

CAR AV SYSTEM

DIGITAL CAR SMART AUDIO SYSTEM

User Manual



 **SSANGYONG**
<http://www.smotor.com>

Model name: DGU-7T45-C220SA

FCC ID: 2AE77DGU7T45C220SA

Car Smart Audio System

OWNER'S MANUAL C220 Smart Audio

User Manual

Manuel d'utilisation

Manuale dell'utente

Benutzerhandbuch

Manual de usuario

Gebruikershandleiding

Руководство пользователя

使用说明书

- Please read this manual carefully before operating your set and retain it for future reference.
- Designs and specifications are subject to change without prior notice.
- Please visit the Ssangyong Motor online Webpage for the detail information about the Smart Audio system.
 - Smart Audio manual download website address : <http://www.smotor.com>

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■ Smart Audio Manual

■ Smart Audio Detailed Manual download URL :
<http://www.smotor.com>

For Safe Use

Safety Cautions

Caution!

- To reduce the risk of fire or electric shock, do not expose this product to rain or moisture.
- To reduce the risk of fire, electric shock and unnecessary interference, use only included components and accessories.

Safety Warnings

Caution!

- Users should not directly disassemble the device for repair purposes.

Cautions upon Use

When Driving

- When you must operate the device while the vehicle is in motion, pay close attention to upcoming road conditions and practice safe driving.
- Excessively high volume level can interfere with driving. Maintain the volume level low enough to be aware of road and traffic conditions.
- When requiring complicated operations, please operate only when the vehicle is in parked state.
- Do not expose the product, including speakers and amps, to water or excessive moisture. Such exposure may cause electrical shocks or fires.

When Driving

- Parking under direct sunlight for prolonged periods of time can produce high temperatures inside your car. In such instances, open the windows to lower the temperature prior to product use.

Power Supply

- This product is designed to operate using a DC 14V, negative-ground battery system.

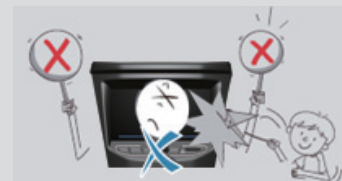
- The product is designed for DC 14V negative-ground vehicle use only. Do not use a non-standard power supply.



- Do not use gasoline, thinner, benzene, organic solvent, etc., to clean the unit.



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Information

The preset memory is cleared to the default factory state when the power connector or battery is disconnected.

Key Product Features

Key Product Features

This device is a Smart Audio system that supports Radio (FM, AM, RDS), USB Music, HDMI, iPod. The 7-inch WIDE VGA LCD provides high quality resolution while the powerful and rich sound system adds to driving enjoyment. In addition, the rear view camera increases safety when reversing by providing a wide field of vision of the rear side.

Feature	Description	Feature	Description
Display	■ Wide LCD Display ■ Provides high quality video and music simultaneously through the 7-inch wide screen display ■ Touch screen for maximum user convenience ■ Enables selection of video screens according to situation	USB MEDIA	■ Media Auto Search Feature ■ Automatically identifies music files saved in the media and displays as lists for convenience.
		Bluetooth	■ Bluetooth Connection Feature ■ Provides Hands-Free feature that enables drivers to make wireless calls while driving as well as music enjoyment through Audio Streaming.
Radio	■ Radio Digital Tuner Feature ■ Possible to save 6 independent present bands for FM1, FM2 and AM broadcasts each. The system uses a one-chip digital radio solution. ■ RDS(Radio Data System) AF, REGION, TA, TP, PTY ■ HDMI feature of HDMI devices can be connected for use.	Miscellaneous	■ Digital Screen Control Features ■ Easy control of screen brightness, contrast, color and saturation through touch screen. ■ Rear Detection Camera ■ Shows the vehicle rear side when positioning the gear in reverse.
HDMI	■ Outstanding reception using a high-sensitivity integrated antenna.		

Location of controls

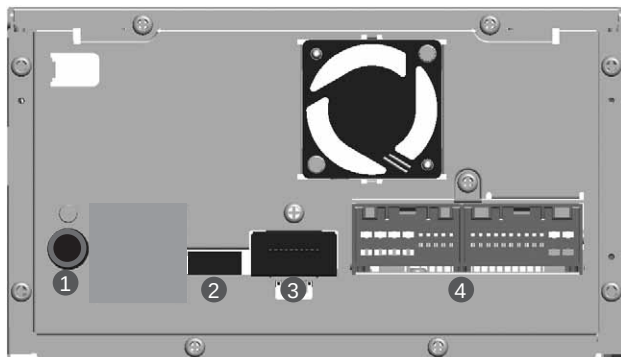
Front View



Button	Description
1 	POWER/VOL 1. Used to turn the power ON/OFF or control the volume. 2. Press and hold (over 1.5 seconds) to turn the power OFF. 3. Press shortly to turn the AV ON/OFF. 4. Turn left/right to control volume.
2 	MODE 1. Converts to MODE selection screen. 2. Displays the most recent AV screen regardless of whether AV is ON/OFF.
3 	SETUP 1. In all modes, press and hold (over 1.5 seconds) to display AVN System Settings screen. 2. In Radio mode, press shortly to display RDS Settings screen.
4 	MUTE 1. Mute/Pause the Audio/Media
5 	RADIO 1. Turn the Radio on. 2. Change the Band/Preset.

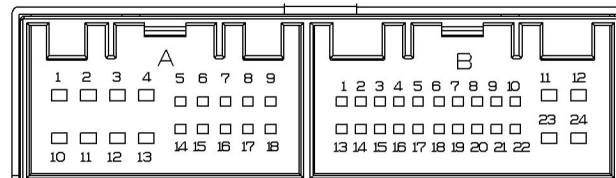
Location of controls

Rear View



- 1) Radio Antenna Jack
- To plug the radio antenna cable
- 2) USB Port
- To connect a USB connector for USB host function
- 3) HDMI Port
- To connect a HDMI connector
- 4) I/O Connector (42 pin)

Smart Audio 42P CONNECTOR



Smart Audio			
PIN NO.	SPEC	PIN NO.	SPEC
A1	RL+	B1	NC(CAN_H)
A2	FL+	B2	NC(UCOM_TX)
A3	FR+	B3	NC(MULTI-BOX PWR)
A4	RR+	B4	ST_REMO
A5	B/V_GND	B5	NC(SPDIF_DP)
A6	B/V_POWER	B6	NC(SPDIF_DM)
A7	ALT_IN	B7	NC(AUX_CVBS_IN)
A8	ILL+	B8	NC(AUX_R_IN)
A9	REVERSE	B9	NC(AUX_REF)
A10	RL-	B10	MIC+
A11	FL-	B11	ACC
A12	FR-	B12	BATT+
A13	RR-	B13	NC(CAN_L)
A14	B/V_VGND	B14	NC(UCOM_RX)
A15	B/V_VIDIO	B15	NC(P_POSITION)
A16	DOOR_UNLOCK	B16	SPEED
A17	ILL-	B17	ST_REMO_GND
A18	ANT_B+	B18	NC(SPDIF_GND)
		B19	NC(AUX_VGND)
		B20	NC(AUX_DET)
		B21	NC(AUX_L_IN)
		B22	MIC-
		B23	MIC_GND
		B24	P_GND

Steering Wheel Controller

Steering Wheel Controller



Button	Description
1 	During a call, press the button shortly to mute call volume In listening mode, mutes broadcast volume
2 	- Press the button to select the desired function mode. (RADIO → USB → BT Audio → HDMI → iPod) - Press and hold the button to select radio frequency bands. (FM1 → FM2 → AM)
3 	Press the button to adjust the volume level.
4 	In file play mode (USB/BT Audio) - When pressing the mode switch in up/down direction: moves to the previous or next song. In radio mode - When shortly pressing the mode switch in up/down direction: searches saved frequencies - When pressing and holding the switch in up/down direction: scans frequencies
5 	- When there is an incoming call, shortly press the button to accept the call or press and hold the button to reject the call. - During a call, press the button to end the call.

Basic Operation

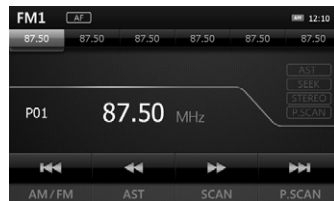
Starting the System



1. Set the ignition key to ON or ACC.



2. The SsangYong Motors logo is displayed and the system will boot.



3. Once booting is complete, the most recent mode will operate.

MODE



1. Press the MODE button to convert to MODE selection screen.

Turning the System Off

1. Press and hold (over 1.5 seconds) the POWER/VOL button to turn the power off. When the system power is turned off, the final operating mode is saved. When the ignition is turned on again, the system will automatically turn on the most recently operated mode. However, if the final mode was Bluetooth audio, then the mode prior to Bluetooth will operate.

Resetting the System



1. Press the MODE and Radio button simultaneously.
2. The system will turn off and reboot.

Settings



1. Press and hold (over 1.5 seconds) the SETUP button to convert to Smart Audio Settings screen.

NOTICE

- Resetting the system will restore all existing settings and configurations back to their default states. This is to ensure device stability.

SYSTEM SETTINGS

Smart Audio



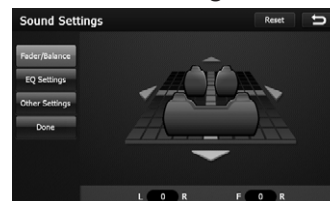
1. Press and hold (over 1.5 seconds) the SETUP button on the front panel.

Settings Menu



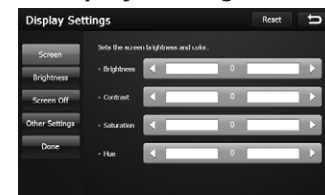
1. In Settings screen, select the desired mode.

Sound Settings



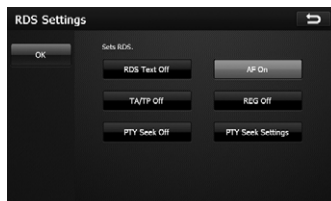
1. Used to set sound fader/balance, EQ and other sound settings.

Display Settings



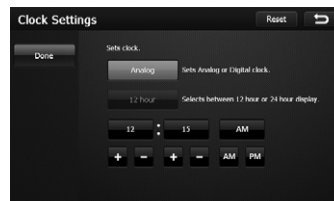
1. Used to set screen brightness, size and other display settings.

RDS Settings



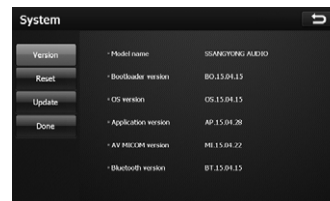
1. Used to set RDS (Radio Data System) settings.

Clock Settings



1. Used to set the time.

System Information



1. Used to check system information and Reset/Upgrade/Select Language.

Selecting MODE

Smart Audio



1. Press the MODE button on the front panel.

MAIN MODE



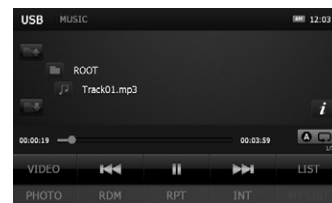
1. In Mode screen, select the desired mode.

RADIO MODE



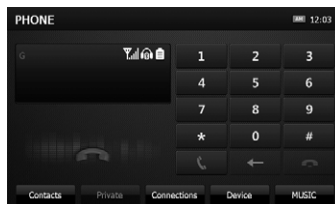
1. You can enjoy RADIO and RDS information.

MEDIA MODE



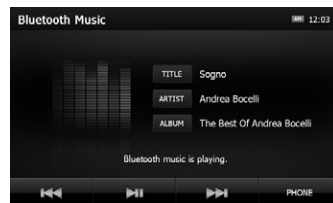
1. You can enjoy preferred MEDIA, such as USB MUSIC.

Bluetooth MODE



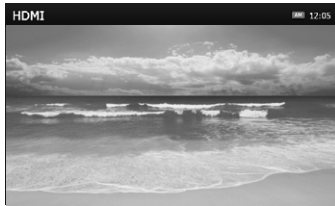
1. Mobile phones can be connected via Bluetooth to make and receive calls.

Bluetooth Music Mode



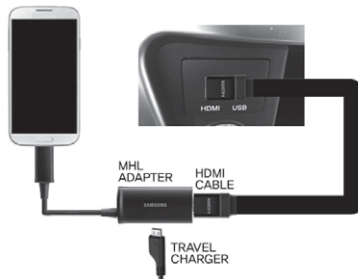
1. Bluetooth devices can be connected to listen to music.

HDMI MODE



1. Devices can be connected via HDMI to watch Phone Screen.

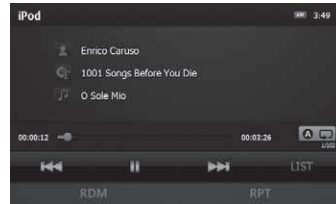
MHL/HDMI Gender & Cable Connection



Caution

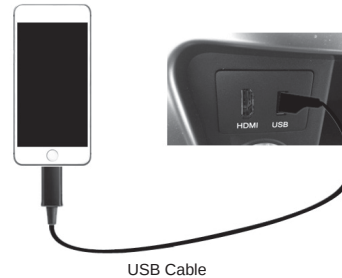
- When connecting MHL/HDMI, use only authentic connection genders.

IPOD MODE



1. iPod/iPhones can be connected via USB to listen to music.

iPod/iPhone Cable Connection



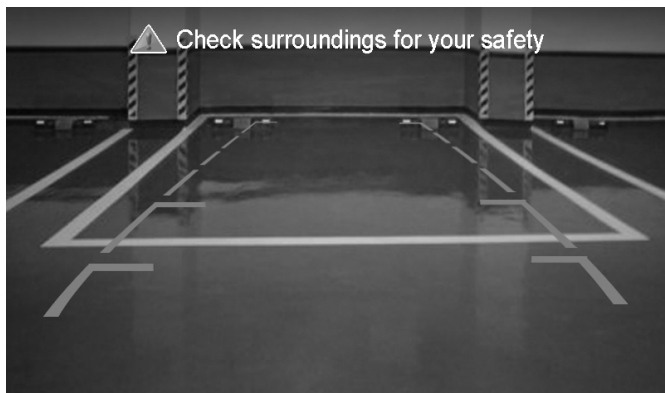
Caution

- When connecting USB Cable, use only authentic connection Cable.

Starting Rear Detection Camera Mode

■ This device is connected to a rear detection camera to acquire rear field of vision for safe reversing.

- When placing the car in reverse, the rear detection camera will begin operating regardless of the current mode and display the rear view on the monitor.
- When the gear is shifted to another position, the rear detection camera deactivates and restores the previously operating screen.
- Even when the device power is off, shifting to reverse will automatically turn on the device and operate rear detection camera mode.
- When reversing, the volume and mute can be used to improve concentration on external conditions.

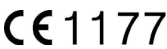


1. Place the ignition switch to ON or IGN position.
2. Shift the gear to R.

■ CAUTION!

- Rear Detection Cameras use wide-angle lens to acquire a wider view, so there may be differences between the actual distance and the distance that appears on the screen. For safety, make sure to check the rear, right and left sides of the car yourself.
- Only the volume and incoming call features will operate when operating the rear detection camera.

Product Specifications

Common	Name	Car TFT LCD Display Smart Audio UNIT	Storage Device	USB	1 port , USB2.0 HOST
	Power Supply	DC 13.5V		Format	FAT 32
	Operating Power	DC 9V ~ DC 16V	Audio	Supported Files	MP3, WMA, OGG, AC3, APE, FLAC
	Current Consumption	2A		Frequency Range	20Hz ~ 20KHz
	Sleep Current	3mA(Head Unit Only)	Bluetooth	Compatibility	BLUETOOTH V2.1+EDR
	Operating Temperature	-30℃ ~ +75℃		Frequency Bandwidth	2402 ~ 2480MHz
	Storage Temperature	-40℃ ~ +85℃		Supported Profiles	MP3 Play, Hands-Free
	Dimensions	247.1mm × 153.9mm × 197.1mm		Transmission Output	Max +4dBm (CLASS2 Support)
	Weight	1.9 Kg	Certification	      	
Display	Screen Size	167.8mm(W) x 104mm(H) x 6.4mm(D)(7.0" WVGA)			
	Resolution	384,000 pixels (Resolution : 800 x 480)			
	Operating Method	TFT Active Matrix Method			
Radio	Backlight	LED Method			
	Frequency Range	FM: 87.5MHz~108.0MHz(Step : 0.05MHz) AM: 522KHz~1620KHz(Step : 9KHz)			
	Sensitivity	FM: 10dBuV, AM: 40dBuV EMF			

FCC Information to User

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution

Modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Compliance Information : This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation

IMPORTANT NOTE:

FCC RF Radiation Exposure Statement:

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

CAR AV SYSTEM

