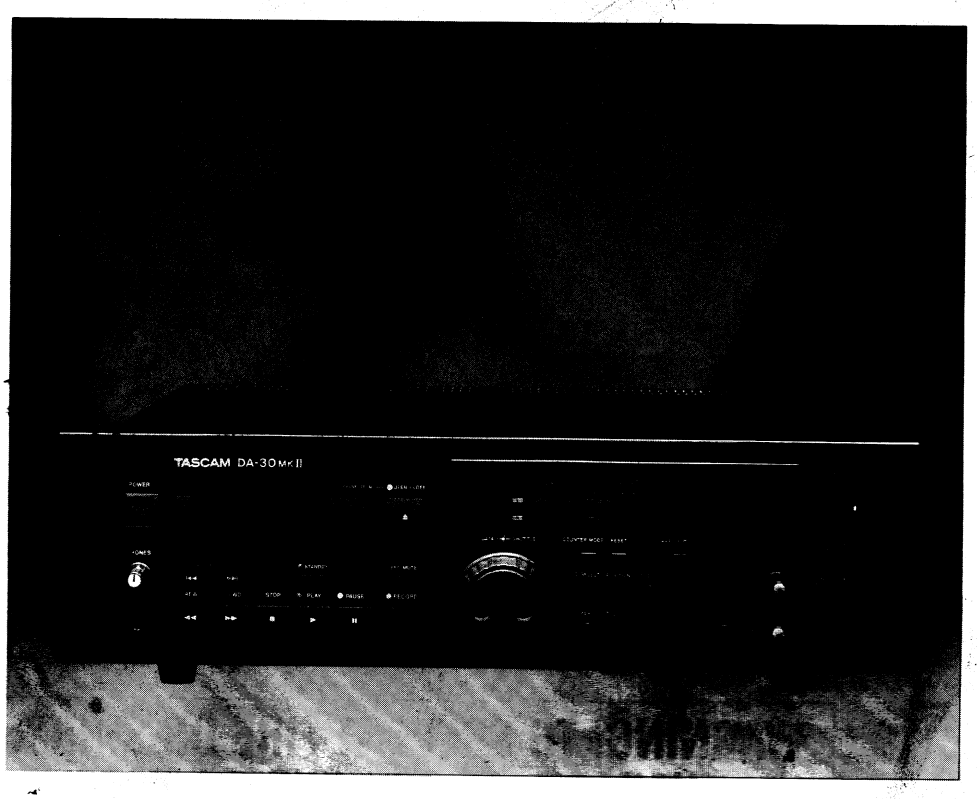
TASCAM

TEAC Professional Division

DA-30 MKII

Digital Audio Tape Deck



OWNER'S MANUAL

D00006400A

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Introduction

Thank you for choosing the TASCAM DA-30MKII digital audio tape deck. The DA-30MKII was designed for professional use and its features include the following:

- High performance 1-bit type AD/DA system
- Multiple sampling rates supported
- Long record/play mode allowing recording/playback up to 4 hours
- CAL/UNCAL switch in the analog input
- Parallel port for external control
- Shuttle and autolocation
- Selectable AUTO ID sensitivity level
- Mountable in a 19" EIA rack
- Selectable Copy ID
- Two pairs of digital input and output : one for consumer equipment, one for professional equipment
- XLR type, balanced analog input and output
- Multifunction remote control optionally available

There are functions which are controllable only from the optional remote control unit, RC-D30 (see also p.20).

Before actually using the DA-30MKII, read this manual thoroughly at least once, so you will know where to return when you need answers.

Use of capital letters: In general, we use all upper case type to designate a particular switch, control or jack label or indication appearing in the display window.

THE APPLIANCE CONFORMS WITH EEC DIRECTIVE 87/308/EEC REGARDING INTERFERENCE SUPPRESSION

CONFORME AL D.M. 13 APRILE 1989
DIRETTIVA CEE/87/308

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.

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.

This appliance has a serial number located on the rear panel. Please record the model number and serial number and retain them for your records.
Model number _____
Serial number _____

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

Important Safety Instructions

CAUTION:

- **Read all of these instructions.**
- **Save these instructions for later use.**
- **Follow all warnings and instructions marked on the audio equipment.**

1) Read instructions — All the safety and operating instructions should be read before the product is operated.

2) Retain instructions — The safety and operating instructions should be retained for future reference.

3) Heed Warnings — All warnings on the product and in the operating instructions should be adhered to.

4) Follow instructions — All operating and use instructions should be followed.

5) Cleaning — Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

6) Attachments — Do not use attachments not recommended by the product manufacturer as they may cause hazards.

7) Water and Moisture — Do not use this product near water – for example, near a bath tub, wash bowl, kitchen sink, or laundry tub; in a wet basement; or near a swimming pool; and the like.

8) Accessories — Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.

9) A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.

10) Ventilation — Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

11) Power Sources — This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company. For products intended to operate from battery power, or other sources, refer to the operating instructions.

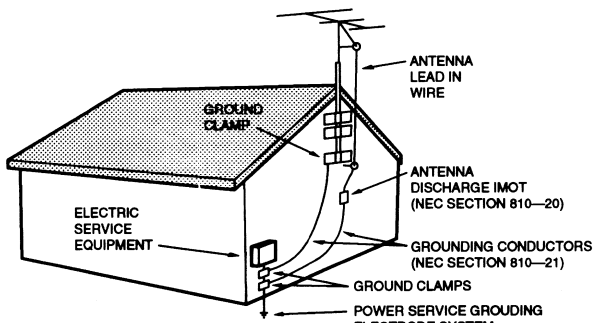
12) Grounding or Polarization — This product may be equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

13) 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 product.

14) Outdoor Antenna Grounding — If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

"Note to CATV system installer:
This reminder is provided to call the CATV system installer's attention to Section 820-40 of the NEC which provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

Example of Antenna Grouding as per National Electrical Code, ANSI/NFPA 70



NEC — NATIONAL ELECTRICAL CODE

15) Lightning — For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.

16) Power Lines — An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

17) Overloading — Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.

18) Object and Liquid Entry — Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

19) Servicing — Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

20) Damage Requiring Service — Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

a) when the power-supply cord or plug is damaged.

b) if liquid has been spilled, or objects have fallen into the product.

c) if the product has been exposed to rain or water.

d) if the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.

e) if the product has been dropped or damaged in any way.

f) when the product exhibits a distinct change in performance-this indicates a need for service.

21) Replacement Parts — When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.

22) Safety Check — Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

23) Wall or Ceiling Mounting — The product should be mounted to a wall or ceiling only as recommended by the manufacturer.

24) Heat — The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

Set-up

1. UNPACKING AND INSPECTION

During unpacking, be careful not to damage the DA-30 MKII. Save the carton and packing material. You may need them to transport your DA-30MKII sometime in the future. In addition to the DA-30MKII the package should contain the rack mount screw kit.

After unpacking, check the units for any evidence of damage due to rough handling during transport. Contact your dealer if you have any questions.

2. INSTALLATION SITE

The DA-30MKII may be used in most areas, but to maintain top performance and prolong operating life, observe the following environmental limitations:

1) Nominal temperature should be 5 to 35 degrees Centigrade (41 to 95 degrees Fahrenheit).

2) Relative humidity should be 30 to 60% (non-condensing).

3) Strong magnetic fields should not exist nearby.

3. RACK MOUNTING

The DA-30MKII can be mounted in a standard 19" EIA rack. Use the supplied mount screws.

4. INITIAL CONNECTIONS

CAUTION: To prevent problems, before attempting any cable connection check to make sure that all units involved in your system are turned off.

A. Input/Output Connections
Make the appropriate cable connections by referring to the connection diagram below and to page 15.

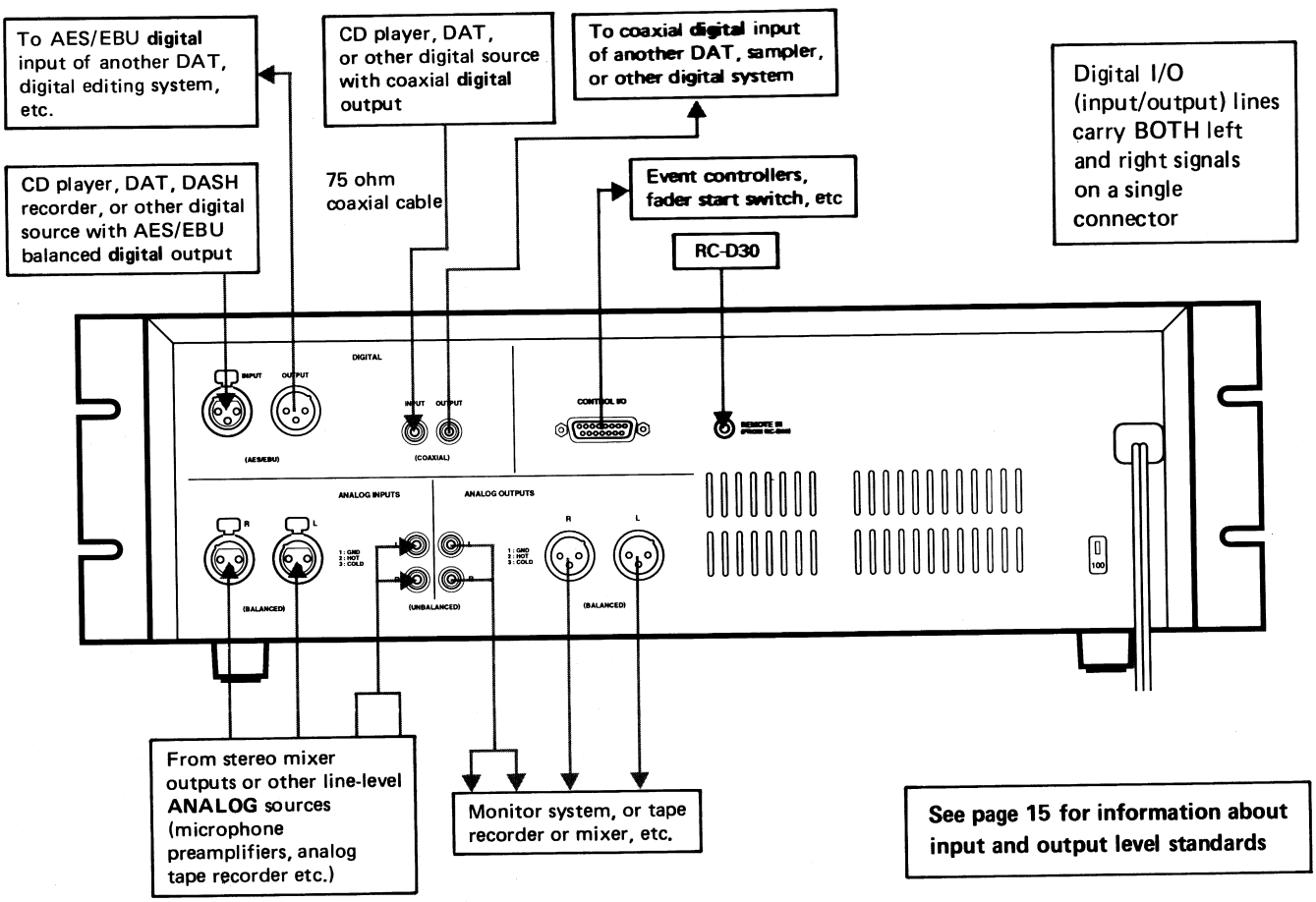
B. Remote Control Connection
Plug the remote control cable into the REMOTE CONTROL mini-plug on the back of the DA-30MKII. There are a number of functions available on the remote control that are NOT available on the front panel.

The optional RC-D30 remote unit is powered from the DA-30MKII, and *cannot* be battery powered. Disregard the word OPEN on the back of the remote.

5. VOLTAGE CONVERSION (General Export Models Only)

NOTE: Voltage conversion is not possible on models sold in the U.S.A., Canada, U.K., Australia or Europe.

Locate the voltage selector on the rear panel and set it with an appropriate tool so that the required voltage shows.



Subcodes

The following subcodes are available with the DA-30MKII:

Subcode		Identifies:	Length and Location of Data Recording:	Recorded Automatically or Not:
Index Data	Start ID	Beginning of each program	9 seconds at the beginning of each program	Auto and Manual
	Skip ID	Point from where tape is made to fast wind to the next Start ID	1 second at the desired point	Manual only
	End ID	End of the existing audio recordings	9 seconds at the end of the last recording	Manual only
	Program Number (PNO)	How many programs from the beginning of the tape is the current one	9 seconds at the beginning of each program	Auto only
Time Data	Absolute Time (ABS)	Elapsed time from the beginning of the tape	Full length of the audio recordings	Auto only
	Program Time (PGM)	Elapsed time from the beginning of each program	9 seconds at the beginning of each program	Auto only

All the above subcode data (except the absolute time) are recorded for the indicated time or, in LONG REC MODE, for twice the indicated time. In passing when recording Start or Skip ID marks with POSITION after once completing audio recording, they are recorded over the indicated length, whether audio was recorded in STANDARD or LONG REC MODE.

NOTE: If play starts from an intermediate point beyond the program-time recorded section, the display does not show the elapsed time from the beginning of the program.

For CANADA

AC POWER CORD CONNECTION

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

CORDE DE CONNEXION CA

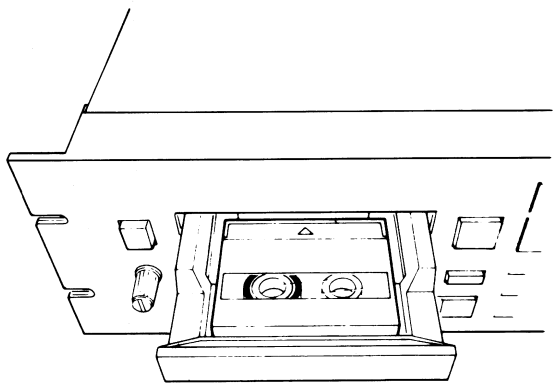
ATTENTION:
POUR ÉVITER LES CHOCS ÉLECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'ÂU FOND.

DAT Cassette Tape

• How to Load a DAT Cassette

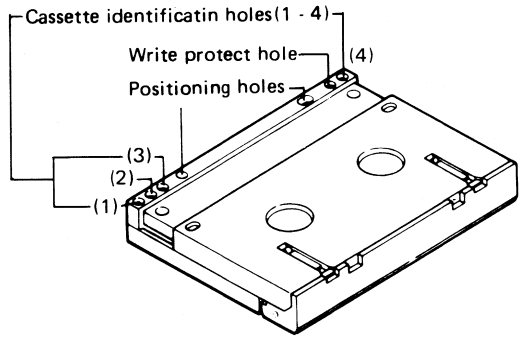
The hinged part of the cassette must go in first, with the clear window facing up. Similar to a VCR tape, the label surface of the cassette will be visible.

Make sure no foreign objects or dirt falls into the tray which can contaminate the transport.



• Structure of DAT Cassettes

Bottom view

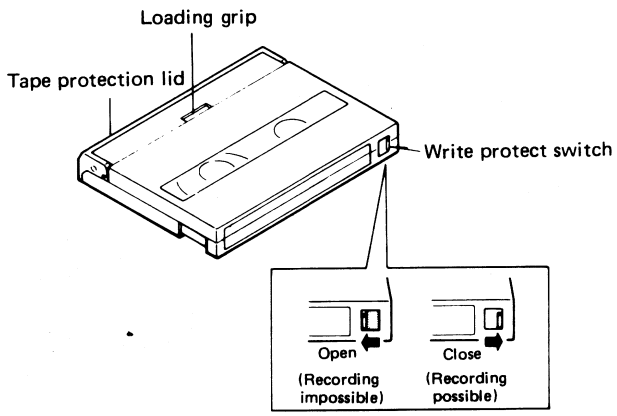


Identification Hole			Signified
1	2	3	
X	X	X	Metal coating or equivalent/13 μm tape thickness
X	○	X	Metal coating or equivalent/Thin tape
X	X	○	1.5 time track pitch/13 μm tape thickness
X	○	○	1.5 time track pitch/Thin tape
○	–	–	(Reserved for auxiliary tape type definitions)

Where: "○" = Open
"X" = Closed

- Hole #4 shows "prerecorded" (Open) or not (Closed).

Top view



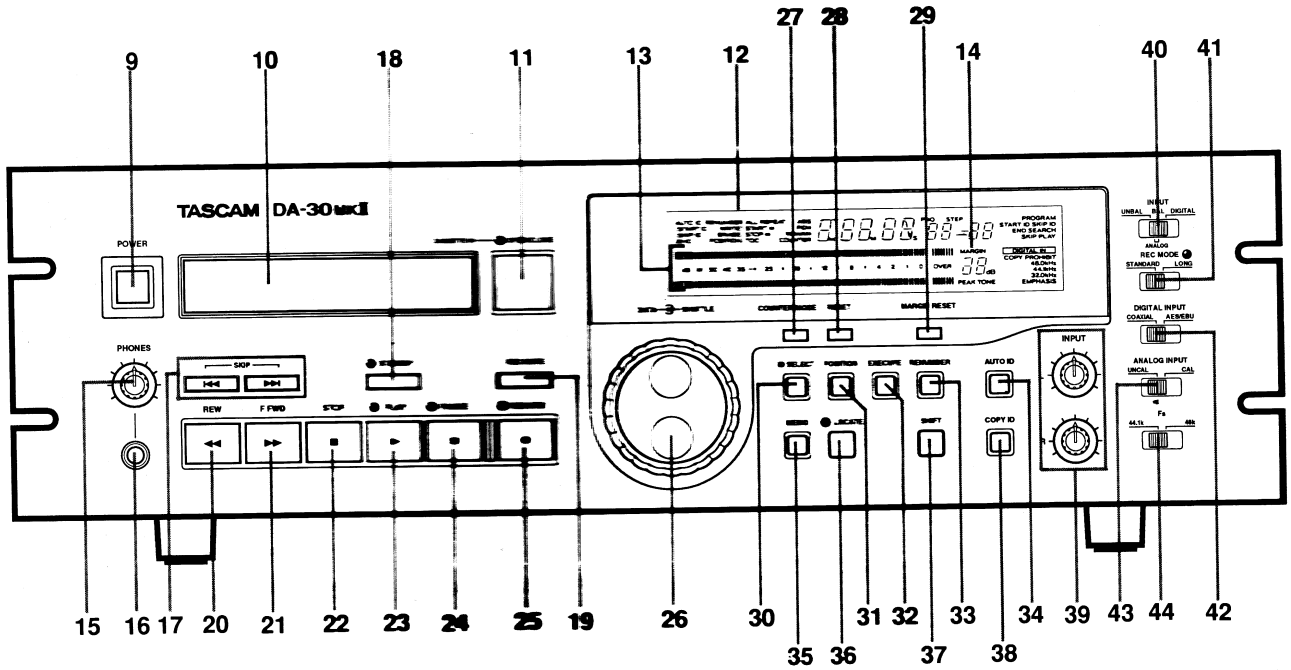
- Dimensions: 73 x 54 x 10.5 mm (W x D x H)
- Tape width: 3.81 mm

Notes:

- Cassette shells are designed so as to prevent touching the tape dirctly by hand.
- DAT cassettes can be loaded and unloaded only when the DA-30MKII is switched on.
- DAT cassettes record and play in one direction only. Do not load DAT cassettes upside down.
- DAT cassettes have a tape protection lid on the front edge to protect the tape. Do not open this lid forcibly, and do not pull the tape out from the cassette or touch it with your fingers.
- Be sure to replace DAT cassettes in their plastic cases for storage.
- Do not place DAT cassettes on a television, speaker or near equipment which could generate a magnetic field.
- The tape used in 180-min cassettes is extremely thin and can cause winding problems, crimping, wrinkling, and other damage to the tape which will destroy your work. Don't use 180-min cassettes in the DA-30MKII.

BEWARE OF CONDENSATION

When the DA-30MKII is moved from a cold to a warm place or used after sudden temperature change, there is the danger of condensation; water vapor in the air could condense on the internal mechanism, making correct operation impossible. To prevent this, or if this occurs, leave the DA-30MKII for 1 or 2 hours with the power turned on, then turn the power off and again on.


TASCAM DA-30mkII
POWER
PHONES
SKIP
REW
F FWD
STOP
INPUT
REC MODE
STANDARD
LONG
DIGITAL INPUT
COAXIAL
AES/EBU
ANALOG INPUT
UNCAL
CAL
AUTO ID
COPY ID
SHIFT
9
10
18
11
13
12
27
28
29
14
40
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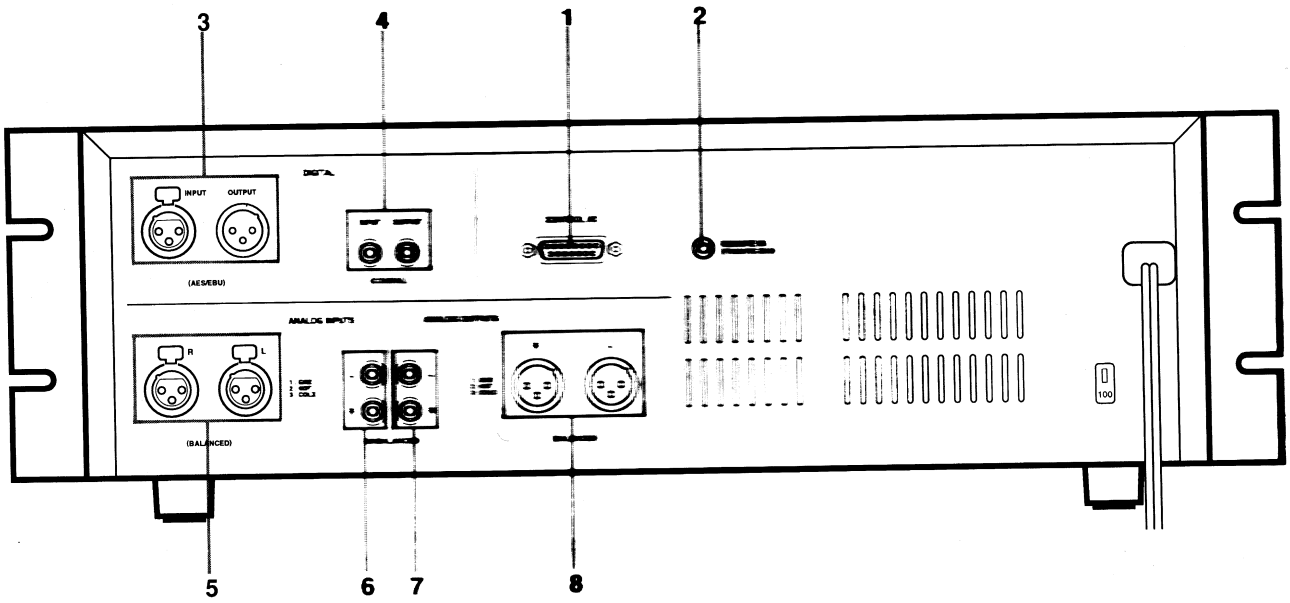

INPUT
OUTPUT
(AES/EBU)
ANALOG INPUTS
R
L
(BALANCED)
3
4
1
2
5
6
7
8

Operations: Playback

1. PLAYING A PRERECORDED TAPE

1. Check to see all the connections have been made correctly.

2. Turn the power on.

3. Press the OPEN/CLOSE button. The tray will slide out, the "CASSETTE IN" indicator will blink and "OPEN" will also blink in the display window.

4. Load a prerecorded DAT cassette in the tray, then close the tray:

   a) Press the OPEN/CLOSE button again or push the tray closed with your hand.
   OR
   b) Directly press the PLAY button. The tray will close and the tape will start playing.

   As soon as the tray starts retracting, "CLOSE" will start blinking instead of "OPEN". Once the tray has closed, "CLOSE" will turn off and "CASSETTE IN" that was blinking will go on solid.

   After the tray has closed with a cassette in it, the tape automatically runs for a short period of time and rewinds back to the original location, during the interval of which the DA-30 MKII reads absolute time and program number data (if available) off the tape into its display.

5. Adjust the PHONES control for the desired listening level.

- To interrupt play press PAUSE. To resume play press PLAY.
- To definitely stop play press STOP.

2. CHOOSING SELECTIONS

1. To advance to the next selection, press SKIP FWD. The tape will fast-forward to the next START ID, and then automatically go into PLAY mode (if STANDBY is not on). You may press SKIP FWD or SKIP REW a number of times to advance or rewind past several selections.

2. To play a specific program on the tape (i.e. "Direct Search"), turn the DATA wheel so that the desired PGM number shows blinking, then press PLAY. Or press a number on the remote keypad (for example, press "5") and press START. If there are PGM numbers and Start IDs on the tape, it will fast wind to that selection and play.

3. AUTOLOCATING TO THE DESIRED POINT

The DA-30 MKII autolocation works by referencing to the ABS time data on tape.

Only one locate point can be set.

By capturing the current point

Press MEMO on the fly or when the transport is in any mode.

The ABS time at that moment is stored in memory defined as an autolocation point as confirmed by the display being flashing for several seconds.

By entering the desired ABS time numbers with the DATA wheel (while in STOP, PLAY-PAUSE or STANDBY mode)

1. Hold SHIFT and press MEMO. The numbers in the hour section will start blinking.

2. Enter the desired hour numbers with the DATA wheel.

3. Press SHIFT to have the numbers in the minute section blink, then enter the desired minute numbers.

4. In a similar way, enter the numbers in the second section.

5. Press MEMO to store the setting in memory. The display will flash for several seconds.

To have the DA-30 MKII autolocate to the location currently stored in memory :

Press LOCATE. The associated LED will blink during the autolocate process, and turn off when the process is complete and the deck stops.

Suggestion: You can see the location currently stored in memory by holding SHIFT and pressing MEMO. The display will automatically be hidden after a while.

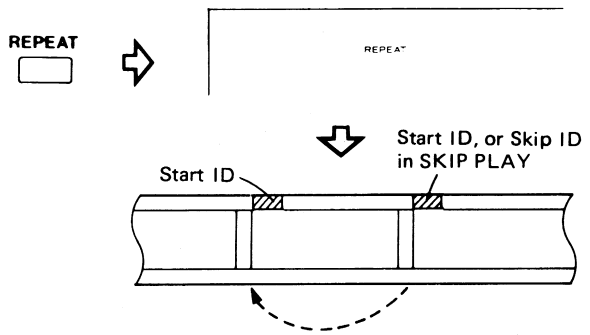
NOTE: The remote numeric keys cannot be used to set autolocate points.

NOTE: Your autolocate point is erased when turning the DA-30 MKII off.

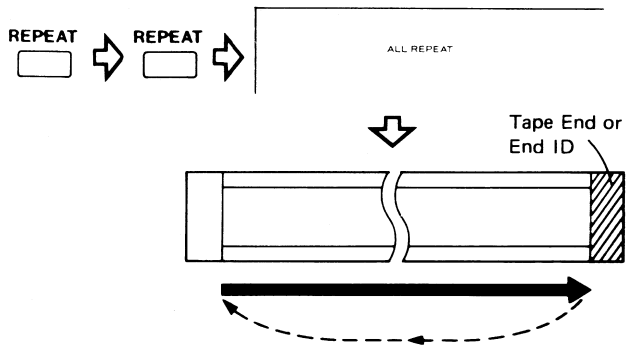
4. REPEAT PLAY

The following can be programed to play over and over up to 16 times or until you press PAUSE or STOP:

- One Selection – Press the remote REPEAT button once during play or before starting play. "REPEAT" will light up in the display. The current program will play over and over.



- Whole Cassette - Press the remote REPEAT button TWICE during play or before starting play. "ALL REPEAT" will light up in the display. The entire length of the tape will continue to play.



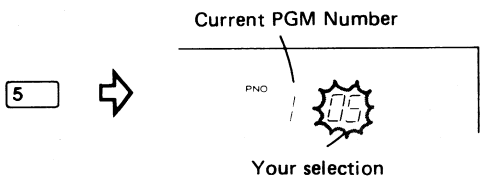
- Sequence of Programs – Press the remote REPEAT button ONCE when a **"PROGRAM"** sequence (see below) is playing or before starting the sequence. "ALL REPEAT" will light and the sequence of programs will continue to repeat.

5. PROGRAMED SEQUENCE PLAY (from the Remote Only)

Up to 50 programs can be loaded into memory for them to be played in their order of entry. Playback of the sequence of programs can be continuously or once thru.

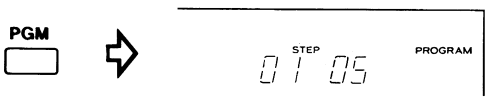
Programing a sequence is only possible in STOP.

1. Using the remote numeric keys, enter the number of the program you want to play before any other programs. The numerals entered will be blinking in the display.



- If you make a mistake press CLEAR and enter the correct numerals.

2. Press the remote PGM key. "STEP 01" will be displayed instead of the current program number ("PNO"), and the word "PROGRAM" will turn on solid in the display.



3. In a similar way, put the other desired programs into memory in their order of play.

- If you want to check the sequence press CHECK. Each time you press CHECK, the number of the next program in memory will be displayed. When you have browsed through the whole sequence "EE" (stands for End) will appear in the display window.

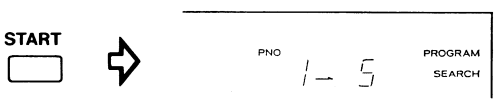
- To erase an entire program – To quit program play, press STOP, and the entire PROGRAM memory will be cleared so you can start again.

- To delete only the last PGM in a sequence, press CLEAR.

- You can't delete a PGM in the middle of a sequence, without pressing CLEAR to remove all of the PGMs following it first, or deleting all the program memories by pressing STOP. You can then re-enter the programs that *were* behind that particular program.

- To change the whole sequence – Press STOP to clear all the memories, and try again from the beginning.

4. To start the sequence play – Press the remote START button. "SEARCH" will light up in the display. When the start point of the first program in memory is located, "SEARCH" will disappear and play will start.



- You can use **SKIP** to fast wind the tape to the start point of the next or the last program in memory. In PROGRAM play SKIP disregards all programs that are not in memory.

- To stop the sequence, press PAUSE or STOP.

- To clear the program memories, press STOP (not CLEAR) in STOP. Pressing CLEAR has only the effect of clearing the last program in memory.

CAUTION: Use care not to accidentally press STOP twice if you are in PROGRAM mode, unless you want to delete the entire PGM memory.

Operations: Recording

1. DIGITAL/ANALOG AUDIO RECORDING

1. Refer to the connection diagrams on page 4, and connect your recording source to the correct inputs of the DA-30MKII.
2. Turn the system on.
3. Load a blank DAT cassette tape; or, if you intend to add a new recording to the existing recordings, load the tape containing those recordings.
4. *ANALOG SOURCE RECORDING*

   a. Make the following switch settings:

   INPUT: BAL for selection of the XLR type input connection; UNBAL for selection of the RCA jack connection.

   ANALOG INPUT : Set to CAL if the nominal output level of the source unit in use is +4 dBm or -10 dBV. Otherwise, set the switch to UNCAL so that you can operate the INPUT level controls.

   SAMPLING FREQUENCY: Set to 48 kHz for standard DAT recording, or to 44.1 kHz if the recording will be used as a digital CD master recording.

   b. Put the deck into "Input Monitor" (or "sampling monitor") mode by holding the remote's STOP and pressing its RECORD (or, alternatively, press the sole RECORD of the DA-30MKII in STOP). Then, adjust the INPUT L and R level controls so that peaks from the source unit don't reach the OVER area in the peak level meters.

   c. Press MARGIN RESET to see the instantaneous peak level of the current signal. The maximum level will read "0" in the MARGIN display, meaning that you have recorded to the maximum level allowable and there is no headroom left. If you exceed the maximum level, the "0" will blink, indicating the tape is distorted.

   DIGITAL SOURCE RECORDING

   Set the INPUT select switch to DIGITAL and set the DIGITAL INPUT select switch in accordance to the connection. If the digital source is transmitting, the correct sample frequency will automatically be chosen and displayed.

   - Recording digital sources does not require any input level adjustment.
   - Copy ID Marks: Copy ID is the fag which determines how many generations of digital copy one can make from the DA-30MKII to other digital machines conforming to SCMS (Serial Copy Management System).

     The following three are available :

     - 00 (copy enable flag) : indefinite number of generations of copy can be made.
     - 10 (copy prohibit flag) : no digital copy can be made.
     - 11 (once enable flag) : only one generation can be made. To make a copy of a copy is impossible

     The DA-30MKII defaults to "00." If you want to change the setting, hold SHIFT and press COPY ID (except in Record mode) until "10" or "11" shows as required.

   This setting is required and valid only when recording consumer format digital data following the SCMS.

   You cannot record or edit Copy IDs after once audio recording is complete.

5. If you intend to record an analog source or a digital source which was recorded at a sampling rate of 32 kHz, set the REC MODE switch to STANDARD or to LONG as desired. Selecting LONG enables recording at 1/2 X standard speed.

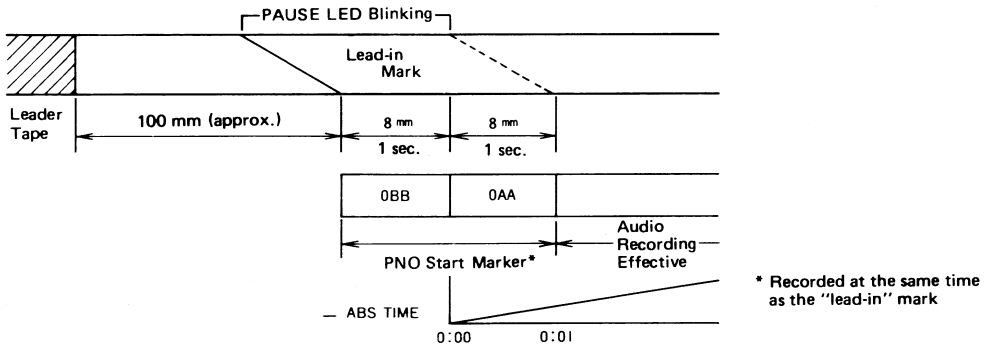
   NOTE: If you intend to record a digital source, the selection of LONG REC MODE is effective only when the sampling rate used on the part of the source is 32 kHz. If the source was originally recorded at 44.1 or 48 kHz, the DA-30MKII automatically goes into STANDARD mode.

6. ***If you are using a new blank tape*** **— Press REW (regardless of the current tape position). The tape will be located to a point 100 mm ahead of the end of the leader tape. If you do not perform this step, or record from the middle of a blank tape, ABS time will not be recorded in the subcode area for later reference, and the ABS display will be blank.**

   If you are using a tape containing some programs previously recorded **— Locate the tape to the end of the existing recordings using the remote END SEARCH function. This will locate to the first "unformatted" section.**

   CAUTION: Don't overwrite. First, erase the first several seconds of existing recording(s) by recording no-signals. Otherwise, parts of the existing recordings may be left, or when played back, first notes may be clipped off or traces of ID marks may prevent search features or others from functioning correctly.

   - Note that "blank" tape that has never been recorded is different from "blank" tape that has been recorded with silence — the latter is recorded with subcode information such as ABS and PROGRAM time information. The remote END SEARCH function locate the DA-30MKII to the first totally blank unformatted section, not the first "silent" section.
   - If the recorded section of the tape was recorded with ABS time in the subcode, ABS time will continue recording from the END SEARCH point.



7. Hold RECORD and press PAUSE.

   - Automatic Lead-in Feature: When recording in digital or analog using a new blank tape, the DA-30MKII's PAUSE LED indicator blinks for a few seconds while a "lead-in" mark is automatically recorded. While the PAUSE LED is blinking, do not change settings of the Input Select (40), REC MODE (41), DIGITAL INPUT Select (42), or Fs (Sampling Frequency) Select (44) switches.
     As a result of automatic "lead-in" recording, tape playback can begin at the "lead-in" mark rather than at the very start of the audio recording, so the beginning of the recording can be heard completely and unclipped. See diagram above.

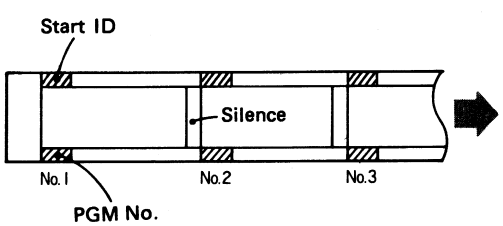
   - Directly entering RECORD-PLAY mode (without first passing through RECORD-PAUSE mode) will also automatically record the "lead-in" mark before actually starting normal audio recording.

     CAUTION: While the "lead-in" mark is recording (PAUSE LED blinking), no audio can be recorded. To follow a tight audio record start, first record the "lead-in" in RECORD-PAUSE instead of directly going into RECORD-PLAY mode.

8. START ID marking options: Start IDs are electronic index marks in the subcode area of the tape that make it easy to find the start of each selection on the tape. You can make START ID marks during the initial audio recording, or add them to the recording later. Consider the following possibilities before actually initiating audio recording:

   AUTO ID: In this mode, a Start ID and Program Number will be automatically recorded at each occurrence of audio levels exceeding -54 dB or user-selected decibels (discussed below) after a lapse of about 3-second lower levels or silence.

   - Press the AUTO ID key, and check to see "AUTO ID" lights in the display.



Note that a quiet passage ("pianissimo") might cause the beginning of the next passage to be indexed and numbered as if it were a new program. Don't worry. You can correct it (with "Start Erase") later.

Suggestion: The sensitivity level of the AUTO ID circuit defaults to -54 dB but can be set to -60, -66, -72 or -48 dB. If you want to change the sensitivity level, hold SHIFT and press AUTO ID until the desired level shows when the DA-30 MKII is stationary (in STOP, PLAY-PAUSE or STANDBY mode), or while it is playing. Don't use -72 dB but for digital recording.

CAUTION: Use AUTO ID from the beginning of tape. If you use the function from an intermediate point, Start IDs are recorded but not Program Numbers (unless the previous PNO is read).

MANUAL START ID WRITE: You can manually index the beginning of each program. Program time is automatically recorded together with START IDs. This is done with AUTO ID turned OFF.

- In STOP, PLAY or RECORD modes, press the ID SELECT button until "START ID WRITE" lights in the display. START ID WRITE is actually executed on the tape when you hit EXECUTE after once recording starts. (You can also hit EXECUTE during play too.)

  Start ID recording is noted by "START ID" flashing on the right hand side of the display. Start IDs last approximately 9 seconds or, in LONG REC MODE, 18 seconds. They can be recorded anywhere on a tape, as long as there are at a minimum 30 seconds in terms of ABS time.

- While a START ID is being written, all transport buttons except for STOP are locked out.

9. **Press PLAY.** Recording will initiate.

If you have turned on "AUTO ID", the instant the first note of the music is actually fed to the tape, recording of the following starts at the same time:

Start ID reference
Program Number (PNO) (if starting a tape, or if the previous PNO was read)
Program Time
Absolute Time (if at the head of a blank tape, or after an End Search)

The first three items are recorded in the digital subcode for 9 or 18 seconds depending on REC MODE each time a new audio recording is made. Program Time (PGM) provides the elapsed time since the beginning of each song. Absolute Time (ABS) is a recording of the time elapsed since the beginning of the tape. No matter how many times recordings are repeated, ABS will be re-recorded with the correct numbers from the previous recording.

- **To interrupt audio recording temporarily,** press PAUSE. A subsequent pressing of PLAY will resume the recording.
- **To definitely end recording,** press STOP. Or, you may want to end recording by indexing that point as explained below.
- **To insert a "no-signal" silent interval of 4 seconds while recording,** press the REC MUTE button. The RECORD LED indicator will start blinking. After 4 seconds the deck will go back to Record Ready mode.

If you have already stopped recording, hold RECORD and press PAUSE, then press REC MUTE.

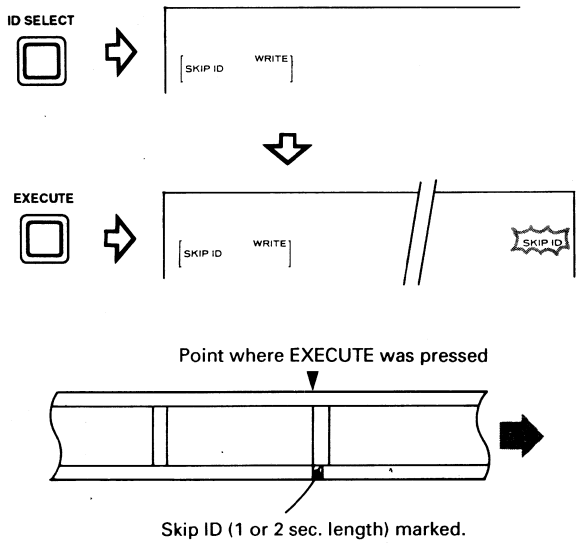
- When recording Digital Sources – **If "32 kHz" and "48 kHz" blink alternately** in the display, it shows the following:

a) The DIGITAL INPUT select switch is not set to the correct position;
b) There is an improper connection somewhere in your recording system;
c) Your system includes a unit or units that are not turned on.

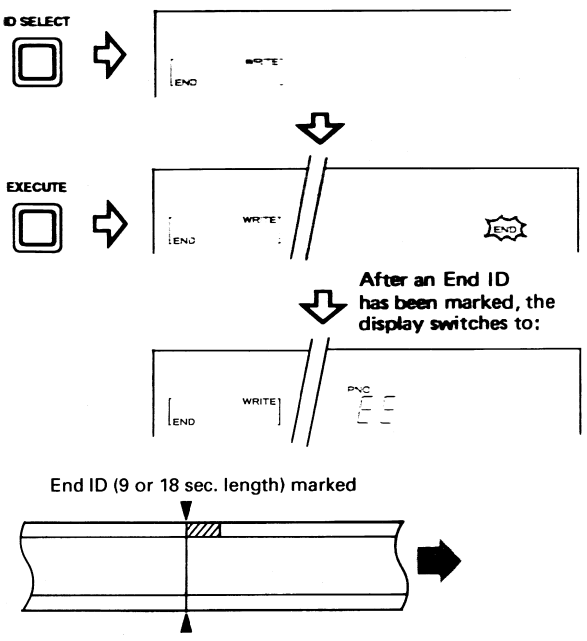
- While audio recording is taking place, you can lay Skip ID and End ID references on the tape at the desired moment, manually.

To record Skip ID references – Press the ID SELECT button repeatedly until the display shows "SKIP ID WRITE". At the desired moment, hit the EXECUTE button. "SKIP ID WRITE" will blink for 1 second (or 2 seconds in LONG REC MODE), during which a Skip ID reference is recorded on the tape. When this tape is played back later in SKIP PLAY, as soon as that Skip ID reference is detected, the tape will fast forward and play will resume from the next Start ID rference point.

If SKIP PLAY mode is off, the DA-30MKII ignores Skip IDs.



To record End ID references – (Important: Recording an End ID results in stopping the deck.) **Press the ID SELECT** button until "END WRITE" **lights in the display.** At the desired moment, hit **the EXECUTE button.** "END WRITE" will blink **showing an End ID reference** is recordng. After 9 **or 18 seconds (depending on** REC MODE) the **indication will go out and** the tape will **automatically rewind, stopping** at the beginning **of that End ID reference recorded.** The tape may be located **from whatever the** current position is to that point **simply by pressing** the remote END SEARCH button.



2. EDITING START IDs, SKIP IDs, AND PROGRAM NUMBERS

NOTE: Before anything else, check to see the write prohibit tab and hole on the cassette are NOT open.

1. INDEX EDITING

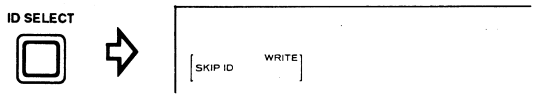
1-1. Positioning Start and Skip IDs

Both the start and skip indexes can be placed with 5 frame (150 milisecond) accuracy using the POSITION feature.

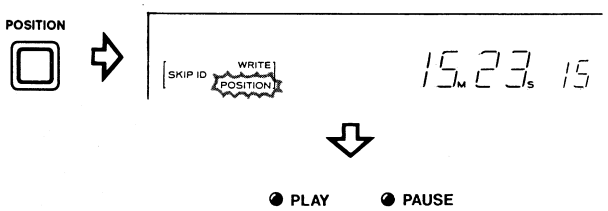
Preliminary Notes:

1) POSITION cannot "move" a START or SKIP ID already marked in the subcode. You must first erase the ID mark and use POSITION to write a new mark. If you press POSITION too close to an existing ID mark, the deck will go to STOP (in step 3 below).
2) POSITION relies on Absolute Time (ABS) data recorded on the tape. You can't "position" any point where ABS data is not previously recorded.
3) When Start/Skip Indexes are actually recording in POSITION mode, all transport controls are locked out except for STOP.

1. In PLAY mode, press the ID SELECT button repeatedly until "START ID WRITE" (or "SKIP ID WRITE") appears in the display window.

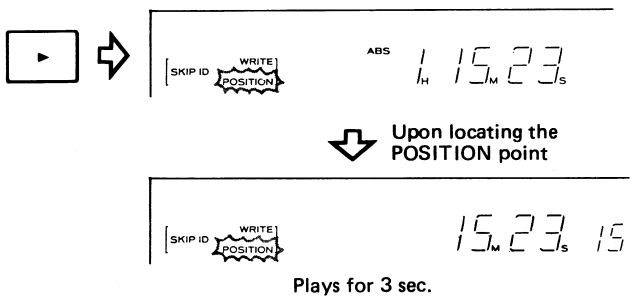


2. As you hear the appropriate point, **press POSITION.**
   - The absolute time of that point will be read out in the time counter window and "POSITION" will blink while the deck will go to pause mode.

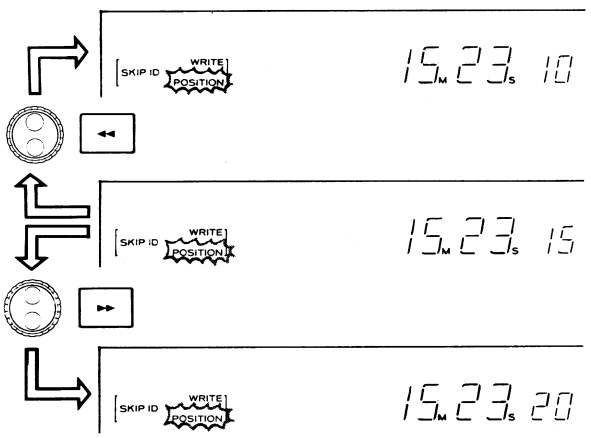


3. To audition your original cue point, **press PLAY.** The tape will rewind back to the point where the POSITION button was pressed, during which the absolute time display will decrement. You will hear the approximate starting point of the cue, and then the deck will go back into PAUSE mode. You can audition the cue point as often as you wish.

NOTE: Due to transport ballistics, the actual play starting point will shift slightly depending on whether the deck is started from a STANDBY PAUSE mode, or DIRECT SEARCH/PLAY mode. If start times are critical for your application, you will need to experiment with different "frame settings" depending on which search/play you will use.

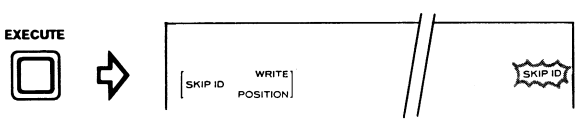


4. To change the edit point in either direction, trim the absolute time display by pressing F.FWD and REW or with the DATA wheel. Each time the button are pressed or as you rotate the wheel, the display will increment/decrement in steps of 5 frames (150 milliseconds), up to a limit of 50 frames ahead or behing the original POSITION.



5. Audition the new cue point by pressing PLAY. Repeat steps 3 and 4 until you are sure that the POSITION point is correct.

6. To actually write the chosen point, press the EXECUTE button to begin indexing.



IMPORTANT: After Start ID references have been added, RENUMBER can be used to add the correct PGM number to each Start ID on the tape. However, under some circumstances this can shift the cue point of the Start IDs slightly.

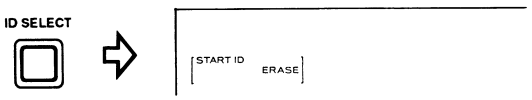
1-2. Erasing Start/Skip Indexes

Effects of erasing ID marks: Erasing a Start ID will also erase its Program Number at the same time. This will make any following PGM numbers out of sequence (for example, if you erase Start ID #4, the following PGM still carries the PGM number 5 unless you go through the RENUMBER operation).

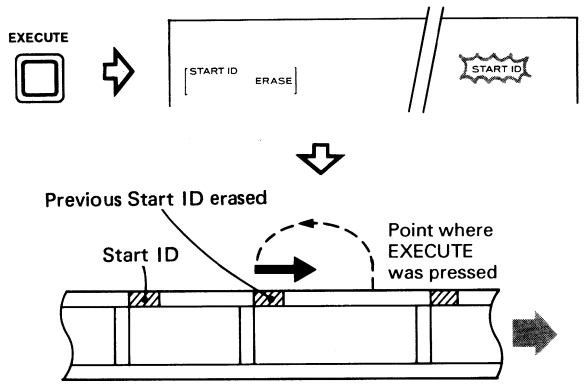
In addition, if a skip index exists somewhere on the length of a start index, that skip index also will be erased together with the start index.

Note, however, that a Start or Skip ERASE operation should not affect any of the audio data recorded on the tape.

1. During play or in STOP, press the ID SELECT button until "START ID ERASE" (or "SKIP ID ERASE") lights up in the display.



2. Press the EXECUTE button. The tape will rewind back to the beginning of the previous start (or skip) index mark, and begin erasing the mark in PLAY mode. "START ID ERASE" (or "SKIP ID ERASE") will blink in the display. When erasing is complete, the tape will continue to play normally.



1-3. End Indexes

Indexing an end of programs can only be possible in Record mode (see above, page 12, "To record End ID references").
When a new audio recording starts from the beginning of the previous end index recording, (i.e., after an END SEARCH operation), the old END ID will be erased.

CAUTION: Don't write an END ID at an intermediate point of the existing audio recordings, which invalidates all the recordings that follow the End ID. For example, if your tape contains 10 PGMs and you re-record PGM #3 and terminate it by writing an End ID mark, then the tape will not run past that point and you can't gain access to PGMs #4-10 unless you erase that End ID by re-recording PGM #4.

2. PROGRAM NUMBERS

2-1. Numbering Programs

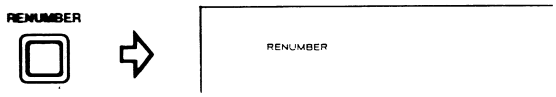
Each time a new audio recording is added with AUTO ID on to the end of the existing recordings, they are automatically numbered in sequence provided that the DA-30MKII has "read" a valid PGM number from the previous start ID.

2-2. Renumbering

Under certain circumstances, the PGM numbers on a tape will be out of order:

1. After a START ID is added in-between existing IDs
2. If a previous START ID is erased
3. If a Start ID is added to the end of a recorded section before the tape has passed a previous Start ID with a valid PGM number

In any case, all programs need to be renumbered in order. In play or STOP, press RENUMBER.



- The tape will rewind to the beginning of the tape, and will write the PGM Number "1" at the first Start ID it finds. It will then automatically advance to each Start ID on the tape, and write the next program number into the subcode until all the existing Start IDs have PGM numbers in the proper order.

Do not press STOP to interrupt the machine while "RENUMBER" is showing in the display.

- If you erase a Start ID, its Program Number (PNO) is automatically erased also. There is no way to erase only the PNO without erasing the Start ID.

Features and Controls

REAR PANEL

1. **CONTROL I/O Connector:** This is a contact-closure type parallel port for controlling the DA-30MKII transport from external devices such as the event relays of synchronizers, fader start switches, electric timers and sensors, and custom-made applications. Only the basic transport functions, plus Start ID Write, are available via this port. A momentary trigger pulling the appropriate pin to ground will activate that function. In addition, the output pins provide voltages to indicate what the current status of the DA-30MKII is.

   See page 23 for a complete diagram.

IMPORTANT: This is not a serial control port. Do not connect it to the RS-232 port of any computer, or to a TASCAM synchronizer.

2. **REMOTE IN Connector:** For connection of the optional RC-D30 remote control unit. With the remote you can control the DA-30MKII from distance up to 15 ft (5 m).

3. **DIGITAL INPUT/OUTPUT (AES/EBU):** These are electronically balanced ports with XLR connectors conforming to the AES/EBU professional digital protocol (IEC 958 type I). They are for connection to external digital equipment with I/O ports conforming to AES/EBU standards.

4. **DIGITAL INPUT/OUTPUT (COAXIAL):** These RCA INPUT and OUTPUT jacks are for connection to the consumer type (SPDIF, IEC 958 type II) digital I/O port of external digital audio equipment through a 75 ohm coaxial cable.

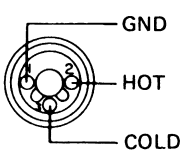
5. **ANALOG INPUTS (BALANCED):** These electronically balanced XLR type connectors accept balanced analog sources. Nominal input level is +4 dBm (1.2 V).

6. **ANALOG INPUTS (UNBALANCED):** These RCA jacks are for plugging unbalanced analog sources into the DA-30MKII. Nominal input level is -10 dBV (0.3 V).

7. **ANALOG OUTPUTS (UNBALANCED):** For connection to the unbalanced analog signal inputs of external equipment. Nominal output level is -10 dBV (0.3 V).

8. **ANALOG OUTPUTS (BALANCED):** For connection to the balanced XLR-type analog inputs of external units. Nominal output level is +4 dBm. Maximum output level is +20 dBm.

XLR-type Input/Output Connectors (Balanced): Pin 1 is GND (Shield), Pin 2 is Hot (High) and Pin 3 is Cold (Low).



FRONT PANEL

9. **POWER Switch:** Controls the power to the DA-30MKII/optional RC-D30. When POWER is turned on with a tape loaded, the counter display will show the following indications.

   - Absolute Time ("ABS")
     If the tape is blank and contains no ABS information, the counter will switch to Tape Counter mode, as indicated by "COUNTER".
   - Current Program Number ("PNO")

     If "——" is indicated instead of any number, it shows the program is not numbered or the tape is located at a point in-between PNO marks.
   - "AUTO ID" indicator (unless the cassette's write protect switch is on).
   - The sampling rate of the prerecorded tape will be displayed.
   - If the INPUT switch is in the DIGITAL position, "DIGITAL IN" will be lit.

   When POWER is turned off all memories (PGM and autolocate point) are cleared.

10. **Cassette Tray:** For loading DAT cassettes only. Normal audio cassettes are not acceptable.

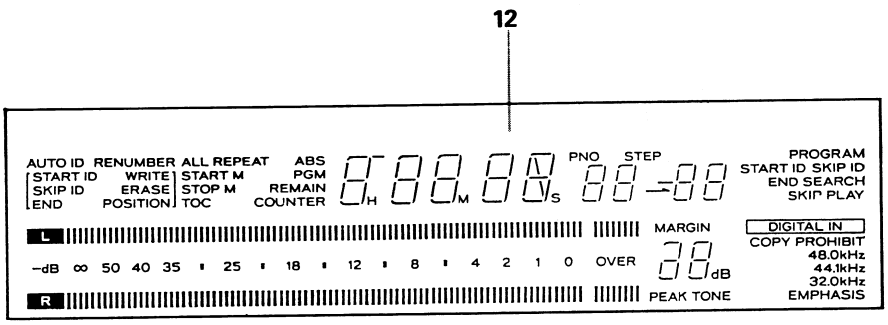
11. **OPEN/CLOSE Button and CASSETTE IN Indicator:** When the button is first pressed the cassette tray will slide out and the CASSETTE IN indicator will start to blink. After a cassette has been loaded, pressing the button again will retract the tray and the indicator will turn on solid.
    The OPEN/CLOSE button can open the tray even when a tape is currently playing. Use care not to accidentally press this button.

12. **Display Window:** Provides you with a variety of information/messages, keeping you aware of what is currently taking place.

    ABS: Indicates the elapsed time from the beginning of the tape up to the current position. If "-- ---" is displayed in ABS mode, the tape was not recorded with ABS data.

    During POSITION mode, the DAT frame position is displayed in smaller numbers next to the Seconds display. POSITION can adjust this point in 5 frame increments.

    PGM: Indicates the elapsed time from the start of the program currently being played back. The DA-30MKII will calculate elapsed time since the previous Start ID. PGM will display "-----" if the tape is inserted in-between Start IDs.



REMAIN: When a prerecorded music tape (encoded with "TOC") is being played back, this indicates the time remaining, from the current position to the end of tape. If a TOC is not present, an approximate remaining time will be calculated between the ABS time and the tape length sensors provided on the DAT shell.

PNO: In PROGRAM and CHECK modes, the PNO display shows the order of a program in the sequence.

STEP: This number displayed to the right of the arrow shows how many times the SKIP button has been pressed during SKIP SEARCH. In DIRECT SEARCH mode, it shows the specified PNO being seached for.

NOTE: When recording in LONG REC MODE or playing back a tape that was recorded in LONG REC MODE, multiply indicated hours, minutes, and seconds by two to find actual elapsed or remain time.

13. **Peak Level Meters, L and R:** These meters register input levels during Record Ready, Input Monitor (see #25) or Record mode and, output levels during Play.

14. **MARGIN** is a digital peak-hold meter, showing the available headroom before digital saturation is reached and distortion occurs. It holds the highest reading since MARGIN RESET was last pressed, (or since a new tape has been inserted). It ranges between -39 and 0 dB. During recording, if "0 db" is flashing, it indicates that the meter reached the OVERload point and distortion occured. The OVER indication can not appear while in playback.

15. **PHONES Level Control:** Adjusts the listening level of the headphones plugged into the jack just below the control.

16. **Headphone Jack:** For connection to stereo headphones only. Don't use 2 conductor mono headphones with this jack.
The built-in headphone amplifier is rated at 100 mW into an 8 ohm load.

17. **SKIP Buttons:** Effective in PLAY, PAUSE, and STOP.
When pressed once, the left button rewinds the tape to the beginning of the **current** program. Press the button repeatedly to skip over several programs.

    Similarly, each time the right SKIP button is pressed, the tape will be located to the beginning of the next program.

    - During a PROGRAM play, the function is limited to the programs in memory.

18. **STANDBY Button: When** this indicator is lit, the DA-30MKII will automatically enter PAUSE mode instead of play after any of these search operations: PROGRAM PLAY, SKIP, or DIRECT SEARCH. Play will start when PLAY is pressed on the front panel, the remote, or through the Control I/O port.

    NOTE: The DA-30MKII will automatically leave PAUSE mode after about 8 minutes.

19. **REC MUTE Button:** Pressing this button during record or record ready (RECORD PAUSE) causes an LED indicator to blink above the RECORD button and the tape to run for 4 seconds, leaving a "no-signal" recording on the tape. Thereafter the deck will automatically enter record ready mode.

20. **REW Button:** Winds the tape at high speed in reverse.

21. **F.FWD Button:** Similar to REW.
The button winds the tape at high speed in the forward direction.

22. **STOP Button:** Stops any tape motion and disables any function that was on. *Pressing STOP twice erases the PROGRAM memories.* STOP also stops the DAT head drum from spinning against the tape.

23. PLAY Button:

a) If pressed while in STOP, starts tape playback.
b) If pressed while in record ready (RECORD PAUSE), starts recording.
c) If pressed after PAUSE, resumes playback from the point of interruption.
d) If pressed while the tray is open, closes the tray and starts play.

24. PAUSE Button:

a) Pressing this button in record or play mode temporarily stops the tape. Pressing PLAY resumes record or play accordingly.
b) If PAUSE is pressed in stop mode, the deck enters Play Ready mode, waiting for you to press PLAY to start playback.

NOTE: If you interrupt record by pressing PAUSE and leave the unit in that status, the unit will automatically go to "Input Monitor" mode after 8 minutes. To resume record from that mode, press STOP to deactivate the mode, then press again RECORD and PLAY.
If you interrupt play by pressing PAUSE and leave the unit in that status, then the unit goes to STOP after 8 minutes.

25. RECORD Button:

a) Pressing this button together with PLAY initiates recording (RECORD LED lit).
b) If PAUSE is pressed while pressing RECORD, the deck enters "Record Ready" mode.
c) Pressing RECORD alone in STOP mode activates "Input Monitor" (or "Sampling Monitor") mode.

Difference between the "Record Ready" and the "Input Monitor" mode:

Record Ready is a mode accessible by holding RECORD and pressing PAUSE, or by pressing PAUSE after RECORD. The head drum is in motion in this mode. After 8 minutes, the mode is automatically cancelled.

Input Monitor mode is entered by pressing RECORD in STOP (or if you leave the unit in REC PAUSE for 8 minutes). The drum is not in motion. To leave the Input Monitor mode, press STOP.

The Input Monitor mode can be entered even when no cassette is inserted to the deck or a write-protected cassette is inserted.

Depending on whether the input signal is digital or analog, "d-A" or "A-d-A" will show in the display, respectively.

In either mode (Record Ready or Input Monitor), the proper recording levels can be set. The digital outputs of the DA-30MKII are transmitting data in either mode, but are not affected by the INPUT level controls.

NOTE: Pressing the *remote* RECORD button alone in STOP has no effect. To activate Input Monitor mode from the remote, hold the remote RECORD and press STOP or, inversely, hold STOP and press RECORD.

26. DATA/SHUTTLE Wheel: The inner DATA wheel is used to enter a program number for fast-search or to increment/decrement the ABS time display for trimming a Start or Skip ID position. The outer SHUTTLE knob offers high speed cueing ; as you rotate the knob to the right, the tape runs forward, and as you rotate the knob to the left the tape runs in reverse, at continuously variable speeds determined by the amount of knob rotation (up to 16 times normal play speed).

27. COUNTER MODE Switch: Each time this switch is pressed the display shows the following information in sequence:

1. Absolute Time: Elapsed time from the beginning of the tape, shown in hours, minutes and seconds. "ABS" lights up in the display.

2. Program Time: Elapsed time from the beginning of each program, shown in hours, minutes and seconds. "PGM" lights up in the display.

3. Remaining Time: Total time remaining on the tape, shown in hours and minutes. "REMAIN" lights up in the display.

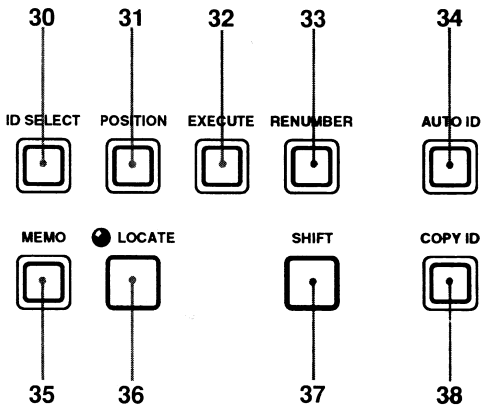
   - Due to differences between tapes from different manufacturers, available REMAIN time may differ from the display.

   - If TOC ("Table Of Contents") exists on the tape, the Remain Time is indicated with second accuracy.

4. Counter: The distance the tape has moved from a zero reference point. "COUNTER" lights up in the display.

28. RESET Button: Resets the tape counter to 0000. This button has effect only when the display is switched to Tape Counter mode, as indicated by the appearance of "COUNTER" in the display window.

29. MARGIN RESET Button: Defeats a MARGIN (headroom available) indication so new readings can be taken (see no. 14 above).



30. **ID SELECT Switch:** Each time this switch is pressed (when tape is moving or not) the following ID ("Index") modes are selected in sequence, as indicated by the displays. The modes that can be entered differs depending on the current transport mode as shown.

Transport	ID Mode
Record	START ID WRITE SKIP ID WRITE END ID WRITE
Play/Stop	START ID WRITE* SKIP ID WRITE* START ID ERASE SKIP ID ERASE

* Cannot be executed in STOP.

After the display indicates the desired ID mode, pressing the EXECUTE button (no. 32) will actually execute the ID mode selected. See also the operation section, "Recording".

31. **POSITION Button:** This allows you to precisely locate a START or SKIP ID marker within 5 frames before performing the WRITE operation. It sets a tentative marker point, allows you to shift the Start/Skip ID marker using the F.FWD and REW buttons or the DATA wheel (within the limits of +/- 50 frames), and allows you to audition the point. See also page 13.

32. **EXECUTE Button:** Actually executes the ID modes selected by the ID SELECT switch (no. 30).

33. **RENUMBER Switch:** Press to begin the RE-NUMBER operation and label each START ID with its own Program Number (PNO) in order.

34. **AUTO ID Button:** When "AUTO ID" is displayed, Start IDs and Program Numbers will be automatically marked in the subcode area of the tape each time a new selection (a silent period followed by signal) begins during recording. AUTO ID works with both digital and analog inputs.

    Each time POWER is turned on, the "AUTO ID" indicator should light up in the display, unless the cassette's record protect switch is on.

    If you turn the indication off by pressing the AUTO ID button, both Start ID references and Program Numbers are not recorded.

35. **MEMO Button:** Stores the current ABS time into memory defined as an autolocate point.

36. **LOCATE Button:** Causes the DA-30MKII to autolocate to a point selected by MEMO.

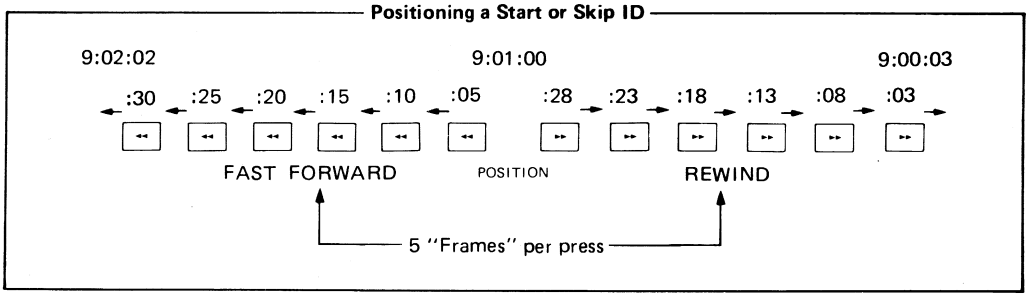
37. **SHIFT Key:** Used to alter the function of other keys.

    SHIFT + MEMO displays the currently stored autolocation point.

    SHIFT + AUTO ID changes the sensitivity level of the AUTO ID circuit.

    SHIFT + COPY ID allows you to select a Copy ID mark.

38. **COPY ID Button:** See 37. Pressing only this button has the display show the currently selected Copy ID flag (00, 10 or 11).



39. **INPUT Level Controls, L and R:** Valid only for the record level of analog inputs.

    These controls have no effect during digital source recording.

40. **INPUT Select Switch:** Selects the analog XLR balanced inputs, the analog RCA unbalanced inputs, or the digital input as the source of the DA-30MKII. When the switch is set to the DIGITAL position, "DIGITAL IN" will light up in the display window, and the signal at the analog inputs are ignored.

41. **REC MODE Switch:** With this switch set to LONG, a 60-minute tape offers a 120-minute recording time, a 90-minute tape offers a 180-minute recording time, and so on. When the switch is set to STANDARD, you have the same length of recording time as that labeled on tapes.

    You can select the LONG mode only when recording from analog sources or when recording digital sources at a 32- kHz sampling rate.

42. **DIGITAL INPUT Select Switch:** COAXIAL for activating the RCA jack digital connection (as found on most consumer digital equipment), and AES/EBU for selecting the XLR type connector for interface to professional digital devices.

43. **ANALOG INPUT Select Switch:** When the switch is set to CAL, the DA-30MKII sets itself up to work with a nominal +4 dBm (balanced) or -10 dBV (unbalanced) input level. Normally, you can leave the switch at CAL to achieve recording at optimum level because the output of most of the professional analog units is meant to operate at either of these levels. But, if your source unit transmits signals at different nominal levels, set the switch to UNCAL so that you can adjust the input level with the INPUT L and R controls.

    NOTE: When the switch is set to CAL, make sure that there is no risk of peaks' reaching the OVER area in the peak level meter.

44. **Fs (Sampling Frequency) Select Switch:** This selects the sampling frequency that will be used for recording analog inputs only. The two frequencies are 44.1 kHz or 48 kHz. 44.1 kHz is the same as the Compact Disc sampling rate, and should be used if the tape will be used as a digital master for CD production. 48 kHz is used in other professional applications.

    This switch has no effect when recording from the digital inputs or during playback. In these cases, the DA-30MKII will automatically switch to the frequency at which those sources were originally recorded, as indicated by 48.0, 44.1, or 32.0 kHz below the word DIGITAL INPUT in the display.

NOTE FOR U.K. CUSTOMERS

U.K. Customers Only:

Due to the variety of plugs being used in the U.K., the DA-30MKII is equipped with no AC plug. Please request your dealer to install the correct plug to match the mains power outlet where your unit will be used as per these instructions.

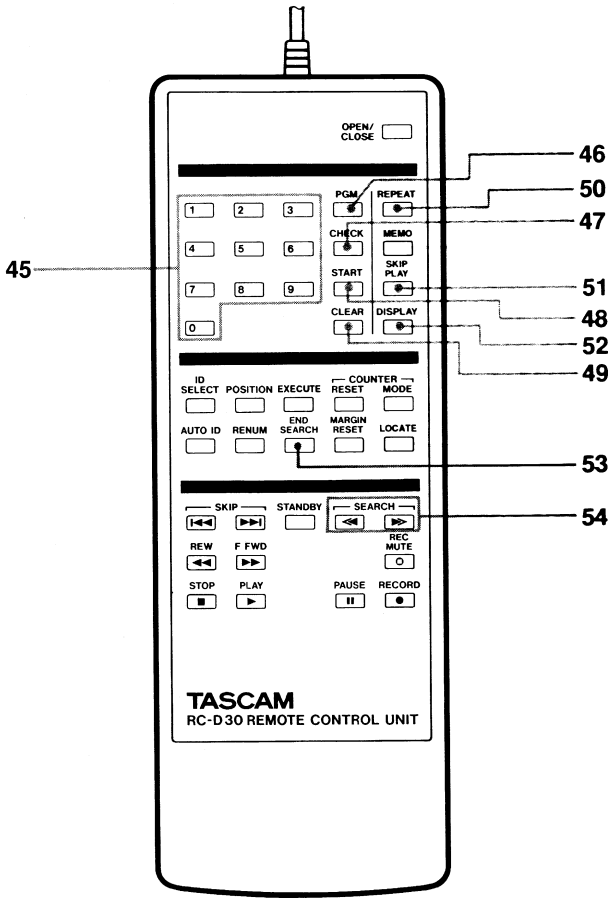
IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

BLUE:	**NEUTRAL**
BROWN:	**LIVE**

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloures markings identifying the terminals of your plug, proceed as follows.

The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK. The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.



RC-D30 REMOTE CONTROL UNIT (Optional)

Descriptions are limited to the functions whose duplicate is not on the DA-30MKII deck.

45. **Numeric Keypad:** Used to designate program numbers for direct search, or for programed play.

46. **PGM Key:** Puts into memory the programs you designate with the numeric keypad for programed play.

47. **CHECK Key:** This key is active in PROGRAM mode. Each time this key is pressed the next program number in memory appears in the display, next to its STEP number in a sequence (for example, "STEP 09 4" means the ninth selection in the sequence will be song #4 on the tape).

    NOTE: CHECK has no effect when a PROGRAM sequence is playing.

    For more information see page 8, Programed Sequence Play.

48. **START Button:**
    1) PROGRAM PLAY START: Pressed after you have put into memory the desired programs, this button will start playing the sequence.
    2) DIRECT SEARCH START: Pressed after you have designated the desired single program with the numeric keypad, this button causes the tape to locate to the beginning of that program ("SEARCH" blinking), and as soon as that point is reached, the deck will automatically enter play mode (or, if STANDBY is on, go into PAUSE).

49. **CLEAR Button:** Used to erase the last entered program from memory.
    (To erase the entire PROGRAM sequence and re-enter normal status, press STOP.)

    CLEAR is also used to clear any number displays you entered with the numeric keypad.

50. **REPEAT Button:** Initiates a repeat play. When pressed once, the button enables a single program to play over and over. Pressing the button twice enables the whole tape repeat. Or, in a PROGRAM play, pressing the REPEAT button once has the same effect as pressing the button twice and the whole sequence of programs currently in memory will repeat.

    REPEAT can be pressed during play or before starting play.

51. **SKIP PLAY Button:** Causes the tape to interrupt play each time a skip index is detected and fast wind to the next start index. This is indicated by "SKIP PLAY" in the display. A second press disables the function.

52. **DISPLAY Switch:** Varies the display brightness in 4 steps.

53. **END SEARCH Button:** Pressing this button in play, play pause or stop, will fast forward the tape, stopping it at the beginning of End ID reference. If this index does not exist, the tape will stop at the beginning of the "unformatted" section.

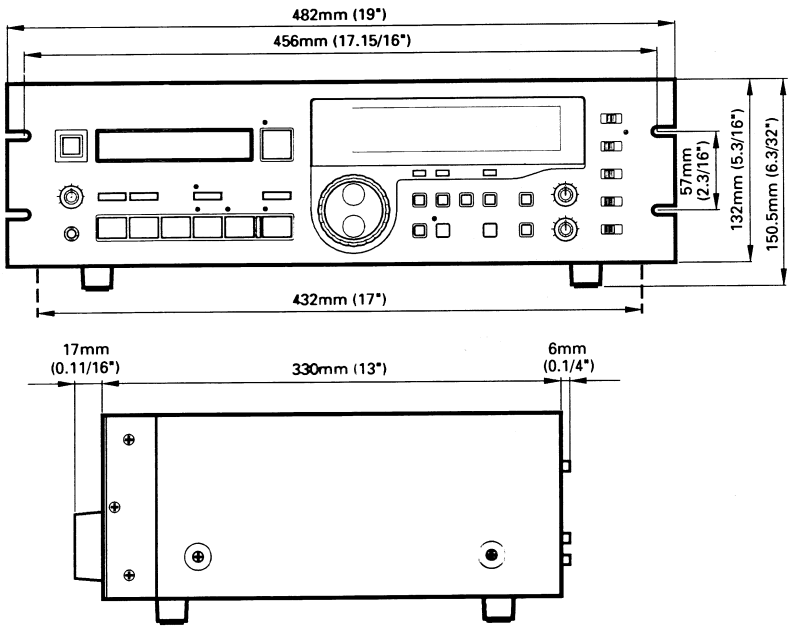
54. **SEARCH Buttons:** Pressing these buttons in play causes the tape to run at 9X normal play speed in the corresponding direction for as long as you hold the buttons.

Specifications

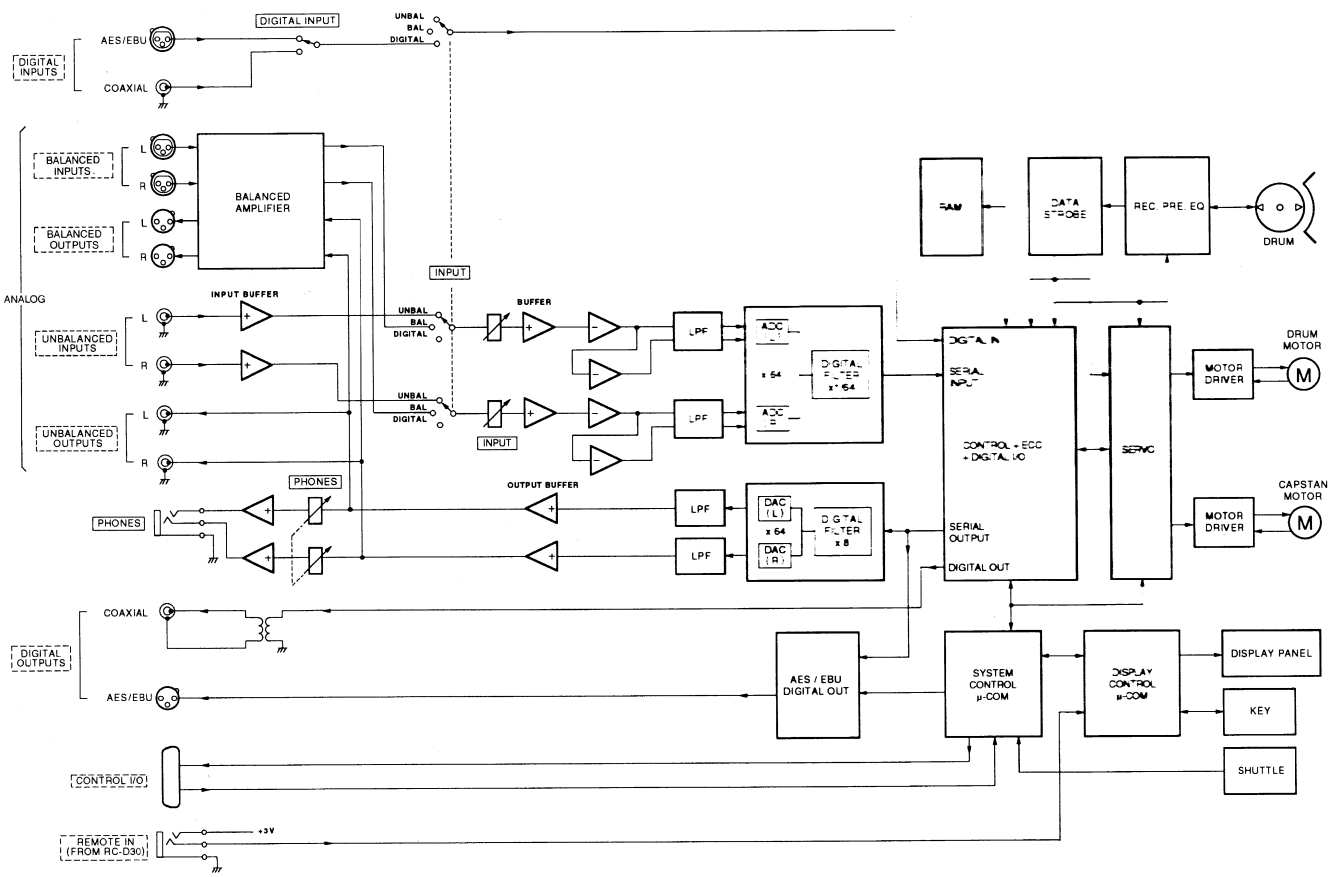
Category:	Rotary Head Digital Audio Tape Recorder
Tape Speed:	8.15 mm/sec. in STANDARD mode (play speed of 12.225 mm/sec. also supported)/4.075 mm/sec. in LONG mode
Record Time:	120 minutes in STANDARD/240 minutes in LONG (with 120-min cassette)
Head Drum Speed:	2,000 rpm in STANDARD/1,000 rpm in LONG (during Record)
Fast Winding:	70 seconds (approx.) (with R-120 cassette)
Error Correction:	Octet (eightfold) correction
Channel Number:	2
Quantization Bit:	16 bit linear in STANDARD/12 bit non-linear in LONG
Sampling Rate:	48 kHz (in play/record, digital/analog) 44.1 kHz (in play/record, digital/analog) 32 kHz (in play/record, digital only in STANDARD, digital/analog in LONG)
Frequency Response:	20-20,000 Hz ± 0.5 dB in STANDARD 20-14,500 Hz ± 0.5 dB in LONG
Signal-to-Noise Ratio:	Better than 92 dB
Dynamic Range:	Better than 93 dB
Total Harmonic Distortion:	Less than 0.004% (1 kHz, in STANDARD) Less than 0.07% (1 kHz, in LONG)
Channel Separation:	Better than 85 dB (at 1 kHz)
Wow and Flutter:	Unmeasurable (less than ± 0.001%)
Input	
Analog	
BALANCED:	XLR type connector (XLR-3-31) x 2
Nominal Input Level:	+4 dBm
Input Impedance:	10 k ohms balanced
UNBALANCED:	RCA jack x 2
Nominal Input Level:	–10 dBV
Input Impedance:	50k ohms unbalanced
Digital	
AES/EBU Port:	XLR type connector (XLR-3-31), IEC 958 TYPE I (AES/EBU)
Coaxial Port:	RCA jack, IEC 958 TYPE II (SPDIF)
Output	
Analog	
BALANCED:	XLR type connector (XLR-3-32) x 2
Maximum Output Level:	20 dBm
Nominal Output Level:	+4 dBm
Output Impedance:	75 ohms balanced
UNBALANCED:	RCA jack x 2
Maximum Output Level:	2.0 volts
Nominal Output Level:	–10 dBV
Output Impedance:	430 ohms unbalanced
PHONES:	1/4" jack x 1
Output Level:	100 mW + 100 mW (8-ohm load)
Digital	
AES/EBU Port:	XLR type connector (XLR-3- 32), IEC 958 TYPE I (AES/EBU)
Coaxial Port:	RCA jack, IEC 958 TYPE II (SPDIF)
Remote Connection:	Mini jack
External Control I/O Port:	D-sub 15 pin (female)
Power Requirements	
USA/CANADA:	120 V AC, 60 Hz
U.K./AUSTRALIA:	240 V AC, 50 Hz
EUROPE:	230 V AC, 50 Hz
General Export Model:	100/120/230/240 V AC, 50-60 Hz
Consumption:	28 Watts
Dimensions (WxHxD):	482 x 150.5 x 353 mm (19" x 6.3/32" x 13.7/8")
Weigh:	About 8.5 kg (18-12/16 lbs)

Changes in specifications and features may be made without notice or obligation.

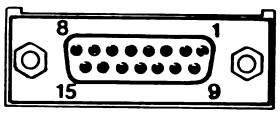
DA-30MKII External Dimensions



Block Diagram

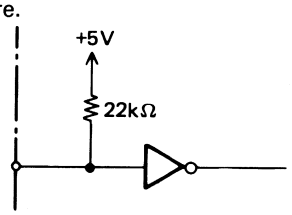


CONTROL I/O Port Pin Assignment

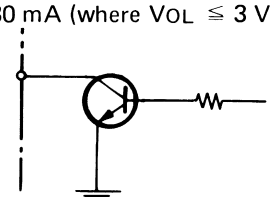


Pin#	IN(put) – OUT(put) signal		Function
1	$\overline{\text{STOP}}$	IN	External command reception; active at low level
2	$\overline{\text{FWD PLAY}}$	IN	
3	$\overline{\text{F. FWD}}$	IN	
4	$\overline{\text{REW}}$	IN	
5	$\overline{\text{PAUSE}}$	IN	
6	$\overline{\text{START ID WRITE}}$	IN	
7	$\overline{\text{REC/PLAY}}$	IN	
8	GND		
9	$\overline{\text{FWD PLAY}}$ TALLY	OUT	Transmission of transport status-indicating signals; in open collector
10	$\overline{\text{F. FWD}}$ TALLY	OUT	
11	$\overline{\text{REW}}$ TALLY	OUT	
12	$\overline{\text{STOP}}$ TALLY	OUT	
13	$\overline{\text{REC/PLAY}}$ TALLY	OUT	
14	$\overline{\text{REC/PAUSE}}$ TALLY	OUT	
15	$\overline{\text{TAPE END}}$ TALLY	OUT	

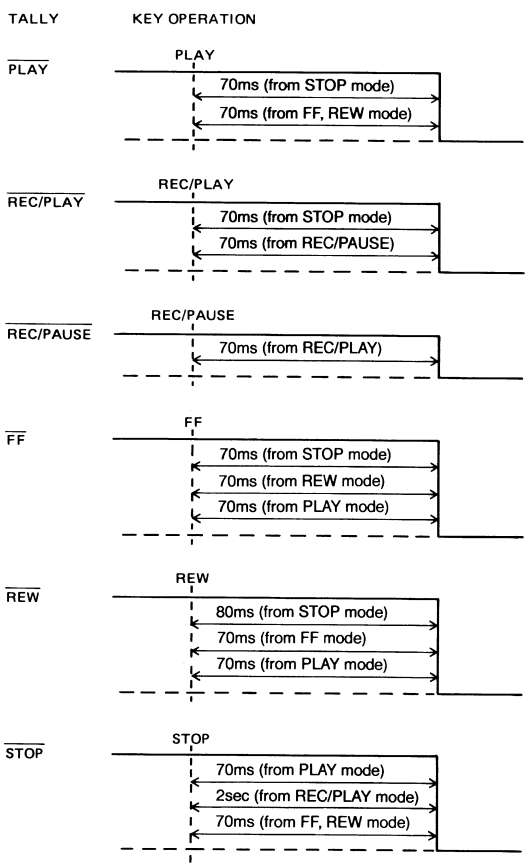
- **Input:** To activate a function, the pin must be brought to ground potential for 30 ms or more.



- **Output:** Maximum allowable voltage 15 V in open collector. Maximum allowable current 80 mA (where $V_{OL} \leq 3$ V)



Tally Signal Timing Chart



Mode Formats

Item \ Mode	Record/play mode				Play exclusive mode
Number of channels	2	2	2	2	2
Sampling rate (kHz)	48	44.1	32	32	44.1
Number of quantization bits	16 (linear)	16 (linear)	16 (linear)	12 (non linear)	16 (linear)
Linear recording density (KBPI)	61.0	61.0	61.0	61.0	61.1
Surface recording density ($MBPI^2$)	114	114	114	114	76
Transmission rate (MBPS)	2.46	2.46	2.46	1.23	2.46
Subcode capacity (KBPS)	273.1	273.1	273.1	136.5	273.1
Modulation	8-10 conversion				
Correction	Dual Reed Solomon				
Tracking	Area split ATF				
Cassette size (mm)	73 x 54 x 10.5				
Recording time* (min)	120	120	120	240	80
Tape width (mm)	3.81				
Tape type	Metal-pulverized				Oxide
Tape thickness (μ)	13±1μ				
Tape speed (mm/s)	8.15	8.15	8.15	4.075	12.225
Track pitch (μm)	13.591				20.41 (wide track)
Track angle	6°22'59"5				6°23'29"4
Standard drum	ø30 90° wrap				
Drum revolution speed (r.p.m.)	2000			1000	2000
Relative speed (m/s)	3.133			1.567	3.129
Head azimuth	±20° ±15°				

*with 120-min tape

Sampling Rates Supported

Sampling Rate (Quantization Bit)		48 kHz (16 bit linear)	44.1 kHz (16 bit linear)	32 kHz (16 bit linear)	32 kHz* (12 bit non-linear)
Record	Analog Input	Yes	Yes	No	Yes
	Digital Input	Yes	Yes	Yes	Yes
Play		Yes	Yes	Yes	Yes

*LONG REC MODE

Problems and Solutions

Incident	Cause	Suggestion/Measures
No control can operate.	It is normal that the unit doesn't function for about 3 seconds after powering up	Wait until "COUNTER" lights up in the display window.
PAUSE doesn't interrupt recording.	Start ID is being recorded (during which only STOP can operate).	—
The tape stops playing unexpectedly and starts running at high speed.	SKIP PLAY is activated.	Press SKIP PLAY to disable the function.
One cannot skip to a specific program. A sequence of programs cannot play as programed.	Programs are not numbered contiguously.	Renumber them as explained page 14.
The desired ID mode cannot be selected with ID SELECT.	The ID modes you can select depends on the current transport mode.	See table on page 18.
Start IDs are not automatically recorded together with audio programs.	AUTO ID mode is not entered ("AUTO" not lit in the display window).	Press AUTO ID.
One cannot edit Start IDs, Skip IDs or program numbers in Play mode.	The write protect switch on the cassette is set to the open position.	Set the switch to the close position (for location of the switch, see page 6).
ABS time was not recorded.	Audio recording started not from the beginning of the tape or it added to the end of the existing audio recordings but started from a point beyond the end of the previously recorded ABS time numbers.	Rewind the tape to the very beginning before starting to record or use the remote END SEARCH function to locate the tape to the beginning of the "unformatted" section.
Sampling frequency indication blinks.	DIGITAL INPUT switch is set to a wrong position.	Set the switch in accordance to the connection (p.10).
	Connection is wrong on the part of the digital source unit or it is switched off.	Check the connection and switch on power to the unit.
Autolocation does not occur.	No locate point is selected.	Set the point (p.8).
	ABS time is not available on the tape.	See the row "ABS time was not recorded" above.
Pressing MEMO does not set any location.	ABS time is not available on the tape.	See the row "ABS time was not recorded" above.

Coded Error Messages Explained

Coded Message	Problem	Remedy
Error 00	Condensation on the drum.	Leave the unit turned on for 1 or 2 hours.
	Error in drum functions.	Turn the unit off, then turn it on again. If the message does not go out, repeat the on/off switching several times. If the message still persists, please contact TASCAM or your nearest TASCAM dealer.
Error 01	Error in tape loading mechanism.	
Error 02	Error in reel/capstan motors.	
Error 03	Tape is broken or unacceptably thin. (Too-thin tape of 180 minutes or more may inhibit normal operation, and may break or tangle within the tape travel mechanism.)	Replace the tape with a tape of 120 minutes or less.
Error 04	The DA-30MKII cannot record normally due to abnormality in accuracy of incoming digital sampling rate (Fs) data.	Check to see if sampling frequency accuracy exceeds ±1000 ppm at the source. If it does, input the digital signal with a normal sampling frequency.

NOTE : When Error 01, Error 02, or Error 03 is indicated, all controls except OPEN/CLOSE are inoperable.

Bescheinigung des Herstellers/Importeurs

Hiermit wird bescheinigt, daß der/die/das

TASCAM DA-30MKII DAT-RECORDER

(Gerät, Typ, Bezeichnung)

in Übereinstimmung mit den Bestimmungen der

AMTSBLATT 163/1984, VFG 1045/1984, VFG 1046/1984

(Amtsblattverfügung)

funk-entstört ist.

Der Deutschen Bundespost wurde das Inverkehrbringen dieses Gerätes angezeigt und die Berechtigung zur Überprüfung der Serie auf Einhaltung der Bestimmungen eingeräumt.

TEAC CORPORATION

Name des Herstellers/Importeurs

THIS DIGITAL APPARATUS DOES NOT EXCEED THE CLASS B LIMITS FOR RADIO NOISE EMISSIONS FROM DIGITAL APPARATUS AS SET OUT IN THE RADIO INTERFERENCE REGULATIONS OF THE CANADIAN DEPARTMENT OF COMMUNICATIONS.

LE PRESENT APPAREIL NUMERIQUE N'EMET PAS DE BRUITS RADIOELECTRIQUES DEPASSANT LES LIMITES APPLICABLES AUX APPAREILS NUMERIQUES DE CLASSE B PRESCRITES DANS LE REGLEMENT SUR LE BROUILLAGE RADIOELECTRIQUE EDICTE PAR LE MINISTERE DES COMMUNICATIONS DU CANADA.

For U.S.A.

TO THE USER

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against interference in a residential area. This device generates and uses radio frequency energy and if not installed and used in accordance with the instructions, it may cause interference to radio or TV reception. If this unit does cause interference with TV or radio reception you can try to correct the interference by one or more of the following measures :

a) Reorient or relocate the receiving antenna.
b) Increase the separation between the equipment and the receiver.
c) Plug the equipment into a different outlet so that it is not on the same circuit as the receiver.

If necessary, consult the dealer or an experienced radio/TV technician for additional suggestions.

CAUTION

Changes or modifications to this equipment not expressly approved by TEAC CORPORATION for compliance could void the user's authority to operate this equipment.

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PRINTED IN JAPAN 0598U3 M-0956L