

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



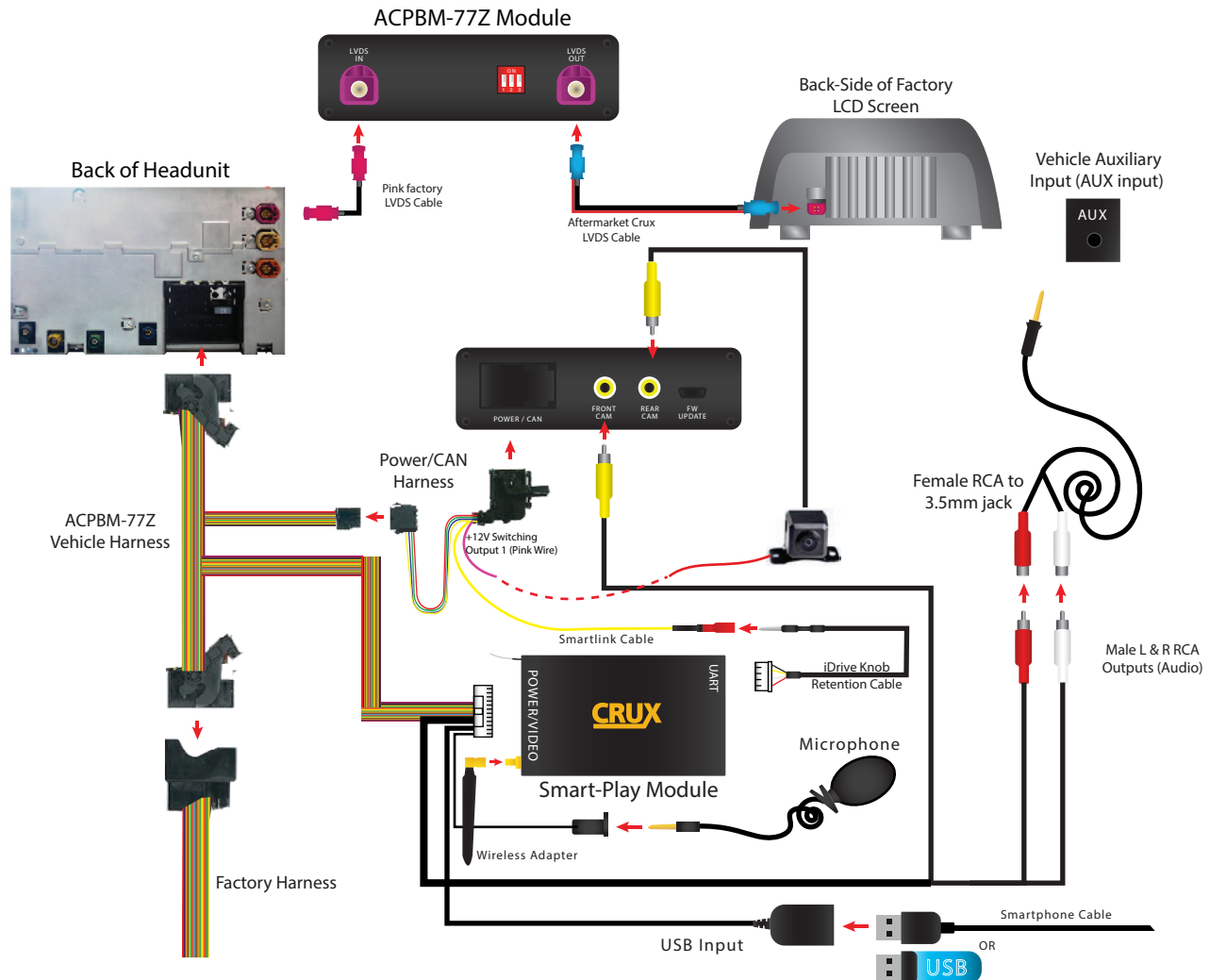
Smart-Play Interface Module



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.	OFF	OFF	No function
7" monitor	OFF	OFF	No function
8.8" monitor	ON	OFF	No function
10.25" monitor (ver.1)	ON	OFF	No function
10.25" monitor (ver.2)	ON	ON	No function



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.



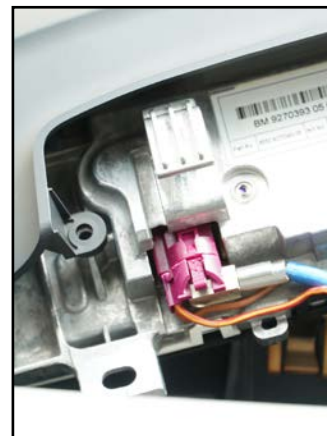
6. Remove the panel below the A/C control.



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.



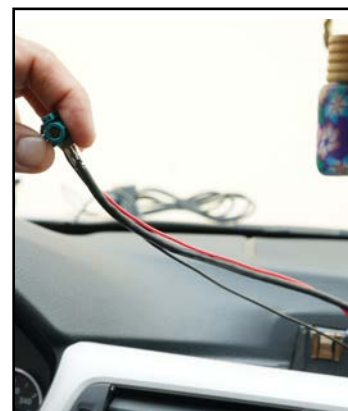
12. Remove the radio unit.



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.

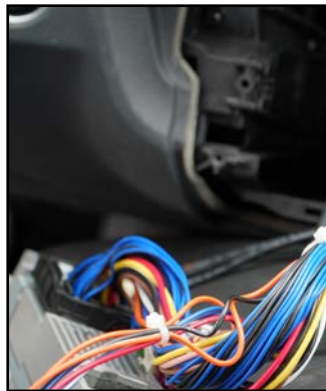


17. Funnel the Pink LVDS cable to the radio cavity and connect it to the LVDS IN port on the ACPBM-77Z module.





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

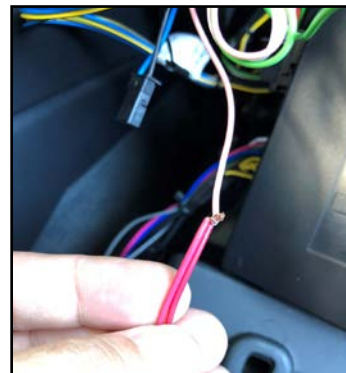


19. Connect the female side of the ACPBM-77Z vehicle harness to the factory radio.

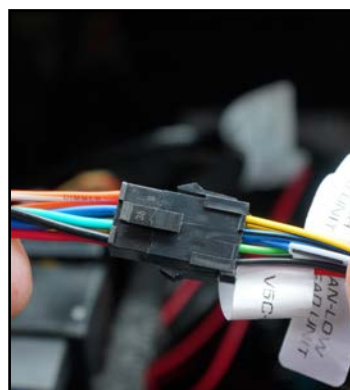


20. Plug the Video Out from the Smart-Play Power/Video harness into the FRONT CAM input on the module.

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 camera power wires 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.

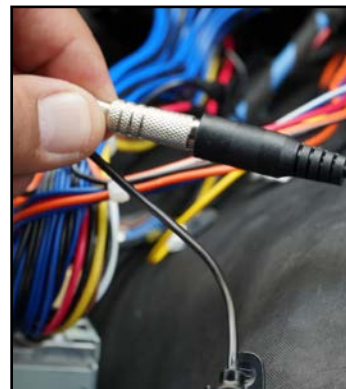




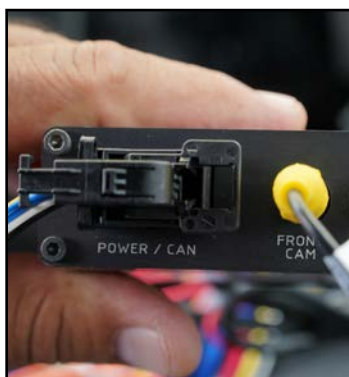
26. Connect the 3.5mm jack from the converter to the vehicle auxiliary input (AUX IN).



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.



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

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

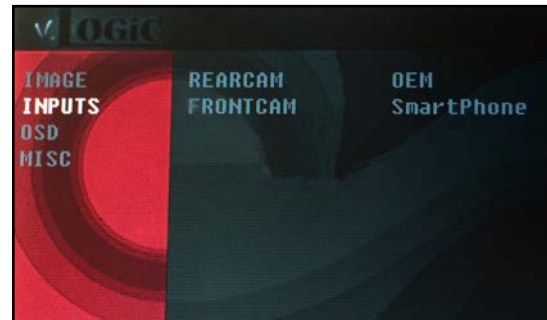
FRONTCAM (FVC) = SmartPhone

To retain the factory Back-Up Camera:

REARCAM (RVC) = OEM

To activate an aftermarket Back-Up Camera:

REARCAM (RVC) = ON

**CONNECTING THE SMART-PLAY INTERFACE:**

The ACPBM-77Z utilizes wireless technology for Apple devices. Android devices are required to be plugged in to the USB port using the smartphone's OEM charger/data cable. The USB port on the ACPBM-77Z can be used to charge the Apple device or play videos 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 vehicle's audio system. Press the 'BACK' button again for 3 to 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 is:

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

To exit the Smart-Play menu, hold the "Menu" button for 3-5 sec

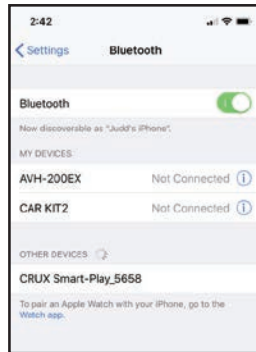




1. Picture above shows the HOME screen of the Smart-Play interface. Music and Video is used in conjunction with a USB thumb drive plugged in to the USB port.



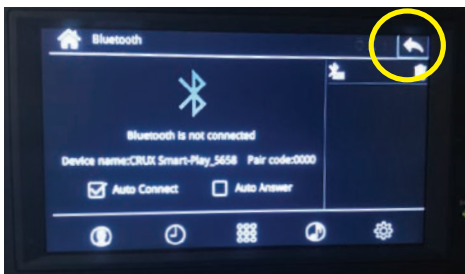
2. Using the iDrive knob of the vehicle, navigate the cursor to the Bluetooth icon (scrolling right). Image above will appear on the screen the BT device name and pairing code (0000).



3. Go to "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 wifi 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.

NOTE:

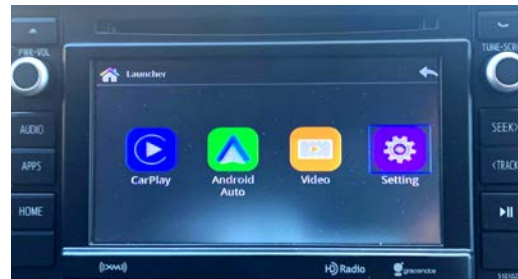
Make sure the audio source on the factory system is set to AUX mode (not AM/FM/Bluetooth). Also, if your smartphone is set to automatically connect to your factory bluetooth, make sure you void the connection. One way is to forget the device (your vehicle) on your phone. This will avoid Smart-Play connection 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.



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.



OSD Menu	Menu Item	Setting	Description
Input	FRONTCAM (FVC)	OFF	Smart-Play will be deactivated.
		SmartPhone	Allows Smart-Play to activate.
Option 1	Park Logic	Intelligent	For vehicles with front-PDC. Enabled while parking process and up to 12 mph
		RGearOnly	Enabled while parking process (not suitable for front camera operation)
		RGearSpeed	Enabled while parking process and up to e.g. 7 mph (speed adjustable)
		RGearTime	Enabled while parking process and up to 20 seconds
Option 2	R/F Cam ON	XX	Speed setting for deactivating of the camera image
Option 2	PDC Graphic	OFF	OEM PDC display of the vehicle deactivated
		Horizontal	Vehicles with horizontal OEM PDC display
		Vertical	Vehicles with vertical OEM PDC display



Setting the Rear Aftermarket Camera

(Use the PINK (12V Output 1) wire to power the Rear camera)

In the OSD Menu, set "Option 1" > menu item "Power Out 1" to "CAM"



OSD Menu	Menu Item	Setting	Description
Input	REARCAM (RVC)	OFF	Rear View camera deactivated
		ON	Switches to rear-view camera if reverse gear is engaged or PDC is activate
		OEM	Retains the factory Back-up Camera.
Option 1	Park Logic	Intelligent	For vehicles with PDC. Enabled while parking process and up to 12 mph (not suitable for front camera operation for vehicles without front PDC)
		RGearOnly	Enabled while parking process (not suitable for front camera operation)
		RGearSpeed	Enabled while parking process and up to e.g. 7 mph (speed adjustable)
		RGearTime	Enabled while parking process and up to 20 seconds
Option 1	RVC Lines	ON	Interactive lane lines activated
Option 2	R/F Cam Till	XX	Speed setting for deactivating of the camera image
Option 2	PDC Graphic	OFF	OEM PDC display of the vehicle deactivated
		Horizontal	Vehicles with horizontal OEM PDC display
		Vertical	Vehicles with vertical OEM PDC display
Option 2	Cam Trigger	CAN	Rear gear and blinker signal detection over CAN Bus
		Analog	Rear gear signal detection over analog +12V signals

OSD Menu	Menu Item	Setting	Description
Input	RVC	OEM	If a factory rear-view camera is present. The interface turns off, if reverse gear is enabled and it displays factory rear-view camera
Option 1	Park Logic	Intelligent	For vehicles with front-PDC. Enabled while parking process and up to 12 mph.
		RGearSpeed	Enabled while parking process and up to e.g. 7 mph (speed adjustable)
		RGearTime	Enabled while parking process and up to 20 seconds
Option 2	R/F Cam Till	XX	Speed setting for deactivating of the camera image



Configuring the Trigger Outputs

You can configure the +12V trigger outputs in the OSD menu. The PINK wire (12V OUTPUT 1) is Power Out 1 for the cameras and Power Out 2 is for the Smart-Play module.

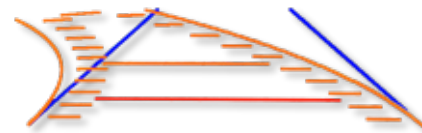


OSD Menu	Menu Item	Setting	Description
Option	Power Out 1 (PINK)	CAN	+12V when the interface is on (red LED on)
		ACC	+12V when ignition is on
		Cam	+12V when camera input is activated (manually or automatically)
	Power Out 2	CAN	Smart-Play power on.
		OFF	Trigger output deactivated

Tip: We recommend for all camera to use power out setting "Cam" and for Smart-Play the power out setting of "AVS" or "ACC".

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



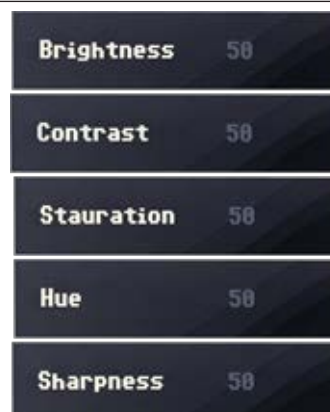
Interactive Lane Lines Settings

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



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

