

Technics

by Panasonic

TAPE DECK

RS-858DUS

OPERATING INSTRUCTIONS



Before operating this set, please read these instructions completely.

Thank you very much for selecting this Panasonic 8-track stereo tape deck, model RS-858DUS. Please read these operation instructions carefully in order to fully and correctly utilize the fine performance features of this unit.

MAIN FEATURES OF MODEL RS-858DUS

1 4-channel recording and playback as well as 2-channel recording and playback

This unit can be used both for four-channel recording and playback of 8-track cartridges and for two-channel recording and playback of cartridges.

2 "Sleep" switch feature

The power of the main unit, and of the amplifier connected to this unit, are simultaneously turned off when the automatic ejection system functions.

3. Continuous playback

A special selector control permits the listener to select either continuous playback of programs 1 through 4 (1 and 2 for four-channel playback) sequentially and then repeat the same programs; or playback the entire tape—programs 1 through 4 (1 and 2 for four-channel playback)—stopping after one complete playback; or one playback of only one selected program; or repeated playback of only one selected program.

4. Automatic ejection

The automatic ejection system causes the cartridge to be ejected after completion of the selected operation.

5. Pause control

The pause button is useful for temporarily stopping tape movement during recording or playback.

6. Fast forward operation

The fast forward button can be used to forward the tape rapidly during playback.

7. Time counter

This special feature permits the listener to accurately determine how long the tape has moved in recording (or playback) and to thereby pinpoint the tape position.

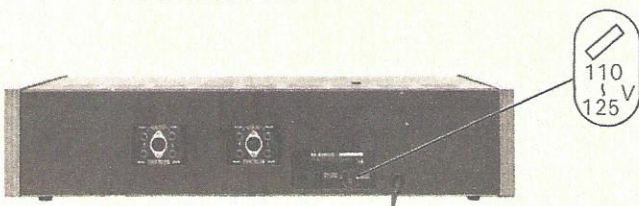
VOLTAGE ADJUSTMENT

This tape recorder has been preset to operate on the voltage indicated on the CAUTION CARD attached to the unit. If you use the recorder in a different voltage area, readjust the unit as follows. Set the voltage selector (at the back of the unit) to your local voltage. Following are standard settings of the voltage selector.

LOCAL VOLTAGE	SETTING OF VOLTAGE SELECTOR
100V, 105V	90~109V
110V, 115V, 120V	110~125V
200V, 210V, 215V	200~219V
220V, 230V, 240V, 250V	220~250V

* This unit can be used with either 50 Hz or 60 Hz house voltage.

VOLTAGE SELECTOR



This figure shows the voltage selector set at 110~125V.

SOME HELPFUL HINTS

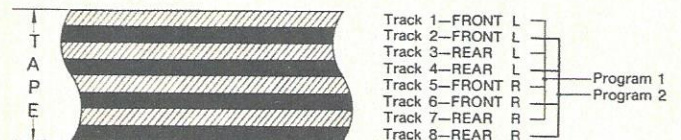
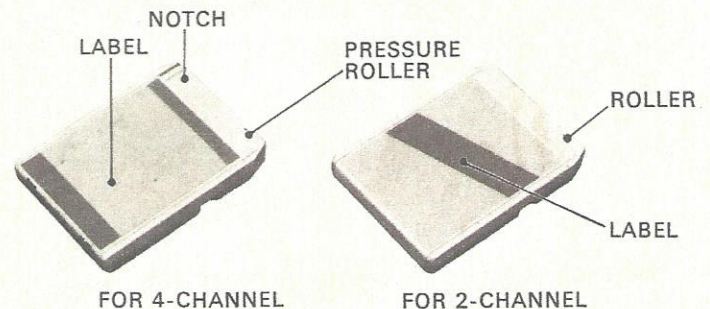
1. Completely remove the cartridge after finishing using the unit.
2. Avoid using this unit where the temperature is high (105°F or higher), in damp or dusty locations, or where it will be exposed to direct sunlight.
3. Store cartridges, new and recorded, in a place which is free from excessively high temperature and humidity, and away from direct sunlight. Don't place recorded cartridges near any magnetic appliance such as a TV set, etc.
4. Do not permit metal or magnetic items, such as a screwdriver or a magnet, to come near the head assembly.
5. Do not clean the cabinet of this unit with benzine or thinner. Clean it with soap.

ABOUT 8-TRACK, 4-CHANNEL STEREO CARTRIDGES

8-track, 4-channel stereo cartridges have a special notch on the upper left part of the cartridge in order to distinguish them from ordinary 2-channel cartridges. The tape has eight tracks, the same number as ordinary 2-channel tape. With 4-channel tape, program 1 consists of track 1 [FRONT(L)], track 3 [REAR(L)] track 5 [FRONT(R)] and track 7 [REAR(R)].

Program 2 is on track 2 [FRONT(L)], track 4 [REAR(L)], track 6 [FRONT(R)] and track 8 [REAR(R)]. During playback, the programs are repeated in the order 1→2→1→2→1.....

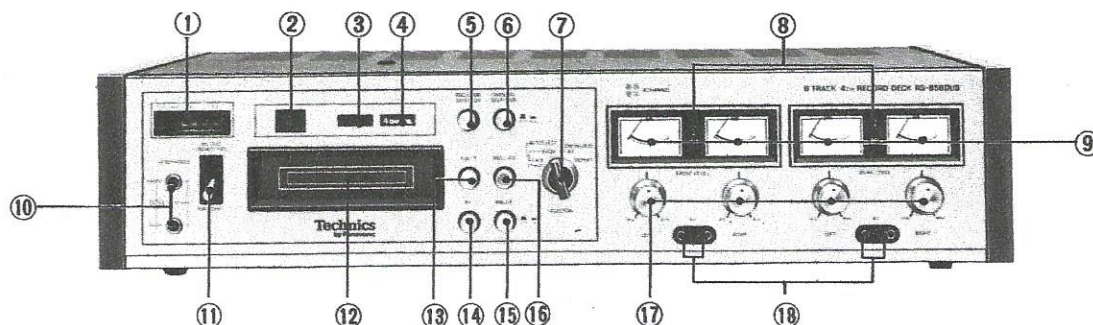
On 8-track, 2-channel stereo cartridges, there are four programs, repeated in the order 1→2→3→4→1→2→3→4.....



4/2-CHANNEL RECORDING/PLAYBACK OPERATION

	CHANNELS	LINE OUT JACKS	METERS	VOLUME CONTROLS	HEADPHONES
PLAYBACK	4-CHANNEL	4	4	4	4
	2-CHANNEL	4	2	2	4
	CHANNELS	RECORDING INDICATORS	METERS	VOLUME CONTROLS	HEADPHONES
RECORDING	4-CHANNEL	2	4	4	4
	2-CHANNEL	1	2	2	4

CONTROLS AND THEIR FUNCTIONS



① Time counter (Time Counter)

This system shows the elapsed time of tape movement. If, for example, the tape moves for 15 minutes, the time counter will indicate approximately 15 minutes and 00 seconds.

If the reset button on the left is pushed, the digits of the time counter will return to the zero position.

Use this selector for selecting either 2-channel or 4-channel playback or recording.

② Program indication lamp

This lamp illuminates to indicate the number of the program being recorded or played back.

③ 2-channel indication lamp (2 CHANNEL)

This lamp is illuminated when a 2-channel tape is being recorded or played back.

④ 4-channel indication lamp (4 CHANNEL)

This lamp is illuminated when a 4-channel tape is recorded or played back.

⑤ Program selection button (PROGRAM SELECTOR)

This button should be pushed if it is desired to change the program.

⑥ 2/4-channel selector

Use this selector for selecting either 2-channel or 4-channel playback and recording.

NOTE: Do not try to change the setting of the 2/4-channel selector during recording.

⑦ Operation selector (SELECTOR)

• AUTO EJECT • 1→4 (1→2)

When this control is set to this position (for two-channel or four-channel playback or recording), tape movement will stop and the cartridge will be partially ejected automatically at the end of program 4 (two-channel operation) or program 2 (four-channel operation). Power is automatically turned off.

• AUTO EJECT • EACH

If set to this position, tape movement will stop and the cartridge will be partially ejected after recording or playback of one program. Power is automatically turned off.

NOTE: When the automatic ejection system functions (operation selector set to either of above 2 positions), any component connected to the AC power socket (on rear of unit) will also be automatically turned off if the AC power socket selector is set to the SWITCHED position.

• CONTINUOUS PLAY

If this control is set to this position, the tape will be played back from first to last program repeatedly: 1→2→3→4→1→2 etc. (for two-channel playback), or 1→2→1→2 etc. (for four-channel playback). When recording, the cartridge will be automatically ejected at the end of program 4 even if the control is set to this position.

• REPEAT

Any one program can be played back repeatedly if the control is set to this position.

When recording, the cartridge will be automatically ejected when the end of that program is reached.

⑧ Recording indicators

These indicators illuminate when a recording is being made: both illuminate for a 4-channel recording, only one for a 2-channel recording.

⑨ Level meters (LEVEL)

Indicate recording input level during recording, and the playback output level during playback.

The needles of the REAR meters do not fluctuate during 2-channel stereo recording or playback.

⑩ Front/rear headphone jacks (HEADPHONES) (stereo headphone-type plugs)

Either 2-channel or 4-channel headphones (8Ω) can be connected to these jacks. For 2-channel stereo, two sets of headphones can be connected (A and B). For 4-channel sound, connect 4-channel headphones to the two jacks. (FRONT and REAR)

⑪ AC power socket selector (AC OUT)

If this switch is set to the UNSWITCHED position, any component connected to the AC power socket (on the rear of the unit) is receiving power regardless of whether the power of this unit is on or off.

If it is set to the SWITCHED position, power to the connected component is on only when the power of this unit is on.

⑫ Tape slot

The cartridge is inserted here.

⑬ Ejection button (EJECT)

Pushing this button stops tape movement and partially ejects the cartridge.

⑭ Fast forward button (FF)

When this button is pushed, it is locked and the tape moves forward at about twice normal playback speed. If pushed again, it returns to its original position and the unit will be in the playback mode.

Notes:

1. This button cannot be pushed during recording.
2. The cartridge will be partially ejected during fast forward if the operation selector is set to the AUTO EJECT • EACH or the 1→4 (1→2) position.

⑮ Pause button (PAUSE)

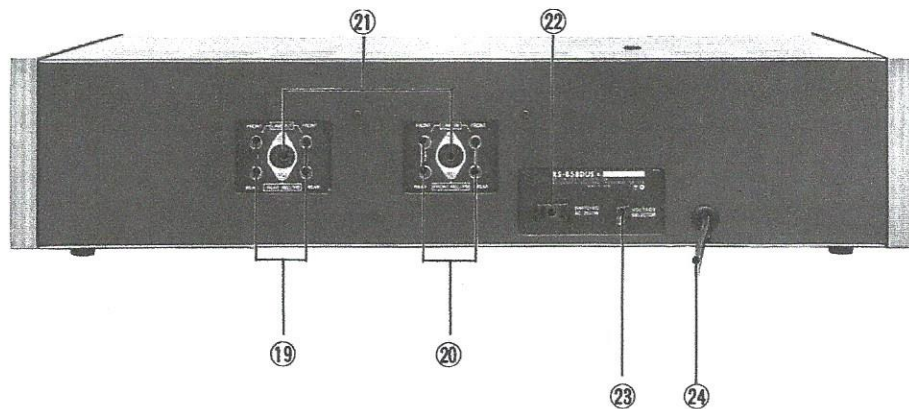
This control is used, during either recording or playback, to temporarily stop tape movement. It locks down when pushed. When pushed once again, it returns to its original position and the tape once again moves in the prior mode (recording or playback).

⑯ Record button (RECORD)

When this button is pushed, it locks down and power to the unit is turned on. The number of the program to be recorded will be indicated by the program indicator. The recording level can then be adjusted. If a cartridge is inserted into the tape slot while this button is depressed, the recording will begin.

Note:

If a cartridge is inserted into the tape slot without holding the record button down, the record button will return to its unlocked position and the tape will move in the playback mode.



17 Volume controls (VOLUME)

To control the volume. The volume increases when these controls are turned clockwise, and decreases when they are turned counter-clockwise. For 2-channel operation, adjust only the front levels.

18 Microphone jacks (MIC) (Mini-phone-type plug)

For connection of microphones of 200~600Ω.

19 Line output jacks (LINE OUT) (Phono-type plug)

Jacks for connection with an amplifier or stereo system.

20 Line input jack (LINE IN) (Phono-type plug)

The connection jacks for recording from a radio, TV, FM receiver or stereo system.

21 Recording/playback connector (REC/PB)

If the equipment to which this unit is connected also has a recording/playback connector such as this one, recording and playback can be conveniently accomplished with a single DIN cord (RP-8090, available as a separate purchase).

22 AC power socket

For connection of an amplifier or other equipment. The component connected should not exceed 300W. The power to the component can be controlled with the AC power socket selector of this unit.

23 Voltage selector

Adjust the voltage selector to the proper position. (Refer to page 1.)

24 Power cord

CONNECTIONS

Because this unit has no built-in amplifier, it is necessary to connect it with a separate amplifier or other stereo equipment which includes an amplifier.

Make necessary connections with the connection cords G (RP-8125, included).

1. Connections for playback...Connect the line output jacks of this unit with the TAPE PLAYBACK, LINE IN or similarly described jacks of the amplifier or other component.

Four-channel use

Either one 4-channel amplifier, or two 2-channel amplifiers, is necessary.

Two-channel use

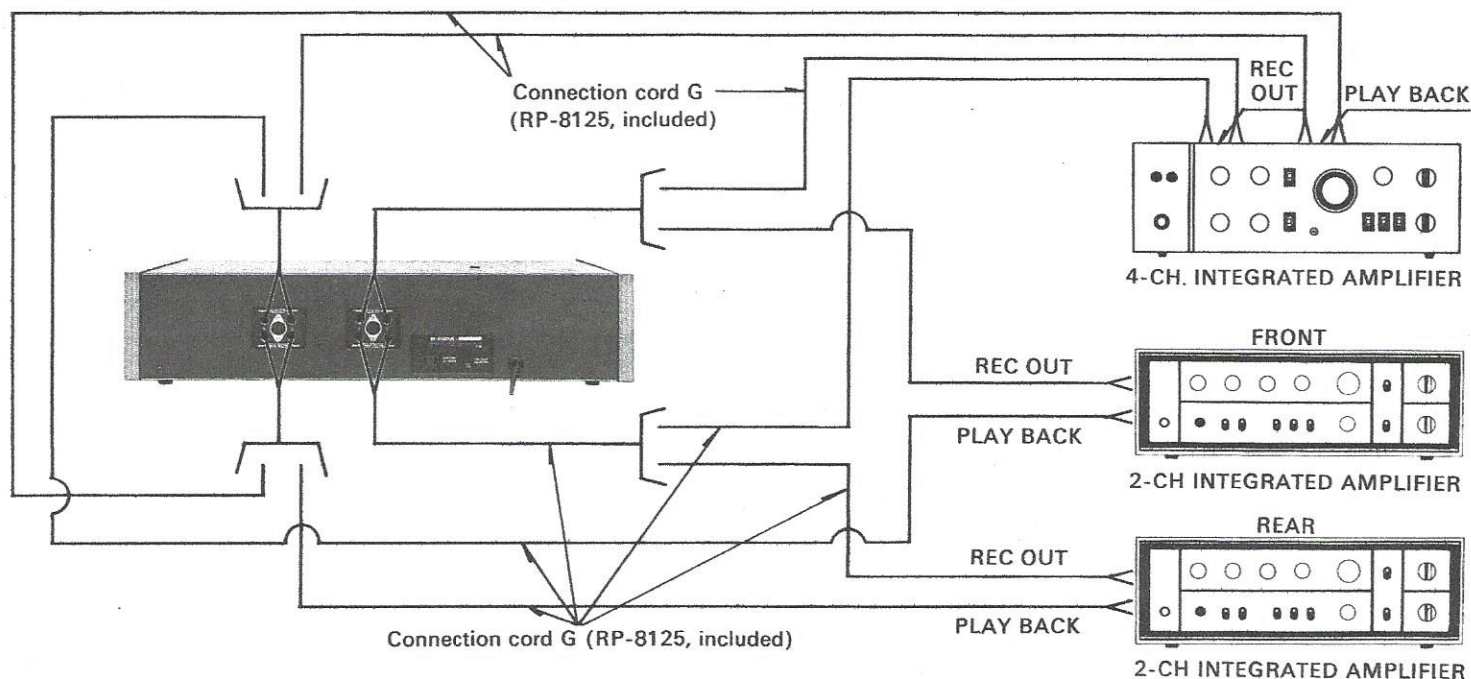
One 2-channel amplifier is necessary.

For 2-channel use, the same sound is available from the two left output jacks (front and rear), and from the two right output jacks (front and rear). Connection can, therefore, be made to either the left and right front jacks or the left and right rear jacks.

2. Connections for recording...Connect the line input jacks of this unit with the LINE OUT or similarly described jacks of the amplifier or other stereo component.

Notes:

- Be sure not to make a mistake in connection of the channels (LEFT FRONT, RIGHT FRONT, LEFT REAR and RIGHT REAR).
- For 2-channel recording, be sure to make connections to the FRONT line input jacks.



Connections to other than a stereo amplifier.

* Recording from microphones

Connect the microphones to the microphone jacks. Microphone connected to this unit should have an impedance of 200~600Ω.

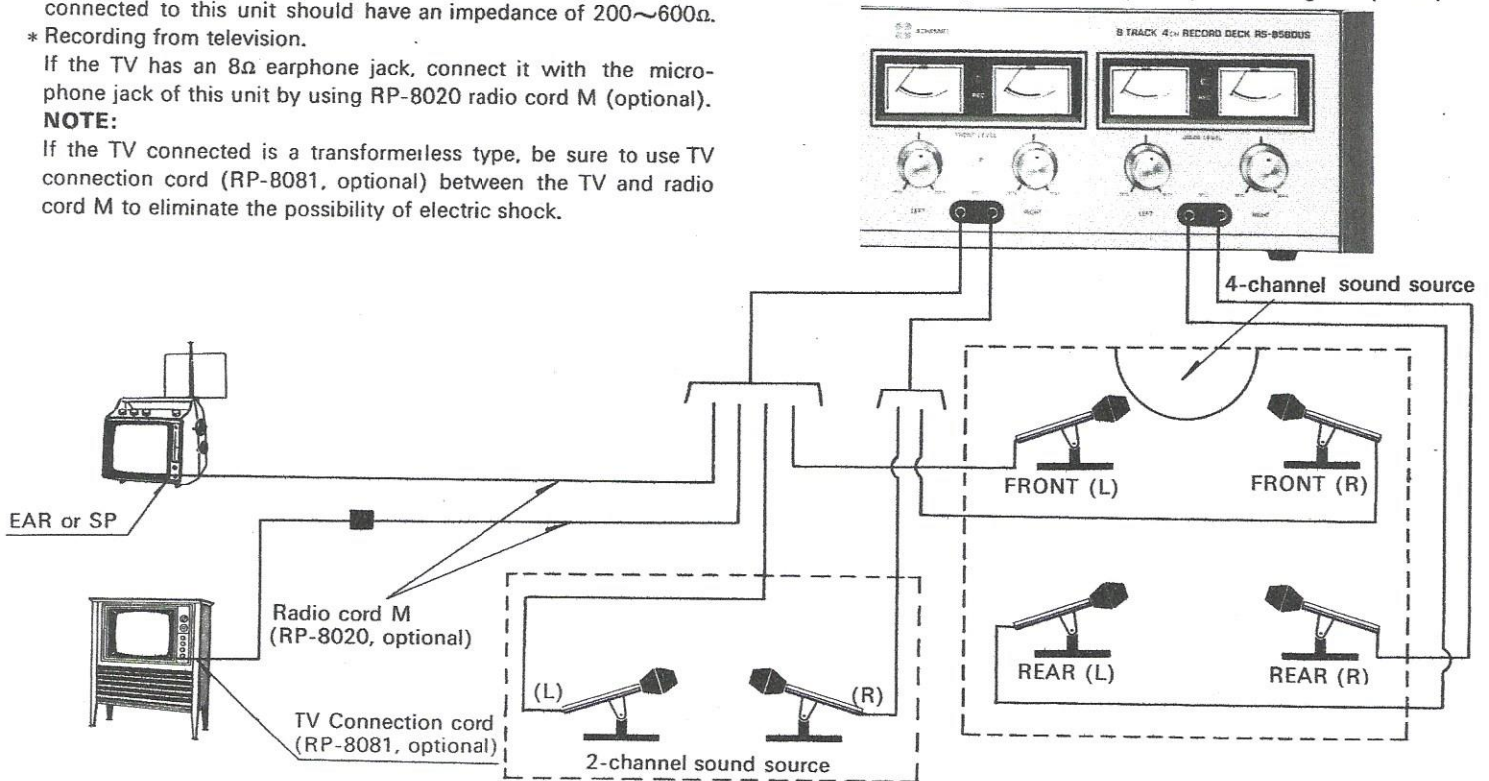
* Recording from television.

If the TV has an 8Ω earphone jack, connect it with the microphone jack of this unit by using RP-8020 radio cord M (optional).

NOTE:

If the TV connected is a transformerless type, be sure to use TV connection cord (RP-8081, optional) between the TV and radio cord M to eliminate the possibility of electric shock.

Connect the line input jacks (LINE IN) of this unit with the record changer by using connection cords G (included). The record changer must have a crystal or ceramic pick-up, not a magnetic pick-up.



PLAYBACK

■ Power

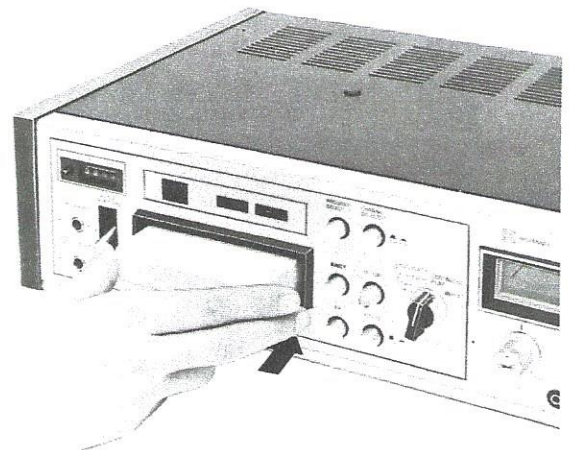
Connect the power cord to an electric outlet. This unit has no power switch. The power is turned on when a cartridge is inserted for playback, or when the record button is pushed.

■ Playback

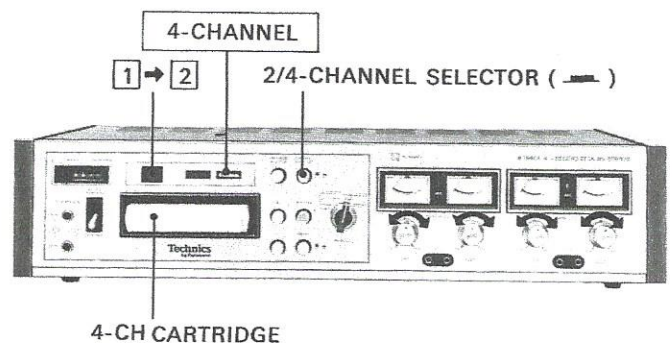
1. Insert a recorded four-channel stereo cartridge or two-channel stereo cartridge into the tape slot. The label of the cartridge should face upward and the side where the tape can be seen should be inserted first.
2. Set the two/four channel selector depending on the type or tape. Four-channel playback...Push the two/four channel selector (→). Two-channel playback...Push the two/four channel selector to the released (■) position.
3. When the cartridge is inserted, the program indicator illuminates and playback starts. The volume can then be adjusted with the level adjustment controls of this unit and the volume controls of the amplifier or stereo equipment to which this unit is connected, and the tone quality can be adjusted with the tone controls of the amplifier.
4. To change from one program to the next
There are two ways to change from one program to the next: manually with the program selector, or automatically with the operation selector. (Refer to page 2.)
5. To stop the playback and remove the cartridge, push the ejection button.

Notes:

1. When the unit is no longer to be used, be sure to push the ejection button and remove the cartridge from the tape slot.
2. Avoid leaving the unit in the pause mode for a long period of time because to do so may deform the pressure roller in the cartridge and impede tape movement.



4-CHANNEL PLAYBACK



4-CH CARTRIDGE

RECORDING

This unit can be used for 2-channel or 4-channel recording.

An 8-track tape cartridge contains a continuous loop of tape. Any point on the tape you wish to record or listen to must be reached by forwarding the tape.

The beginning of the tape can be located for recording as follows:

1. Insert the 4-channel (or 2-channel) cartridge into the tape slot.
2. Set the 2/4-channel selector to 4 (or 2, for a 2-channel cartridge).

(a) If the recording will be made on only one program.....

Set the operation selector to the AUTO EJECT EACH position, and then use the program selector to select the program just before the program on which the recording will be made.

If the recording will be made on all four programs.....

Set the operation selector to the AUTO EJECT 1→4 position, and then select program 4 with the program selector.

(b) Advance the tape in the playback mode or by using the fast forward button.

If the operation selector is set to the AUTO EJECT 1→4 position, the cartridge will be automatically ejected at the end of program 4; if set to the AUTO EJECT EACH position, the cartridge will be automatically ejected when the tape reaches the end of that program (the one just prior to the one on which the recording will be made). It is therefore possible, by following the steps above, to begin recording from the beginning of program 1 or from the beginning of any other desired program.

Note:

If program 1 has already been recorded, for instance, and the recording is to begin from the middle of program 2, follow above procedure to arrive at the beginning of program 1.

Then press the program selector once to obtain program 2.

3. Referring to the connection instructions on pages 3 and 4, make the necessary connections from the sound source.

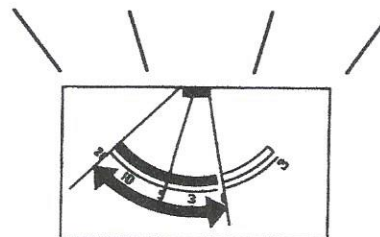
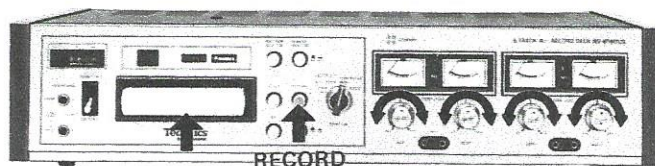
4. Push and lock the record button. (Be sure the fast forward button is not locked; push it to release it.) The recording indicator will then illuminate to indicate that recordings can be made. Adjust the recording input level with the volume controls.

Adjust the level so that the level meters indicate within the range shown by the arrow in the figure even when the recording sound is at maximum intensity.

5. When the adjustment of recording input level is finished, push the time counter reset button, and insert the cartridge into the tape slot while pressing the record button. The recording will then begin.
6. If the selector is set to either the AUTO EJECT EACH or the REPEAT position, the cartridge will be automatically ejected when the recording of that one program is finished. If the selector is set to either the AUTO EJECT 1→4 or the CONTINUOUS PLAY position, the recording will continue until the end of program 4, after which the cartridge will be automatically ejected.

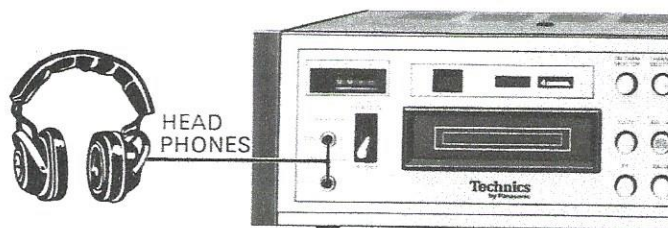
Notes:

1. Note that, even during recording, the program will advance to the next number if the program selector is pushed.
Be sure not to push the program selector except when necessary.
2. Note that this unit may not perform at its best if old tape is used for recording. New tape is recommended for recording.
3. Tape cannot be fast forwarded while a recording is being made.
4. Because the time counter begins operation whenever the record button is pushed, be sure to reset it to zero after making adjustment of the recording level and when inserting the cartridge.
5. By depressing the record button when the tape cartridge is inserted into the tape slot, the unit will record on the tape and existing recordings, if any, will be erased. Be careful, therefore, not to press the record button except when recordings are desired.



Monitoring

"Monitoring" means to listen to the sound being recorded, as it is being recorded, using headphones. This is convenient to aurally confirm the contents of the recording while it is being made. Headphones can also be used to listen alone, without disturbing others. Headphones used should have an impedance of 8Ω.



Erasure of recordings

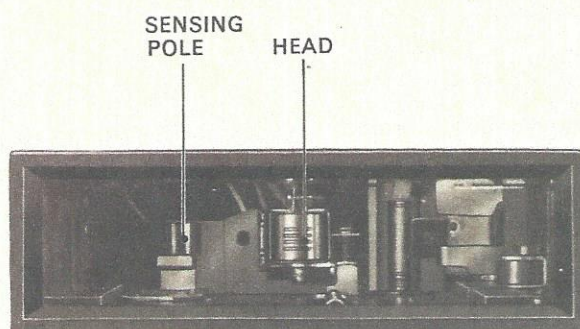
When a new recording is made, all previous material, if any, recorded on that portion of the tape is automatically erased, and only the new recording remains. To erase recorded material without making a new recording, set the volume controls to the minimum position and operate the unit as if for recording. To erase the entire tape, a tape eraser is also convenient.

MAINTENANCE

Clean the unit occasionally in the following manner to assure the best performance and long service life.

Head cleaning

The tape moves in close contact with the head and sensing pole in the tape slot, and dust and magnetic material are likely to adhere to them. Occasional cleaning (once every 10 hours) is, therefore, necessary. Clean the head surfaces and sensing pole with the head cleaning bar (included as an accessory), or use a similar wooden stick wrapped with cotton. If the cleaning stick is immersed in alcohol before using, it will make cleaning easier. There is an 8-track head cleaning cartridge tape commercially available for convenient cleaning.



WARRANTY

Your "Technics by Panasonic" WARRANTY covers PARTS FOR ONE YEAR except appearance items, and 90 DAYS' LABOR at an authorized "Technics by Panasonic" Servicenter only, subject to the terms of the Warranty.

PRODUCT SERVICE

Should your "Technics by Panasonic" product ever require service, note the serial number and refer to the Directory of Authorized Servicenters, or your franchised "Technics by Panasonic" dealers, for guidance.



RS-858DUS SPECIFICATIONS

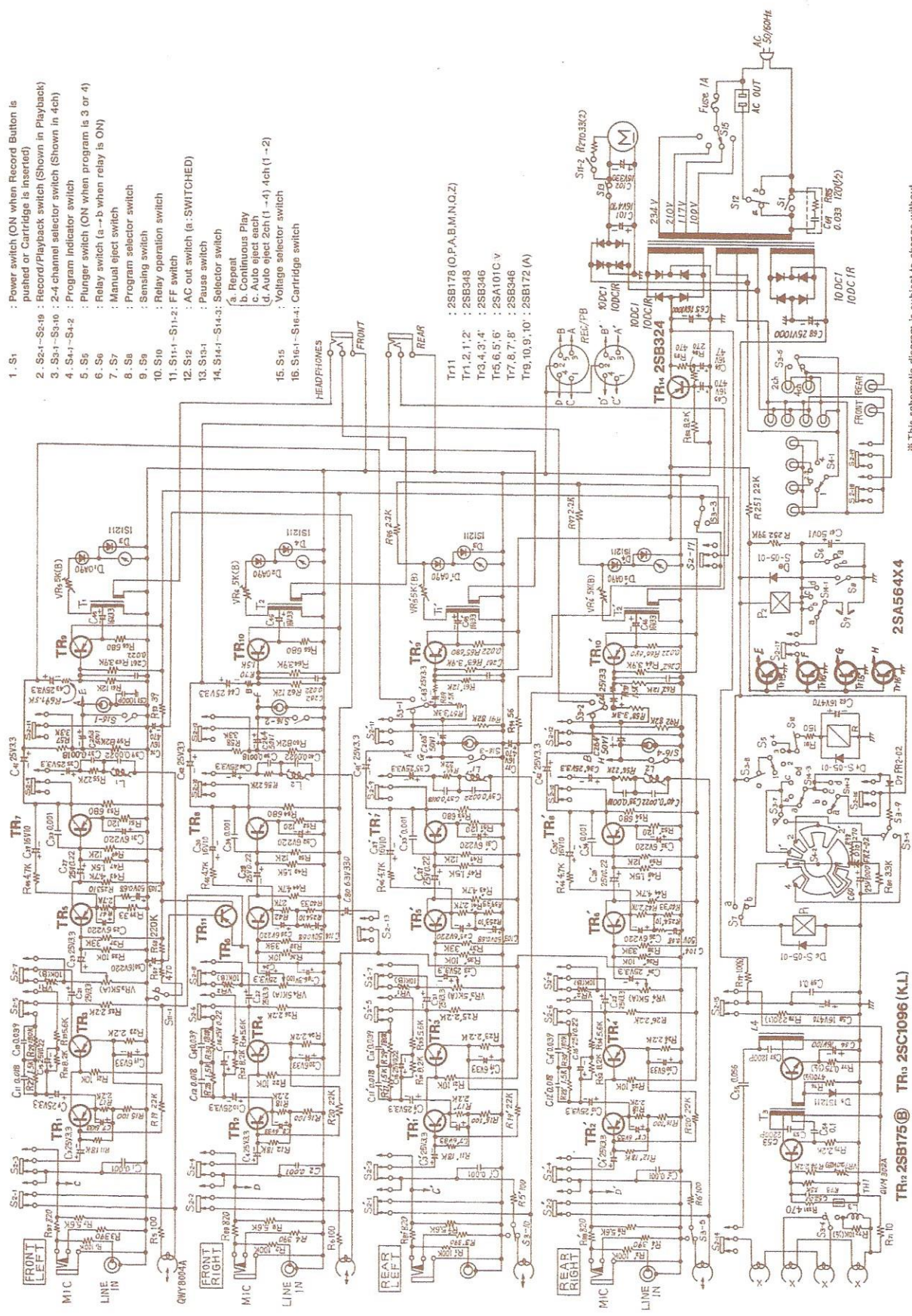
TRACK SYSTEM:	8-track 4-channel/2-channel stereo recording and playback
RECORDING SYSTEM:	AC bias, AC erase
TAPE SPEED:	3¾ ips.
PROGRAM TIME:	30 minutes stereo recording with 300 feet tape
WOW AND FLUTTER:	0.15% (JIS)
FREQUENCY RESPONSE:	30~15,000 Hz
SIGNAL TO NOISE RATIO:	50 dB
INPUT:	MIC; sensitivity 0.15mV/applicable microphone impedance 200~600Ω LINE; sensitivity 45 mV/100kΩ
OUTPUT:	LINE; output level 0.8 V/load impedance 50kΩ over HEADPHONE; output 60 mV(max)/8Ω
REC/PB CONNECTION:	5 P DIN type (EIAJ)
MOTOR:	Electronic speed control motor
HEAD:	8-track 4-channel 3-in-1 head
FAST FORWARD TIME:	approx. 450 second with 300 feet tape
POWER REQUIREMENT:	AC; 110~125V, 50/60 Hz
	Power consumption; 12W
DIMENSIONS:	4¾" (H) × 21⅛" (W) × 11¼" (D)
WEIGHT:	20¾ lbs.

* Specifications are subject to change without notice for further improvement.

ACCESSORIES

4-channel Tape cartridge.....	1
Connection cords G	4
Head cleaning bar	1

RS-858DUS SCHEMATIC DIAGRAM



- 1. S1 : Power switch (ON when Record Button is pushed or Cartridge is inserted)
- 2. S2-1-S2-19 : Record/Playback switch (Shown in Playback)
- 3. S3-1-S3-10 : 2-4 channel selector switch (Shown in 4ch)
- 4. S4-1-S4-2 : Program indicator switch
- 5. S5 : Plunger switch (ON when program is 3 or 4)
- 6. S6 : Relay switch (a--b when relay is ON)
- 7. S7 : Manual eject switch
- 8. S8 : Program selector switch
- 9. S9 : Sensing switch
- 10. S10 : Relay operation switch
- 11. S11-1-S11-2 : FF switch
- 12. S12 : AC out switch (a: SWITCHED)
- 13. S13-1 : Pause switch
- 14. S14-1-S14-3 : Selector switch
 - (a) Repeat
 - (b) Continuous Play
 - (c) Auto eject each
 - (d) Auto eject 2ch (1-4) 4ch (1-2)
- 15. S15 : Voltage selector switch
- 16. S16-1-S16-4 : Cartridge switch

- TR11 : 2SB178 (O.P.A.B.M.N.Q.2)
- TR1, 2, 1, 2 : 2SB348
- TR3, 4, 3, 4 : 2SB346
- TR5, 6, 5, 6 : 2SA101C-V
- TR7, 8, 7, 8 : 2SB346
- TR9, 10, 9, 10 : 2SB172 (A)

※ This schematic diagram is subject to change without notice to accommodate improvement in design.

What's a 4-channel system without a 4-channel deck?

Not very complete. Because so much of the 4-channel music available is on discrete 4-channel tape. That's also one of the reasons Panasonic picked discrete as the standard for our 4-channel equipment. Including our 4-channel cartridge decks.

We have two. The RS-847US plays 4-channel and 2-channel cartridges, automatically. No switches to turn. No knobs to set. You've also got controls for continuous play. Or automatic eject. A digital program indicator. Plus one program selector button to control all eight tracks. And inside that lovely walnut cabinet,

there's an AC hysteresis synchronous motor. So voltage variations won't cause wow and flutter.

But maybe you're tired of listening to pre-recorded music. You want to make some of your own. Then you need a deck that records as well as plays back. Like our RS-855US. It could be your own sound studio for 4-channel and 2-channel tapes. The 4 output level controls let you blend the sound any way you want. And the 4 separate VU meters let you see what you're doing. There's even a headphone selector switch so you can monitor the sound on the front or the back speakers.

Of course, you also get a lot of extras on the RS-855US. Like a locking fast forward button. And an Automatic Timing counter. To help you find out where you are on the tape. You see how much time has elapsed. In minutes.

Our 4-channel components play discrete, matrix, stereo and monaural. They even enhance the sound of stereo with our Quadriplex™ circuitry. See our other components with our decks at a franchised Panasonic Hi-Fi dealer. Because what's a 4-channel deck without a 4-channel system.

FOR YOUR NEAREST FRANCHISED PANASONIC HI-FI DEALER, CALL TOLL FREE 800 243-6000. IN CONN., 1-800-882-6500.

Panasonic® Hi-Fi 4-Channel Tape Decks

