VL2-LEXUS16 installation manual v161019 (160808)

This interface can insert video onto 2012~2016 Lexus car screens, specially designed to insert Reverse camera, blind spot camera video, High definition phone picture mirroring, and 360 bird view pictures.

It fits almost all GVIF car screens, 7-inch, 8-inch, or 12.3- inch. Also Chevrolet, GM, Rover[2012] and other car brands.

Suitable for cars：【almost all GVIF screens】

2016-RX

2015- IS/ES/NX/CT200

2015 before Lexus GIVF

other GVIF Car screens, eg: GM like Malibu, GL8, Opel, Chevrolet etc.

Features：

➢ Based on sold GVIF interfaces, this one is specifically designed to insert these functions:

（1） Reverse camera video

（2） 360 bird view cameras or blind spot cameras.

（3） High definition phone-mirroring onto GVIF screen, the RGB connection makes text of phone-navigation clearly displayed onto car screen, which is much better than CVBS link.

➢ Easy to install. On Lexus cars it can produce 100% feeling guideline with PDC display。 And OEM "Call-off" key on the steering wheel is used to switch the inputs.

➢ Manually switch and reverse function is also offered, which makes this GVIF interface fits almost every GVIF car. The installer can disable the automatic reverse and make a manual reverse by giving 12V to a green wire and manual switch can be done by a keypad.

➢ DIP6/7/8 can be used to tune the GVIF output resolution and protocol for every GVIF car.

1. Accessories

For the picture below, the accessories are:
1. GVIF video wire 【should be inserted behind the monitor:

    Blue-plug for monitor, and blue-socket for the OEM-plug to monitor.

    The black 2X4 plug for the interface box】.

2. Key pad 【for toggle the input from OEM to inserted video, if the installer does not use the OEM call-off on steering wheel to switch.】

3. Video input wire

4. Harness for power-supply and CAN。【

    The white 2X12 should be inserted behind monitor。

    CAN is used to take reverse/guide-line signals from OBD】
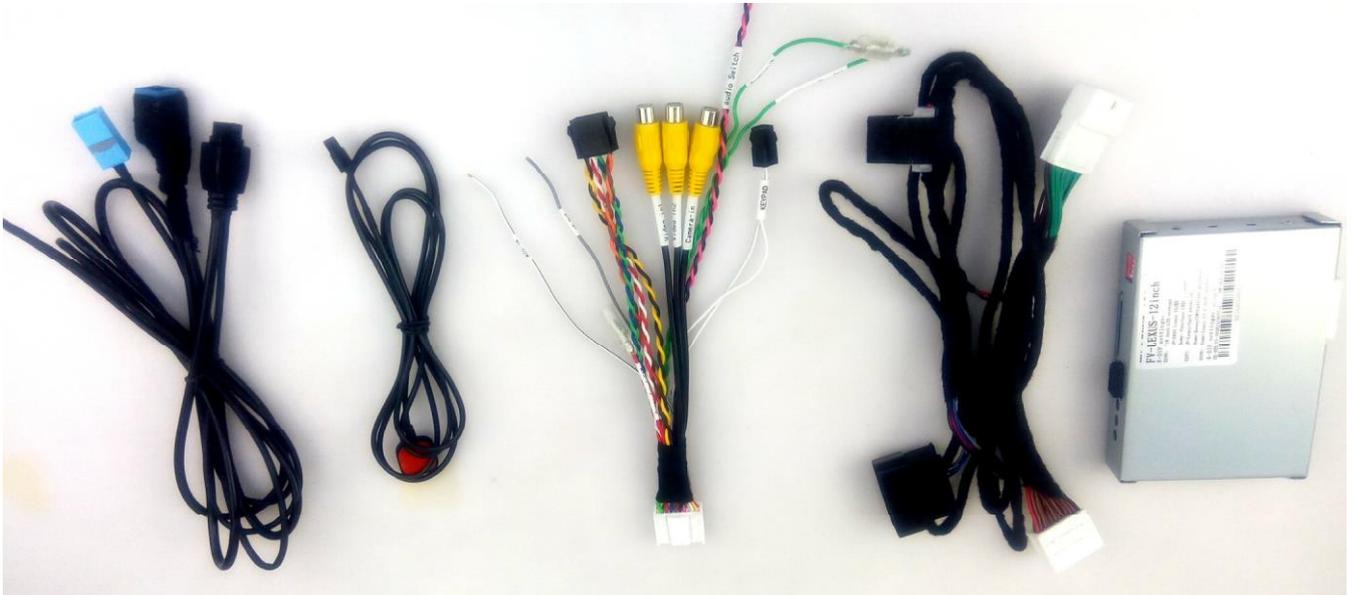
2. DIP settings：

4-BIT DIP settings：【the red one on the right picture】

    No function, should all stay UP.

8-BIT DIP settings：【the black one on the left picture】

DIP	ON-side（DOWN）	OFF side （UP）
1	RGB high definition port is enabled	RGB port disabled
2,	AV1 enabled	AV1 disabled
3	AV2 enabled	AV2 disabled
4	DOWN=RGB port【360 high definition bird view】picture displayed when in reverse.	UP= CVBS【camera-in】video displayed when in reverse
5	When in Reverse（Green=12V）,show inserted RGB or CVBS based on DIP4	when in reverse（Green=12V）show OEM picture.
6，7，8	When ONLY DIP8=DOWN among DIP678: The GVIF=RX2016's 12.3-inch with very high resolution pixels. The DIP7 is for protocal selection： Usually DIP7 should stay UP, when black screen is seen in inserted display, try it down. Some old cars like 10~12 Rover, 08-Cadillac needs this protocal. The DIP6 is for Car selection: UP= Usually for the new Lexus， like 2015 NX， CT200， ES， IS etc, they use 7 or 6.5 inch screen usually. DOWN= some old cars like 2013 RX。 Note： The wrong set of DIP6， 7， 8 may lead to black screen or noisy screen in inserted video, but nothing will be damaged.	

The Function of DIP1/2/3：

    With the extra keypad, or the OEM "Call-off" key on steering wheel, the installer can switch in the inputs: "OEM→RGB→AV1—AV2→OEM"， the DIP 1， 2， 3 to enable the RGB， AV1， AV2 respectively.

    The RGB port is suggested for phone-mirror device, although it can also use AV1 or AV2 【this port has very high resolution display compared with CVBS. The viewers can even see navigation text clearly on car screen.】

    AV1， AV2 can be used to connect to TV or DVD, or 360 bird view.

Application examples	DIP 1， 4， 5	
Only reverse video installed	【DIP5 DOWN, 4UP， 1UP】	Cvbs goes from "camera-in", Green wire=12V to show reverse video。
Only 360【CVBS】installed	【DIP5 DOWN, 4UP， 1UP】	Cvbs goes from "camera-in" Green wire=12V to show 360-CVBS video。
Only phone - mirror installed	【DIP5 UP, 4 DOWN， 1DOWN】	The phone-mirror device goes to RGB port.
Phone mirror + 360 bird view installed.	DIP5 DOWN, 4UP， 1DOWN】	The user press keypad or Call-off to show RGB-port picture. The Green wire=12V to show CVBS on "camera-in" port.

3. CONNECTIONs

The blue plug and socket should be between the GVIF connector behind monitor.
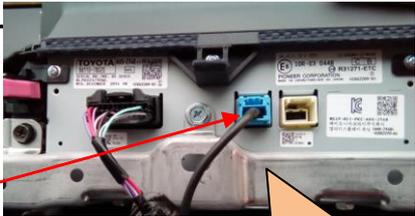
The GVIF and power connector behind monitor.

**3-LEDs**: **The left side one for power, the right 2 for can activities.**

The phone mirror device sends HD video onto RGB port.

FV-LEXUS-12inch

➢ "CAMERA-in": for CVBS reverse video in。

➢ Green wire marked "reverse-in":when=12V, reverse picture will be displayed based on DIP 4/5.

➢ Green wire marked "Reverse-out":the reverse signal output based on CAN code, it can be used to supply cameras【3A max.】
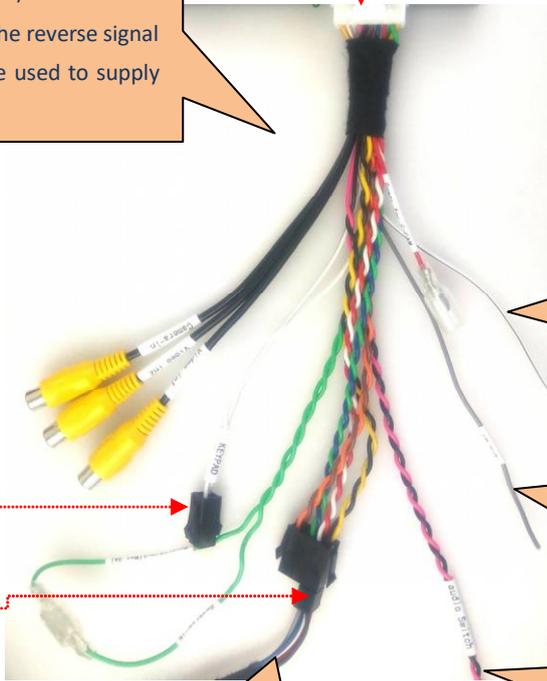
The white/Grey wire【marked manual ACC】**to ACC to make the box work manually.**

This Gray wire: to the steering voltage wire for input switching.

When AV1/AV2 both used, this wire has 5V to switch a relay to toggle the audio selection before AUX.

The white connector : insert behind the LCD for power supply.
The OBD black: to OBD socket for reverse/guide line.

When power the box manually:
➢ Connect the yellow/Black【of the 2X6 connector】to ACC, GND respectively.
➢ Connect the white/Gray【marked manual ACC】to ACC。

RX200：

the green wire pointed by the probe.

NX200：

the red wire pointed.
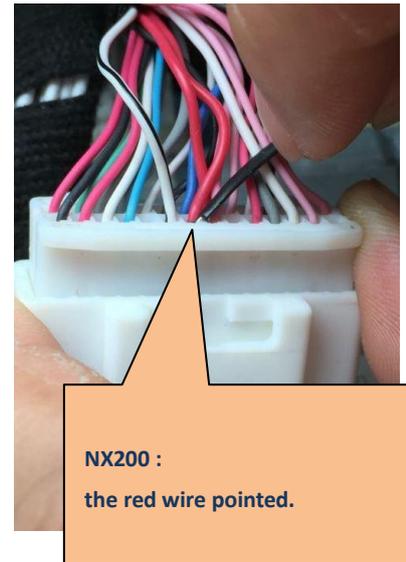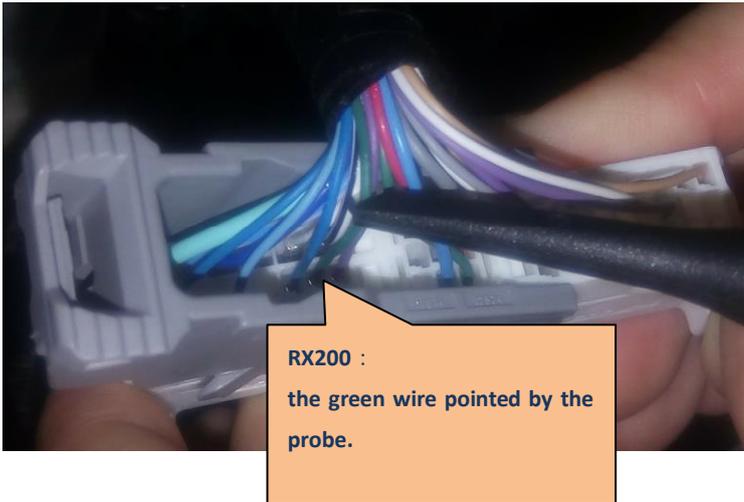
➢ The user can also use the keypad to switch.

CAN wire locations：

CAN wire is used to generate reverse and guideline signals, usually it is on the OBD connector.

on some lexus cars ， the OBD connector does not have these code. The installer then needs to rewire it to behind the head unit. It is shown be the picture here.:
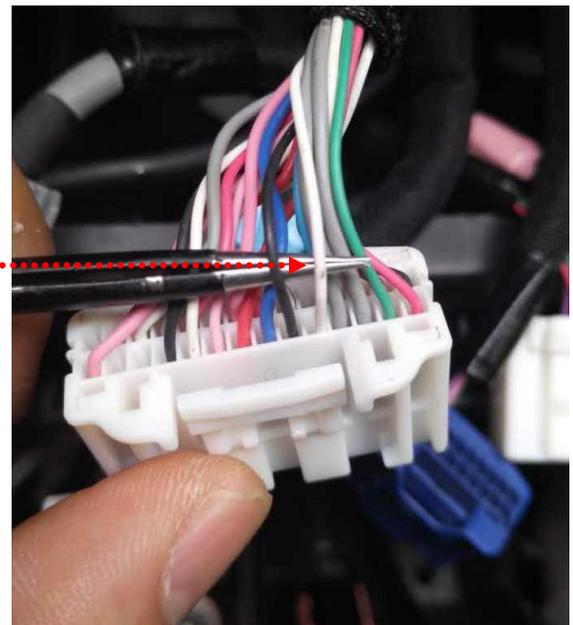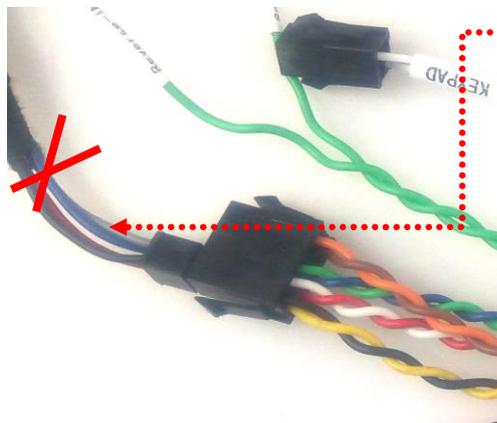
➢ The installer should cut the blue/gray wire off like the picture is showing, and connect:
   Gray---to—white[can-], blue—to – black[CAN+]
➢ When the box is working, there is an LED blinking showing there is can data received.
➢ The installer can also manually connect Green wire marked "Reverse-in" to 12V， to force the reverse picture displayed.

4. The Side keys.
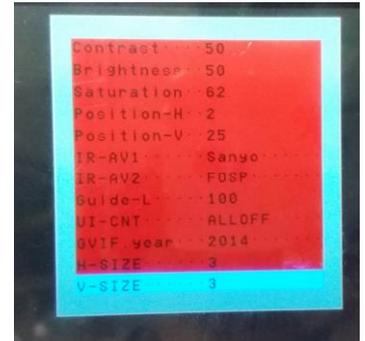
The input box has 3 side keys, the installer may use it to tune the picture display, and touch function for the connected DVD or other devices. The 3 keys are : menu, +, -. The first 3 options have separate state memory. The modification of one input is different not affecting others.

- The 3 side keys are : menu, +,- respectively. When menu is press, OSD strings will pop up on screen, and the installer may adjust the best video effect. The +/- will change the value.
- The brightness/contrast/saturation tunes the color of the current video input.
- The position H,position V set the image position on screen.
  It can not be adjusted on this model which is better for installing and reliability.

- Size H, Size V are for picture size fine-tune adjustment.
- Guide-L :option: set the left guide line's offset on screen, when the value changes, the guide Line location moves horizontally on screen.
- The UI CNT option: set the PDC and guide line display on/off on screen.
  1. PDC ONLY: only the PDC picture displayed.
  2. GUIDE ONLY: Only the guide line displayed.
  3. ALLON: both the PDC and guide line displayed.
  4. ALLOFF: Bothe the PDC and guide line off.
- The GVIF-year : this option is used to toggle the big horizontal image offset on screen.
  On some car screens, if the big offset is seen horizontally the installer toggle this option from 2012 to 2014, then the margin would be gone.
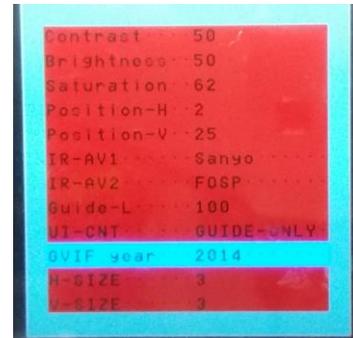
6.Parameters

#	name	parameters
1	Video amplitude	0.5－2Vpp with 75 Ohm
2	Power consumption	4.8W [0. 4A @12V]
3	Stand by current	< 10uA
4	Work temperature	-40℃－ +85℃
5	Dimensions	8.8cm * 6.6cm * 2.7cm
6	CVBS	NTSC suggest. PAL acceptable.
7	RGB protocal	Stand VESA VGA protocal with 800X600@60Hz: Pin1, 2, 3, 4, 5, 8 are: Red, Green, Blue, Hsync, GND Vsync: