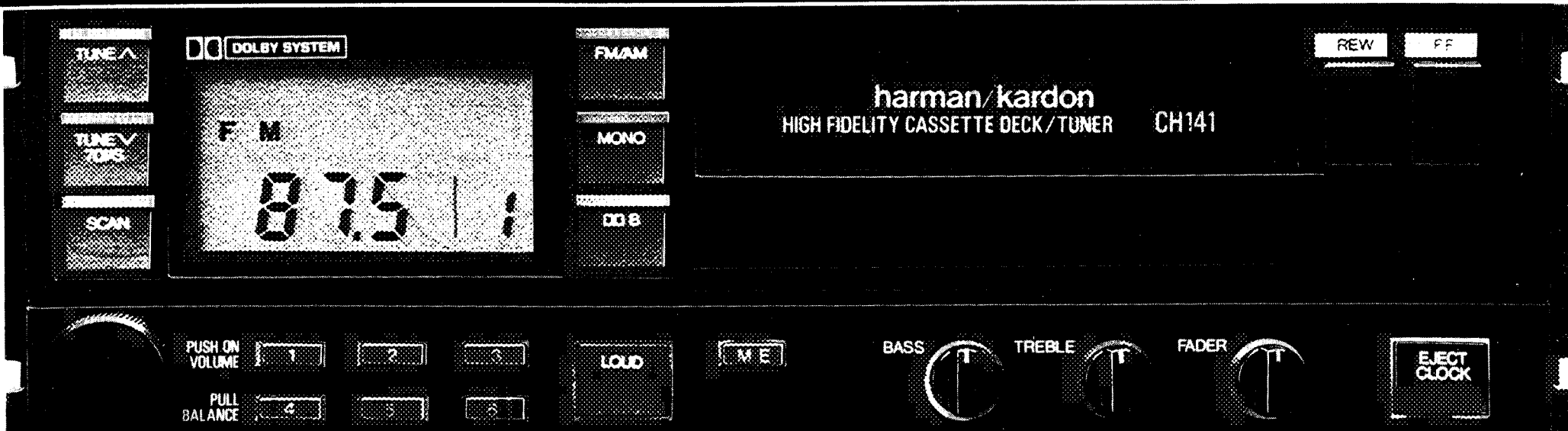


harman/kardon

HIGH FIDELITY CASSETTE DECK/TUNER

CH141

owner's manual



Congratulations on your purchase of the Harman Kardon CH141 High Fidelity Cassette Deck / Tuner.

To fully understand the CH141's capability, please read this manual carefully and follow all of the instructions regarding its use and installation.

Superior autosound performance is now available in a small 7" chassis that will fit nearly any car made. The CH141 is a complete full-featured unit.

TUNER SECTION

■ Digital Synthesized Tuning

Digital Synthesized Tuning accuracy eliminates drifting and mistuning, thereby guarantying optimum sound quality. Six AM and six FM stations can be simultaneously stored in the memory.

■ Scan Tuning

■ High Fidelity Performance (Low Harmonic Distortion, Low noise, Wide Stereo Separation)

■ Auto Tuner Monitor

Allows monitoring tuner automatically during the fast forward or rewind modes.

■ Auto Separation & Soft Muting Control

Adjusts stereo separation and soft muting automatically during FM stereo reception for optimum reception and sound quality.

■ Pulse Noise Suppressor

Pulse Noise Suppressor Circuit is included to reduce noise caused by the automobile electrical system.

■ Mono Switches

CASSETTE DECK SECTION

- Playback Frequency Response 20–20,000Hz (± 3 dB)
- Discrete Playback Amplifier Circuit
- Dolby* Noise Reduction
This model provides the Dolby B-type noise reduction system that virtually eliminates noise from cassette recordings.
- Equalizer (Tape Selector) Switch
Adjusts for normal or metal/CrO₂ tapes.
- Mechanically Assisted Tape Loading
New improved mechanism literally pulls cassette into play position.
- Locking Fast Forward and Rewind
Locking mechanism allows hands-off F.F. and REW operation.
- Auto Replay at End of Rewind
- Key Off Eject/Tape End Eject
Automatically ejects the cassette when the ignition key is turned off or the tape reaches at the tape end.

PREAMP SECTION

- All Discrete Circuitry
- Separate Bass and Treble Controls
- Loudness Switch
- Fader Control
- Amplifier Remote Turn-on, Power Antenna and Memory Back Up Leads

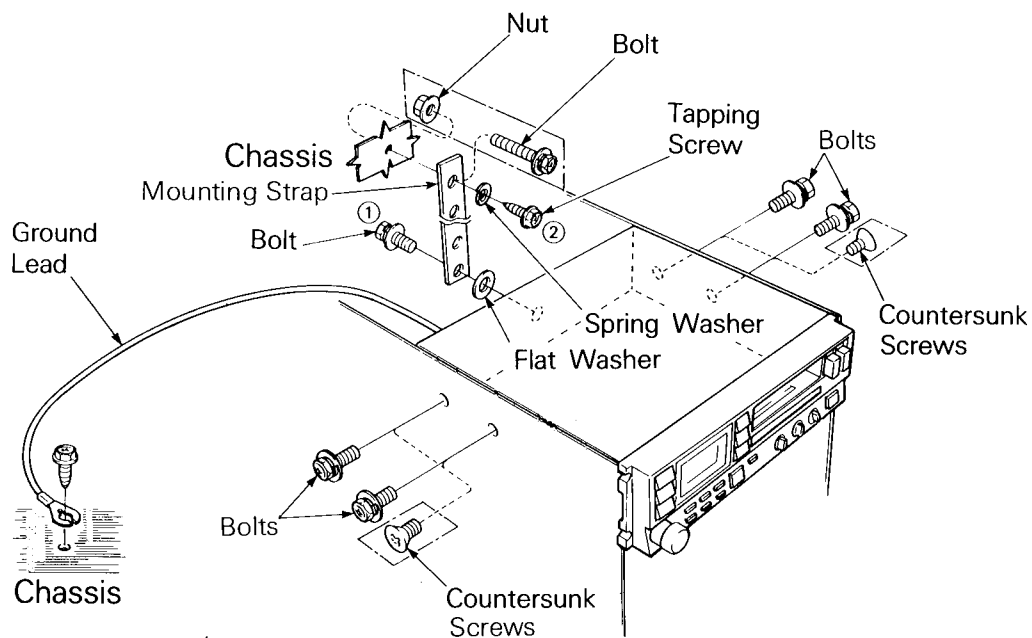
*Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

INSTALLATION INSTRUCTIONS

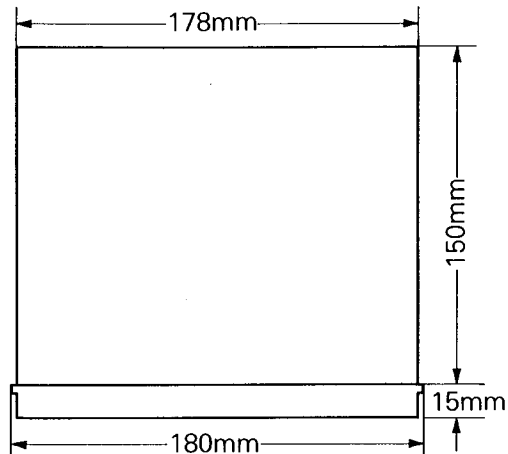
Install this unit in the following manner using the accessories shown below.

Mounting Strap (1 pc.)
Bolt with Washer (5 pcs.)
Spring Washer (1 pc.)
Countersunk Screw (Large) (4 pcs.)
Flat Washer (1 pc.)
Bolt with Washer (Long) (1 pc.)
Hex. Nut (1 pc.)
Tapping Screw (1 pc.)

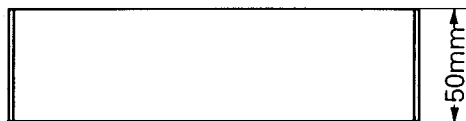
1. Secure one end of the mounting strap to the rear of the unit using the enclosed bolt.
2. Secure the other end of the strap to the wall using the self-tapping screw (or the bolt and nut).
3. Secure the both sides of the unit to the wall using 4 bolts with washers (or countersunk screws).
4. Secure the ground lead of the unit by using a screw already attached to the chassis of the car. Attach the trim frame after the main body has been fixed.



CHASSIS DIMENSIONS



Top View

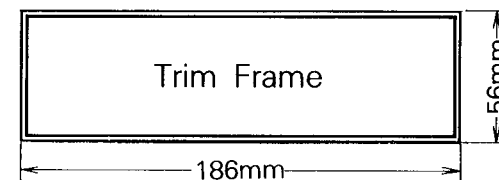
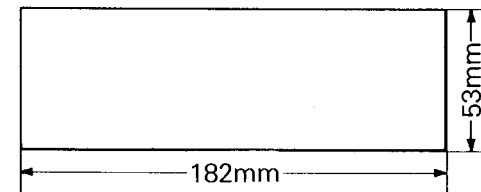


Front View

The following can be used to install CH141 if installing space in the dashboard is DIN size (DIN type-F)

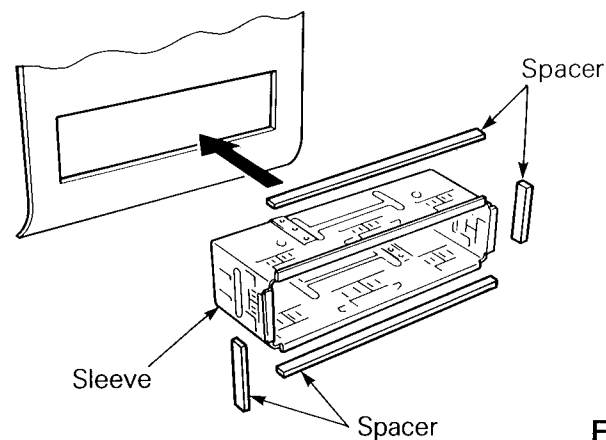
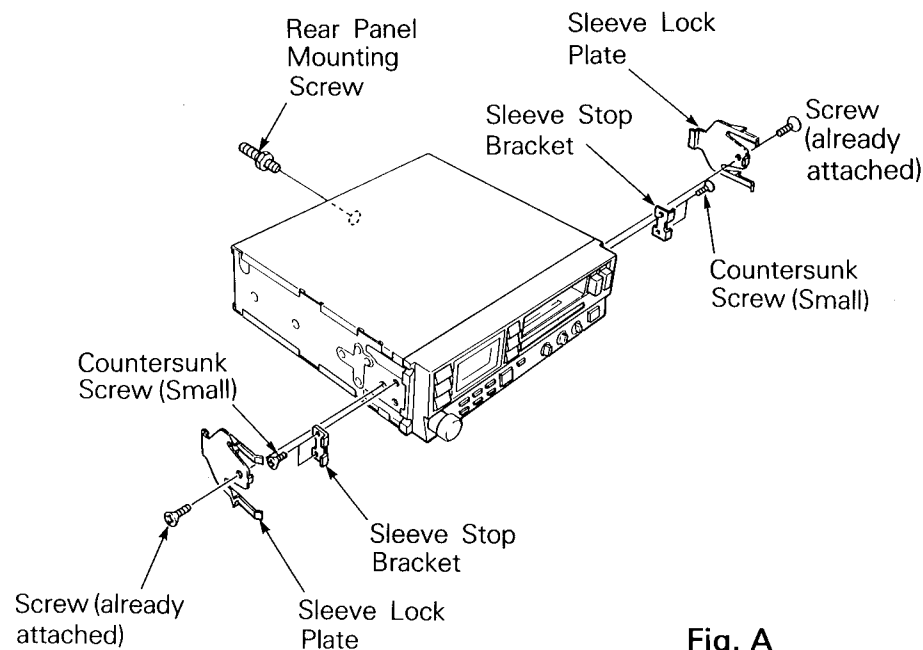
- Sleeve (1 pc.)
- Rear Bushing (1 pc.)
- Rear Panel Mounting Screw (1 pc.)
- Sleeve Lock Plate (2 pcs.)
- Sleeve Stop Bracket (2 pcs.)
- Countersunk Screw (Small) (4 pcs.)
- U-shape Key (2 pcs.)
- Trim Frame (1 pc.)
- Spacer (Large) (2 pcs.)
- Spacer (Small) (2 pcs.)

First, make sure that the installing space in the dashboard is the DIN size shown below. If the space is not big enough, increase it to the size indicated below.



Install as follows:

1. Remove the seal on the side of the main body, and mount the sleeve stop brackets, sleeve lock plates and rear panel mounting screw. (Fig. A)
2. Fit the sleeve in the installing space (DIN size) on the dashboard. If the sleeve space is too big, paste the spacer(s) around the sleeve. (Fig. B)
3. The sleeve can be additionally secured, if necessary, by bending out the tabs around the sleeve flange. Bend them so that they hold the dashboard firmly from behind. (Fig. C)
4. Make sure the sleeve is fixed securely, and then install the main body. (Fig. D)
5. Use the rear bushing to fix the rear of the main body. Utilize the fitting on the installing dash backboard where provided. (Fig. E)
6. Secure the ground lead of the unit by using a screw already attached to the chassis of the car. Attach the trim frame after the main body has been fixed. (Fig. E)
7. Remove the trim frame before the main body is removed. After the frame is removed, insert the U-shape key to the grooves on the right and left sides of the body, and pull the body toward you while holding the right and left keys in place. (Fig. F) Be careful each lead wire is not damaged at this time.



INSTALLATION

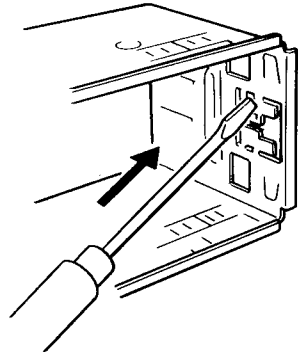


Fig. C

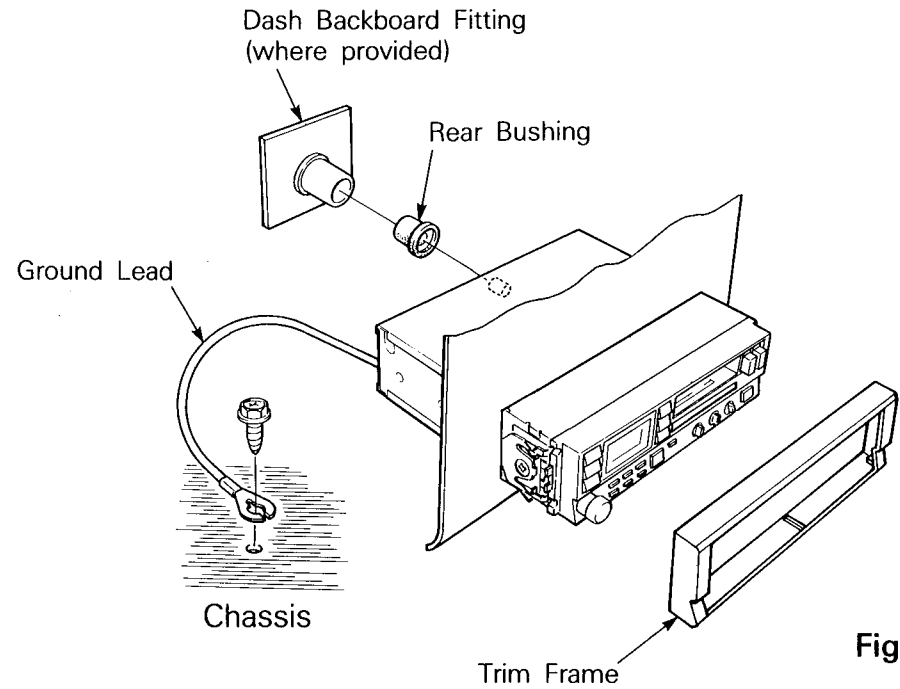


Fig. E

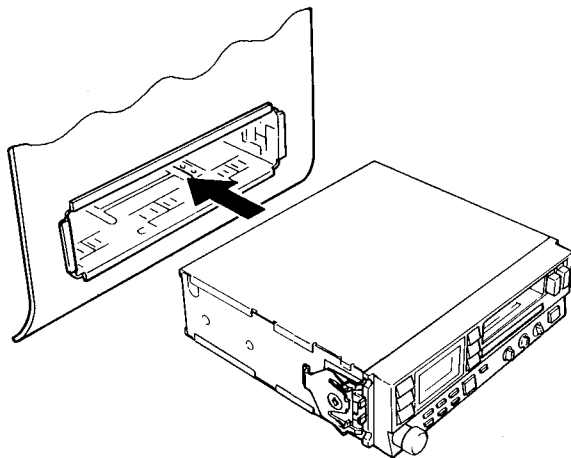


Fig. D

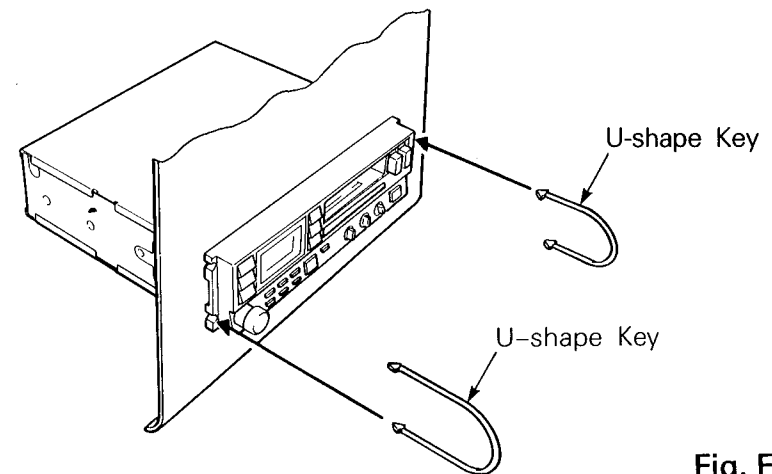
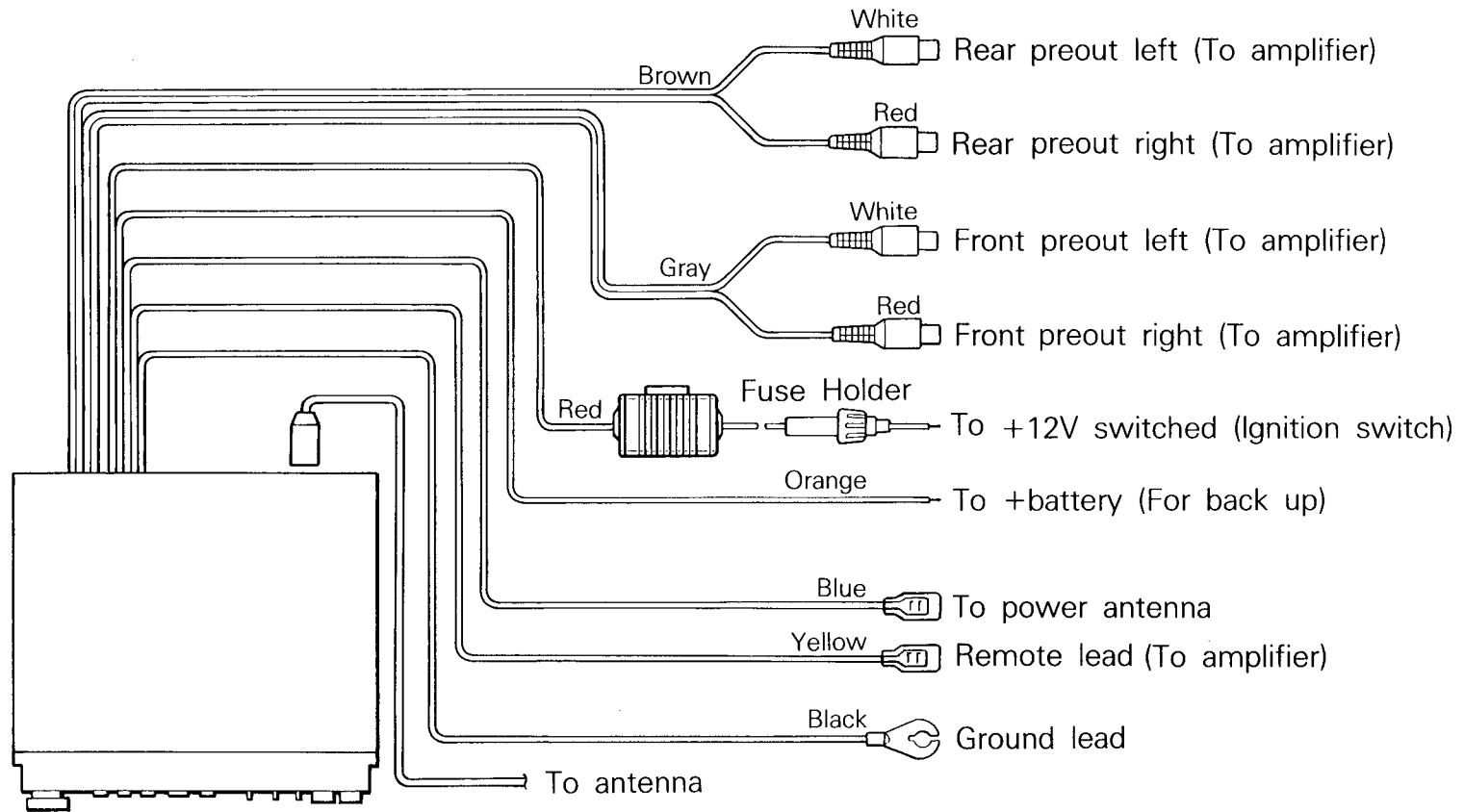


Fig. F

After installing all components, connect the wiring according to figure.



+12V SWITCHED (+ACC)

The +12V SWITCHED lead is a positive power input. It should be connected to a circuit which is turned on when the ignition switch is in the "ACC" position.

MEMORY BACK UP

The +12V MEMORY lead is a positive power input. It should be connected to a circuit which is always on in order to retain the tuner memory.

REMOTE

Connect the POWER AMP REMOTE turn-on lead (yellow) to the proper terminal on the amplifier, if provided.

POWER ANTENNA CONTROL

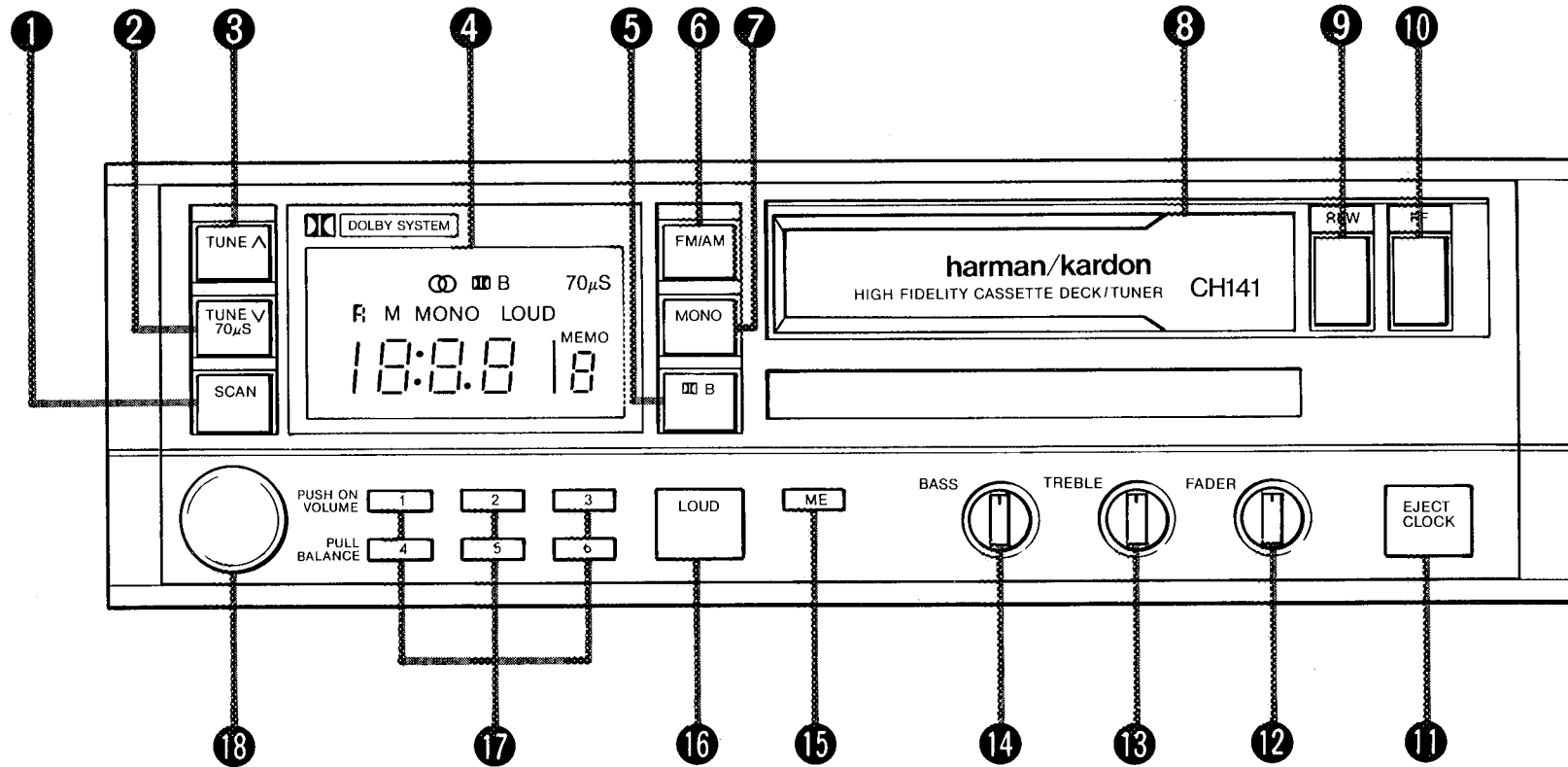
Connect the POWER ANTENNA control lead (blue) to the connector of a fully automatic power antenna. Power antenna control does not work with a semiautomatic or manually operated antenna.

GROUND

This is the negative power input. It should be connected directly to the car chassis.

NOTE: Be sure to secure the ground lead to a good electrical ground. Poor grounding is likely to add engine noise to the audio signals.

This unit is designed to operate with any NEGATIVE GROUND 12V (11–16V usable) DC electrical system.



❶ SCAN BUTTON

Push this button to operate scan function. (Refer to the TUNER section.)

❷ TUNING DOWN / CLOCK MINUTES / 70 μ SEC (TAPE SELECTOR) BUTTON

Use this button for manual tuning. When this is pressed, the tuner frequency decreases. In FM mode, frequency display moves in 200kHz steps. In AM, the display moves in 10kHz steps. If this button is pressed for more than a second, the display moves quickly and continuously until released. This button also controls the minutes displayed on the clock. To set the clock (minutes) time, push the memory button first. Then push this button. Tape selection can also be made when using metal or CrO₂ tape.

❸ TUNING UP / CLOCK HOURS BUTTON

Use this button for manual tuning. When this is pressed, the tuner frequency increases. If this button is pressed for more than a second, the display moves quickly and continuously until released. This button also controls the hours displayed on the clock. To set the clock (hours) time, push the memory button first. Then push this button.

❹ DISPLAY

This includes tuner frequency, clock, memory channel display, LOUD (loudness), MONO, ∞ (stereo), 70 μ S (metal/CrO₂), Dolby NR indicator.

❺ DOLBY NR SWITCH

Press the button for playback using the Dolby NR system. The Dolby NR indicator illuminates. Press the switch again to turn off the Dolby NR system.

❻ FM / AM BAND SELECT SWITCH

❼ MONO SWITCH

Mono mode: All FM broadcasts will be received as monaural broadcasts, regardless of whether or not they are in stereo. This mode may provide quieter, more listenable sound quality under poor reception conditions.

Auto-stereo mode: FM stereo reception is automatically selected when received at medium or high signal strength. When an FM monaural signal or a weak FM stereo signal is received, it automatically switches to the FM monaural mode.

❽ CASSETTE LOADING SLOT

❾ REW (REWIND) BUTTON

Press this button to rewind the tape.

❿ F.F (FAST FORWARD) BUTTON

Press this button to advance the tape at fast speed.

CONTROLS & INDICATORS

① EJECT BUTTON / DISPLAY MODE SELECTOR

Push this button to eject the cassette. This also changes the display mode to clock (during tuner operation). When the unit is first turned on, it will automatically display the tuner frequency. Pushing the eject button changes the display from tuner frequency to clock for 5 seconds.

⑫ FADER CONTROL

This control adjusts the balance of front and rear level. Turn this control clockwise to decrease the front level or counterclockwise to decrease the rear level. It has center click to indicate the balance of the front and rear channels.

⑬ TREBLE CONTROL

This controls the high frequency sounds. Turn it clockwise to boost or counterclockwise to cut them. It has center click to indicate flat frequency response.

⑭ BASS CONTROL

This knob controls the low frequency sounds. Turn it clockwise to boost or counterclockwise to cut them. It has center click to indicate flat frequency response.

⑮ MEMORY BUTTON

This button is used to enter or change the preset stations or the clock setting. When this button is pressed, the MEMO indicator illuminates for 5 seconds. This indicates that the memory standby state is activated.

⑯ LOUDNESS BUTTON

When listening at a low level, the loudness button will create a more natural sound by emphasizing the low and high frequency ranges.

⑰ PRESET MEMORY BUTTONS

Press any one of the six Preset Memory buttons while the MEMO indicator is illuminating, and the frequency displayed is memorized at that Preset Memory button. Each button can memorize one frequency in both FM and AM bands. Once a station frequency is memorized, it can be recalled any time the same button is pressed.

⑱ VOLUME CONTROL / ON-OFF SWITCH (PUSH) / BALANCE CONTROL (PULL)

Push this knob to turn on the tuner. Push again to turn it off. This knob controls the sound level. Turning clockwise increases the sound volume and turning counterclockwise decreases it. This also controls the balance of the left and right channels. Turn it to clockwise or counterclockwise to balance the sound. It has center click to indicate the balance of the left and right channels.

CASSETTE

1. With the cassette tape opening to the right, insert the cassette into the loading slot as far as it will go. The unit is then turned on even if the tuner is off, and the tape will begin playing.
2. If the tape is a metal or CrO₂ type cassette, push the 70 μ S (tape selector) switch. The "70 μ S" indicator will illuminate.
3. Press the Dolby NR switch for a tape recorded with Dolby NR encoding and Dolby NR indicator will illuminate.
4. Adjust the VOLUME, BASS, TREBLE, BALANCE and FADER controls to suit your listening preference.
5. To stop tape play, depress the EJECT button. The cassette will eject and the player will automatically change over to the tuner mode (when the tuner is switched on).
6. The cassette will be ejected automatically when the tape reaches the end during the play or F.F. mode.

NOTE: The cassette will be ejected automatically whenever you turn the ignition switch to the "OFF" position while a cassette is playing.

Advancing the Tape Rapidly in Forward or Reverse Direction

1. Depress the F.F or REW button until it locks and the tape will run rapidly in the designated direction. The player automatically changes over to the tuner mode (when the tuner has been switched on) during fast winding.
2. Lightly depress the other button (F.F or REW) to stop the fast winding mode. The tape will start playing again.

NOTE: The tape will be replayed automatically after the tape is rewound.

TUNER

The tuner will not operate if a tape is inserted. Remove the tape by depressing the EJECT button.

Automatic Tuning

1. Turn the tuner on by pushing the VOLUME control knob.
2. Select AM or FM reception by pressing FM/AM band selector.
3. Press the SCAN button. The tuner begins to search for broadcasted signals. When a broadcasted signal is tuned in, the automatic scanning stops at that station for 5 seconds. It then moves up in frequency to the next station, etc. To stop scanning, press any of the tuning buttons (SCAN, TUNE \wedge or TUNE \vee).
4. Note that this unit can only scan up in frequency.
5. When in the auto-stereo mode (MONO indicator does not illuminate), the stereo indicator will illuminate only when an FM stereo broadcast is being received.
6. Adjust the VOLUME, BASS, TREBLE, BALANCE and FADER controls to suit your listening pleasure.

Manual Tuning

Manual tuning is useful when the desired station is too weak to be picked up in the automatic tuning mode or the frequency of the station you wish to listen to is known.

1. Turn the tuner on by pushing the VOLUME control knob. The frequency received will be displayed.
2. Select AM or FM reception by pressing the FM/AM band selector.
3. Select the desired station by pressing the TUNE \wedge or TUNE \vee button.
4. When in the auto-stereo mode (MONO indicator does not illuminate), the stereo indicator will illuminate when an FM stereo broadcast is being received.
5. Adjust the VOLUME, BASS, TREBLE, BALANCE and FADER controls to suit your listening pleasure.

Preset Memory

This feature enables the selection of one of six AM and six FM broadcasts by simply pressing a Preset button. This eliminates the need for automatic or manual tuning. In order to use this feature, broadcast frequencies must be entered into the preset memory as follows:

1. Tune to the station to be memorized by using Automatic or Manual Tuning.
2. Press the ME (memory) button. The MEMO display will illuminate for 5 seconds. During this period, press one of the Preset Memory buttons numbered 1 through 6. The button's number will be displayed and presetting of the station is completed.
3. To cancel a memorized station and memorize a new station at that number, tune to the frequency of the new station and follow step 2 above. The old station is automatically cleared, and the new station is memorized.

Last Station Memory Function

This function "remembers" the frequency last received before changing bands (FM/AM). When changing the band from FM to AM and again to FM, the last received FM station will be tuned in. This function also "remembers" the frequency of the station last received before turning off the power or before changing to the cassette mode. When the power is turned on, the frequency of the station last received is displayed by the Frequency Display, regardless of whether or not the station is a preset one.

CLOCK

1. Press the EJECT/CLOCK button to change the display mode from tuner to clock.
2. Press the ME button. This activates the clock setting mode for 5 seconds.
3. To set the correct hour, press TUNE \wedge button during clock setting mode. Each press of the TUNE \wedge button will advance the clock one hour. If the button is pressed and held, the hours will advance rapidly.
4. To set the minutes, press the TUNE \vee button during clock setting mode. Each press of the button will advance the clock one minute. If the button is pressed and held the minutes will advance rapidly.
5. When the TUNE \wedge (or TUNE \vee) button is released the clock will begin counting

PRECAUTIONS

Always remove the cassette tape from the unit when not in use.

When replacing fuse(s), the replacement must be of the same amperage as shown on the fuse holder. If the fuse(s) blow more than once, carefully check all electrical connections for shorted circuitry. Have your car's voltage regulator checked also. Do not attempt to repair the unit yourself; consult Harman Kardon or your nearest Harman Kardon Service Station for servicing.

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

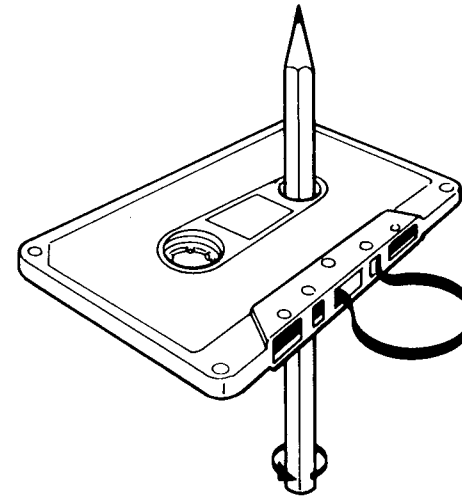
C-120 type cassette tapes are not recommended for use in any automobile tape players.

Prevent any foreign objects from entering the cassette opening as the precision mechanism and tape head could be damaged.

When your tape is not in use, store in the case provided by tape manufacturer.

To protect your cassette tapes, store them in a cool place away from dust, dirt and strong magnetic sources such as electric motors and TV sets.

Check and make sure any slack in the tape is taken up before inserting the tape into the unit. A loose tape could cause damage to the unit and the tape itself. Tighten the cassette by inserting a pencil or a similar instrument into the spindle hole and turn until all the slack has been taken up.



It is recommended that the tape head be cleaned after every 10 hours of use. To do so, insert a special head cleaning cassette into the tape loading slot and allow it to run for a few minutes.

TROUBLESHOOTING CHECKLIST

Most of the problems experienced by customers are due to incorrect operation of their units. If this unit does not operate as you intended, first check the items in the checklist.

Also check other related components such as the speakers, amplifier and other electrical equipment you use with this unit.

Problem	Cause	Remedy
The tape does not run.	<ul style="list-style-type: none"> • Tape has too much slack. 	<ul style="list-style-type: none"> • Eject the cassette and remove tape slack. (See page 15.)
Sound flutters.	<ul style="list-style-type: none"> • Tape head, capstan or pinch roller is dirty. • Cassette tape is bad. 	<ul style="list-style-type: none"> • Clean those parts using a special cleaning cassette. • Use new cassette.
Unit does not play back.	<ul style="list-style-type: none"> • Incorrect connection. • Sound is not recorded on the tape. • Tape head is dirty. 	<ul style="list-style-type: none"> • Correct connections. See pages 7, 8. • Exchange with a recorded tape. • Clean the tape head.
Sound is distorted.	<ul style="list-style-type: none"> • Tape head is dirty. • Incorrect setting of the 70μS switch. 	<ul style="list-style-type: none"> • Clean the tape head. • Set 70μS switch according to the type of tape.
High frequency sound is not clear.	<ul style="list-style-type: none"> • Tape head is dirty. • Incorrect operation of Dolby NR or 70μS switch. 	<ul style="list-style-type: none"> • Clean the tape head. • Set the switch correctly.
Broadcast cannot be heard.	<ul style="list-style-type: none"> • The tape is running. • Incorrect connection of the antenna. 	<ul style="list-style-type: none"> • Eject the cassette. • Check the antenna connection wire.
AM sound is noisy.	<ul style="list-style-type: none"> • The unit is effected by the amplifier. 	<ul style="list-style-type: none"> • Move the amplifier to a location farther away from the antenna.
Sound has ignition noise.	<ul style="list-style-type: none"> • Poor connection of ground. • Poor power line filtering. 	<ul style="list-style-type: none"> • Be sure to secure ground lead. • Add a power line filter to the +12V SWITCHED wire.

TUNER SECTION

Type of Tuning : Digital Synthesized
 Antenna Terminal Impedance : 75 Ohms

—FM—

Usable Sensitivity (Mono) : 14.8dBf (1.5 μ V-75 Ohms)
 50dB Quieting Sensitivity (Mono) : 18dBf (2.2 μ V-75 Ohms)
 Signal-to-Noise Ratio (65dBf)
 Mono : 72dB
 Stereo : 68dB
 Alternate Channel Selectivity : 70dB
 Stereo Separation : 40dB
 (1kHz, 65dBf, 100% modulation)
 THD (1kHz, 65dBf)
 Mono : 0.2%
 Stereo : 0.4%
 Capture Ratio : 1.5dB
 IF Rejection : 70dB
 Image Rejection : 40dB
 Frequency Response (\pm 3dB) : 30—15,000kHz

—AM—

Sensitivity : 30 μ V
 Alternate Channel Selectivity : 50dB

CASSETTE DECK SECTION

Frequency Response : 20—20,000Hz
 (Harman/Kardon test tape, \pm 3dB, Dolby NR off)
 Wow and Flutter (WRMS) : 0.09%
 Signal-to-Noise Ratio (CrO₂)
 Dolby NR off : 54dB
 Dolby NR : 64dB

AUDIO SECTION

Tone Control
 Bass (at 50Hz) : \pm 10dB
 Treble (at 10kHz) : \pm 10dB
 Loudness Control (at 80Hz) : +10dB
 Preout Output Level : 0.8V
 (10k Ohms load)
 Preout Output Impedance : 500 Ohms
 Negative Feedback : 22dB

GENERAL

Chassis Dimensions : 7" \times 2" \times 5-7/8"
 (W \times H \times D) (180 \times 50 \times 150 mm)
 Weight : 3lbs. (1.4kg)
 Power Supply : DC 13.8V (11—16V Usable), Negative Ground
 Current Consumption : 0.6A
 Accessories : Connector Assembly, Spare Fuse (1 pc.), Mounting Kits

All specifications and features subject to change without notice.