

## AM/FM CASSETTE TAPE PLAYER with CD CHANGER CONTROL



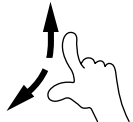
**P/N; 08A50-S5H-7M0**

Please write the serial number (on the bottom of the unit) in the space below.  
Keep this booklet as a record of your purchase to help identify the unit if it's stolen.

Serial No. ; \_\_\_\_\_

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## Explanation of the hand marks



*Rotate the controller.*



*Press Momentarily.*



*Press and hold down.*



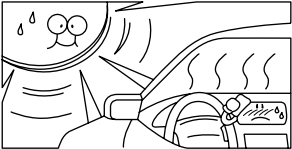
*Press and hold according to the instructions on each page.*

# Precautions



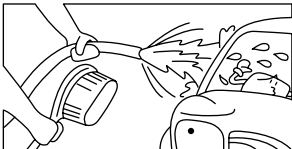
## VOLUME

For your driving safety, keep the volume low enough to be aware of road and traffic conditions.



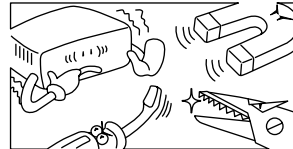
## TEMPERATURE IN THE VEHICLE

In order to ensure proper performance, be sure the temperature in your vehicle is between 14°F (-10°C) and 140°F (60°C) before turning your player on. Good air circulation is essential to prevent heat build-up in the unit (especially in hot weather).



## CAR WASHING

Do not wash the radio, speakers, or tape; moisture can cause electrical shorts or other damage.



## TAPE MECHANISM

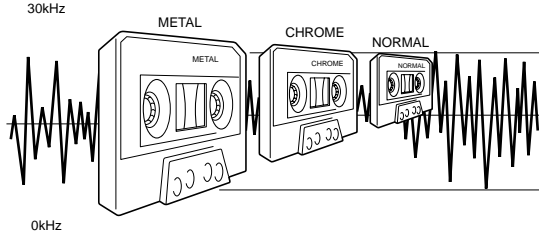
Keep magnets, screwdrivers, and other metallic objects away from the tape mechanism and tape head.



## OUTSIDE CLEANING

Use a soft cloth to clean the radio. Do not use kerosene, thinner, or any other type of solvent.

# Cassette and Player Maintenance



## TYPES OF TAPE AND USAGE

There are 5 basic types of tape, each with its own formulation of material that can be magnetized, but for convenience they are divided into two categories.

- 1) Normal (Type I) and low noise give average frequency response and fidelity and can be played in all cassette tape players.
- 2) FeCr (Type III), CrO<sub>2</sub> (Type II), and Metal (Type IV) give above average frequency response and fidelity, and should be used in tape players with FeCr, CrO<sub>2</sub>, or Metal tape capability.

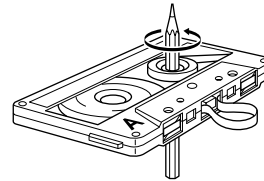
## CLEANING

Automotive cassette players require at least the same amount of care given to home units, and then some. This means a regular schedule of head demagnetization and cleaning of the capstan, roller, and head is necessary to maintain optimum performance.



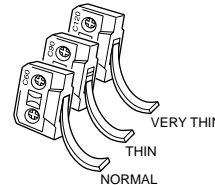
## TAPE SLACK

Cassette Tapes require very little maintenance, but do require careful storage away from direct sunlight, magnetic sources, and dusty areas. Check tape for slack and tighten with a pencil or similar object before inserting in tape player.



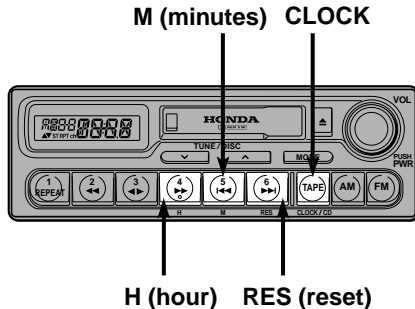
## TAPE LENGTHS

Use 100-minute or shorter cassettes. Cassettes longer than 100 minutes use thinner tape that may break or jam the tape mechanism.



# Clock Operation Instructions

## TO SET THE CLOCK

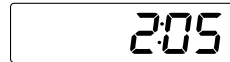


### To set the hour

Press and while holding the **CLOCK** button, press the **H** button.

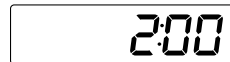
#### **NOTE**

The clock uses a 12-hour digital indication.



### To set the minutes

Press and while holding the **CLOCK** button, press the **M** button.



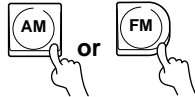
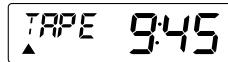
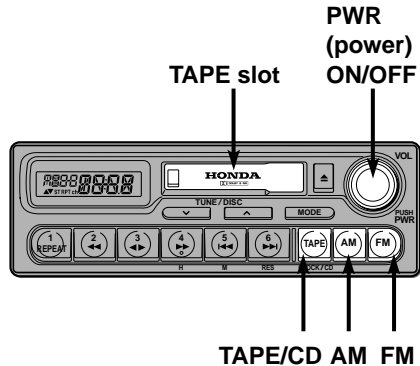
### To set by the time signal

Press and while holding the **CLOCK** button, press the **RES** button.

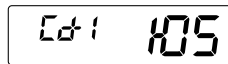
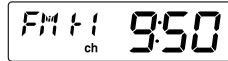
You can set the time to the nearest hour. If the displayed time is before the half hour, pressing these button sets the clock back to the previous hour. If the displayed time is after the half hour, pressing these button sets the clock forward to the beginning of the next hour.

# Audio Operation Instructions

## POWER ON/OFF



OR



## POWER ON

Press the PWR button or follow one of the operations listed below.

MODE	OPERATION
TAPE	Insert a cassette tape. Press the TAPE button.
TUNER	Press the AM or FM button.
CD CHANGER	Press the CD button. (Only if connected.) Each time you press this button, the source mode changes as follows: Tape ←→ CD



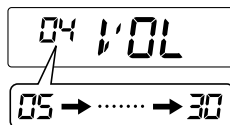
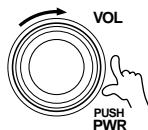
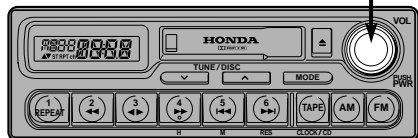
## POWER OFF

Press the PWR button again.

# Audio Operation Instructions

## VOLUME UP/DOWN

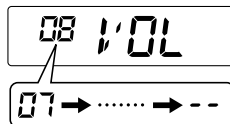
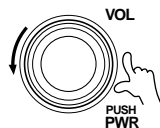
VOL (volume)



### VOLUME UP

Turn the VOL controller clockwise to increase the volume.

The volume level number will increase.



### VOLUME DOWN

Turn the VOL controller counterclockwise to decrease the volume.

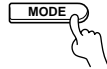
The volume level number will decrease.



# Audio Operation Instructions

## AUDIO CONTROL

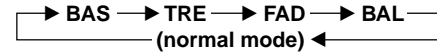
1



### To select the control mode

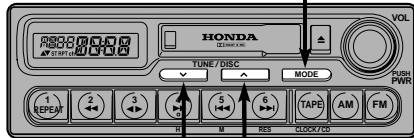
Press the **MODE** button.

Each time you press this button, the source mode changes as follows:



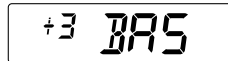
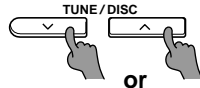
If you do not perform the next operation within seven seconds, normal mode will return.

1



2

2



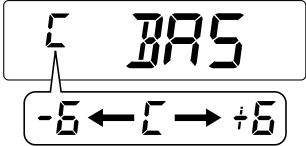
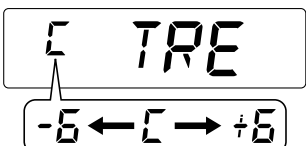
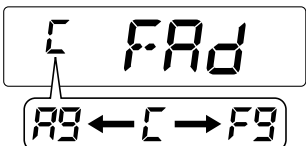
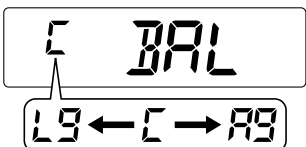


### To adjust each mode

Press the **TUNE**  $\vee$  or  $\wedge$  button.

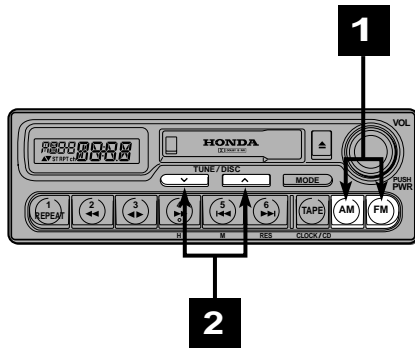
Adjust each mode according to the table.

# Audio Operation Instructions

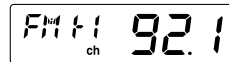
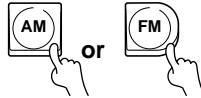
Display	Audio control operation	
	Press  button	Press  button
	Bass decreases.	Bass increases.
	Treble decreases.	Treble increases.
	Stronger rear sound.	Stronger front sound.
	Stronger left channel.	Stronger right channel.

# Radio Operation Instructions

## AUTO SEEK TUNING



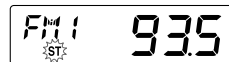
1



2



(0.5 - 1.5 sec.)



The Stereo indicator appears on the display when stereo broadcasts are received.

### Listening to the radio

**Press the AM or FM button.**

The frequency display will appear and the radio will turn on.

**To select FM band**

**Press the FM button.**

Each time you press this button, the FM band changes as follows:

**FM1 ← → FM2**

The selected band will be displayed.

### Seek

**Press the TUNE ∨ or ∨ button for at least 0.5 to 1.5 seconds.**

Pressing the ∨ button will increase the frequency by auto seek tuning.

Pressing the ∨ button will decrease the frequency by auto seek tuning.

When a station is found, the tuner will lock on to it. When auto seek tuning begins, it is indicated by a short beep.

### NOTE

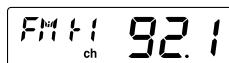
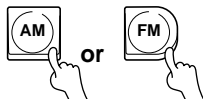
One step: AM=9 kHz, FM=50 kHz (FM frequency indicated for each 100 kHz.)

# Radio Operation Instructions

## MANUAL TUNING



1



### Listening to the radio

**Press the AM or FM button.**

The frequency display will appear and the radio will turn on.

**To select FM band**

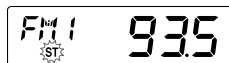
**Press the FM button.**

Each time you press this button, the FM band changes as follows:

FM1 ←→ FM2

The selected band will be displayed.

2



The Stereo indicator appears on the display when stereo broadcasts are received.

### Tuning

**Press the TUNE ∨ or ∧ button.**

Pressing the ∧ button will increase the frequency by one step.

Pressing the ∨ button will decrease the frequency by one step.

**Press and hold the TUNE ∨ or ∧ button move quickly through the frequency band.**

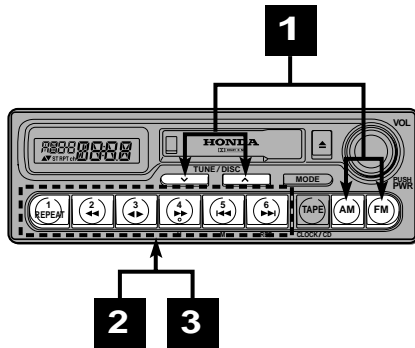
When the TUNE ∨ or ∧ button is released, the tuner will stop on the displayed frequency.

#### **NOTE**

One step: AM=9 kHz, FM=50 kHz (FM frequency indicated for each 100 kHz.)

# Radio Operation Instructions

## TO SET THE PRESET STATION



**1**

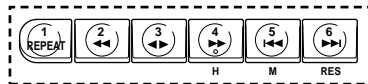


### Choosing a station

**Tune in to the station frequency you want to preset by pressing the FM or AM button.**

When the FM band is selected, press the FM button to select the FM1 or FM2. Then press the TUNE  $\nabla$  or  $\blacktriangle$  button to tune in the frequency.

**2**



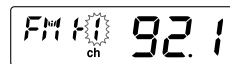
(more than 2.0 sec.)

### To store the station in memory

**Press the Preset station button you want to store the station under for at least two seconds.**

When the station is stored in memory, it is indicated by a short beep. By repeating the above operation, you can set one station for each Preset Station button on the respective FM1, FM2, and AM bands (18 total).

**3**



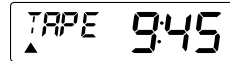
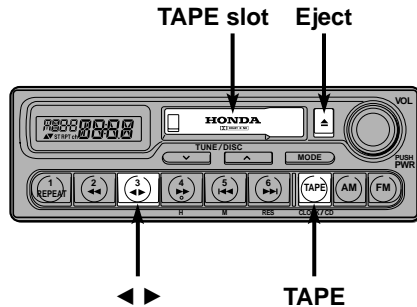
### Using preset stations

**Press the Preset station button for the desired station.**

The number of the preset button will be displayed, and the station that is set in memory will come on.

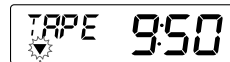
# Cassette Operation Instructions

## PLAYING A CASSETTE



### To play

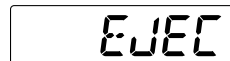
Insert a cassette with the exposed tape on the right.  
If there is a tape already in the unit, press the TAPE button.  
"TAPE" will be displayed, and play will start.



Tape play indicator

### To change sides

Press the ◀▶ button.  
The tape play indicator will switch and playback of the other side will begin.



### To stop and eject

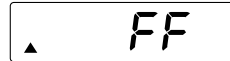
Press the Eject button.  
The cassette will eject.

# Cassette Operation Instructions

## FAST FORWARD AND REWIND



Rewind      Fast forward



### Fast forward

Press the ►► button.

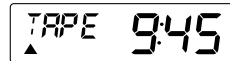
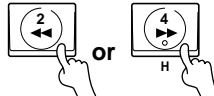
“FF” will be displayed, and the player will start to fast forward.



### Rewind

Press the ◀◀ button.

“REW” will be displayed, and the player will start to rewind.



### To cancel fast forward/rewind

Press the same button.

The fast forward/rewind is cancelled and the tape playback starts.

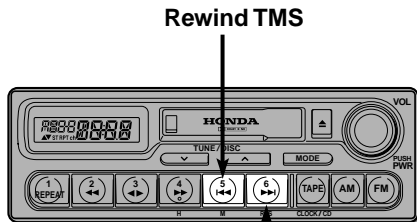
### TAPE PLAY INDICATORS

The table shows tape side when inserted with side A facing up. If side B is up, the indicators have the opposite meaning.

Indicator	Play side
▲	Side A
▼	Side B

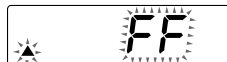
# Cassette Operation Instructions

## TMS (Tape music sensor)



Rewind TMS

Forward TMS



### Forward TMS

**Press the ►► button.**

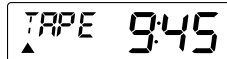
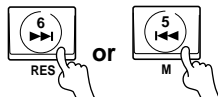
"FF" will flash, and the tape is fast-forwarded to the next track and playback starts.



### Rewind TMS

**Press the ◀◀ button.**

"REW" will flash, and the tape is rewind to the beginning of the current or previous track and playback starts.



### To cancel

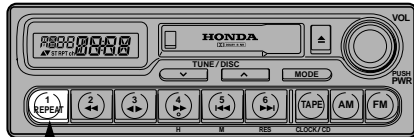
**To cancel TMS in the middle, press the same button.**

The TMS is cancelled and playback starts.

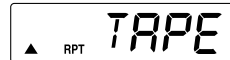


# Cassette Operation Instructions

## REPEAT PLAY



REPEAT

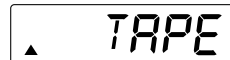


**To turn the Repeat play function on**

**Press the REPEAT button.**

The "RPT" indicator lights and Repeat play is enabled.

When the currently played track is over, it will be played again from the beginning.



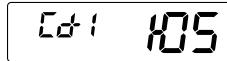
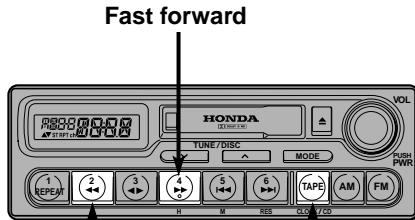
**To cancel**

**Press the REPEAT button.**

The "RPT" indicator disappears and the Repeat play function is cancelled.

# CD changer Operation Instructions

## DISC PLAY WITH CD CHANGER (Optional)



### To play discs

Press the CD button.

Each time you press this button, the source mode changes as follows:

TAPE ← → CD

If you see “Cd” displayed, you are in CD changer mode.

Disc play will start.

### NOTE

- Changing of the disc is indicated by “LOAD” being displayed.
- When the player reaches the end of a disc, it automatically changes to the next disc and starts playing.
- When a disc magazine is loaded during CD changer mode, it begins disc loading to check the disc information.



### To fast forward

Hold down the ►► button.



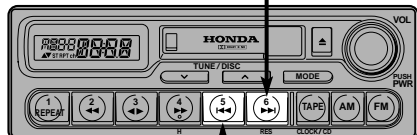
### To backward

Hold down the ◀◀ button.

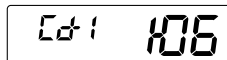
# CD changer Operation Instructions

## TRACK SELECTING

Forward track skip



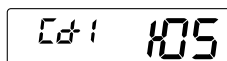
Backward track skip



### Forward track skip

**Press the ►► button.**

Each time you press this button, the track number on the display increases. The player plays the track of the number shown on the display.



### Backward track skip

**Press the ◀◀ button.**

When you press this button once, the player returns to the start of the current track. Each time you press the button, the track number on the display decreases. The player plays the track of the number shown on the display.

# CD changer Operation Instructions

## DISC SELECTING



Disc select



### Disc select

Press the DISC  $\nabla$  or  $\blacktriangle$  button to select the disc you want to play.

# In case of Difficulty

Apparent malfunctions are often due to user error in operation or connection. When trouble occurs with your unit, please check the following before calling for service.





Symptom	Cause	Remedy
No sound or sound output is low.	The volume level is minimum.	Raise the volume level.
	The fader or balance is set to one side.	Adjust the fader and balance.
	The cassette tape is faulty.	Use another cassette.
Sound quality is poor. (Sound distortion)	The volume level is too high.	Use the appropriate volume level.
	The tape head is dirty.	Clean the head. See "Cassette and Player Maintenance" (refer to page 5).
A cassette cannot be inserted.	The cassette is deformed.	Use another cassette.
	You attempt to insert a cassette incorrectly.	Insert the cassette with the expose tape aperture on the right.
Poor reception.	The antenna is not extended.	Extend the antenna.
	The radio wave condition of the station being received is poor.	Tune in a frequency with a better radio wave condition.

# In case of Difficulty

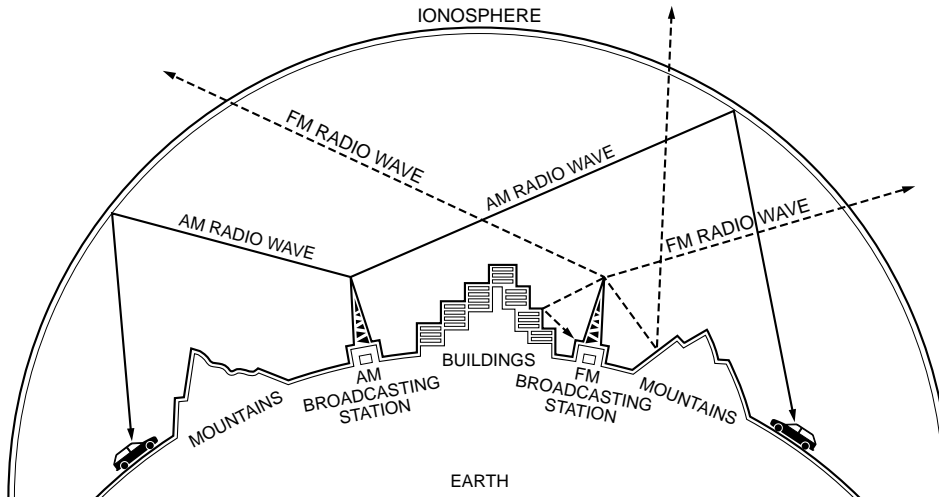
## CD CHANGER MODE

Symptom	Cause	Remedy
Disc play does not start.	Power is not turned ON.	Press the CD button, and select the CD changer.
The specified disc is not played; a different disc is played instead.	The specified disc is very dirty.	Clean the disc.
	The disc is loaded upside down.	Eject the disc magazine and insert the disc correctly.
	Two discs are inserted in one slot.	Eject the disc magazine and insert the discs correctly.
	The number of the slot into which the disc is inserted is different from the number of the specified disc.	Eject the disc magazine and check the number of the specified disc.
The sound skips.	The disc is severely damaged.	Use another disc.
Sound quality is poor.	Something is touching the CD changer.	Keep objects away from the CD changer.
No sound is heard even though the information concerning the CD changer is displayed.	The disc is dirty or damaged.	If sound always skips at the same part, the disc is faulty. Check and, if possible, clean the disc.
	The recording of the disc is poor.	Try playing another disc. If the sound is good, the fault was with the original disc.
	Volume is set to minimum level.	Raise the volume level.

## CD CHANGER MODE

Indication	Cause	Remedy
	No disc in disc magazine.	Load a disc in the disc magazine.
	<ul style="list-style-type: none"> <li>• Disc is too dirty.</li> <li>• The disc is upside down.</li> <li>• The disc is damaged.</li> </ul>	Clean the disc and insert it correctly.
	Mechanism malfunction.	Contact your dealer.
	When the temperature exceeds 60°C, a protection circuit will stop all operations. This message will then be displayed.	Allow the temperature where the changer is located to cool down. As soon as it has cooled down enough, the changer starts playing.

# What is the Difference Between AM and FM Radio?



## • **AM Advantages**

AM radio waves follow the curvature of the earth, bend around obstacles, and are reflected by the ionosphere to give good long range reception.

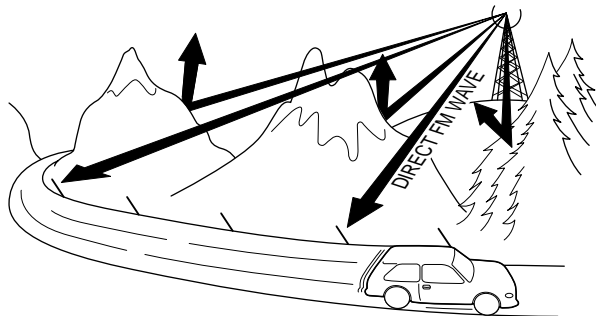
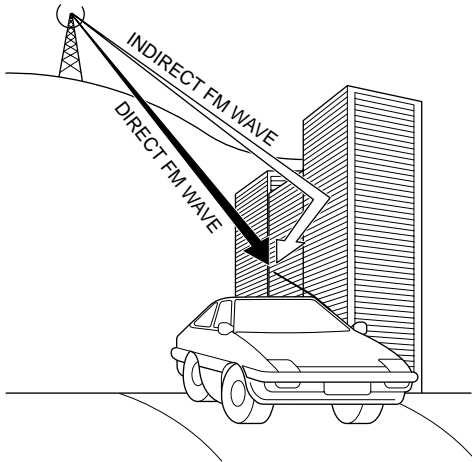
## • **FM Advantages**

FM offers low noise, low distortion, a wide dynamic range, and is usually broadcast in stereo.

## • **FM Stereo**

FM stereo radio signals travel “piggyback” or in other words, two separate signals are carried on the same radio wave. FM Stereo radios decode these signals to give stereo separation.





- **Multipath**

Multipath is the noise and distortion caused by the mixing of direct waves reflected from buildings and mountains.

- **Electronic Tuned Radio**

Tuning is performed by Phase Locked Loop (PLL) Synthesizer. This allows each station to be precisely-electronically tuned for optimum reception. Electronic tuning reduces the chance for off center tuning problems usually found with manually tuned radios. Another benefit is 6 AM and 12 FM preset stations, a total of 18 pre-tuned stations at your fingertips.

- **Static Noise**

Static noise results from the disruption of medium to weak signals by mountains, trees, etc., causing an alternating strong/weak signal pattern.

# Note



## Specifications

### FM tuner section

Frequency range (50 kHz space) .....	87.5 MHz - 108.0 MHz
Usable sensitivity .....	12.0 dBf (1.1 $\mu$ V/75 ohms)
50 dB quieting sensitivity .....	25.0 dBf (4.9 $\mu$ V/75 ohms)
Signal to Noise ratio (IHF T-200) .....	60 dB
Selectivity .....	80 dB
Stereo separation (1 kHz) .....	35 dB

### AM tuner section

Frequency range (9 kHz space) .....	531 kHz - 1602 kHz
Usable sensitivity .....	28 dB $\mu$

### Cassette deck selection

Tape speed .....	4.76 cm/sec.
Wow & Flutter (WRMS) .....	0.08 %
Fast winding time (C-60) .....	100 sec.
Frequency response ( $\pm$ 3 db, normal) .....	30 Hz - 20 kHz
Stereo separation .....	50 dB
Signal to Noise ratio .....	65 dB

### Audio section

Maximum power output .....	20 W $\times$ 4
Total harmonic distortion .....	0.05 %
Tone action .....	Bass: $\pm$ 12 dB (100 Hz) Treble: $\pm$ 12 dB (10 kHz)

### General

Supply voltage .....	13.2 V DC (negative earth)
Maximum current .....	8.5 A (operating) 1.5 mA (standby)
Dimensions (width $\times$ length $\times$ depth) .....	180 $\times$ 52 $\times$ 160 mm
Weight .....	1.4 kg

Dolby noise reduction manufactured under license from Dolby Laboratories.  
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Specifications subject to change without notice.

**08A50-S5H-7000-81**

**3-224-658-11**

