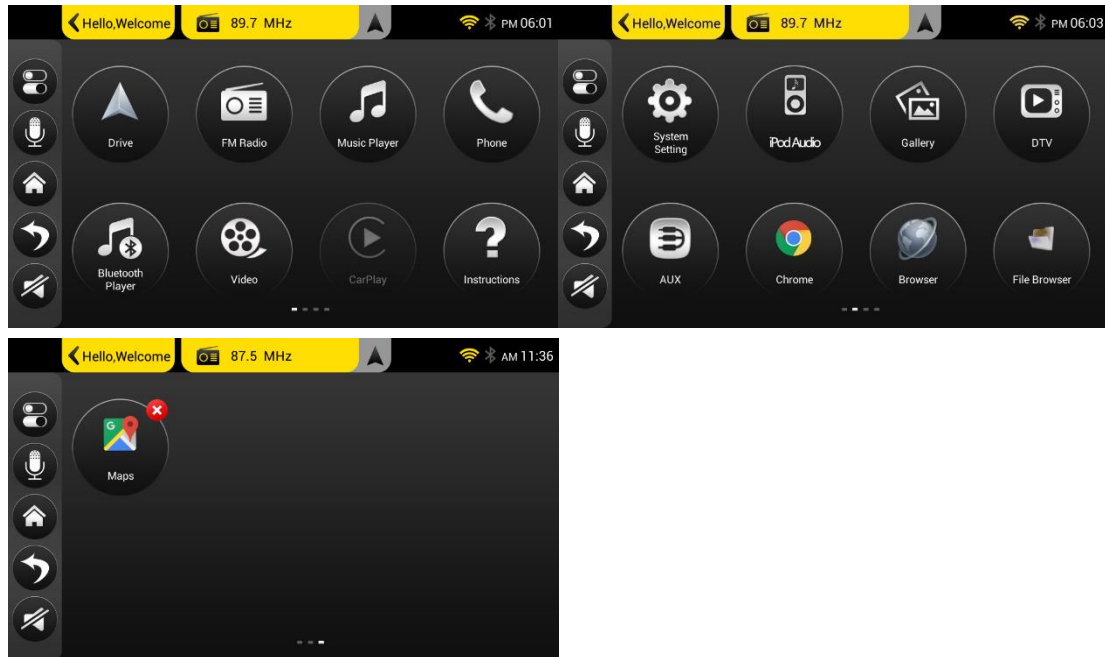# SmartAuto^s

C7 Universal Head Unit Functional Specification
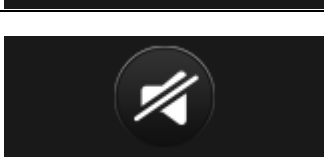
Application and Hardware
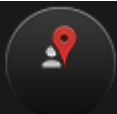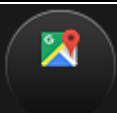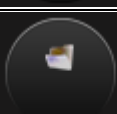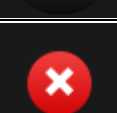
Table Contents:

1. Main Menu

Buttons	Button's Name	Description
Navigation shortcut-Icon	Navigation shortcut-Icon	Invoke Navigation APP
Home Icon	Home Icon	Return to Main Menu
Control Center Icon	Control Center Icon	Control Center
Voice Icon	Voice Icon	Voice Recognition function
Return Icon (Back)	Return Icon (Back)	Return (Back)
Mute Icon	Mute Icon	One click to Mute Continuous 2 secs click, Off backlight, any touch on screen will turn the backlight ON.

		YouTube Icon	YouTube App
		Google Places Icon	Google Places App
		Google Maps Icon	Google Maps App
		Google Play Store	Google Play Store App
		Web Browser	Web Browser App
		File Browser	File Browser App
		Google Chrome	Google Chrome App
		Google Setting	Google Setting App
		MxPlayer	MxPlayer App
		Un-install Key	Un-install APP from Apps Store

2. Navigation

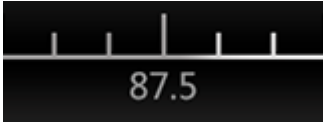Click on "Drive" Icon on the main page, enter into Navigation screen; This will depend on local navigation software. Will not go into detail here.

3. Radio

1. Click on "Radio" icon on the main menu, enter into radio screen;
2. FM, AM radio bands available, AM frequency band range from 522KHz – 1620KHz, FM frequency band range from 87.5MHz – 108MHz. Manual input is supported, to tune into corresponding station, auto station search is supported.

Button	Button Name	Description
	Play/Pause	Play or Pause the radio
	Band indicator	current frequency position, sliding to change frequency
	auto search and store	Auto search stations, search all stations within the band range and auto store.

	On screen key-board to enter frequency	enter the frequency through the On screen key-board to change to corresponding frequency
	Station Scanning	Scanning mode play from the preset program list, 10 sec play for each item. May stop the scanning play from the preset stations by clicking any key.
	Band	FM, AM switching
	Near and Far range	Perform Near and Far search function switching
	Stereo Sound	Stereo Sound when the FM signal is strong
	Search forward	Short click to look for next valid station
	Search backward	Short Click to look for previous valid station
	Display Current frequency	Display current radio frequency
	Favorite	Mark/un-mark function, illuminated star means favorite, else it is not. Favorite stations will not be deleted during the search process.

4. Music

1. Click on "Music" icon on the main menu, enter into Music player screen.

2. LIST: Categorize by Song name, Singer and album.
3. FILE: List mode to display the file name of the songs.
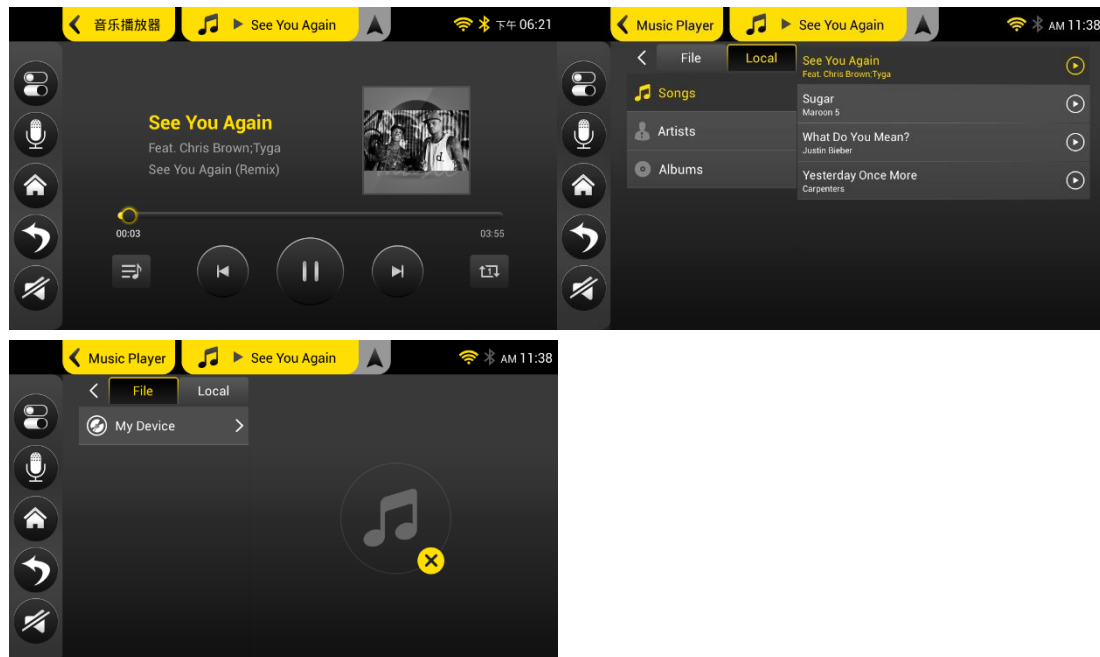
Button	Button Name	Description
	Play/Pause	Play or Pause song
	Previous Song key	Return to previous Song
	Next Song	Enter into next Song
	Repeat mode	Click can choose all repeat, single repeat or random play.
	List	Click to enter List

⊙	Album	Music files listed by Album
♪	Song	Music files listed by Song
👤	Singer	Music files listed by Singer
🎧	My device	My device
▣▮▫	USB	USB device
📁	File folder	File folder name
▶	Play Song	Click to play song
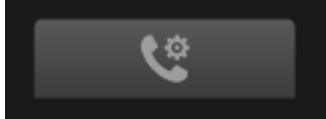
5.Bluetooth Phone

1. Click "Phone" icon on the main menu, enter into Bluetooth phone screen.
2. Must successfully pair the phone Bluetooth and the system Bluetooth in order to use this.
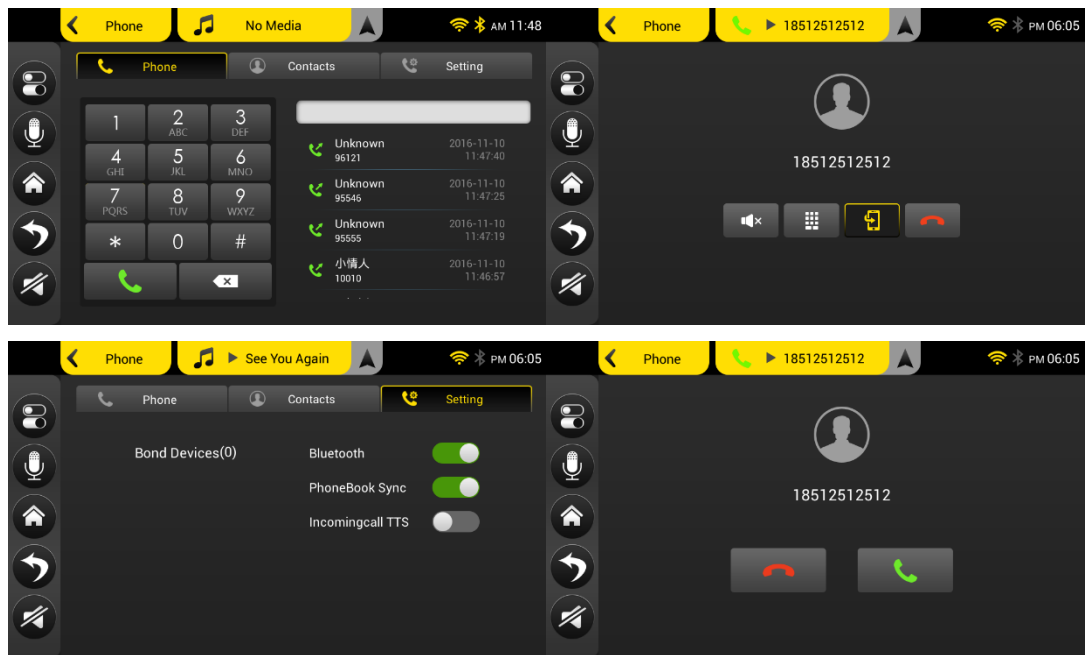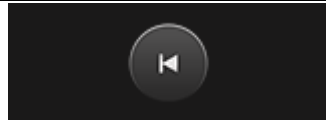
Button	Button Name	Description
	Dial Icon	Click to receive incoming call Click to hang up
	Back Icon	Click this icon to backward delete when entered wrong number
	Hang Up Icon	Hang Up call when click this Icon. To reject call during incoming.
	Enable Icon	Click ON to enable Bluetooth & Phone book Sync or Voice read out of caller number
	Switching Icon	Switching the speaker output between HU or mobile
	Contact Icon	Click this icon to open the Contact
	Call Icon	Click this to enter Telephone call

	Bluetooth phone setting icon	Click to enter Bluetooth setting
	Calling pad	calling pad
	Mute Icon	In conference mode, the other side is not able to listen to voice from HU side

6.Bluetooth Music

1. Click on "Bluetooth Player" on the main menu will enter Bluetooth player screen;
2. Turn on the Bluetooth at mobile phone and pair to the Bluetooth at HU

Button	Button Name	Description
	Play/Stop	Play or Stop music
	Previous song	Back to last song
	Next song	enter to next song

7.Video

1. Video page divides into list page and video play screen. Click the empty space in the video play screen will hide/appear the title bar and control bar.
2. User may play video by choosing from the video list.
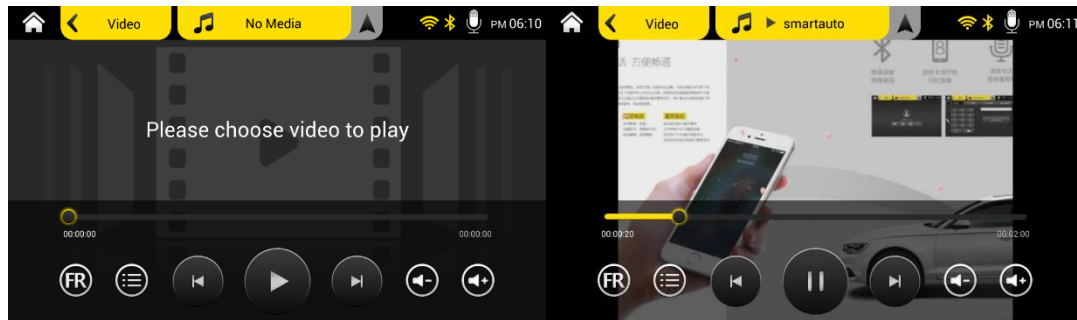
Button	Button Name	Description
	Play/Pause	Play or pause a video
	Previous video	Back to previous video
	Next video	Enter into the next video
	Front/Rear output Icon	Click may switch between Front/Rear/Front + Rear output
	List	List
	Volume Increment	Tune the volume up, long click will continuous increase volume
	Decrease volume	Lower volume, long click continuous lower down volume

	My Device	My Device
	File folder	File folder name

8.CarPlay

1. To connect iPhone and Head Unit.
2. The CarPlay UI may control volume, click the upper half will increase the volume, and the lower half will decrease volume.
3. Click the Exit Icon will return to the main page. Click CarPlay again will enter CarPlay.
4. Unplug the USB cable will exit the CarPlay.
5. There is Option to ivoke CarPlay in the setting menu:
   Manual: Click the CarPlay Icon to start CarPlay.
   Automatic: CarPlay will start when iPhone is connected to the Head Unit.
6. If there is any connection error, suggest to restart the iPhone and reconnect.
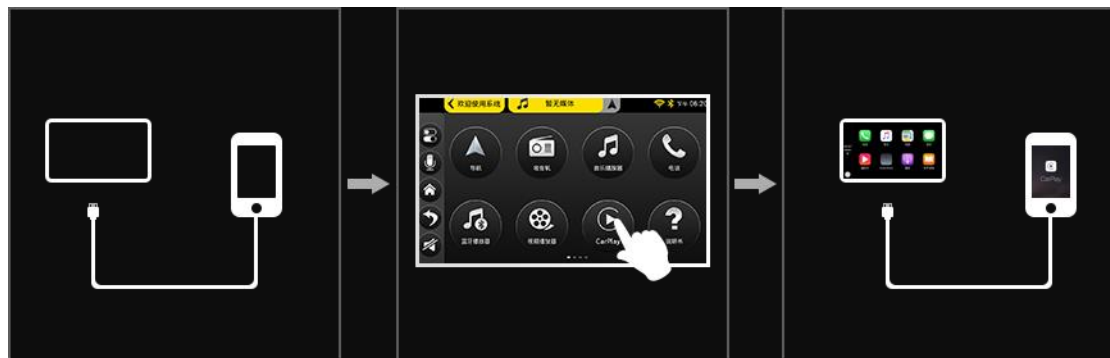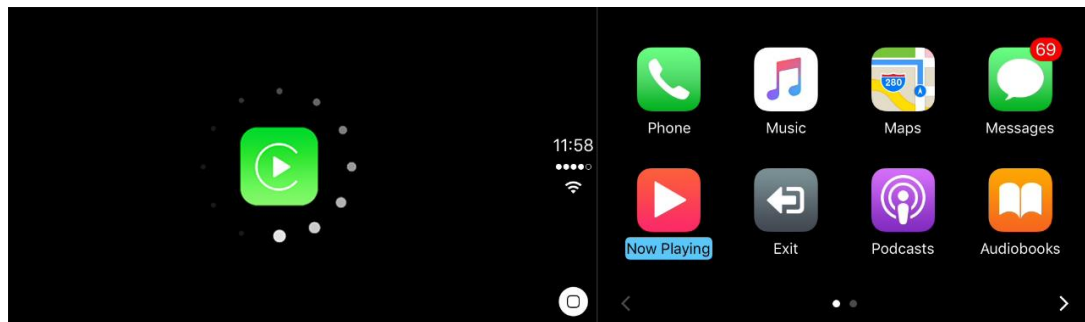
9. **System Setting**

Click on the "System Setting" Icon under the main menu, enter into setting screen.

Button	Button Name	Description
Bluetooth		
	Enable Icon	Enable Bluetooth
	Scan Icon	Scan for devices
	Edit	Change Bluetooth Name
Audio Effect		
	In-car audio adjust	Adjust to the front
	In-car audio adjust	Adjust to the back
	In-car audio adjust	Adjust to the right
	In-car audio adjust	Adjust to the left
	Volume Increment	Under manual mode, to increase volume
	Volume Decrement	Under manual mode, to decrease volume
Network		
Network	WIFI	Enable WIFI to choose from hotspot, may connect after password entered.

	Scan	Refresh available devices on the list
	Connect Icon	To connect after password
	Enable Icon	To enable network
System		
	Next Icon	enter next page
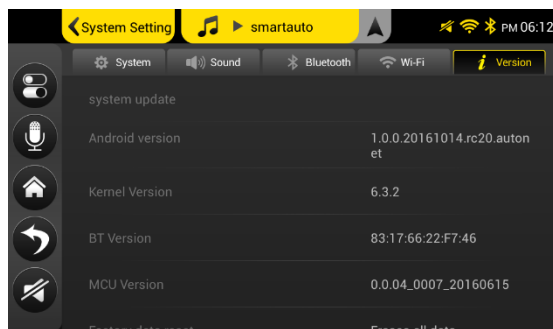
Button	Button Name	Description
Version	Software Version	Current software version
	Device Serial Number	Device serial number for this hardware
	Bluetooth Address	Bluetooth Mac address for this device
	MCU Version	MCU version for this device
System Update	System Update3	Click to Update the System
Factory Reset	revert to factory setting	Click to clear all data in the Head Unit

10.iPod Audio

1. Connect with iPod through USB, open the iPod player from Head Unit
2. List: categorize by Song, Artist, Album.

11.Photo Gallery

1. Click on the "Gallery" Icon on the main menu, enter into photos gallery to view pictures
2. User may switch between the few memory sources "My Device, USB, SD card"
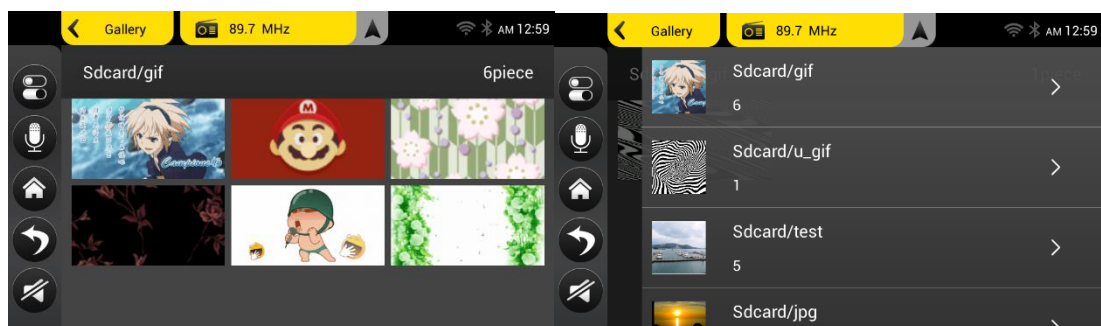
12.AUX

	Menu	Enter into Menu page

Click on the AUX Icon on the main menu, will invoke the AUX page
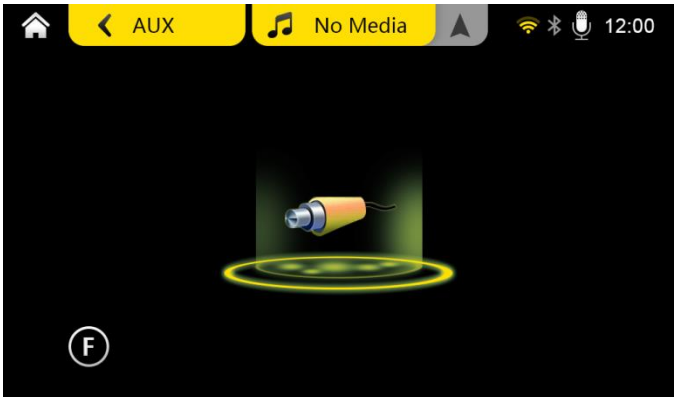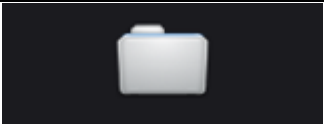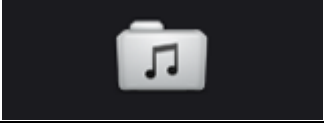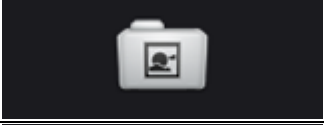
Button	Button Name	Description
	Front/Rear output Icon	Click to switch between Front/Rear/Front+Rear output

13. File Browser

Click on the "File Browser" Icon on the main menu, enter into file browser page
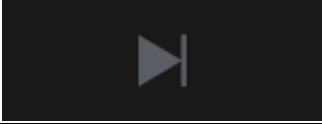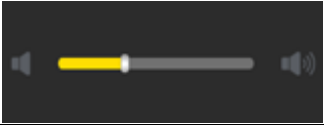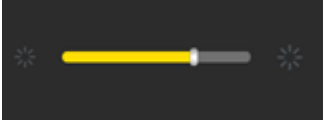
Button	Button Name	Description
	All files	Display all files in the folder
	Video files	Display video files in the folder
	Music files	Display music files in the folder
	Picture files	Display picture file in the folder
	Display option	Click to switch between list or icon format.
	Return Icon	Return to upper folder

14. Control Center

1. Click on "Control Center" on the main menu, enter to the system setting page;
2. The main function is to perform setting on media, Bluetooth and App settings.
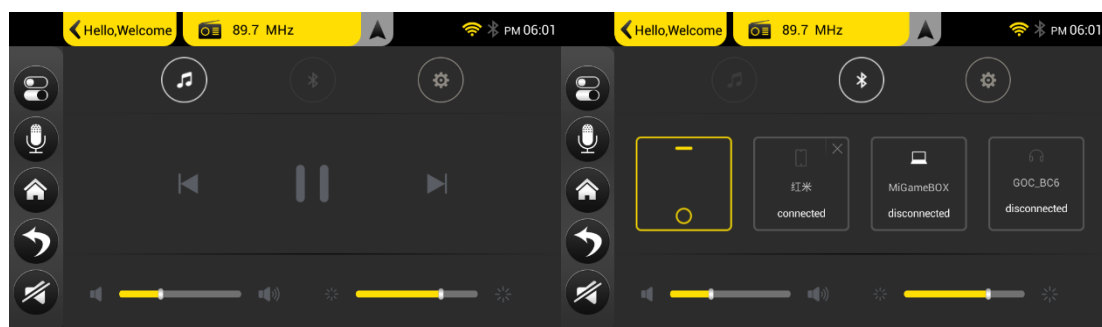
Button	Button Name	Description
▶	Play / Pause	Play or Pause
◀	Previous song Icon	Back to previous song.
▶▏	Next song Icon	Enter next song
♪	Media Icon	Enter to multimedia setting page
✲	Bluetooth Icon	Switch to Bluetooth setting page
⚙	Setting Icon	Enter into function setting page
⬒	Control center	Enter into Control center setting page
🎤	Audio Icon	Enter into Audio function page
↩	Return key (Back)	Return (Back)
🔇	Mute Icon	One click to Mute Continuous 2 secs click, Off backlight, any touch on screen will turn the backlight ON.
✕	Delete Icon	Click to delete paired devices record

	On/Off Icon	Click to turn On/Off Bluetooth
	Volume adjust Icon	Current APP volume adjust
	Brightness Icon	Screen brightness adjust

15. Hardware Specification

15.1 Over View Specification

Main Features : GPS/BT/RADIO/WIFI/MP5；

CPU : Quad Core CORTEX A7

Memory/Storage : 1GB DDR3 RAM + 16GB EMMC5.0

Display : 7 inches Capacitive Touch Screen 800*480

CVBS : 2 * CVBS AV OUT for rear displays

: 1 * DVR CVBS input

: 1 * 360 degree surround camera input

: 1* RAUX CVBS input

AUX Audio : 2 channels (R/L)

USB : 1* USB-OTG for system update, Ipod, CarPlay and Android Auto

1* USB Host for Thumb-drive, SD card reader, etc.

Mobile Phone Link: CarPlay, Android Auto

Radio : FM/AM

Reverse Camera : Yes

Power Amp : 4 x 45W Output with high definition

Navigation : Support most of navigation software, 3D maps.

Steering Wheel : Voltage distributed, analog detection, customized definition.

Sleeping Mode : Low Power sleeping mode.

: Optimized Sleeping mode, High speed boot feature.

: Fast Reverse Camera display

Antenna : Only GPS antenna is included.

15.1   Operational Environment

Temperature : -20°C ~ +70°C

Humidity : 45% ~ 80%

Storage Temperature : -30°C ~ +85°C

Storage Humidity : 30% ~ 90%

Pressure : 860mbar ~ 1060 mbar

15.2   Operational Voltage Range: 10.8V ~ 16V

Peak operational current ≤ 15A

ACC OFF	<5mA
ACC ON, Power OFF	≤230mA

15.3   RCA Connectors
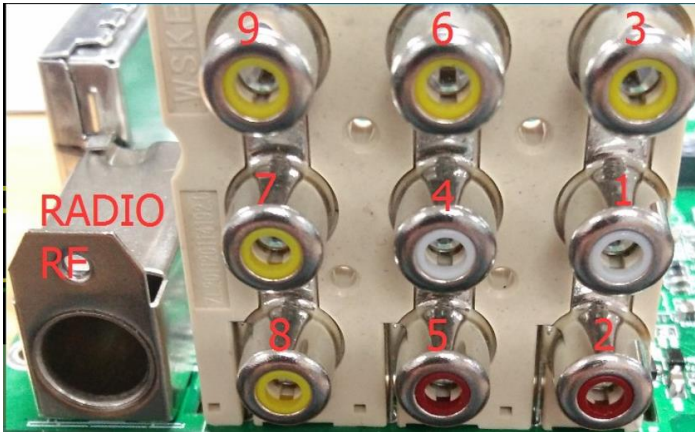
Source	Description
1 RAUX_LIN	AUX-IN Audio Rear Left
2 RAUX_RIN	AUX-IN Audio Rear Right
3 RAUX_CVBS	AUX_CVBS Input Right
4 RCA_FL	RCA_FL Audio Front Left
5 RCA_FR	RCA_FR Audio Front Right
6 DVR_CVBS DVR	DVR_CVBS for DVR
7 CVBS_OUT1	7 CVBS_OUT1 Rear 1
8 CVBS_OUT2	8 CVBS_OUT2 Rear 2
9 CAMERA_CVBS	9 CAMERA_CVBS Rear camera or 360 surround input

ISO 36 Pins
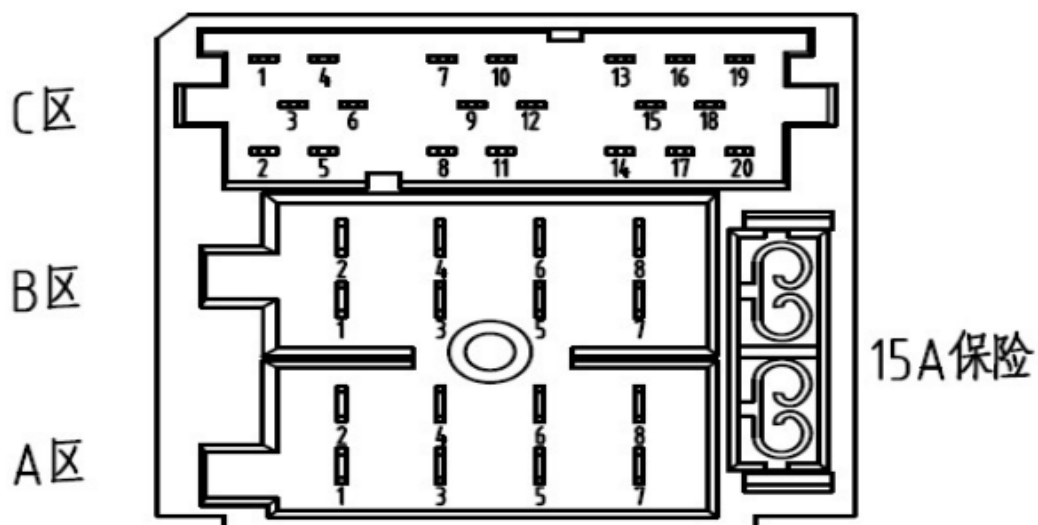
Number	Function	Number	Function
A1	Reverse_IN detect +12V	C3	CAN_TXD
A2	Park detect – Stationary +12V	C4	MIC2- Mic input -
A3	ACC In +12V	C5	SWC_A Steering Wheel A
A4	NC	C6	SWC_B Steering Wheel B
A5	ILL_IN ， headlight detect	C7	NC
A6	NC	C8	GND
A7	GND	C9	OBD_TX
A8	POWER in +12V	C10	NC
B1	RR- Rear Right audio output -	C11	OBD_RX
B2	RR+ Rear Right audio output +	C12	AMP_POWER control +12V
B3	FR- Front Right audio output -	C13	NC
B4	FR+ Front Right audio output +	C14	NC
B5	FL- Front Left audio output -	C15	NC
B6	FL+ Front Left audio output +	C16	NC
B7	RL- Rear Left audio output -	C17	NC
B8	RL+ Rear Left audio output +	C18	NC
C1	MIC2+ Mic input +	C19	NC
C2	CAN_RXD	C20	NC