FOSTEX

Digital Master Recorder

D-30

Owner's Manual

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER(OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

CAUTION:

TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

ATTENTION:

POUR ÉVITER LES CHOCS ÉLECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

"WARNING"

" TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK. DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE."

SAFETY INSTRUCTIONS

1. Read Instructions – All the safety and operating instructions should be read before the appliance is operated.
2. Retain Instructions – The safety and operating instructions should be retained for future reference.
3. Heed Warnings – All warnings on the appliance and in the operating instructions should be adhered to.
4. Follow Instructions – All operating and use instructions should be followed.
5. Water and Moisture – The appliance should not be used near water – for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, and the like.
6. Carts and Stands – The appliance should be used only with a cart or stand that is recommended by the manufacturer.

An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

7. Wall or Ceiling Mounting – The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
8. Ventilation – The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
9. Heat – The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
10. Power Sources – The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
11. Grounding or Polarization – The precautions that should be taken so that the grounding or polarization means of an appliance is not defeated.
12. Power Cord Protection – Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.
13. Cleaning – The appliance should be cleaned only as recommended by the manufacturer.
14. Nonuse Periods – The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
15. Object and Liquid Entry – Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
16. Damage Requiring Service – The appliance should be serviced by qualified service personnel when:
    A. The power supply cord or the plug has been damaged; or
    B. Objects have fallen, or liquid has been spilled into the appliance; or
    C. The appliance has been exposed to rain; or
    D. The appliance does not appear to operate normally or exhibits a marked change in performance; or
    E. The appliance has been dropped, or the enclosure damaged.
17. Servicing – The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

1st Edition	Jan. 1994	8288 320 000	
2nd Edition	Mar. 1994	8288 320 100	
3rd Edition	July 1994	8288 320 200	
4th Edition	Oct. 1994	8288 320 300	V1.1* Supplement (Additional function: "FULL COPY")
5th Edition	Nov. 1994	8288 320 400	V1.1* Supplement (Additional function: "SETUP MODE menu")
6th Edition	Sept. 1995	8288 320 500	V1.2* Supplement (Additional function: "TAPE COUNTER mode")
7th Edition	Mar. 1996	8288 320 600	V1.22 Supplement (Additional function: "GEN SETUP" and "CHASE SETUP")

Additions to the D-30 Owner's Manual

The following setup items have been added or modified in the GEN SETUP and CHASE SETUP modes at the same times as our version-up (V1.22) of the D-30 software. Because these items are explained only in the following, be sure to read this together with the owner's manual. Please keep this material with the manual for future reference.

1. Additions and Modifications to the GEN SETUP mode

In the RUN MODE setup item in the "Generator run mode" on page 1 (page 12-4 of the main text) regarding the GEN SETUP mode of the D-30, "REC RUN (INT)" has been added. This means that a total of three items can now be selected. Consequently, the previous "REC RUN" name has been changed to "REC RUN (REGEN)". However, there is no change in function).

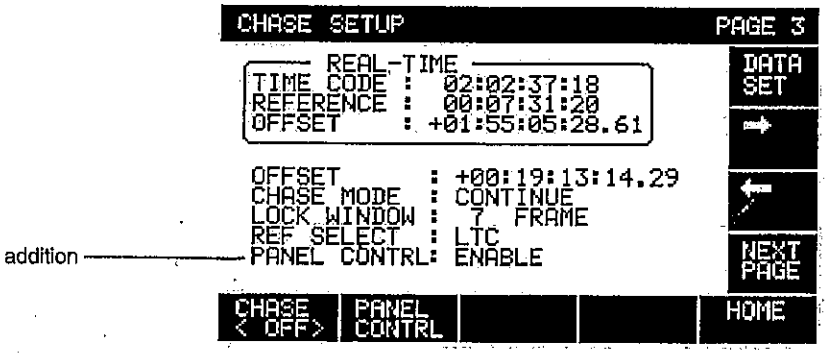
In the "REC RUN (REGEN)", previously called "REC RUN", time code already written on the tape when recording was begun is read and the generator time is set so that it will be continuous with this. In the new "REC RUN (INT)" mode, time set by GEN TC PRESET will always be set in the generator before it is started.

Use this mode when you want to set the tape start to "1: 00: 00: 00."

FREE RUN (*)	*: (Content is the same as main text)*
REC RUN (REGEN)	*: (Content is the same as main text)*
REC RUN (INT)	*: The generator is started from the time set by GEN TC PRESET.*

2. Additional Function added to the CHASE SETUP mode

Page three has been added to the CHASE SETUP mode (page 11-2 of main text) and a panel lock at CHASE function has been added. Selection is possible from the following two:



ENABLE (*)	*: Chase can be stopped with a transport control key such as STOP, etc.*
DISABLE	*: CHASE cannot be stopped except with the CHASE key.*

<NOTE>

When this function is set to "ENABLE," the CHASE mode can be disabled but if it is set to "DISABLE," the CHASE mode cannot be switched off except with the CHASE key.

D-30 Owner's Manual Supplement

In relation to version up (V1.21) of the D-30 software, following setup items were added to the setup mode on page 2. Please read this in conjunction with the main manual as only the additional functions are explained here.

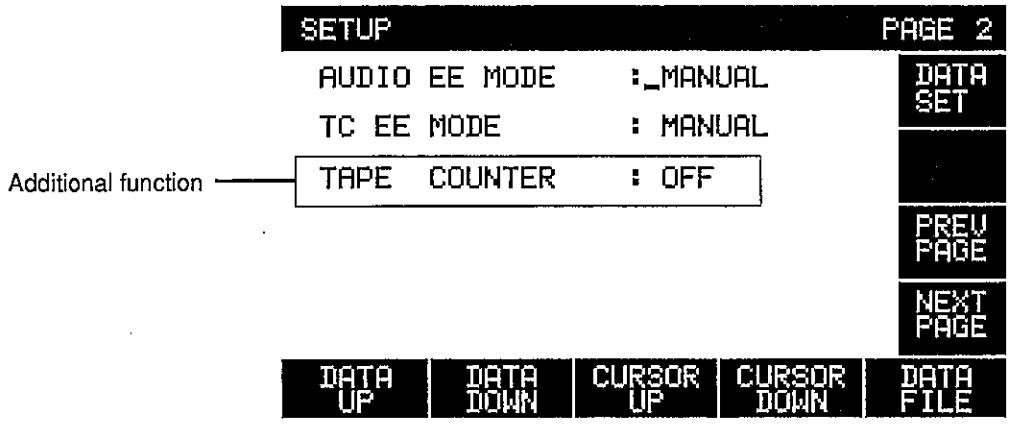
Additional functions

A "TAPE COUNTER mode ON/OFF" function has been added to the D-30 SETUP mode in page 2.

This function allows switching the normal A-TIME display section to the tape counter display. When this mode is switched on, the tape counter can be displayed instead of the A-TIME display (It is initially set to OFF).

In using a tape with no recording of time information such as A-TIME, by switching ON this function, the head point can then be located with the TAPE COUNTER figure.

* To reset (00: 00: 00: 00) the TAPE COUNTER display, press the "10 KEY MODE key" while in other than the data edit mode.



(* denotes the default setting.)

OFF (*)	Normal A-TIME will be displayed.
ON	A-TIME display section will change to TAPE COUNTER display.

<NOTE>

Because, the tape counter of the D-30 is not of the hardware counting type as used in the Fostex Model D-10 Digital Master Recorder, counter accuracy is approximate. Consequently, it is recommended to read the tape counter only as a general figure.

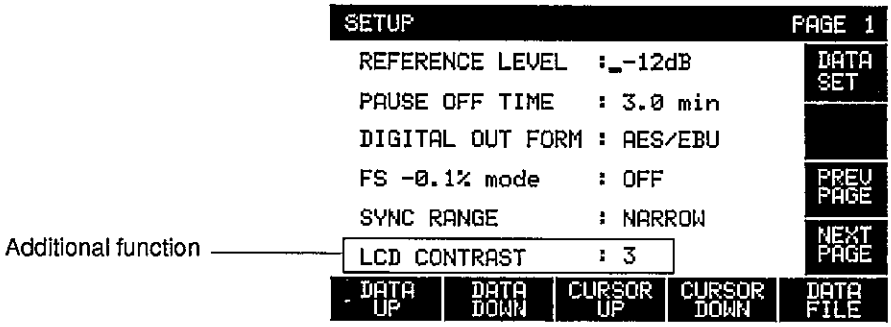
D-30 Owner's Manual Supplement

Because of the software upgrade for the D-30, the following functions are now included in the SETUP MODE menu. For easy reference, please keep this supplement with your D-30 Owner's Manual.

Additional functions to the SETUP MODE menu

1. LCD CONTRAST

This has been added to page 1 of the SETUP MODE menu. Use this function to adjust contrast on the screen. This setting will be held when the power is switched off (Initial setting: 3).



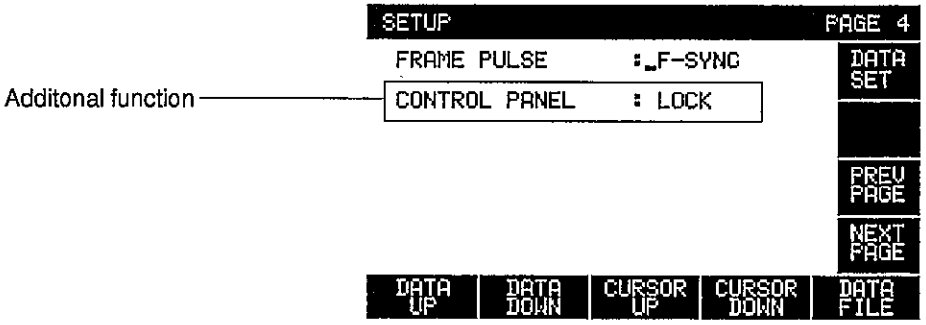
0 ~ 7	Contrast can be adjusted within a 0 ~ 7 range. 0 (Contrast: low) ←——→ 7 (Contrast: high)

2. CONTROL PANEL

This has been added to page 4 of the SETUP MODE menu.

The panel locking function can be selected during REMOTE operation.

This setting will be held when the power is switched off (Initial setting: LOCK).



LOCK	The following functions can be selected from the front panel during remote operation. EJECT button, all select switches, DISP TIME/DISP LEVEL keys.
UNLOCK	The following functions can be selected from the front panel during remote operation. STOP button, PLAY button, REWIND button, F FWD button, S-ID SEARCH key, BLANK SEARCH key, EJECT button, all select switches, DISP TIME/DISP LEVEL keys.

3. Addition to "Setup of device type (DEVICE CODE)" on page 5 in the SETUP MODE menu.

You can now select FOSTEX in the SETUP MODE menu.

	D-30 (*)	This is set in the D-30 device code.
	PCM-7050	This is set in the PCM-7050 device code.
	BVW-75	This is set in the BVW-75 device code.
	BVU-800	This is set in the BVU-800 device code.
Addition ———	FOSTEX	This is set in the device code of D-30 and other FOSTEX DAT.

<NOTE>

Depending on the editor used, these may not be accepted when used for setup of the D-30 device code. In such a case, use "FOSTEX" for setup of the device code.

D-30: **Transmits 4 bytes of data.**

FOSTEX: **Transmits 2 bytes of data.**

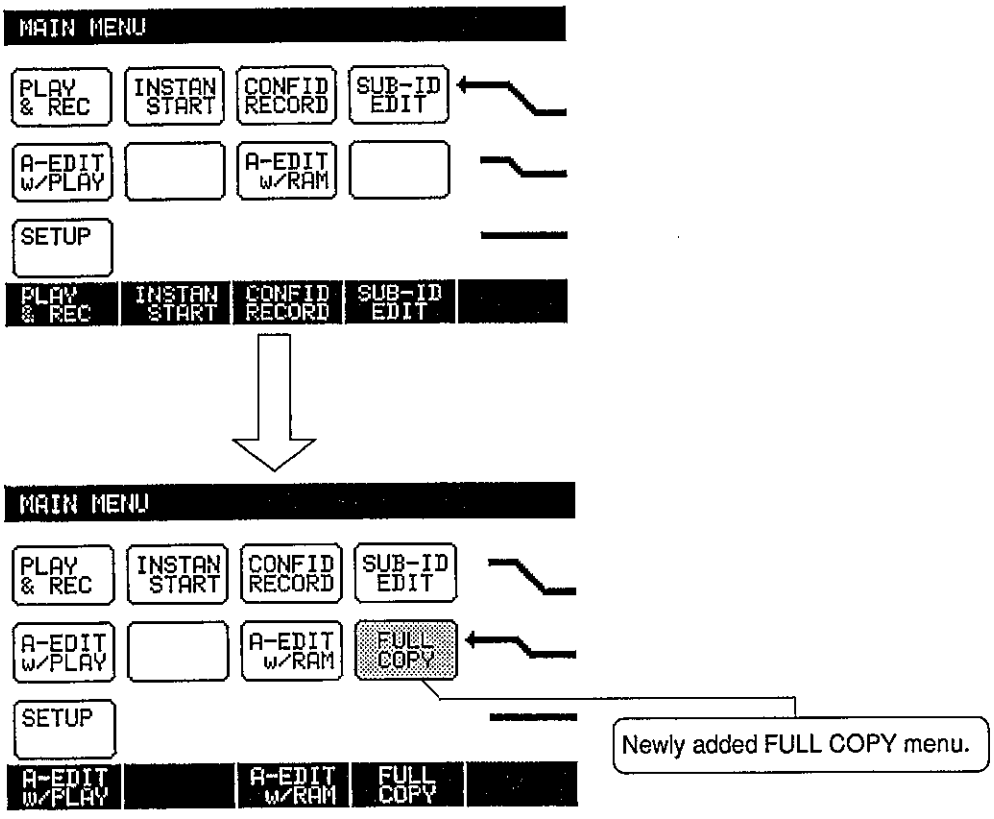
D-30 Owner's Manual Supplement

At the same time as the version up of the Fostex Model D-30 software, the following function has been added to its Main Menu.
This supplementary manual is for the FULL COPY MODE function.
Please refer to the main manual for other functions of the D-30.

Additional Function

The FULL COPY MODE menu

The newly added FULL COPY MODE menu allows digital copying including sub codes using two the D-30's.



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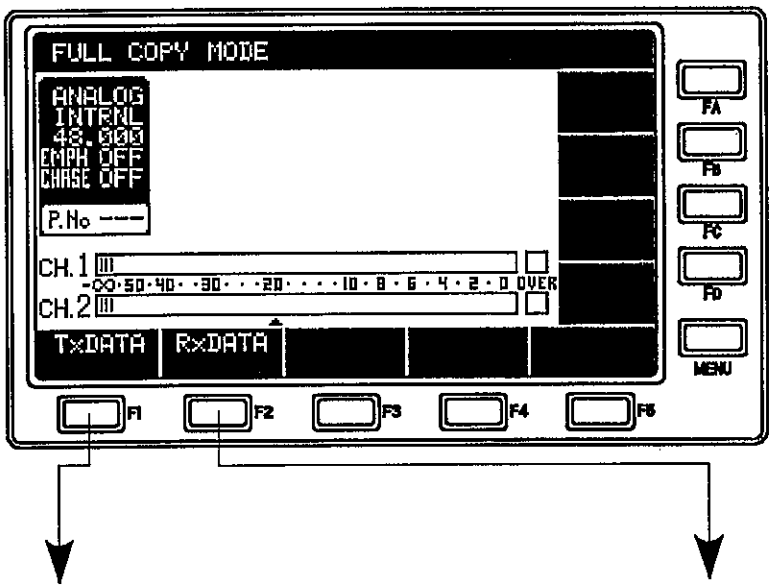
Operating The Menu

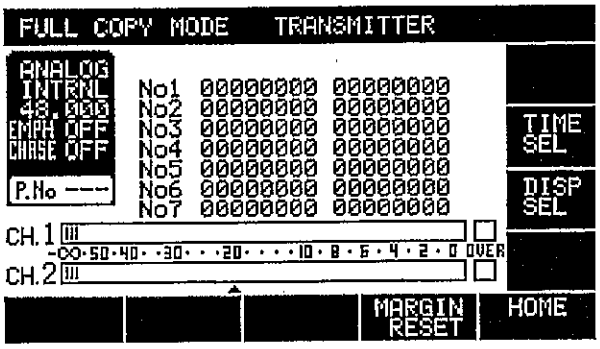
The FULL COPY MODE operating menu is three pages consisting of the Mode Select Display, Transmitting Unit Mode Display and the Receiving Unit Mode Display.

Full Copy Mode Select Display (FULL COPY MODE)

This is displayed when the FULL COPY MODE is selected from the MAIN MENU display and the following modes can be selected by pressing the F1 or F2 keys.



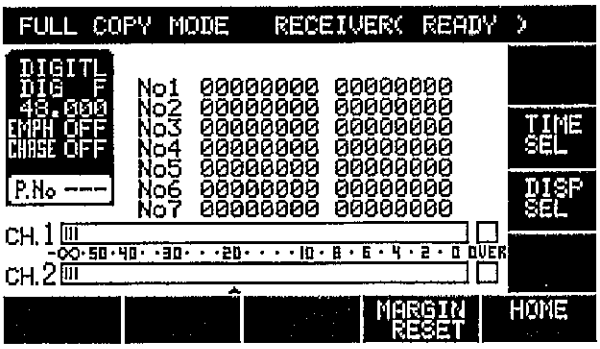
Transmitting Unit Mode Display



When the D-30 is used as the transmitter, the transmitting unit mode can be selected by pressing the F1 (TxDATA) key and the above will be displayed.

The sub code data being transmitted will be displayed and the pack contents shown in No. 1 ~ No. 7.

Receiving Unit Mode Display



When the D-30 is used as the receiver, the receiving unit mode can be selected by pressing the F2 (RxDATA) key and the above will be displayed.

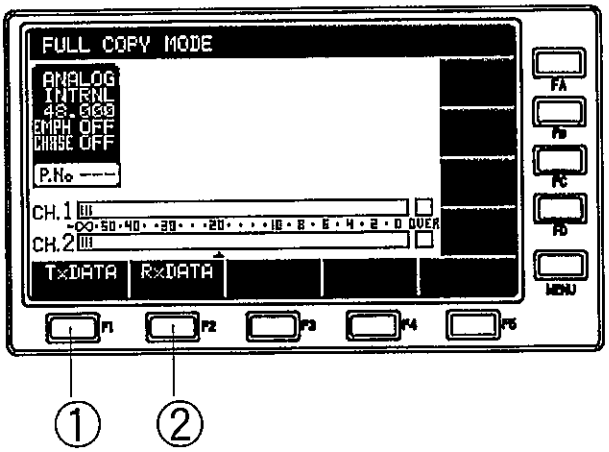
The sub code data being received when the receiver is in the INPUT MONITOR mode, or the sub code data recorded on tape in the recording or playback process when it is in the REPRO MONITOR mode will, respectively, be displayed.

The pack contents are shown in No. 1 ~No. 7.

Description of Displays and Functions

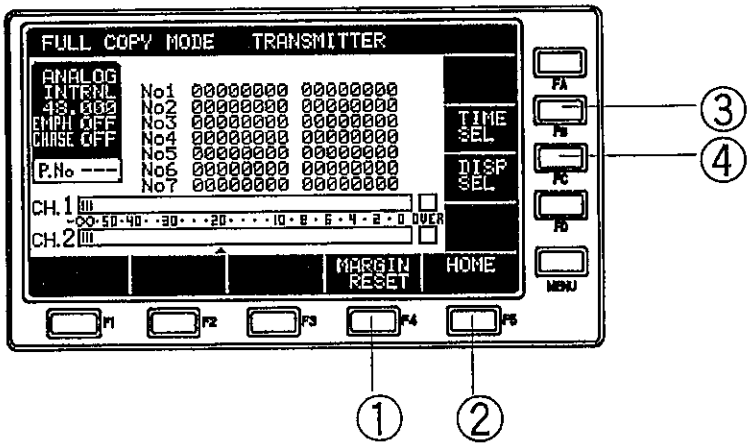
Functions of each function key in the display are as follows.

Mode Select Display



No.		Display	Function
①	F1	TxDATA	Transmitting mode is selected when this key is pressed and change to the transmitting mode display.
②	F2	TxDATA	Receiving mode is selected when this key is pressed and change to the receiving mode display.

Transmitter Mode/Receiver Mode Displays



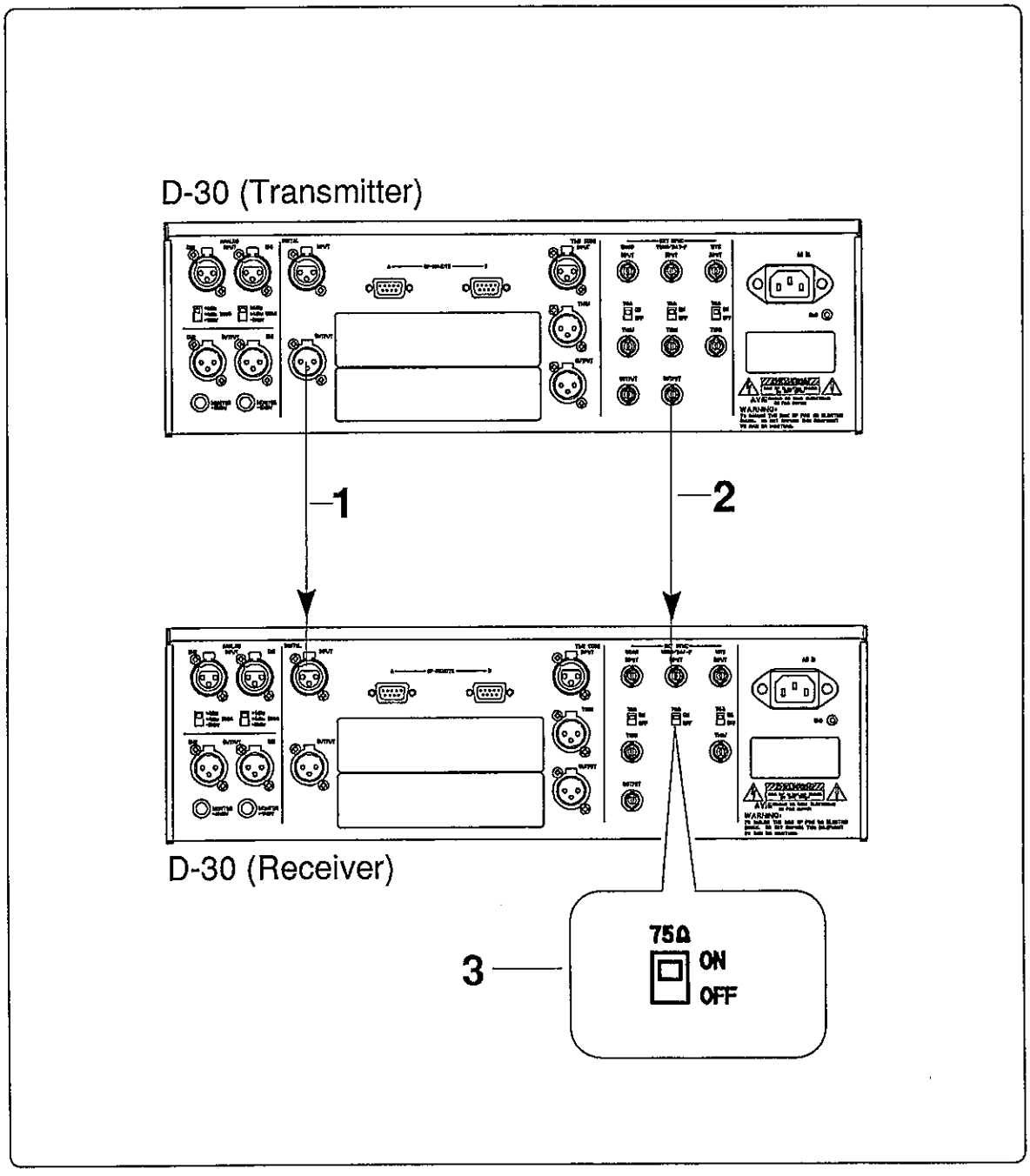
No.		Display	Function
①	F4	MARGIN RESET	When this key is pressed while the MARGIN level is shown in the display by pressing the FC (DISP SEL) key, the MARGIN level shown will be reset.
②	F5	HOME	It will return to the mode select display when this key is pressed.
③	FB	TIME SEL	Sub code packs No. 1 ~ No. 3 will disappear and CURRENT TIME be shown when this key is pressed. CURRENT TIME can be displayed consecutively as A-TIME→REP TC→DATE→GEN TC→TC UB, each time this key is pressed,
④	FC	DISP SEL	Sub code packs No. 4 ~ No. 7 will disappear and the LEVEL DATA/TC FRAME be displayed when this key is pressed. LEVEL DATA can be displayed consecutively as LEVEL 1,2→MARGIN LEVEL→SPEED→ERROR RATE→TC FRAME each time this key is pressed.

Digital Copy Operation

Connections

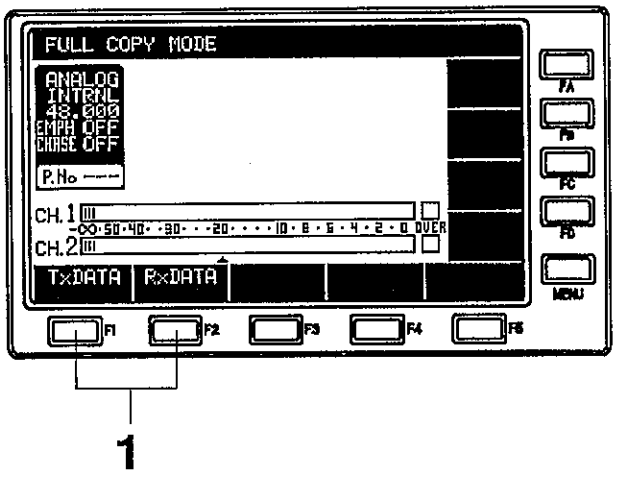
Two the D-30's, one as the transmitter (playback) and the other as the receiver (record), are connected as shown in the schematic.

1. Connect the transmitter DIGITAL OUT to the receiver DIGITAL IN.
2. Connect the transmitter VIDEO/DAT-F OUTPUT to the receiver VIDEO/DAT-F INPUT.
3. Switch ON the receiver VIDEO/DAT-F INPUT terminate switch.



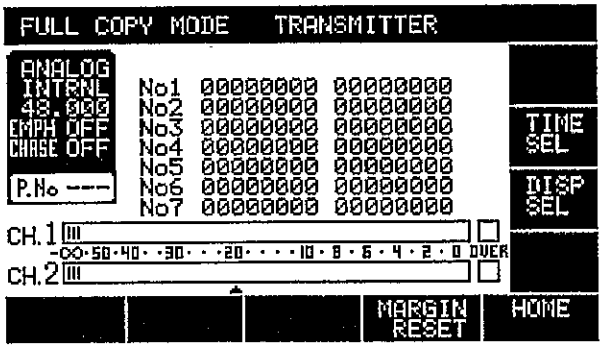
Preparation Prior to Operating

1. Press the MENU key on both the transmitter and receiver, and after selecting FULL COPY MODE in the MAIN MENU, press the F1 (TxDATA) or F2 (RxDATA) key to enter their respective modes.



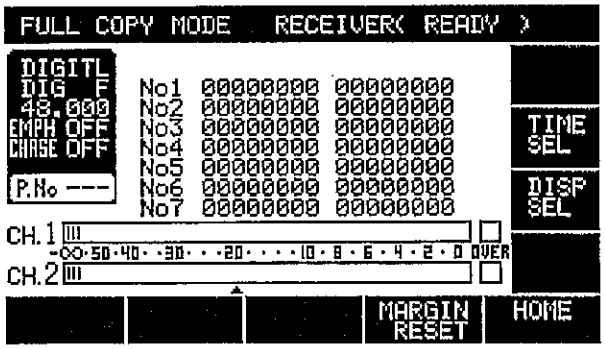
Transmitter

* Press the F1 (TxDATA) key to display the "Transmitter mode."



Receiver

* Press the F2 (RxDATA) key to display the "Receiver Mode."



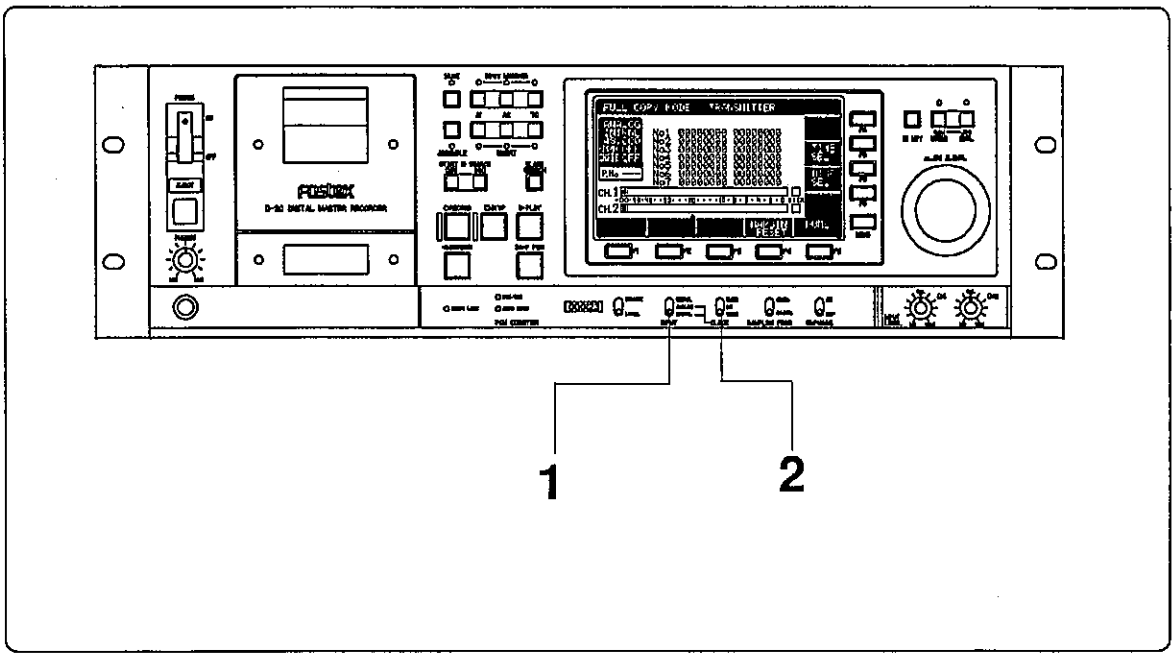
2. Load the source tape for copying in the transmitter and a new tape for recording in the receiver.

Setting The Transmitter Switches

1. Set the transmitter INPUT selector switch to "ANALOG."
2. Set the transmitter CLOCK switch to "INT."

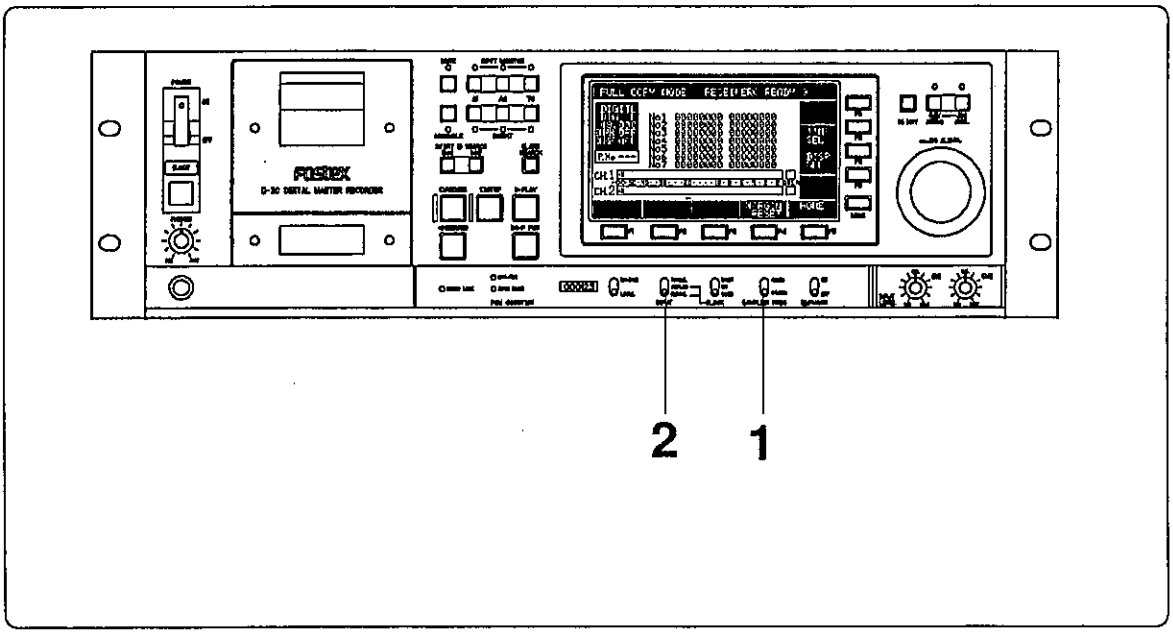
   The FRAME PULSE output will be automatically set to "F-SYNC."

   Also, the DIGITAL OUT format will be automatically set to "AES /EBU."



Setting The Receiver Switches

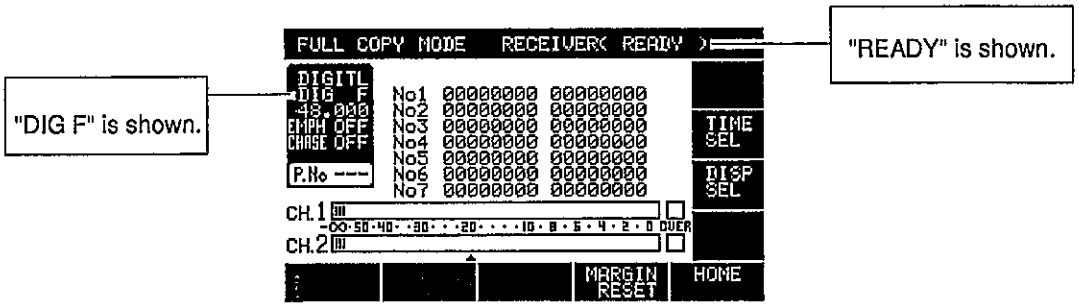
1. Set the receiver SAMPLING switch to the same position as the transmitter sampling frequency.
2. Set the receiver INPUT selector switch to "DIGITAL (up)."



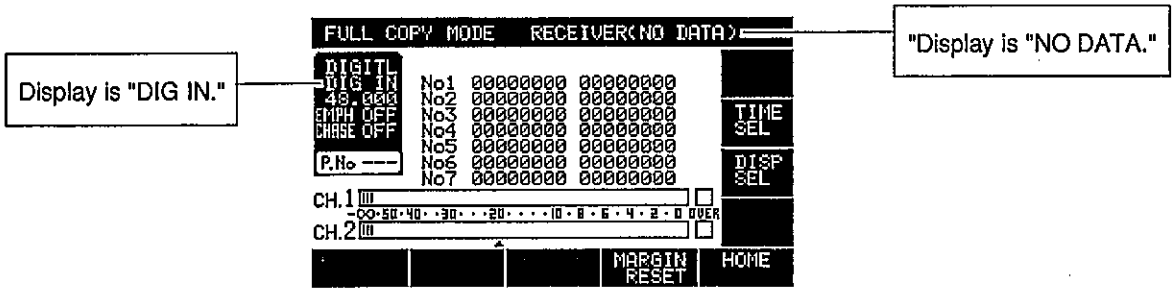
<NOTE>

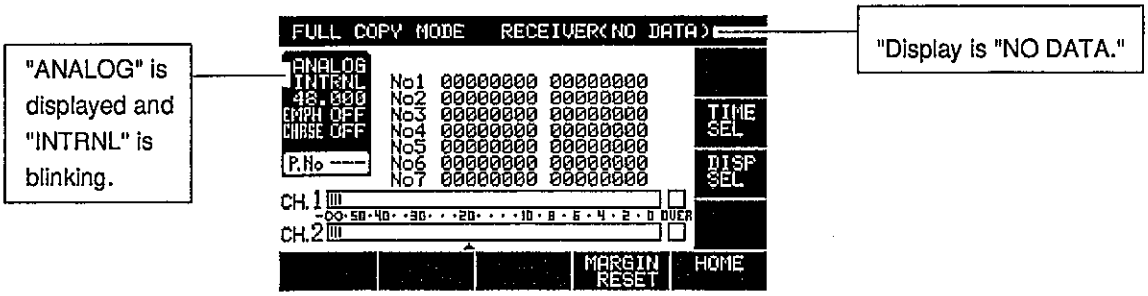
Before executing full copying, check to see that the receiver display is in the correct state. Should it fail to operate although the display is in the correct state as shown below, recheck the connections and try again.

<Correct operational display>



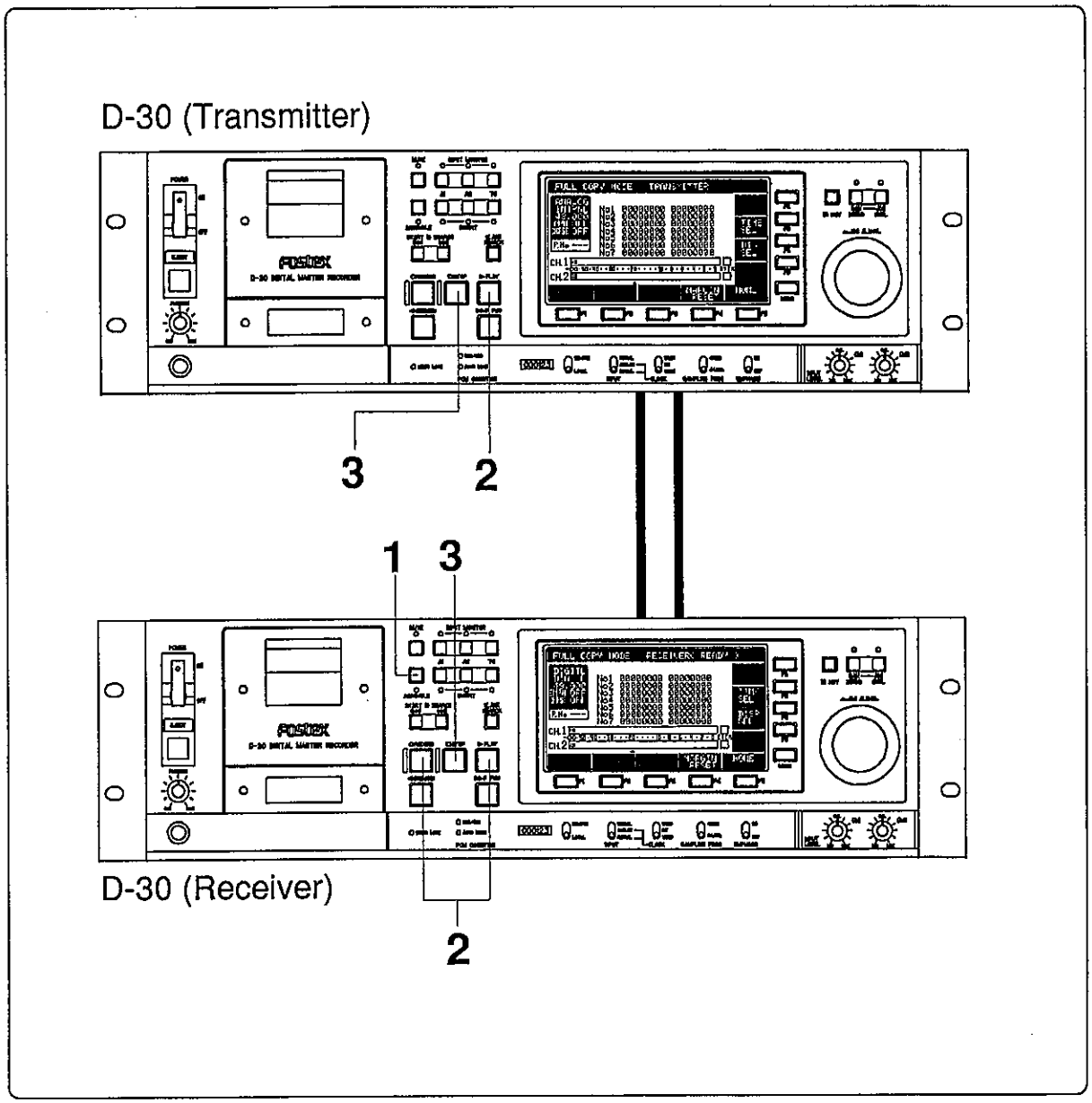
<Inoperational display>





Execution of FULL COPY

Full copying will start after all connections and switches are set.



1. Set to assemble mode by pressing the receiver ASSEMBLE switch.
   * All LED's of ASSEMBLE/INSERT will be lit.
2. Check that the receiver display is in the operational state (FULL COPY MODE RECEIVE (READY)), press the transmitter PLAY button and simultaneous with the start of playback, enter the recording mode by pressing the receiver RECORD and PLAY buttons at the same time.
   Data of the recorded sub codes will be displayed when the receiver is in the REPRO MONITOR (all INPUT MONITOR LED's will not be lit) mode, and data of the presently received sub codes will be displayed when set to the INPUT MONITOR (INPUT MONITOR LED's will be lit) mode.
3. Upon completion of full copying, stop tape by pressing the STOP button on both machines.

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Chapter 10. Auto Edit with RAM Mode Menu

Chapter 11. Chase Setup Mode

Chapter 12. Generator Setup Mode

Chapter 13. Auto Edit Setup Mode

Chapter 14. Setup Mode Menu

Chapter 15. Specifications

INTRODUCTION

Objective of this manual

This manual is composed as a guide book for effective utilization of the Fostex Digital Master Recorder Model D-30.
Primary features (functions) of the product, names and functions of each part, operating methods which are important to using the Model D-30 are explained in each chapter of this manual.
Furthermore, as precautions in use, notes on safety, after-service are explained in detail, it is suggested to keep this manual handy at all times.

Composition of this manual

Although a rough idea of the composition of this manual can be gained by glancing through the table of contents, brief explanations of each chapter are given below for a quick overall review of the entire manual. These explanations are also presented at the head of each chapter.

Chapter 1 Outline and Main features

Outline, principal outstanding features and optional equipments of Model D-30 are explained.

Chapter 2 Notes prior to operation

Set up of Model D-30, notes on operating it and items related to DAT are explained here.

Chapter 3 Names and functions of the switches and controls

Names, functions and operating methods of the buttons, switches, connectors on the front and rear panels of Model D-30 are explained here.
For those accustomed to DAT, this chapter is arranged so that fundamental operation of Model D-30 can be learned by first reading this chapter and chaper 4, then referring to other chapters as necessary.

Chapter 4 The main menu

Items in the main menu are explained in this chapter.
Main menu of this machine are all handled on this display.
In this chapter are explained, items of the main menu, method in using the display and the function keys which function as operating keys. Therefore, it is suggested to carefully read this chapter for good understanding of its operation methods.

Chapter 5 Play and recording mode menu

Play and Recording Mode menu of the main menu is explained in this chapter. Not only fundamental analog/digital sound recording and playback but operation of a video editor through RS-422 is also explained.

Chapter 6 Instant start mode

The Instant Start Mode menu using the RAM is explained here.
Beginning with explanations on Instant Start, RAM scrub and also operation using Instant Start is explained.

Chapter 7 Confidence recording mode

This chapter explains the Confidence Recording Mode in which Read After Record (simultaneous monitoring) is carried out. Actual operation on "assemble recording" only is explained.

Chapter 8 Sub ID edit mode

After recording editing of the sub ID is explained here.
Record/erase of various ID's such as S-ID, SKIP-ID, END-ID, etc. and renumbering method is explained.

Chapter 9 Auto edit with player mode menu

"Assemble/insert editing" by controlling other DAT equipments (D-30, D-20B) through RS-422 in a player/recorder combination is explained here.

Chapter 10 Auto edit with RAM mode menu

"Spot editing using the source RAM," which will become possible by installing the optional Source RAM, is explained here.

Chapter 11 Chase setup mode

Chase setup mode common to the various recording modes is explained in this chapter.

Chapter 12 Generator setup mode

Generator setup mode common to the various recording modes is explained in this chapter.

Chapter 13 Auto edit setup mode

Auto edit setup mode common to the various recording modes is explained in this chapter.

Chapter 14 Setup mode menu

This chapter explains the "Setup Mode menu" in the main menu. Although this equipment contains many parameters so that it can comply to various situations, it is shipped from the assembly plant in the standard setting. This setting can be easily changed by using the customizing function named Setup Mode.

Chapter 15 Specifications

Major specifications on electrical and mechanical characteristics, physical dimensions and appearance, etc. are explained in this chapter.

Contents of this manual

Many terms related to DAT appear in the explanations of each chapter of this manual. These special terms are expressed by the following abbreviations in the text.

* **A time/absolute time** ——— **A-TIME**
* **Sampling frequency** ——— **FS**
* **Start ID** ——— **S-ID**
* **Program number** ——— **P-NO**
* **End ID** ——— **END-ID**
* **Skip ID** ——— **SKIP-ID**
* **Time code** ——— **TC**
* **Internal** ——— **INT**
* **External** ——— **EXT**
* **Generator** ——— **GEN**

When expressing the switches, keys and input/output jacks, as a rule, the panel letterings itself will be used.

[Example]

* Record button ——— **RECORD button**
* Emphasis switch ——— **EMPHASIS switch**
* Blank search key ——— **BLANK SEARCH key**
* Analog input connector —— **ANALOG INPUT connector**

Role of the Model D-30 function keys (F1～F5, FA～FD) will differ with each change in the display picture. Therefore, in the explanations, function name in the display will be shown in [ ] after the function key name and, for a given function key, each function will be distinguished as follows:

[Example]

***Press F1 [MEMORY LOCATE] key.**

F1 key will function as the MEMORY LOCATE key.

***Press F1 [V SPEED ON-OFF] key.**

F1 key will function as the VARI SPEED ON-OFF key.

** Refer to Chapter 4 The Main Menu for details.*

Words enclosed by [ ] in the explanations expresses the panel switch position names or display messages and the words on the panel or in the display will be directly shown here.

The LED indicators and operating button lamps will be expressed as "lit," "blink," "fast blink" and "extinguished" and messages shown in the display as "display."

In conventional analog recorders, audio signal recording is referred to as "sound recording" but in this manual, recording of audio signal will be referred to as "sound recording" and those for various ID's and time codes as "record."

In the text, **<NOTE>** explains important points to be heeded for correct operation and handling of this recorder.

It is our hope that you carefully follow the above notes and carefully read this manual for full understanding and best performance of this equipment.

CHAPTER 1

Outline and Main Features

Outstanding features and various functions of Model D-30 are explained in this chapter.

1-1. Outline

Utilizing the design techniques of the Fostex first DAT Model D-20B and later Models PD-2 and D-10, further high level techniques were incorporated to develop the professional digital master recorder Model D-30.
Record/playback of SMPTE/EBU time codes in IEC format necessary for professional use is possible.
The Model D-30 features Random Access Memory capable of storing 5 seconds of audio data. RAM scrub, a Fostex exclusive, in addition to Instant Start are two features that utilize this standard on-board memory. Additional features such as Spot Edit and Auto Edit W/RAM can be added by using the optional 8331 Source RAM Memory Board.
Editing is also possible, without an external editor, by using RS-422 for controlling two Model D-30's and another Model D-20B if necessary.
As can thus be seen, Model D-30 can be used as a high performance audio editor in broadcasting stations and post production studios.

1-2. Major outstanding features

Contains a 16 Mbit RAM

* The D-30 a 16 Mbit RAM which makes Instant Start and RAM Scrub possible.
Using this 16Mbit RAM buffer, the Model D-30 provides RAM Scrub, a Fostex exclusive. This allows edit points to be quickly and precisely located.

* By installing the optional Source RAM (Model 8331 Memory Board), audio data recorded in this RAM can be used as the source and insert edited in the recorder. In addition, the editing point can be delicately adjusted by using the RAM in the rehearsal function.

Mechanism

* Highly reliable tape transport using four direct drive motors.

* Simultaneous playback sound monitoring (off tape monitoring) during sound recording is possible by employment of 4 heads.

External sync

* As it can handle various types of external sync signals, synchronization with external equipment is possible.

1. Video sync signal (composite, frame pulse, field pulse)
2. Word sync signal
3. Digital input signal

Record/playback of time code (TC)

* Record/playback of IEC format SMPTE/EBU time code is possible by using the sub code area.

* High speed reader and VITC reader functions have been incorporated in the time code reader.

* Synchronization of the generator by an external sync signal (video sync signal/external TC) is possible.

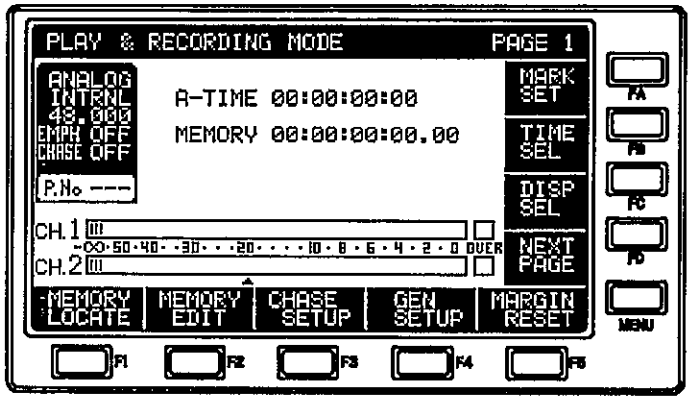
* External TC can be force jammed by the jam function.

Large size LCD multi display is employed

* High precision peak level meter with reference marker.

* The menu appropriate to the work can be selected and the structurally arranged procedures can be easily carried out in the display.

* By employment of the soft function key, work apt to become complicated can be simplified to a great extent.



ID function

* Program number (P-NO) and start ID (S-ID) can be recorded.

* End ID (END-ID) can be recorded and search/stop function is possible.

* Skip ID (SKIP-ID) can be recorded and Skip-Play function is possible.

Auto locate/search function

* Blank search/S-ID search is possible.

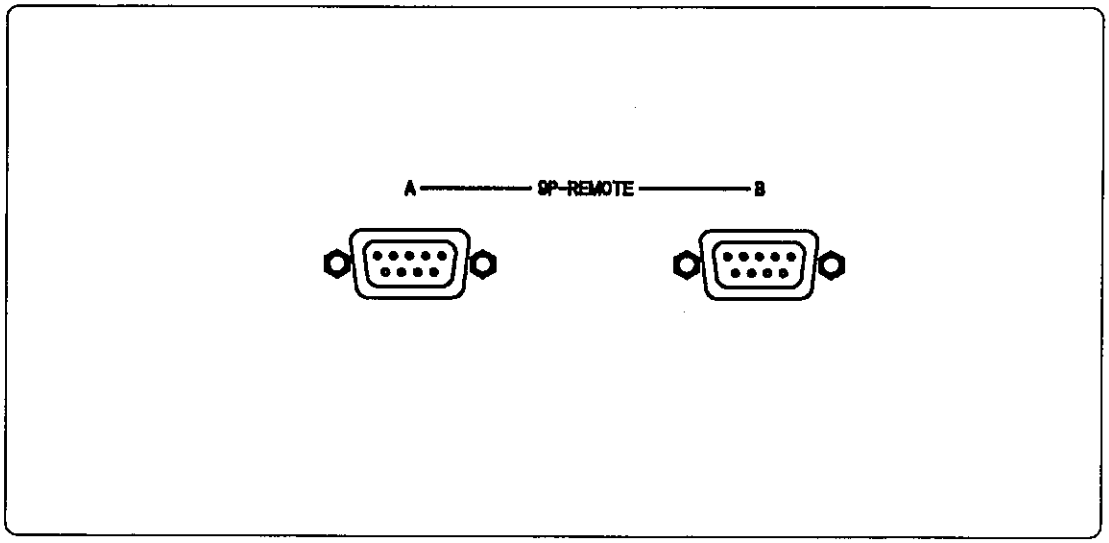
* Locate function by IEC time code, A-TIME and program number is possible.

* Cueing function by JOG/SHUTTLE operation.

2 port RS-422 is standard feature

* Complies to SONY 9PIN PROTOCOL.

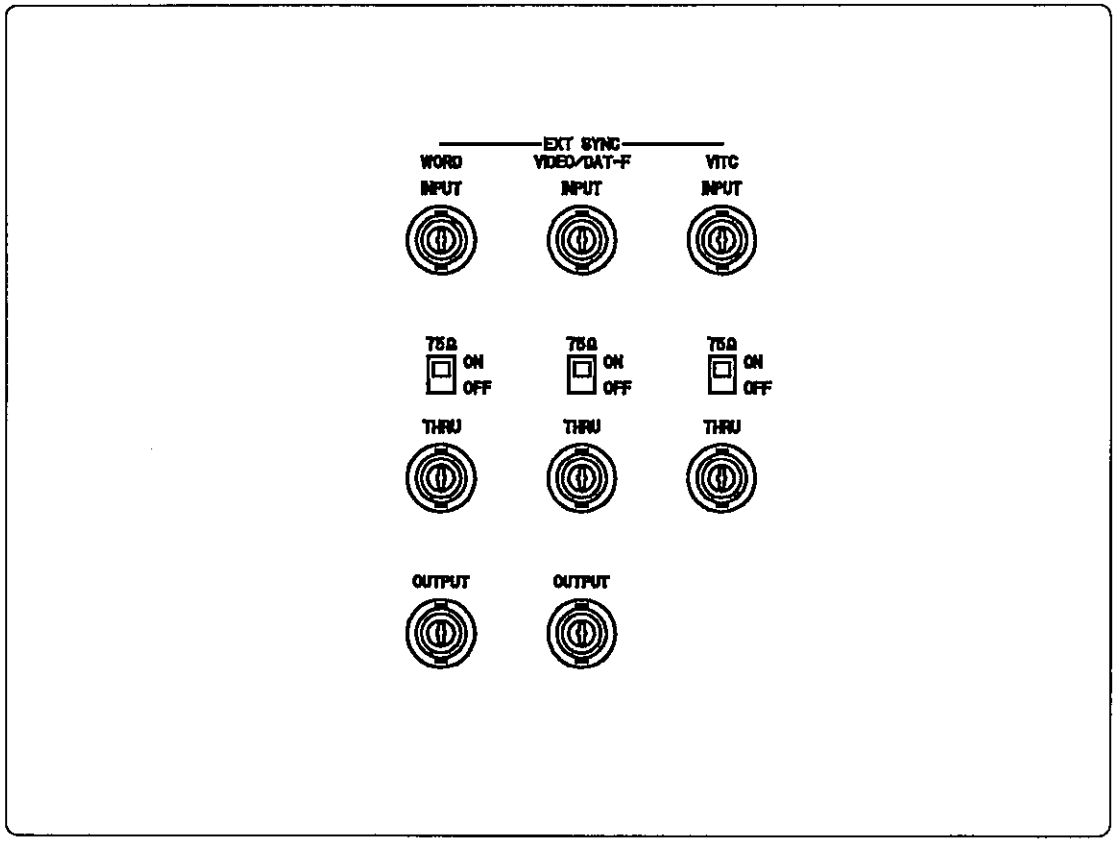
* Editing of audio is possible between two Model D-30's or a combination of Model D-30 and D-20B without using an editor.



Connectors

* All input/output connectors for external sync are provided with terminate switches.

* INPUT THRU connectors are provided in the back panel for convenience at making interconnections in the field.



Maintenance

* Servicing is very simple since the PCB ASSEMBLIES can be quickly removed and installed on the card edge connectors.

* Replacement of the main components such as PCB/transport is possible with Model D-30 mounted on the rack (As this may not apply depending on how the rack mount adaptor is used, please refer to item on how it should be installed.

CHAPTER 2

Notes Prior to Operation

Precautions prior to operating the Model D-30 are explained in this chapter.

CHAPTER 2
TABLE OF CONTENTS

2-1. Notes on operation

2-1-1. Precaution at installation

Do not operate this equipment in following locations.

*** Where it is extremely hot or cold.**
*** Where humidity is high.**
*** Where it is very dusty.**
*** Where vibration is strong.**
*** In a strong magnetic field.**
*** Under direct sunlight for long periods and near room heaters.**

2-1-2. Precaution on dewing

If this equipment is suddenly moved from a cold to a warm location or if the room is quickly heated, tape may cling to the head drum or wrap around it and thus damage it.
Therefore, it should be left idle for about 2 hours, before loading tape, until the equipment settles to the surrounding temperature.

Also, if a DAT cassette tape is suddenly brought into a warm place from a cold outdoors in winter, dew is apt to collect on the tape and if it is used in this condition, the tape could be damaged. In such a case, let the tape stand for about 2 hours in the room until its temperature settles to that of the environment.

2-1-3. Precautions on safety

* When disconnecting the power cord from the wall outlet, be sure to hold the plug when pulling it out. If the cord is grasped to disconnect it, the wire inside could break and thus is very dangerous.

* Do not plug or unplug the cord from the wall outlet with wet hands.
You could get an electric shock and it is very dangerous.

* Be sure the power cord plugs are positively plugged into the wall outlet and also at the equipment side.

* Continued use of a power cord with a damaged outer insulation is very dangerous.
Should the insulating sheath be damaged, discard it and replace with a new power cord.

* Do not switch off Model D-30 with cassette tape loaded. Always remove tape before switching off.

* It is recommended to unplug power cord from the wall outlet if it is not to be used for long periods.

* At other than installing the optional Memory Board, do not remove the equipment cover and touch anything inside. It could result in a breakdown or you could receive an electric shock and it is very dangerous.

* Do not let any liquids such as water or flammables, hair pins, etc. get inside, especially in the transport. It could result in breakdown and is also very dangerous. If water should accidentally get inside, switch off power immediately, unplug cord from the wall outlet and consult your nearest Fostex Dealer or Distributor.

* Do not drop or apply strong shocks to the equipment. It could damage the internal circuits and liquid crystal display.

2-1-4. After servicing

* During the warranty period, Fostex will make repairs in accordance to content of the warranty card. For other matters, please read the warranty card.

* After expiration of the warranty period, or if you have any question on repairs when the warranty card is not shown, please consult your store of purchase or nearest Fostex sales agent.

* Although the warranty period may have expired, if equipment performance can be restored by repairing it, Fostex will make repair at the customers' expense.

2-2. DAT

2-2-1. DAT Specifications

This product is a professional digital audio recorder complying to the IEC DAT (Digital Audio Tape system) specifications.

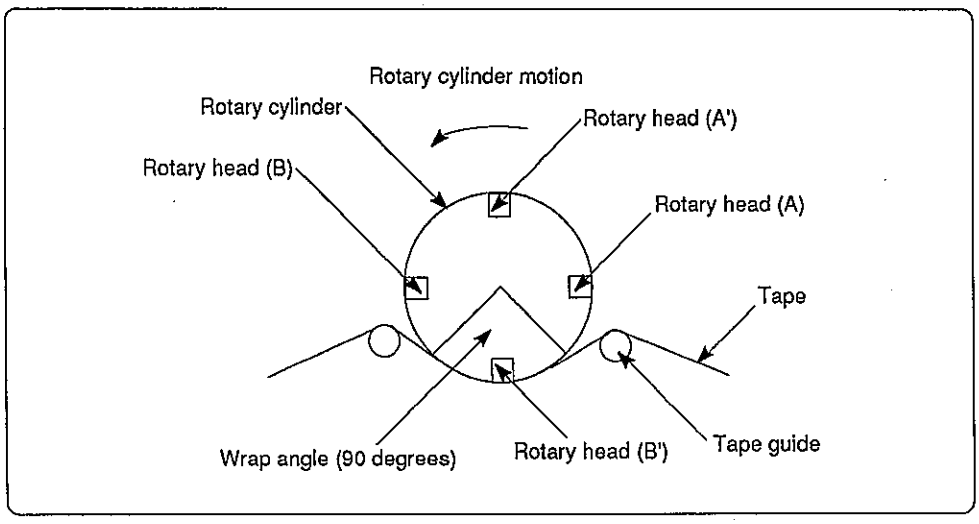
The DAT specification is composed of the following six parts:

Part 1: Dimensions and characteristics
Part 2: DAT calibration tape
Part 3: DAT tape properties
Part 4: Methods of measurement for DAT recorders
Part 5: DAT for professional use
Part 6: SCMS for consumer audio use DAT recorders

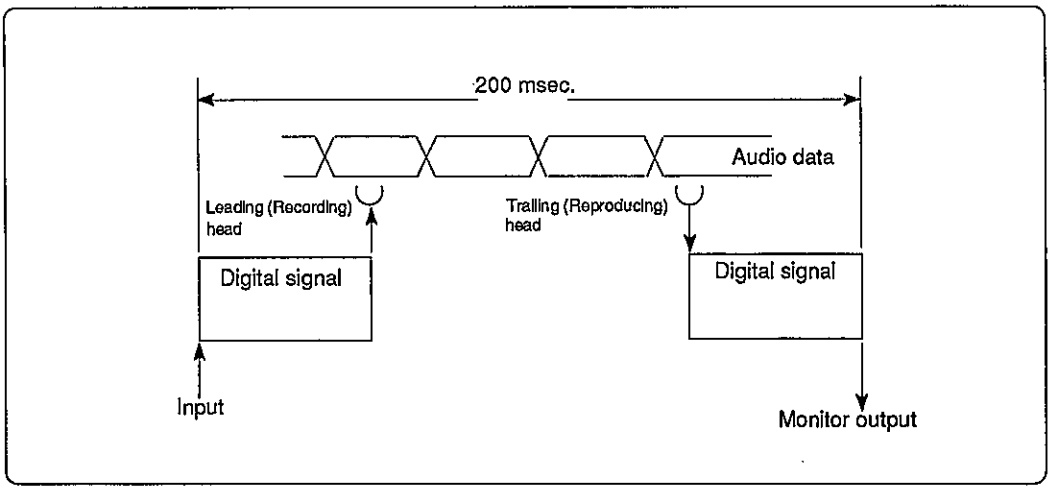
Part 1 ~ 4 and Part 6 are the conventional consumer DAT specifications.
The Part 5 professional specifications have been added to these. As this equipment complies to all DAT specifications except Part 6, tape is interchangeable regardless to consumer or professional use.

2-2-2. Four head system and simultaneous playback monitor

In DAT, the helical scan rotating head by which a fast relative speed can be obtained, is employed and together with high density recording using the metal tape, a high frequency band of several MHz is attained for digital signals.
This product employs a 30mm diameter small size head drum and by the 90 degree tape wrap angle, simultaneous playback monitoring (off tape monitoring) is possible. As shown in the schematic, two sets of pair heads counterposed 180 degrees apart (A, B and A', B') are placed 90 degrees of each other.



The leading pair heads (A, B) are used for recording and the trailing heads (A', B') for playback. Delay time for the playback monitor is about 200msec.



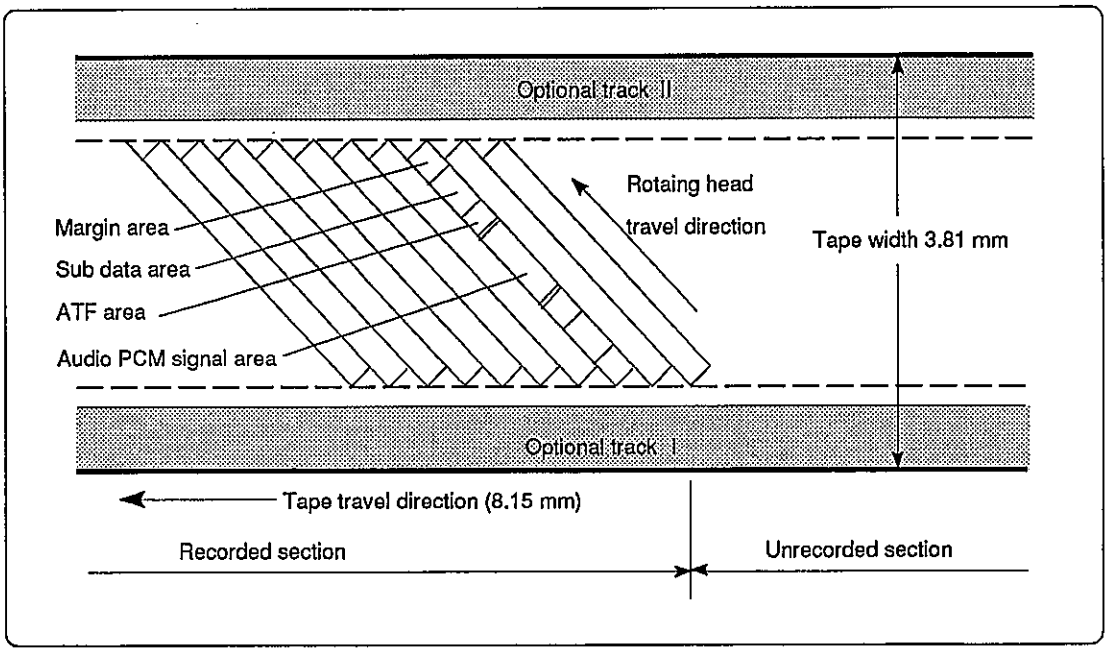
Order of sampling

In consumer DAT, 2 channel simultaneous sampling and 2 channel alternate sampling are both allowed.

As the 2 channel simultaneous sampling method is used in Model D-30, if a tape recorded by 2 channel alternate sampling is played back on this machine, an approximately 10 μsec. phase difference will occur.

2-2-3. Track format

In the DAT track format, various information is recorded in segments on one track. Therefore, various ID's and time codes can be recorded without affecting the audio signal. The reason for situating the sub data area and ATF area in separate locations is to prevent burst error caused by the tape and to secure positive reading of data at high speed searching.



(1) Audio PCM signal area

In addition to audio signals (L, R mixed) converted to digital data by PCM (Pulse Code Modulation) and main data consisting of error correcting codes (double Read Solomon code), main ID for discriminating the audio data content are recorded here.

(2) Sub data area

In this area are recorded data other than audio signals such as start ID, program numbers, A-time and program time. Recording capacity of this area is four times that of CD and various applications can be assumed. Time code data is recorded here.

(3) ATF (Automatic Track Finding/Following) area

Tracking detecting signals are recorded here so that the head will accurately trace the track at playback. It is composed of a 130kHz pilot signal and signals for track discrimination.

2-2-4. Digital audio interface

The digital audio interface is a serial self synchronizing transmission system specification for use at interconnection of digital audio equipments and is standardized in IEC Specification 958.
This is identical with CP-340 in the EIAJ specification and consists of the following two formats:

*** Commercial use: AES/EBU (IEC 958 broadcasting studio use)**
*** Consumer use : IEC 958 consumer use**

"Broadcasting studio use" is identical with the AES/EBU format but the AES/EBU format is most often used. In consideration to expandability in professional use, channel status is different between these formats.
Model D-30 comply to both formats and the output can be selected.

Connecting specifications

Following two types are specified in the IEC Specification.

1. Balanced type : XLR connector, cable impedance 110Ω
2. Unbalanced type : US pin jack, cable impedance 75Ω

Which of these should be used is not prescribed in the IEC specification but in general, the balanced type is used in the AES/EBU format and the unbalanced type in the Consumer Use format. However, there are regulations on this matter in the EIAJ specification.

2-2-5. IEC format and Fostex format

Model D-30 comply to the two time code formats at record/playback of time codes.

FOSTEX format

This format was originally developed by Fostex and adopted for the first time in its digital master recorder Model D-20B at a time when the DAT time code format was not yet standardized.
The outstanding feature of the Fostex format is that the time code is simply handled as an 80 bit data.

<NOTE>
The Fostex format cannot be recorded by Model D-30.

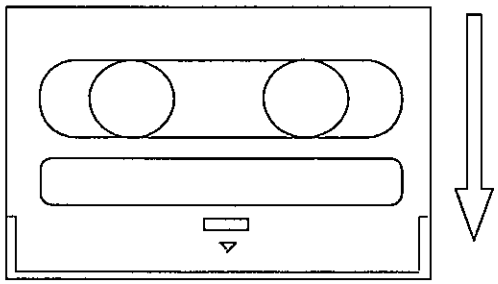
IEC format

Later on, the DAT time code format was specified by IEC.
The outstanding feature of the IEC format is that time code is converted to Professional R-Time, which is the frame time information peculiar to DAT, and then recorded.
As conversion is based on the frame, it can be readily converted to different frame rates.
For example, a recording of SMPTE time code (30F, 29.97F) can be played back as an EBU time code (25F). However, a delay of more than one frame in the user bit will occur as the time code is decoded prior to recording it. Presently, data which can be recorded in the binary group (U-Bit: user bit) is limited to static data.

2-3. *The DAT cassette*

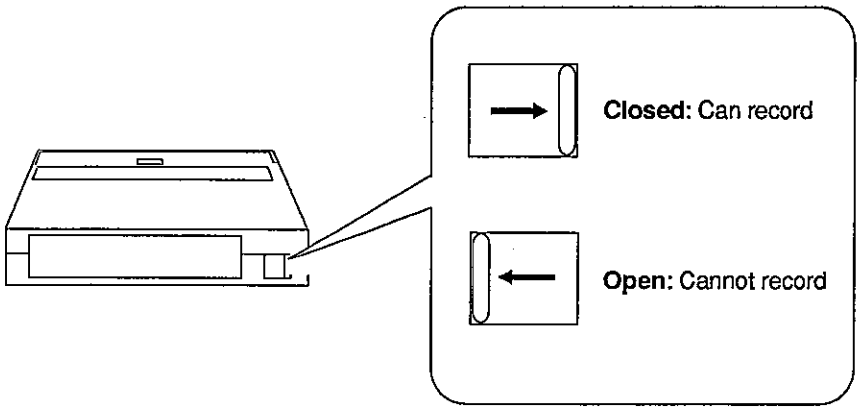
The cassette used in Model D-30 must be that which has been developed exclusively for DAT.

Different from conventional cassette decks, in DAT decks record/playback is in one direction (one side) only. Therefore, at loading tape in this machine, it must be inserted in direction as shown below:



2-3-1. The accidental erase prevention hole

If a recording is made again on a pre-recorded tape, the previous recording will be erased. As shown in schematic below, an accidental erase prevention tab is provided in the DAT cassette. This is for preventing accidental erasing of previously recorded sound. This tab must be shifted as necessary to prevent accidental erasing.



2-3-2. Notes on operation

1. Dew occasionally collects on the tape when it is suddenly brought inside a warm room from the cold outdoors. In such a case, let it stand idle in the room until its temperature settles to that of the surrounding before using it. If it is used with dew on the tape, it will be damaged.

2. Do not hastily dry the tape with a hair drier. It will distort the tape dimension.

3. Do not open the cassette lid and pull out the tape or touch it with soiled hands.

4. The cassette cannot be used upside down.

5. Do not drop or strike the cassette.

2-3-3. Notes on tape storage

1. Lint and dust must not get on tape. Store it in its case when not in use.

2. Do not store or place in following locations.
   * Of high temperature and high humidity.
   * Of strong magnetic fields (TV/speaker).
   * Under direct sun light for long hours.

2-3-4. Loading and unloading the cassette

Load tape in Model D-30 by the following procedures.

Operating procedure

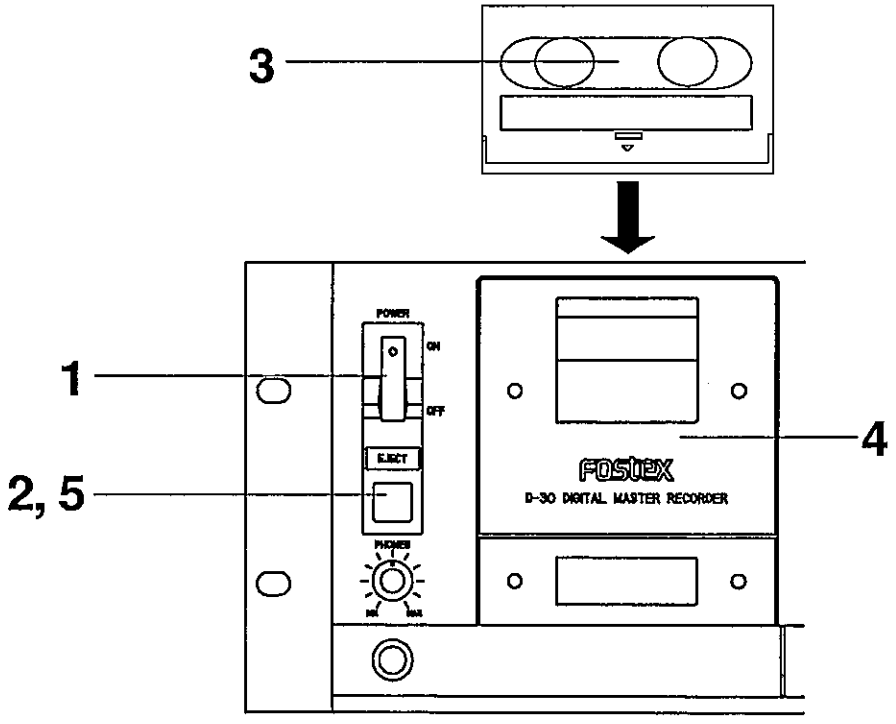
1. **Switch on power.**

2. **Press EJECT button to open the cassette tray lid.**

3. **Load tape.**
   Insert cassette with front plane facing forward and with label at top.
   Lightly press the cassette until it is positively seated.

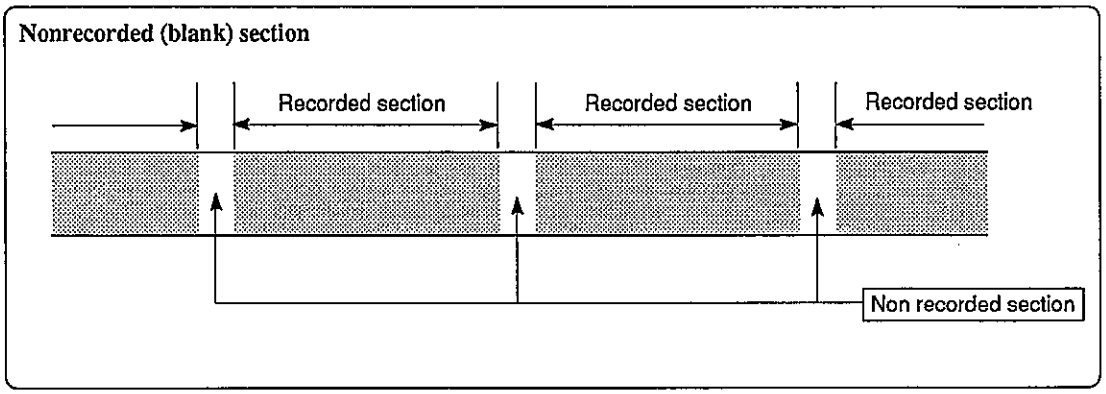
4. **Press front section of cassette tray to close the lid.**
   The tape will be loaded as soon as the lid is closed and enter in the PAUSE mode.

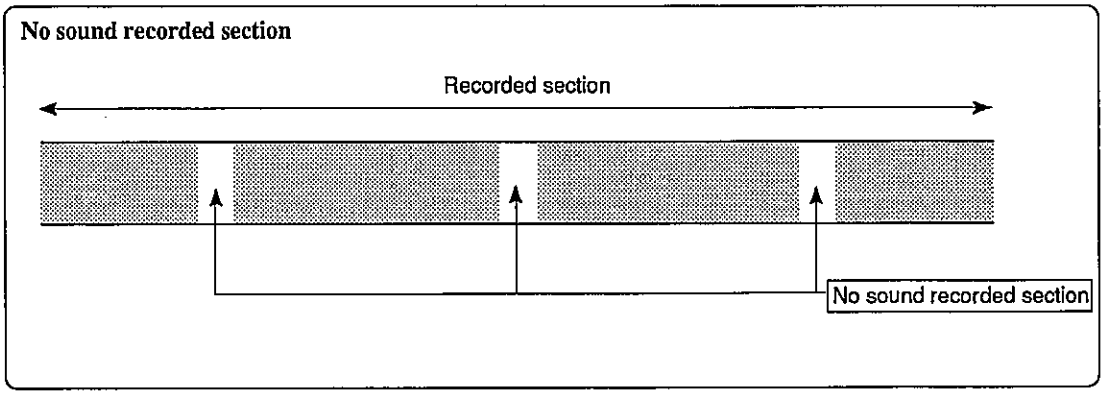
5. **Press the EJECT button to remove the cassette.**
   Tape will be unloaded, the lid opened and the cassette will pop up at the same time.



2-4. Unrecorded section and no sound recorded section

In conventional analog tape recorders, "blank" sections were made by advancing the tape in playback or fast forward modes (unrecorded section), or by recording with no sound (no sound recorded section).
However, in DAT, the difference between "unrecorded section" and "no sound recorded section" must be understood when making a recording.





Thus, in the "unrecorded sections" and "no sound recorded sections," the "blank" sections are distinguished as to whether it was made by "playback/fast forward" or by "no sound recording."

In the analog recorder, "blanks" are the same for either case in the meaning that both are "no sound."
However, in DAT, if a "unrecorded section" is made, A-TIME which is automatically recorded when making a recording, will be interrupted or require excess time in finding the start of the recording.
Therefore, in DAT recordings, it is important that this "blank" be made by "no sound recording" instead of by "unrecorded sections."

◆ *Refer to page 5-24 for method on making a "no sound recording."*

2-5. *The sub ID*

In DAT, in addition to normal music signals (audio data), various control signals (sub ID) can be recorded in the sub data area. Using this sub ID, tunes can be selected and start of tune found at playback or used at later editing of a recorded tape.
The sub ID can be automatically recorded when making a recording, or record, rewrite, erase can be done freely while listening to the tune of a prerecorded tape.

◆ *Refer to Chapter 5 and Chapter 8 on Recording the sub ID.*

The sub ID can be broken down to the following:

Start ID (S-ID)

The signal indicating head of the tune and is used to locate this point.

Program No. (P-NO)

The signal attached to S-ID and a tune can be selected and its head located.

Skip ID (SKIP-ID)

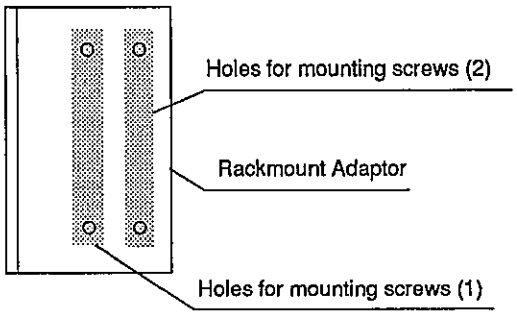
This signal, when located in the midst of a tune, will skip tape to the next tune.

End ID (END-ID)

The signal which indicates end of the recording.

2-6. *Using the rack mount adaptor*

Rack mount adaptors are installed as standard on both sides of Model D-30.
When this equipment is mounted on a rack, it can be mounted in two different ways by changing the installation point of the adaptor. Either method can be chosen by preference.

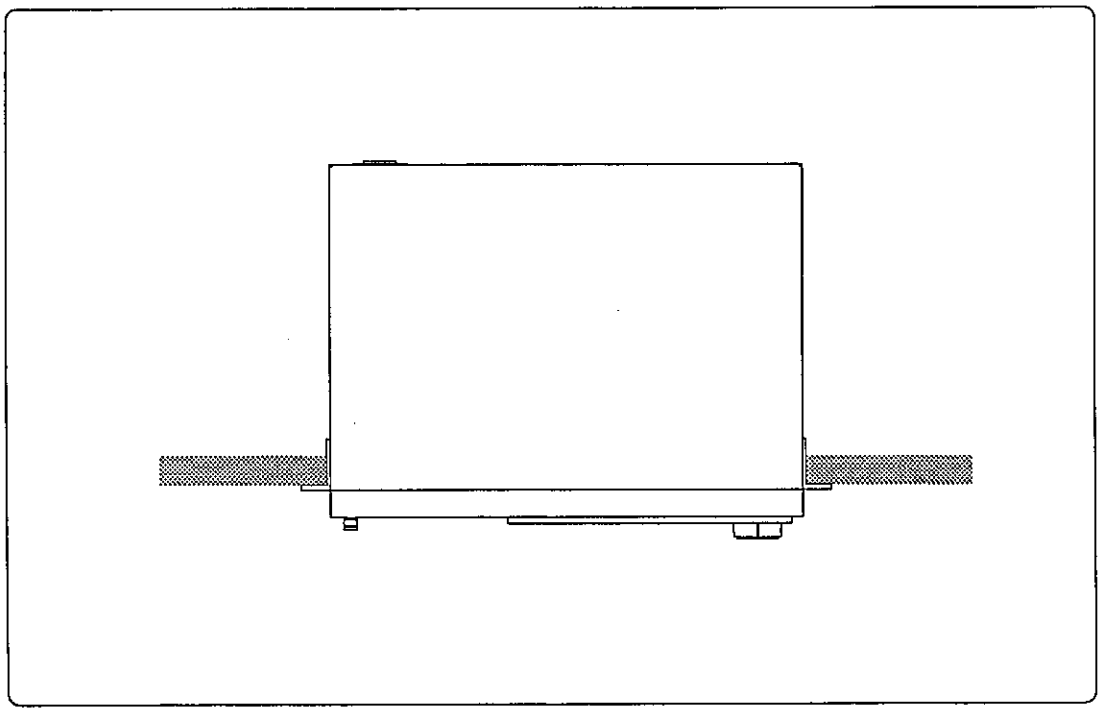


1. When mounting hole (1) is used.

Model D-30 will be mounted with its front panel extending out from the rack pillar front panel.

* The adaptor is installed on Model D-30 in this position at leaving the plant.
* If Model D-30 is thus mounted on the rack, the optional Memory Board (Model 8331) can be installed by removing only the front panel.

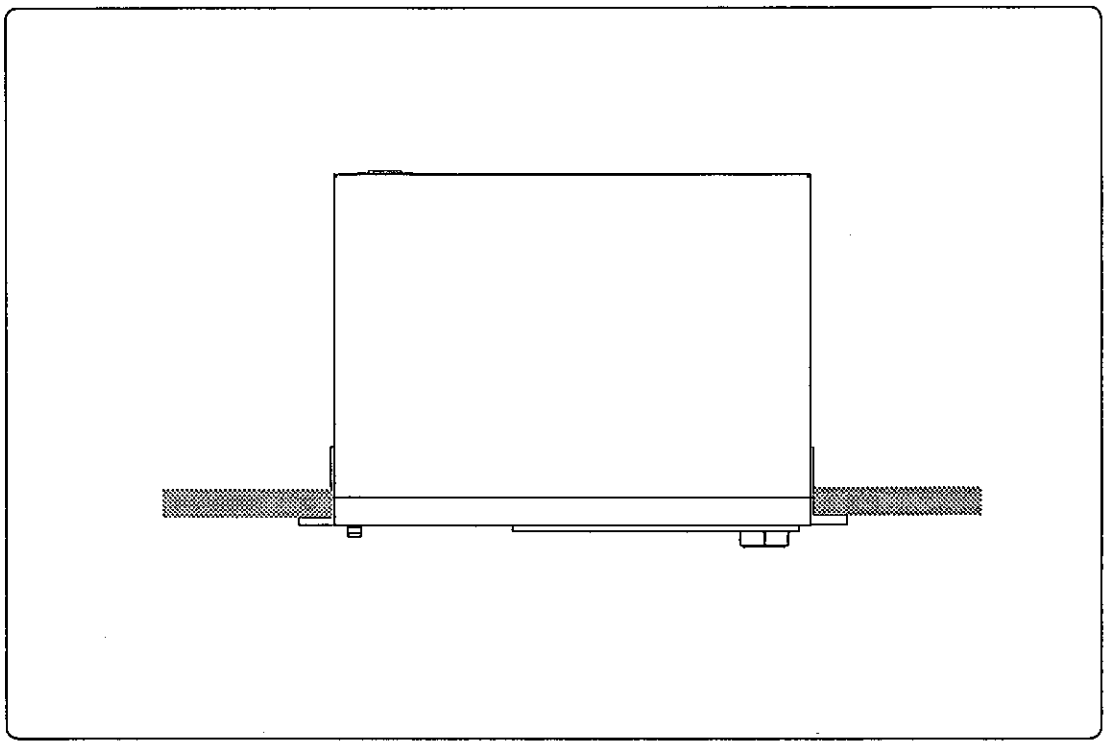
◆ *Refer to the Model 8331 Operating Manual for method on installing the optional Memory Board.*



2. When mounting hole (2) is used.

Model D-30 will be mounted with its front panel flush with the rack pillar front plane.

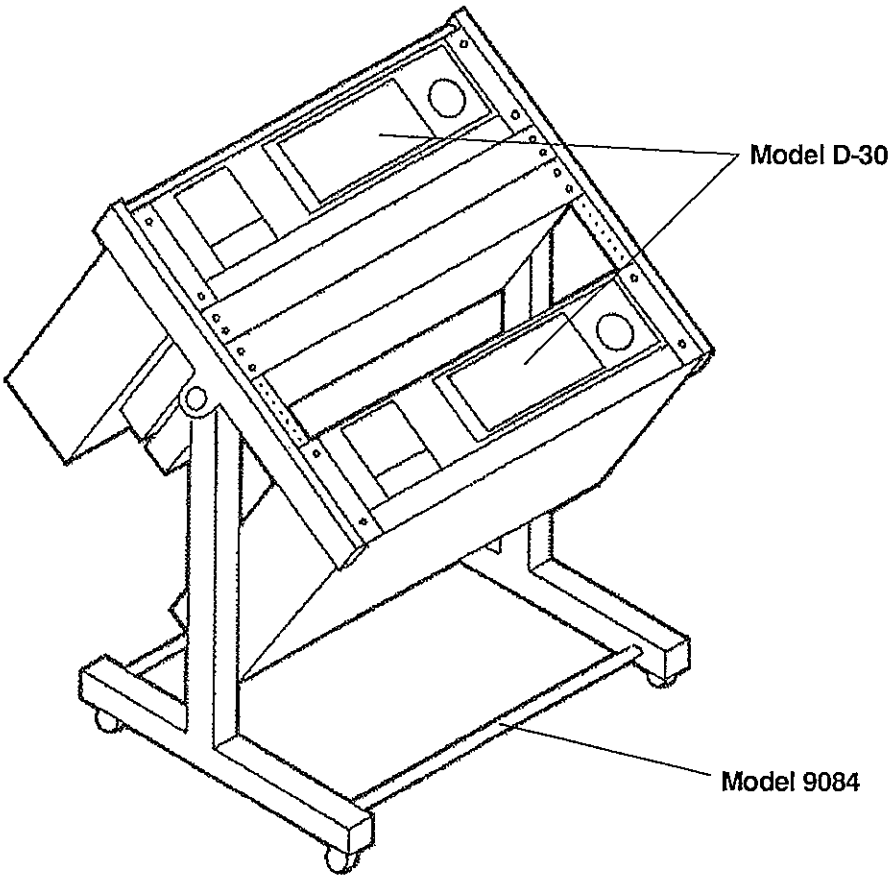
* When Model D-30 is thus mounted, it must be dismounted from the rack for installing the Memory Board.



2-7. *Using the console rack (Model 9084)*

The optional console rack shown below is available from Fostex Corporation. Recording work can be carried out most efficiently when Model D-30 is mounted in the console rack as shown below.

Model 9084 is sold as Option. For details on this product, please contact your store of purchase or nearest Fostex Dealers and Distributors.



CHAPTER 3

Names and functions of the controls

In this chapter, names and functions of the front panel buttons, keys and switches are given, the rear panel connectors and also details on the display are explained.

CHAPTER 3
TABLE OF CONTENTS

3-1. Front panel

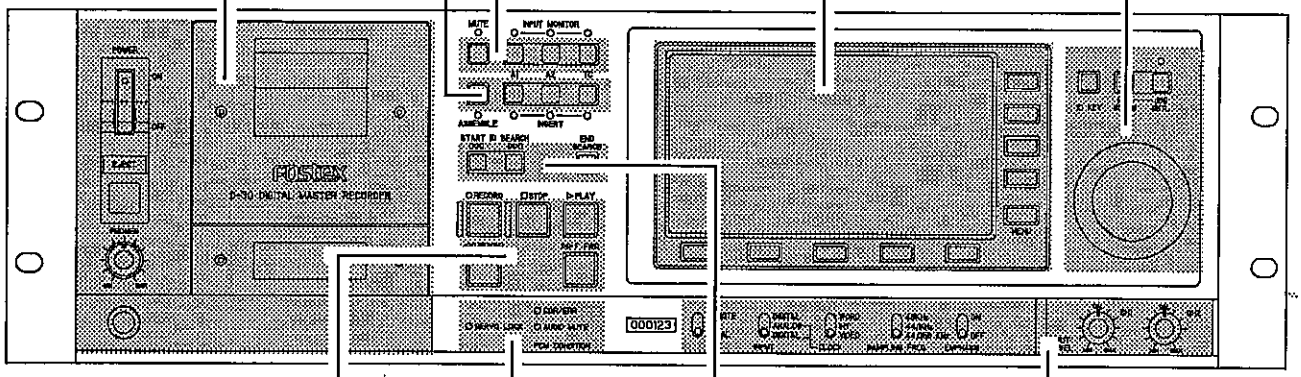
ASSEMBLE key
INSERT key
Refer to page 3 - 5 ~ 3 - 6.

Display
Function key
MENU key
Refer to page 3 - 10.

Cassette tray section
Headphone monitor section
Refer to page 3 - 2.

MUTE key
INPUT MONITOR key
Refer to page 3 - 3 ~ 3 - 4.

Keypad key mode key
RAM SCRUB mode key
JOG/SHTL mode key
JOG/SHTL dial
Refer to page 3 - 11 ~ 3 - 12.



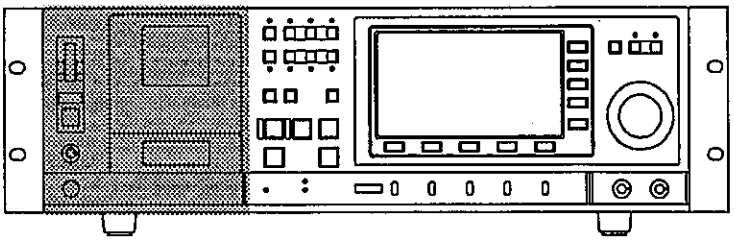
Tape travel control section
Refer to page 3 - 8 ~ 3 - 9.

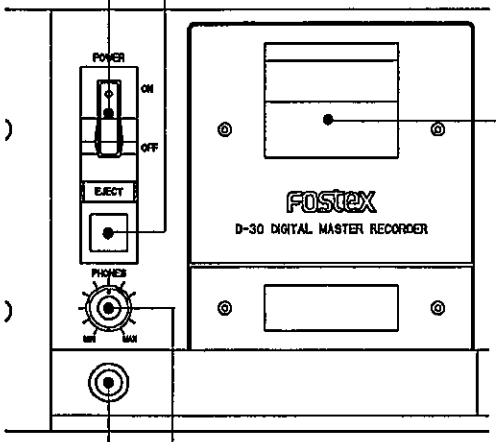
Search operation section
Refer to page 3 - 7.

PCM CONDITION LED
SERVO LOCK LED
Refer to page 3 - 16.

INPUT LEVEL control section
Switch control section
Refer to page 3 - 13 ~ 3 - 15.

POWER switch
Cassette tray section
Headphone monitor section





POWER switch
Main power to this equipment is switched ON/OFF.

EJECT button
Used for loading and unloading the cassette tape.
Cassette tray lid will open when this button is pressed while in the STOP or PAUSE mode.
Also, if this is pressed when tape is set, tape will be unloaded, tray lid is opened and the cassette will popup.

Cassette tray
DAT cassette tape is inserted here.
Cassette tray is opened by the EJECT button and closed by pressing the front of the tray lid.

◆ *Refer to 2-3-4. for "loading and unloading of the cassette."*

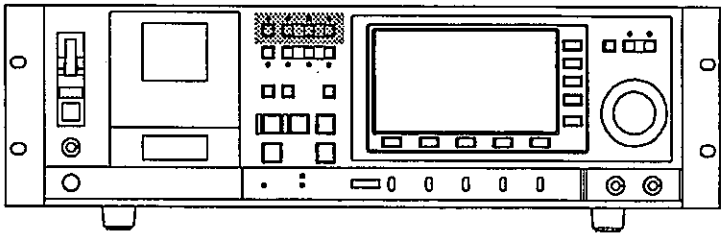
PHONES (headphone sound volume) knob
Adjusts the headphone monitor level.

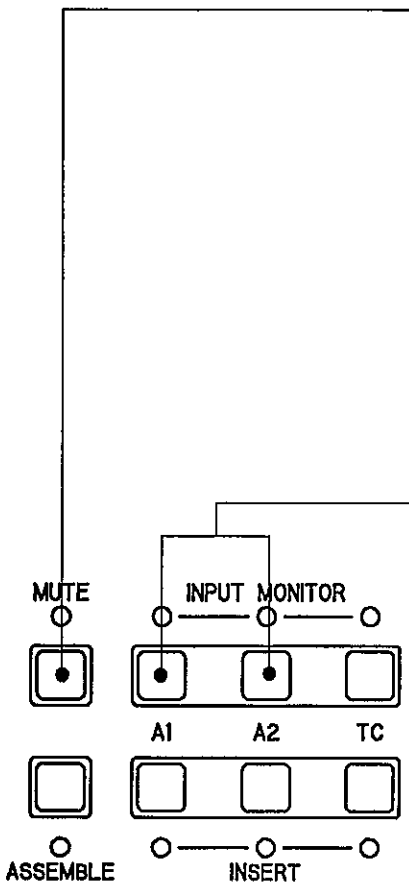
<NOTE>
Note that the headphone monitor level will change with change in the reference level (*).

(*) Reference level:
Reference level figure of Model D-30 can be set by the SETUP MODE. For details on reference level setup, refer to "CHAPTER 14 SETUP MODE menu."

PHONES (headphone) jack
Monitoring headphone is plugged here. Load impedance must be 8 Ω ~ 50 Ω .

MUTE key
INPUT MONITOR key





MUTE key

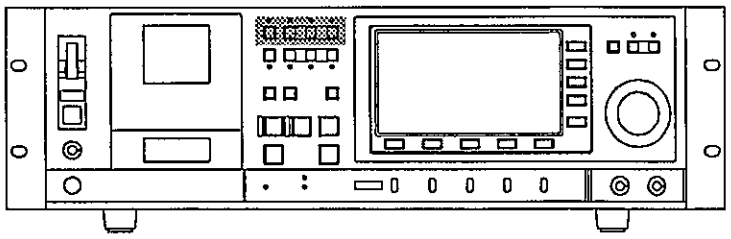
Both RECORD MUTE and AUDIO MUTE is possible by continued pressing of this key while in the record mode.
Although AUDIO OUT MUTE is possible during playback, cueing is possible while monitoring with the headphone as its output will not be muted.

INPUT MONITOR [A1], [A2] keys

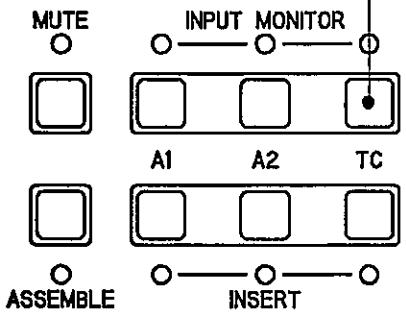
INPUT MONITOR-REPRO MONITOR for AUDIO CH1 and CH2 are alternately selected by this key. Condition of each monitor are indicated by LED's as listed below:

Off:
It is in REPRO MONITOR; INPUT MONITOR is not possible.
On:
INPUT MONITOR is possible.

<NOTE>
It will be at [REPRO MONITOR] at switch on of power.



MUTE key
INPUT MONITOR key



INPUT MONITOR [TC] key

INPUT MONITOR-REPRO MONITOR of TIME CODE OUT (output monitor) is alternately selected by this key. Condition of each monitor is indicated by LED's as follows:

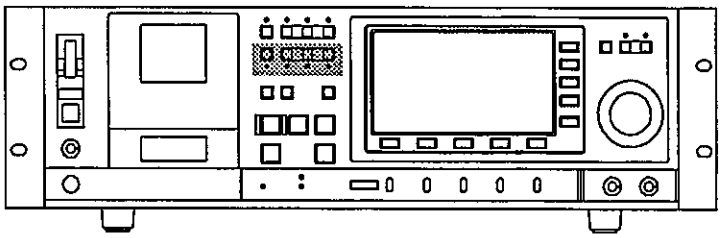
Off:
It is in REPRO MONITOR; INPUT MONITOR is not possible.
On:
INPUT MONITOR is possible.

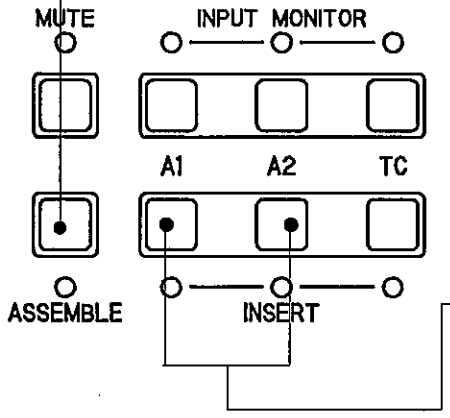
<NOTE>
If GENERATOR OUT is set in the SETUP mode, it will be internal generator output regardless to the key setting.

◆ *Refer to "Chapter 14" for details on the SETUP mode.*

<NOTE>
It will be in [REPRO MONITOR] at switch on of power.

ASSEMBLE key
INSERT key





ASSEMBLE key

ASSEMBLE mode is alternately switched ON/OFF by this key. SAFE/READY of AUDIO (A1/A2) and TIME CODE (TC) are all simultaneously controlled by ON/OFF of the ASSEMBLE key.
If INSERT keys of A1, A2 and TC are all switched ON (LED's are lit), the ASSEMBLE mode will be ON (LED on).

LED on:
It will be in the ASSEMBLE mode.
LED off:
It will be in the INSERT mode.

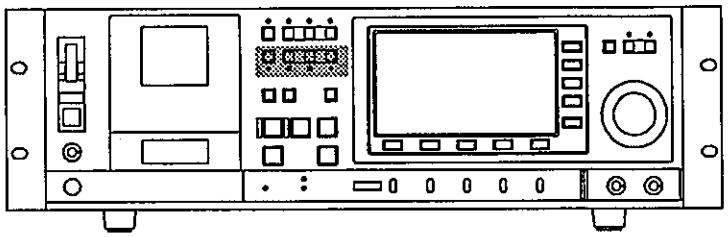
INSERT [A1], [A2] keys

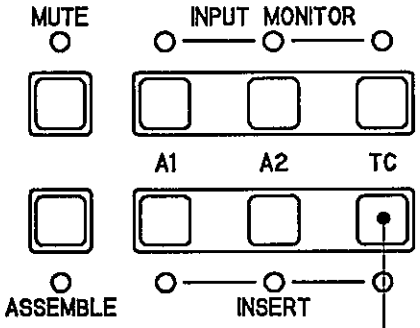
INSERT mode of AUDIO CH1 and CH2 is alternately switched ON/OFF by this key. In the OFF TAPE mode, A1, A2 and TC can all be switched ON/OFF by pressing either key.
If either one key is set to OFF when the ASSEMBLE mode is ON (LED on), the ASSEMBLE mode is simultaneously switched OFF (LED off).
Conditions of SAFE/READY are indicated by the LED as follows:

LED off:
New AUDIO DATA cannot be recorded. However, when recording on an unrecorded section in the EDIT mode, it will be MUTE recording.
LED on:
New AUDIO DATA can be recorded.

<NOTE>
The function will be same with the ASSEMBLE key when in the CONFIDENCE RECORDING MODE menu.

ASSEMBLE key
INSERT key





INSERT [TC] key

The TIME CODE INSERT mode is alternately switched ON/OFF by this key. Also, when this key is pressed in the OFF TAPE mode, A1, A2 and TC will all be switched ON/OFF.

If this key is switched OFF when in the ASSEMBLE mode ON (LED on), ASSEMBLE mode will be simultaneously switched OFF (LED off).

The SAFE/READY conditions are indicated as follows:

LED off:

Time code cannot be newly recorded. However, when recording onto an unrecorded section in the EDIT mode, the sub code area will be recorded but time code will not be recorded.

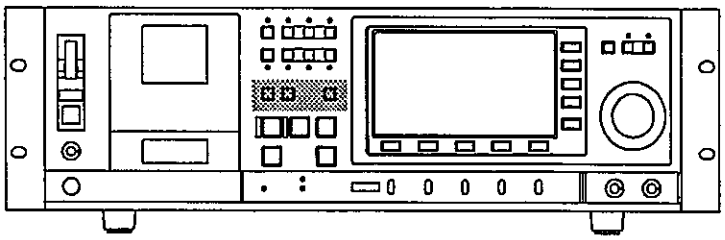
LED on:

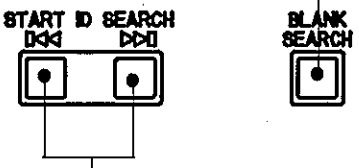
Time code will be recorded when time code is input to the TIME CODE INPUT or when the INTERNAL TIME CODE GENERATOR is running.

<NOTE>

Functions will be same with the ASSEMBLE key when in the CONFIDENCE RECORDING MODE menu.

Search operation section





BLANK SEARCH key

When this key is pressed, the unrecorded section of tape will be searched. Also, if an END-ID had been recorded, it will PAUSE 2 seconds before this END-ID. Lamp will be on during operation and go off upon completion.

<NOTE>
It may not be able to search unrecorded sections of less than 9 seconds.

◆ *Refer to "Chapter 5" for details on Blank Search.*

<NOTE>
This will not function if [PLAYER] is set by the R/P selector.

◆ *Refer to "Chapters 12 and 13" for details on the R/P selector.*

START ID SEARCH [<< >>] key

S-ID of the number of times this key is pressed will be searched.

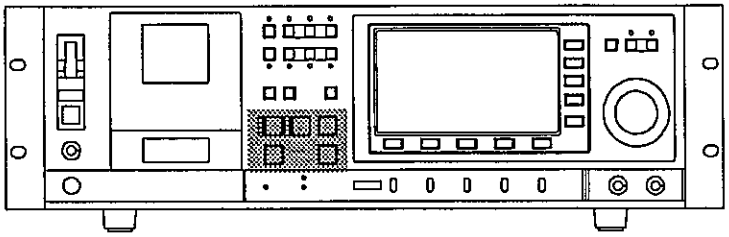
<< key:
S-ID will be searched in the REWIND direction for the number of times this key is pressed. After completing search, it will PAUSE at about one second before the objective S-ID. Lamp will be on during the process and go off at completing it.

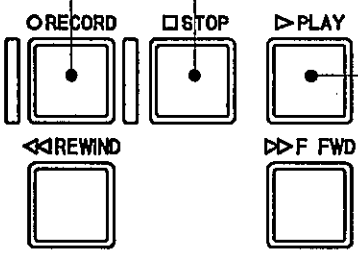
>> key:
S-ID will be searched in the FORWARD direction for the number of times this key is pressed. Upon completing the search, it will PAUSE at about one second before the objective S-ID. Lamp will be on during the process and go off at completing it.

<NOTE>
This will not function if [PLAYER] is set by the R/P selector.

◆ *Refer to "Chapters 12 and 13" for details on the R/P selector.*

Tape travel control section





RECORD button

Normally, recording is started by simultaneously pressing the RECORD and PLAY buttons. It will enter AUTO EDIT when this button only is pressed while Model D-30 is in AUTO EDIT w/PLAYER menu, AUTO EDIT w/RAM menu and also when in the AUTO EDIT mode.

<NOTE>
Recording cannot be done if the cassette erase prevention hole is open.

STOP button

Normally, when this button is pressed once, it enters PAUSE (*), STOP lamp is lit and the PLAY button will blink.
Subsequently, when this button is pressed again, it will enter the STOP mode and its lamp only will be lit.
With each pressing of this button it will alternate between PAUSE and STOP.

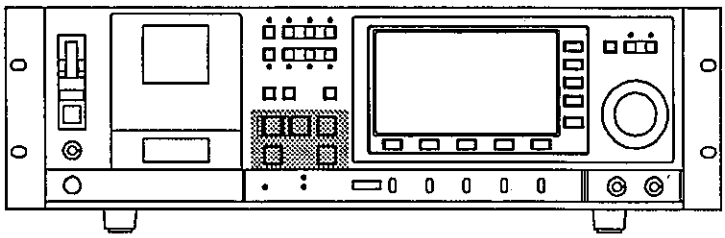
(*) For tape protection, Model D-30 can be made to automatically cancel the PAUSE mode. Automatic cancelling of PAUSE TIME can be selected from 1 min., 2 min., 3 min., 5 min., and NON STOP (Initial setting is 3.0 min.).

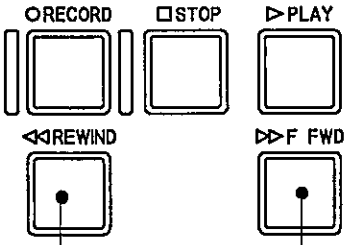
◆ *Refer to "Chapter 14 SETUP MODE menu" for procedure on PAUSE TIME setup.*

PLAY button

In normal operation, the lamp is lit and tape playback started by pressing this button.
If this button is pressed during LOCATE/SEARCH, it enters in the "locate (search) and play" mode, then enter the PLAY mode upon completing locate or search.
If this button is pressed in the INSTANT START mode, INSTANT START is executed. To start recording, this button is pressed while pressing the RECORD button. If this button is pressed during a recording, it punches out and enter the PLAY mode.

Tape travel control section





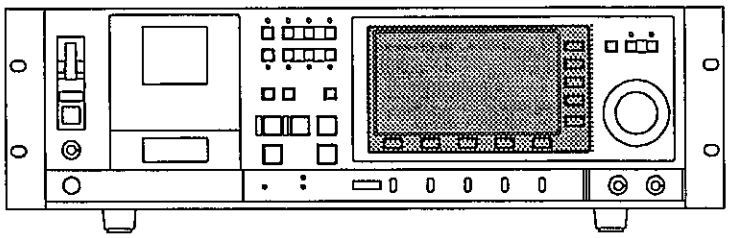
F FWD button

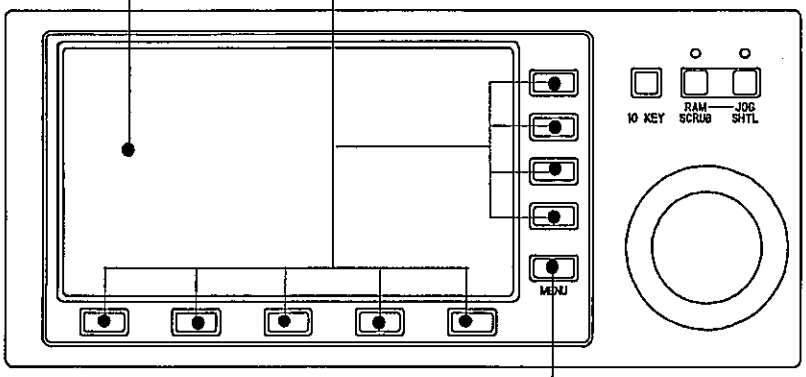
When this button is pressed once, tape will be advanced at 5 times speed and lamps for both the PLAY and F FWD buttons will be lit. If it is further pressed once, it will enter high speed fast forward winding and lamp of this button only will be lit.
Each time this button is pressed, it will alternate between 5 times speed and high speed forward winding.

REWIND button

When this button is pressed once, tape will be rewound at 5 times speed and lamps for both the PLAY and REWIND buttons will be lit. If it is further pressed once, it will enter high speed rewind and lamp of this button only will be lit.
Each time this button is pressed, it will alternate between 5 times speed and high speed rewinding.

Display
Function key
MENU key





Display

The selected menu is shown.

◆ *Refer to "Section 3-3. Display Section" for details.*

Function keys [F1, F2, F3, F4, F5, FA, FB, FC, FD]

These function as operational keys corresponding to each menu display. The function of these keys will change with each change of the display.

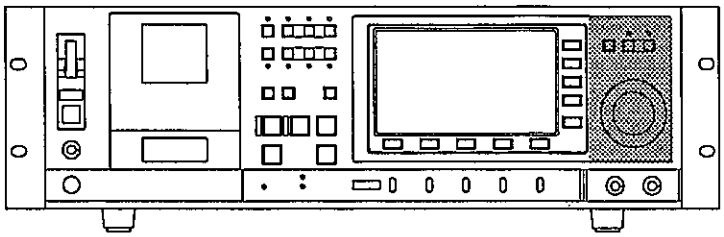
◆ *Refer to "Chapter 4 MAIN MENU" for details on its function.*

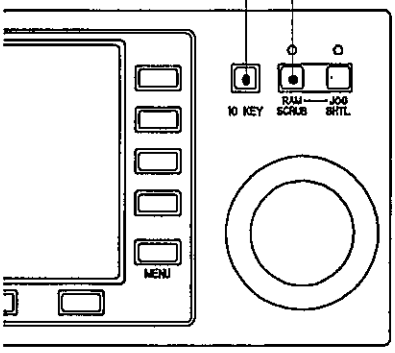
MENU key

When this key is pressed, the display will change to MAIN MENU selecting and the desired mode menu can be selected. If the 10 key mode is ON, it will function as both the function key and keypad key.

◆ *Refer to "Chapter 4 MAIN MENU" for details on its function.*

Keypad mode key
RAM SCRUB mode key
JOG/SHTL mode key
JOG/SHTL dial





Keypad mode key

It will enter the keypad mode when this key is pressed, and the display section function keys (F1 ~ F5, FA ~ FD) and MENU keys can be switched to the keypad function.
To cancel the keypad function, the keypad mode key must be pressed again.

◆ *Refer to "Chapter 4 MAIN MENU" for details on its function.*

RAM SCRUB mode key

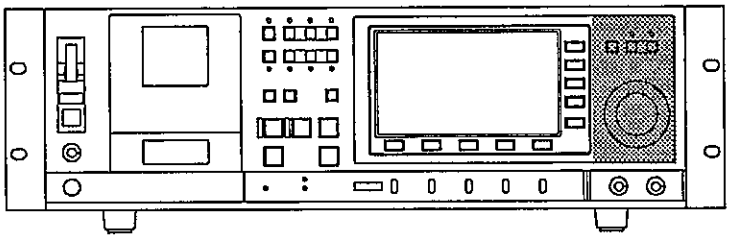
When this key is pressed, LED is lit and enters the RAM SCRUB mode.
In this mode, CUE RAM playback is possible in JOG and SHUTTLE speeds of 0 ~ 1 times.
When the LED is lit or blinks, it indicates the following:

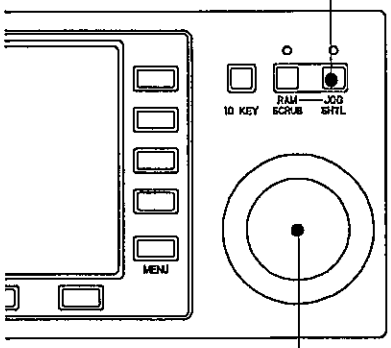
LED on:
RAM SCRUB is under execution.
LED off:
AUDIO data is being read into the RAM and RAM SCRUB is at standby.

<NOTE>
When the LED is blinking, execute next operation only after this LED changes to constant lighting in order to prevent malfunction.

**** Outstanding features of RAM SCRUB ****
In the JOG operation, cueing is possible at an accuracy of less than a frame in the playback speed of x1. In the SHUTTLE operation, playback speed will change according to the dial position (rotating angle) and cueing is thus possible in same way as in an analog recorder.

Keypad mode key
RAM SCRUB mode key
JOG/SHTL mode key
JOG/SHTL dial





JOG/SHTL mode key

When this key is pressed, the LED is lit and enters the JOG/SHTL mode.

In this mode, cueing is possible by the JOG/SHUTTLE operation. In order to cancel the JOG/SHTL mode, either RAM SCRUB is executed or the tape controlling buttons such as STOP/PLAY is pressed.

At normal operation:

CUE playback is possible at 1/2 ~ 2 times speed at JOG SPEED and 1/2 ~ 16 times speed at SHUTTLE SPEED.

JOG/SHTL dial

When dial is (▬), it will be JOG function or at (▮), it will be SHUTTLE function.

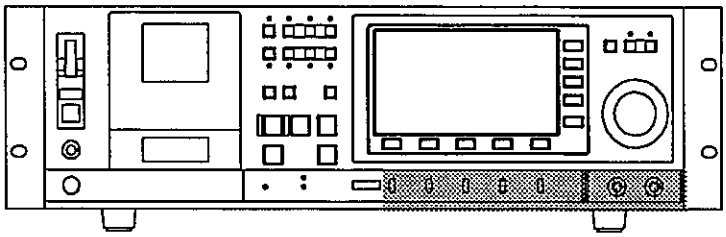
JOG:

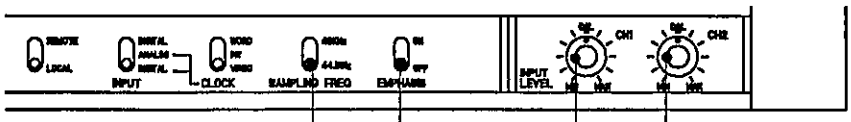
JOG operation at cueing and RAM SCRUB and, moving of point at RAM rehearsal is possible. In the edit mode, UP/DOWN input of numbers is possible.

SHUTTLE:

SHUTTLE operation of cueing and RAM SCRUB is possible.

INPUT LEVEL control section
Switch control section





INPUT LEVEL [CH1/CH2] knob

This controls the analog signal input level.
The knob center click (CAL position) is the reference recording level.

EMPHASIS [ON/OFF] switch

Emphasis is switched ON/OFF during recording of the ANALOG AUDIO signal.

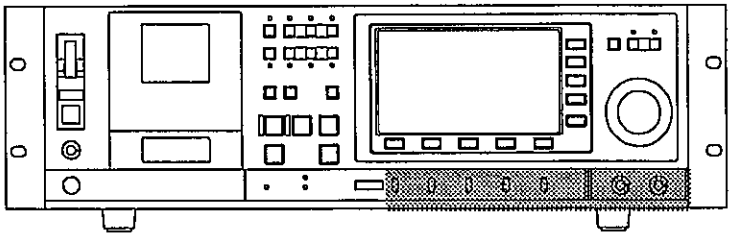
[When ANALOG INPUT is used]
Select ON or OFF of emphasis at recording.
At playback, it is automatically played according to the tape emphasis information. If it is different from the switch setting, the display [EMPH OFF (ON)] will blink.

[When DIGITAL INPUT is used]
At recording, it is automatically set same as for the digital signal.
At playback, it is automatically played according to the tape emphasis information. If the emphasis information is different between the tape and DIGITAL IN, the display [EMPH OFF (ON)] will blink.

SAMPLING FREQ [48kHz/44.1kHz] selector switch

Sampling frequency for analog signal recording is selected by this switch.The selected FS is shown in the display. At digital signal recording, this is automatically set by its status signal.

INPUT LEVEL control section
Switch control section



CLOCK [WORD/INT/VIDEO] switch

This selects the Model D-30 clock signal to internal (INT) or external sync (WORD/VIDEO).

WORD:

The operating clock is locked to EXTERNAL WORD CLOCK IN. If there is no input of WORD CLOCK or the operating range is exceeded, it automatically switches to INTERNAL. When [WORD] in the display is lit or blinks, it indicates the following:

[WORD] is lit:
It is locked to WORD CLOCK.
[WORD] is blinking:
It has been automatically switched to the INTERNAL CLOCK mode.

INT:

The clock is locked onto the internal standard clock and [INTRNL] is shown in the display.

VIDEO:

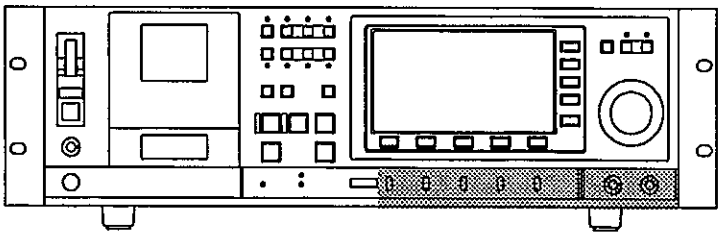
Composite, frame pulse and field pulse signals applied to VIDEO/ DAT-F INPUT is automatically discriminated and locked on. The frame rate, however, must match with that of the SETUP mode FRAME SELECT.
When [VIDEO] in the display is lit or blinks, it indicates the following:

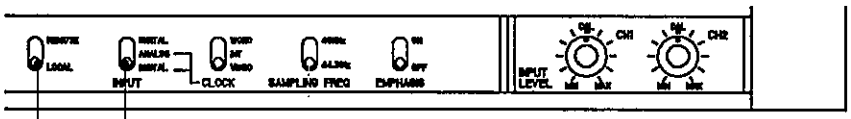
[VIDEO] is lit:
It is locked to VIDEO CLOCK.
[VIDEO] is blinking:
Either VIDEO CLOCK is exceeding the operating range or there is no CLOCK input.

<NOTE>

When recording, be sure the recorder is locked to the synchronizing clock. Be careful of this since it could fail to record correctly if not locked.

INPUT LEVEL control section
Switch control section





INPUT [DIGITAL/ANALOG/DIGITAL] selector switch

Selects whether input to Model D-30 should be DIGITAL or ANALOG.

DIGITAL:
Input mode will be DIGITAL IN.
Clock operation in this mode will be locked by BIT CLOCK of DIGITAL IN. If there is no DIGITAL DATA or there is no data input and thus is not locked, it automatically enters the ANALOG IN mode.

ANALOG-CLOCK:
Input mode will be ANALOG IN.
Clock operation in this mode will be determined by the CLOCK switch setting.

DIGITAL-CLOCK:
Input mode will be DIGITAL IN.
Clock operation in this mode will be determined by the CLOCK switch setting. If there is error in the input or there is no input, it automatically enters the ANALOG IN mode.

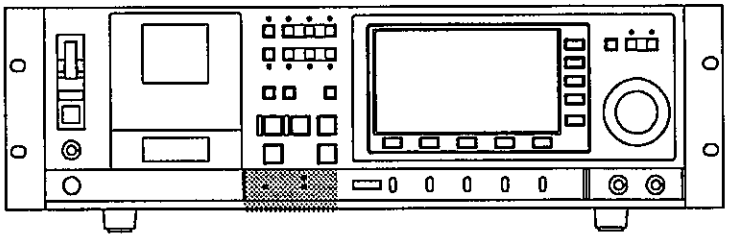
REMOTE [REMOTE/LOCAL] selector switch

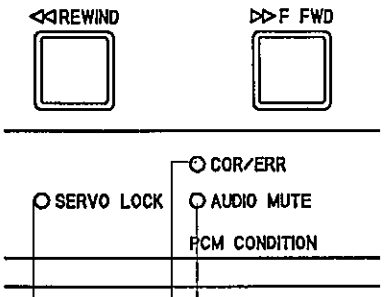
Selects from where it can be controlled.

REMOTE:
It will be in the remote control mode such as from RS-422 and will be locked to the panel controls. When switched to REMOTE, [REMOTE CONTROL MODE] will be shown in the display.

LOCAL:
Control will be from the front panel of Model D-30. External remote control is not possible.

PCM CONDITION LED
SERVO LOCK LED





AUDIO MUTE LED

This is lit when error is frequent and the signal is muted but will go off when the signal returns to normal playback.

<NOTE>
Immediately after playback of tape, the LED will remain lit until error rate becomes stable but this is not a malfunction.

COR/ERR LED

This will be off when playback is normal but when an error occurs, the nature of error will be warned as follows:

Green light:
There are slight errors. However, as the errors are completely corrected, it is restored to its original data.
Red light:
Indicates high rate of errors and data is either interpolated or muted. Therefore, the head and other critical parts must be cleaned.

<NOTE>
Immediately after playback of tape, this will remain lit until the error rate becomes stable but this is not a malfunction.

SERVO LOCK LED

When in the PLAY or RECORD mode, this will be lit when the transport capstan, rotating drum servo and synchronizing clock system are all properly locked.

3-2. Rear panel

Power cable connector

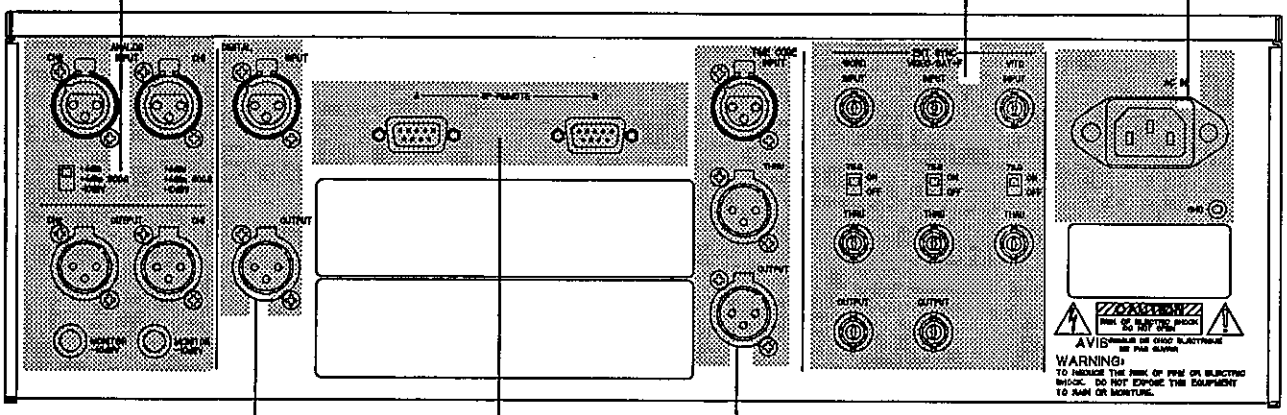
Refer to page 3 - 25.

ANALOG input and output connectors

Refer to page 3 - 18.

EXTERNAL SYNC input and output connectors

Refer to page 3 - 22 ~ 3 - 24.



DIGITAL input and output connectors

Refer to page 3 - 19.

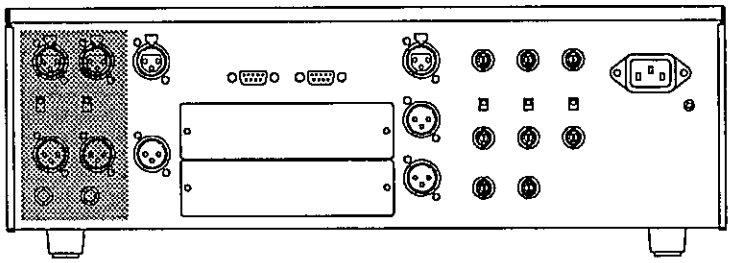
TIME CODE input and output connectors

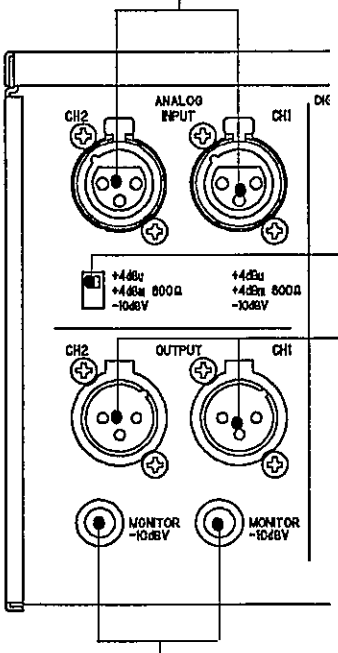
Refer to page 3 - 21.

9 PIN REMOTE connectors

Refer to page 3 - 20.

ANALOG input and output connectors





ANALOG INPUT connector (BALANCED)

The CH1(L)/CH2(R) analog audio signals are input here.

Connector: XLR-3-31 type (#2 pin hot)
Standard input level: +4dBu, +4dBm/600Ω , -10dBV 3 stage selector system.

Standard input level selector switch

Selects input level of analog audio signal into CH1(L)/CH2(R).
Input levels of +4dBu/+4dBm/-10dBV can be selected.

ANALOG OUTPUT connector (BALANCE)

Analog audio signals of CH1(L)/CH2(R) are output here.

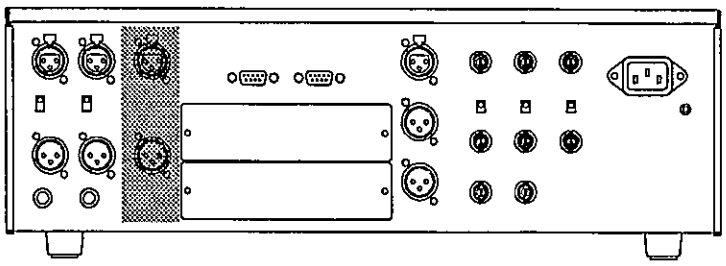
Connector: XLR-3-31 type (#2 pin hot)
Standard output level: +4dBu

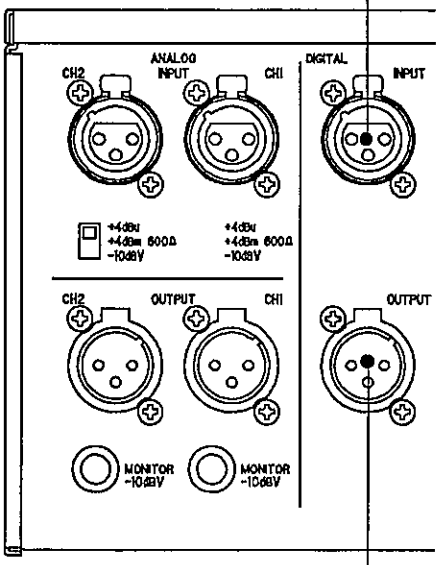
MONITOR (analog signal monitor) jack (UNBALANCE)

The monitor analog audio signals of CH1(L)/CH2(R) are output here.

Connector: Phone jack
Standard output level: -10dBV

DIGITAL input and output connectors





DIGITAL INPUT connector (BALANCE)

The AES/EBU format and CONSUMER format digital audio signals are input here.

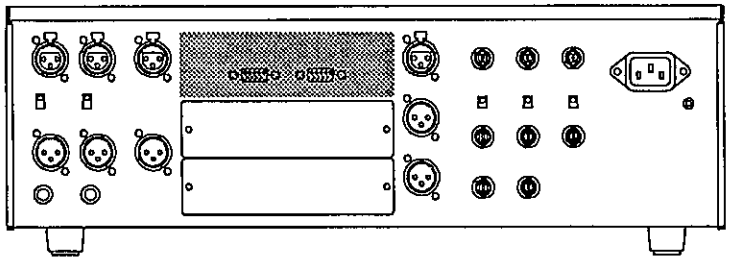
Connector: XLR-3-31 type (#2 pin hot)

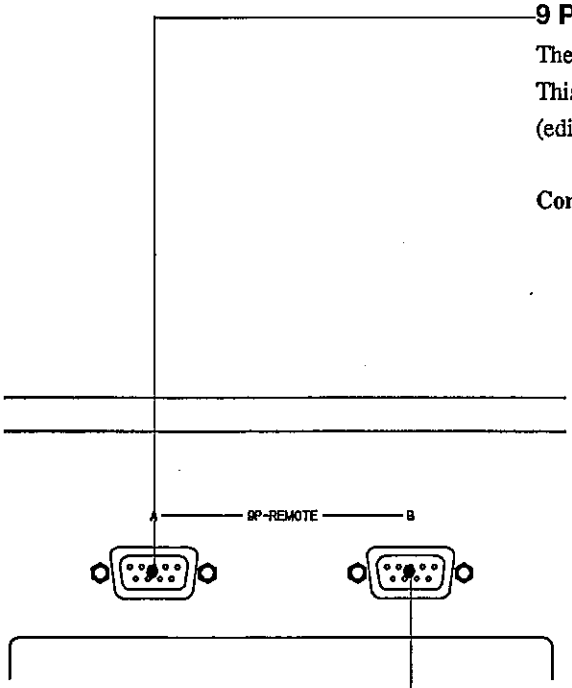
DIGITAL OUTPUT connector (BALANCE)

The AES/EBU format and CONSUMER format digital audio signals are output here.
The DIGITAL OUTPUT format can be set by the SETUP mode.

Connector: XLR-3-32 type (#2 pin hot)

9 PIN REMOTE connectors





9 PIN REMOTE-A connector

The remote control connector complying to the RS-422 specification. This is used when controlling Model D-30 from other equipment (editor, etc.).

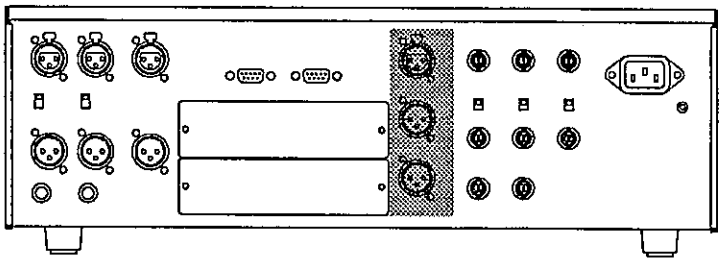
Connector: D-SUB 9 pin

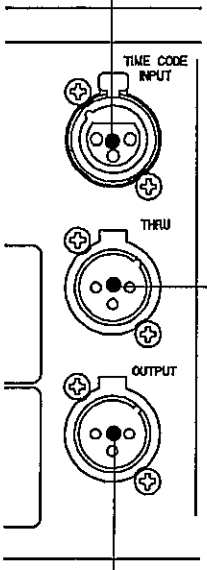
9 PIN REMOTE-B connector

The remote control connector complying to the RS-422 specification. This is used for mutual control between Model D-30 and other equipment.

Connector: D-SUB 9 pin

TIME CODE input and output connectors





TIME CODE INPUT connector (BALANCE)

External time code is input here.

Connector: XLR-3-31 type (#2 pin hot)

TIME CODE THRU connector (BALANCE)

Time code input to the TIME CODE INPUT connector is directly output here.

Connector: XLR-3-31 type (#2 pin hot)

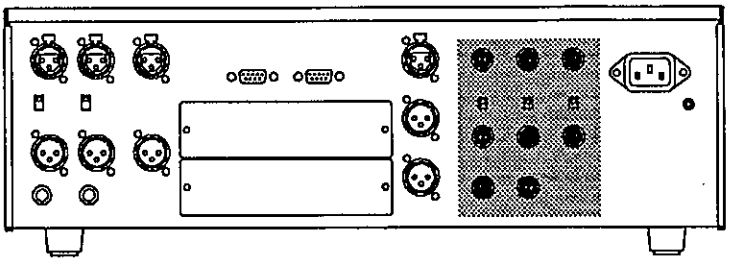
TIME CODE OUTPUT connector (BALANCE)

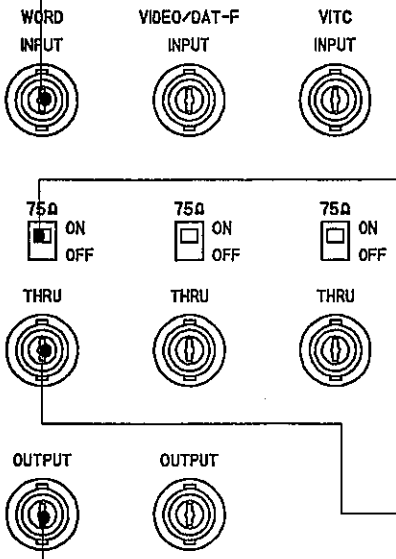
The played back time code is output here.

Connector: XLR-3-32 type (#2 pin hot)

TC signals which are output will differ depending on the operating mode.
Various modes of the TC signal can be set by the SETUP mode.

EXTERNAL SYNC input and output connectors





WORD SYNC INPUT (word sync signal input) connector

Word sync signal is input here for record/playback in sync with the word sync signal.

Connector: BNC type

Terminate switch

The switch for termination ON/OFF of the word sync signal and is normally switched ON.
This must be switched OFF when connected to other equipment via WORD SYNC THRU.

WORD SYNC THRU (word sync signal thru output) connector

Signal input to the WORD SYNC INPUT connector is directly output here.

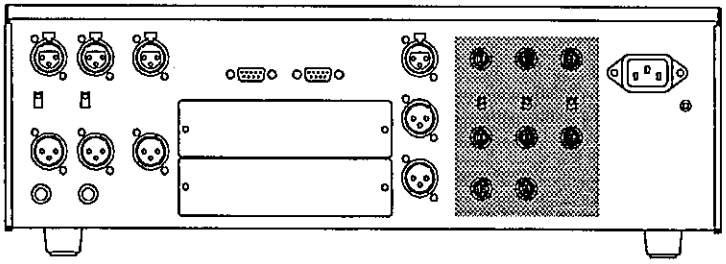
Connector: BNC type

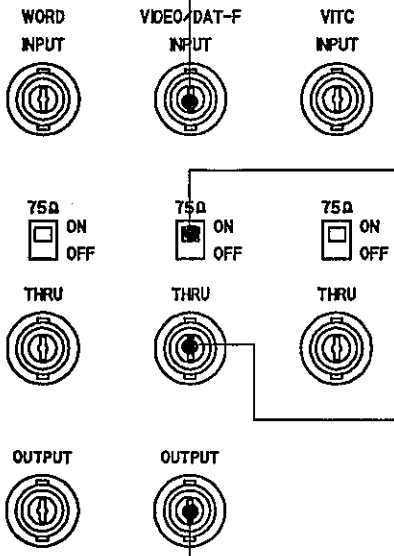
WORD SYNC OUTPUT (word sync signal output) connector

The word sync signal is output here.
When operated by external sync, word sync signal in sync with the external sync signal, is output here.

Connector: BNC type

EXTERNAL SYNC input and output connectors





VIDEO/DAT-F (video sync signal/DAT frame signal input) connector

The video sync signal is normally input here when recording and playback in sync with the video sync signal.

Connector: BNC type

Terminate switch

The termination ON/OFF switch for the video sync signal/DAT frame signal and is normally switched ON.
When connecting to other equipment via VIDEO/DAT-F THRU, this must be switched OFF.

VIDEO/DAT-F THRU (video sync signal/DAT frame signal thru output) connector

Signal input to VIDEO/DAT-F INPUT is directly output here.

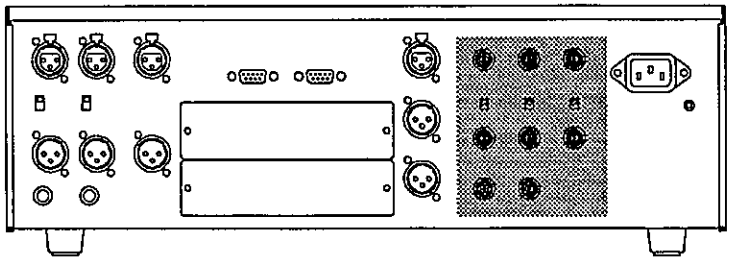
Connector: BNC type

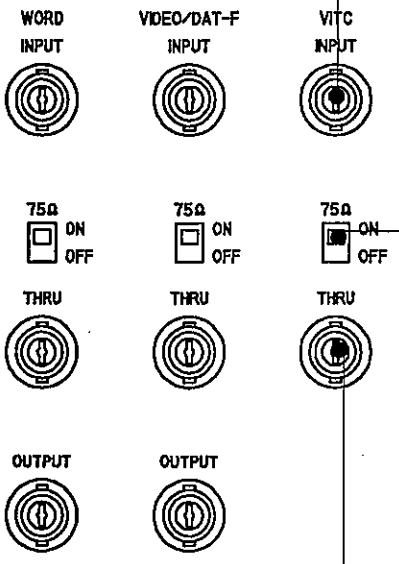
VIDEO/DAT-F OUTPUT (video sync signal/DAT frame signal output) connector

Video sync signal/DAT frame signal are output here.
Either the video sync signals in sync with the internal generator or the DAT frame signal is output here depending on the setting by the SETUP MODE menu.

Connector: BNC type

EXTERNAL SYNC input and output connectors





VITC INPUT connector

VITC is input here for recording in sync with VITC.

Connector: BNC type

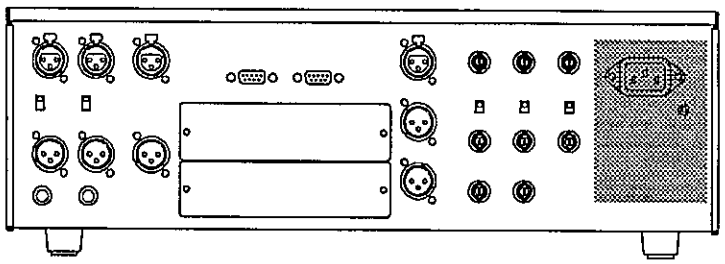
Terminate switch

ON/OFF switch for terminating the VITC signal and is normally switched ON. This must be switched OFF when connecting to other equipment via VITC THRU.

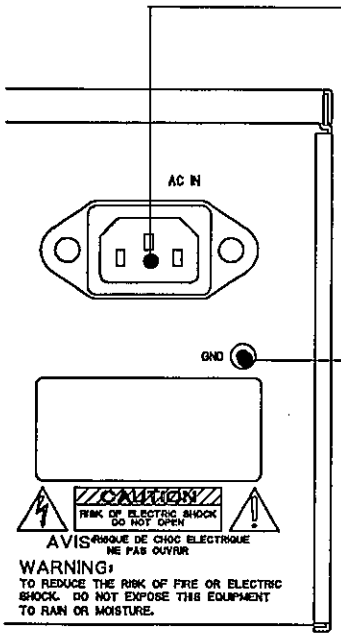
VITC THRU connector

VITC input to VITC INPUT is directly output here.

Connector: BNC type



Power cable connector



AC IN connector

Power cable included in package with Model D-30 is connected here.

<NOTE>

Connect cable here before plugging in cable to the wall outlet.

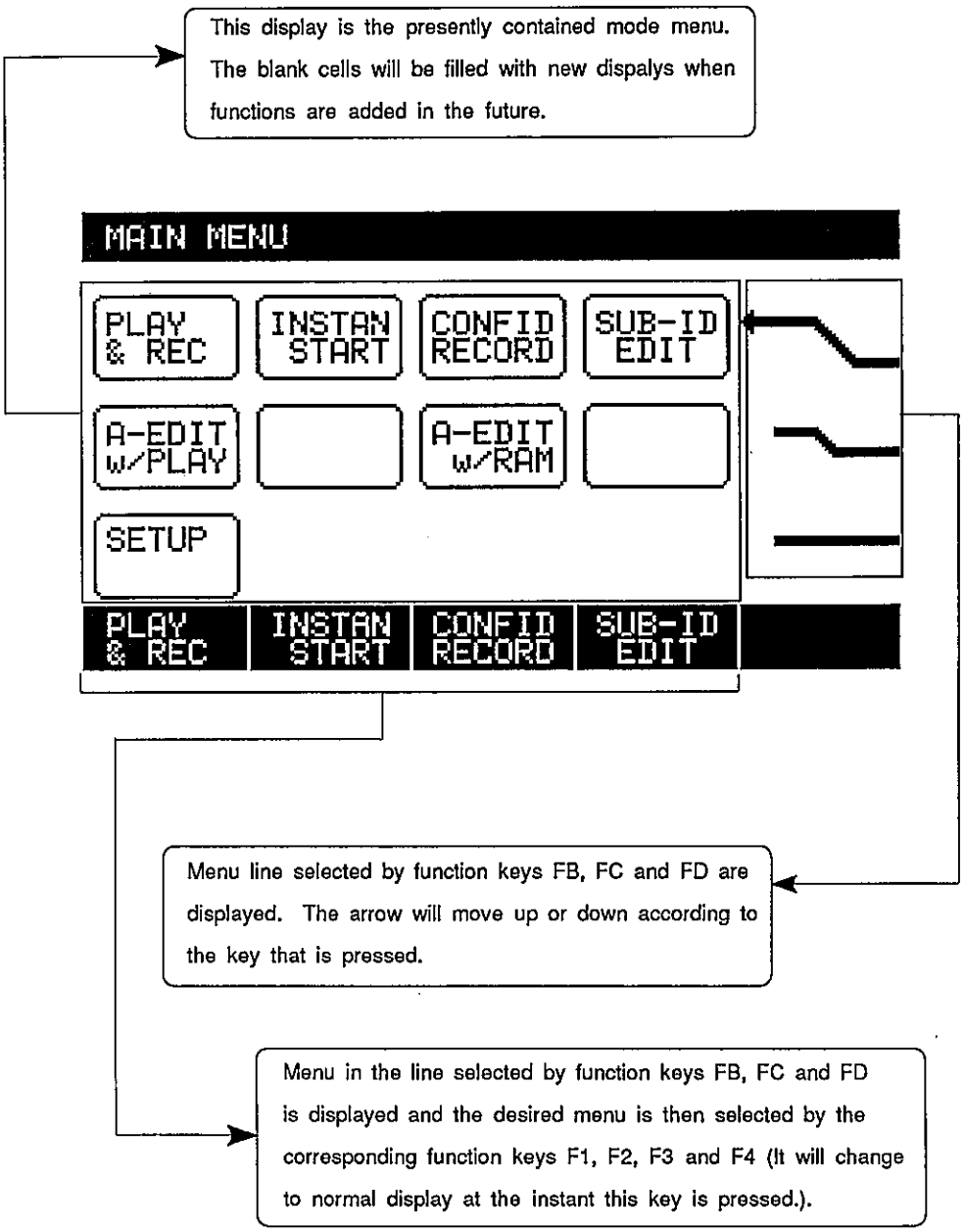
GND terminal

3-3. *Display section*

A large LCD is employed in Model D-30 in which the various menus can be shown. Among the various menu displays, there is the MAIN MENU, the first level display of the various selected menus, and there is the second level display in which settings responding to the situation such as CHASE SETUP mode/GEN SETUP mode are shown, then also displays corresponding to operations such as the numerical keypad and REMOTE CONTROL displays.

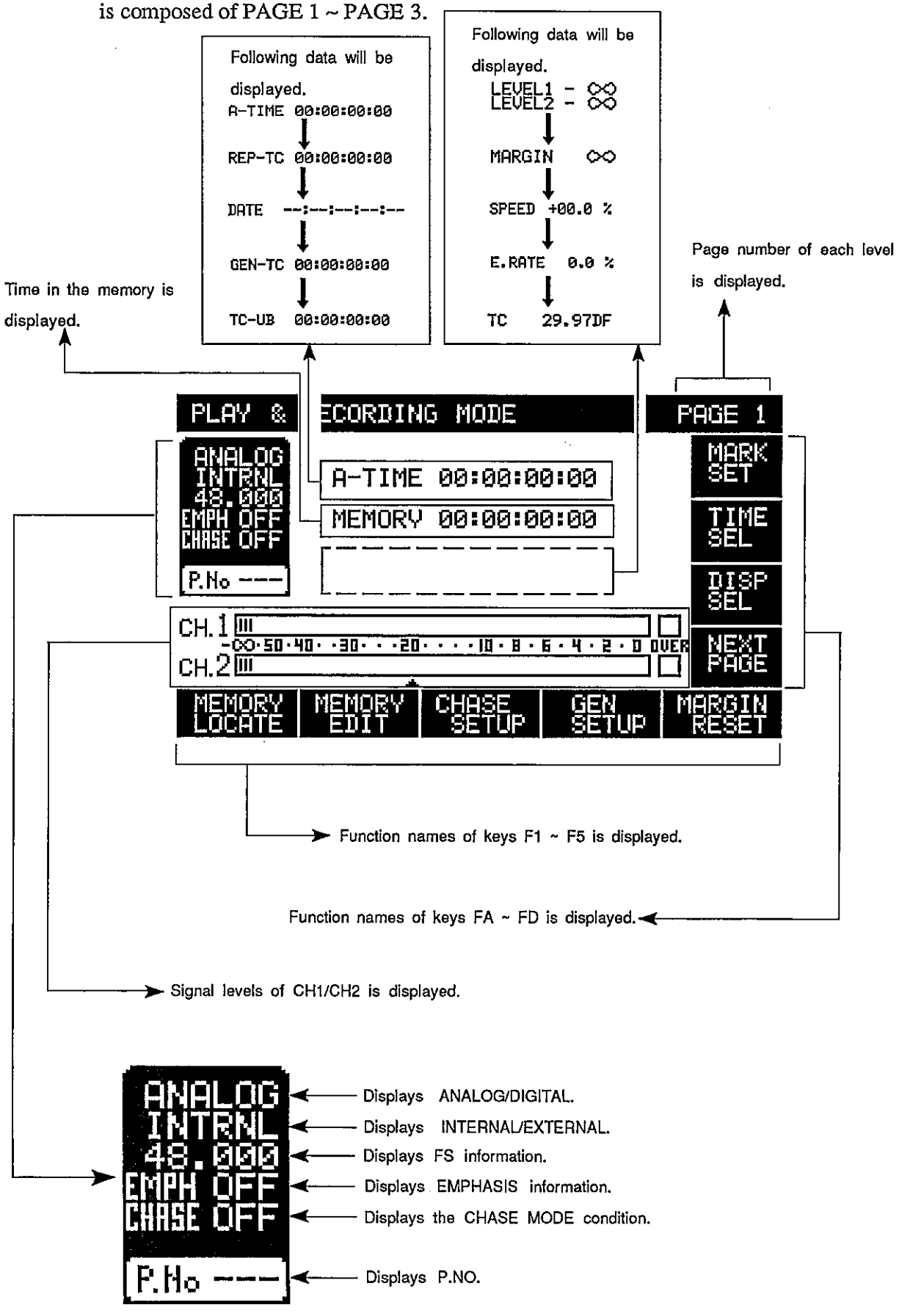
1. MAIN MENU selecting mode display

This display is used when selecting the desired menu.



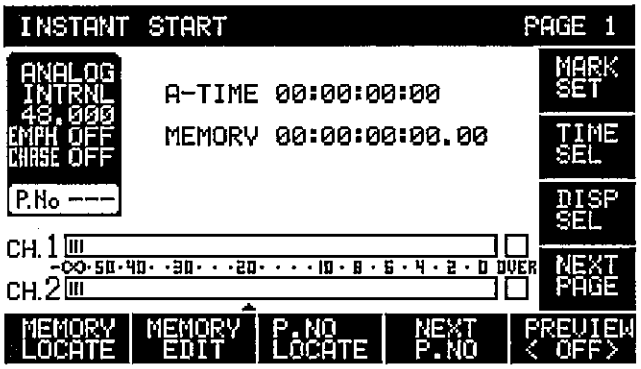
2. PLAY & RECORDING MODE menu display

The first level display in which the PLAY & RECORDING MODE menu is executed and is composed of PAGE 1 ~ PAGE 3.



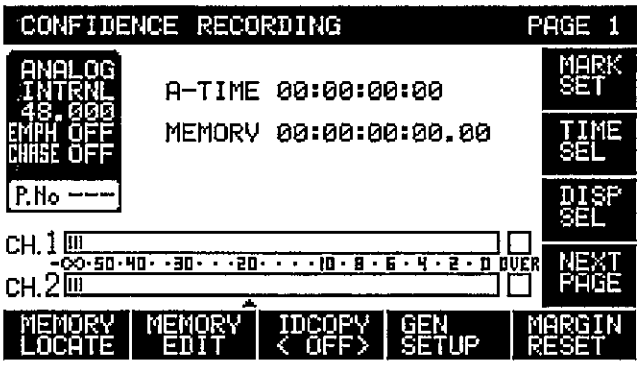
3. INSTANT START MODE menu display

The first level display in which the INSTANT START MODE menu is executed and is composed of PAGE 1 and PAGE 2.



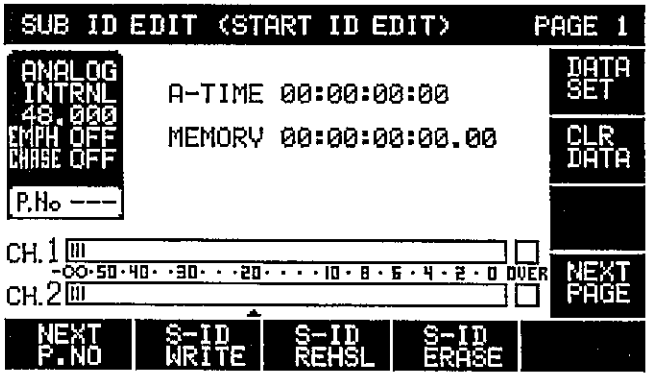
4. CONFIDENCE RECORDING MODE menu display

The first level display in which the CONFIDENCE RECORDING MODE menu is executed and is composed of PAGE 1 and PAGE 2.



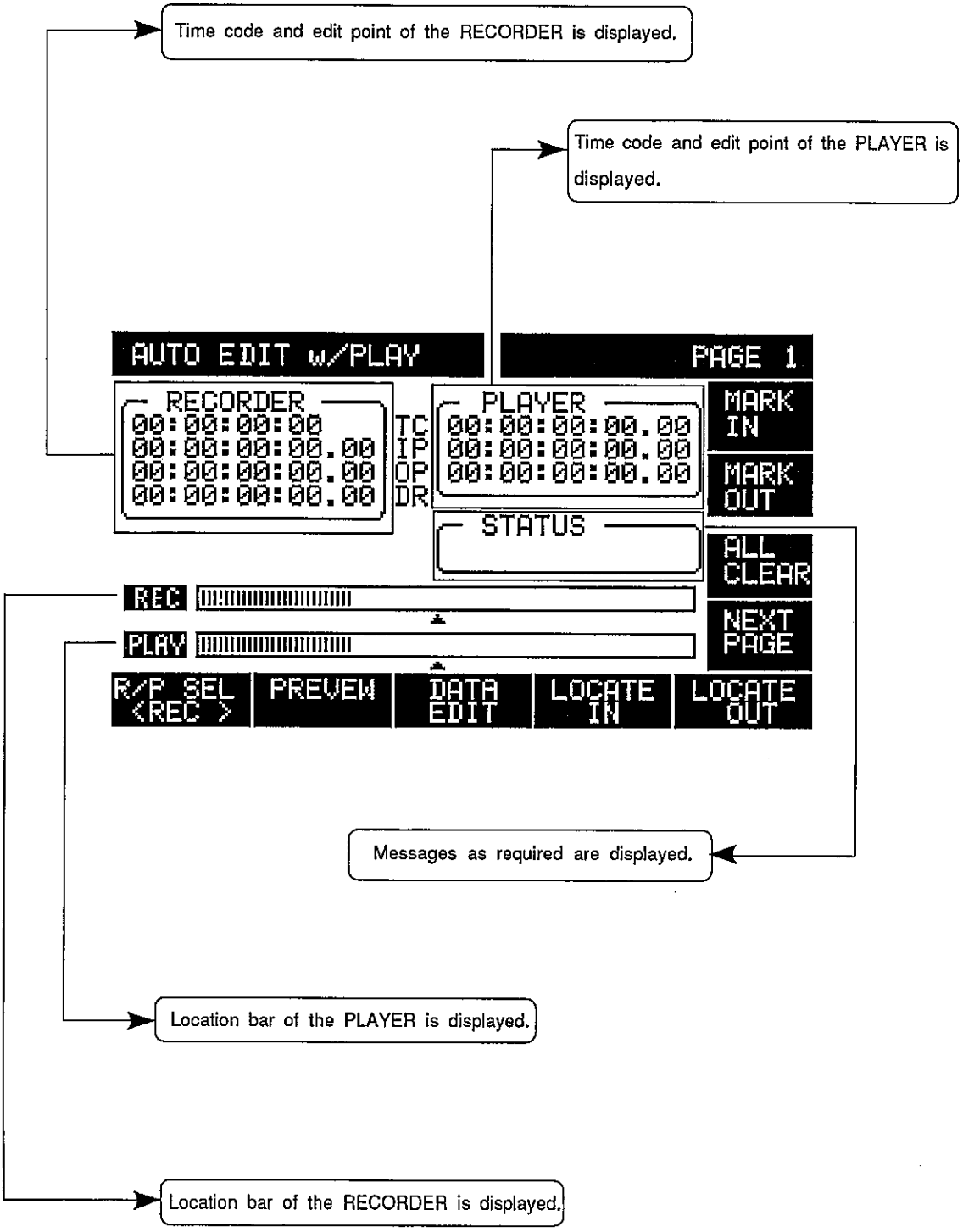
5. SUB ID EDIT MODE menu display

The first level display in which the SUB ID EDIT MODE menu is executed and is composed of PAGE 1 ~ PAGE 3.



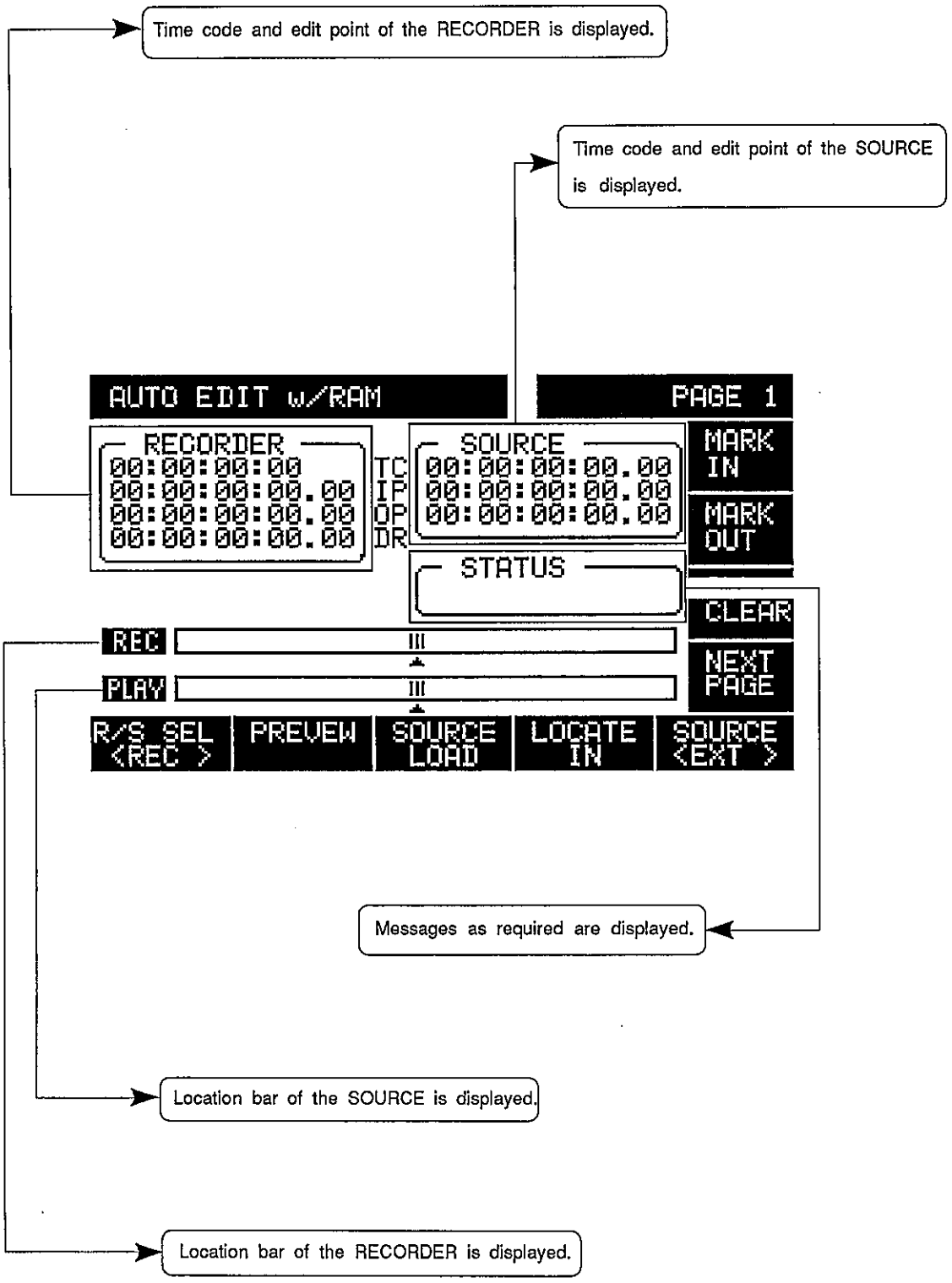
6. AUTO EDIT with PLAYER MODE menu display

The first level display in which the AUTO EDIT with PLAYER MODE menu is executed and is composed of PAGE 1 and PAGE 2.



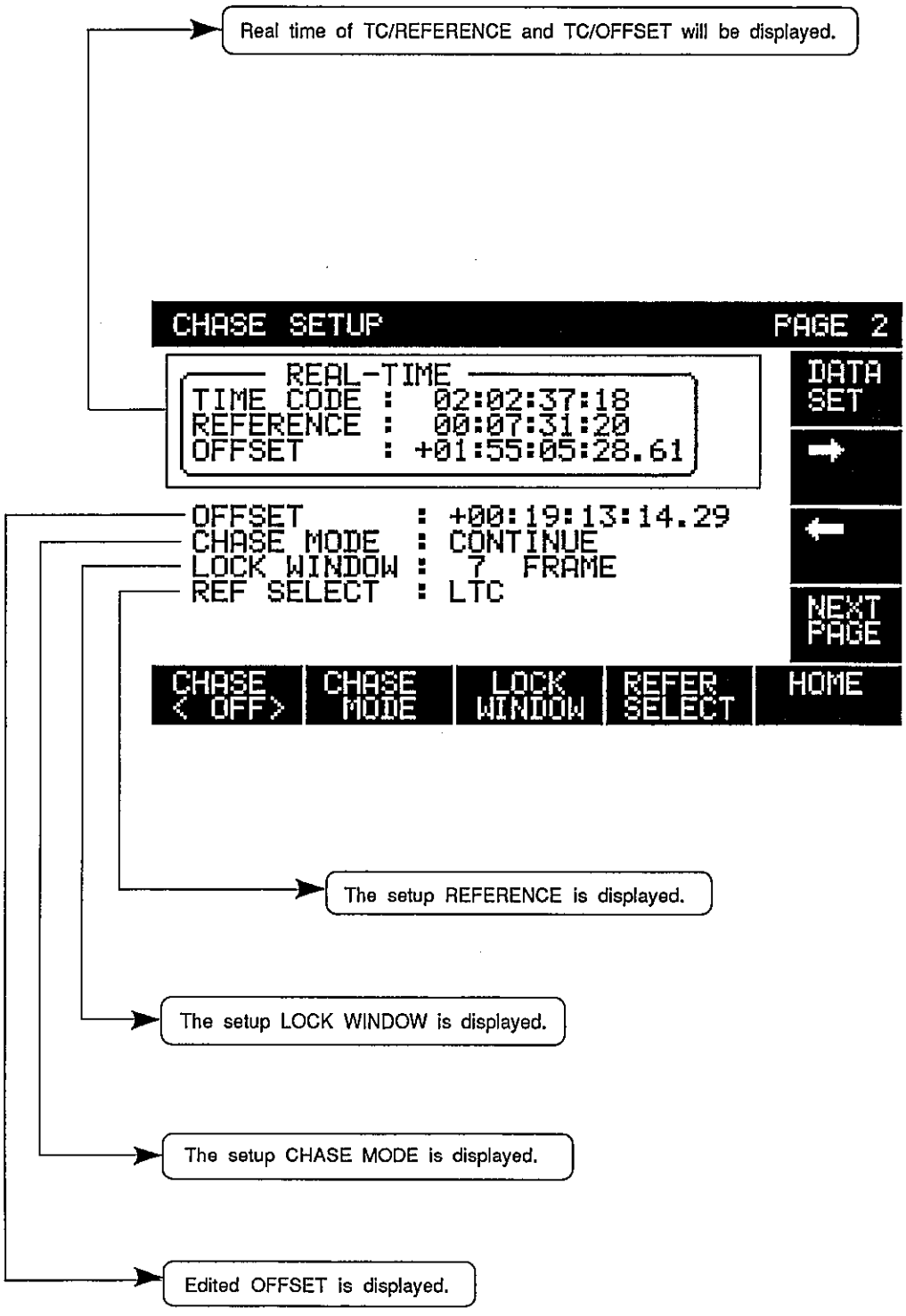
7. AUTO EDIT with RAM MODE menu display

The first level display in which the AUTO EDIT with RAM MODE menu is executed and is composed of PAGE 1 and PAGE 2.



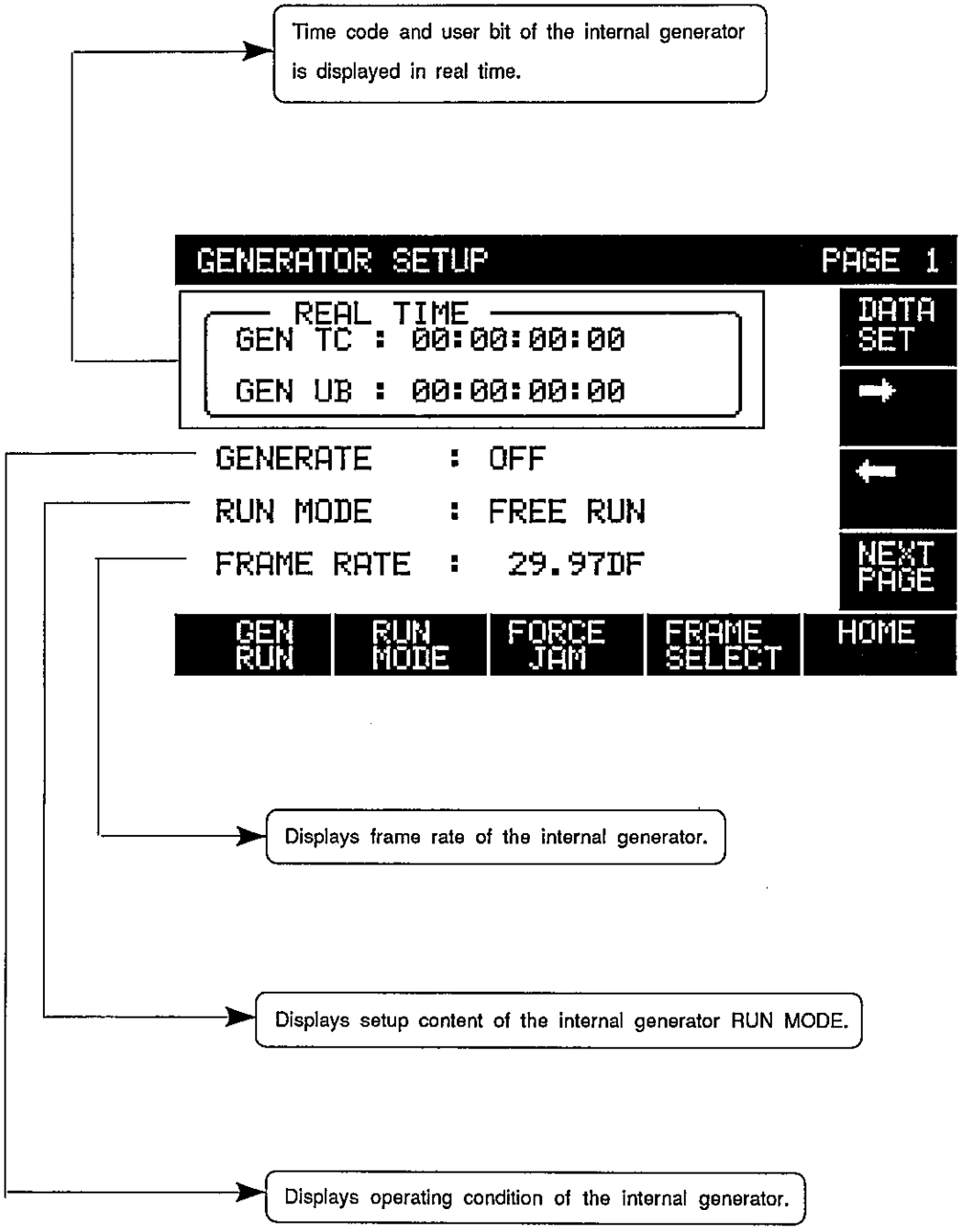
8. CHASE SETUP mode display

The second level display in which the CHASE mode SETUP is executed and is composed of PAGE 1 and PAGE 2. This display is installed in the PLAY & RECORDING MODE menu second level.



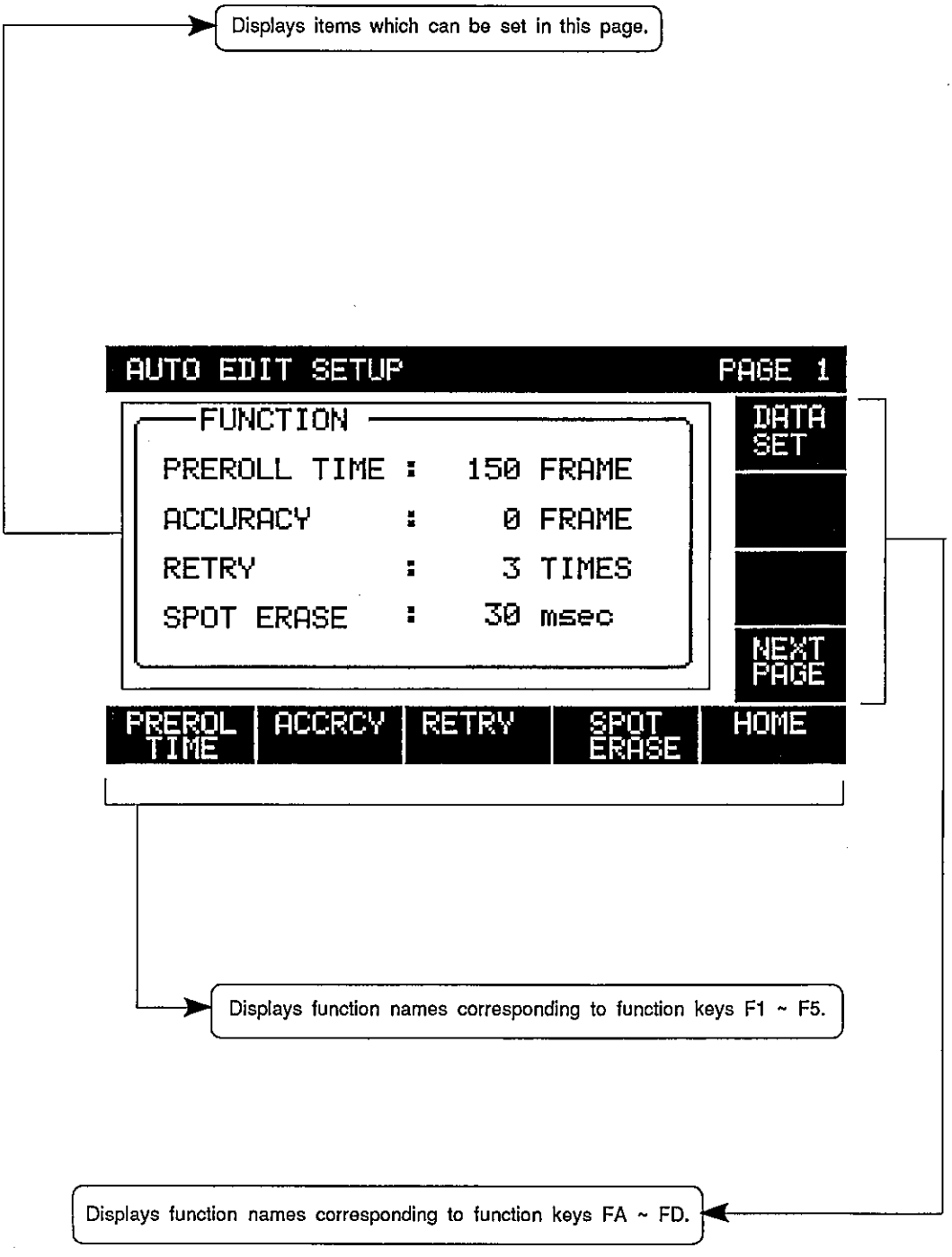
9. GENERATOR SETUP mode display

The second level display in which the internal generator SETUP is executed and is composed of PAGE 1 and PAGE 2. This display is installed in the second level of each menu for PLAY & RECORDING MODE, CONFIDENCE RECORDING MODE, AUTO EDITw/PLAYER MODE and AUTO EDITw/RAM MODE.



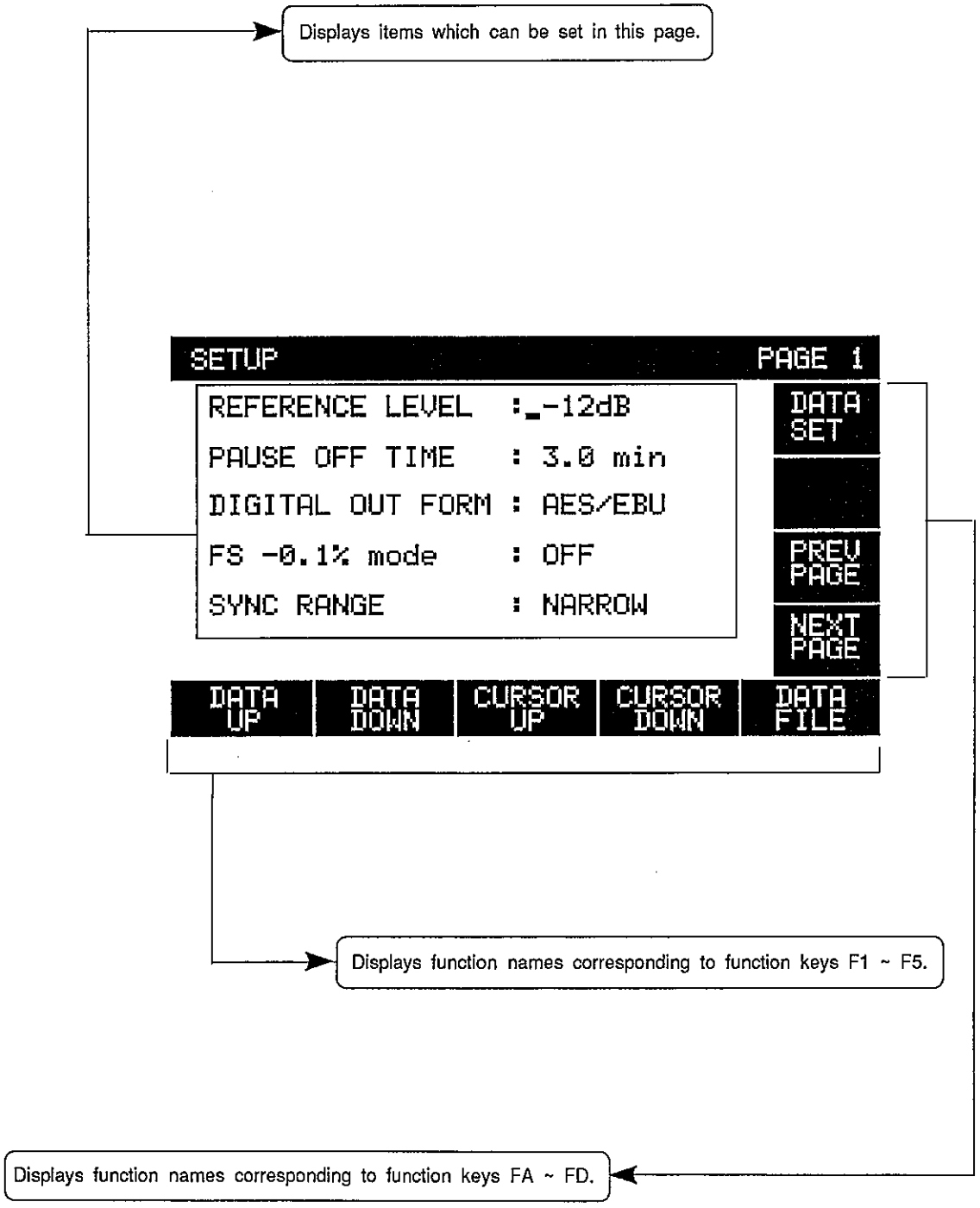
10. AUTO EDIT SETUP mode display

The second level display in which the AUTO EDIT SETUP is executed and is composed of PAGE 1 ~ PAGE 4. This display is installed in the second level of each menu for PLAY & RECORDING MODE, AUTO EDITw/PLAYER MODE and AUTO EDITw/ RAM MODE.



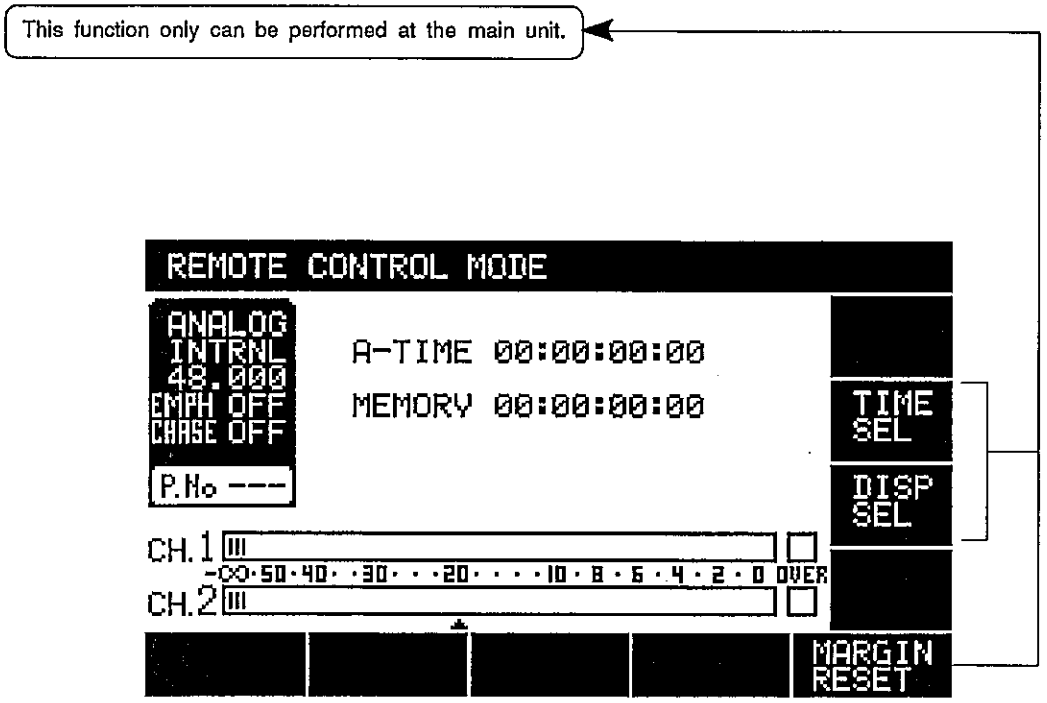
11. SETUP MODE menu display

The first level display in which the SETUP MODE menu is executed and is composed of PAGE 1 ~ PAGE 6.



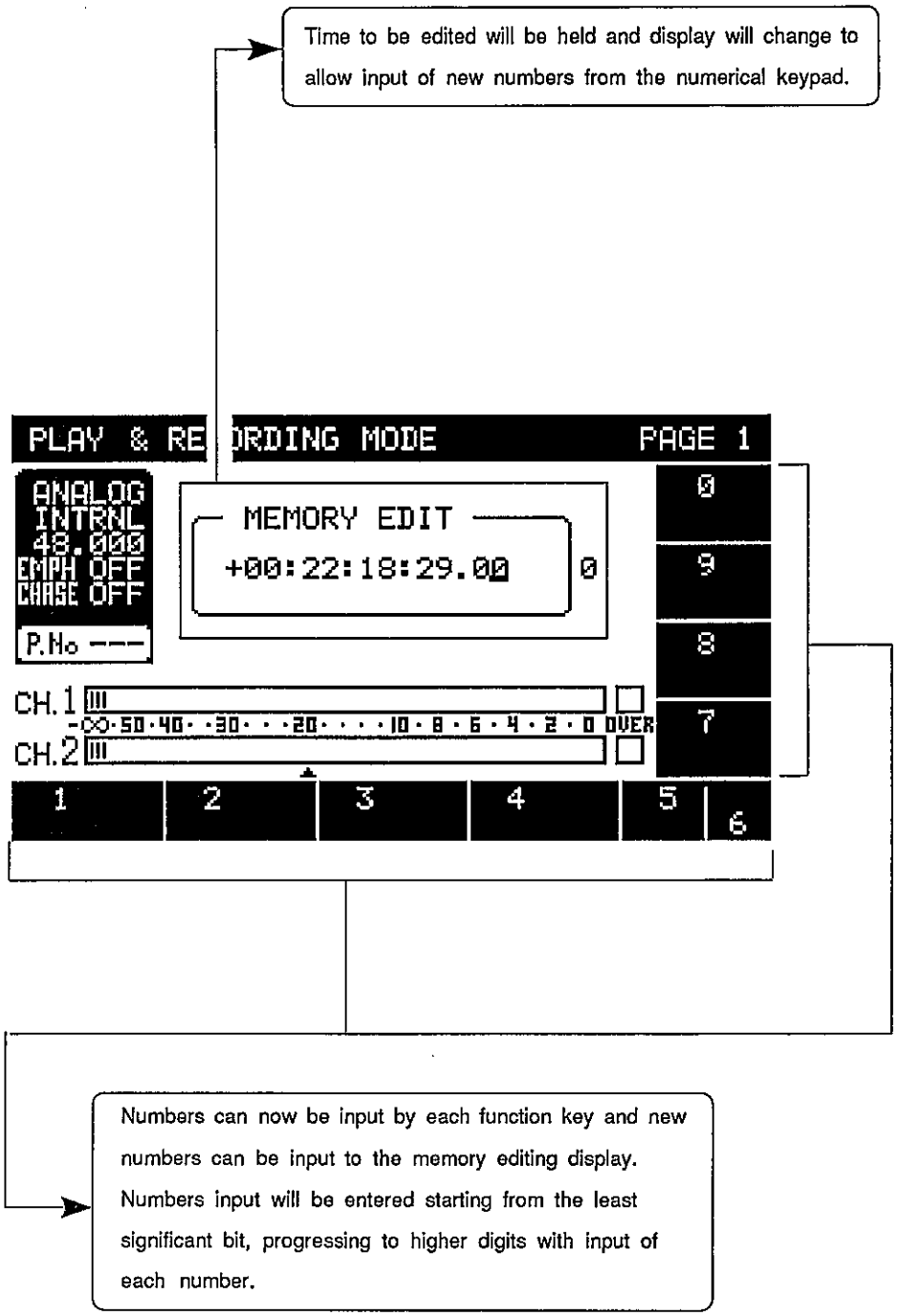
12. REMOTE CONTROL mode display

This display is shown when the REMOTE switch is set from [LOCAL] to [REMOTE] and then setup to control Model D-30 from an external equipment (editor, etc.).



13. Numerical keypad mode display

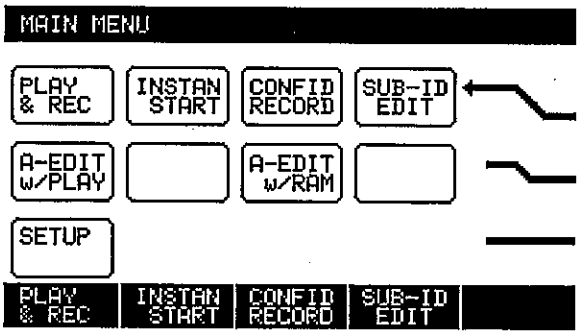
This is the numerical keypad mode display when the numerical keypad mode key is switched ON such as when executing time edit.



CHAPTER 4

The Main Menu

Content of the Model D-30 MAIN MENU, recall procedure of each mode menu, and operation of the function key for executing the menu are explained in this chapter. The MAIN MENU of Model D-30 is executed according to the operating content in the large size LCD. Therefore, it is recommended to understand the outstanding features of Model D-30 by referring to this chapter before reading Chapter 5 and later chapters.



CHAPTER 4
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4-1. Composition of the MAIN MENU

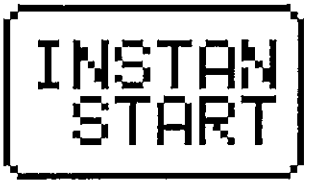
The MAIN MENU is largely divided in 7 menus. In addition to the 7 menus, 3 setup modes are provided which are used in the following way:

1. PLAY & RECORDING MODE menu

This menu executes normal recording and playback. This menu is also used for operating the player or recorder through RS-422A port.
As the head lineup is Write-After-Read in this menu, not only Assemble recording but Insert recording is also possible.

◆ *Refer to Chapter 5 for details.*

2. INSTANT START MODE menu



This menu is for Instant Start playback only and recording cannot be done. Instant Start is to instantaneously playback audio data pre-stored in the RAM for the purpose of drastically reducing startup time of the playback sound.

◆ *Refer to Chapter 6 for details.*

3. CONFIDENCE RECORDING MODE menu

This menu is the "simultaneous monitoring mode" for executing Read After Record.
Assemble recording only is possible by this menu, and RAM SCRUB and Insert recording are cannot be done.

◆ *Refer to Chapter 7 for details.*

4. SUB-ID EDIT MODE menu

This menu is used mainly at After Recording editing of SUB-ID. Record, erase and renumbering of S-ID, SKIP-ID and END-ID are possible.

◆ *Refer to Chapter 8 for details.*

5. AUTO EDIT with PLAYER MODE menu

This menu is used when another DAT equipment (Model D-30, D-20B, etc.) is controlled through the RS-422B port of this machine. In this menu, Assemble or Insert editing can be done by a player and recorder combination.
Rehearsal editing using the RAM is also possible by adding the optional Source RAM.

◆ *Refer to Chapter 9 for details.*

6. AUTO EDIT with RAM MODE menu

This menu is limited to Model D-30's in which the optional Source RAM (Model 8331 Memory Board) has been installed. The operation here is to record a maximum 10 seconds of audio data in the Source RAM, and insert (spot editing) this audio data in the recorder tape.
In this menu, the audio insert mode only is possible and inserting of Assemble/Time code cannot be done.

◆ *Refer to Chapter 10 for details.*

7. SETUP MODE menu

Various settings or changes necessary in operating Model D-30 can be done by this menu.

◆ *Refer to Chapter 14 for details.*

8. CHASE SETUP mode

This mode allows setup related to the CHASE mode which is common to the various RECORDING modes, and can be executed in the PLAY & RECORDING MODE menu.

◆ *Refer to Chapter 11 for details.*

9. GENERATOR SETUP mode

In this mode, INTERNAL GENERATOR related settings common to the various RECORDING mode, can be setup and executed in the PLAY & RECORDING MODE, CONFIDENCE RECORDING MODE, AUTO EDITw/PLAYER MODE and AUTO EDITw/RAM MODE menus.

◆ *Refer to Chapter 12 for details.*

10. AUTO EDIT SETUP mode

This mode allows setup related to AUTO EDIT which is common to the various RECORDING modes, and can be executed in the PLAY & RECORDING MODE, AUTO EDITw/PLAYER MODE and AUTO EDITw/RAM MODE menus.

◆ *Refer to Chapter 13 for details.*

4-2. Starting up the menu

Let the MAIN MENU be shown in the display and press the desired function key to execute it. Some menus are made in several procedure levels (indicated as Page 1, Page 2, etc.) and the key functions will be different for each level.

This Section, centered around the display, explains fundamental operations and functions of each key.

4-2-1.Startup of desired menu from the MAIN MENU.

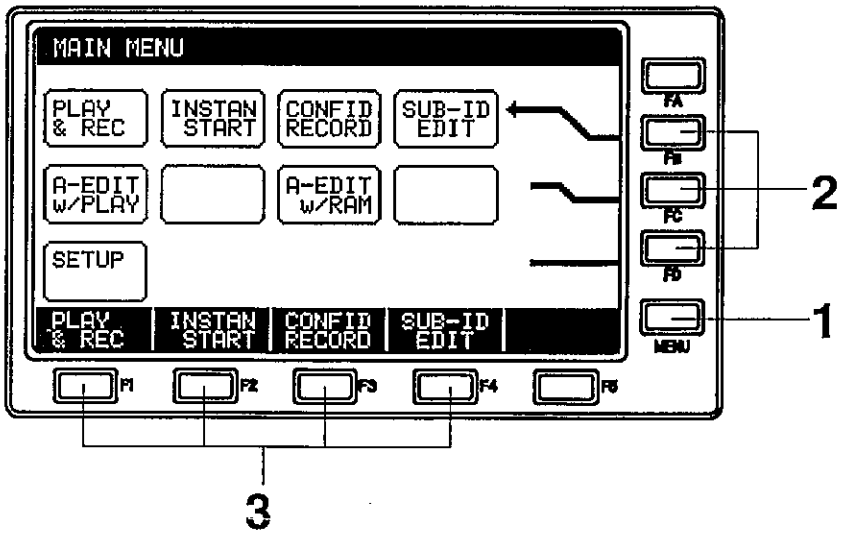
Proccedure in selecting the desired menu are as follows.

Step 1

Press MENU key to display the MAIN MENU.
Regardless to what is on the display, the MAIN MENU will be displayed by pressing MENU.

Initial display:

After taking Model D-30 out of the package and power is switched on, the PLAY & RECORDING MODE menu will be displayed.



Step 2

The desired menu line (an arrow is shown for that key) is specified by function keys FB, FC and FD.

Example

If the FB key is pressed, the PLAY & REC, INSTANT START, CONFID RECORD, SUB-ID EDIT level is selected.

Step 3

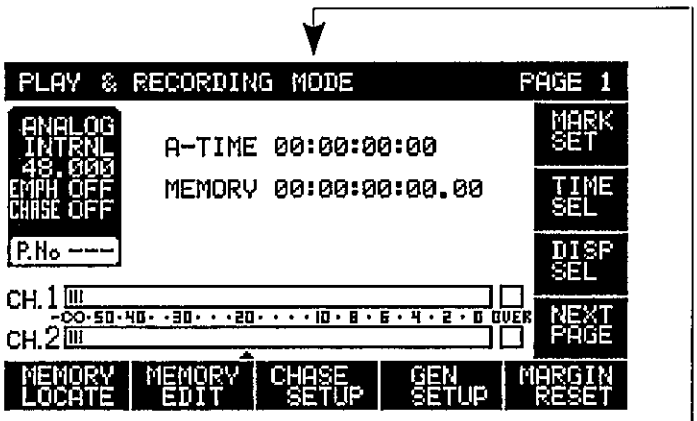
Next, the desired menu in this level is selected by function keys F1 ~ F4 (In doing so, the first level Page 1 of the specified menu will be displayed).

4-2-2. Operating the function key

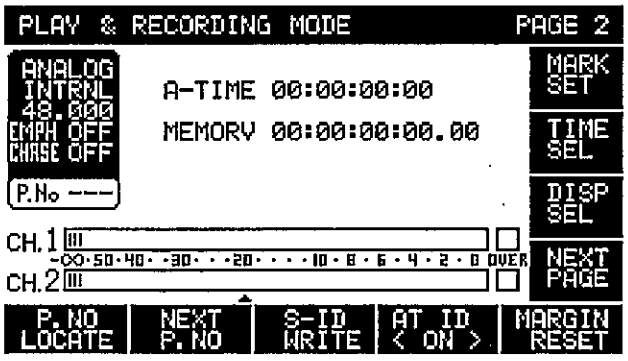
Based on one example, this Section will explain how to read the display at handling the selected menu and functions of the keys.

As shown in the example schematic, the menu operating sheet (first level, Page 1) selected from the MAIN MENU, will be shown in the display. Some menu may consist of several pages and it can be changed to the next operating sheet (Page 2) by pressing the FD (next page) key. In doing so, functions of the various keys shown in the display by which the operations are executed, will change (In this example, there are Page 1 ~ Page 3 of the first level).

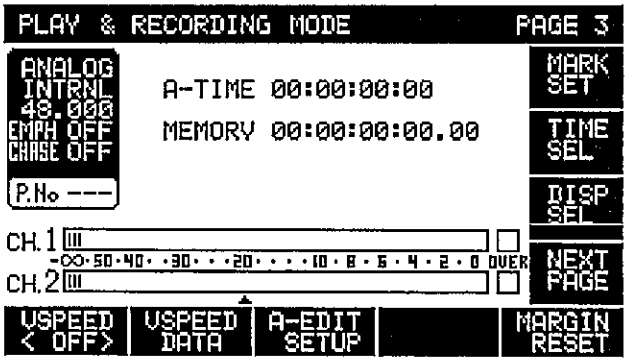
Page 1



Page 2



Page 3



When the FD (next page) key is thus pressed, the operating sheets will successively change through PAGE 1→PAGE 2→PAGE 3→PAGE 1.
Functions of each key in each page are segregated as shown in the chart below.

Function key	Function		
	PAGE 1	PAGE 2	PAGE 3
F1	LOCATE MEMORY function	P.NO LOCATE function	V SPEED ON/OFF function
F2	EDIT MEMORY function	NEXT P.NO function	V SPEED DATA function
F3	CHASE SETUP function	S-ID WRITE function	A-EDIT SETUP function
F4	GEN SETUP function	AUTO ID ON/OFF function	—
F5	MARGIN RESET function	←	←
FA	MARK SET function	←	←
FB	TIME SEL function	←	←
FC	DISP SEL function	←	←
FD	NEXT PAGE function	←	←

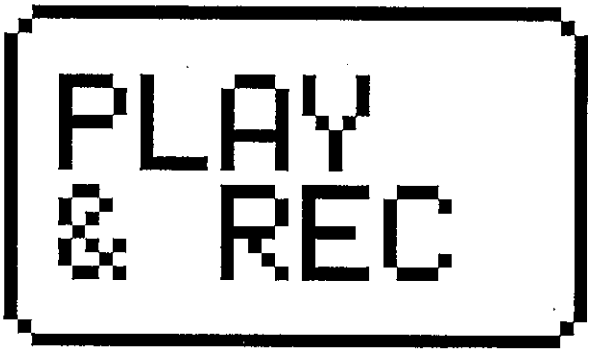
[←] : Indicates function is not changed although menu has changed.
[—] : Indicates that it will not function.

As can thus be seen, in order to execute each menu, the menu to be processed is put on the display, then the key corresponding to each function, must be pressed.
It is suggested each menu be correctly handled by achieving a good understanding of the Model D-30 operating features explained above.

CHAPTER 5

Play and Recording Mode Menu

This chapter explains the play and recording mode menu in the main menu. This menu is used for recording and playing audio signals, recording time codes, and for controlling the editor using the RS-422 9-PIN remote port.



CHAPTER 5
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5-1. *Operating functions of the menu*

The operating menu is composed of first level pages 1 ~ 3 and the following functions can be executed in each page.

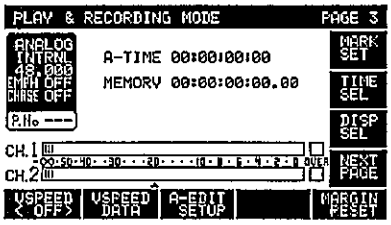
1st level PAGE 1

1. Memory locate function
2. Edit function of memory data (EDIT display)
3. Chase setup function (Refer to Chapter 11)
4. Internal generator setup function (Refer to Chapter 12)

1st level PAGE 2

1. P-NO locate function
2. Edit function of NEXT P-NO (EDIT display)
3. S-ID WRITE function
4. AUTO ID mode ON/OFF function

1st level PAGE 3

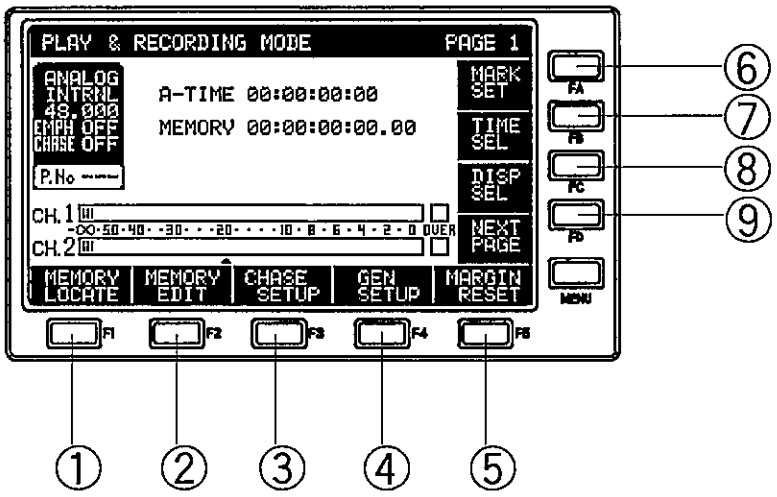


1. Vari-speed mode ON/OFF function
2. Vari-speed data edit function (EDIT display)
3. AUTO EDIT setup function (Refer to Chapter 13)

5-1-1. Display and function key functions

PAGE 1:

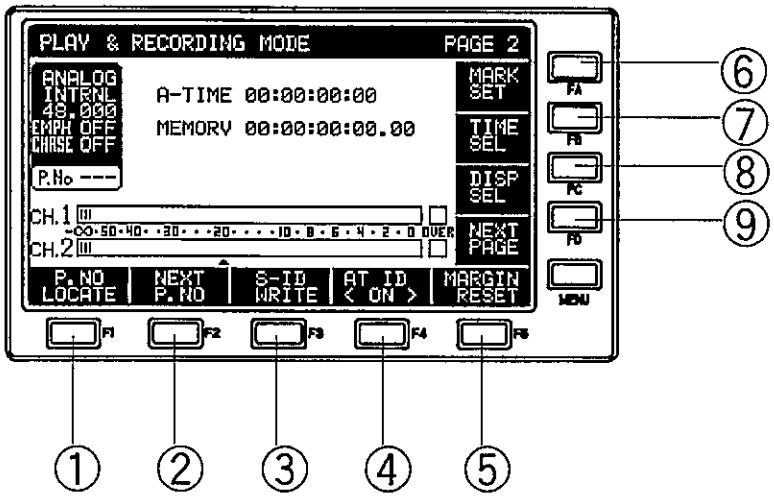
Functions of the 1st level PAGE 1 display and functions of each function key are as follows.



No.		Display	Function
①	F1	MEMORY LOCATE	When key is pressed, the recorder locates to the A-TIME/REP TC time in the memory.
②	F2	MEMORY EDIT	When key is pressed, the recorder enters memory edit mode and data in memory can be edited.
③	F3	CHASE SETUP	When key is pressed, the recorder enters the chase control and related setup modes, and goes to the 2nd level page (Refer to Chapter 11 for details).
④	F4	GEN SETUP	When key is pressed, the recorder enters the internal generator control and related setup modes, and goes to the 2nd level page (Refer to Chapter 12 for details.).
⑤	F5	MARGIN RESET	If key is pressed while MARGIN level is on display, it resets the recorder to the displayed MARGIN level.
⑥	FA	MARK SET	When this key is pressed, present A-TIME or REP TC is registered as the memory locate data. Also, at the instant the F2 (MEMORY EDIT) key is pressed, it will change to the DATA SET key function.
⑦	FB	TIME SEL	Each time this key is pressed, the current time display will be alternately changed. Also, at the instant F2 (MEMORY EDIT) key is pressed, it will change to the digit shift (->) key function. ->A-TIME->REP TC->DATE->GEN TC->TC UB->
⑧	FC	DISP SEL	Each time this key is pressed, the LEVEL DATA display will be alternately changed. Also, at the instant F2 (MEMORY EDIT) key is pressed, it will change to the digit shift (<-) key function. ->No display->LEVEL 1, 2->MARGIN LEVEL-> <-TC FRAME<-ERROR RATE<-SPEED
⑨	FD	NEXT PAGE	Page changing within the same mode and the same level can be done by pressing this key.

PAGE 2:

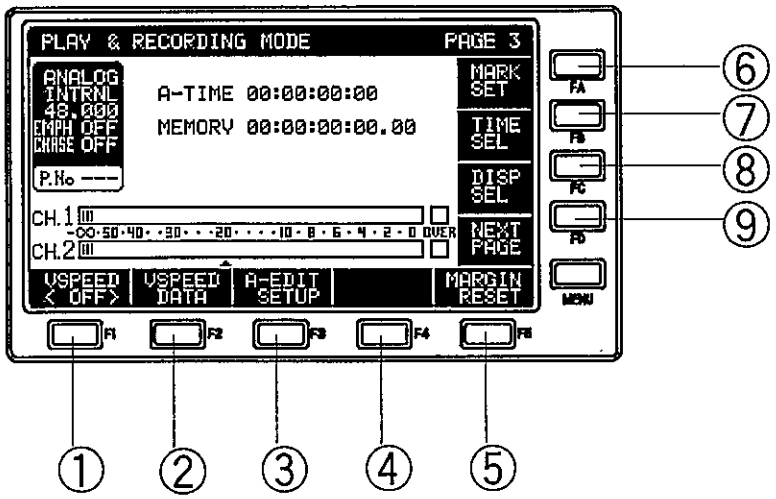
Functions of the first level PAGE 2 display and for each function key are as follows.



No.		Display	Function
①	F1	P-NO LOCATE	When key is pressed, it will locate to the P-NO specified by NEXT P-NO.
②	F2	NEXT P-NO	The recorder enters the NEXT P-NO setup mode by pressing this key and thus NEXTP-NO can be set.
③	F3	S-ID WRITE	During recording, S-ID can be recorded by pressing the key.
④	F4	AT ID ON/OFF	AUTO-ID mode can be switched ON/OFF.
⑤	F5	MARGIN RESET	Same function as PAGE 1.
⑥	FA	MARK SET	When this key is pressed, A-TIME or REP TC is registered as the MEMORY LOCATEDATA. Also, at the instant F2 (NEXT P-NO) key is pressed, it will change to the DATASET key function.
⑦	FB	TIME SEL	With each press of this key, the CURRENT TIME display will be alternately changed. ->A-TIME->REP TC->DATE->GEN TC->TC UB->
⑧	FC	DISP SEL	The LEVEL DATA display will alternately changed with each press of this key. ->No display->LEVEL 1, 2->MARGIN LEVEL-> <-TC FRAME<-ERROR RATE<-SPEED<
⑨	FD	NEXT PAGE	Same function as PAGE 1.

PAGE 3:

1st level PAGE 3 display and each function key function are as follows.



No.		Display	Function
①	F1	VARI SPEED ON/OFF	Switch ON/OFF of the VARI SPEED mode.
②	F2	VARI SPEED DATA	The VARI SPEED DATA edit mode is entered by pressing this key and thus varispeed data can be edited.
③	F3	AUTO EDIT SETUP	Input mode, of SETUP DAT necessary for AUTO EDIT, is entered by pressing this key and it will shift to the 2nd level page (Refer to Chapter 13 for details).
④	F4		No function at present.
⑤	F5	MARGIN RESET	Same function as PAGE 1 and 2.
⑥	FA	MARK SET	Presently displayed A-TIME or REP TC is registered as the MEMORY LOCATE DATA.
⑦	FB	TIME SEL	Same function as PAGE 2.
⑧	FC	DISP SEL	Same function as PAGE 2.
⑨	FD	NEXT PAGE	Same function as PAGE 1 and 2.

5-2. *Basic playback*

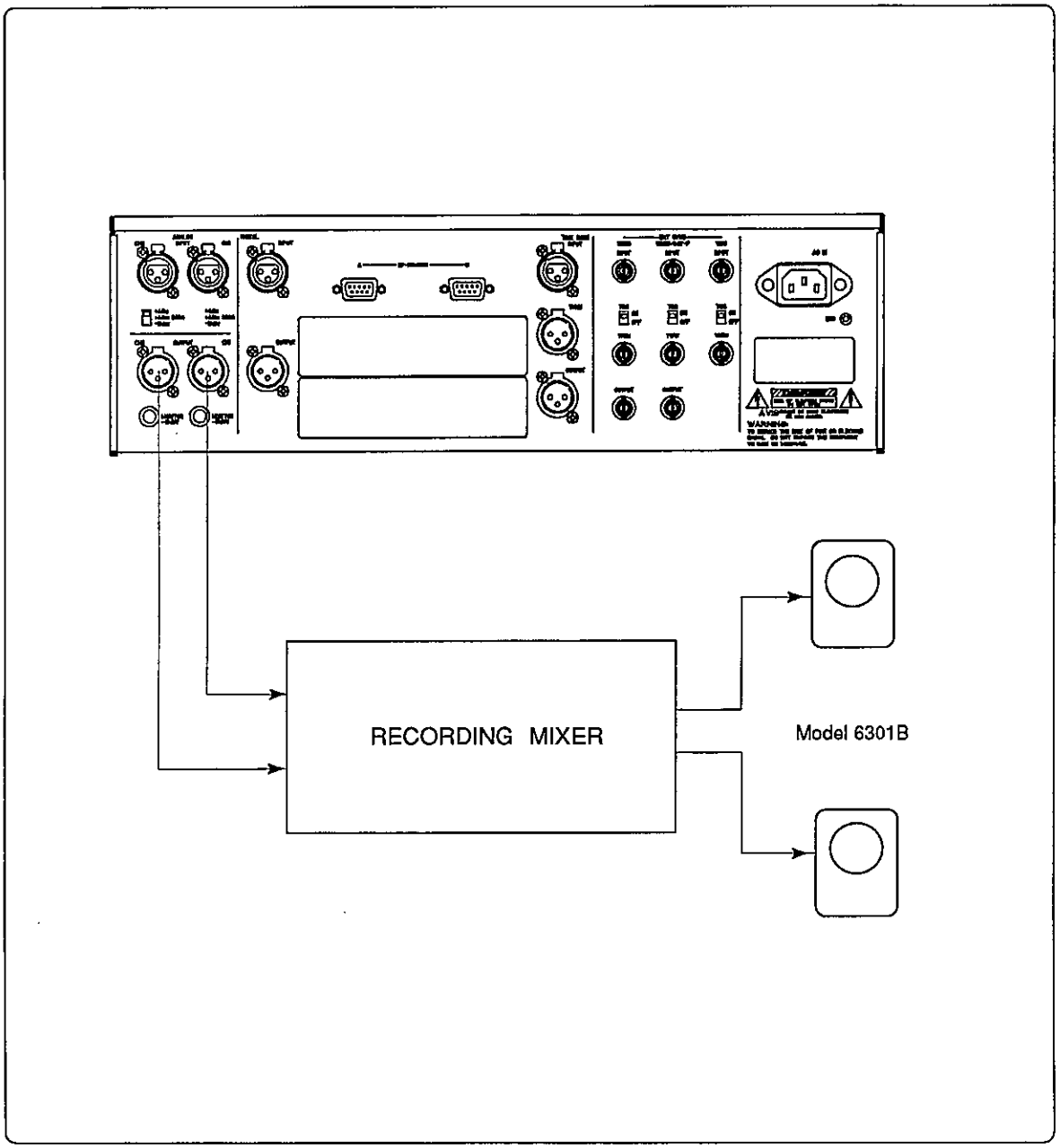
The basic playback method of Model D-30 is explained here.

CONNECTIONS

Interconnect the equipment as follows for playback of pre-recorded tape.

<NOTES>

* Before making interconnections, always switch off power to all equipment.
* For details on other equipment, refer to manuals on each respective equipment.



POINTS TO CHECK PRIOR TO OPERATION

1. Switch on power to the D-30.

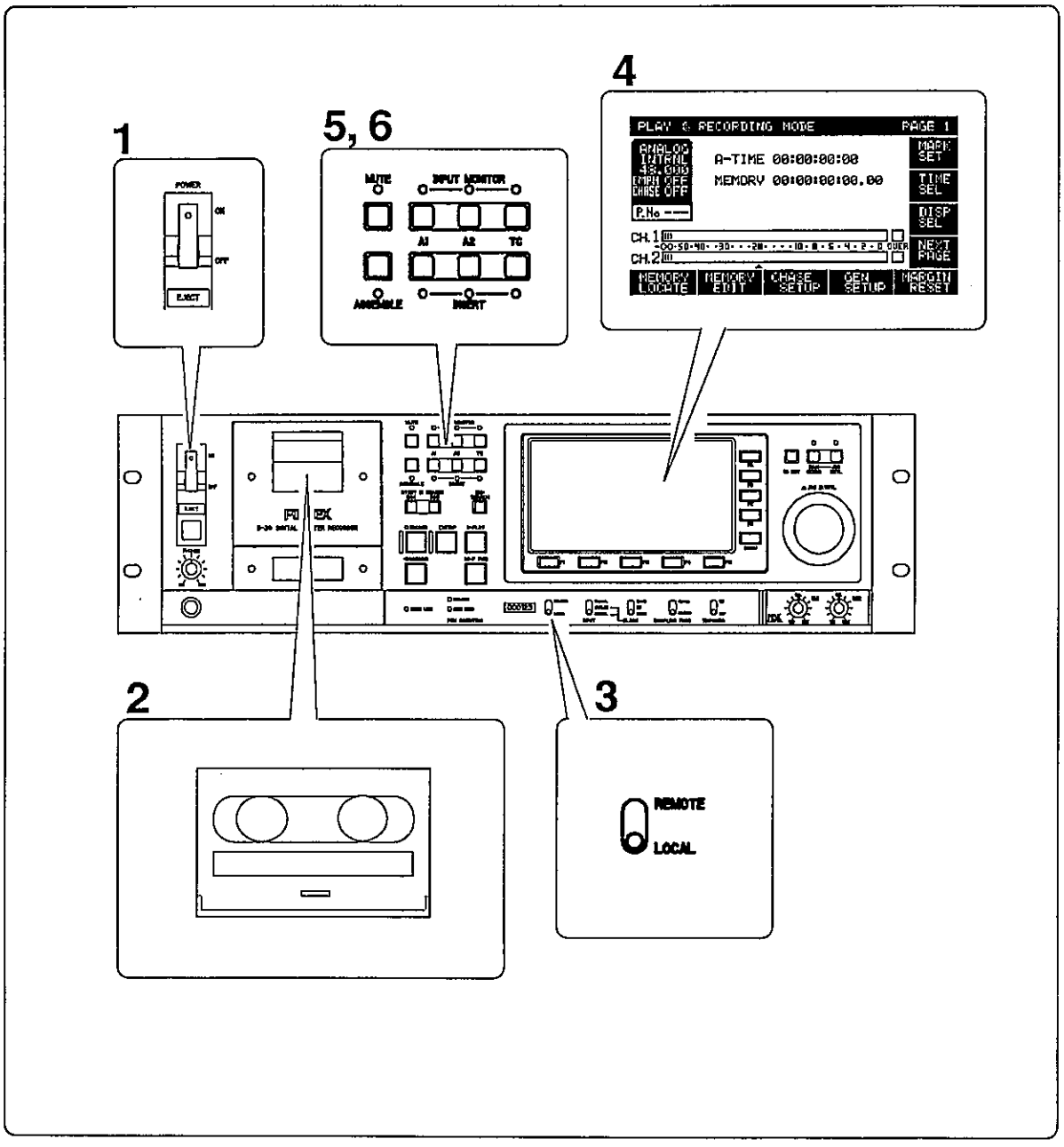
2. Load cassette tape.

3. Set REMOTE selector to [LOCAL].

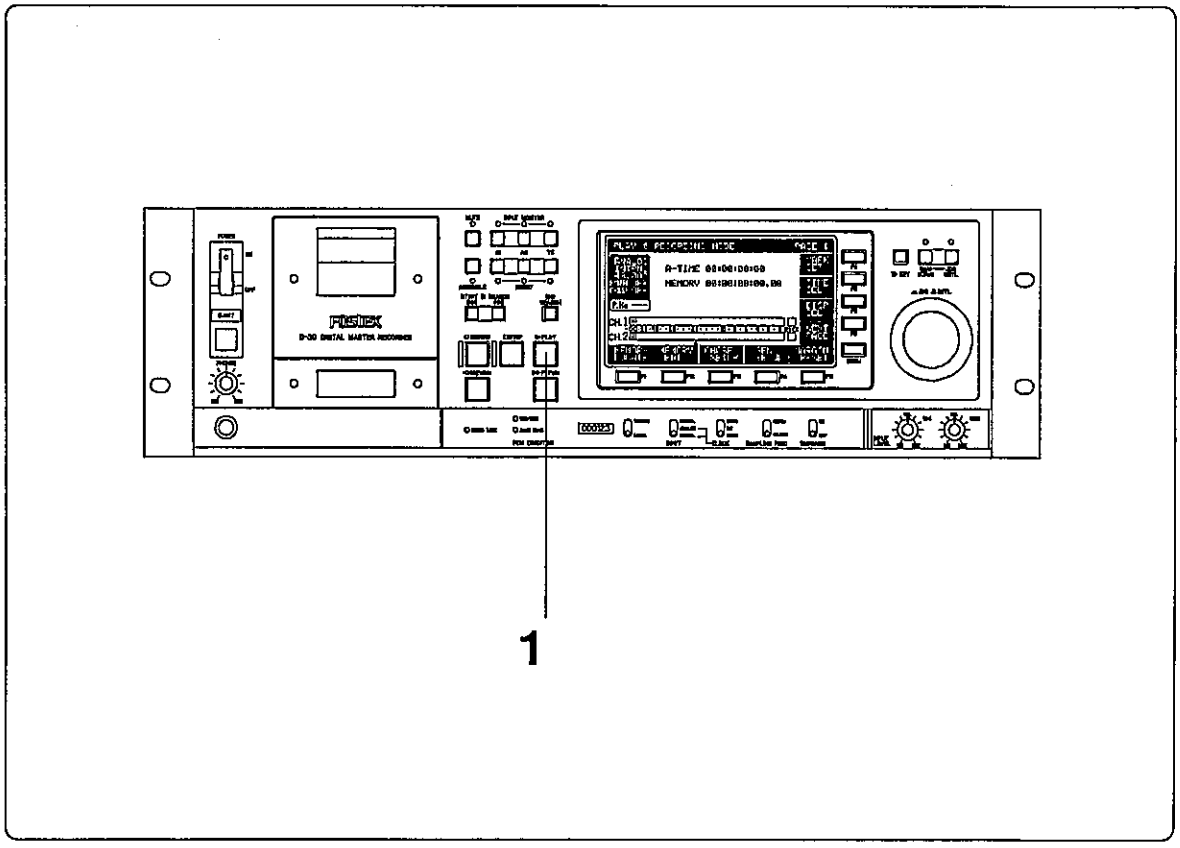
4. Check that PLAY and RECORDING MODE menu is on display.

5. Switch off (LED's are off) all INPUT MONITOR keys.

6. Switch off (LED's are off) ASSEMBLE and INSERT keys.



PLAYBACK PROCEDURE



Operating procedure

1. Press PLAY button.

   The PLAY button lamp will light and tape playback will start.

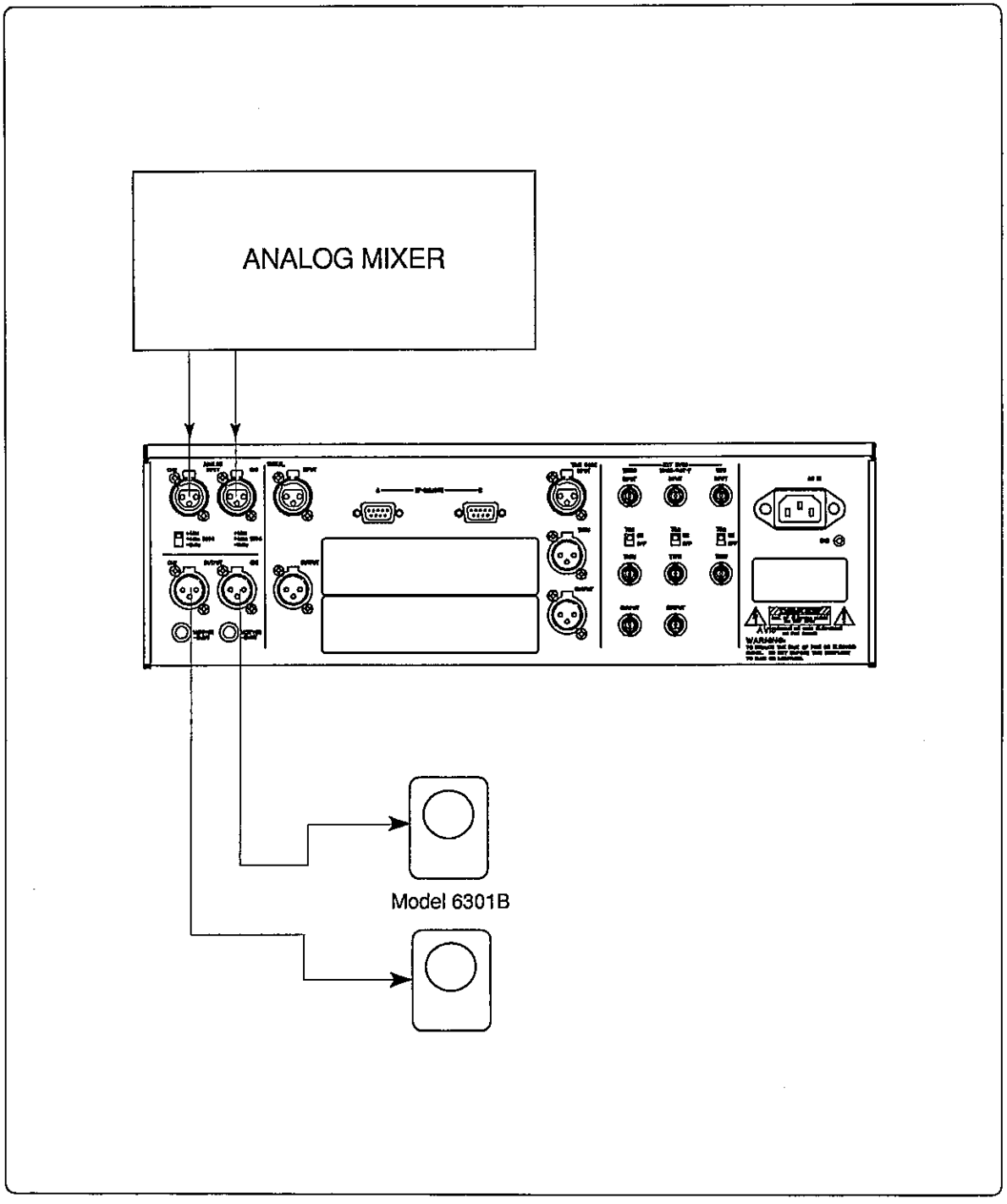
   <NOTE>

   If tape emphasis and FS information are different, the display [EMPH] or [44.100], [48.000] will blink. Emphasis can be played back by automatic setup but playback is impossible if FS is different. In such a case, the FS switch setting must be changed.

5-3. *Basic recording procedure for analog audio signals*

INTERCONNECTIONS

Make interconnections as follows for recording an analog audio signal.



CHECK POINTS PRIOR TO OPERATING

1. Load tape for recording.

2. Set display in the Play and Recording Mode.

3. Switch ON (LED is lit) INPUT MONITOR keys [A1], [A2].

4. Set INPUT selector to [ANALOG].

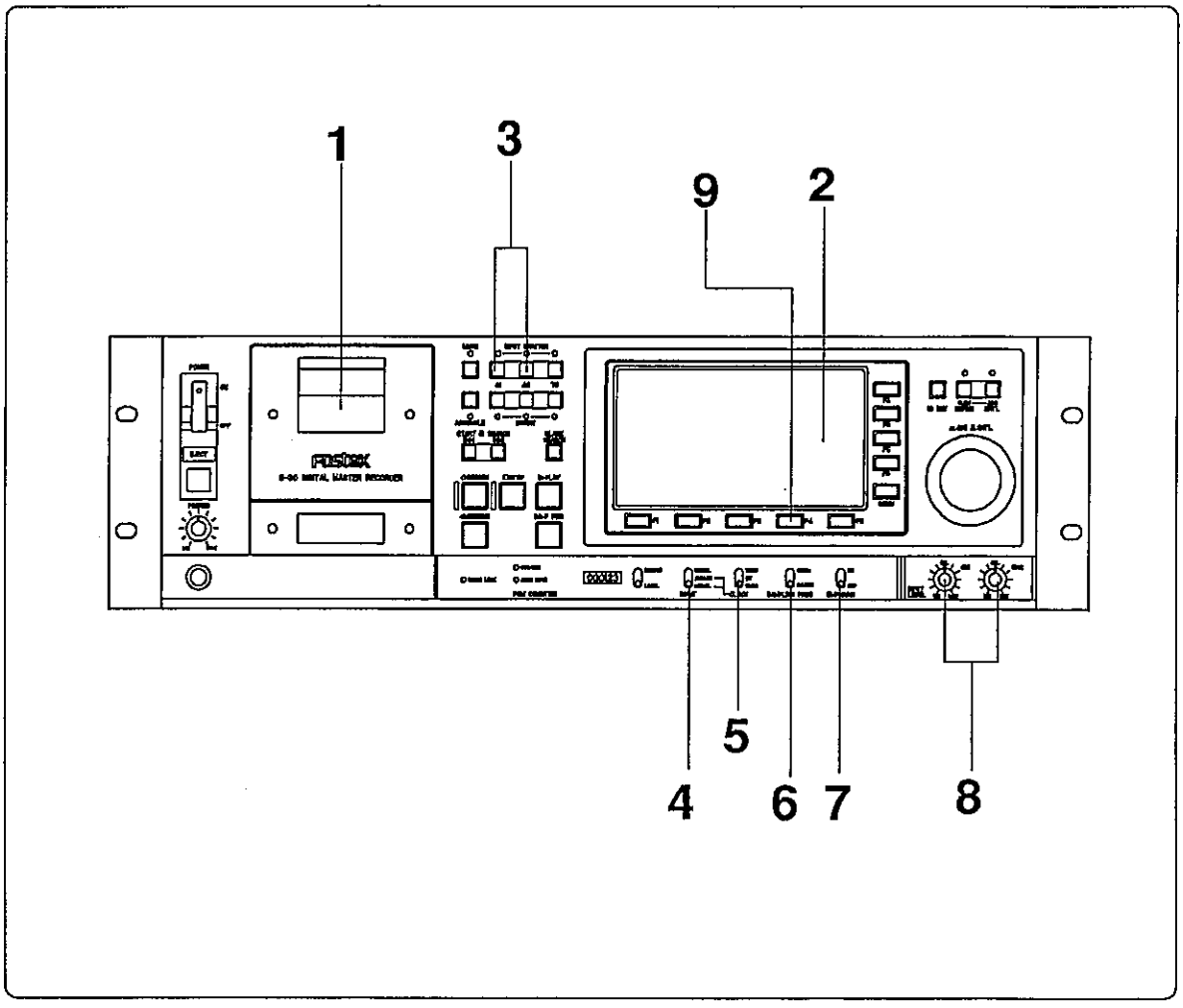
5. Set CLOCK switch to [INT].

6. Select recording emphasis to [ON] or [OFF] as required.

7. Select sampling frequency.

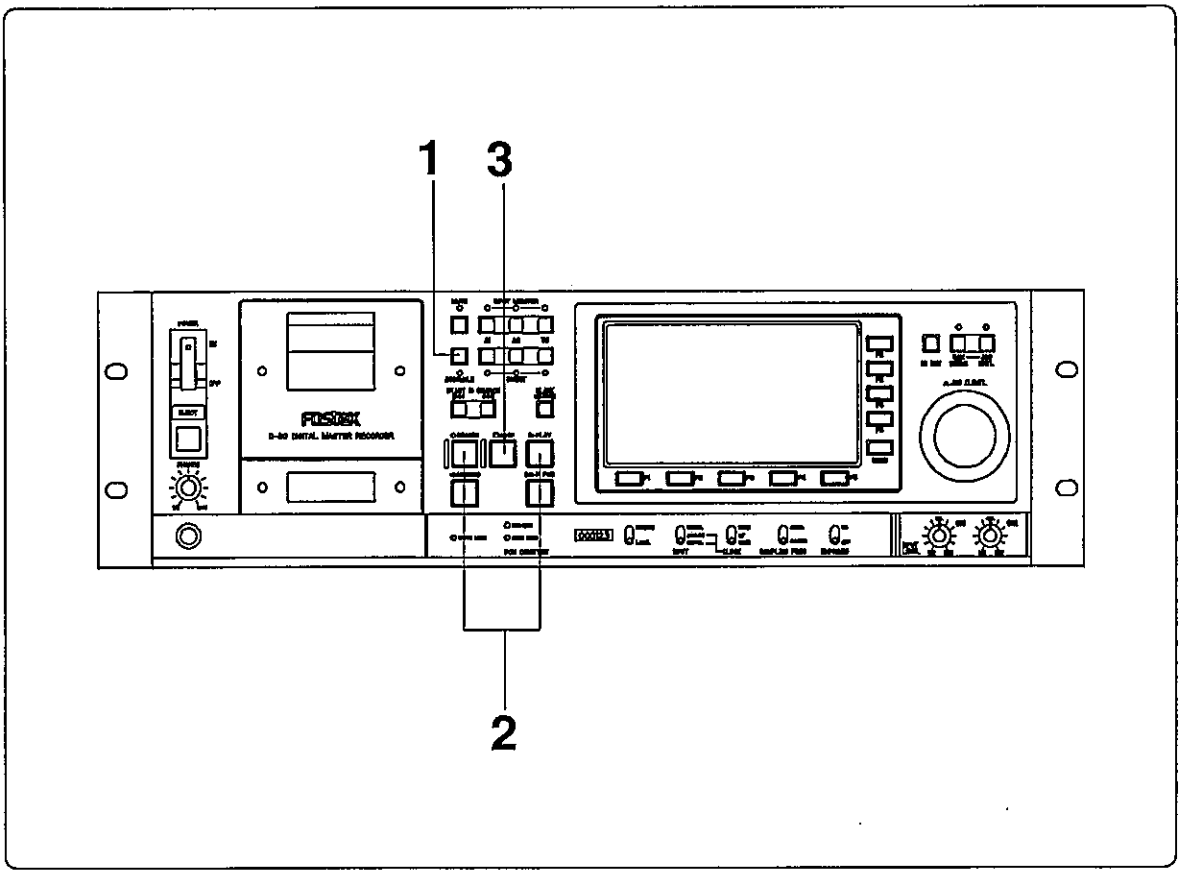
8. Set CH1(L), CH2(R) INPUT LEVEL knobs to the reference ([cal]) positions.

9. Switch ON, as required, the F4 (AUTO ID ON/OFF) key in the PAGE 2 display.



5-3-1. Assemble recording of analog audio signal

In assemble recording, audio and time code including sub data, can be recorded simultaneously.



Operating procedure

1. Switch [ON] (LED is lit) by pressing the ASSEMBLE key.
   When the ASSEMBLE key is switched [ON], INSERT keys (A1, A2, TC) will be switched [ON] (LED is lit) and both audio and time code can be recorded.

2. Press the PLAY button while pressing the RECORD button.
   Both RECORD and PLAY buttons will light and recording will start.
   Audio CH1 and CH2 signals can be recorded while monitoring the INPUT.

3. Press the STOP button to stop recording.

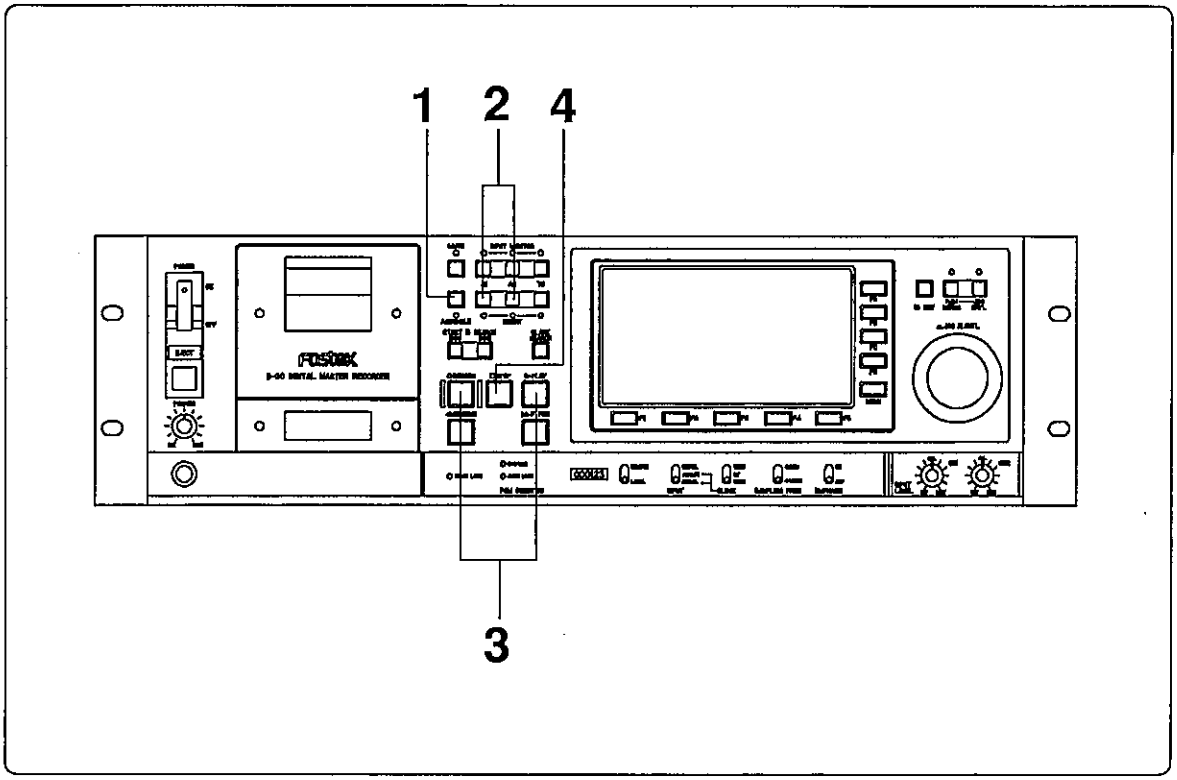
5-3-2. Insert recording of the analog audio signal

Unlike assemble recording, with insert recording audio and time code only can be recorded. The signal to be recorded can be selected for audio CH1, CH2 or time code.

<NOTES>

* Use this method only for insert editing of prerecorded tapes.

* When insert editing the audio signal in WORD CLOCK sync mode, recording cannot be started if the D-30 is not locked to the WORD CLOCK. In this case, the RECORD button lamp will light momentarily and then extinguish about two seconds later.
Therefore, the D-30 must be positively locked to the WORD CLOCK when recording.



Operating procedure

1. If the ASSEMBLE key is [ON] (LED is lit), press it to switch to [OFF] (LED is off).

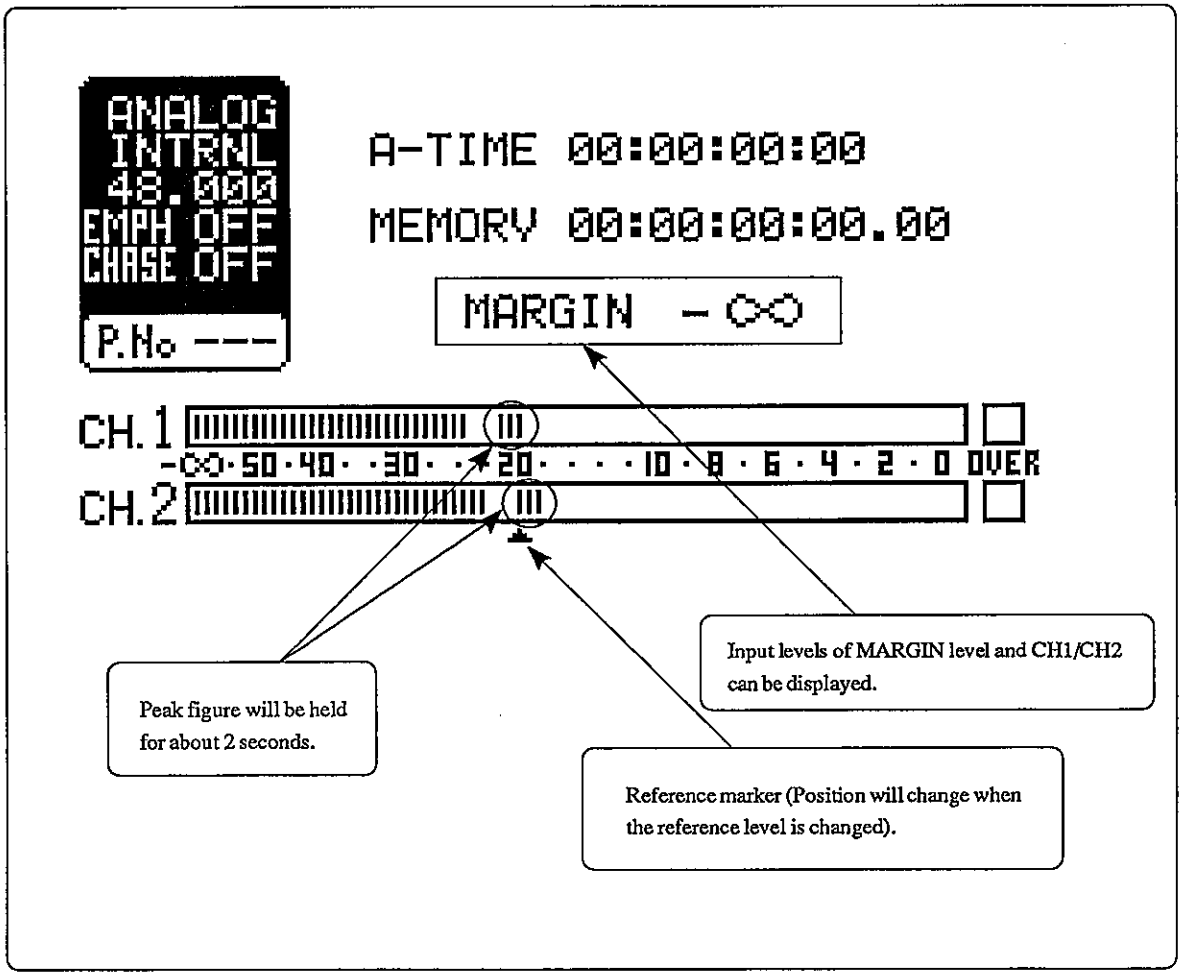
2. Switch [ON] (LED is lit) INSERT keys A1 and A2.

3. Press the PLAY button while pressing the RECORD button.
Both the RECORD and PLAY buttons will be lit and recording will start.
Audio CH1 and CH2 signals can be recorded while monitoring the INPUT.

4. Press the STOP button to stop recording.

5-3-3. Recording level adjusting of analog audio signal

Level meter of the D-30 will hold the input signal peak figure for about 2 seconds. The amount of head room there was up to the maximum permissible level of 0dB is displayed as MARGIN. This margin display will be renewed each time a signal larger than the presently displayed figure is input. This can be used in place of a permanent peak hold display. Input levels of MARGIN LEVEL and CH1/CH2 can be checked by switching the FC (DISP SEL) key.



POINTS TO REMEMBER WHEN LEVEL ADJUSTING

* Always adjust recording the level by the INPUT MONITOR.

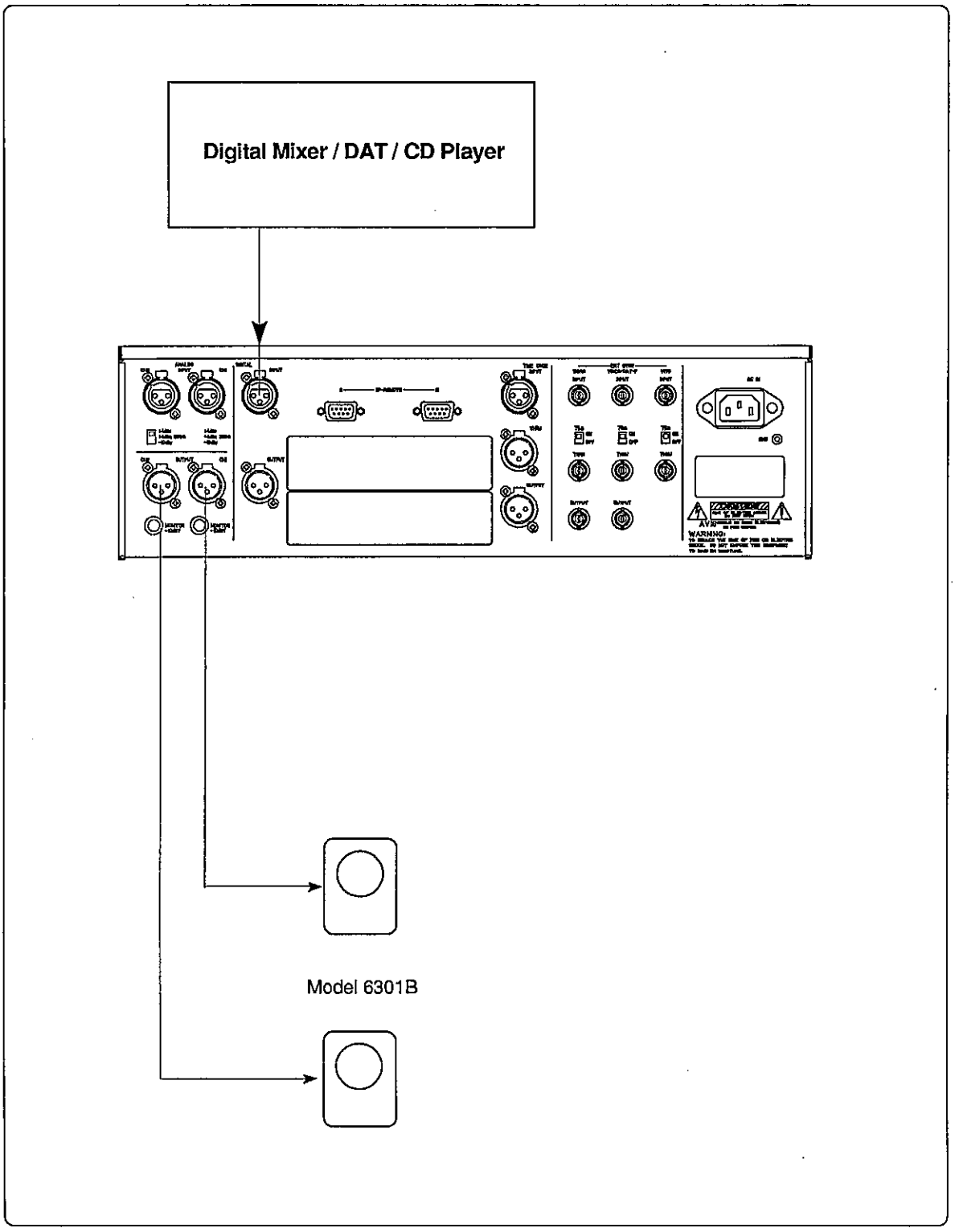
* The recording level must be adjusted by the INPUT LEVEL knob such that the level meter will not shoot to [OVER] when a maximum peak figure is input and also so that the MARGIN LEVEL does not fall to less than [00.0dB].

<NOTE>
The sound will distort if the input level overshoots.

5-4. *Basic recording method of digital audio signals*

CONNECTIONS

Connect as follows to record digital audio signals.



CHECK POINTS PRIOR TO RECORDING

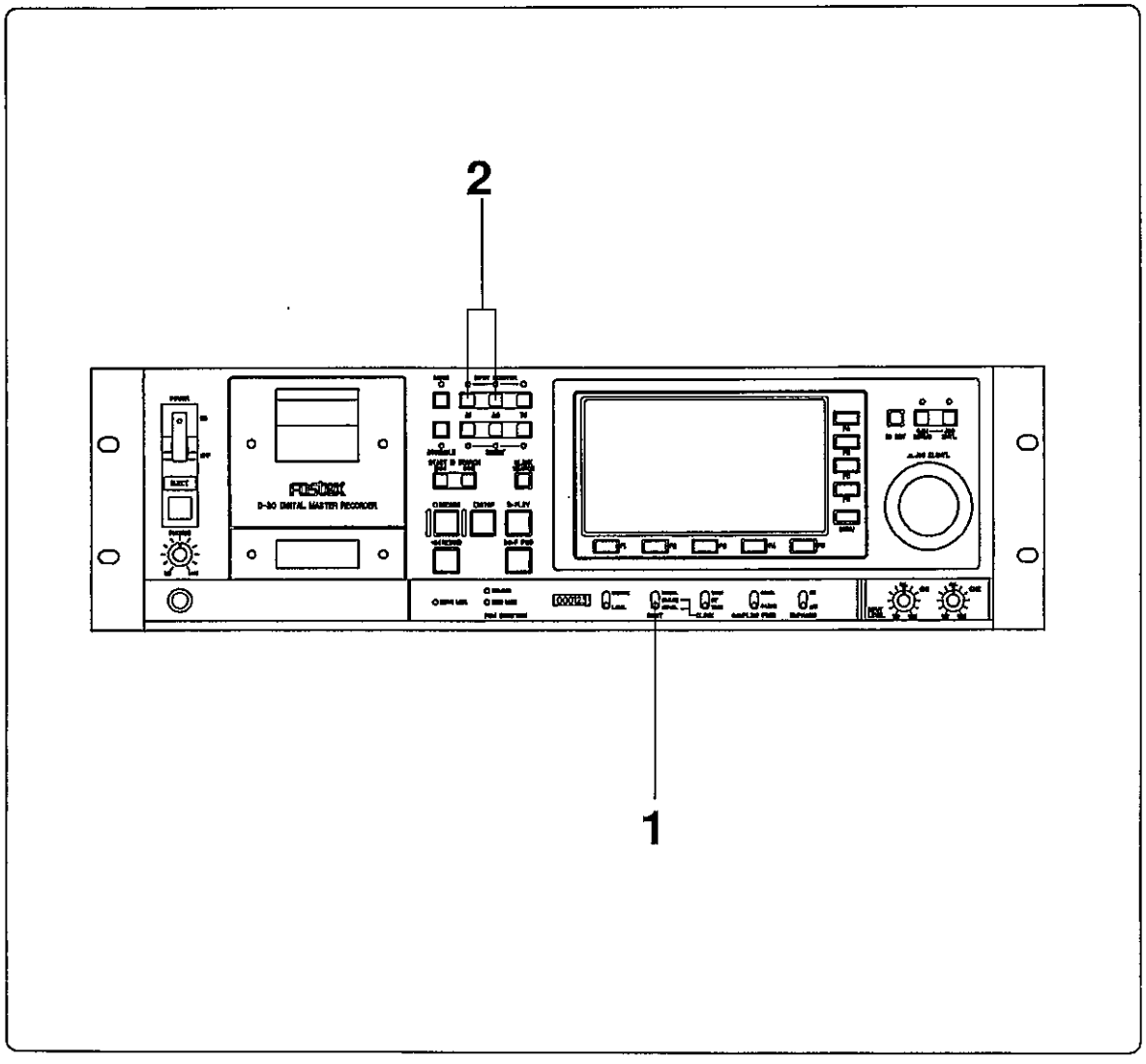
1. Set the INPUT selector to uppermost [DIGITAL] and check that [DIGITAL] is displayed.

2. Set INPUT MONITOR switches A1, A2 to ON (LED is lit).

<NOTES>

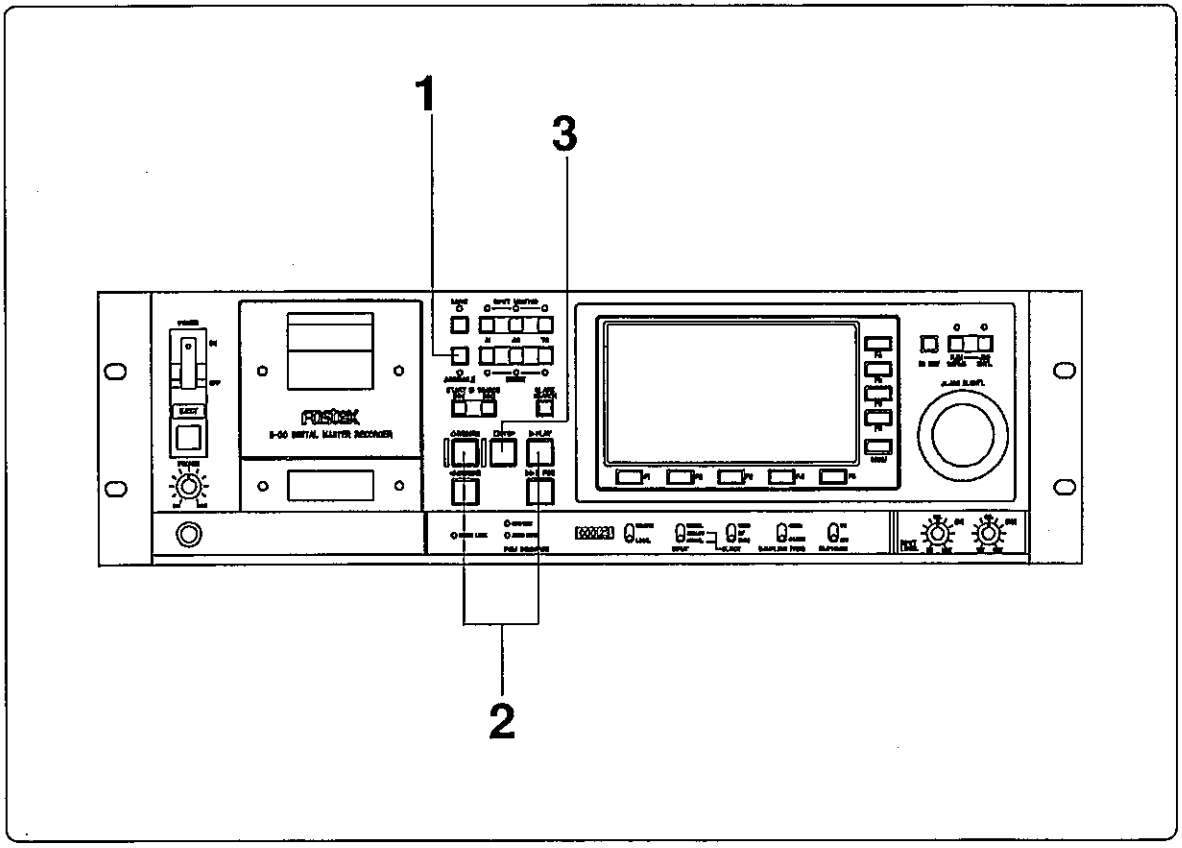
* Although the FS and emphasis are automatically set by the DIGITAL IN information regardless to switch setting of the D-30, it may not be accepted if the input FS is different from the D-30 FS. In such a case, FS must be matched between them.

* When recording, be sure the recorder is locked to the synchronizing clock.
Be careful of this since it could fail to record correctly if not locked.



5-4-1. Assemble recording of digital audio signal

Just the same as assemble recording of an analog audio signal, all data including sub data can be recorded.



Operating procedure

1. Press the ASSEMBLE key to switch ON (LED is lit).
   When the ASSEMBLE key is switched [ON] (LED is lit), INSERT key (A1, A2, TC) will all switch [ON] (LED is lit).

2. Press the PLAY button while pressing the RECORD button.
   Both the RECORD and PLAY button lamps will light and recording will start.

   Because digital signals are automatically recorded at the same level as input digital signals, level adjusting is not necessary in the D-30.

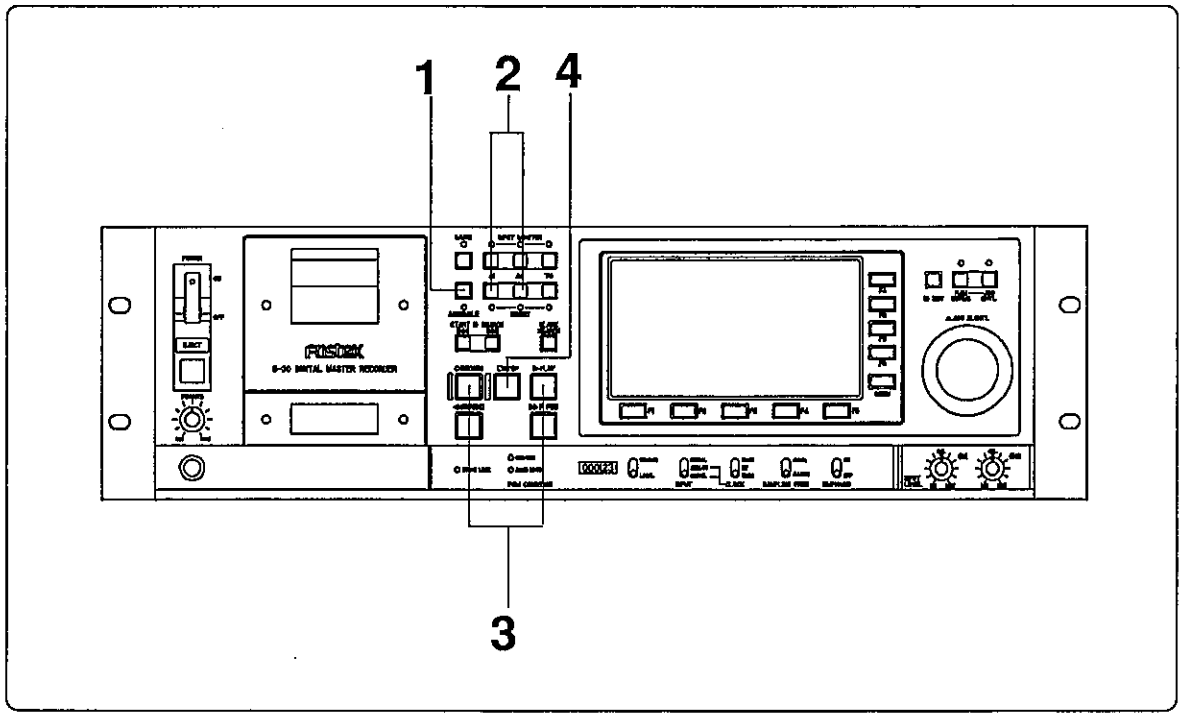
3. Press the STOP button to end recording.

5-4-2. Insert recording of digital audio signals

In the same way as insert recording of analog audio signals, audio signals and time codes can be independently recorded.

<NOTES>
* Use only for insert recording of pre-recorded tapes.

* When insert recording the audio signal in the DIGITAL IN mode, recording cannot be started if the D-30 is not locked to DIGITAL IN. In this case, the RECORD button lamp will light momentarily and then extinguish about two seconds later. Therefore, the D-30 must be positively locked to DIGITAL IN when recording.



Operating procedure

1. If the ASSEMBLE key is [ON] (LED is lit), press the key to switch it [OFF] (LED is off).

2. Switch [ON] (LED is lit) both INSERT keys A1 and A2.

3. Press the PLAY button while pressing the RECORD button.
   Both the RECORD and PLAY button lamps will be lit and recording will start. Audio CH1 and CH2 signals can be recorded while monitoring the INPUT.

   Because digital audio signals will be automatically recorded at the same level as the input digital signal, level adjusting need not be done on the D-30.

4. Press the STOP button to end the recording.

5-5. *Recording the time code*

The D-30 employs SMPTE/EBU time code. SMPTE time code is used in the NTSC system and EBU time code in areas using the PAL and SECAM system.

SELECTING THE RECORDING MODE

Recording on fresh tape:
Time code is recorded simultaneously with audio signal in the ASSEMBLE mode.

Recording on pre-recorded tape:
Time code only is recorded in the INSERT mode.

SELECTING THE TIME CODE FOR RECORDING

* **Recording the TC generated by the internal generator.**

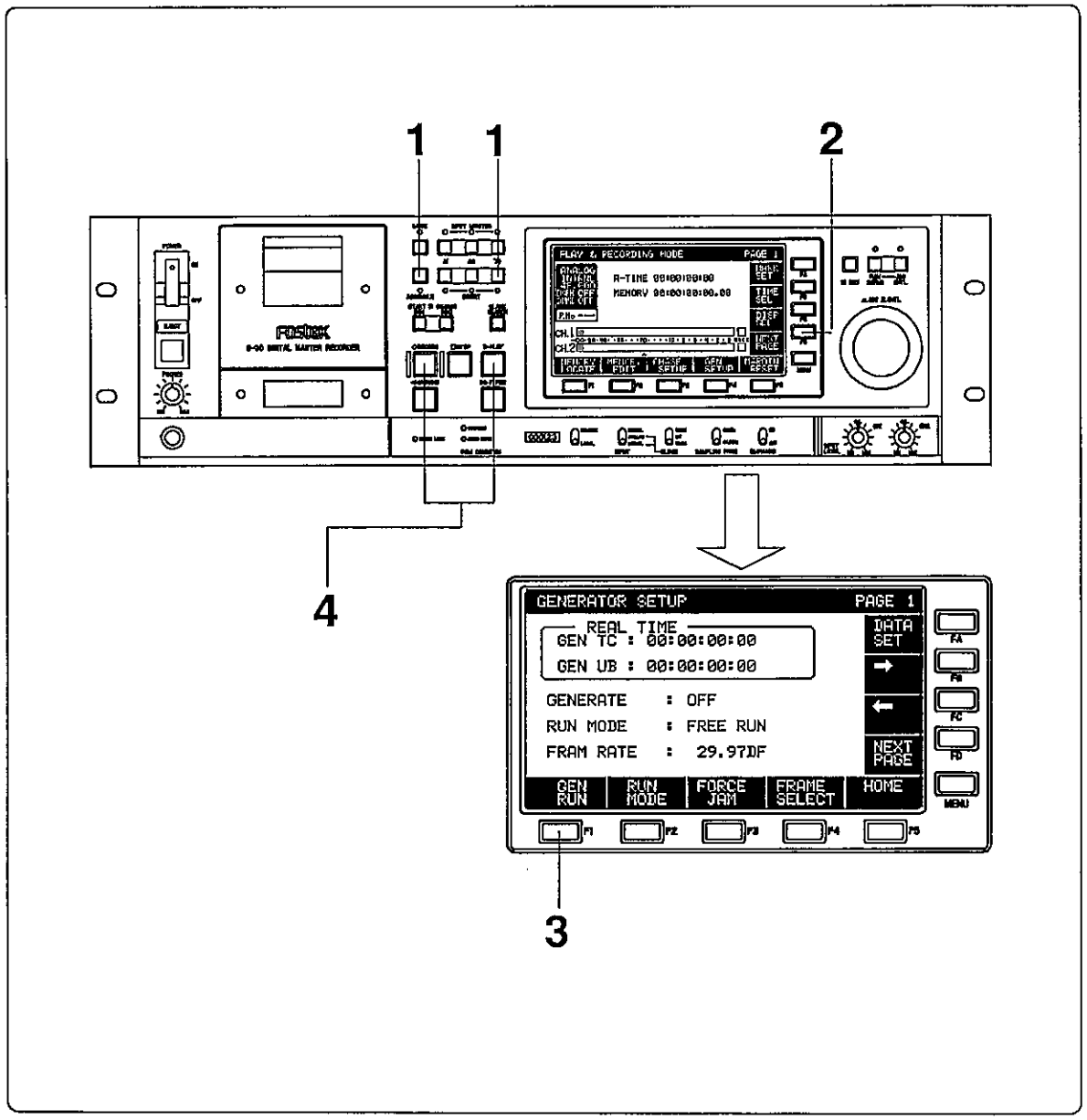
* **Recording the external TC.**

5-5-1. Recording time code generated by the internal generator

Prior to recording the time code generated by the internal generator, press the F4 (GEN SETUP) key and setup the following in the GENERATOR SETUP mode.

* **Set generator to the RUN MODE.**
* **Set the frame rate of time code to be recorded.**

Refer to Chapter 12 GENERATOR SETUP mode to setup the internal generator.



Operating procedure

1. Switch [ON] the ASSEMBLE key for assemble recording and switch [ON] the INSERT TC key only for insert recording.

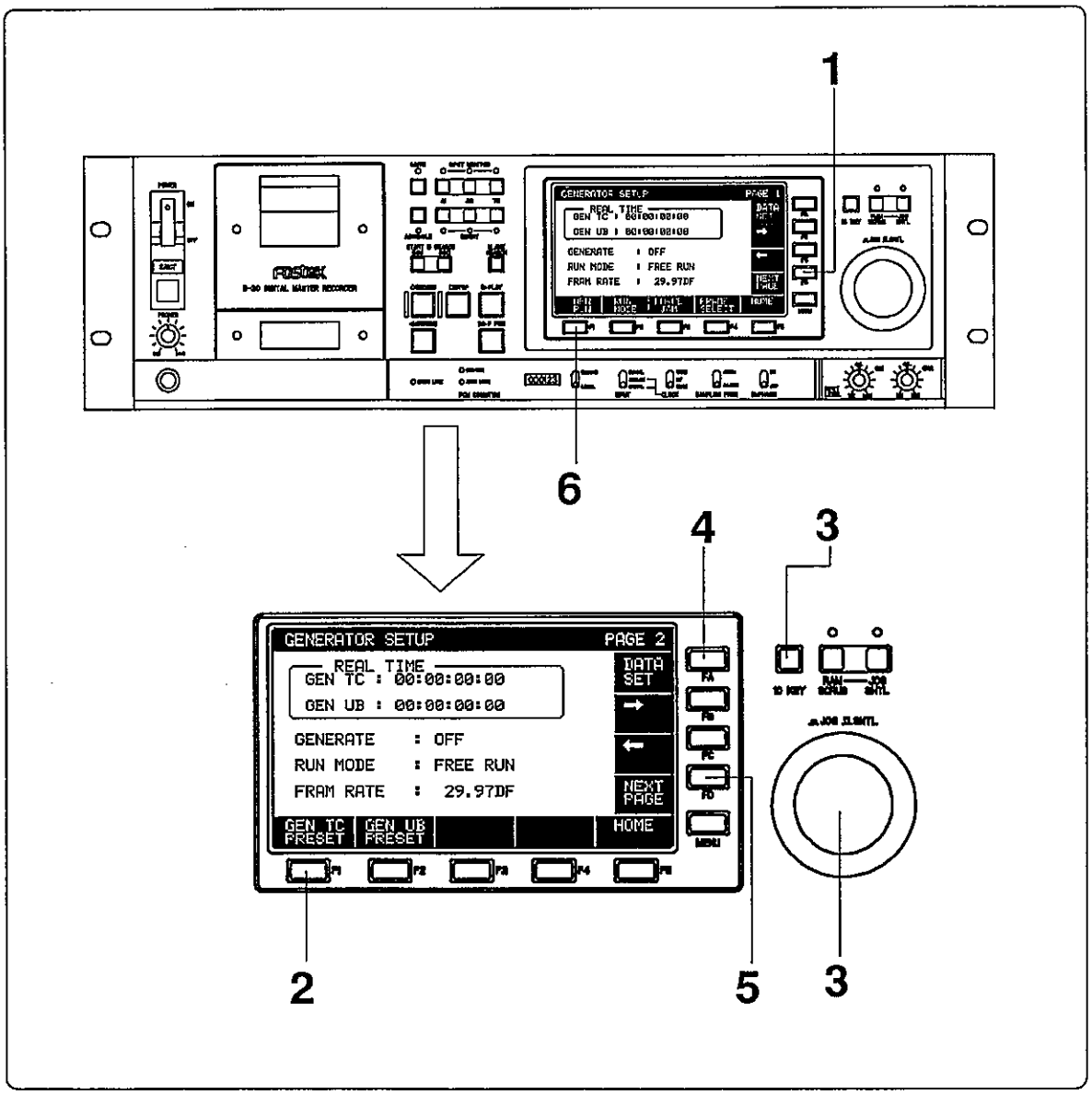
2. Press the F4 (GEN SETUP) key of PAGE 1.
   When the F4 (GEN SETUP) key is pressed,the D-30 enters the GENERATOR SETUP mode of PAGE 1.

3. Turn ON by pressing the F1 (GEN RUN) key.
   The internal generator is started when set to ON>.
   Set to <OFF> to stop the generator.

4. Press PLAY button while pressing the RECORD button.

5-5-2. Presetting the internal generator time

When recording internal generator time code, the desired time can be preset.



Operating procedure

1. Press the FD (NEXT PAGE) key while in the PAGE 1 GENERATOR SETUP mode.

   When the FD (NEXT PAGE) key is pressed, the recorder enters the PAGE 2 GENERATOR SETUP mode.

2. Press the F1 (GEN TC PRESET) key.

   When the F1(GEN TC PRESET) key is pressed, the currently displayed GENERATOR REAL TIME is held and can be edited. (If REAL TIME is [00:00:00:00], this time will be held.)

   GEN TC SET
   00:00:00:00

3. Input the desired time using JOG or the numerical keypad.
Input procedures using JOG/keypad are as follows:

Input by the JOG dial

Move cursor to the desired point by the FB (->) or FC (<-) key.

⇩

Rotate the JOG dial to input a number.

CW rotation ---- Number will increase.
CCW rotation --- Number will decrease.

Input by TEN key

Press the 10 KEY button.
The display will change to the numerical keypad mode and, the function keys together with the MENU key, will function as the numerical keypad.

⇩

Desired number is entered from the numerical keypad.
When any number is entered, the held data is reset and this number is input in the smallest digit.
Numbers edited will be consecutively shifted to the left.

Example: For entering 3' 15" 20 frames - Numbers [0], [3], [1], [5], [2], [0] are input in this order.

⇩

Upon completing input, press the 10 KEY button again. While retaining the edit display, it will return to the display prior to entering the numerical keypad mode.

4. Press the FA (DATA SET) key.
Data edited by the JOG or numerical keypad is settled and newly set in [GEN TC] of the REAL TIME display.

5. Press the FD (NEXT PAGE) key to display PAGE 1.

6. Press the F1 (GEN RUN) key to start the generator.
Generator will start from the newly set time.

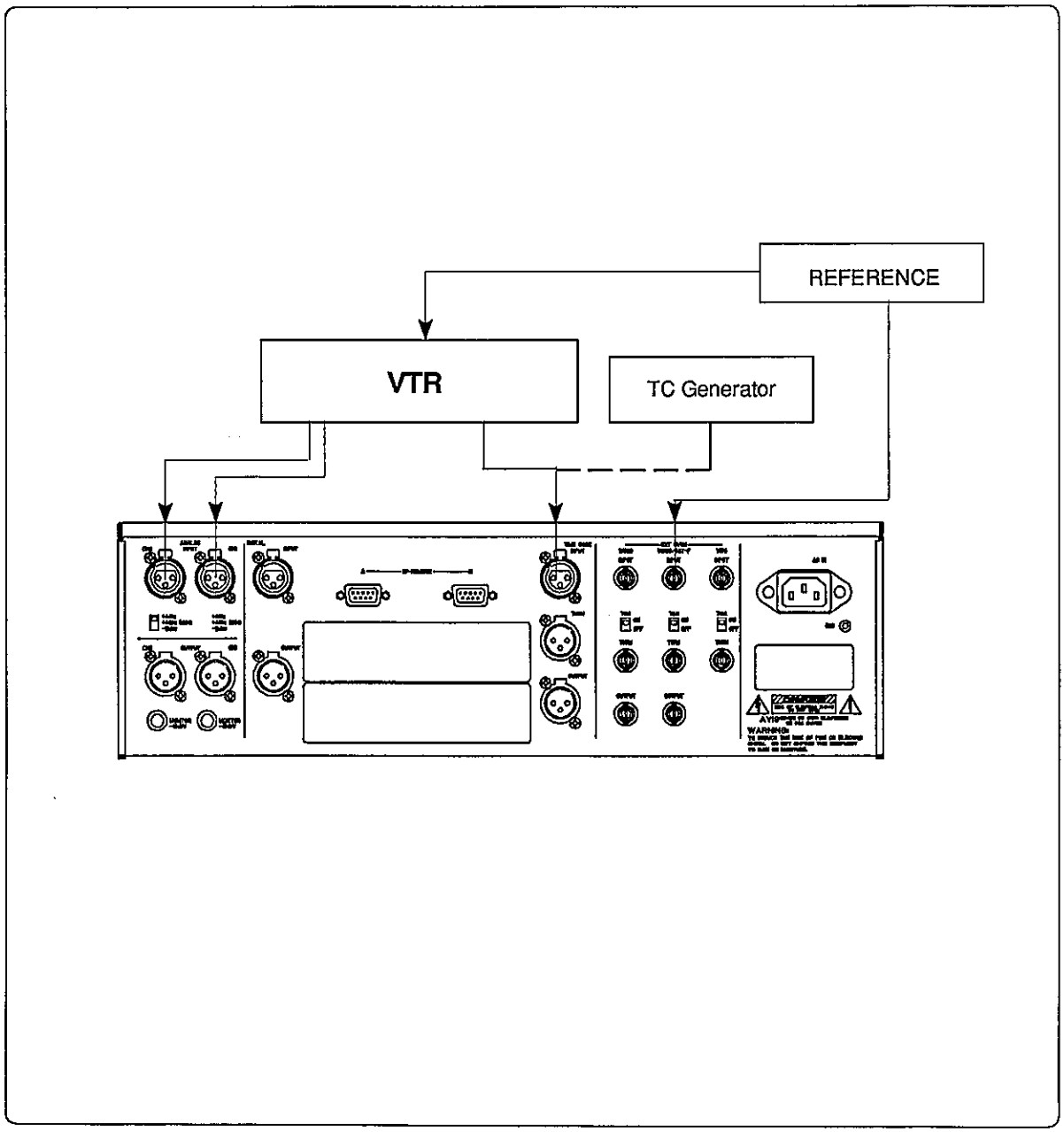
<NOTES>
* GENERATOR UB can be preset by the same procedure but the figure to which it can be set is in the 00 ~ 99 range.

* In the REC RUN mode, the generator is RUN and can only be set for time code recording.

5-5-3. Recording of external time code

Time code from an external time code generator connected to the D-30 or time code recorded in a VTR can be recorded simultaneously in sync with an audio signal or time code only can be recorded.

INTERCONNECTIONS

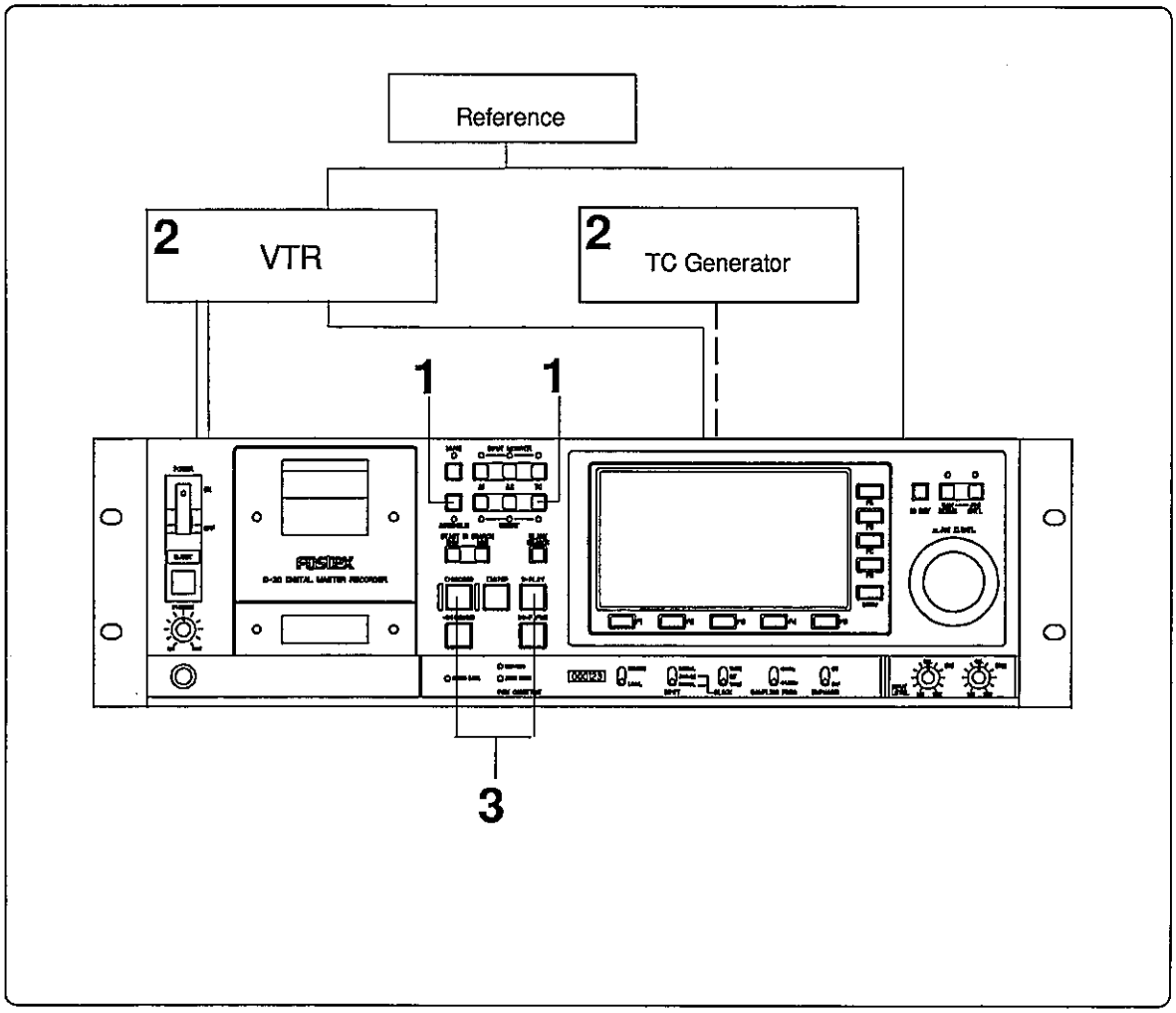


SETUPS NECESSARY PRIOR TO RECORDING

1. If there is VIDEO REFERENCE input, set CLOCK switch to [VIDEO].

2. Set the time code frame rate to match the input.

Refer to "Chapter 14 SETUP MODE menu" for setting the frame rate.



Operating procedure

1. Turn the ASSEMBLE key to [ON] for assemble recording and INSERT TC only to [ON] for insert recording.

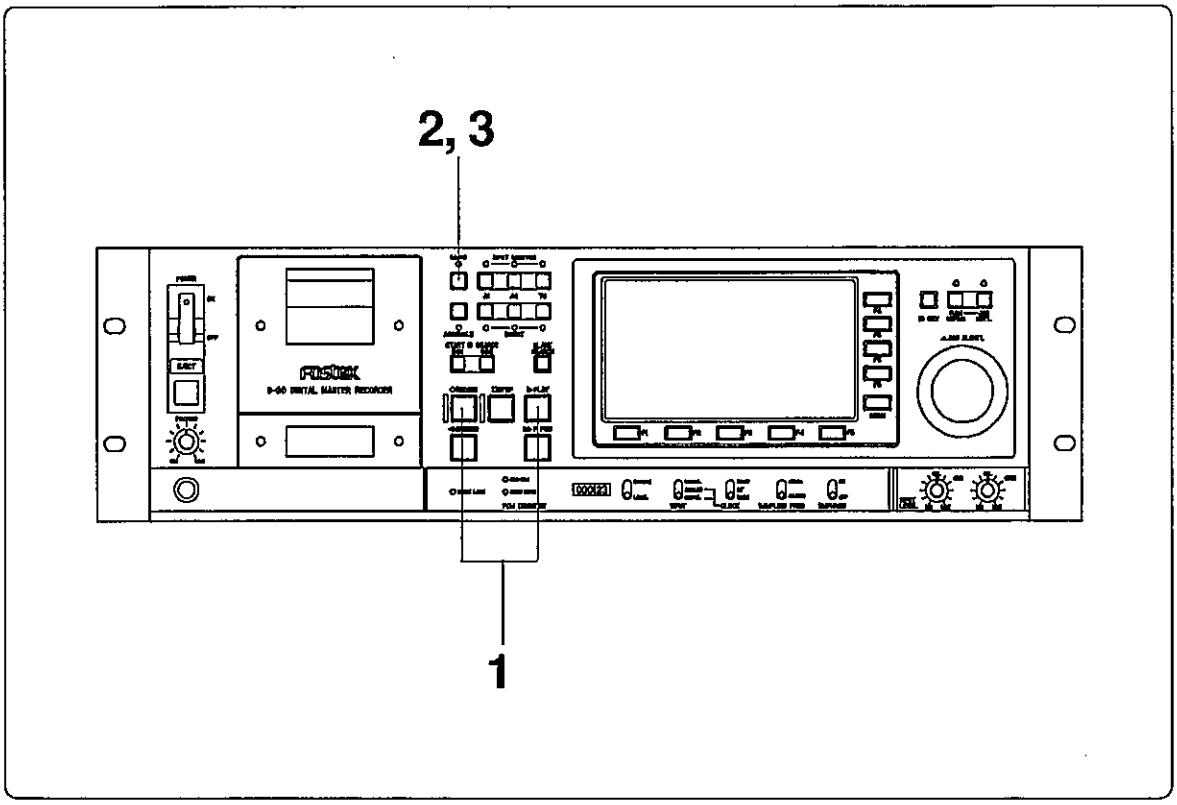
2. Start the external time code generator.

3. Press the PLAY button while pressing the RECORD button.

5-6. *Making a no sound recorded section (REC MUTE)*

The REC MUTE procedure is used to make a no sound recorded section while maintaining A-TIME continuity on the tape.

*** This procedure is for both ANALOG IN and DIGITAL IN.**



Operating procedure

1. Press PLAY button while pressing the RECORD button.

2. While in the recording mode, continue pressing the MUTE switch from the point where no sound recording section is to be made.
   The MUTE switch LED will light during the period this MUTE switch is pressed (REC MUTE under progress).

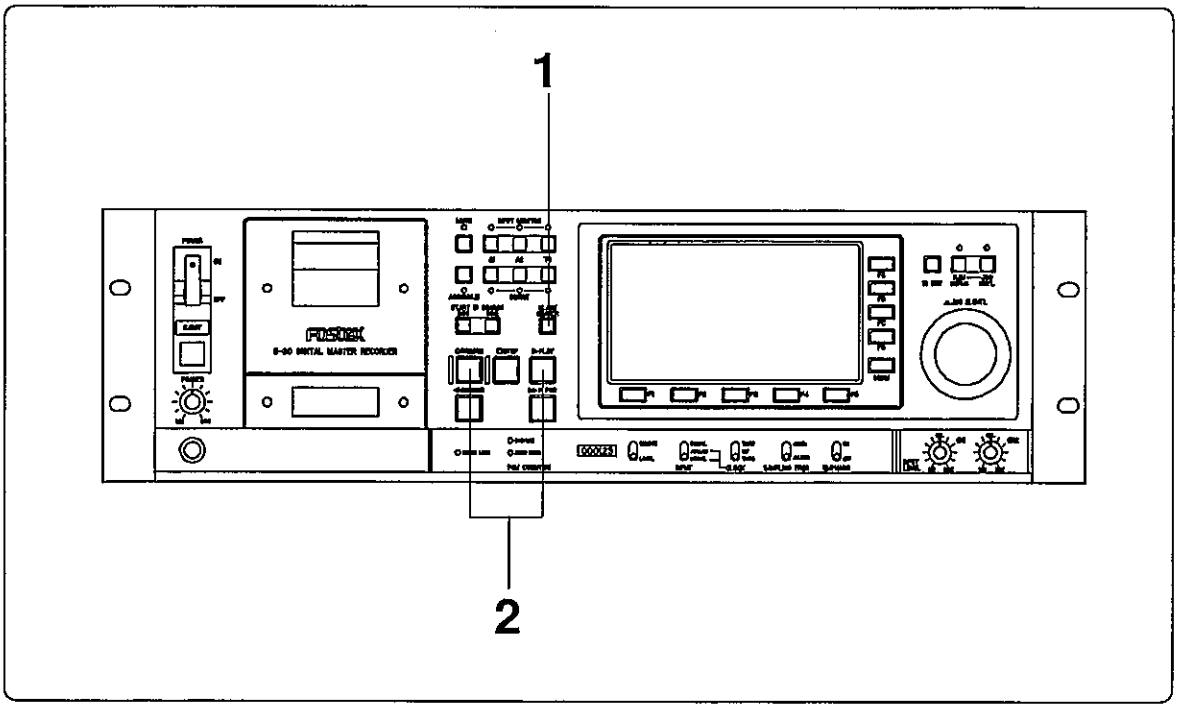
3. Release the MUTE switch to end REC MUTE.
   REC MUTE is executed as long as the switch is held down.

   *** Repeat the above procedure to make another no sound recorded section.**

A continuous no sound recorded section of A-TIME on the tape can be made by the above procedure.

5-7. *Continuing recording (blank search) without making unrecorded sections (blank)*

Blank search is the function of locating the recording end point on the tape and finding the END-ID. By employing this function, a continuous recording utilizing the entire unrecorded section on the tape can be made.



Operating procedure

1. Press the BLANK SEARCH key prior to starting recording.
   The BLANK SEARCH key LED will light and blank searching will begin. The LED will go off upon ending the search and the tape will PAUSE 2 seconds before the unrecorded section or the END-ID.

2. Press the PLAY button while pressing the RECORD button.
   Recording will be started and continued until all of the unrecorded section is filled.

   <NOTES>
   * Because BLANK SEARCH is an automatic function, when a cleaning tape is loaded and rewound to its head, stop the tape at the proper point by pressing the STOP button.

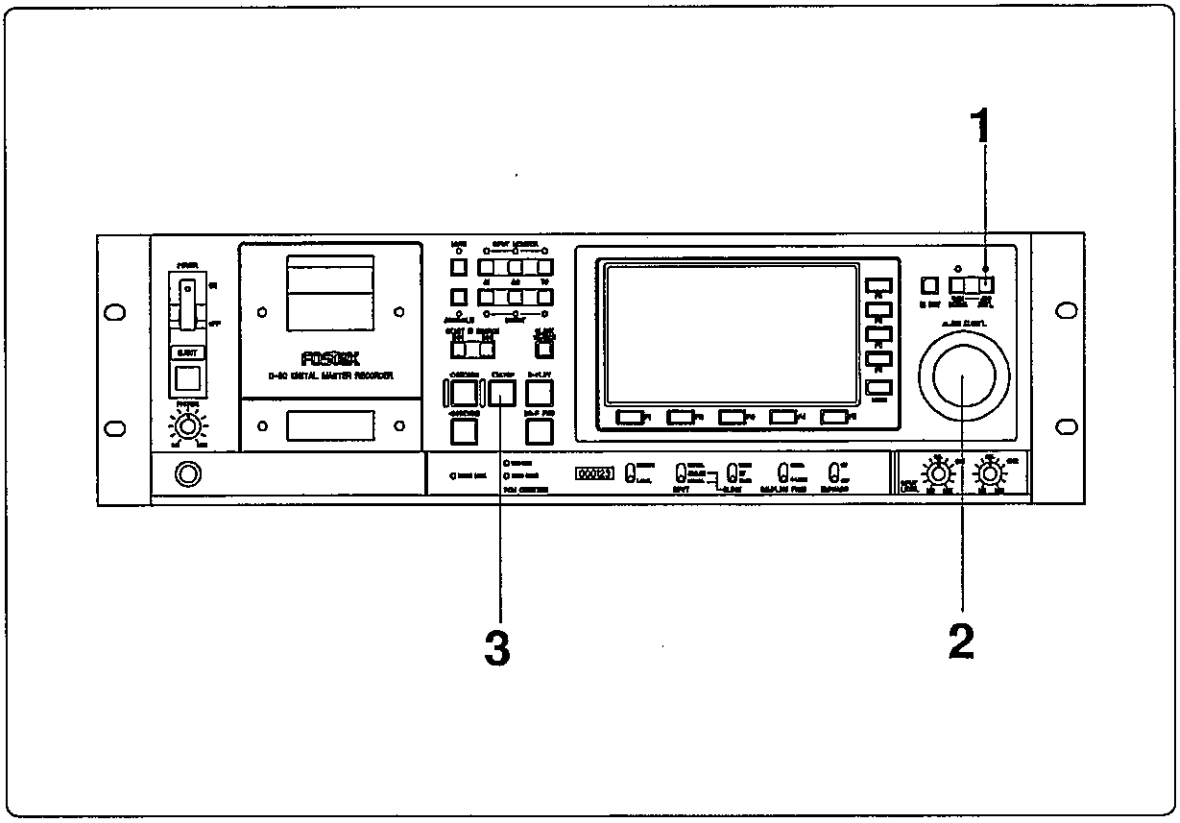
   * Blank search will not function from the INSTANT START MODE menu.

5-8. *Cueing*

In this section, cueing in JOG/SHTL and RAM SCRUB modes will be explained.

5-8-1. Cueing in the JOG/SHTL mode

In the JOG/SHTL mode, cueing is possible by listening to the playback sound at 1/2 ~ 2 times speed or 1/2 ~ 16 times speed in the REWIND/F FWD directions. In the SHUTTLE mode, search is possible at up 100 times speed.



Operating procedure

1. Press the JOG/SHTL mode key to enter this mode (LED is lit).
   When the JOG/SHTL key is set to ON, it will enter the STILL mode simultaneously with entering the JOG/SHTL mode.

2. Start cueing by manipulating the JOG/SHTL dial.
   The JOG/SHTL dials will function as follows:

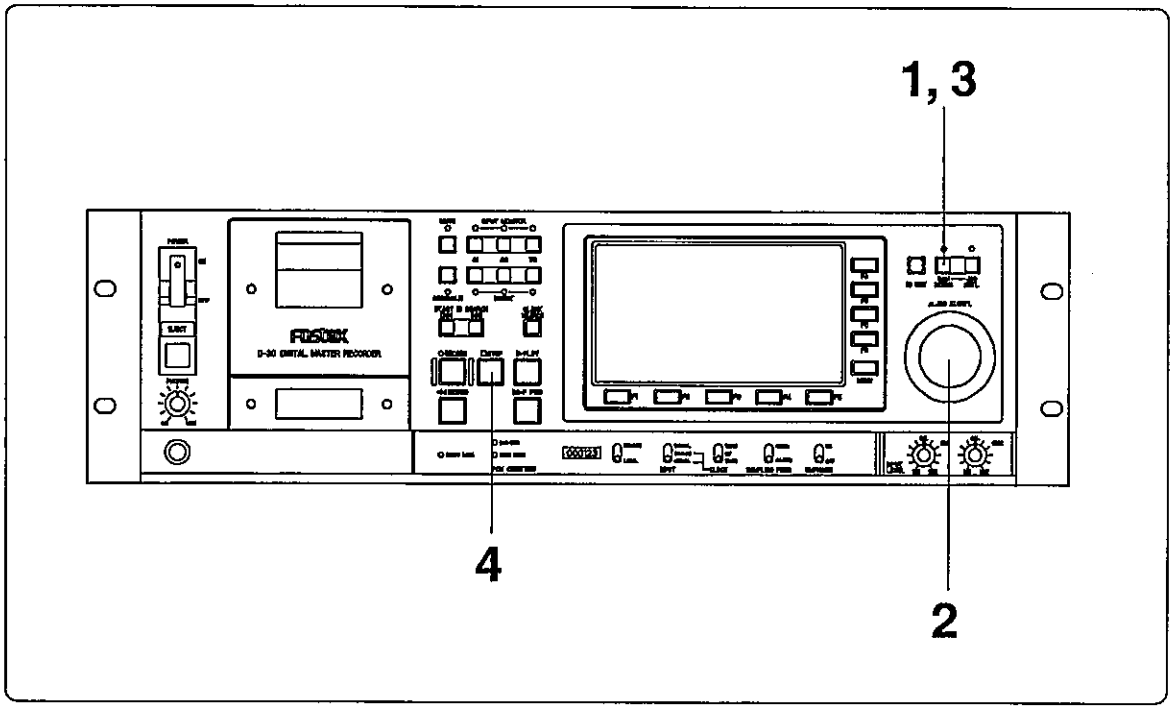
JOG	Cueing is possible at 1/2 ~ 2 times speed.
SHUTTLE	Cueing at 1/2 ~ 16 times speed or search at 100 times speed is possible.

3. To cancel the JOG/SHTL mode, press STOP or any other tape handling button.

5-8-2. Cueing in the RAM SCRUB mode

In the RAM SCRUB mode, cueing is possible while listening to the playback sound (*) recorded in the RAM at 0 ~ 1 times speed in the REWIND/F FWD directions.

(*) AUDIO DATA 5 seconds before and after (Total 10 seconds) the point where the RAM SCRUB key was pressed will be recorded in the RAM.



Operating procedure

1. Enter the RAM SCRUB mode by pressing the RAM SCRUB key (LEDis lit).

2. Start cueing by manipulating the JOG/SHTL dials.
   Cueing is possible at 0 ~ 1 times speed by the JOG/SHUTTLE dials.

   **** Features of RAM SCRUB ****
   While playback speed is maintained at 1 times speed, cueing can be done via the JOG dial with an accuracy of less than one frame (digital scrub). When using the SHUTTLE dial, cueing (analog scrub) is possible by changing the playback speed with different dial positions (rotating angle).

3. If there is not enough RAM playback area, press the RAM SCRUB key again.
   AUDIO DATA will be newly reloaded for 5 seconds before and after the point at which the key was pressed.

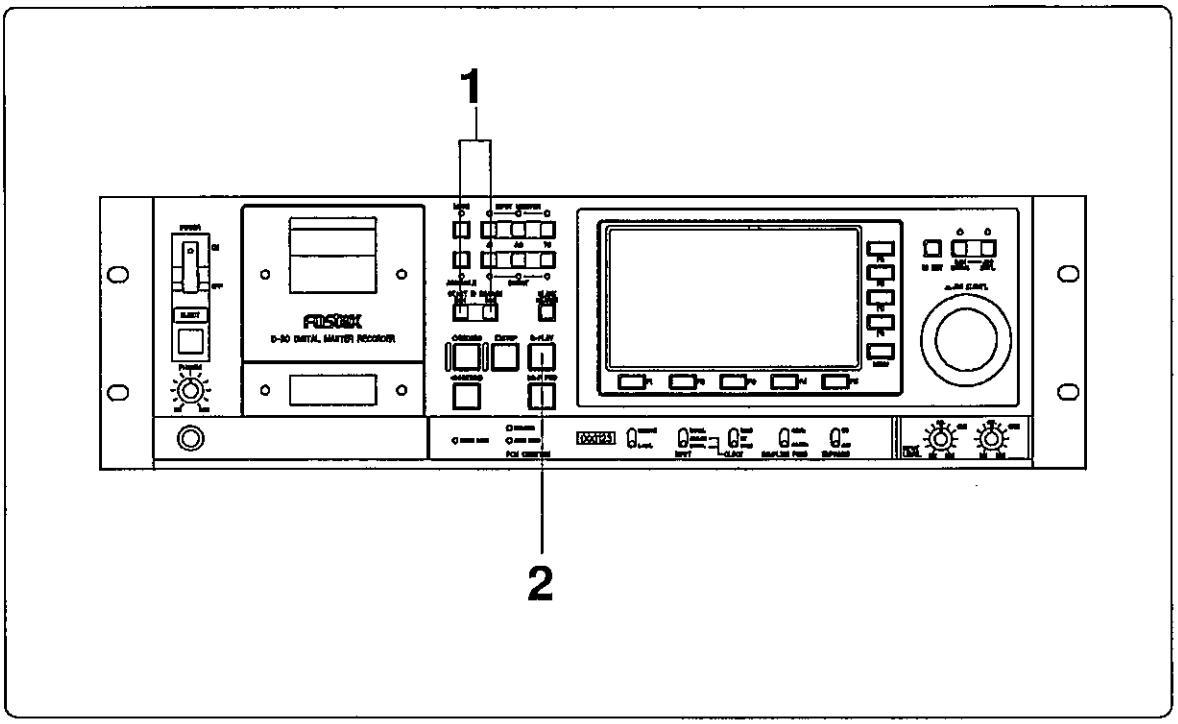
4. To end the RAM SCRUB mode, press the STOP button or any other tape handling button.

5-9. Search/Locate

The D-30 contains a search function using S-ID, locate by P-NO and the time locate function. In this Section, procedures on these functions will be explained.

5-9-1. S-ID search

This is the function of searching S-ID recorded on tape. The START ID SEARCH key is used for this purpose.



Operating procedure

1. The >> or << key of the START ID SEARCH key is pressed for the number of times to be searched.

   When the S-ID SEARCH key is pressed, its lamp will be lit and search will start.

   >> key

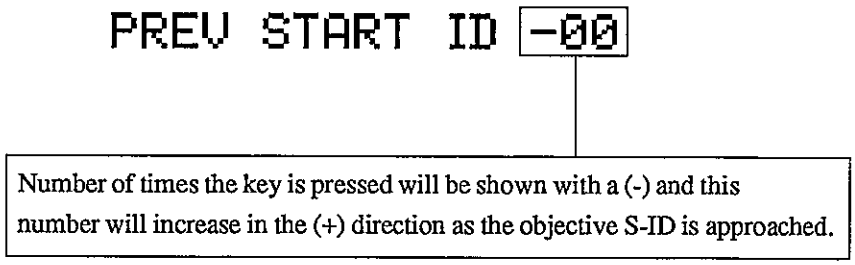
   S-ID of the number of times this key was pressed is searched in the FFWD direction and PAUSE one second before the objective S-ID. The following will then be shown in the display.

NEXT START ID +00

Number of times the key is pressed will be shown with a (+) and this number will decrease in the (-) direction as the objective S-ID is approached.

<< key

S-ID of the number of times this key was pressed is searched in the REWIND direction and PAUSE one second before the objective S-ID. The following will then be shown in the display.

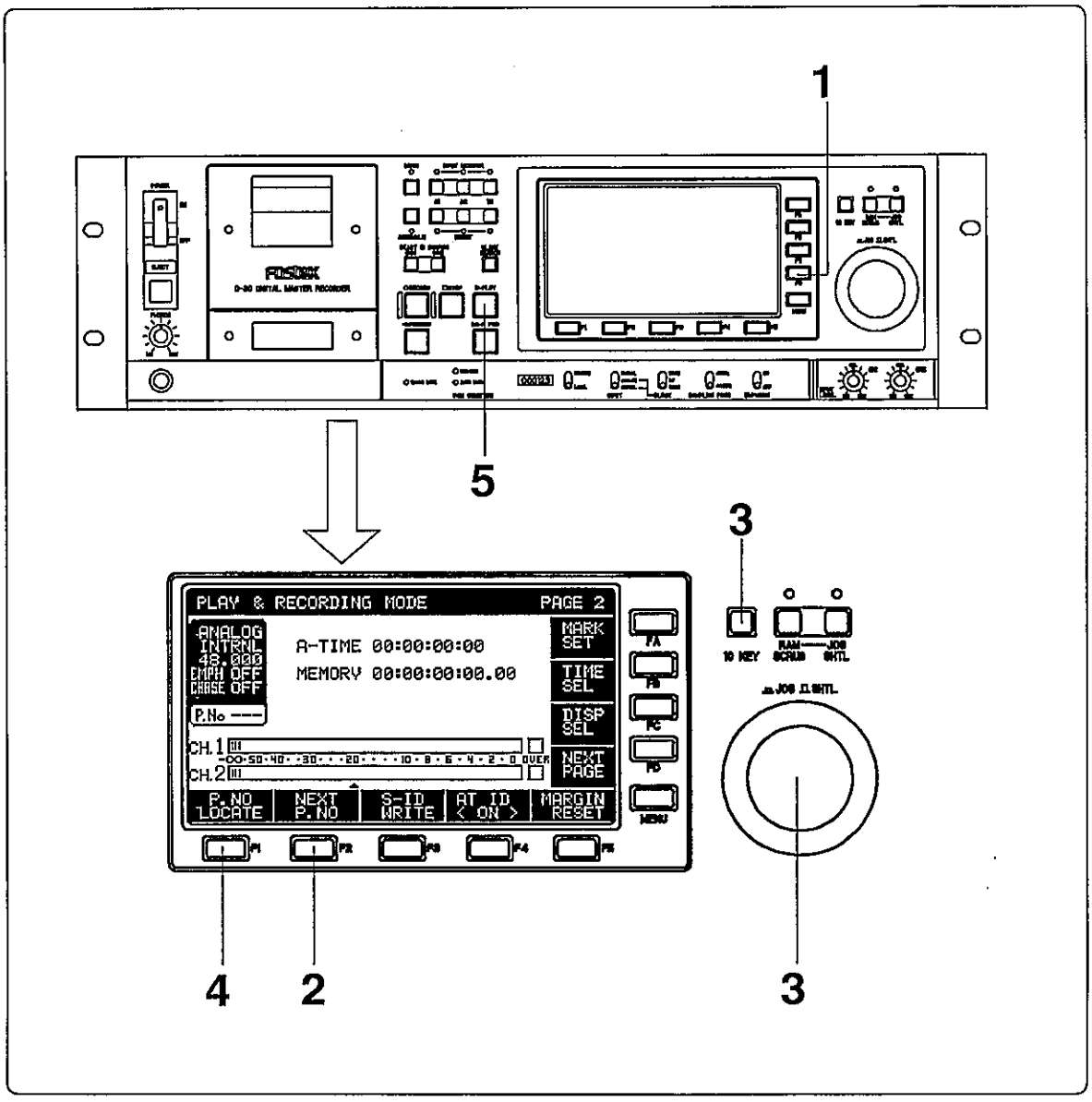


2. To enter PLAY upon completing SEARCH, press the PLAY button while in the search operation.

The REWIND or F FWD button lamp will light and the PLAY button lamp will blink. After completing search, the PLAY button only will change to constant light and automatically playback from head of the S-ID.

5-9-2. Locate by P-NO

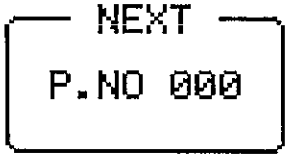
This is the function of locating to a P-NO specified by the display NEXT P-NO and can be executed in the PAGE 2 display.



Operating procedure

1. Press the FD (NEXT PAGE) key to display PAGE 2.

2. Press the F2 (NEXT P-NO) key.
   The following is shown in the display and the NEXT P-NO can then be input.



The FA (MARK SET) key will change to the [DATA SET] key function.

3. Input the desired number via the JOG dial or numerical keypad.

Operating procedures of the JOG dial or numerical keypad are as follows.

Input by the JOG dial

After executing above step 1, rotate the JOG dial CW or CCW.

CW : Number will increase.
CCW : Number will decrease.

Input via the numerical keypad

After executing above step 1, press the 10 KEY mode key.
The display will change to the 10 KEY mode.

↓

Press the desired number of numerical keypad (function key/MENU key).

↓

After input, press the 10 KEY mode key again.

4. Press the F1 (P-NO LOCATE) key.

Locate to the specified P-NO is started and the following is shown in the display.

<NOTE>

When the F1 (P-NO LOCATE) key is pressed without input of NEXT P-NO, it will locate to the P-NO shown in the P-NO section of the presently shown display. If [P-NO--] is shown in the P-NO section, it will operate in the REWIND direction.

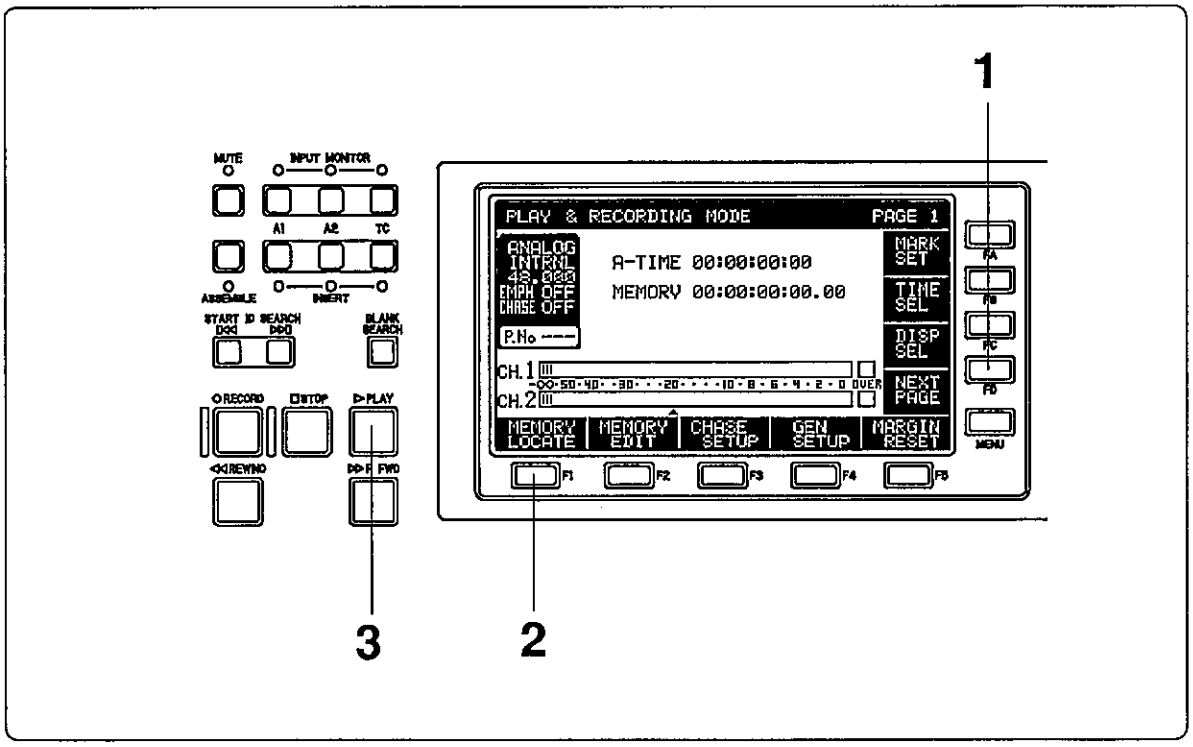
5. To enter PLAY after locating, press the PLAY button while it is in the locate operation.

The REWIND or F FWD button will be lit and the PLAY button will blink. After locating, the PLAY button only will change to constant light and automatically playback from head of the P-NO (S-ID).

5-9-3. Time locate

This is the function of locating to the time (A-TIME/REP TC) shown in the display [MEMORY] section or to any designated time and these can be executed in the PAGE 1 display.

LOCATING TO THE TIME (A-TIME/REP TC) SHOWN IN THE PRESENT [MEMORY] SECTION



Operating procedure

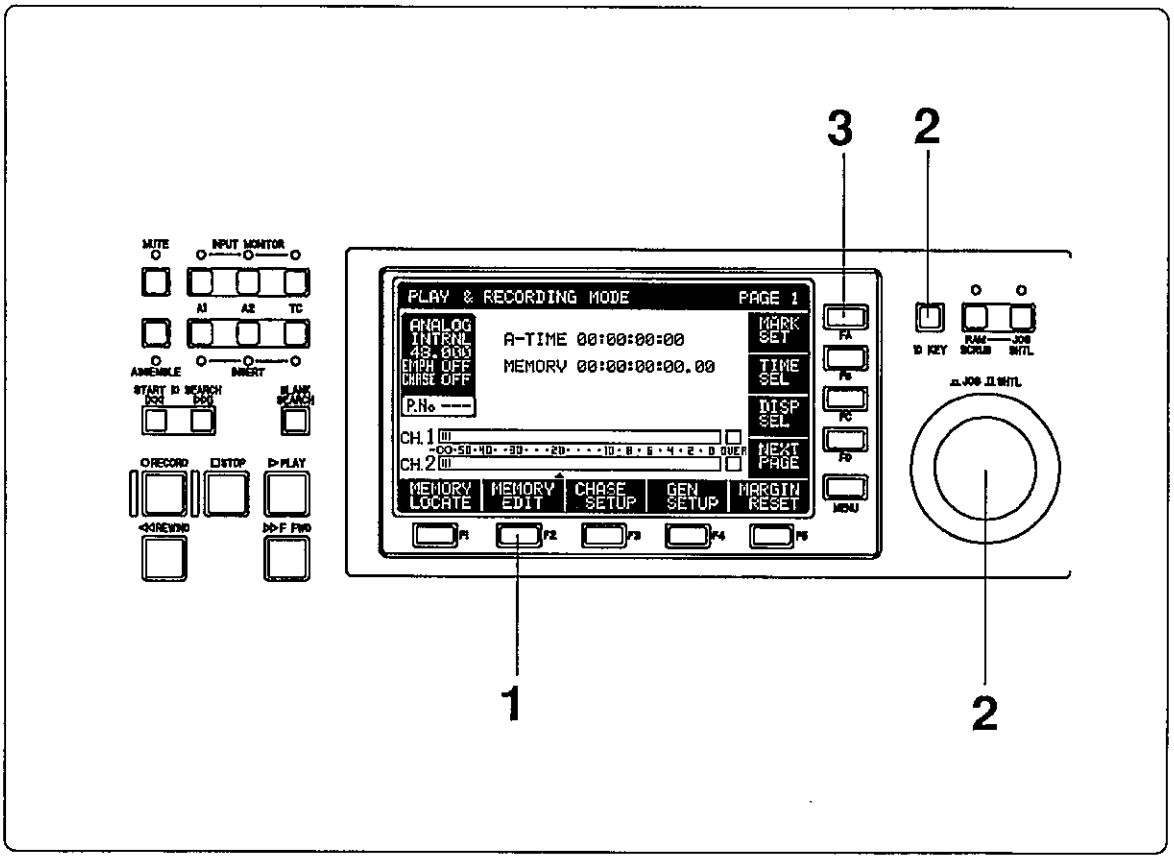
1. Display PAGE 1 by pressing the FD (NEXT PAGE) key.

2. Press the F1 (MEMORY LOCATE) key.
   When this key is pressed, the recorder will locate to the time shown in the [MEMORY] section of the display and enter PAUSE upon completing the locate function.

   <NOTE>
   If REP TC is shown in the display, the recorder will locate to the memory data based on the REP TC. If any other time code is on display, it will locate to the memory data based on the A-TIME.

3. To enter PLAY after locating, press the PLAY button while it is in the locate operation.
   The REWIND or F FWD button lamp will be lit and the PLAY button will blink. After completing the locate operation, the PLAY button only will change to constant lighting and automatically enter playback.

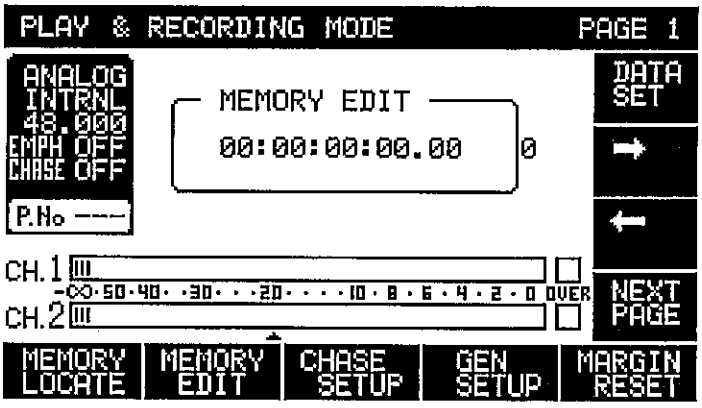
LOCATING BY SPECIFYING A DESIRED TIME



Operating procedure

1. Press the F2 (MEMORY EDIT) key.

   When this key is pressed, the presently displayed data (If it is 00:00:00:00.00, it will be displayed as shown below) in the [MEMORY] section will be shown in the display as presented below and any time data can then be input.

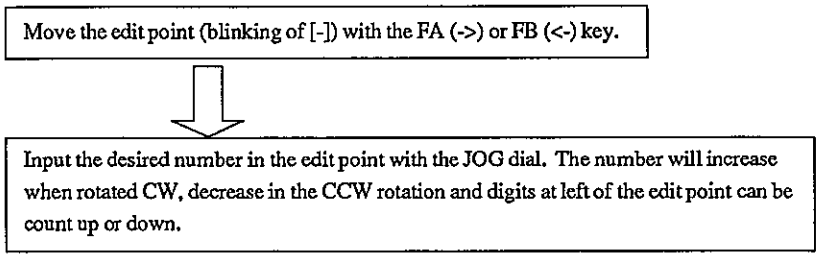


   The functions of the FA (MARK SET), FB (TIME SEL) and FC (DISP SEL) keys will respectively change as shown above.

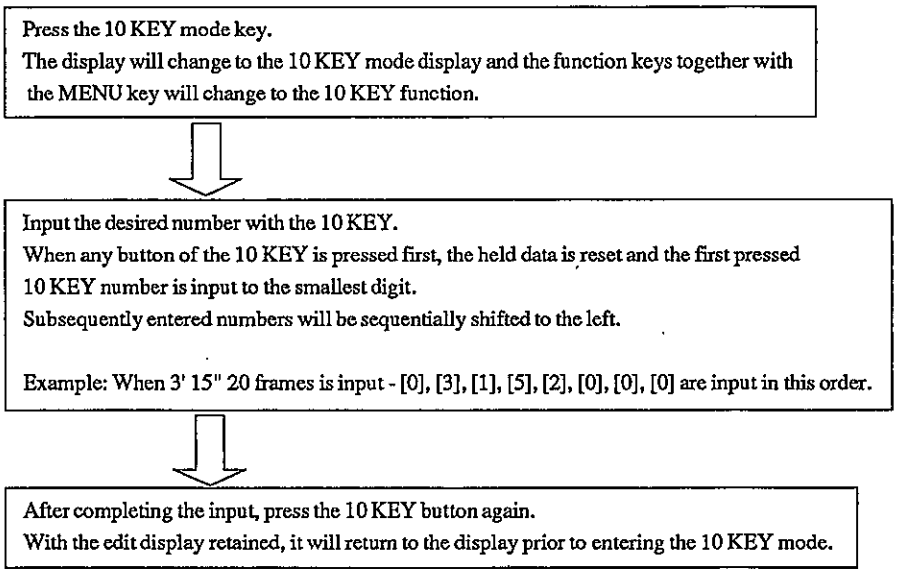
2. Input time data.

Any time data can be input by either the JOG dial or the numerical keypad. Operating procedures of each are as follows.

Input by the JOG dial



Input by the 10 KEY



3. Press the FA (DATA SET) key.

When this key is pressed, the input data is fixed and this data will be shown in the [MEMORY] section display.

At that time, each function of the FA, FC, FB keys will return to its original state and the display will also change.

4. Press the F1 (MEMORY LOCATE) key.

The recorder will start locating to the newly entered memory data.

5-10. Recording S-ID/P-NO while in the record mode

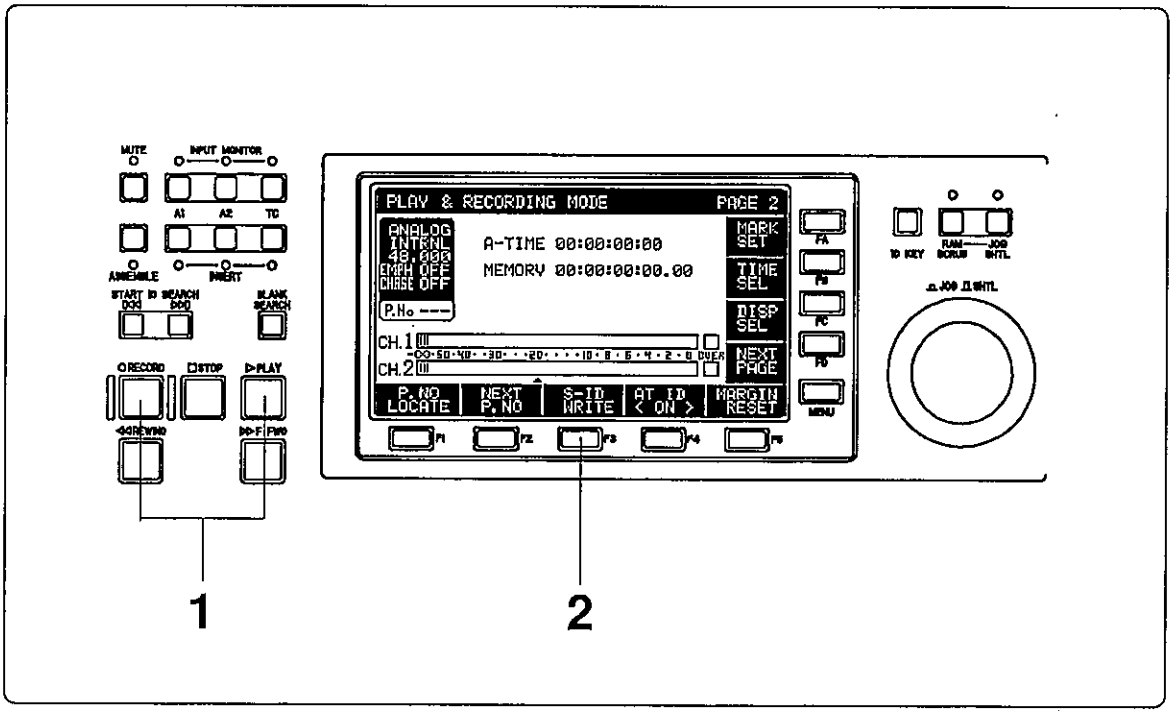
The procedure here explains how to record S-ID/P-NO while recording an audio signal. This procedure can also be used when recording an analog or digital audio signal.
For the method of recording S-ID/P-NO only on a pre-recorded tape, refer to "Chapter 8 SUB ID EDIT MODE MENU."

There are the following two methods for recording S-ID/P-NO while in the record mode.

1. **Record the S-ID/P-NO manually at any point.**
2. **The D-30 automatically records an S-ID/P-NO at the audio sound start point.**

5-10-1. Recording S-ID/P-NO at any desired point

Manually record S-ID/P-NO at the desired point while recording an audio signal.



Operating procedure

1. Start recording by pressing the PLAY button while pressing the RECORD button.

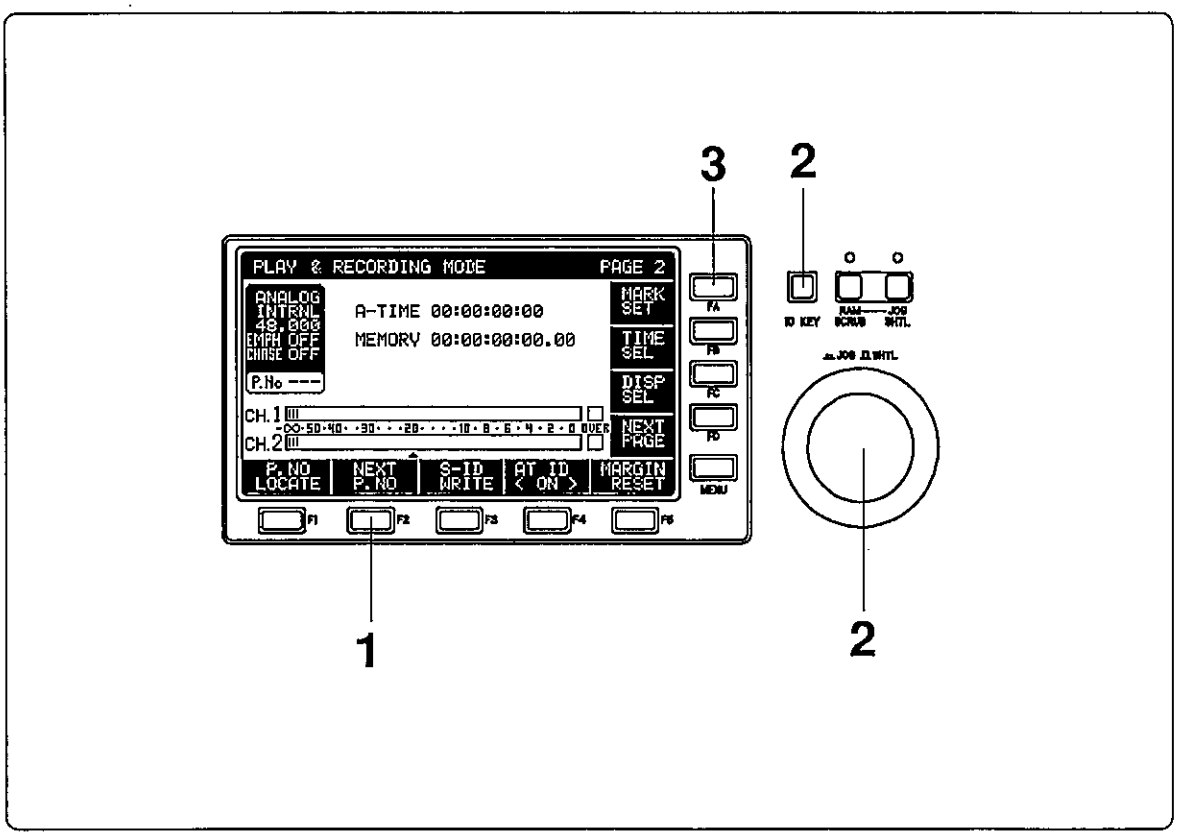
2. Upon arriving at the point where S-ID is to be recorded, press the F3 (S-ID WRITE) key.

An S-ID will be recorded at the point where the F3 (S-ID WRITE) was pressed. During recording of S-ID, [START] is shown in the display [A-TIME] and this will disappear upon ending recording of the S-ID.

During this process, if P-NO is shown in the display, a continuous P-NO from this P-NO will be recorded.
If the F3 (S-ID WRITE) key is pressed after specifying NEXT P-NO, the specified P-NO will be recorded (Refer to Section 5-10-2 for setup method of NEXT P-NO).

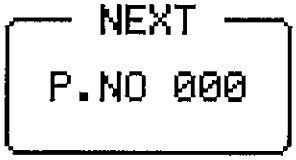
<NOTE>
If NEXT P-NO is [---] or [000], an S-ID only will be recorded.

5-10-2. Setup method of NEXT P-NO



Operating procedure

1. Press the F2 (NEXT P-NO) key prior to start recording S-ID.
   When the F2 (NEXT P-NO) key is pressed, the following display will appear and it is possible to input the NEXT P-NO. Then, the FA (MARK SET) key will change to the (DATA SET) key function.



2. Enter the desired number via the JOG dial or 10 KEY.
   The procedure for using the JOG dial or 10 KEY is as follows.

Input by JOG dial

After executing the above Step 1, rotate the JOG dial CW or CCW.

CW : Number will increase.
CCW : Number will decrease.

Input from 10 KEY

After executing above Step 1, press the 10 KEY button.
The display will change to the 10 KEY mode.

↓

Enter desired number from the 10 KEY (function key/MENU key).

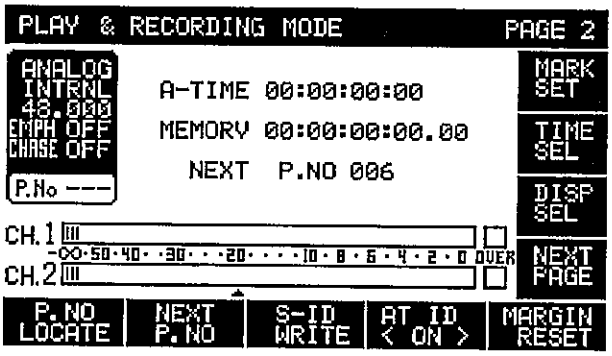
↓

After entering the number, press the 10 KEY mode key again.
It will return to its original PAGE 2.

3. Press the FA (DATA SET) key.

When the FA (DATA SET) key is pressed, the specified NEXT P-NO will be fixed and the following will be displayed (Example: When NEXT P-NO is fixed as [006])

After this, the FA (DATA SET) key will return to its original (MARK SET) key function.



Thus, when the NEXT P-NO is specified and recording of an S-ID/P-NO is started, the specified P-NO will be recorded.

5-10-3. Automatic recording of an S-ID/P-NO (AUTO-ID function) during recording of an audio signal

During recording of audio signals, an S-ID/P-NO can be automatically recorded at the sound starting point following the no sound section by the procedure explained here. This procedure can be executed in PAGE 2.

The AUTO-ID function:

When recording is started with the F4 (AT ID) key ON, at the instant a signal higher than the standard level (*) is input succeeding more than one second of no sound recording time (*), an S-ID will be automatically recorded at this sound startup point. If a P-NO is already displayed at that moment recording is started, it will automatically count up from that P-NO and will record the resulting P-NO. Also, when a new P-NO had been specified by NEXT P-NO, the specified P-NO will be recorded.

(*) Standard level (AUTO ID LEVEL)

Initially, Model D-30 is set to -40dB.

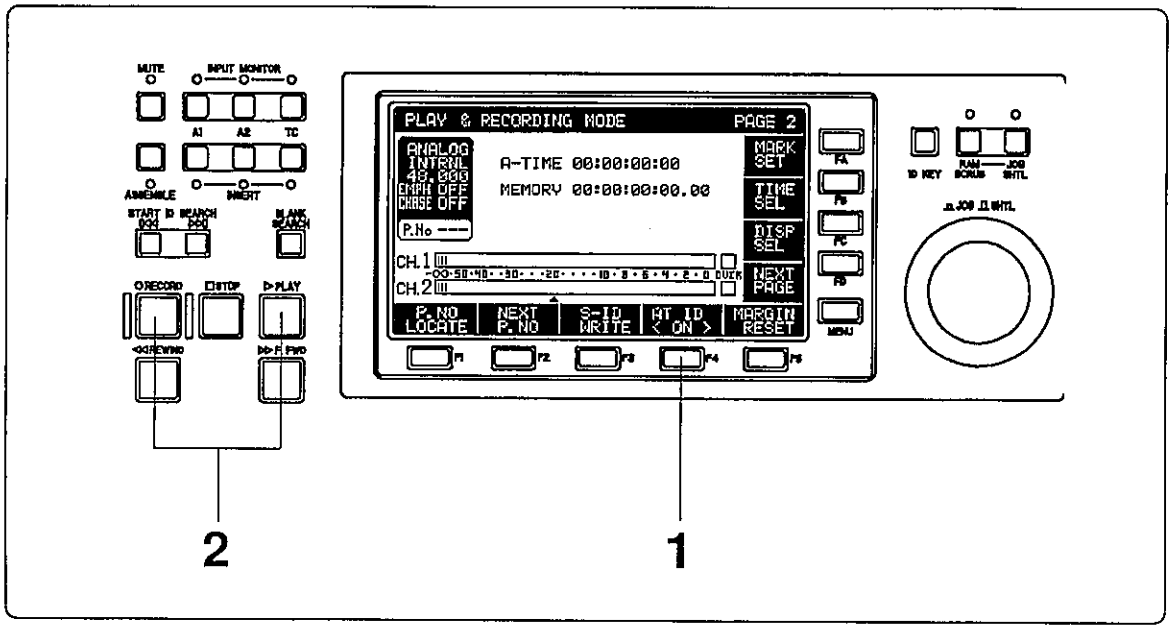
This setting can be changed according to the situation by the SETUP menu.

(*) No sound recording time (AUTO ID INTERVAL)

Initially, Model D-30 is set to 900ms.

This setting can be changed according to the situation by the SETUP menu.

◆Refer to Chapter 14 for details on the SETUP menu.



Operating procedure

1. In the PAGE 2 mode, press the F4 (AT ID) key to switch it ON.
   When the F4 (AT ID) key is switched ON, the AUTO ID mode will also switch ON.

2. Press the PLAY button while pressing the RECORD button.

While recording the audio signal, an S-ID will be recorded automatically. If a P-NO is on the display, a continuous P-NO from that P-NO will be recorded. Also, when a new P-NO was specified by NEXT P-NO, the specified P-NO will be recorded (Refer to Section 5-10-2 for setup procedure of NEXT P-NO.).

<NOTES>

* If the P-NO display is [---] or [000], P-NO a S-ID only will be recorded.

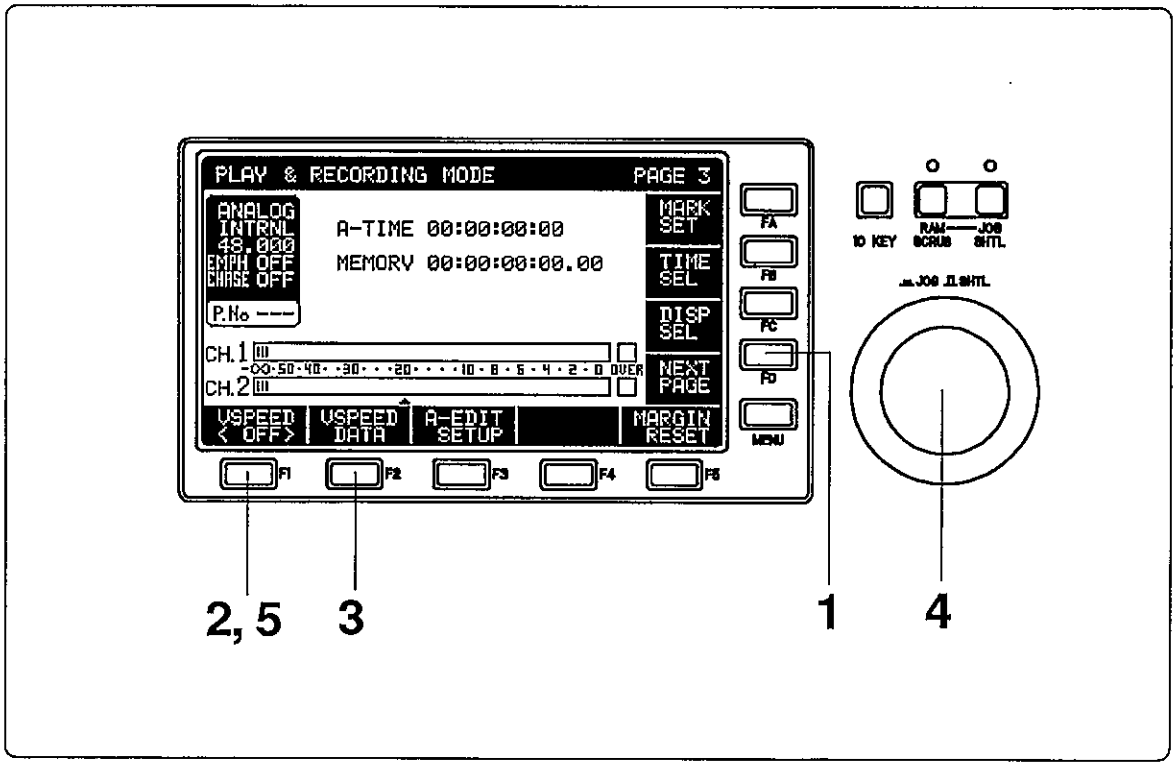
* After recording an S-ID, if more than one second of no sound condition continues within the next 9 seconds and even though there is another sound, an S-ID will not be recorded at that sound startup point. In DAT protocol, S-ID recording time is 9 seconds. The following 9 seconds is defined as the time for search operation. Consequently, successive recording cannot be done within that 9 seconds after recording of the S-ID.

* Should there be a low level part in the movement being performed such as in classic music, an unnecessary S-ID is occasionally recorded. In such a case, change the AUTO ID LEVEL or AUTO ID INTERVAL before recording.

5-11. VARI SPEED operation (PAGE 3)

Playback speed of Model D-30 can be changed and can be set in 0.1% steps within +/-12.5% of standard speed. This procedure can be done in PAGE 3. This procedure can be executed in the PLAY and RECORDING MODE and INSTANT START MODE.

5-11-1. Operating method of VARI SPEED



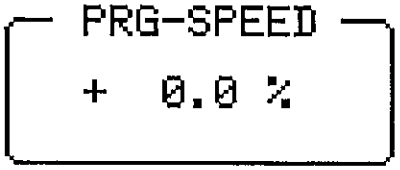
Operating procedure

1. Display PAGE 3 by pressing the FD (NEXT PAGE) key.

2. Switch ON the variable speed mode by pressing the F1 (V SPEED) key.

3. Press the F2 (V SPEED DATA) key during tape playback or in the STOP mode.

   The recorder will enter the VARI SPEED setup mode when this key is pressed and an indication of the normal tape speed as 0% will appear in the display. When the F2 (V SPEED DATA) key is pressed again, the setup is canceled and the mode display will disappear.



4. Changing VARI SPEED by the JOG dial.

VARI SPEED can be controlled in 0.1% steps over +/- 12.5%.

Rotate JOG dial CW : Tape speed will increase. Rotate JOG dial CCW : Tape speed will decrease.

5. Switch OFF the F1 (V SPEED) key to cancel the VARI SPEED mode.

It will return to the standard speed when switched OFF.

<NOTES>

* When the VARI SPEED mode is switched ON again, it will be in the tape speed set in step 4 above. Therefore, if tape is to be returned to standard speed (0%), it must be reset by above steps 2 ~ 4.

* If tape speed had been changed during playback, clock frequency of the DIGITAL OUT signal will also have changed. Therefore, depending on the receiving side equipment type, it may not be able to receive it.

* When a different menu is executed with the VARI SPEED mode ON, the tape will be played back at the speed set by VARI SPEED.

IMPORTANT!

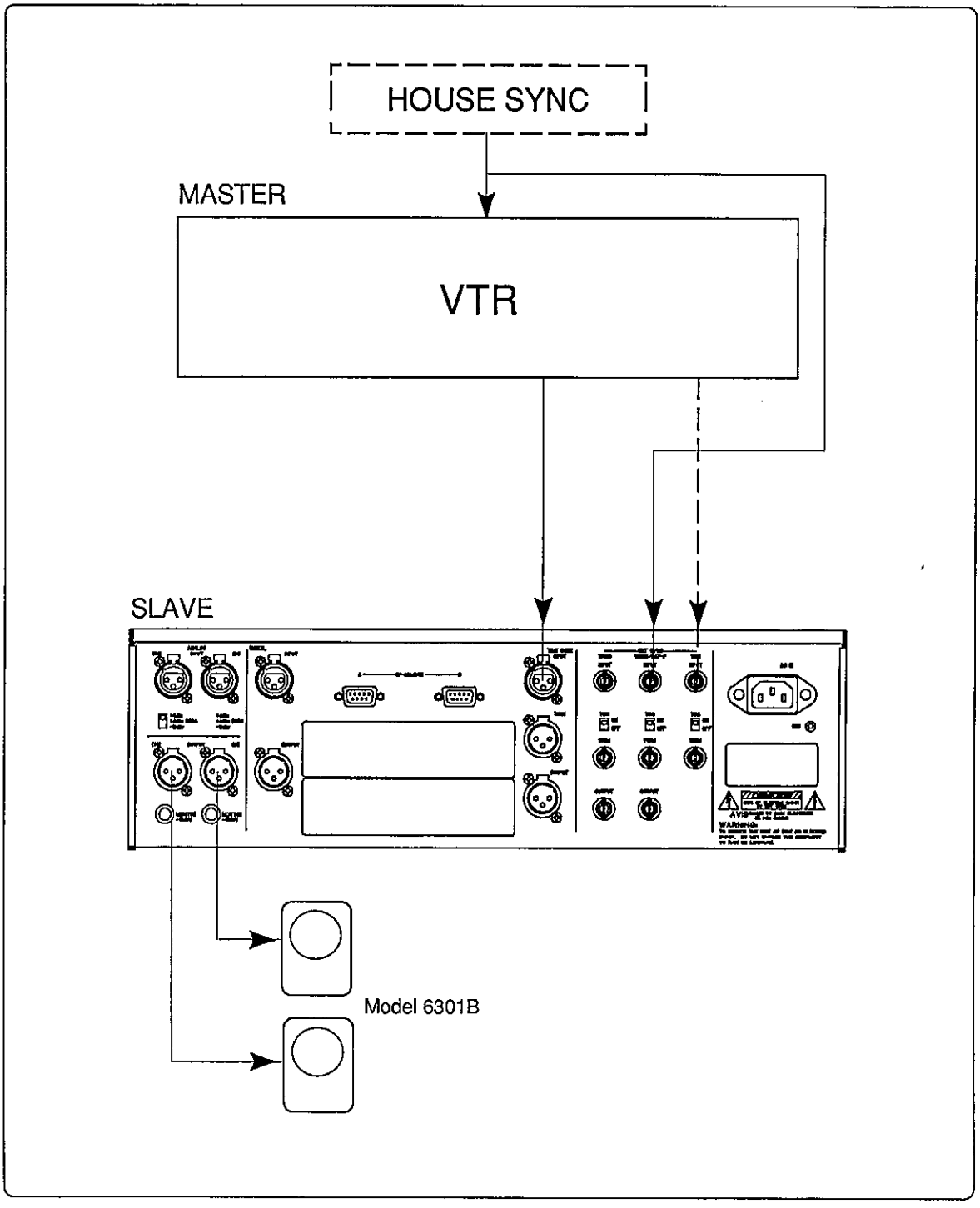
When executing AUTO EDIT, be sure that the VARI SPEED mode is OFF.

5-12. External sync by the CHASE mode

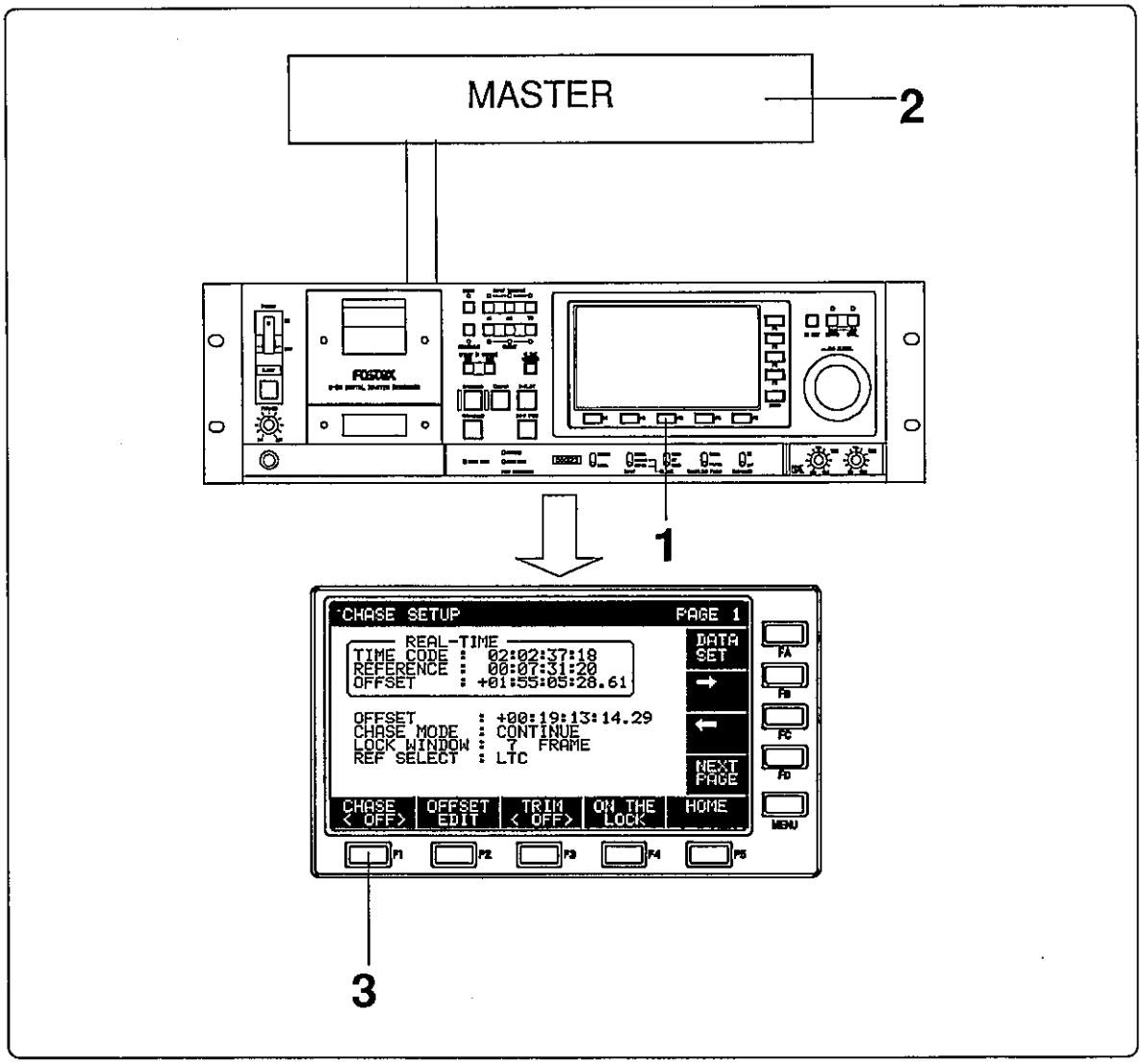
When time code is externally input to the D-30 rear panel TIME CODE IN connector and set to CHASE ON by the CHASE SETUP mode, tape can be played back in sync with the externally input time code. This operation can be executed in the 2nd level page CHASE SETUP mode by pressing the PAGE 1 F3 (CHASE SETUP) key.

INTERCONNECTIONS

Using the D-30 as a slave, it is connected to the master machine as follows.



CHASE OPERATING PROCEDURE



Operating procedure

1. Press the F3 (CHASE SETUP) key in the PAGE 1 display.
   The display will change to the 2nd level page CHASE SETUP mode when this key is pressed.

2. Start master machine in playback.

3. Set the F1 (CHASE) key to <ON>.
   The D-30 will enter the CHASE MODE and start playback with the Model D-30 playback TC chase locked to the external TC. When it is thus chase locked to the external TC, the F1 (CHASE) key indication will change from <ON> to <LOCK>.
   To cancel the CHASE MODE, set F1 (CHASE) key to <OFF>.

<NOTE>
In regards to various settings related to CHASE MODE, refer to "Chapter 14 CHASE SETUP mode."

5-13. Control by the editor

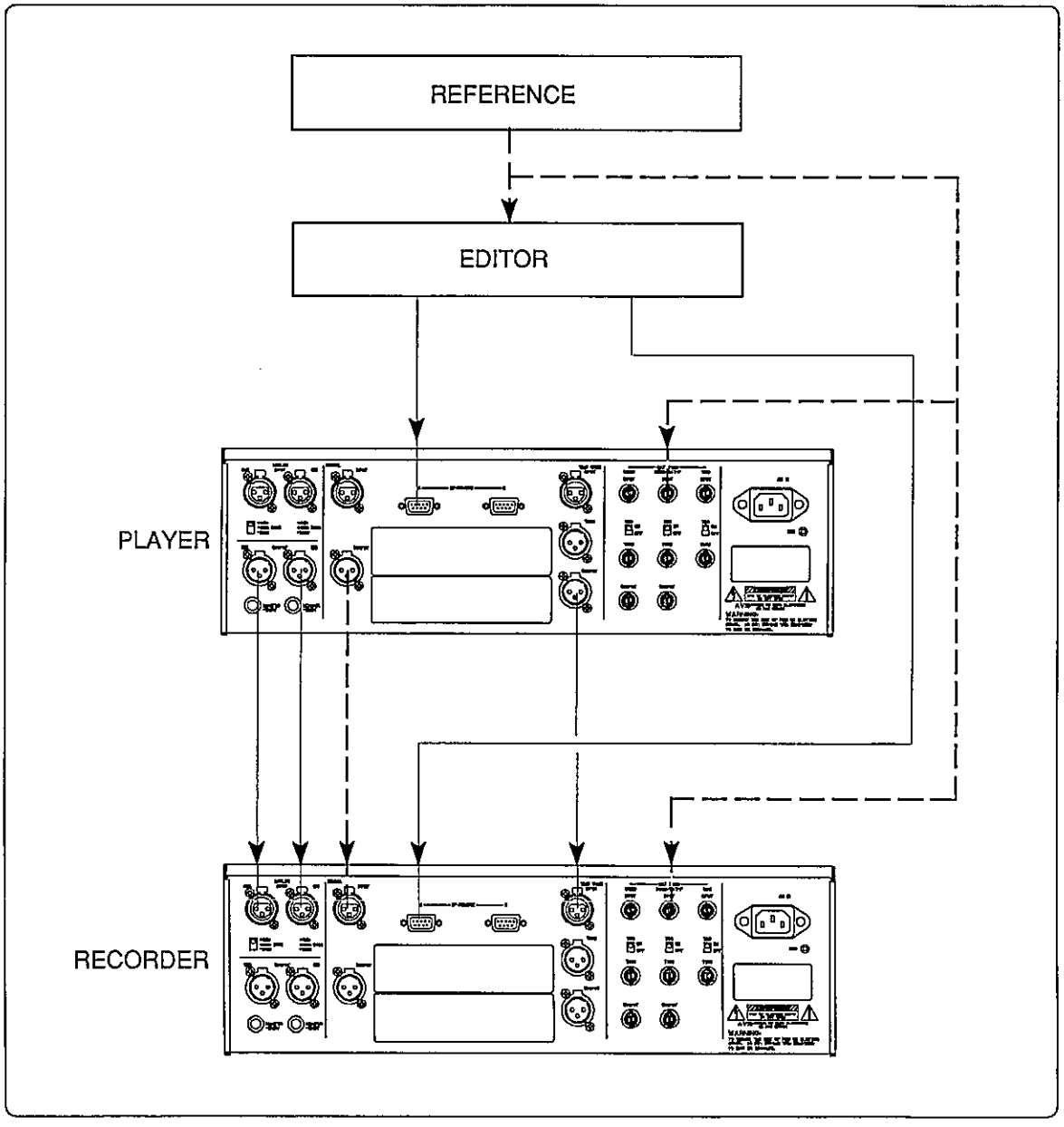
The D-30 can be controlled with an editor connected to the D-30 9 pin REMOTE connector (RS-422).

In Model D-30, a setting matched to each editor that is connected, can be preselected to provide optimum operation. (Presently, these settings are matched to the CMX-300, SONY BVE Series and LYNX are installed in the memory which can be selected by DATA FILE in the SETUP MODE menu.)

◆Refer to "Chapter 14 SETUP MODE menu" for details on Editor Setup Selection.

INTERCONNECTIONS

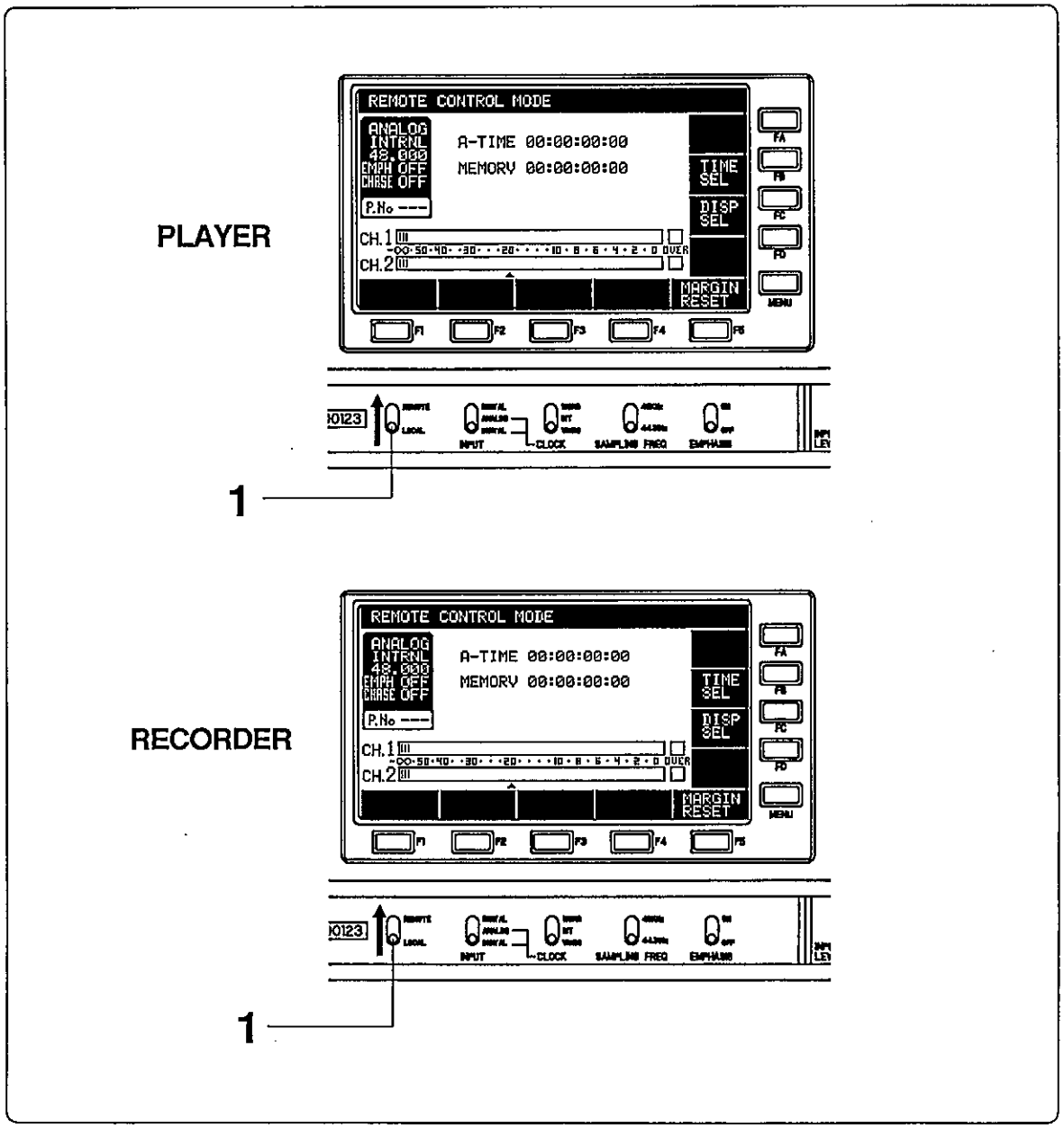
In the following is an example of interconnecting two Model D-30s to control by an editor, one unit as the RECORDER and the other as the PLAYER.



SWITCH SETUP

1. Set both Model D-30 REMOTE selector to [REMOTE].

   Both Model D-30 will change to the REMOTE CONTROL display and can then be controlled by the editor.



<NOTE>

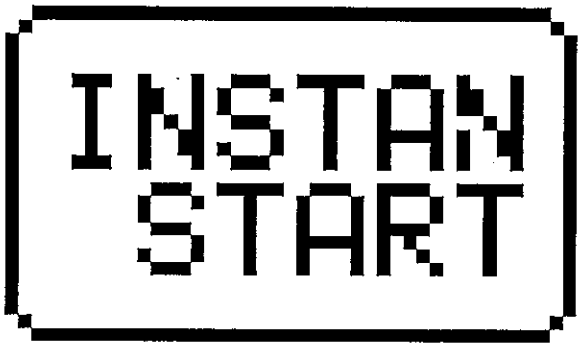
In the [REMOTE] mode, the following buttons/switches will function in Model D-30 proper but when other buttons/keys are pressed, [Warning Not Local!!] will be displayed.

* EJECT button	* FB (TIME SEL) key
* FC (DISP SEL) key	* F5 (MARGIN RESET) key
* INPUT selector	* CLOCK switch
* SAMPLING FREQ switch	* EMPHASIS switch

CHAPTER 6

Instant Start Mode Menu

This chapter explains the INSTANT START MODE menu in the MAIN MENU. This menu is for playback only using INSTANT START.

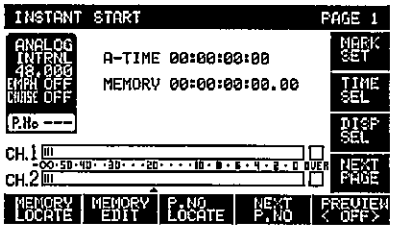


CHAPTER 6
TABLE OF CONTENTS

6-1. Menu function

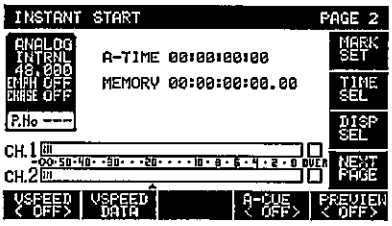
The INSTANT START MODE operation menu is composed of PAGE 1 and PAGE 2 in the first level. The following operations can be executed in each page.

1st level PAGE 1



1. Memory locate ON/OFF function
2. Memory edit function
3. P-NO locate ON/OFF function
4. NEXT P-NO setup function
5. PREVIEW/REPEAT function

1st Level PAGE 2

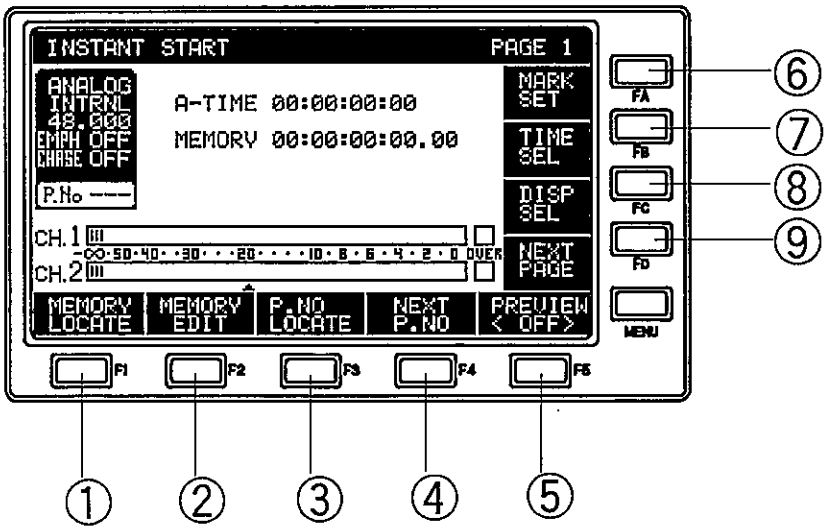


1. Vari speed mode ON/OFF function
2. Vari speed data edit function
3. AUTO CUE mode ON/OFF function
4. PREVIEW/REPEAT function

6-1-1. Functions of each display and function keys

PAGE 1:

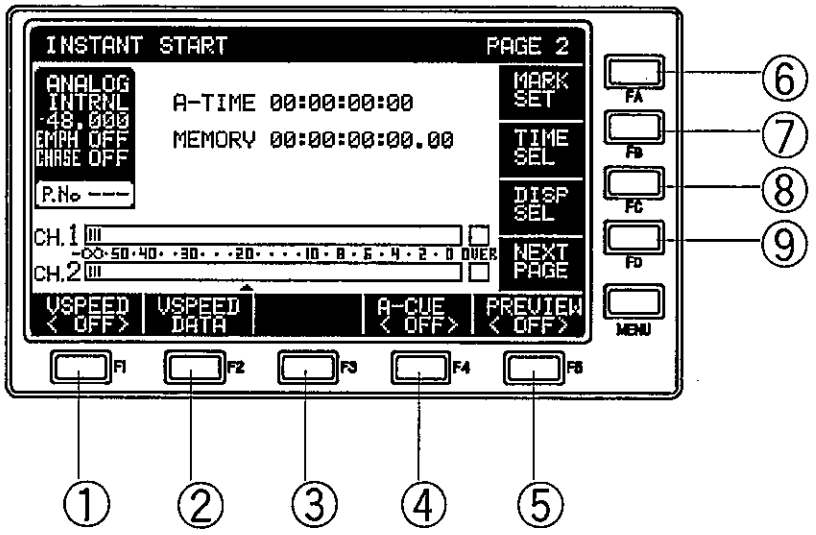
Functions of the 1st level PAGE 1 display and functions of each function key are as follows.



No.		Display	Function
①	F1	MEMORY LOCATE	Locate is started to the time in the memory when this key is pressed.
②	F2	MEMORY EDIT	When this key is pressed, the display changes to thememory edit mode and data in memory can be edited.
③	F3	P-NO LOCATE	The recorder locates to the specified P-NO when this key is pressed.
④	F4	NEXT P-NO	The display enters the NEXT P-NO setup mode when this key is pressed so that the NEXT P-NO can then be set.
⑤	F5	PREVIEW	PREVIEW is switched ON when this key is pressed and RAM rehearsal in vicinity of the START POINT is started. When this key is pressed twice, the point where this key was pressed will be the start point and about one second of playback from the RAM will be repeated.
⑥	FA	MARK SET	Present A-TIME or REP TC time is registered as data in MEMORY LOCATE when this key is pressed. Also, at the instant the F2 (MEMORY EDIT) and F4 (NEXT P-NO) keys are pressed, the display changes to the DATA SET key function.
⑦	FB	TIME SEL	The CURRENT TIME display is alternately changed each time this key is pressed. It will change to the digit shift (->) key function when the F2 (MEMORY EDIT) key is pressed.
⑧	FC	DISP SEL	The display LEVEL DATA is alternately changed each time this key is pressed. It will change to the digit shift (<-) key function when the F2 (MEMORY EDIT) key is pressed.
⑨	FD	NEXT PAGE	This key turns the page within the same mode and same level.

PAGE 2:

Functions of the 1st level PAGE 2 display and functions of each function key are as follows.



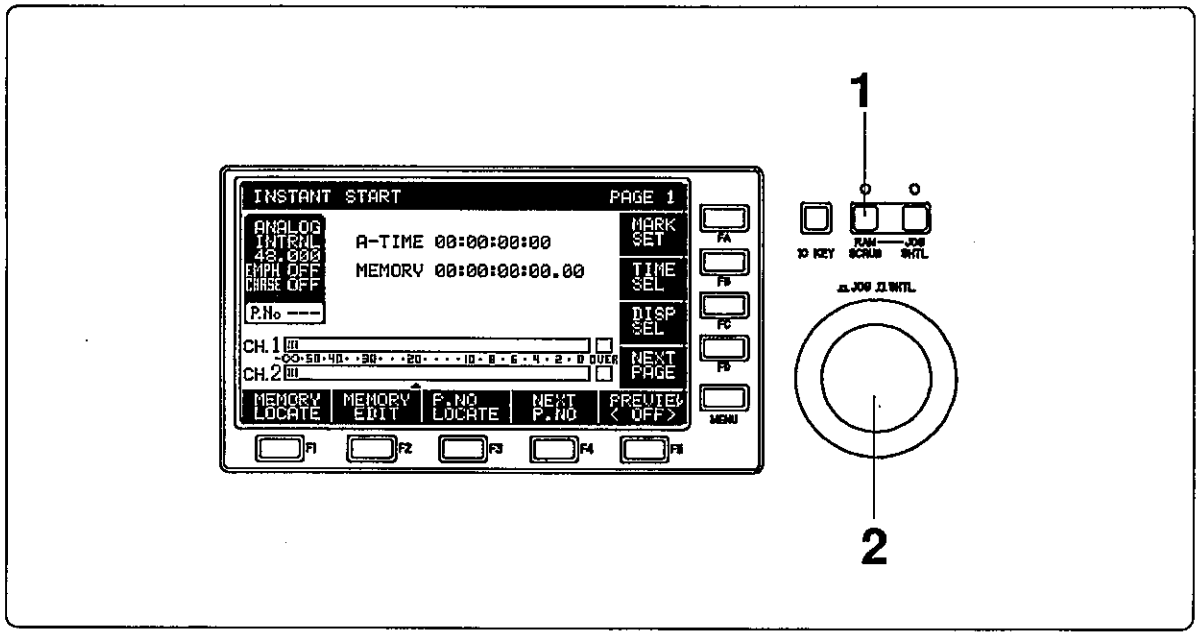
No.		Display	Function
①	F1	V SPEED ON/OFF	VARI SPEED mode ON/OFF is selected.
②	F2	V SPEED DATA	Press this key for the VARI SPEED DATA edit mode. VARI SPEED DATA can be edited.
③	F3		No function.
④	F4	A-CUE ON/OFF	AUTO CUE mode is switched ON/OFF by pressing this key.
⑤	F5	PREVIEW	Same function as PAGE 1.
⑥	FA	MARK SET	Present A-TIME or REP TC time will be registered as the MEMORY LOCATE DATA when this key is pressed.
⑦	FB	TIME SEL	The CURRENT TIME display is alternately switched each time this key is pressed.
⑧	FC	DISP SEL	The LEVEL DATA display is alternately switched each time this key is pressed.
⑨	FD	NEXT PAGE	Same function as PAGE 1.

6-2. *INSTANT START procedure*

INSTANT START refers to the instantaneous playback of audio data previously stored in the RAM for the purpose of shortening the playback sound rise time. When the tape is played back in the INSTANT START MODE menu, playback sound rise time can be made faster than at normal playback. When locate/search is executed in this menu, instant start can be done from the head of S-ID.

6-2-1. Execution of INSTANT START by moving the start point

In the following, instant start is executed by moving the starting point of INSTANT START.



Operating procedure

1. Switch ON the RAM SCRUB key.
   The RAM SCRUB key LED will light and enter the RAM SCRUB mode.

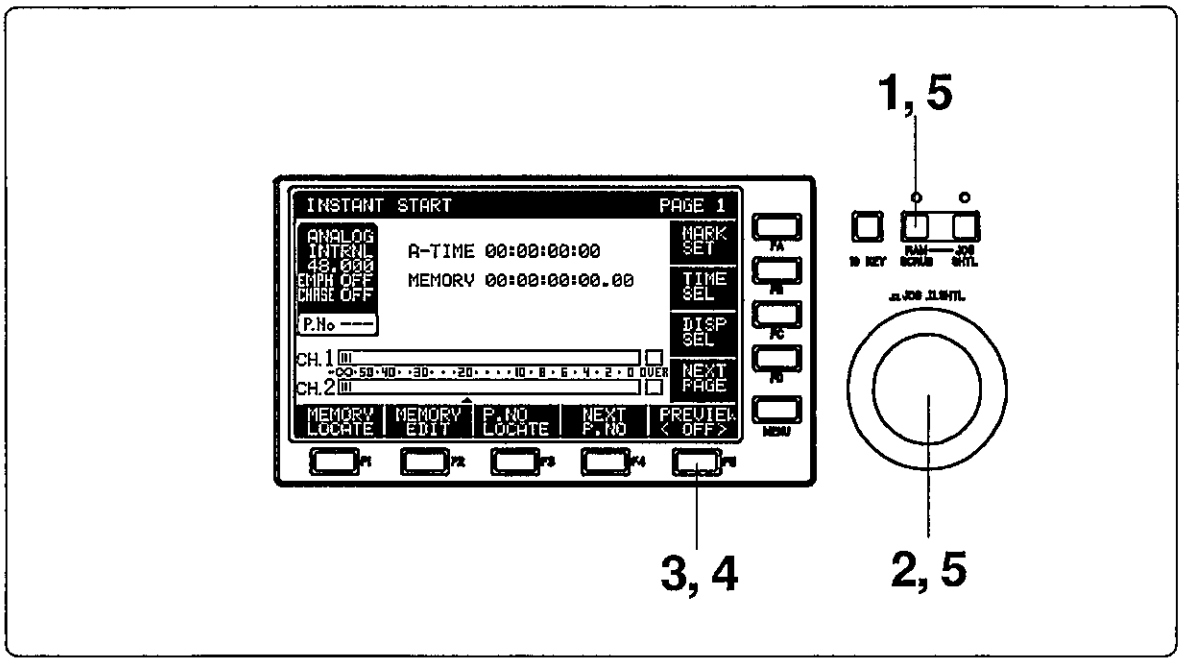
   <NOTE>
   Flashing LED of RAM SCRUB key indicates that RAM is taking data in. Any next step should be taken when this LED turns solid.

2. Move the start point with the JOG/SHUTTLE dial.
   Press the FA (MARK SET) key to enter the moved start point into the memory.

3. Press the PLAY button.
   This will cancel the RAM SCRUB mode and instant start is executed from the new start point.

6-2-2. Rehearsal of INSTANT START

Use this procedure to rehearse the moved start point.



Operating procedure

1. Switch ON the RAM SCRUB key.
   The RAM SCRUB key LED will light and the recorder will enter the RAM SCRUB mode.

2. Move the start point with the JOG/SHUTTLE dial.

3. Press the F5 (PREVIEW) key.
   RAM will be played back for about 2 seconds from the start point that was moved.

   <NOTE>
   When <WAIT> is indicated on F5 (PREVIEW) key, this key is functionally frozen. Be sure the indication is <OFF> before taking any next step.

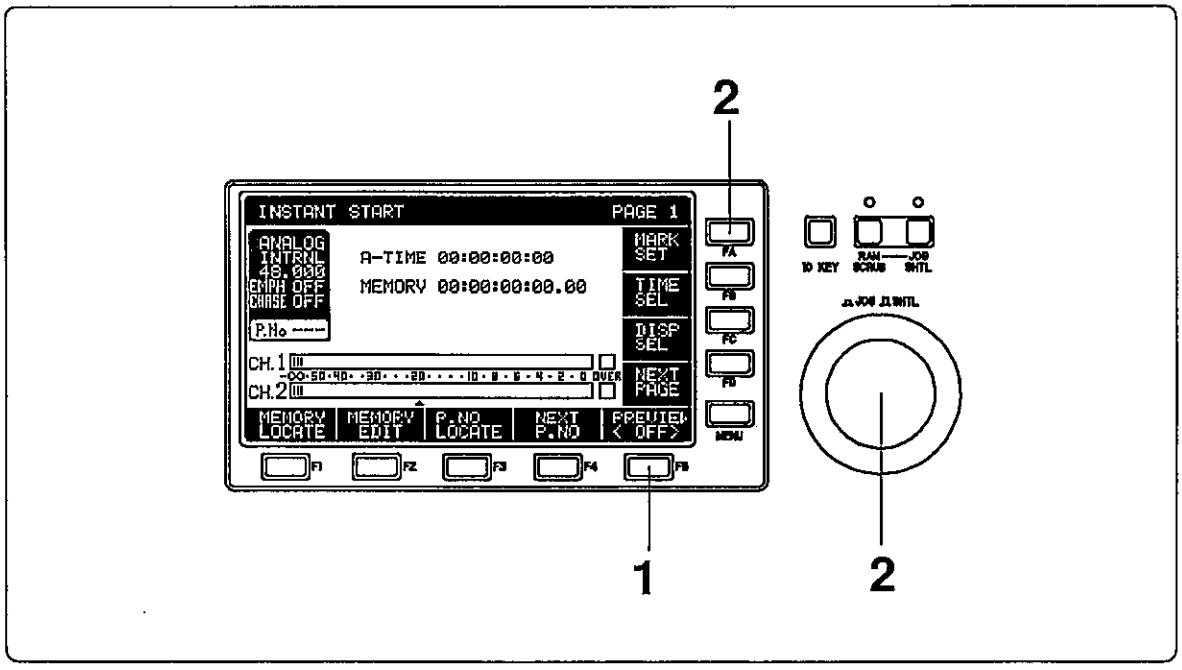
4. Press the F5 (PREVIEW) key again to repeat rehearsal.

5. Repeat above steps 1～4 in the RAM SCRUB mode to move the start point again.
   Press the FA (MARK SET) key if the start point moved in rehearsal is to be stored in the memory.

6. Press the PLAY button upon finishing rehearsal.
   INSTANT START is executed from the start point that was moved during rehearsal.

6-2-3. Trimming using INSTANT START

In the following, rehearsal is repeated while moving the INSTANT START starting point in 1/100th of a frame units by using the F5 (PREVIEW) key.



Operating procedure

1. Press the F5 (PREVIEW) key twice.

   The point where this key was pressed will be the startpoint and about one second of playback from the RAM will be repeated.

2. Use the JOG dial to move the point.

   Establish a new start point by moving it 1/100th of a frame with the JOG dial. If the moved start point is to be stored in the memory, press the FA (MARK SET) key.

3. After finishing rehearsal, press the PLAY button.

   INSTANT START is executed from this new start point.

6-2-4. Locate using INSTANT START

S-ID search, memory locate and P-NO locate can be operated in the same way as in the PLAY and RECORDING MODE menu. However, operation in the INSTANT START MODE is as follows.

S-ID search:

S-DI will be searched for the number of times the S-ID SEARCH key is pressed, audio data centered around the head of the S-ID will be stored in the RAM and the recorder will PAUSE prepared for INSTANT START.

MEMORY locate:

The recorder will locate to the MEMORY point, audio data centered around this MEMORY point will be stored in the RAM and then PAUSE prepared for INSTANT START.

P-NO locate:

The recorder will locate to the specified P-NO (S-ID), audio data centered around the head of this S-ID will be stored in the RAM and PAUSE prepared for INSTANT START.

* By pressing the PLAY button during locate/search, the recorder will enter in SEARCH-PLAY or LOCATE-PLAY and execute INSTANT START upon completing locate/search.

6-3. *The AUTO CUE mode*

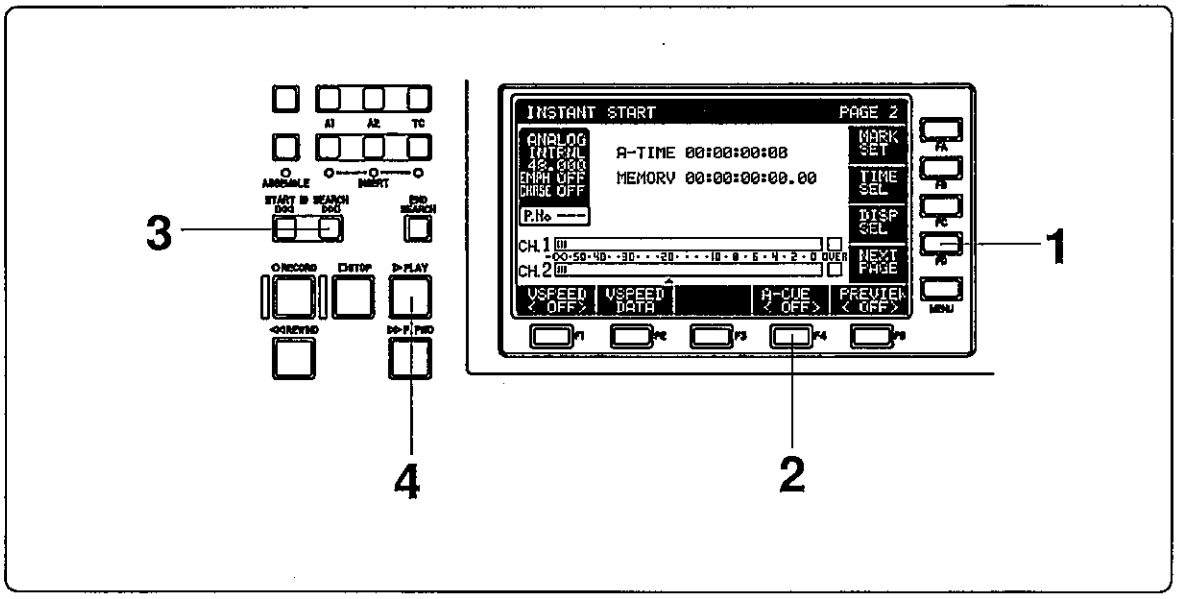
AUTO CUE makes INSTANT START possible from the sound startup point by automatically finding this sound startup point (*) succeeding the no-sound recorded section near the S-ID.

(*) Sound startup point

After more than one second of a no sound recorded section, the section recorded with a signal larger than the standard level is referred to as the "sound startup point." Although initial setup of this standard level is specified as -40dB, this can be changed via the SETUP MODE.

6-3-1. Search/locate in the AUTO CUE mode

When search/locate is carried out using the AUTO CUE mode, the sound startup point near S-ID is searched, then the rcorder prepares for INSTANT START. This function can be executed in 1st level PAGE 2.



Operating procedure

1. Press the FD (NEXT PAGE) key to display PAGE 2.

2. Press the F4 (A-CUE) key.
   The AUTO CUE mode will switch [ON] when this key is pressed.

3. Execute S-ID search or P-NO locate.
   Search/locate the sound startup point located near the S-ID.

4. Press the PLAY button while search or locate is in operation.
   Upon completing search/locate, INSTANT START is executed from the sound startup point.

CHAPTER 7

Confidence Recording Mode Menu

The CONFIDENCE RECORDING MODE MENU contained in the MAIN MENU is explained in this chapter. This menu is the "read after recording" simultaneous monitoring mode in which the signal being recorded can be played back for monitoring at the time the recording is being made. Here, assemble recording* only is possible and insert recording cannot be done.

* Assemble recording

Assemble recording is the process of newly re-writing or link recording all track data such as sub codes, ATF, etc.

Important

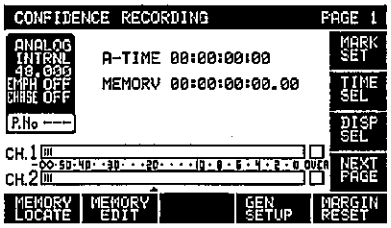
When recording with this menu, audio/time codes cannot be independently recorded.

CHAPTER 7
TABLE OF CONTENTS

7-1. Operating functions of the menu

The operating menu is composed of the 1st level, PAGE 1~PAGE 2. The following functions can be executed.

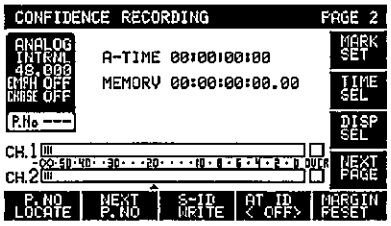
1st level PAGE 1



1. Memory locate function
2. Memory data edit function
3. Generator setup function

(Refer to Chapter 12)

1st level PAGE 2

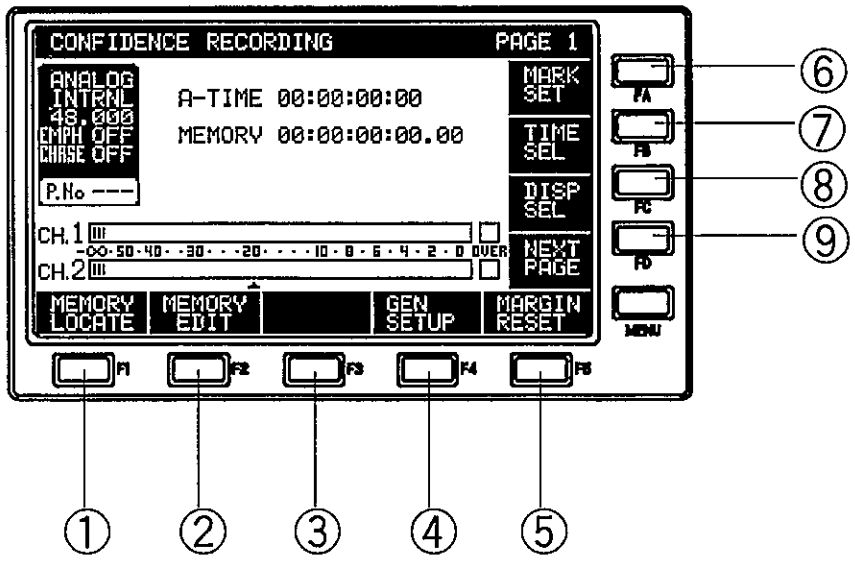


1. P-NO locate function
2. NEXT P-NO edit function
3. S-ID record function
4. AUTO ID mode ON/OFF function

7-1-1. Each display and function key function

PAGE 1:

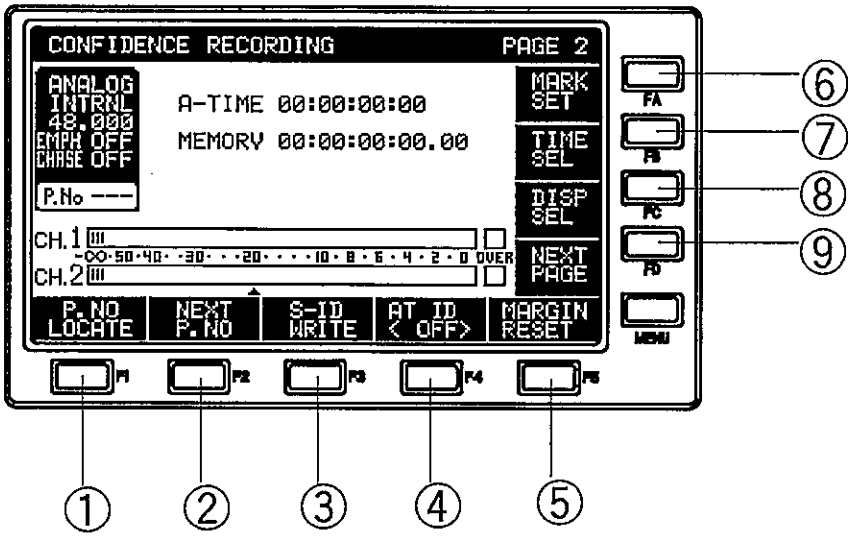
Functions of the 1st level PAGE 1 display and each function key are as follows.



No.		Display	Function
①	F1	MEMORY LOCATE	The recorder locates to the time stored in the memory when this key is pressed.
②	F2	MEMORY EDIT	The memory edit mode is entered when this key is pressed and data in stored in the memory can be edited.
③	F3		No function.
④	F4	GEN SETUP	The internal generator control and setup mode is entered when this key is pressed. The display will change to the 2nd level page (Refer to Chapter 12 for details).
⑤	F5	MARGIN RESET	When this key is pressed when the MARGIN level is on the display the MARGIN level will be reset.
⑥	FA	MARK SET	When this key is pressed, A-TIME or REP TC will be registered as the memory locate data. When the F2 (MEMORY EDIT) key is pressed, it will change to the DATA SET key function.
⑦	FB	TIME SEL	The CURRENT TIME display is alternately switched with each press of this key. When the F2 (MEMORY EDIT) key is pressed, it will change to the digit shift (->) key function. ->A-TIME ->REP TC->DATE ->GEN TC->TC UB->
⑧	FC	DISP SEL	LEVEL DATA display is alternately switched with each press of this key. When the F2 (MEMORY EDIT) key is pressed, it will change to the digit shift (<-) key function. ->No display ->LEVEL 1, 2->MARGIN LEVEL -> <-TC FRAME <-ERROR LEVEL <-SPEED <
⑨	FD	NEXT PAGE	Press this key to turn the page within the confidence recording mode.

PAGE 2:

Functions of the 1st level PAGE 2 display and each function key are as follows.



No.		Display	Function
①	F1	P-NO LOCATE	Locates to the P-NO specified by NEXT P-NO.
②	F2	NEXT P-NO	The recorder enters the NEXT P-NO setup mode when this key is pressed and the NEXT P-NO can be setup.
③	F3	S-ID WRITE	An S-ID can be recorded if this key is pressed while recording.
④	F4	AUTO ID ON/OFF	AUTO ID mode ON/OFF is switched by this key.
⑤	F5	MARGIN RESET	Same function as in PAGE 1.
⑥	FA	MARK SET	The present A-TIME or REP TC will be registered as the memory locate data by pressing this key. When the F2 (NEXT P-NO) is pressed, it changes to the DATA SET key function.
⑦	FB	TIME SEL	The CURRENT TIME display is alternately switched with each press of this key.
⑧	FC	DISP SEL	The LEVEL DATA display is alternately switched with each press of this key.
⑨	FD	NEXT PAGE	Same function as in PAGE 1.

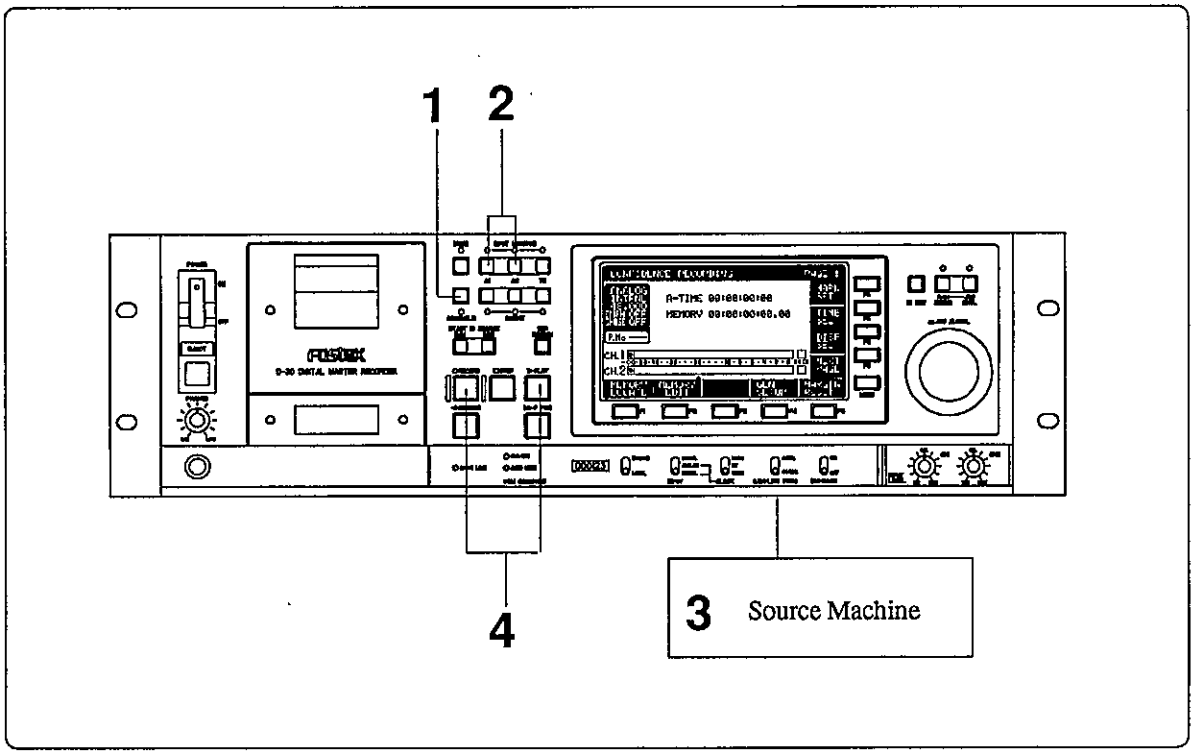
7-2. *Assemble recording*

Fundamental assemble recording method in the CONFIDENCE RECORDING MODE menu is explained here.

Preparation Prior to Recording

1. The display must be in the CONFIDENCE RECORDING MODE.

2. Depending on the source, switch the INPUT selector to ANALOG or the uppermost DIGITAL.



Operating procedure

1. Switch ON the ASSEMBLE key.
   When the ASSEMBLE mode is switched ON, the ASSEMBLE and INSERT (A1, A2, TC) LEDs will light.

2. Press INPUT MONITOR keys A1 or A2.
   When either key is pressed, both A1 and A2 will be for input monitor.

3. Input sound from the source side.
   The input signal will be monitored.

4. Press the PLAY button while pressing on the RECORD button.
   If the INPUT MONITOR key is switched OFF, assemble recording will start as well as simultaneous monitoring the signal being recorded.

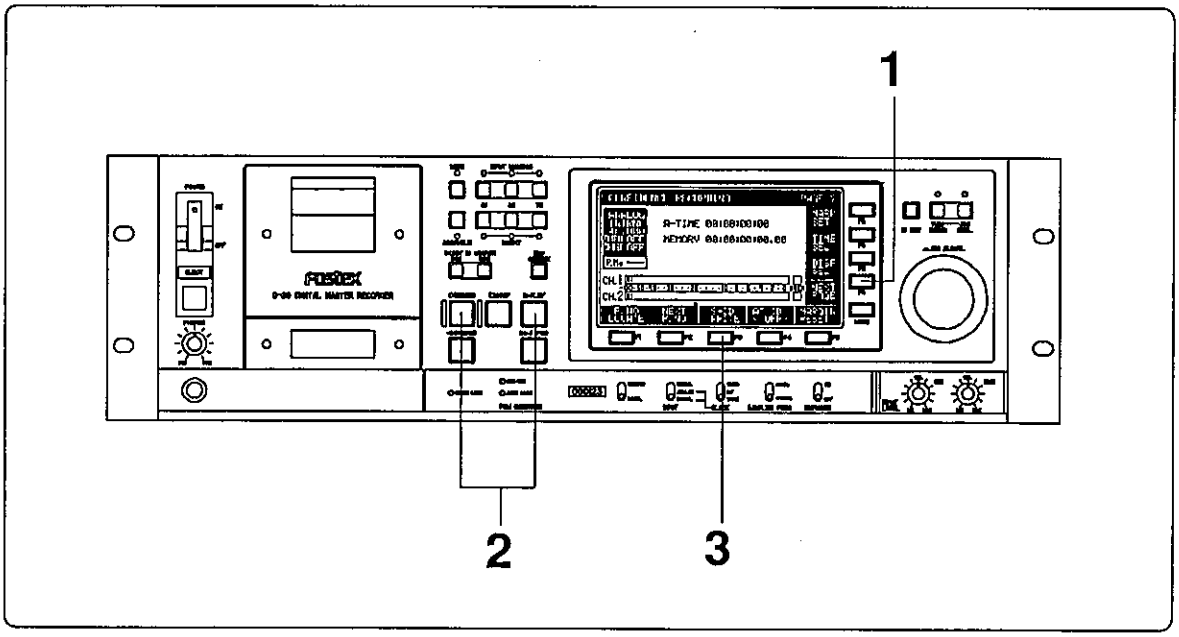
7-3. Recording S-ID/P-NO during sound recording

The fundamental operation is same as the PLAY AND RECORDING MODE menu. There are two methods for recording S-ID:

1. **Manually recording an S-ID/P-NO at any desired point during sound recording.**
2. **Automatic recording of S-ID/P-NO during recording.**

7-3-1. Recording S-ID/P-NO at any desired point

Manually recording S-ID/P-NO at any desired point while assemble recording.



Operating procedure

1. Press the FD (NEXT PAGE) key to display PAGE 2.

2. Start assemble recording by simultaneously pressing the PLAY and RECORD buttons.

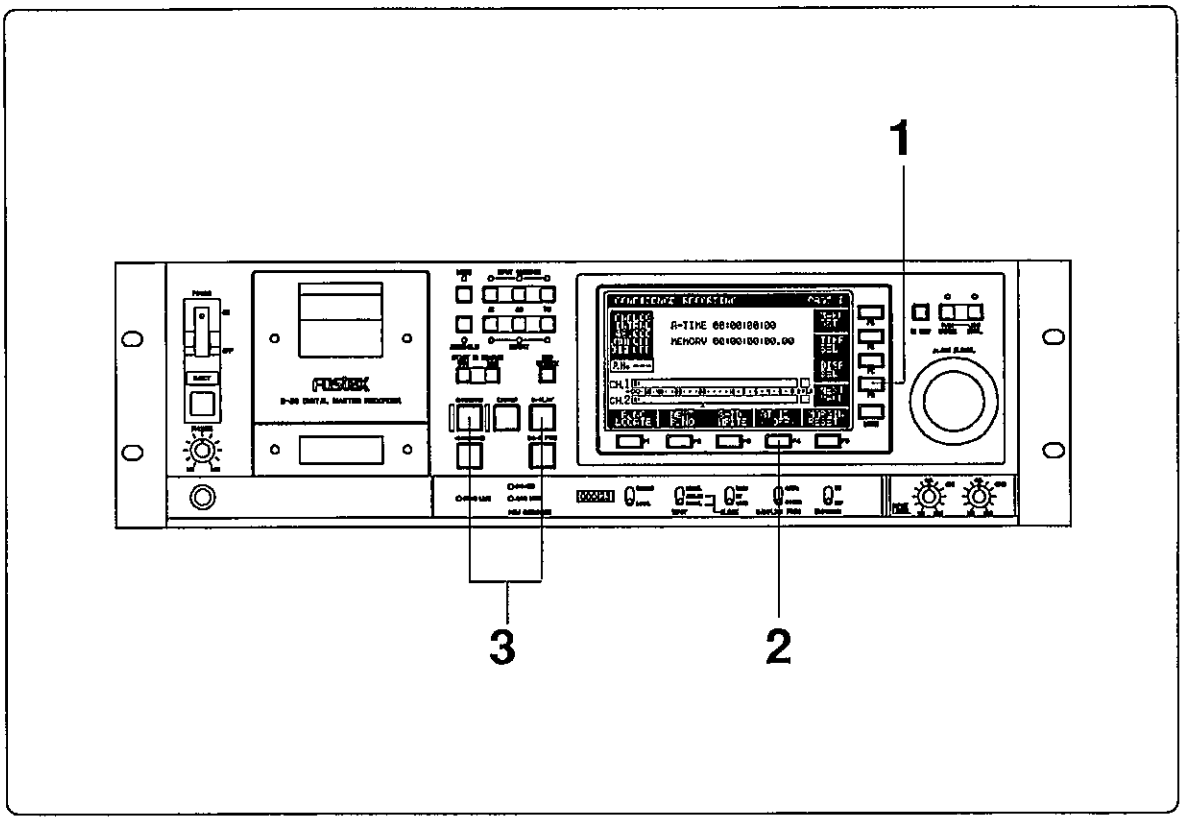
3. Press the F3 (S-ID WRITE) key upon arriving at the point where an S-ID is to be recorded.
   During recording of the S-ID, [START] is shown in the [A-TIME] portion of the display. At the end of recording, [START] will disappear. During this process, if a P-NO is shown in the display [P-NO] section, a continuous P-NO will be recorded from this P-NO.

<NOTES>

* If P-NO is [---] or [000], P-NO will not be recorded but S-ID only will be recorded.
* In DAT, a new S-ID cannot be recorded within 9 seconds after the first S-ID is recorded.

7-3-2. Automatic recording of S-ID/P-NO (AUTO-ID function) during sound recording.

An S-ID/P-NO is automatically recorded at the sound startup point when assemble recording.



Operating procedure

1. Press the FD (NEXT PAGE) key to display PAGE 2.

2. Switch ON the AUTO ID mode by pressing the the F4 (AUTO ID) key.

3. Press the PLAY button and the RECORD button simultaneously.
   An S-ID is automatically recorded at the sound startup point. During this process, if a P-NO is shown in the display [P-NO] section, a continuous P-NO will be recorded from this P-NO. If NEXT P-NO is to be specified, this desired P-NO is specified via NEXT P-NO before the start of recording.

<NOTE>
When there are low sound level parts in the music performed (such as in classic music), sometimes an unwanted S-ID will be recorded. In such a case, alter the AUTO-ID level or AUTO-ID interval. The AUTO-ID level/AUTO-ID interval can be set in the "Chapter 14 SETUP MODE menu."

7-4. Memory locate/P-NO locate/S-ID search

These various locate and search operations are the same as in the Chapter 5 PLAY & RECORDING MODE menu. Please refer to Chapter 5 for description of these functions.