

PRODUCT FEATURES:

- Smart-Play Integration system allows connection of Android and other devices to the iDrive infotainment system
- Control Apps using smartphone's voice control feature or the factory iDrive (High/Low) Knob
- Adds aftermarket rear view camera input.
- Forced rear-view camera option (only on vehicles with PDC button)
- Picture-in-picture mode combining after-market rear-view picture with factory parking sensor graphics.
- Interactive parking guide lines with calibration function.
- Simultaneous use of picture-in-picture factory parking sensor graphics and interactive lane lines
- Built-in on-screen display and setup.
- 1 trigger output (+12V max. 1A) for the camera power.

*NOTE: Android Phones must have a firmware version of 8 and above.
The vehicle needs to have a factory AUX input.*

PARTS INCLUDED:



ACPBM-77Z Module



Power/CAN Harness



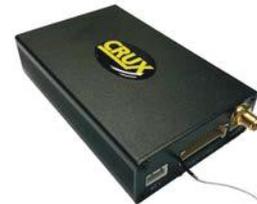
ACPBM-77Z Vehicle Harness



CRUX LVDS Cable



3.5mm to RCA Adapter



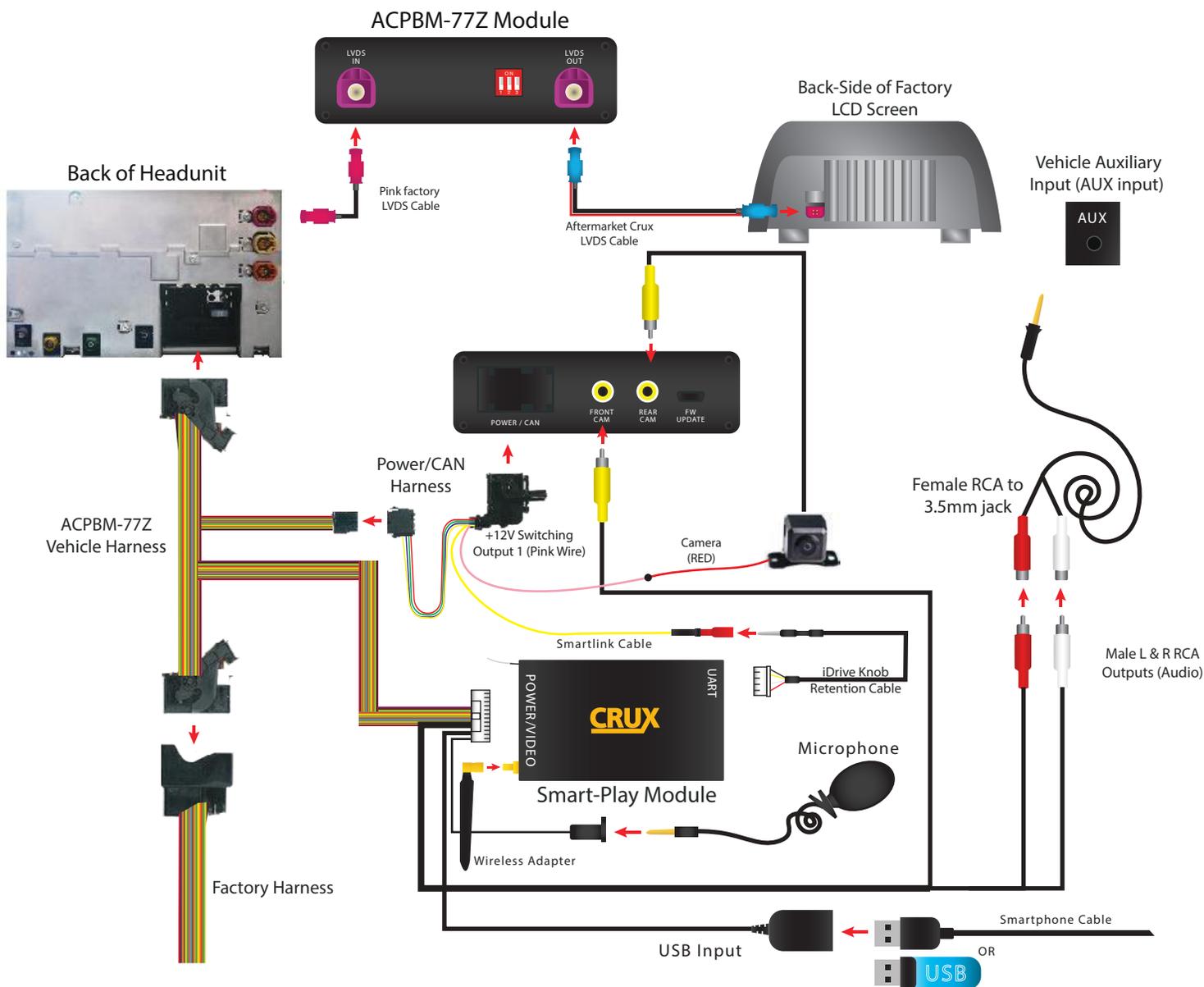
Smart-Play Interface Module



Microphone



INSTALLATION DIAGRAM:



DIP SWITCH SETTINGS:

Setting the DIP switches of the Interface Box.

DIPs 1 and 2 on the back of the interface-box is used to set the monitor size. DIP 3 must be set to OFF.

After each change of the DIP switch settings you have to execute a power reset of the interface box!

Vehicle/ navigation	Dip 1	Dip 2	Dip 3
6.5" monitor (ver.1)	OFF	OFF	OFF
6.5" monitor (ver.2)	OFF	OFF	ON
7" monitor (ver.1)	OFF	OFF	OFF
7" monitor (ver.2)	OFF	ON	OFF
8.8" monitor	ON	OFF	OFF
10.25" monitor (ver.1)	ON	OFF	OFF
10.25" monitor (ver.2)	ON	ON	OFF

LED's of the interface-box



- Valid input source
- CAN ok
- Power

NOTE: Must have solid BLUE, GREEN, RED, LEDs for part to work..

OSD SETTINGS:

OSD Menu

Use the following buttons to enter the ACPBM-77Z OSD Menu:

NOTE: Must be in factory infotainment menu to trigger full OSD menu

To ensure that Smart-Play works, make sure these input settings are in effect:

FRONTCAM (FVC) = SmartPhone

To retain the factory Back-Up Camera:

REARCAM (RVC) = OEM

To activate an aftermarket Back-Up Camera:

REARCAM (RVC) = ON



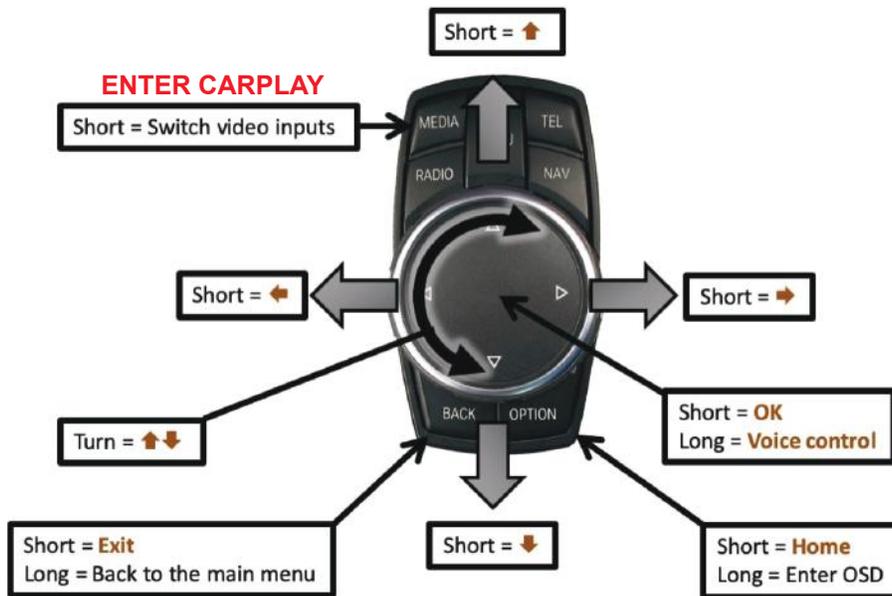
IDRIVE HIGH / IDRIVE LOW

OSD-menu	Menu item	Setting	Description
OPTION	IDRIVE	LOW	Vehicles with iDrive Low control knob
		HIGH	Vehicles with iDrive High control knob

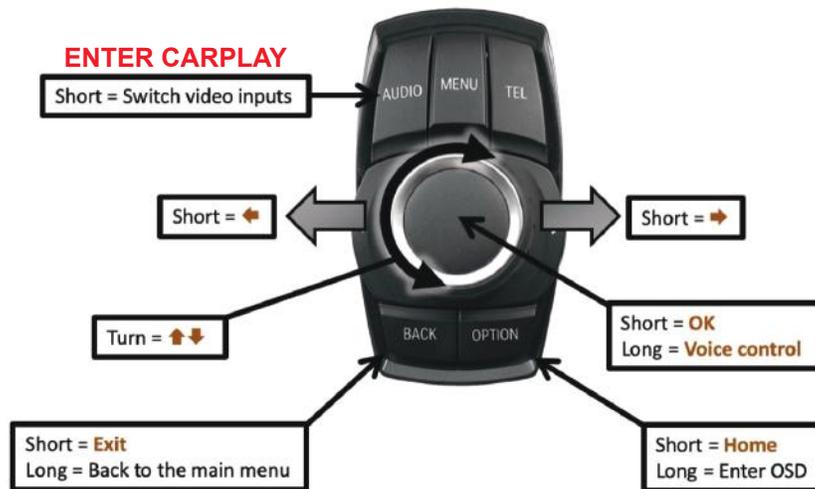
Controlling of the connected SMART-LINK module

The picture shows which functions of the connected SMART-LINK module can be executed by iDrive control panel. Once the FVC/SmartPhone input is activated the iDrive control panel action will execute the function described in the picture.

IDRIVE HIGH



IDRIVE LOW



CONFIGURING THE TRIGGER OUTPUTS

You can configure the +12V trigger outputs in the OSD menu. The PINK wire (12V OUTPUT 1) in for the SMARTPLAY module. Power Out 2 is for the Cameras.



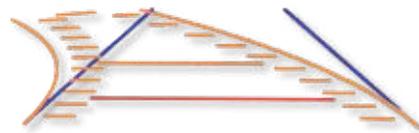
* = Recommended

OSD-menu	Menu item	Setting	Description
	POWER OUT 1 (PINK)	CAN *	Smart-Play power on
		OFF	power off
OPTION	POWER OUT 2 (GREEN)	CAN *	+12V when the interface is on (red LED on)
		ACC	+12V when ignition is on
		CAM	+12V when the rear-view camera input is activated
		RGEAR *	+12V when reverse gear is engaged
		OFF	Trigger output deactivated

Tip: We recommend for all cameras to use power out setting "CAN" or RGEAR and for Smart-Play, power out setting of "CAN"

Interactive Lane Lines

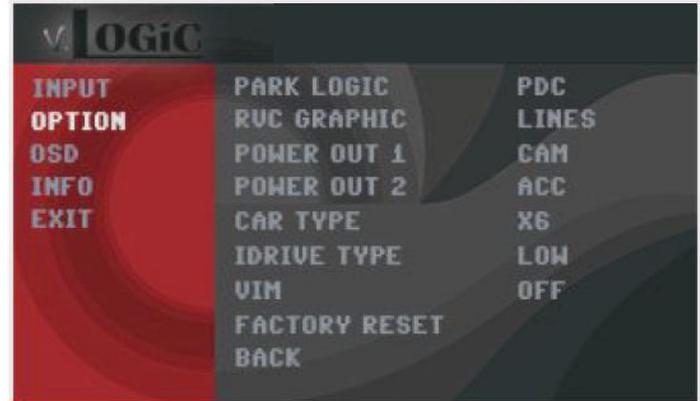
The ACPBM-77Z includes an Interactive Lane Lines function that is added to the aftermarket rear view camera. Use the OSD menu to activate this feature.



OSD Menu	Menu Item	Setting	Description
Option	RVC Lines	OFF	Dynamic lane lines deactivated
		ON	Dynamic lane lines activated
	Car Type	LOW	5 Button
		HIGH	7 Button



SETTINGS FOR INPUT AND OPTIONS



OSD-menu	Menu item	Setting	Description
INPUT	FVC	OFF	No front camera/SMART-LINK connected
		SMARTPHONE	Enables the " FRONT CAM" input and control for the SMART-LINK set
OPTION	PARK LOGIC	PDC	For vehicles with PDC button. Enabled while parking process and up to 20 km/h or together with PDC if existing
		RGearOnly	Enabled while parking process
		RGearSpeep	Enabled while parking process and up to 20 km/h
	RGearTime	Enabled while parking process and up to 20 second	
	RVC GRAPHICS	PIP1	OEM PDC display of the vehicle
		LINES	Interactive lane lines activated

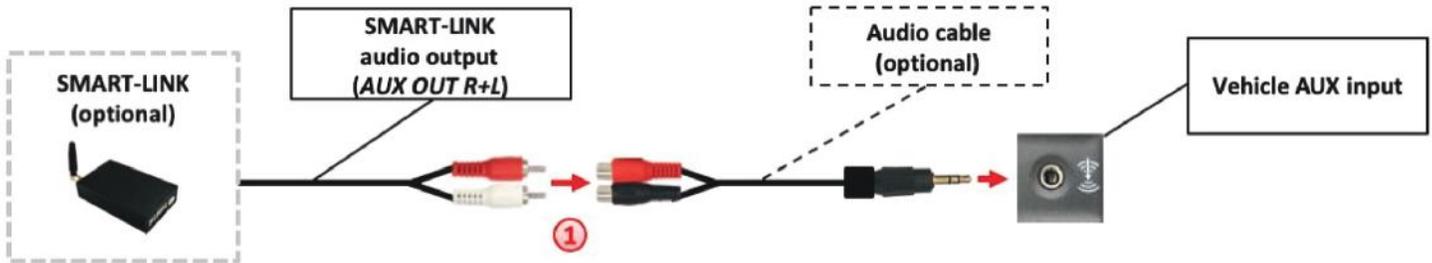
Note: You can deactivate the enabled parking process by pressing the iDrive or by enabling other modes (e.g. radio). After deactivation you can't enable the parking process again until the vehicle is diving faster than 20km/h, the ignition is switched off and on or the PDC will be disabled and enabled again, if existing.

SETTINGS FOR OEM REAR-VIEW CAMERA

OSD-menu	Menu item	Setting	Description
INPUT	RVC	OEM	If a factory rear-view camera is existing! The interface turns off, if PDC or reverse gear is enabled and it displays factory rear-view camera and/or PDC-display
OPTION	PARK LOGIC	PDC	For vehicles with PDC button. Enabled while parking process and up to 20 km/h or together with PDC if existing



SMART-LINK AUDIO CONNECTIONS



1 By using an audio cable (sold separately), connect the audio output of the SMARTLINK module to the vehicle AUX input.

NOTE:

Make sure the audio source on the factory system is set to AUX mode (not AM/FM/Bluetooth). Also, if your smart-phone is set to automatically connect to your factory bluetooth, make sure you void the connection. One way is to forget the device (your vehicle) on your phone. This will avoid Smart-Play connection interferences. If you are using the wireless feature and notice degraded audio or video quality, switch to the wired alternative, for it is a higher quality connection, unlike bluetooth.

CONNECTING THE SMART-PLAY INTERFACE:

The ACPBM-77Z utilizes wireless technology for Apple devices/Android devices. If desired for wired connectivity, devices are required to be plugged in to the USB port using the smartphones OEM charger/data cable. The USB port on the ACPBM-77Z can be used to charge the apple device or play video or music from a USB thumb drive.

Using the ACPBM-77Z Input Selection

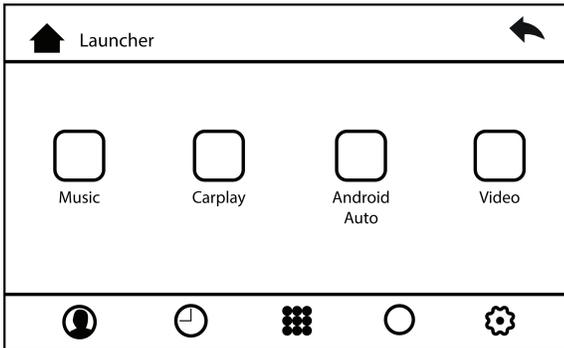
In the vehicle's Media menu, activate AUX Input to get the Smart-Play sound through the vehicles audio system. Press the 'BACK' button again for 3-5 seconds to go to the ACPBM-77Z AV mode.

A short press of the 'MEDIA' button will toggle through the video sources. Each short press will toggle to the next enabled input. If all inputs are enabled, the order will be:

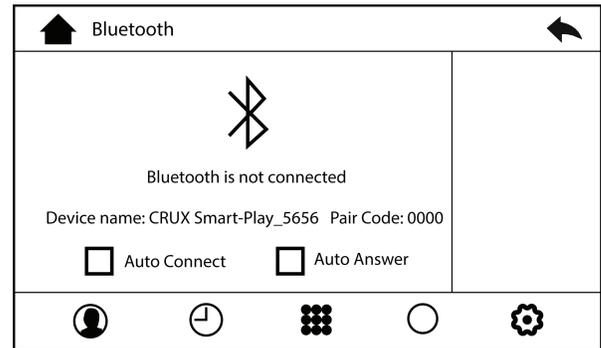
Rear CAM > Video Input (Smart-Play) > Repeat...

To exit the Smart-Play menu, hold the 'Menu' button for 3-5 seconds





1. Picture above shows the HOME screen of the Smart-Play interface. Music and Video is used in conjunction with a USB thumb drive plugged into the USB port.



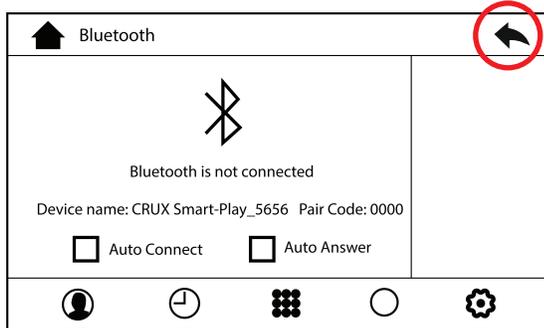
2. Using the iDRIVE knob of the vehicle, navigate the cursor to the Bluetooth icon (scrolling right). Image above will appear on the screen the BT device name and pairing code (0000)



3. Go to the 'Settings' then 'Bluetooth' on your Apple device and connect to '/CRUX Smart-Play_XXXX'



4. Once the ACPBM-77Z has connected via Bluetooth, it will also connect to Wi-Fi automatically.



5. Use the iDrive knob to navigate the cursor to the 'Back' button



6. Image above shows the 'Home Screen' once the smartphone is connected.



Display settings for Smart-Play

Adjust brightness, contrast, and saturation for a more defined image.

To get to the Display menu, scroll to the SETTING icon in the Smart-Play HOME menu, and select it.



Once in the SETTING menu, scroll to the Display submenu and adjust the brightness, contrast, and saturation to your desired values.



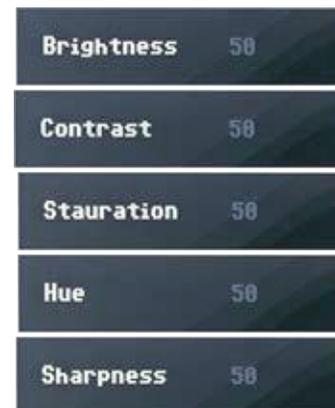
Interactive Lane Lines Settings

The height and width of the interactive lane lines can be set in the OSD menu. For this setting you must first activate the rear view camera level and push the "MENU" button for 2 seconds to activate the settings menu. With the rotation knob you can select the menu point "Line Height" to change the height of the interactive lane lines and with menu point "Line Width" the width of the lines. Click "Exit" to leave the settings menu.



Picture Settings

The camera picture can be set in the OSD menu. For this setting you must first activate the camera level and push the "MENU" button for 2 seconds to activate the settings menu. With the rotation knob you can select and change the "Brightness", "Contrast", "Saturation", "Hue" and "Sharpness". Click "Exit" to leave the settings menu.



Note: The picture settings will be retained for every camera input separately.

OSD Settings

You can change the basic configurations of the interface in the OSD (on screen display).



OSD Menu	Menu Item	Setting	Description
OSD	POS. X	0-xxx	Horizontal position of the OSD
	POS. Y	0-xxx	Vertical position of the OSD
	Size	Small	Small OSD menu window
		Large	Large OSD menu windows
	Osd TimeOut	2-20	Time setting for automatic OSD shutoff
Info	Version	X.XX.XX	Displays the current SW-version
Option 1	Factory Reset		Reset to factory default settings



INSTALLATION INSTRUCTIONS:



1. Installation is done behind the front panel.



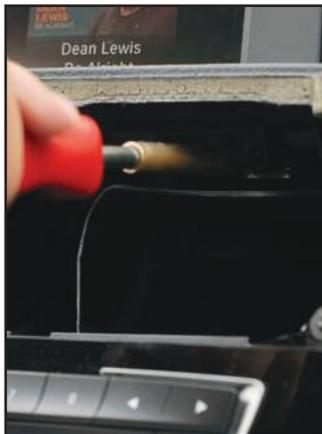
2. Remove the dashboard front panel.



3. Remove the front panel.



4. We must now remove the four screws behind the front panel.



5. Use a T-20 bit to remove these 4 screws.



6. Remove the panel below the A/C control.



7. Remove the two torques behind the panel.



8. Remove the LCD monitor.

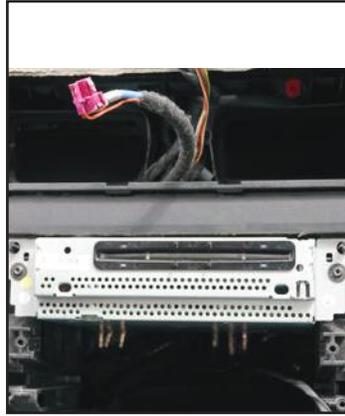


9. Unplug the pink LVDS connector from behind the LCD monitor.





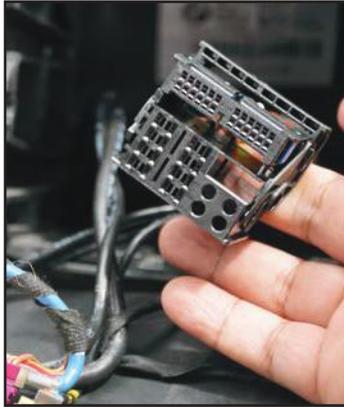
10. Remove the A/C control panel.



11. Remove the two torques bracing the radio unit.



12. Remove the radio unit.



13. Remove the Quadlock connector from behind the radio.



14. Insert the CRUX LVDS Cable into the LVDS OUT port on the ACPBM-77Z module.



15. Funnel the CRUX LVDS cable from the radio cavity to the LCD screen cavity.



16. Connect the otherside of the CRUX LVDS Cable to the LVDS port on the LCD screen and place it to rest.



17. Funnel the Pink LVDS cable to the radio cavity and connect it to the LVDS IN port on the ACPBM-77Z module.





18. Connect the male side of the ACPBM-77Z vehicle harness to the factory female Quadlock connector that was originally connected to the radio.

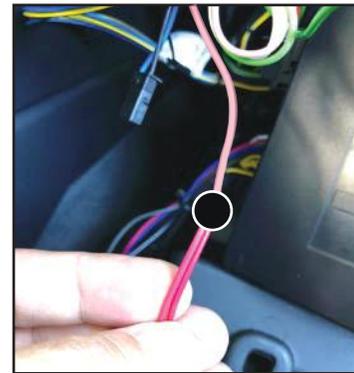


19. Connect the female side of the ACPBM-77Z vehicle harness to the factory radio.

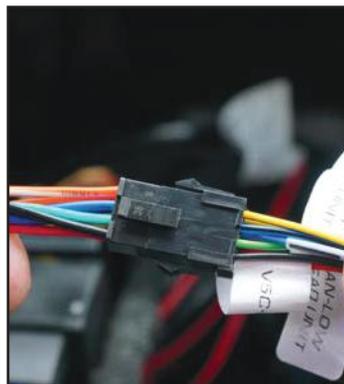


20. Plug the Video Out from the Smart-Play Power/Video harness into the FRONT CAM input on the module.

21. If installing an aftermarket back-up camera, plug the camera's video out to the REAR CAM input on ACPBM-77Z module. You will also need to power the camera for it to work. Use the PINK power output 1 wire provided on the power/CAN harness to do this. An image is displayed in step 23. If retaining an OEM camera, skip steps 22 and 23.



22. Connect the RED camera power wire to the PINK power output 1 wire.



23. Connect the male 8-pin connector from the vehicle harness to the female 8-pin connector on the Power/CAN harness.

24. Tap the RED ACC wire from the Power/Video harness to the green +12V output, from the previous step's 8-pin male connector.



25. Connect the male audio RCA outputs from the Power/Video harness to the Female RCA-to-3.5mm cable.

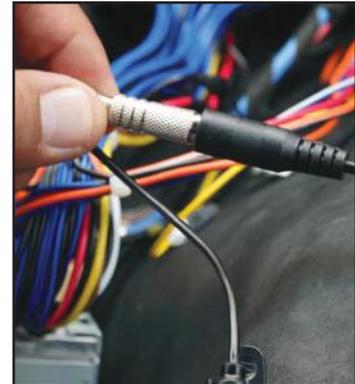




26. Connect the 3.5mm jack from the converter to the vehicle auxiliary input (AUX IN).



27. Mount the microphone to a location of your choice.



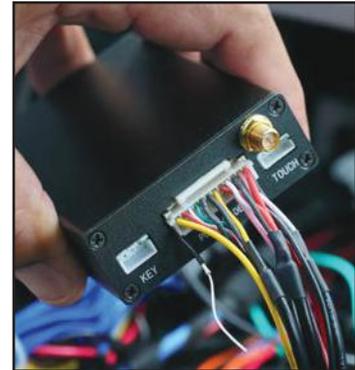
28. Connect the 3.5mm microphone jack to the MIC input on the Power/Video harness.



29. Connect the Power/CAN harness to the POWER/CAN input on the ACPBM-77Z module.



30. Connect the 4-pin connector from the Power/CAN harness to the UART port on the Smart-Play module.



31. Connect the Power/Video harness to the POWER/VIDEO port on the Smart-Play module.



32. Route the USB cable to a desired location and connect it to your smartphone's lightning cable.



33. Test the communication. Turn on the ignition and check if LEDs are on.

34. Check the OSD settings and make sure they match those on the next page. Test the Back-Up camera. Put gear in reverse and check for rear camera image on screen. Go to Smart-Play mode and test for functionality. Once the cameras and Smart-Play validation is complete, mount the ACPBM-77Z and Smart-Play modules, reinstall all the components to their original set-up.



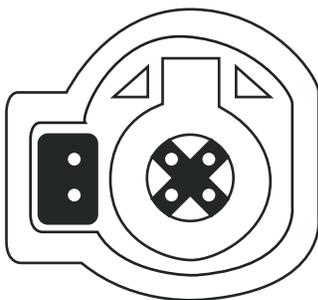
VEHICLE APPLICATIONS:

BMW

2015 – 2016	i3*	2014 – Up	4 Series
2016	M2	2012 – Up	M3 / 3 Series
2016	X1	2014 – Up	2 Series
2010 – Up	X3	2012 – Up	1 Series
2014 – Up	X4	2010 – Up	5 Series
2014 – Up	X5	2011 – Up	6 Series
2015 – Up	X6	2008 – 2015	7 Series
2015 – Up	M4		



This product is designed to work for the NBT infotainment system only



This product is compatible with the 6 PIN LVDS not the 4 PIN LVDS

