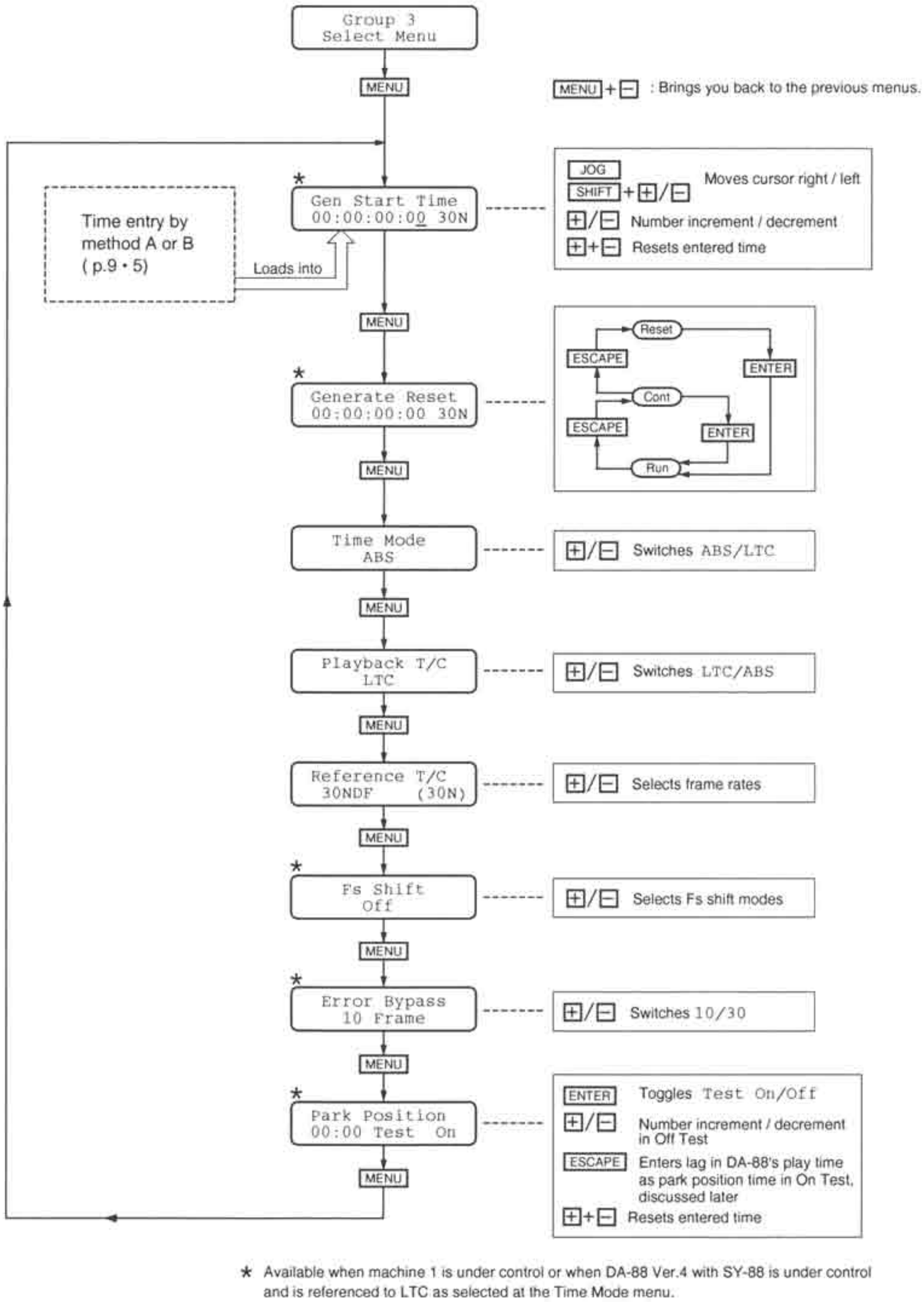
This section of the manual provides information on timecode-controlled operations and operating procedures for controlling machines (typically, a VTR) from EXT 3.

Information about the RC-848 in the following pages supersedes that information in the current manual for the SY-88.

In the following we use "DA-88" to cover all the models (Version 4.00 or not) unless otherwise noted.

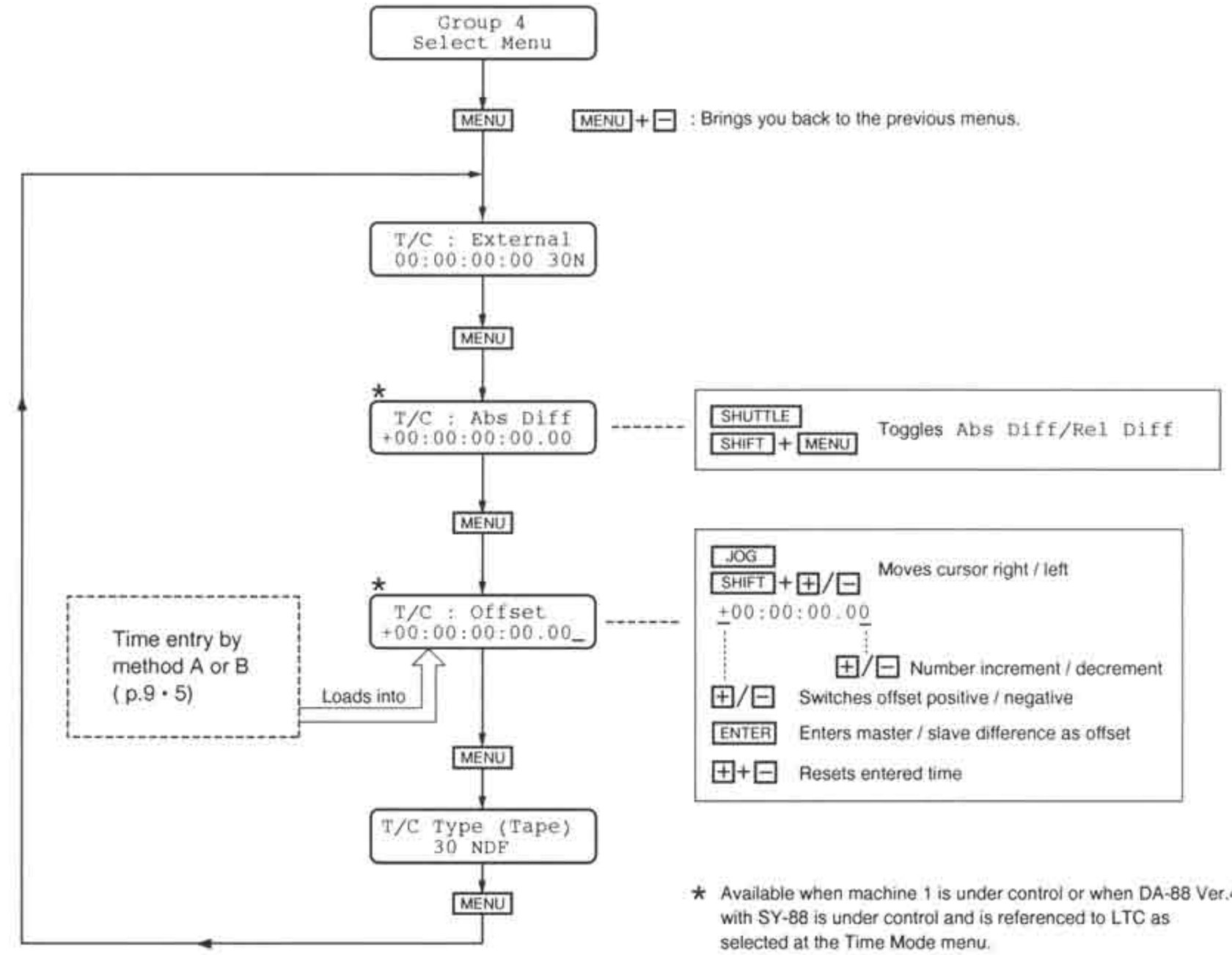
CHAPTER 9 : ACCESSING THE MENU SCREENS

GROUP 3



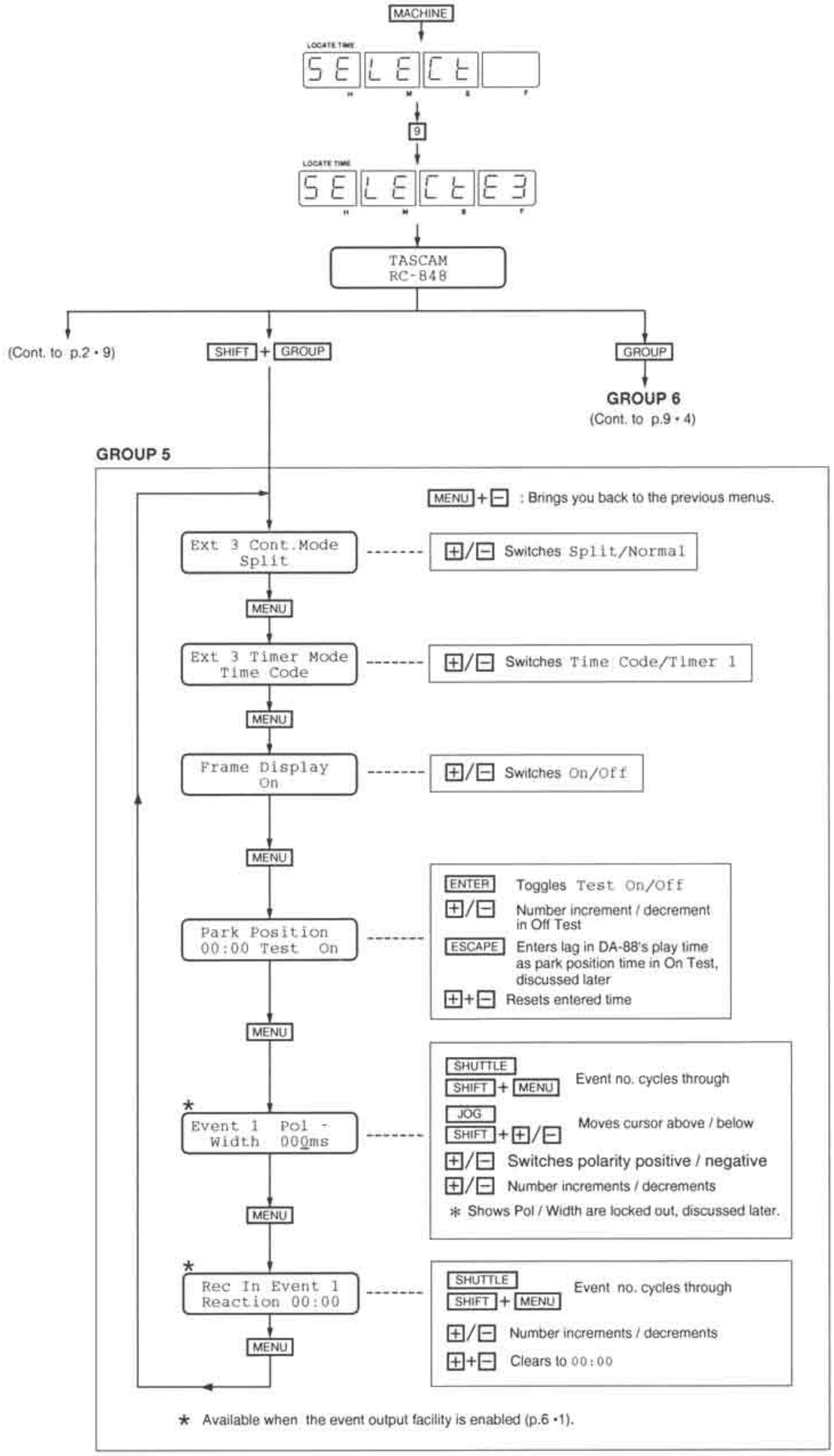
* Available when machine 1 is under control or when DA-88 Ver.4 with SY-88 is under control and is referenced to LTC as selected at the Time Mode menu.

GROUP 4

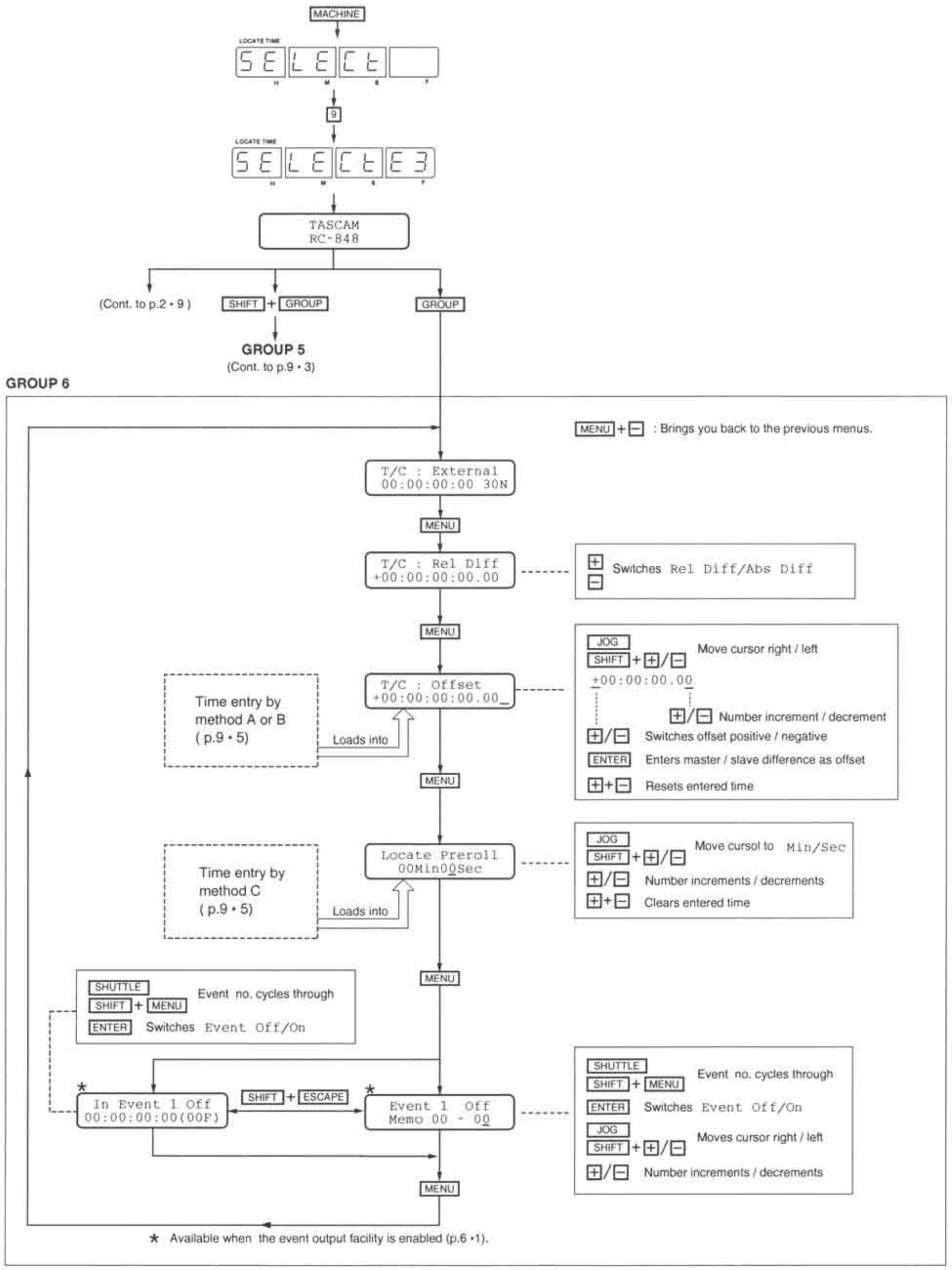


* Available when machine 1 is under control or when DA-88 Ver.4 with SY-88 is under control and is referenced to LTC as selected at the Time Mode menu.

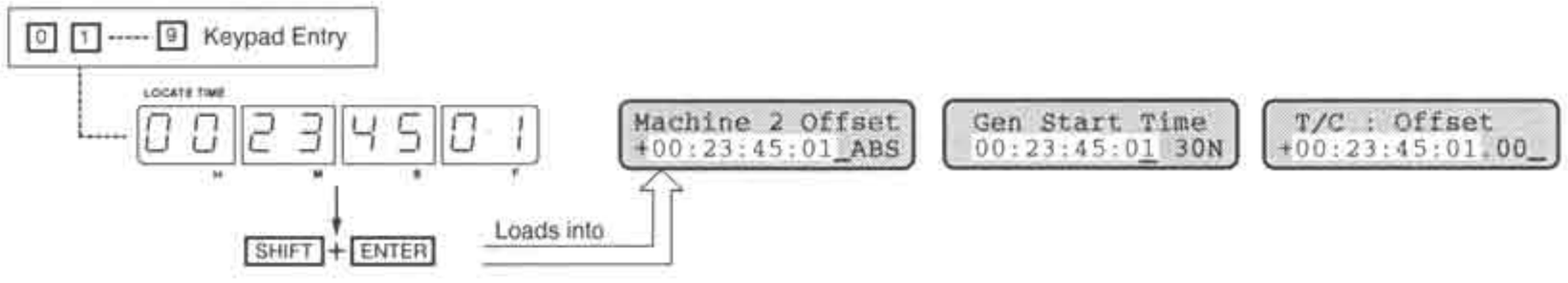
MACHINE 9 (GROUP 5)



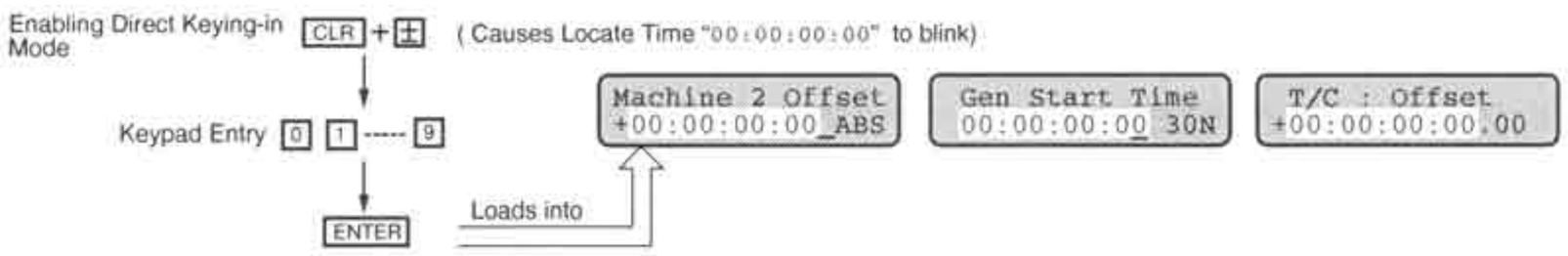
MACHINE (GROUP 6)



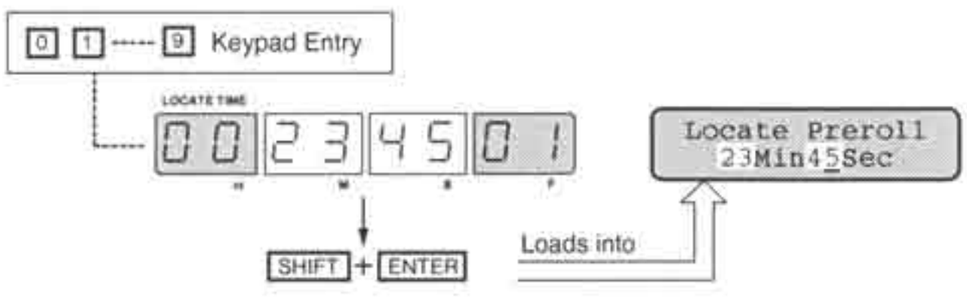
Time Entry Method A



Time Entry Method B



Time Entry Method C



INSTANT ACCESS TO THE MENUS YOU USE MOST FREQUENTLY

A maximum of 10 menus can be stored so you can directly access them by pressing SHIFT at the same time as a numeric key (0-9) at the initial screen. This feature can be used when machine 9, that is, a machine connected to the EXT 3 connector is under remote control.

Selecting and storing menus is explained in Chapter 2.

MENU SCREENS EXPLAINED

Menus marked with an asterisk (∗) can be accessed when the SY-88 is installed in machine 1.

❑ Group 3

Gen Start Time
For selection of a time code address where the generator will begin generating timecode (p.10 • 1).

Generate Reset
The generator will begin generating timecode from the user entered time or will continue generating from the last number displayed before stopping the generator, as controlled from this menu (p.10 • 2).

Time Mode
This screen is where you determine whether a DA-88/SY-88 system you'll select is put under ABS time or timecode control (p.10 • 1).

Playback T/C
Determines whether the ABS time is converted into SMPTE/EBU code before reaching the TIME CODE OUT jack or off-tape timecode is sent out of the jack (p.10 • 2).

Reference T/C
Selects 30 NDF/29.97 NDF/29.97 DF/25/24 codes when laying down timecode on tape (p.10 • 1) or for timecode controlled synchronization. Shown in parentheses is the code type used by an external machine.

Fs Shift
This menu is where Pull Up Drop, Pull Up Non Drop, or Pull Down is selected with the plus and minus keys to accommodate specific NTSC environments. Selections at the Reference T/C menu above are overridden and the DA-88 under control is referenced to 29.97 DF, 29.97 NDF, and 30 NDF, respectively. Be sure to select Off when the Fs Shift function is not necessary. When the function is activated, an asterisk (*) is displayed in the Reference T/C menu screen, showing this menu is locked when selecting either Pull Up mode, set the CLOCK switch to INT for the tape to play or record at 0.1% "pulled up" speed.

Error Bypass
Once the slave or slaves are locked to the master, the RC-848 overrides an absence of valid code of a maximum of 10 or 30 frames on the master, as selected at this menu.

Park Position (*)
Compensates for a lag in a slave DA-88's play time (p.11 • 1).

❑ Group 4

T/C : External (*)
Shows the timecode numbers and the code type from a master (p.11 • 2).

Note, "30N" is displayed to show either 30 or 29.97 NDF code.

T/C : Abs Diff (*)
Shows the current absolute difference between the master and slave timecode numbers or the relative difference between them, which is obtained by subtracting offset values from the absolute difference (p.11 • 2).

T/C : Offset (*)
Allows you to enter subframe offsets on the numeric keypad or on the fly when the machine under control is playing locked to a master (p.11 • 2).

T/C Type (Tape)
This screen shows the type of off-tape code from a DA-88.

❑ Group 5

EXT 3 Cont. Mode
Determines whether the RC-848 controls either both a slave DA-88 and a master machine connected to the EXT 3 connector or only the master (pp.12 • 1 & 2).

EXT 3 Timer Mode
Selects timecode/timer 1 as the time reference of your VTR (p.12 • 2).

Frame Display
Similar to that for machines 1-6 (Group 1), but it determines whether the frame numbers entering the EXT 3 connector are hidden or not.

Park Position
Similar to that for machines 1-6 (Group 3), but it controls the park position of a machine connected to the EXT 3 connector.

Event (Pol and Width)
Similar to the one that belongs to Group 1, but it allows you to configure the RC-848 for event units that are controlled using the time data entering the EXT 3 connector.

Rec In Event
Similar to the one that belongs to Group 1, but it takes care of event units that are controlled using the time data entering the EXT 3 connector.

❑ Group 6

T/C : External
Shows the timecode numbers and the code format entering the EXT 3 connector.

T/C : Rel Diff
Similar to the one that belongs to Group 4, but it selects Rel/Abs when a machine connected to the EXT 3 connector is assigned as master.

T/C : Offset
Similar to the one that belongs to Group 4, but it allows you to enter an offset when a machine connected to the EXT 3 connector is assigned as master.

Locate Preroll
Similar to the one that belongs to Group 2, but it takes care of the preroll time of a machine connected to the EXT 3 connector.

Event (On and Off)
Similar to the one that belongs to Group 2, but it takes care of events that are controlled using the time data entering the EXT 3 connector.

In Event
Similar to the one that belongs to Group 2, but it takes care of event units that are controlled using the time data entering the EXT 3 connector.

CHAPTER 10 : STRIPING TIMECODE

10-1 PRELIMINARY

❑ ABS-to-Timecode Switching

The DA-88/SY-88 system defaults to ABS-time controlled mode. To switch the system to timecode controlled mode, access the Time Mode menu (Group 3) and select LTC with the **plus** or **minus** key.

```
Time Mode
ABS
```

❑ Timecode Format Selection

You can select a timecode for machine 1 (master DA-88). You can also select a timecode for a slave if it is DA-88 Version 4.00 with SY-88 and "LTC" is selected at the Time Mode menu.

NOTE

One and the same type of timecode must be used by all the master and slave machines. Or else you cannot get the correct synchronization.

The SY-88 defaults to 29.97 Drop frame type. To select other optional code types :

1. Press **MENU** until the LCD screen reads:

```
Reference T/C
29.97 DF  (30D)
```

2. Display the desired code type with the **plus** or **minus** key.

❑ Clock Selection

Depending on the application or the master machine to which your DA-88 is slaved, select the appropriate clock by pressing the CLOCK switch as many times as necessary.

10-2 RECORDING TIMECODE ON THE DA-88

❑ Using the Timecode Generator built into the SY-88

1. Generator Start Time Setting

1. Press **MENU** to access the Gen Start Time menu.

```
Gen Start Time
00:00:00:00 30D
```

2. Set the desired generator start time in any of three ways :

   - Press the **+/–** key to enter the desired generator start time. To move the cursor, turn the **JOG** wheel or hold **SHIFT** and press the **+/–** key,
   - Use the numeric keys at the "Gen Start Time" menu to enter the desired starting time into the LOCATE TIME window, then hold **SHIFT** and press **ENTER**, or
   - Type numbers directly in the Gen Start Time menu, as explained below.

If you press the plus (**+**) key at the same time as the minus (**–**) key at the Gen Start Time screen, whatever numbers have been entered are reset to zeros.

To type numbers directly in the Gen Start Menu :

(1) Hold the **CLR** key and press the ± key.

00:00:00:00 will start blinking in the LOCATE TIME window, to show that you are in Direct Keying-in mode.

(2) Press numbers on the **numeric keypad** and they are directly entered in the Gen Start Time menu.

If you entered wrong numbers, press both the plus (**+**) and the minus (**–**) keys at the same time. The display will be reset to zero.

(3) Press **ENTER** to save the setting.

If you press **ESCAPE** instead of ENTER, the entered numbers are cleared and the display is switched back to the initial screen.

2. Timecode Recording

Once the timecode format and generator start time have been set to your requirements, you can record timecode on a dedicated track (in the subcode area) of the tape inserted into the DA-88.

1. Access the Pitch Control menu (Group 2) to make sure Fix is selected.

```
Pitch Control
Fix    0.0 %
```

2. If the tape is not at the very beginning, press **REW** to rewind to the beginning.

3. Access the Generate Reset menu (Group 3).

```
Generate Reset
00:00:00:00 30D
```

   Actually, the second line shows the generator start time and timecode type you have selected.

4. Press the **TC REC** key.
   Its LED will start blinking to indicate that the timecode track is in Rec Ready mode.

   Before continuing, read the paragraph in italics below.

5. Press **ENTER** to start the T/C generator. The number displays will increment.

6. Press and hold **REC** and hit **PLAY**. Timecode starts being recorded.

☞ *Reverse steps 5 and 6 if you want timecode to start being recorded exactly from the timecode address you've set. Ignore the "no.t.codE" (No Timecode) message you see when putting the DA-88 into the record mode.*

7. The tape will automatically stop when reaching the end.

8. To stop the timecode generator, press **ESCAPE**.

Check

10. Press **REW** to rewind the tape to the beginning.

11. Press **PLAY** to read the timecode just recorded.

    The timecode numbers advancing in the TAPE TIME window show a successful timecode recording.

A "continue" function is for experienced users. Should you elect to proceed, you should be prepared to accept responsibility for all consequences :
If ENTER is pressed after once stopping the tape with STOP, and the timecode generator with ESCAPE, the generator will resume from the interrupted timecode address.

10-3 TIMECODE OUT SELECT

ABS Time To Timecode Conversion Facility :
This makes it possible to slave the DA-88 to external timecodes without pre-striping timecode.

The ABS time can be converted into any type of timecode that the SY-88 supports. The 00:00:00:00 point of ABS time becomes the 00:00:00:00 point of timecode. When selecting the 24, 25 or 30 fps format, the ABS time numbers match exactly with the timecode numbers all the time (except the frame numbers). But in the 29.97 fps format code numbers will not match; in the case of the 29.97 Non-Drop frame code, it will read 59 minutes, 56 seconds when the ABS time counts up to 1 hour, and the discrepancy will increase with continuing time.

The converted timecode is sent out of the TIME CODE OUT jack the same as with timecodes read off tape or produced by the timecode generator.

Advantages of this facility :

- As said above, there is no need for you to stripe timecode in order to sync DA-88's up to external timecodes. Under some conditions, offsets will be necessary and these will be entered between the master and DA-88 timecode numbers.

- When work tapes copied from the same video tape are used as master tapes for audio sweetening in multiple studios, and where DA-88s are used as slave machines, the final mixdown can be achieved simply by syncing DA-88s under ABS time control.

To convert the ABS time into timecodes, proceed as follows.

1. Access the Playback T/C menu. It will look like this :

```
Playback T/C
LTC
```

2. Press **+** or **–** The LTC will change to ABS.

For the TIME CODE OUT jack to carry timecode directly from the DA-88 tape or from the SY-88 timecode generator, switch the "ABS" back to "LTC".

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ABS
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You can select a timecode for machine 1 (master DA-88). You can also select a timecode for a slave if it is DA-88 Version 4.00 with SY-88 and "LTC" is selected at the Time Mode menu.

> **NOTE**
>
> One and the same type of timecode must be used by all the master and slave machines. Or else you cannot get the correct synchronization.

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If you entered wrong numbers, press both the plus (**+**) and the minus (**–**) keys at the same time. The display will be reset to zero.

(3) Press **ENTER** to save the setting.

If you press **ESCAPE** instead of ENTER, the entered numbers are cleared and the display is switched back to the initial screen.

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Once the timecode format and generator start time have been set to your requirements, you can record timecode on a dedicated track (in the subcode area) of the tape inserted into the DA-88.

1. Access the Pitch Control menu (Group 2) to make sure Fix is selected.

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Pitch Control
Fix    0.0 %
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2. If the tape is not at the very beginning, press **REW** to rewind to the beginning.

3. Access the Generate Reset menu (Group 3).

```
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00:00:00:00 30D
```

   Actually, the second line shows the generator start time and timecode type you have selected.

4. Press the **TC REC** key.
   Its LED will start blinking to indicate that the timecode track is in Rec Ready mode.

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6. Press and hold **REC** and hit **PLAY**. Timecode starts being recorded.

☞ *Reverse steps 5 and 6 if you want timecode to start being recorded exactly from the timecode address you've set. Ignore the "no.t.codE" (No Timecode) message you see when putting the DA-88 into the record mode.*

7. The tape will automatically stop when reaching the end.

8. To stop the timecode generator, press **ESCAPE**.

Check

10. Press **REW** to rewind the tape to the beginning.

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ABS Time To Timecode Conversion Facility :
This makes it possible to slave the DA-88 to external timecodes without pre-striping timecode.

The ABS time can be converted into any type of timecode that the SY-88 supports. The 00:00:00:00 point of ABS time becomes the 00:00:00:00 point of timecode. When selecting the 24, 25 or 30 fps format, the ABS time numbers match exactly with the timecode numbers all the time (except the frame numbers). But in the 29.97 fps format code numbers will not match; in the case of the 29.97 Non-Drop frame code, it will read 59 minutes, 56 seconds when the ABS time counts up to 1 hour, and the discrepancy will increase with continuing time.

The converted timecode is sent out of the TIME CODE OUT jack the same as with timecodes read off tape or produced by the timecode generator.

Advantages of this facility :

- As said above, there is no need for you to stripe timecode in order to sync DA-88's up to external timecodes. Under some conditions, offsets will be necessary and these will be entered between the master and DA-88 timecode numbers.

- When work tapes copied from the same video tape are used as master tapes for audio sweetening in multiple studios, and where DA-88s are used as slave machines, the final mixdown can be achieved simply by syncing DA-88s under ABS time control.

To convert the ABS time into timecodes, proceed as follows.

1. Access the Playback T/C menu. It will look like this :

```
Playback T/C
LTC
```

2. Press + or – The LTC will change to ABS.

For the TIME CODE OUT jack to carry timecode directly from the DA-88 tape or from the SY-88 timecode generator, switch the "ABS" back to "LTC".

CHAPTER 11 : SYNCING WITH DA-88 AS SLAVE

11-1 SETTING A PARK POSITION

❑ Automatic Entry

1. When you access the Park Position menu screen, it will look like this :

```
Park Position
00:00 Test  On
```

2. Press **CHASE** to locate the DA-88 to the same timecode address as the master.

3. When the relative difference between the master and slave timecode numbers becomes 00:00, as shown on the screen, start the master.

4. Press **ESCAPE**.

   The lag in the DA-88's play time will be entered into the Park Position screen, and the Test mode will switch "Off," automatically.

NOTE

ESCAPE has no effect if pressed when the slave is more than 2 seconds behind the master.

❑ Fine Tuning the Current Park Position

At the Park Position screen with the Test mode switched "Off," you can trim the current park position time using the plus and minus keys.

- The park position time display will be reset to zero if you press the plus key at the same time as the minus key when the Test mode is Off.

11-2 SYNCHRONIZATION

1. Check to see that the DA-88 is set up to meet your requirements.

   Before continuing, if you are using multiple DA-88s, consider the capability of "Enabling/disabling CHASE mode on all machines 2-6 (...)" explained in the right column of this page.

2. Press **CHASE**.

   "CHASE" will appear in the LOCATE TIME window. If you then press "1" on the keypad, the LOCK STATUS 1 indicator will flash rapidly, and once both machines are locked together, it will flash slowly.

   Once locked together, the slave will duplicate every action of the master automatically, be it rewind, normal play, fast-forward, or stop.

Error Message "E. CLOC":
If this message appears, first switch CLOCK to INT, then at the Reference T/C menu screen (p.10 • 1), select the same time code type as the one from the master.

To see the master (external) timecode numbers :
Display the "T/C : External" screen (Group 4).

```
T/C : External
00:00:00:00 30N
```

To disable synchronization :
Press **CHASE**. The LOCATE TIME display will read "CHASE." Then, press 1 on the keypad. The LOCK STATUS 1 indicator will turn off.

☞ *When both machines are running in sync, all transport controls on the remote are locked out EXCEPT STOP.*

Enabling/Disabling CHASE mode on all machines 2-6, at one time :
Just press **CHASE** + **0**. If the lowest numbered slave is NOT in CHASE mode at this moment, it will go into CHASE mode, and so will all other slaves. Or they will all exit the CHASE mode if the lowest numbered slave is in CHASE mode.

11-3 OFFSET SYNC

An offset can be entered up to a maximum of +12:00:00:00.00 or down to a minimum of –12:00:00:00.00, either before putting the slave (DA-88) into "chase" mode or when the master and slave are syncing.

(1) Manual Entry

1. Access the T/C : Offset menu (Group 4).

```
T/C : Offset
+00:00:00:00.00_
```

2. Enter the necessary offset time in any of three ways :

   - Use the **+** and **–** keys.

     To move the cursor, turn the **JOG** wheel or hold **SHIFT** and press the **+** or **–** key.

To change the + to – (or vice versa), move the cursor there, and press the – (or the +).

- Enter the desired time in the LOCATE TIME window using the **numeric keys**. Then hold **SHIFT** and press **ENTER**. The entered time will be loaded on the menu.

- Enter the desired time directly in the menu screen, as explained below :

(1) Hold the **CLR** key and press the **±** key.

00:00:00:00 will start blinking in the LOCATE TIME window, to show you are in Direct Keying In mode.

(2) Press numbers on the **numeric keypad** and they are directly entered in the T/C:Offset menu.

(3) Press **ENTER** to save the setting.

If you press ESCAPE instead of ENTER, the entered numbers are cleared and the display is switched back to the initial screen.

Tip to consider :
When the cursor is to the right of the subframe section, if you hold down the +/– key, the subframe numbers will increment fast. The same will occur to the frame, second, minute, and hour numbers if you continue to hold down the key.

To enter +12:00:00:00.00 (maximum offset time) :
You cannot enter with the + and – keys. Use the **numeric keys** instead. When the numbers show in the LOCATE TIME window, hold **SHIFT** and press **ENTER**.
An alternative is to press **CLR** + **±** before operating the numeric keys ; then the numbers are directly entered in the menu screen.

(2) Auto Offset Entry *(to frame accurate only)*

You can capture the current difference between the master and slave timecode numbers and put it into the offset memory on the fly.

1. Display the T/C : Offset menu.

```
T/C : Offset
+00:00:00:00.00_
```

2. At the desired moment, hit **ENTER**. The difference between the master and slave timecode numbers at that moment will show in the menu.

If the slave and master are already syncing : The slave will directly be offset and synchronize to the master keeping the offset time distance.

If CHASE has not been pressed already : Press **CHASE**.

To see the timecode numbers from the master, press **MENU** to get to the "T/C : External" menu. (The timecode type from the master also then show in the LCD screen.)

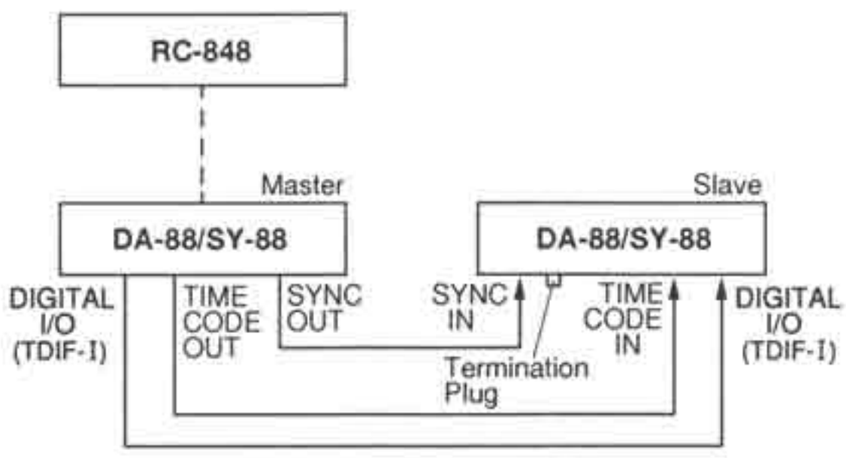
```
T/C : External
00:00:00:00 30D
```

To see how much the DA-88 is apart from the master, press the **MENU** until you access the "T/C : Abs Diff" menu ; then, if you want to, press the + or – key to switch the display to "T/C : Rel Diff".

```
T/C : Abs Diff
+00:00:00:00.00
```

To disable the offset sync : At the "T/C : Offset" menu, hold the + or – key and press the other. The offset display is reset to zero, Note, there is no way of temporarily switching off the offset sync function. Until you reset the offset display, the slave remains offset.

11-4 DUBBING AUDIO AND TIMECODE AT ONE TIME BETWEEN TWO DA- 88S



The original relationships between the audio, ABS times and timecode numbers can be copied without any alterations whatever.

The SY-88 should be installed in both the master (source) and slave (target) DA-88s. The following optional cables are also necessary:

- PW-88S sync cable
- PW-88D dubbing cable

Synchronization in this application is ABS-time based (not timecode based).

❑ Pre-Operating Procedure

1. Check to see both DA-88s are turned off.

2. Set the **MACHINE ID** switch on one DA-88 to "0," and the switch on the other DA-88 to any other number.

3. Connect one end of the optional PW-88S cable to the SYNC OUT jack of the source (master) DA-88 (the one which is ID-numbered 0), and the other end of the cable to the SYNC IN jack of the target (slave) DA-88.

4. Connect one end of the optional PW-88D cable to the DIGITAL I/O jack of the source DA-88, and the other end of the cable to the DIGITAL I/O jack of the target DA-88.

5. Connect the TIME CODE OUT from the source machine to the TIME CODE IN on the target machine with the appropriate cable.

6. Turn on both DA-88s.

❑ Dubbing Procedure

1. Press **MACHINE**. "Select" will show in the LOCATE TIME window.

2. Press **2** on the keypad (if the target machine is ID-numbered "1" ; or press 3 if it is numbered "2", and so on).

3. Access the Input Select menu (Group 1). It will look like this :

```
Input Select
Analog
```

4. Press either the **+** or **–** key to change the "Analog" to "Digital."

5. Press **TC REC**. Its LED will start blinking.

6. Press **REC FUNCTION 9-16** (or others depending on the machine currently selected).

7. Press **MACHINE** again. The LOCATE TIME display will read "Select" as before.

8 Press **1** on the keypad to select the source machine which must have been ID-numbered "0."

9. Access the Output Timing menu by pressing **MENU**.

```
Output Timing
Analog
```

10. Press either **+** or **–** to change the "Analog" to "Digital."

11. Check to see that the **1-8 REC FUNCTION** and **TC REC** switches are all off.

12. Press **CHASE**. The LOCATE TIME display will read "CHASE" to show sync mode is entered.

13. Select the target machine again by pressing its machine number on the keypad. The number pressed will start blinking rapidly in the LOCK STATUS window.

14. When the blinking frequency of the number slows down, hold **REC** and press **PLAY**, which causes the source machine to start playing and at the same time, the target machine to start recording.

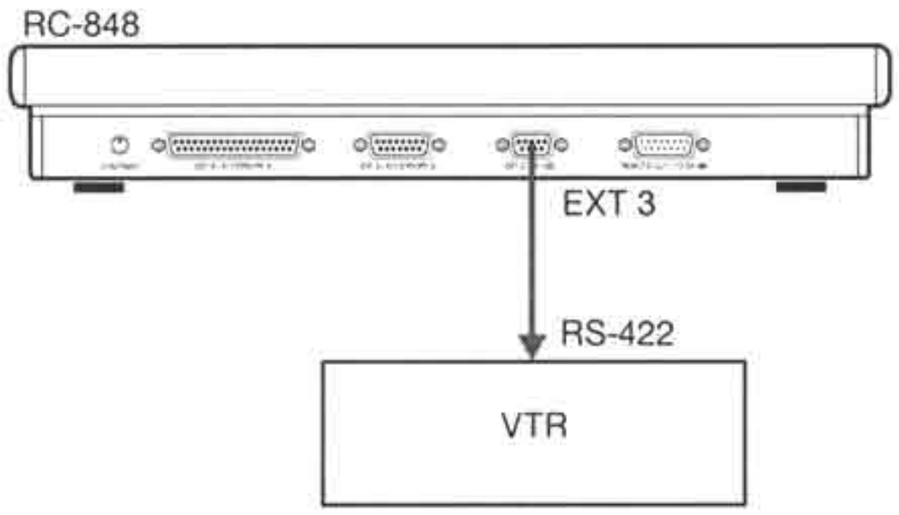
CHAPTER 12 : CONTROLLING A VTR

❑ Connections

You can connect any VTR following RS-422 protocol (or Sony protocol of remote-2).

First, check to see that your VTR is turned off.

Then, connect the VTR's RS-422 connector to the remote EXT 3 connector.



❑ Machine Selection

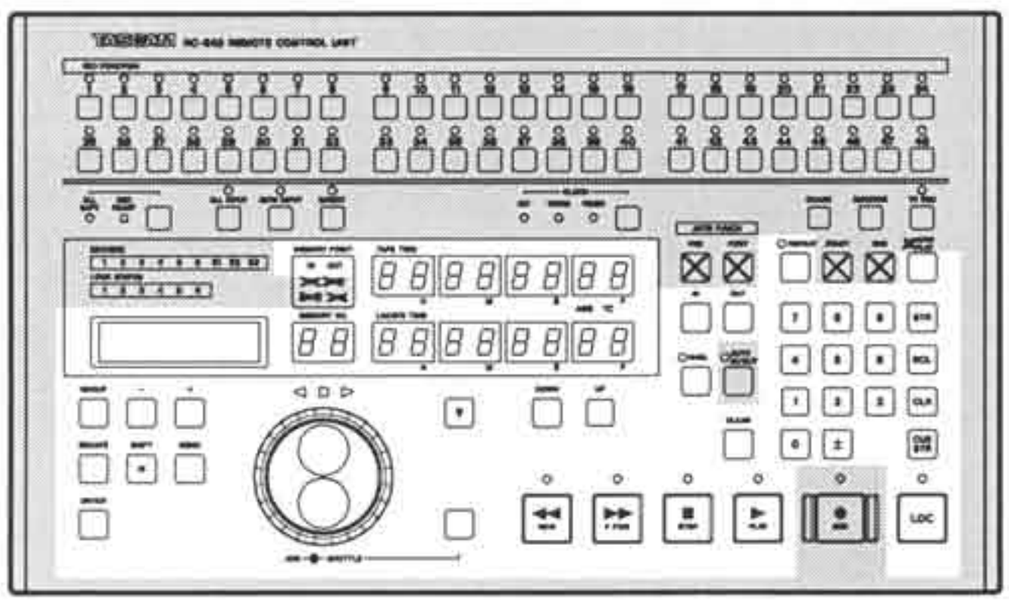
Press MACHINE, then press 9 on the keypad. "E3" will light up in the MACHINE window, and the LCD screen will read :

```
Ext 3 Cont.Mode
      Split
```

❑ Remote Functions Changed/Limited

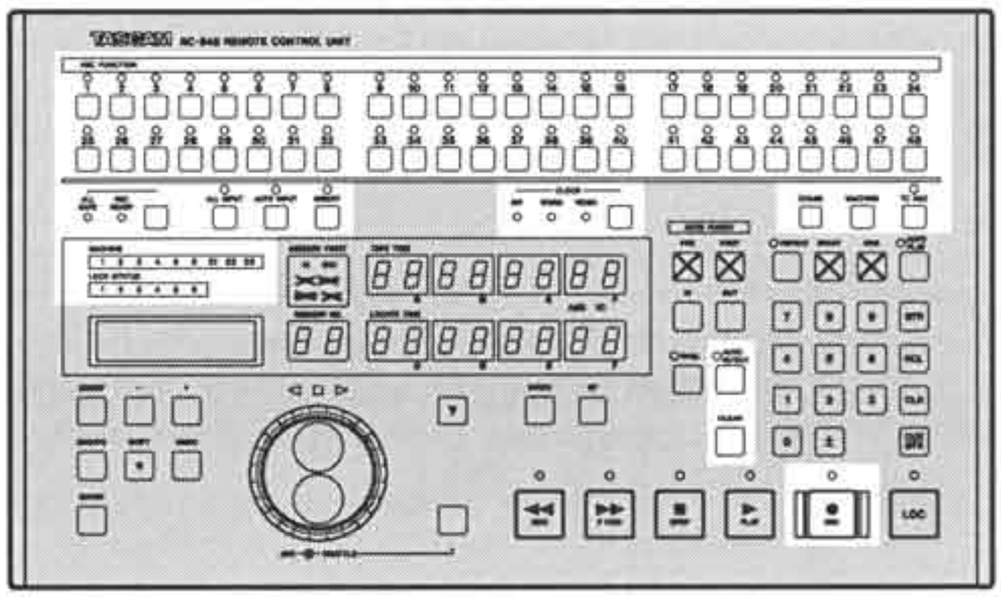
In the Split Mode

- Effective on the VTR



☒: Locked Out

- Effective on the DA-88



☒: Locked Out

JOG wheel

This allows you to jog the VTR, but at a maximum of normal play speed.

UP/DOWN keys

This pair of keys act as a Timer 1 Reset key. When the TAPE TIME display is in Timer 1 mode (as selected at the EXT 3 Timer Mode screen), if you hold either and press the other, the display will be cleared to zero.

AUTO PUNCH IN and OUT keys

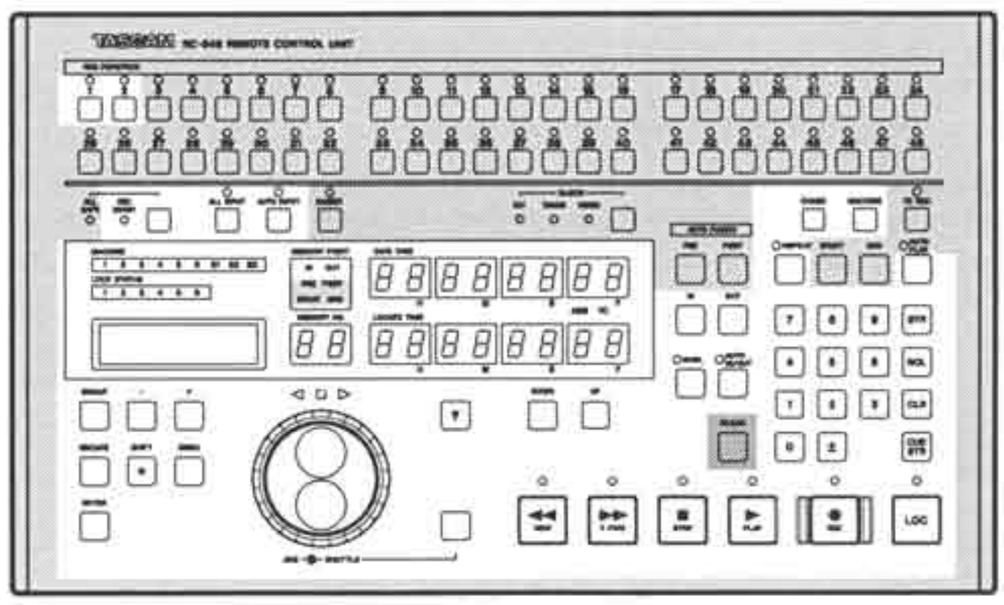
They store punch-in and out points both in the DA-88 and VTR. (Setting punch-in and out points is discussed later.)

AUTO IN/OUT Key

This puts the DA-88 into the corresonding mode and locates the VTR to a preroll point.

In the "Normal" mode

▭: Locked Out



REC FUNCTION switches

Switch #1 is used to control Audio 1 Insert mode on the VTR.

Switch #2 is used to control Audio 2 insert mode.

All other REC FUNCTION switches have no effect.

ALL SAFE/REC READY switch

Controls Standby mode.

ALL INPUT switch

Controls FULL EE mode.

AUTO INPUT switch

Controls SEL EE mode when REC FUNCTION switch 1 or 2 is activated.

JOG wheel

Offers the same function as in the Split mode.

UP and DOWN keys

Each time you press either the UP or DOWN key, the IN or OUT point stored in the VTR moves forward or backward in 1 frame increments (as displayed in the LOCATE TIME window).

This pair of keys also act as a Timer 1 Reset key. When the TAPE TIME display is in Timer 1 mode (as selected at the EXT 3 Timer Mode screen), if you hold either and press the other, the display will be cleared to zero.

AUTO PUNCH IN and OUT keys

If either IN or OUT is hold down and you press STORE, the punch-in or out point is stored in the VTR.

RHSL switch

Controls Preview mode.

AUTO IN/OUT switch

Controls Auto Edit mode.

REPEAT key

Activates Review mode. A second press allows you to monitor the out point.

CLR key

Clears the LOCATE TIME display.

❑ Typical Operation of Split Mode : Punch-in Recording Referenced to a Picture

Preparations

1. Select machine EXT 3 by pressing **MACHINE**, then **9** on the numeric keypad.

2. Access the "EXT 3 Cont. Mode" menu, and select "Split."

```
Ext 3 Cont.Mode
     Split
```

3. Access the "EXT 3 Timer Mode" menu, and select "Time Code."

```
Ext 3 Timer Mode
   Time Code
```

4. Access the "Locate Preroll" menu, and enter the desired preroll time.

```
Locate Preroll
 00Min00Sec
```

5. If an offset is necessary, access the "T/C : Offset", and enter the desired offset value.

```
 T/C : Offset
+00:00:00:00.00_
```

6. Press **CHASE** then **1**.

   The DA-88 (machine 1) will be located to the same timecode point as the VTR.

Setting punch-in and out points

7. Use one of the following three procedures :

   (1) By cueing up the VTR

   1. Use the **JOG/SHUTTLE** wheel to locate the VTR to the point where you want the DA-88 to drop into record.

2. Hold **IN** and press **STR**.

   The cued-up timecode point (displayed in the TAPE TIME window) is stored in the VTR, as well as in the DA-88.

3. Use the **JOG/SHUTTLE** wheel again to locate the desired punch-out point.

4. Hold **OUT** and press **STR** to store the cued-up point.

(2) Using the REC key

1. Check to see that no REC FUNCTION key is pressed.

2. Press **PLAY** to let the VTR start to play.

3. Watch the video picture, and at the desired moment, hit **REC**. The timecode point shown in the TAPE TIME window at this moment is stored as the punch-in point, both in the DA-88 and VTR.

4. Hit **REC** again at the desired moment to capture the punch-out point.

(3) Using the numeric keypad

Use this procedure if the necessary punch-in and out points are known to you.

1. Enter the desired punch-in point into the LOCATE TIME window using the **numeric keypad**.

2. Press **STR** then **IN**.

   The entered point is stored both in the DA-88 and VTR.

3. Enter the desired punch-out point on the **numeric keypad**.

4. Press **STR** then **OUT** to store the point.

Selecting a punch-in track

8. Once the punch-in and out points are stored, press the **REC FUNCTION** switch that corresponds to the desired punch-in track.

   The track will be record enabled, as confirmed by the associated blinking LED.

Rehearsal

9. Press **RHSL**, then **INSERT**.

   The RHSL LED will blink and the VTR will fast wind on its way to the punch-in point.

10. Once the LOCK STATUS "1" indicator stops blinking rapidly and starts blinking slowly, press **PLAY** to have the VTR start. The DA-88 will then start to run in rehearsal mode, allowing you to audition the punch-in and out points for accuracy.

    If you are not satisfied with the current punch-in and out points, press **RHSL** to turn off its LED, then go back to step 7.

Actual recording

11. Press **AUTO IN/OUT**.

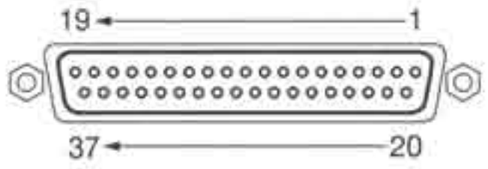
    Its LED will start to blink, and the VTR will fast wind on its way to the punch-in point.

12. Only when the LOCK STATUS "1" stops to blink rapidly and starts to blink slowly, press **PLAY** to have the VTR start to play.

    The DA-88 will automatically drop into and out of record at the selected points.

APPENDIX : PIN ASSIGNMENT CHARTS & DIMENSIONAL DRAWING

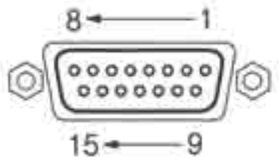
EXT 1 (ACCESSORY 1) – 37 pin D-sub



Pin#	Assignment	
1	$\overline{\text{PLAY}}$	OUT
2	$\overline{\text{FF}}$	OUT
3	$\overline{\text{REW}}$	OUT
4	open terminal	
5	$\overline{\text{STOP}}$	OUT
6	$\overline{\text{REC}}$	OUT
7	open terminal	
8	"	
9	"	
10	"	
11	$\overline{\text{PLAY}}$ TALLY	IN
12	$\overline{\text{FF}}$ TALLY	IN
13	$\overline{\text{REW}}$ TALLY	IN
14	$\overline{\text{STOP}}$ TALLY	IN
15	$\overline{\text{REC}}$ TALLY	IN
16	open terminal	

Pin#	Assignment
17	open terminal
18	"
19	"
20	"
21	"
22	"
23	$\overline{\text{REC}}$ COMMAND IN
24	open terminal
25	"
26	"
27	"
28	"
29	"
30	"
31	"
32	GND
33	open terminal
34	"
35	"
36	"
37	"

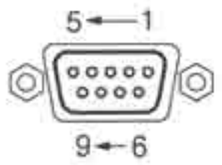
EXT 2 (ACCESSORY 2) – 15 pin D-sub



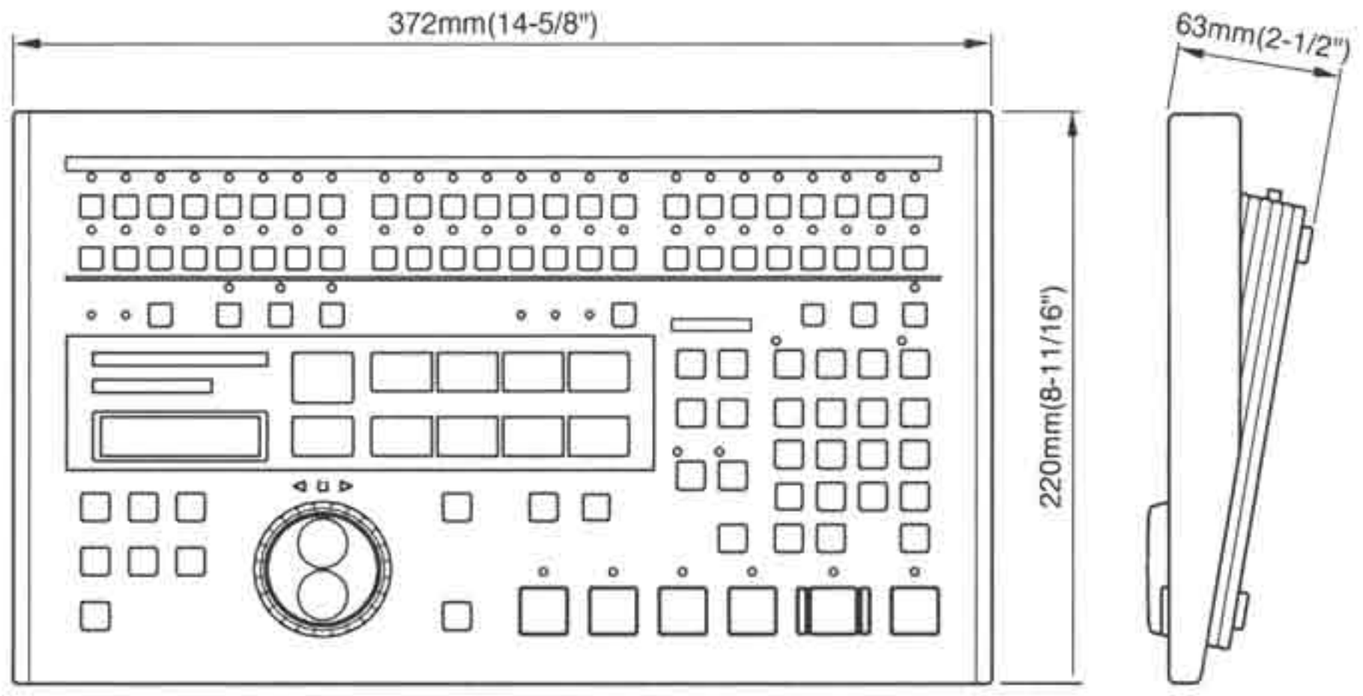
Pin#	Assignment
1	Shielded
2	TX
3	open terminal
4	RX
5	UP/DOWN IN

Pin#	Assignment	
6	CP	IN
7	FREQ	OUT
8	GND	
9	open terminal	
10	"	
11	"	
12	"	
13	INT/$\overline{\text{EXT}}$	OUT
14	GND	
15	open terminal	

EXT 3 (RS-422) – 9 pin D-sub



Pin#	Assignment
1	Shielded
2	RX+
3	TX–
4	GND
5	—
6	GND
7	RX–
8	TX+
9	Shielded



Weight: 2.5kg

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RC-848

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