High-Power In-Dash AM/FM Stereo CD Player
(120-2154/55) Features Faxback Doc. # 48528

This document contains instructions for both Cat. No. 120-2154 and 120-2155 stereos. (You can find the Cat. No. of your model on the top of the stereo.) 120-2154 has a LOUD button while 120-2155 has an FSM button. Unless otherwise noted, these are the primary differences between the two units listed.

Your Optimus High-Power In-Dash AM/FM Stereo CD Player has many practical, easy-to-use features, and you can install it in almost any vehicle. The stereo's anti-theft control panel lets you quickly remove it, making the stereo inoperative. The auto travel programming feature lets you store strong local stations into a separate travel memory.

Memory tuning, seek and scan tuning, and FM optimizer circuitry all help make your stereo's operation simple and quick to help you drive safely.

CAUTION: Use common sense. Do not change your stereo's settings in heavy traffic or during hazardous driving conditions.

CD PLAYER

Audible Search - lets you rapidly play a CD in either direction to locate a desired section of a track.

Intro Scan - scans and plays the first 10 seconds of each track, so you can find a specific track.

Shuffle Play - randomly selects and plays tracks from the loaded CD.

Repeat Play - automatically repeats the current track.

AM/FM STEREO TUNER

Band Button - lets you easily select one of the stereo's AM or FM bands.

Memory Scan Tuning - scans all stations stored in memory, playing for 5 seconds on each.

Memory Tuning - lets you quickly store and tune up to 18 of your favorite stations (6 AM and 12 FM).

Auto Travel - lets you automatically store the first 6 strong

Programming	stations in each band (AM and FM) into a separate travel memory so you can quickly find local stations while traveling.
Seek Tuning -	searching forward or backward to the next strong station in the selected band. This makes finding a station quick and easy.
Digital Synthesized Circuitry -	gives you precise tuning and drift-free reception.
Advanced FM Optimizer Circuitry -	automatically adjusts the tuner's stereo separation and high-frequency response to give you the best possible sound, regardless of the signal level.

GENERAL

Electronic Bass, Treble, Fader, and Balance Controls -	let you easily adjust high and low sounds and the balance between the left/right and front/rear speakers, so you can tailor the sound to suit your preferences.
Anti-Theft Control Panel -	lets you quickly remove and store the stereo's control panel in the supplied carry case. This discourages theft because the stereo cannot operate without the control panel.
Lighted On/Off Button -	makes it easy to turn on your stereo, even when you drive at night.
Easy to See Liquid Crystal Display -	helps you see the display in all lighting conditions. The 12-2154's display in amber, and the 12-2155's display is green.
Line-Out Jacks -	makes it easy to connect a booster.
Loudness Button (12-2154 only) -	lets you increase the low range of sounds at low volume levels.
Favorite Sound Memories (FSM) (12-2155 only) -	lets you store current volume, bass, treble, balance, and fader settings, then have your stereo return to those settings by pressing a single button.

The CD player in this stereo system is made and tested to meet exacting safety standards. It meets FCC requirements and complies with safety performance standards of the U.S. Department of Health and Human Service.

WARNINGS: This system employs a laser light beam. Only a qualified service person should remove the cover or attempt to service this device, due to possible eye injury.

The use of controls, adjustments, or procedures other than those specified herein might result in hazardous radiation exposure.

High-Power In-Dash AM/FM Stereo CD Player
(120-2154/55) Installation Faxback Doc. # 48529

This document contains instructions for both Cat. No. 120-2154 and 120-2155 stereos. (You can find the Cat. No. of your model on the top of the stereo.) 120-2154 has a LOUD button while 120-2155 has an FSM button. Unless otherwise noted, these are the primary differences between the two units listed.

BEFORE YOU BEGIN THE INSTALLATION

Before you install your stereo, read all the instructions in this owner's manual. You should be able to answer all of these questions about your vehicle's electrical and sound systems.

Which terminal in my vehicle's fuse box supplies power even when the ignition is turned off?

Which terminal in my vehicle's fuse box is for accessories?

How do I connect a wire to the fuse box?

Also, be aware that installation in your vehicle might require cutting or modifying your vehicle.

Place the stereo as close as possible to the selected mounting location. We recommend that you install the stereo by temporarily connecting it to ground and power, optional components, and your speakers. Then test the connections, disconnect the stereo, mount it in your vehicle, and reconnect it. The instructions in this manual are arranged in this order.

Preparing the Mounting Area

Before you mount the stereo, make sure you have all the necessary materials. Then confirm that the stereo fits your vehicle's mounting area. This autosound stereo system is a DIN-E size unit that requires a 2-inch high by 7-1/2-wide by 7-1/4 inch deep (57 x 190 x 186 mm) mounting area.

Note: If the mounting area is too large, you might be able to mount the stereo with an in-dash installation kit, available at your local RadioShack store. Follow the installation kit's instructions to mount the stereo.

CAUTIONS: Make sure the stereo will not tilt up more than 30 degrees when

it is mounted.

Be sure to avoid obstructions behind the mounting surface.

Routing Speaker Wires

If you install speakers, avoid routing the speaker wires near moving parts or sharp edges. You can usually route them along the wiring channel beneath the vehicle's door facings by carefully removing the molding that holds the carpet in place. After you route the speaker wires, replace the molding.

Removing the Shipping Screw

The shipping screw helps protect the stereo's CD player from being damaged during shipment.

Before you mount the stereo, use a Phillips screwdriver to remove the shipping screw from the top of the stereo.

Note: Save the shipping screw in case you ever want to mail or ship the stereo. You can secure it to the back of the stereo with a piece of tape.

MAKING THE CONNECTIONS

The supplied harness with the 14-pin connector includes all the lead wires you need to connect the stereo to ground, power, some optional components, and speakers.

IMPORTANT: Do not cut these wires. If you cut any wire, you cannot obtain a refund or exchange on this product. However, your local RadioShack store will provide warranty service if you cut a wire and find the product is defective.

You might need additional wire, depending on your individual autosound system, to complete the connections. Your local RadioShack store carries a full line of wire and wire management accessories.

CAUTIONS: For added safety and to protect your stereo, disconnect the cable from your vehicle battery's negative (-) terminal before you begin.

Be sure your speakers can handle 64 Watts of power (16 Watts per channel). Each speaker must have an impedance of at least

4 Ohms. Your local RadioShack store carries a full line of speakers.

You must connect the GROUND, +12V TO IGNITION, and +12V TO BATTERY wires first, then make all other connections as described in the following sections before you plug the harness with the 14-pin connector into the stereo. If you do not make connections in the order shown, damage to the stereo is possible if any wire connections are made incorrectly.

You must connect a separate wire to each speaker terminal as described in the following procedure. Do not use a common wire or chassis ground for any speaker connection.

Note: The wires in the wiring harness have the following colors and labels.

(Black) - Ground
(Red) - +12V to Ignition
(Yellow) - +12V to Battery
(Blue/White) - AMP Remote Turn on 500 mA MAX
(White) - Front Left Speaker (+)
(White/Black) - Front Left Speaker (-)
(Gray) - Front Right Speaker (+)
(Gray/Black) - Front Right Speaker (-)
(Green) - Rear Left Speaker (+)
(Green/Black) - Rear Left Speaker (-)
(Violet) - Rear Right Speaker (+)
(Violet/Black) - Rear Right Speaker (-)

Using an Adapter Harness

If you are replacing an existing stereo, or if your vehicle has been factory-wired for autosound components, you might be able to use an adapter harness to connect the power and speakers. RadioShack stores sell adapter harnesses for most vehicles.

Follow the directions that come with the adapter harness to temporarily connect the ground, power, optional components, and speakers. Then go to "Connecting the Antenna" below.

Connecting Ground, Power, and Optional Components

Follow these steps to connect the harness with the 14-pin connector to ground, primary and memory backup power, and optional components.

(Black) - Ground
(Red) - + 12V to Ignition
(Yellow) - + 12V to Battery
(Blue/White) - AMP Remote Turn on 500 mA MAX

1. Disconnect the cable from your vehicle's negative (-) battery terminal.

2. Connect the black ground wire to a chassis ground, such as a metal screw attached to a metal part of the vehicle's frame. Be sure that the screw is not insulated from the chassis by a plastic part.

3. Connect the red power wire (with in-line fuse holder) to a point in your vehicle's fuse block that has power only when you turn the vehicle's key to either the accessory (ACC) or START position. This connection turns on the stereo when you turn on the ignition or turn the key to ACC, and turns off the stereo when you turn off the ignition. This prevents your vehicle's battery from being drained if you leave the stereo on when you turn off the ignition.

4. Connect the yellow power/memory wire to your vehicle battery's positive (+) terminal or to a point in your vehicle's fuse block that provides a continuous source of 12 volts.

   This connection provides power for the stereo's components (such as the CD player), and continuous power for the stereo's memory when the ignition is turned off.

5. Connect the blue/white wire to any optional equipment, designed to run from a switched source, that you want the stereo to turn on and off (such as a booster or a power antenna).

   This wire does not provide power to the components. It simply turns them on or off. If you do not use this wire, secure it with a wire tie and do not let it touch metal.

Connecting an Equalizer/Booster

If you are connecting the stereo to a separate equalizer or booster, you need additional wires (not included).

To increase the total power output from your system, connect the R (right) and L (left) line output jacks on the back of the stereo and blue/white wire, if necessary, to the equalizer or booster.

Check the equalizer/booster's owner's manual for directions.

Connecting Two Pairs of Speakers

If you are using both front and rear speakers, follow these steps to connect the harness with the 14-pin connector to the speakers.

12-2154 Only: Before connecting the speakers, remove the tape that holds the mounting sleeve in place and slide the sleeve off of the stereo. Then set 2CH/4CH on the bottom of the stereo to 4CH.

(White) - Front Left Speaker (+)
(White/Black) - Front Left Speaker (-)
(Gray) - Front Right Speaker (+)
(Gray/Black) - Front Right Speaker (-)
(Green) - Rear Left Speaker (+)
(Green/Black) - Rear Left Speaker (-)
(Violet) - Rear Right Speaker (+)
(Violet/Black) - Rear Right Speaker (-)

1. Connect the gray wire to the right front speaker's positive terminal. This terminal is usually marked with a plus (+) sign or red mark.

2. Connect the gray/black wire to the right front speaker's negative terminal. This terminal might be marked with a minus (-) sign or it might not be marked at all.

3. Connect the white wire to the left front speaker's positive terminal.

4. Connect the white/black wire to the left front speaker's negative terminal.

5. Connect the violet wire to the right rear speaker's positive terminal.

6. Connect the violet/black wire to the right rear speaker's negative terminal.

7. Connect the green wire to the left rear speaker's positive terminal.

8. Connect the green/black wire to the left speaker's negative terminal.

Connecting One Pair of Speakers

For 12-2155: If you are using only one pair of speakers, follow Steps 1-4 in "Connecting Two Pairs of Speakers" above to connect the harness with the 14-pin connector to the speakers.

```
       (White) - Left Speaker  (+)
  (White/Black) - Left Speaker  (-)
        (Gray) - Right Speaker (+)
   (Gray/Black) - Right Speaker (-)

       (Green) - |\
  (Green/Black) - |\\___ Do Not Connect
      (Violet) - |//
 (Violet/Black) - |/
```

For 12-2154: If you are using only one pair of speakers, remove the tape that holds the mounting sleeve in place and slide the sleeve off of the stereo. Then set 2CH/4CH on the bottom of the stereo to 2CH. Then follow these steps to connect the harness with the 14-pin connector to the speakers.

(This section has been corrected. See Faxback Doc. # 48535.)

```
       (White) - Left Speaker  (+)
       (Green) - Left Speaker  (-)
        (Gray) - Right Speaker (+)
      (Violet) - Right Speaker (-)

  (White/Black) - |\
  (Green/Black) - |\\___ Do Not Connect
   (Gray/Black) - |//
 (Violet/Black) - |/
```

1. Connect the gray wire to the right speaker's positive terminal. This terminal is usually marked with a plus (+) sign or red mark.

2. Connect the violet wire to the right speaker's negative terminal. This terminal might be marked with a minus (-) sign or it might not be marked at all.

3. Connect the white wire to the left speaker's positive terminal.

4. Connect the green wire to the left speaker's negative terminal.

Connecting the Antenna

Connect the vehicle's antenna cable to the antenna jack on the back of the stereo.

Completing the Connections

Make sure you have securely made all other connections, then plug the harness' connector into the stereo's 14-pin wiring socket. Reconnect the cable to the vehicle's negative (-) battery terminal.

TESTING THE CONNECTIONS

Turn on your vehicle's ignition and install your stereo's control panel (see "Installing the Control Panel" in Faxback Doc. # 48530), ON/OFF lights. Then press ON/OFF. The stereo's buttons and display light.

If the stereo does not work, immediately disconnect the cable from your vehicle's negative (-) battery terminal. Then recheck your connections.

After you verify that the button/display light, follow the instructions in "Mounting the Stereo" below.

CAUTION: If you played a CD while testing the connections, be sure to remove the CD from the stereo before continuing.

MOUNTING THE STEREO

Be sure you verify that the stereo is connected properly (see "Testing the Connections" above). Then follow these steps to mount the stereo.

1. Make sure the ignition is turned off, then disconnect the cable from your vehicle's negative (-) battery terminal.

2. Disconnect the wire harness and the antenna.

3. Press RLS on the right side of the control panel to remove the control panel.

4. Remove the tape that holds the sleeve in place and slide the sleeve off of the stereo.

   Note: If you have a Cat. No. 12-2154 stereo, you have already removed the tape (while setting 2CH/4CH). Continue with Step 5.

5. Turn the sleeve around so the flat tabs on the front are facing you, then insert it into the dash. Then secure the sleeve to the dash by bending out the tabs with a screwdriver. Bend out all the side tabs.

6. If your vehicle has an existing mounting hole behind the dash, use pliers or a 5/16-inch box end wrench to attach the short end of the supplied mounting bolt to the back of the stereo.

7. Reconnect the wire harness and the antenna.

8. Slide the stereo into the sleeve until it locks into place.

9. If you are securing the stereo in an existing mounting hole in the dash, push the supplied rubber mounting grommet onto the mounting bolt.

   Then push the mounting bolt (covered by the mounting grommet) through the mounting hole and make sure it is secure.

   Otherwise, you can use one of the supplied bolts (with attached washer) to attach one end of the supplied metal strap to the mounting hole on the back of the stereo. If necessary, bend the metal strap to fit your vehicle's mounting area. Then use either the supplied sheet metal screws or the other bolt (with attached washer) to attach the other end of the strap to a solid metal part of the vehicle under the dashboard. This strap also helps ensure proper electrical grounding of the stereo.

10. Reconnect the cable to the vehicle battery's negative (-) terminal. Then install the stereo's control panel (see "Installing the Control Panel" in Faxback Doc. # 48530).

    Note: You might need to reset the stereo's clock after you reconnect the cable to the vehicle battery.

REMOVING THE STEREO FROM THE DASH

If you ever want to remove the stereo from the dash, follow these steps.

1. Disconnect the cable from your vehicle's negative (-) battery terminal.

2. If you secured the stereo to an existing mounting hole under the dash, slide out the stereo to free the mounting bolt from the mounting hole.

   Or, remove the bolt holding the metal strap attached to the back of the stereo.

3. Press RLS to remove the stereo's control panel.

4. Insert the supplied keys into the slots at the left and right sides of the stereo. Press the keys downward and slide the stereo out of the dash.

Note: The keys are labeled to show their top edges.

5. Remove the keys from the slots.

6. Disconnect the wire harness and the antenna.

7. If you are mailing or shipping the stereo, use a Phillips screwdriver to reinstall the shipping screw in the top of the stereo.

8. Reconnect the cable to the vehicle battery's negative (-) terminal.

High-Power In-Dash AM/FM Stereo CD Player
(120-2154/55) Control Panel Faxback Doc. # 48530

This document contains instructions for both Cat. No. 120-2154 and 120-2155 stereos. (You can find the Cat. No. of your model on the top of the stereo.) 120-2154 has a LOUD button while 120-2155 has an FSM button. Unless otherwise noted, these are the primary differences between the two units listed.

USING THE CONTROL PANEL

The stereo's control panel must be in place for the stereo to operate. When you remove it, the display turns off and the stereo cannot be used. This is a simple but effective security measure.

Any stored stations remain in memory when the control panel is removed.

INSTALLING THE CONTROL PANEL

1. Insert the left edge of the control panel into the left edge of the recess. The hole in the control panel interlocks with the tab in the recess.

2. Gently push the right edge of the control panel into the recess until you hear a click.

REMOVING THE CONTROL PANEL

1. Press RLS. You hear a click and the control panel swings out.

2. Remove the control panel, then store it in the supplied carry case.

CAUTION: To keep the metal connecting pins clean, do not touch the connecting pins in the recess or on the back of the control panel.

High-Power In-Dash AM/FM Stereo CD Player
(120-2154/55) Operation Faxback Doc. # 48531

This document contains instructions for both Cat. No. 120-2154 and 120-2155 stereos. (You can find the Cat. No. of your model on the top of the stereo.) 120-2154 has a LOUD button while 120-2155 has an FSM button. Unless otherwise noted, these are the primary differences between the two units listed.

BASIC OPERATION

TURNING THE STEREO ON AND OFF

To turn on the stereo, press ON/OFF. The buttons and display light. To turn off the stereo, press ON/OFF again.

SETTING THE CLOCK

1. Press ON/OFF to turn on the stereo.

2. While holding down CLOCK, repeatedly press TUNE/SEEK TRACK + until the stereo displays the correct hour. (To continuously advance the hour, hold down TUNE/SEEK TRACK +.)

3. While holding down CLOCK, repeatedly press TUNE/SEEK TRACK - until the stereo displays the correct minute. (To continuously advance the minute, hold down TUNE/SEEK TRACK -.)

Notes: The clock resets the seconds to 0 as soon as you stop advancing the minute.

You can use a watch with a sweep second hand or other time reference to set the clock to the exact second at the beginning of an hour. When the time reference reaches the beginning of an hour, hold down CLOCK, then press 6. The clock resets the minutes and seconds to 00 and advances the hour if the minutes were past 29.

ADJUSTING THE SOUND

When you listen to your stereo, adjust these controls to suit your listening preferences.

AUDIO CONTROL SEL +/- - Repeatedly press or hold down to increase or decrease the volume. VOL and a volume level

number appear.

WARNING: To protect your hearing, do not listen at high volume levels. Slowly increase the volume to a comfortable listening level.

AUDIO CONTROL SEL - Repeatedly press until bAS, TRE, bAL, or FAd and a number appear on the display, then repeatedly press or hold down + or - within 5 second to change the stereo's bass, treble, balance, or fader settings.

Notes: When you adjust the balance toward the left speakers, L and a number appear on the display. When you adjust the balance toward the right speakers, R and a number appear.

When you adjust the fader toward the front speakers, F and a number appear on the display. When you adjust the fader toward the rear speakers, R and a number appear.

If bAS, TRE, bAL, or FAd and the number disappear before you press + or -, repeatedly press AUDIO CONTROL SEL until the setting you want reappears, then repeatedly press or hold down + or - to set it.

To set bass, treble, balance, and fader to their center (middle) settings, hold down AUDIO CONTROL SEL for about 3 seconds until the stereo beeps twice.

LOUD (12-2154 Only) - To increase the low ranges of sounds, repeatedly press LOUD until ON appears. To turn off loudness, repeatedly press LOUD until OFF appears.

The LOUD button is lit continuously while the stereo is on.

(This section has been corrected. See Faxback Doc. # 48535.)

FAVORITE SOUND MEMORY (12-2155 ONLY)

You can store your stereo's current volume, bass, treble, balance, and fader settings into memory. This lets you select the best sound for the music you listen to and save that sound, so you can recall it later. You can store two FSM (favorite sound memory) settings.

Follow these steps to store an FSM setting.

1. Repeatedly press FSM until FSM I or FSM II appears.

2. Adjust the volume, bass, treble, balance and fader using the information in "Adjusting the Sound" above.

   Note: FSM I or FSM II blinks while you adjust the controls.

3. When you finish adjusting the stereo's settings, hold down FSM until the stereo beeps twice. This indicates that the settings you entered are saved in the FSM setting you selected.

To select an FSM setting you saved, repeatedly press FSM until FSM I or FSM II appears. The stereo is set to those settings you entered in Step 2.

To turn off FSM, repeatedly press FSM until FSM I and FSM II disappear from the display. The stereo is set to its default settings.

DISPLAYING THE CLOCK

While the radio or a CD is playing, press CLOCK to display the clock.

TURNING THE KEY TONE ON AND OFF

The stereo is preset to beep when you press most buttons. To turn the key tone off, turn the stereo off, then hold down ATP (automatic travel programming) and 6 together for about 3 seconds until bP (beep) OFF appears.

To turn the key tone back on, turn the stereo off, then hold down ATP and 6 together for about 3 seconds until bP ON appears.

RADIO OPERATION

PLAYING THE RADIO

1. Press ON/OFF to turn on the stereo. The radio automatically tunes to the last station and band selected.

2. Press BND to select the desired band. AM appears when the AM band is selected. FMI or FMII appears when an FM band is selected.

3. Tune to the desired station in one of the following ways.

   Manual Tuning: Repeatedly press TUNE/SEEK TRACK - or + to tune down or up the selected band.

Seek Tuning: Hold down TUNE/SEEK TRACK - or + for about 1 second to tune to the next lower or higher station.

4. Press AUDIO CONTROL SEL + or - to increase or decrease the volume as desired.

Notes: ST appears when an FM signal is received in stereo.

See "Adjusting the Sound" above for information about changing the stereo's other settings.

MEMORY TUNING

You can manually store up to 6 AM and 12 FM stations in memory groups. Each memory group (AM, FMI, and FMII) holds up to six stations. You can also automatically store the first 6 strong AM and first 6 strong FM stations in a separate automatic travel programming memory.

Storing Stations

1. Repeatedly press BND to select the desired memory group (AM, FMI, or FMII).

2. Tune to the station you want to store.

3. Hold down the desired memory channel button until P-, the memory channel number, and the frequency flash once on the display. The station is stored.

Storing Stations in Automatic Travel Programming Memory

The stereo can store the first 6 strong AM and the first 6 strong FM stations it finds into its automatic travel programming (ATP) memory. This memory is separate from the stereo's memory groups, so it does not replace the stations you manually stored.

1. Repeatedly press BND to select the desired band (AM, FMI, or FMII).

2. Hold down ATP (automatic travel programming) for about 2 seconds. The stereo displays ATP, scans the selected band, and automatically stores the first 6 strong stations it finds in automatic travel programming memory.

After the stereo stores all six stations in the selected band, it tunes to the first station it stored in automatic travel programming

memory.

Note: If the stereo could not find any stations, P - 1 - - - appears on the display. Press BND or select another station to listen to the radio.

3. Repeatedly press BND until ATP disappears to get out of automatic travel programming.

Selecting a Stored Station

To select a station you manually stored in AM, FMI, or FMII, repeatedly press BND to select the desired memory group, then press the desired memory channel button.

Note: Do not hold down the memory channel button. This stores the currently tuned station into that location.

To select a station you automatically stored in automatic travel programming memory, follow these steps:

1. Repeatedly press BND to select the desired band (AM, FMI, or FMII).

2. Press ATP for less than 1 second to select the desired memory station. Each time you press ATP, the stereo advances to the next memory channel.

   Notes: Do not hold down ATP. This causes the stereo to automatically scan and store the first 6 strong stations it finds into its automatic travel programming memory.

   If the stereo could not find any strong stations, P - x - - - (where x is one of the stereo's 6 channel numbers) appears for the empty channels.

Scanning Stored Stations

The radio can scan all stored stations in the selected band, pausing for 5 seconds at each station.

To start scanning stations you manually stored, repeatedly press BND to select the desired memory group, then hold down BND until SCN appears.

To scan the stations in the automatic travel programming memory, repeatedly press BND to select the desired band, press ATP so ATP appears, then hold down BND until SCN appears.

As the radio scans each memory channel, P- and the channel number flash and the frequency is displayed. After scanning all memory channels, the stereo returns to the original station.

To stop scanning when the radio pauses at a station you want to listen to, press BND again during the pause.

CD PLAYER OPERATION

CAUTIONS: Play only CDs that have this mark on them: COMPACT D I S C DIGITAL SOUND

The CD player has a wide dynamic range. As a result, if you turn your stereo's volume up too high during soft (low volume) sections of a program, your speakers might be damaged when a sudden loud passage occurs.

If the CD player is jolted during play, the rotation speed might suddenly change or the CD player might make an usual noise. This is not a malfunction.

PLAYING A CD

1. Press ON/OFF to turn on the stereo.

2. Insert a CD (label side up) in the slot. The stereo automatically switches to CD play mode if the radio is playing and displays cd In. Then the display shows (CD symbol), cd, and TR01, and the CD starts to play from Track 1.

   If a CD is already in the CD player ([CD symbol] appears on the display), simply press CD to play the CD. The stereo displays cd, TR, and the number of the track you last played, and the CD starts to play from the point where you last stopped it.

   After the stereo plays the entire CD, it automatically repeats all tracks, starting with Track 1.

3. Press + or - to increase or decrease the volume as desired.

   Note: See "Adjusting the Sound" above for information about changing the stereo's other settings.

4. To pause playback, press CD. TR and the track number flash. To

resume play, press CD again.

Note: If you pause a CD for more then 5 minutes, the stereo turns off.

5. To remove a CD from the CD player, press (symbol). EJ cd appears.

Notes: If you eject a CD while it is playing and do not remove it from the CD player, the stereo automatically draws the CD back in and starts playing again after about 5 seconds.

If you eject a CD then remove it from the CD player, the stereo displays no cd (or the current time if you press CLOCK).

SELECTING A TRACK

To select a track on the loaded CD, press TUNE/SEEK TRACK (+) during play to advance to the next track or TUNE/SEEK TRACK (-) to go back to the start of the current track. Repeatedly press TUNE/SEEK TRACK (+) or (-) to select the next or previous track.

AUDIBLE SEARCH

To search for a particular section of a track, hold down TUNE/SEEK TRACK (+) or TUNE/SEEK TRACK (-) during play. The stereo rapidly plays the CD either forward or backward (like cueing or reviewing a cassette tape). When you hear the section you want, release TUNE/SEEK TRACK (+) or TUNE/SEEK TRACK (-) to resume normal play.

SHUFFLE PLAY

You can set the stereo to randomly select and play tracks from the loaded CD. After each track plays, the stereo automatically selects another track and plays it until you stop shuffle play.

To begin shuffle play, press SHUF/1. SHF appears during shuffle play.

To stop shuffle play, press SHUF/1 again to resume normal play. SHF disappears.

Note: You can use audible search during shuffle play (see "Audible Search" above).

REPEAT PLAY

You can set the stereo to repeat a single track on the loaded CD.

To repeat a track, press RPT/2 during play. RPT appears during repeat play. When the track ends, it automatically repeats.

To stop repeating the track and resume normal play, press RPT/2. RPT disappears.

SCANNING THE TRACKS

You can set the stereo to play the first 10 seconds of each track on the loaded CD, so you can find the track you want to listen to.

To begin scanning, press SCN/3. SCN appears during scanning.

To stop scanning, press SCN/3 again at the desired track to resume normal play. SCN disappears.

SWITCHING BETWEEN THE CD AND THE RADIO

You can temporarily stop a CD and listen to the radio by pressing BND. The CD stops and the radio tunes to the last station selected.

To continue playing the CD from the point where you stopped it, press CD.

High-Power In-Dash AM/FM Stereo CD Player
(120-2154/55) Troubleshooting Faxback Doc. # 48532

This document contains instructions for both Cat. No. 120-2154 and 120-2155 stereos. (You can find the Cat. No. of your model on the top of the stereo.) 120-2154 has a LOUD button while 120-2155 has an FSM button. Unless otherwise noted, these are the primary differences between the two units listed.

If your stereo's CD player is not working as it should, it displays an error indicator. If it is a numbered error, it ejects the CD. Try these suggestions.

Indicator	Problem	Suggestion
E01	Loading and/or unloading operation fails.	Make sure a CD is loaded. If it is not, insert the CD properly. If it is, eject the CD and load it again.
E07	The CD is loading incorrectly.	Reload the CD with the label side up.
	The CD is dirty or defective.	Clean the CD (see "CD Care Tips" in Faxback Doc. # 48533) or try another CD.
no cd	No CD is loaded.	Load a CD.

If the stereo still does not operate properly, the connecting pins in the recess or on the back of the control panel might be dirty. Use a soft cloth or a contact cleaner (such as Cat. No. 64-4340) to clean them.

If the stereo still does not operate properly, take it to your local RadioShack store for assistance.

RESETTING THE STEREO

If your stereo locks up or does not work properly, remove the front panel and use a straightened paper clip to press the reset button on the bottom left side of the inside panel for about 1 second.

High-Power In-Dash AM/FM Stereo CD Player
(120-2154/55) Care and Maintenance Faxback Doc. # 48533

This document contains instructions for both Cat. No. 120-2154 and 120-2155 stereos. (You can find the Cat. No. of your model on the top of the stereo.) 120-2154 has a LOUD button while 120-2155 has an FSM button. Unless otherwise noted, these are the primary differences between the two units listed.

Your Optimus High-Power In-Dash AM/FM Stereo CD Player is an example of superior design and craftsmanship. The following suggestions will help you care for your stereo so you can enjoy it for years.

Keep the stereo dry. If it gets wet, wipe it dry immediately. Liquids might contain minerals that can corrode the electronic circuits.

Keep the stereo away from dust and dirt, which can cause premature wear of parts.

Handle the stereo gently and carefully. Dropping it can damage circuit boards and cases and can cause the stereo to work improperly.

Wipe the stereo with a damp cloth occasionally to keep it looking new. Do not use harsh chemicals, cleaning solvents, or strong detergents to clean the stereo.

Modifying or tampering with the stereo's internal components can cause a malfunction, invalidating your stereo's warranty and voiding your FCC authorization to operate it. If your stereo is not performing as it should, take it to your local RadioShack store for assistance.

THE FCC WANTS YOU TO KNOW

Your stereo might cause TV or radio interference even when it is operating properly. To determine whether your stereo is causing the interference, turn off your stereo. If the interference goes away, your stereo is causing it. Try to eliminate the interference by:

Moving your stereo away from the receiver.

Contacting your local RadioShack store for help.

If you cannot eliminate the interference, the FCC requires that you stop using your stereo.

CD CARE TIPS

Even though a CD is very durable, you should handle it with care. We recommend the following precautions.

Keep the CD in its protective case or sleeve when you are not playing it.

Handle a CD by its edges to avoid fingerprints which can prevent the CD player's laser beam from accurately reading the CD. Your local RadioShack store sells a suitable CD cleaner kit.

Do not write on either side of the CD, particularly the non-label side. (Signals are read from the non-label side.)

Keep the CD dry. A water drop can act as a lens and affect the laser beam's focus.

If you park your vehicle in the sun, temperatures inside the vehicle can easily reach levels that could damage your CDs. To prevent heat damage, avoid leaving your CDs in your vehicle.

If a CD skips when you try to play it, it might be scratched. Your local RadioShack store sells a Scratch 'n Fix kit (Cat. No. 42-127) that might help remove the scratch and stop the skip. See also "Troubleshooting" in Faxback Doc. # 48532.

REPLACING A FUSE

If the stereo does not operate, you might need to replace the red power wire's 1-amp 1-1/4 inch fuse with the supplied spare fuse (Cat. No. 270-1005). If the clock resets or stored stations are lost when the ignition is off, you might need to replace the 10-amp blade-type fuse on the stereo's back panel with the supplied spare fuse (Cat. No. 270-1081). Check both fuses.

CAUTION: Do not use a fuse with ratings other than those specified here. Doing so might damage your stereo.

Replacing the Red Power Wire's Fuse

1. Disconnect the cable from your vehicle's negative (-) battery terminal

2. Push together and twist the fuse holder's parts on the red power wire until they spring apart. Then remove the fuse.

3. If the fuse is brown, replace it. Use only the supplied 1-1/4 inch fuse or a replacement fuse with the proper rating (such as Cat. No. 270-1005). The fuse must be 1 amp.

4. Reassemble the fuse holder by inserting the fuse into the longer of the fuse holder's ends, and pushing together and twisting the two parts until they latch together.

5. Reconnect the cable to the vehicle battery's negative (-) terminal.

Replacing the Blade-Type Fuse

1. Disconnect the cable from your vehicle's negative (-) battery terminal

2. If the back of the stereo is not accessible, remove the stereo from the dash as described in "Removing the Stereo From the Dash" in Faxback Doc. # 48529.

3. Grasp the fuse's plastic end and pull it out.

4. If the fuse is blown, replace it. Use only the supplied blade-type fuse or a replacement fuse with the proper rating (such as Cat. No. 270-1081). The fuse must be 10 amps.

5. Grasp the new fuse's plastic end and push it in.

6. If necessary, reinstall the stereo in the dash.

7. Reconnect the cable to the vehicle battery's negative (-) terminal.

High-Power In-Dash AM/FM Stereo CD Player
(120-2154/55) Specifications Faxback Doc. # 48534

This document contains instructions for both Cat. No. 120-2154 and 120-2155 stereos. (You can find the Cat. No. of your model on the top of the stereo.) 120-2154 has a LOUD button while 120-2155 has an FSM button. Unless otherwise noted, these are the primary differences between the two units listed.

RADIO:

	FM (Nominal)	AM (Nominal)
Frequency Range:	88-108 MHz	530-1710 kHz
Frequency Response (+/-3 dB):	50-12500 Hz	N/A
IF Rejection:	85 dB	40 dB
Image Rejection:	60 dB	25 dB
Selectivity:	66 dB	100 dB
Signal-to-Noise (S/N) Ratio:	60 dB	49 dB
Stereo Separation:	30 dB	N/A
Usable Sensitivity:	17 dB	29 dB

CD PLAYER:

Frequency Response:	5-20000 Hz
Signal-to-Noise Ratio:	65 dB
Harmonic Distortion:	0.08 %
Wow and Flutter:	Not Measurable
CDs Used (Diameter):	5-inch (120 mm) and 3-inch (80 mm)

SIGNAL FORMAT:

D-A Conversion:	1 Bit Linear
Transmission Bit Rate:	1.4 Mbit/sec

Sampling Frequency: ..... 8 times

Pick-Up System: ..... Optional Pick-Up

Optical Source: ..... Laser

Wavelength: ..... 785 nm

Rotation Speed: ..... 200-500 rpm

Error Correction: ..... CIRC

Number of Channels: ..... 2-channel stereo

GENERAL:

Power Source: ..... 12V DC Negative Ground

Speaker Output Impedance: ..... 4 Ohms

Maximum Power: ..... 25 Watts x 2CH or 6 Watts x 4CH (12-2154)
25 Watts x 4CH (12-2155)

Power Output (RMS): ..... 16 Watts x 2CH or 4 Watts x 4CH (12-2154)
16 Watts x 4CH (12-2155)

Chassis Size (HWD): ..... 2.28 x 7.40 x 7.08 Inches
(58 x 188 x 180 mm)

Weight: ..... 52.9 oz (1.5 kg)

Specifications are typical; individual units might vary. Specifications are subject to change and improvement without notice.

(LB/eb 6/29/98)
LN-03/04