SAFETY INFORMATION

When Driving
Keep the volume level low enough to be aware of your surroundings.

When Washing your Vehicle
Do not expose the product directly to water, as this can cause electrical shorts, fire or other damage.

When Parked
Exposure to direct sunlight for an extended period of time can produce very high temperatures inside the mobile unit. Give the interior a chance to cool down before starting playback.
Do not mount radio in close proximity of the engine compartment.

Use the Proper Power Supply
This product is designed to operate with a 12 volt DC negative ground battery system.

Protect the Disc Mechanism
Avoid inserting any foreign objects into the disc slot. Misuse may cause malfunction or permanent damage due to the precise mechanism of this unit.

CAUTION:
THIS MOBILE CD PLAYER IS A CLASS I LASER PRODUCT. THIS UNIT USES A VISIBLE/INVISIBLE LASER BEAM WHICH COULD CAUSE HAZARDOUS RADIATION IF EXPOSED DIRECTLY. BE SURE TO OPERATE THE MOBILE CD PLAYER AS INSTRUCTED. USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OR PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE. DO NOT OPEN COVERS AND DO NOT REPAIR BY YOURSELF. PLEASE REFER SERVICING TO A QUALIFIED TECHNICIAN.

WARNING:
• TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.
• TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK AND ANNOYING INTERFERENCE, USE ONLY THE RECOMMENDED ACCESSORIES.

DISC NOTES

Compatible Disc Types

Table 1: General Disc Information

<table>
<thead>
<tr>
<th>Disc Type</th>
<th>Logo</th>
<th>Diameter/Playable Sides</th>
<th>Playback Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audio CD</td>
<td><img src="image" alt="Logo" /></td>
<td>12 cm single side</td>
<td>74 minutes</td>
</tr>
</tbody>
</table>

NOTE: CD-R and CD-RW discs will not play unless the recording session is closed and the CD is finalized.

Disc Maintenance

• A dirty or defective disc may cause sound dropouts while playing. Before playing, wipe the disc using a clean cloth, working from the center hole towards the outside edge. Never use benzene, thinners, cleaning fluids, anti-static liquids or any other solvent.

- Insert label side up.
- Do not bend.
- Never touch the under side of the disc.
- Wipe clean from the center to the edge.

• Be sure to use only round CDs for this unit and do not use any special shape CDs. Use of special shape CDs may cause the unit to malfunction.
• Do not stick paper or tape on the disc. Do not use CDs with labels or stickers attached or that have sticky residue from removed stickers.
• Do not expose discs to direct sunlight or heat sources such as hot air-ducts, or leave them in a vehicle parked in direct sunlight where there can be a considerable rise in temperature inside the vehicle.

NOTE: A disc may become scratched (although not enough to make it unusable) depending on how you handle it and other conditions in the usage environment. These scratches are not an indication of a problem with the player.
INSTALLATION

Before You Begin
1. Disconnect Battery
   Before you begin, always disconnect the battery negative terminal.
2. Remove Transport Screws

Important Notes
• Before final installation, test the wiring connections to make sure the unit is connected properly and the system works.
• Use only the parts included with the unit to ensure proper installation. The use of unauthorized parts can cause malfunctions.
• Consult with your nearest dealer if installation requires the drilling of holes or other modifications to your vehicle.
• Install the unit where it does not interfere with driving and cannot injure passengers if there is a sudden or emergency stop.
• If the installation angle exceeds 30° from horizontal, the unit might not give optimum performance.
• This unit is not waterproof and is intended for interior mounting applications only. Exterior mounting of the unit requires use of an ASA approved marine housing.
• Avoid installing the unit where it will be subject to high temperatures from direct sunlight, hot air, or from a heater, or where it would be subject to excessive dust, dirt or vibration.
• Be sure to remove the control panel before installing the unit.

Mounting the Unit
This unit can be properly installed with a conventional DIN front mount.
1. Slide the mounting sleeve off of the chassis if it has not already been removed. If it is locked into position, use the removal keys (supplied) to disengage it. The removal keys are depicted in “Removing the Unit” on page 3.
2. Check the dashboard opening size by sliding the mounting sleeve into it. If the opening is not large enough, carefully cut or file as necessary until the sleeve easily slides into the opening. Do not force the sleeve into the opening or cause it to bend or bow. Check that there will be sufficient space behind the dashboard for the radio chassis.
3. Locate the series of bend tabs along the top, bottom and sides of the mounting sleeve. With the sleeve fully inserted into the dashboard opening, bend as many of the tabs outward as necessary to firmly secure the sleeve to the dashboard.
4. Place the radio in front of the dashboard opening so the wiring can be brought through the mounting sleeve.
5. Follow the wiring diagram carefully and make certain all connections are secure and insulated with crimp connectors or electrical tape to ensure proper operation.
6. After completing the wiring connections, turn the unit on to confirm operation (vehicle ignition switch must be on). If the unit does not operate, recheck all wiring until the problem is corrected. Once proper operation is achieved, turn the ignition switch off and proceed with final mounting of the chassis.
7. Carefully slide the radio into the mounting sleeve making sure it is right-side-up until it is fully seated and the spring clips lock it into place.
8. Attach one end of the perforated support strap (supplied) to the screw stud on the rear of the chassis using the hex nut and spring washer provided. Fasten the other end of the perforated strap to a secure part of the dashboard either above or below the radio using the screw and plain washer provided. Bend the strap, as necessary, to position it. CAUTION: The rear of the radio must be supported with the strap to prevent damage to the dashboard from the weight of the radio or improper operation due to vibration.
9. Test radio operation by referring to the operating instructions for the unit.

Removing the Unit
To remove the radio after installation, insert the removal keys straight back until they click, and then pull the radio out. If removal keys are inserted at an angle, they will not lock properly to release the unit.

Reconnect the Battery
When wiring is complete, reconnect the battery negative terminal.
**WIRING**

**ACCESSORY/IGNITION (+)**
Connect to existing radio accessory fuse or +12 VDC switched power source.

**POWER ANTENNA**
Connect to power antenna or amplifier. If not used, tape bare end of wire.

**MEMORY/BATTERY (+)**
Connect to battery or 12 volt power source that is always live. The radio will not work if this wire is not connected.

**GROUND**
Connect to ground terminal or clean, unpainted metal part of chassis.

### Wiring Diagram

- **Motorola Antenna Plug Input**
- **White Female RCA Jack Aux-In Left**
- **Red Female RCA Jack Aux-In Right**
- **Yellow**
- **A-A Wire Connector**
- **1-10**
- **20**
- **Power Antenna**
- **Accessory/Ignition (+)**
- **Memory/Battery (+) Ground**
- **Memory/Battery (+)**

### Wire Table

<table>
<thead>
<tr>
<th>PIN NO.</th>
<th>WIRE COLOR</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GRAY/BLACK</td>
<td>Right Front Speaker (-)</td>
</tr>
<tr>
<td>2</td>
<td>GRAY</td>
<td>Right Front Speaker (+)</td>
</tr>
<tr>
<td>3</td>
<td>VIOLET</td>
<td>Right Rear Speaker (+)</td>
</tr>
<tr>
<td>4</td>
<td>VIOLET/BLACK</td>
<td>Right Rear Speaker (-)</td>
</tr>
<tr>
<td>5</td>
<td>EMPTY</td>
<td>No Connection</td>
</tr>
<tr>
<td>6</td>
<td>GREEN</td>
<td>Left Rear Speaker (+)</td>
</tr>
<tr>
<td>7</td>
<td>GREEN/BLACK</td>
<td>Left Rear Speaker (-)</td>
</tr>
<tr>
<td>8</td>
<td>RED</td>
<td>Accessory/Ignition (+)</td>
</tr>
<tr>
<td>9</td>
<td>BLACK/SHEILD</td>
<td>Rear Line Audio Negative</td>
</tr>
<tr>
<td>10</td>
<td>RED</td>
<td>Right Rear Pre-Amp Line Out</td>
</tr>
<tr>
<td>11</td>
<td>WHITE</td>
<td>Left Front Speaker (+)</td>
</tr>
<tr>
<td>12</td>
<td>WHITE/BLACK</td>
<td>Left Front Speaker (-)</td>
</tr>
<tr>
<td>13</td>
<td>ORANGE/WHITE</td>
<td>Dimmer Control</td>
</tr>
<tr>
<td>14</td>
<td>BLUE</td>
<td>Power Antenna</td>
</tr>
<tr>
<td>15</td>
<td>YELLOW</td>
<td>Memory/Battery (+)</td>
</tr>
<tr>
<td>16</td>
<td>BLACK</td>
<td>Ground</td>
</tr>
<tr>
<td>17</td>
<td>EMPTY</td>
<td>No Connection</td>
</tr>
<tr>
<td>18</td>
<td>EMPTY</td>
<td>No Connection</td>
</tr>
<tr>
<td>19</td>
<td>EMPTY</td>
<td>No Connection</td>
</tr>
<tr>
<td>20</td>
<td>WHITE</td>
<td>Left Rear Pre-Amp Line Out</td>
</tr>
</tbody>
</table>
**BASIC OPERATION**

### Power On/Off (Φ)
Press the Φ button (1) to turn the unit ON or OFF.

### Volume Control
To increase the volume, turn the AUDIO control (4) clockwise. To decrease the volume, turn the AUDIO control counter-clockwise. If using the remote control, press the VOL Δ or VOL V button (24) to adjust the volume.

When the volume is adjusted, the volume level is shown on the display panel as a number ranging from 00 (lowest) to 100 (highest).

### Mute
Press the MUTE button (8) on the control panel (or the MUT button on the remote control) to mute the audio output. "Mute" will appear on the display. Press MUTE again to restore the audio output to the previous level.

### Mode
Press the MODE button (5) on the control panel (or the MOD button on the remote control) to select a different mode of operation, as indicated on the display panel. Available modes include Radio, CD, and AUX In (optional Auxiliary Input).

### Auxiliary Input
1. Connect the external signal to the “Aux In” jack (20) located on the front of the control panel. If you have a device connected to the rear auxiliary input, the front auxiliary device will override the rear one.
2. Press the MODE button to select Aux In mode.

3. Press MODE again to cancel Aux In mode and return to previous mode.

### Reset
After releasing the control panel, use a pencil or any non-metallic object to press and hold the RESET button (17) for five seconds to reset the main unit. The unit will return to the factory default settings. The reset button should be activated for the following reasons:
- initial installation of the unit when all wiring is completed
- function buttons do not operate
- error symbol on the display

### Audio Menu
Press the AUDIO button (4) on the control panel (or the S button on the remote control) to access the Audio Menu. You can navigate through the Audio Menu items by pressing the AUDIO (or S) button repeatedly. Once the desired menu item appears on the display, adjust that option by turning the AUDIO control (or pressing the VOL Δ or VOL V buttons (24) on the remote control) the within 5 seconds. The unit will automatically exit the Audio Menu after five seconds of inactivity. The following menu items can be adjusted.

#### Volume Level
Use the button to adjust the Volume level from “00” (lowest) to “100” (highest).

#### Bass Level
Use the button to adjust the Bass level range from “-10” to “+10”.

#### Treble Level
Use the button to adjust the Treble level range from “-10” to “+10”.

#### Balance
Use the button to adjust the Balance between the right and left speakers from “10L” (full left) to “10R” (full right). “BAL L=R” represents an equal balance between the right and left speakers.

#### Fader
Use the button to adjust the Fader between the rear and front speakers from “10R” (full rear) to “10F” (full front). “FAD R=F” represents an equal balance between the front and rear speakers.

#### Loudness Control (LOUD)
When listening to music at low volume levels, this feature will boost the bass and treble ranges to compensate for the characteristics of human hearing. Press and hold the BAND/LOUD button (21) to activate this feature. “LOUD ON” appears on the display panel. Press the BAND/LOUD button (21) again to turn the LOUD function off.

#### Audible Beep
To turn on/off the audible beep heard when a function is selected, press and hold the AUDIO control button (4) on the control panel (or the S button on the remote control) to access the Beep option. Within five seconds, turn the AUDIO control (4) to choose between the following modes: “BEEP ALL”, “BEEP OFF”, or “BEEP 2ND”. Choose “BEEP 2ND” to hear a beep only when secondary functions are activated (for example, functions accessed when you press and hold a button).
Display Selector (DISP)
This unit can display either the clock time or radio frequency/CD player functions. Press the DISP button (6) on the control panel or remote control to display the time for approximately 5 seconds. The correct time of day can be set by pressing and holding the DISP button.

Setting the Clock
To set the clock, perform the following steps:
1. Press the DISP button (6) to display the clock.
2. Press and hold the DISP button (6) until the time display flashes.
3. Within 5 seconds, press the TUNE down button (18) to adjust the minutes to the desired setting.
4. Press the TUNE up button (19) to adjust the hour.
5. Press the DISP button again to return to radio frequency or disc play or wait five seconds and normal operation will resume automatically.

Preset Equalizer (PEQ)
The preset equalizer applies preset sound effects to the unit’s audio output signal. To adjust the preset equalizer, press the PEQ button (23) on the remote control. Press repeatedly to choose between the following modes: “FLAT”, “CLASSICS”, “POP M”, “ROCK M” or “DSP OFF”.

TUNER OPERATION

Select a Band
Press the BAND button (21) on the control panel (or BND on the remote control) to change between three FM bands and one AM band. Each band stores up to six preset stations.

Tuning
Auto Seek Tuning
Press the TUNE up (19) or TUNE down button (18) on the control panel (or U and D on the remote control) for less than three seconds to move to the next station automatically.

Manual Tuning
Press the TUNE up (19) or TUNE down button (18) for more than three seconds to enter manual tuning mode. Press the TUNE up or TUNE down button to change the radio frequency number up or down one step.

Scan
Press the SCAN button (22) on the control panel (or SCN on the remote control) to automatically search for stations. Each available station will flash on the display for a few seconds before the next is searched. To select a “flashing” station, press the SCAN button again.

Preset Stations
Six numbered preset buttons store and recall stations for each band.

Store a Station
Select a band (if needed), then select a station. Hold a preset button (9-14) for three seconds. The preset number will appear in the display.

Recall a Station
Select a band (if needed). Press a preset button (9-14) to select the corresponding stored station.
Automatically Store / Preset Scan (AS/PS, AMS)

Automatically Store
Select a band (if needed). Press the AS/PS button (16) on the control panel (or the AMS button on the remote control) for more than three seconds to automatically select six strong stations and store them in the current band. The new stations replace any stations already stored in that band.

Preset Scan
Select a band (if needed). Press the AS/PS button (16) on the control panel (or the AMS button on the remote control) to scan stations stored in the current band. The unit will pause for ten seconds at each preset station. Press AS/PS again to stop scanning when the desired station is reached.

FM Mono Select (MONO)
During FM radio operation, the MONO button (7) is used to select monaural or stereo reception of the broadcast signal. Under normal reception conditions, the unit should be left in the stereo mode (indicated by the “ST” icon when tuned to an FM stereo signal). If the signal is too noisy for comfortable listening, press the MONO button on the control panel (or the MO button on the remote control). To return to stereo reception mode, press the MONO button again.

CD OPERATION

Insert and Eject Disc
Insert a disc, label-side up, with the unit turned on. “CDP PLAY” will display on the LCD for about 5 seconds and the unit will play the first track on the disc. Press the eject button (2) to stop disc play and eject the disc. The unit does not have to be turned on to eject the disc.

Controlling Disc Playback

Track Select
Press the TUNE up button (19) or TUNE down button (18) on the control panel for less than one second to advance to the next track on the CD. The selected track number will appear on the display. Press and hold the TUNE up button (19) or TUNE down button (18) for >1 second to fast forward or fast reverse through the disc. CD play starts when the button is released.

Play/Pause Disc Playback (1/>||)
Press the 1/>|| button (9) to suspend disc play. Press the 1/>|| button again to resume disc Play.

Intro Scan (2/INT)
Press the 2/INT button (10) on the control panel to play the first 10 seconds of each track sequentially. Press 2/INT again to stop Intro Scan and resume normal play at the current track.

Repeat Play (3/RPT)
Press the 3/RPT button (11) during disc play to repeat play the current track. Press 3/RPT again to stop repeat play.

Random Play (4/SHF)
Press the 4/SHF button (12) on the control panel during disc play to play all tracks on a CD in random, shuffled order. Press 4/SHF again to stop random play.
SPECIFICATIONS

CD
S/N Ratio ........................................................................ 70dB
Sampling Frequency .................................................. 44.1Khz
Quantization Bits .......................................................... 1 bit
Frequency Response .............................................. 5-20,000Hz

FM Radio
Frequency Range ........................................................... 87.5-107.9MHz
Usable Sensitivity ...................................................... ≥ 15dB at S/N 30dB
Stereo Separation ....................................................... 25dB at 1KHz
S/N Ratio ......................................................................... 50dB

AM/MW
Frequency Range ........................................................... 530-1710KHz
Usable Sensitivity ...................................................... ≥ 45dB
S/N Ratio ......................................................................... 40dB

General
Operating Voltage ....................................................... DC 11 -14.4V
Grounding System ........................................................ Negative Ground
Speaker Impedance ..................................................... 4 ohms
Power Output ................................................................. 40W x 4

TROUBLESHOOTING

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>No power</td>
<td>The vehicle’s power is not on</td>
<td>If the power supply is properly connected to the vehicle accessory terminal, switch the ignition key to “ACC”.</td>
</tr>
<tr>
<td>Disc cannot be loaded or ejected</td>
<td>Presence of CD disc inside the player</td>
<td>Remove the disc in the player and insert the new one.</td>
</tr>
<tr>
<td></td>
<td>Inserting the disc upside down</td>
<td>Insert the compact disc with the label facing upward.</td>
</tr>
<tr>
<td></td>
<td>Compact disc is extremely dirty or disc is defective</td>
<td>Clean the disc or try to play a new one.</td>
</tr>
<tr>
<td></td>
<td>Temperature inside the vehicle is too high</td>
<td>Wait until the ambient temperature returns to normal.</td>
</tr>
<tr>
<td></td>
<td>Condensation</td>
<td>Leave the player off for an hour or so, then try again.</td>
</tr>
<tr>
<td>No sound</td>
<td>Volume too low or Mute is on</td>
<td>Adjust volume to audible level.</td>
</tr>
<tr>
<td></td>
<td>Fader is set incorrectly</td>
<td>Press AUDIO button to access menu and adjust FADER setting/</td>
</tr>
<tr>
<td></td>
<td>Wiring is not properly connected</td>
<td>Check wiring connections.</td>
</tr>
<tr>
<td>Unit is unresponsive</td>
<td>The built-in microcomputer is not operating properly</td>
<td>Press the RESET button.</td>
</tr>
<tr>
<td>Sound skips</td>
<td>The installation angle is more than 30 degrees</td>
<td>Adjust the installation angle to less than 30 degrees.</td>
</tr>
<tr>
<td></td>
<td>The disc is dirty or defective</td>
<td>Clean the disc and try to play again or use new disc.</td>
</tr>
<tr>
<td>Cannot tune to radio station, auto-seek does not work</td>
<td>The antenna cable is not connected</td>
<td>Insert the antenna cable firmly.</td>
</tr>
<tr>
<td></td>
<td>The signals are too weak</td>
<td>Select a station manually.</td>
</tr>
<tr>
<td>ERROR 1</td>
<td>Mechanism Error</td>
<td>Press the eject button to correct the problem.</td>
</tr>
<tr>
<td></td>
<td>If the error code does not disappear, consult your nearest service dealer.</td>
<td></td>
</tr>
<tr>
<td>ERROR 2</td>
<td>Servo Error</td>
<td>Press the eject button to correct the problem.</td>
</tr>
<tr>
<td></td>
<td>If the error code does not disappear, consult your nearest service dealer.</td>
<td></td>
</tr>
</tbody>
</table>