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Release date : 2011.07.14 Model : QVI-LVTX-STD-V1.0 / Product code : LVSTD-0901-000

Video Interface for cars with RCD 550 monitors

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3. Installation

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1.1 Main Specification

1. Inputs

- 1 x Analog RGBCs (for navigation system)
- 1 x REAR-C Input (for external rear camera source, supports NTSC & PAL auto detection)
- 3 x A/V Input (for external video source DVD, TV, DVB-T; supports NTSC & PAL auto detection)
- 1 x LVDS INPUT on sub-board (LVDS video input from video interface)
- 1 x TO CAR SYSYTEM on sub-board (digital video input from display main board)
- 1 x TOUCH IN on sub-board (for OEM touch screen panel)
- 1 x NAVI TOUCH IN on sub-board (for OEM touch screen panel)

2. Outputs

- 2 X A/VOUT (video/audio output for headrest monitors)
- -1 x TOUCH OUT on sub-board (connect to main board of display by FPC cable)
- 1 x **TOUCH (NAVI)** on sub-board (connect to USB touch screen controller or navigation module connected via RGBCs input)
- 1 x TO LCD PANEL on sub-board (digital video output to OEM LCD panel)
- 1 x TO LCD (LVDS video output from video interface)
- 1 X R-CAM (power output for external rear view camera connected via REAR-C input)

- 4 X **SELECTION – on power cable** (12V power comes out from 4 wires by AV1, AV2, AV3 RGB modes – MAXIMUM power available for each channel is 500 mA!!!)

3. Power

- Input power : 10 V DC ~ 16 V DC
- Power consumption : 6 W (max

4. Mode change

- Video input disable : possible to skip each input source by adjusting DIP switches (page 8)
- Control by using the remote controller (page 9)
- Possible to switch between modes by remote MODE switch button

1.2 Features

- Improved High-definition input resolution
- Auto detection for NTSC, PAL signals
- Remote controller enclosed
- Possible to control displayed external NAVI by OEM touch pad
- Possibility to adjust position of AV1-3, RGB image
- Screen display adjustment (user friendly interface)

1.3 System diagram



1.4 Components



1.5 Exterior main board



1.6 Exterior sub board



Sub board dimensions				
Horizontal	150 mm			
Vertical	80 mm			
Height	3.5 mm			





- TOUCH IN- to OEM touch panel
- 5 TOUCH OUT– to main PCB of display



2.1 DIP Switches

DIP #	FunctionDIP S/W selection					
1	RGB input	ON : RGB Input is OFF OFF : RGB Input is ON				
2	A/V1 input ON : A/V1 Input is OFF OFF : A/V1 Input is ON					
3	A/V2 input ON : A/V2 Input is OFF OFF : A/V2 Input is ON					
4	A/V3 input ON : A/V3 Input is OFF OFF : A/V3 Input is ON					
5	NOT USED					
6	NOT USED					
7	Rear Camera Mode ON : External Rear Camera OFF : OEM Rear Camera					
8	Change Mode ON : Main-Main-RGB-AV1-AV2-AV3 OFF : Main-RGB-AV1-AV2-AV3					

DIP 💥 ON : DOWN, OFF : UP

Touareg 2012 RCD 550

- Inputs to be used: RGB (CS9100 navigation box), A/V1 (DVB-T Tuner)
- External rear view camera : connected to REAR-C
- ▷ DIP S/W : 1 → OFF (RGB input is ON)
 ▷ DIP S/W : 2 → OFF (AV1 input is ON)
 ▷ DIP S/W : 3 → ON (AV2 input is OFF)
 ▷ DIP S/W : 4 → ON (AV3 input is OFF)
 ▷ DIP S/W : 5 → OFF (NOT USED)
 ▷ DIP S/W : 6 → OFF (NOT USED)
 ▷ DIP S/W : 7 → ON (enable REAR-C)
 ▷ DIP S/W : 8 → ON (OEM navi is enabled)



Buttons	Function		
POWER & PIP	NOT USED		
MENU	OSD Menu		
ок	Selection or Mode change		
	Move UP		
	Move DOWN		
	Move LEFT (or press 2 sec. – Factory Mode)		
	Move RIGHT (or press 2 sec Factory Reset)		



2.3 OSD Keypad (OPTIONAL)



Buttons	Function		
MENU/EXIT	OSD Menu (or Switching to previous mode)		
SEL/INPUT	Selection in OSD menu (or Switching AV sources)		
UP	Move LEFT or UP in OSD Menu		
DOWN	Move RIGHT or DOWN in OSD Menu		
UP+DOWN at once	SAFE MODE implementation		

FACTORY MODE (Menu for Installers) : Operated by speed pressing UP→DOWN→UP→MENU at keypad.

2.4 Factory Mode (Menu for Installers)

FACTORY MODE (Menu for Installers) : Operated by speed pressing $UP \rightarrow DOWN \rightarrow UP \rightarrow MENU$ at keypad.

FACTORY MODE (Menu for Installers) : Press \blacktriangleleft button for 2 sec at remote control.



* H-POSITION - horizontal movement of screen (image alignment)
* V-POSITION - vertical movement of the screen (image alignment) •DEFAULT : 400x234, 480x234 •KD-900(WVGA) : 800x480 • MD7000(WVGA) : 800x480

• MYVI(WVGA) : 800x480

Impossible to reset of screen position, only possible for functions in OSD

2.5 Parking guide line setting

FACTORY mode – Press ◀ button 2 seconds long on the remote controller.



PARK

* PARK ENABLE : Selecting whether to display the parking guide line or not on rear gear (default : OFF)

* PARK SETUP : Adjusting the position of the parking guide line (available in PARK SETUP -> V-POSITION, H-POSITION)

* SAFE ENABLE : In case of Connecting "Safe" wire from the power cable to the hand break,

ENABLE – OEM Picture displays in Drive gear position

DISABLE – No display locked in any gear position

PARK - ENABLE

A. If you set 'PARK ENABLE' as "ON" state, there will be the rear view parking guide line. (as shown left picture)

B. Press the OK button of remote controller, "H_POS" will be shown on the right and control moving in horizontal direction.

PARK - ENABLE

A. Press the OK button of remote controller one more, "V_POS" will be shown on the right and control moving in vertical direction.

Analog RGB Mode

Menu of	NAVI NO INPUT	Menu of NAVI	NO INPUT Mer	nu of NAVI	NO INPUT	Menu of N	IAVI NO INPUT
IMAGE	BRIGHTNESS	IMAGE RED	IMA	GE LANGUAGE	I	IMAGE]	FACTORY RESET
COLOR	CONTRAST	COLOR GREEN	COL	LOR TRANS		COLOR	
OSD	SHARPNESS	OSD BLUE	OSE	D H_POSITION		OSD	
UTIL	USER IMAGE	UTIL USER COLOR	UTI	L V_POSITION	J	UTIL	
MENU to	Return SEL to Select	MENU to Return SI	EL to Select MEN	NU to Return SEL	to Select	MENU to R	leturn SEL to Select

IMAGE	COLOR	OSD	UTIL
* BRIGHTNESS	* RED : Adjusting red	* LANGUAGE : Choosing interface language while	* FACTORY RESET : Resetting all the data about
* CONTRAST	* GREEN : Adjusting green	changing mode between A/V and DVD	the relevant mode that applicable to navigation,
* SHARPNESS	* BLUE : Adjusting blue	* TRANS · Adjusting	DVD mode respectively.
* USER IMAGE : Selecting one among	* USER COLOR : Selecting a color option	transparency of OSD	screen position, only available for color, OSD
4 color options.	among set color options	* H_POSITION, V_POSITION : Positioning OSD menu	setting)

2.6.1 OSD (On Screen Display)

Video mode



IMAGE

- * BRIGHTNESS
- * CONTRAST
- * SATURATION
- * HUE
- * SHARPNESS
- * USER IMAGE
- : Selecting one among 4 color options.

OSD

- * LANGUAGE : Choosing interface language while changing mode between A/V and DVD
- * TRANS : Adjusting transparency of OSD
- * H-POSITION : moving in horizontal direction
- * V-POSITION : moving in vertical direction

UTIL

* FACTORY RESET : Resetting all the data about the relevant mode that applicable to navigation, DVD mode respectively. (Impossible to reset of screen position, only available for color, OSD setting)

3.1 Cautions on installation

- Ignition key should be taken off before starting installation, interface power connection must be the last step in installation.
- Power cable should be separated when connecting interface.
- Should be no any electronic devices or magnetic pole around installation place.
- All steps of installation should be done by well-trained specialist.
- Dismantling without manufacturer's permission can not be guaranteed, (No permission to break attached label on the board.)
- Kindly check all parts are in the box, when receiving the product, if anything missing, inform to the supplier or manufacturer.
- According to our sales policy, any problems caused by user's mistake, careless can not be guaranteed.

3.2 Installation diagram



3.3 Installation





1) Connect the back of LCD to the Sub-board as shown left.



1. Original Touch cable



4. LVDS cable



2. FFC cable



5. FFC cable (small)



3. Original FPC cable



6. FFC cable (big)



(2) Connect each cables to the marked areas (1~6).

3.3.1 Installation





(a) : FFC cable comes from SUB-BORAD 5.(b) : FFC cable comes from SUB-BORAD 3.



(3) Assemble Original LCD board on the Sub-board as shown left.

FFC cable comes from SUB-BOARD 6.

4. Troubleshooting

Q. I can not switch A/V sources.

A. Check IR or Ground cable connection. Check LED lamps in the interface, if it is not on, check power cable.

Q. All I got on the screen is black.

A. Check second LED lamp of the interface is on, if not, check A/V sources connected are working well. (Second lamp indicates AV sources connected works well.) Check interface connection has been done well.

Q. Displayed image color is not proper. (too dim or not suitable color)

A. Try to select "INITIAL" in OSD menu, if it does not work, inform the manufacturer.)

Q. Rear camera image does NOT appear.

A. Set DIP switch #7 in "ON"

Q. Unwanted A/V mode is displayed. (A/V source switching order : OEM->RGB->AV1->AV2->AV3)

A. Check DIP Switch Setting.

Q. OEM image is not displayed.

A. Check interface's LCD In/Out cable connection. If the status keeps on, inform the manufacturer.

Q. Screen only displays white like left picture.

A. Check LCD out cable is connected well, if this status keeps, inform the manufacturer.