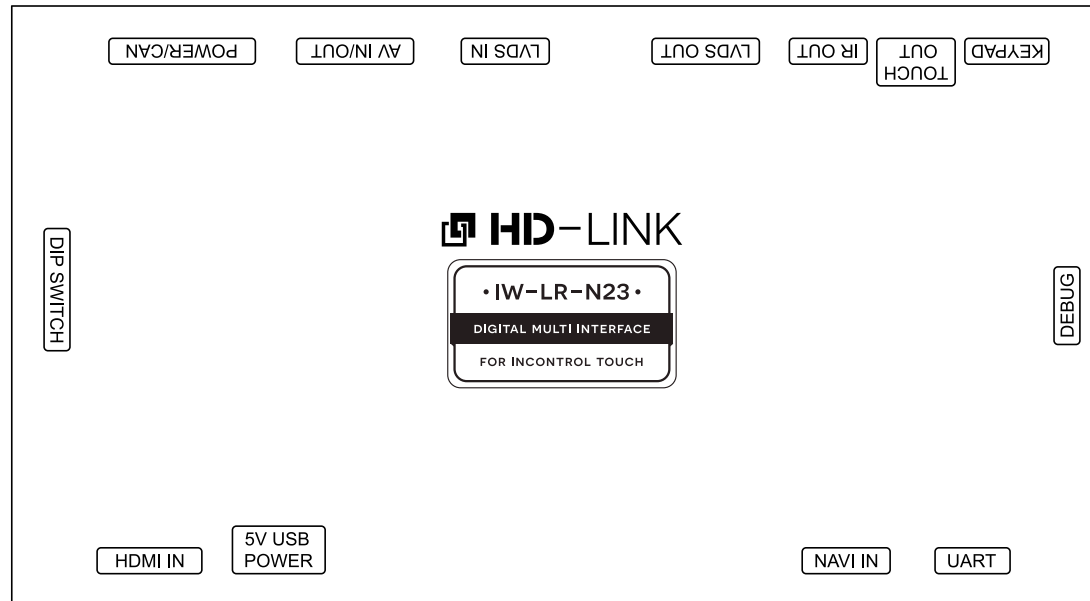


Instruction Manual

High-Definition Link for InControl Touch Pro

IW-LR-N23



Model Name	IW-LR-N23
Latest Firmware Date	2019 - 03 - 22
Manual Version	Rev. 1.6
Language	English

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- Car Compatibility Char _____ 
- Dimension & Exterior _____ 
- Components & Optional Parts _____ 
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- Settings HDMI _____ 
- Settings HDMI, NAVIGATION _____ 
- Settings REAR VIEW _____ 
- Settings REAR VIEW _____ 
- Settings AV1 (FRONT VIEW) **(OEM Camera delay time setting)** _____ 
- Settings AV2 (DVBT) _____ 

Precautions

- **IW-LR-N23 - related**

You should check the names and colors of each wires exactly, before you connect the wires.

ex) CAN HIGH: White wires / CAN LOW: Blue wires

The 'POWER / CAN Cable' should always be connected last and be disconnected first.

The 'Mode Switch' is an optional part to change modes forcibly without CAN-BUS.

Generally, the CAN-BUS wires are connected for changing modes by original buttons.

When the reverse gear is not detected by CAN-BUS,
the 'REVERSE 12V IN wire' should be spliced with 12V power of reverse light.

- **HDMI Device-related**

HDMI mode accepts general-screen resolution of HDMI devices.

Generally, '5V 1A Power output(5V USB POWER)' is a standard voltage for charging smartphone.

If you need higher voltage than 5V, you should add a separate power supply.

- **Navigation(GPS) box - related**

When you connect the power wires(B+, ACC) to the navigation(GPS) box,
the 'NAVI 12V OUT' wire supported by IW-LR-N23 should be spliced with an ACC wire of navigation box.

The navigation box should be powered off before unplugging the HDMI cable.

Car Compatibility Chart

Car Models	Production Year	Specific Models
Land Rover Discovery Sport	2016 -	- InControl Touch Pro infotainment < 8inch 10.2inch>
Land Rover Discovery 5	2016 -	- InControl Touch Pro infotainment < 8inch 10.2inch>



- InControl Touch Pro 10.2 inch



- InControl Touch Pro 8 inch

Car Models	Production Year	Specific Models
Range Rover Sport	2016 - 2018	- InControl Touch Pro infotainment < 8inch 10.2inch>
Range Rover Evoque	2016 - 2018	- InControl Touch Pro infotainment < 8inch 10.2inch>
Range Rover Vogue	2016 - 2018	- InControl Touch Pro infotainment < 8inch 10.2inch>



LAND ROVER
Discovery SPORT



LAND ROVER
Discovery 5



RANGE ROVER
SPORT



RANGE ROVER
EVOQUE



RANGE ROVER
VOGUE

Car Models	Production Year	Specific Models
Jaguar XE	2016 -	- InControl Touch Pro infotainment < 8inch 10.2inch>
Jaguar XF	2016 -	- InControl Touch Pro infotainment < 8inch 10.2inch>
Jaguar XJ	2016 -	- InControl Touch Pro infotainment < 8inch 10.2inch>
Jaguar F-Pace	2016 -	- InControl Touch Pro infotainment < 8inch 10.2inch>



Jaguar XE, XF



Jaguar XJ

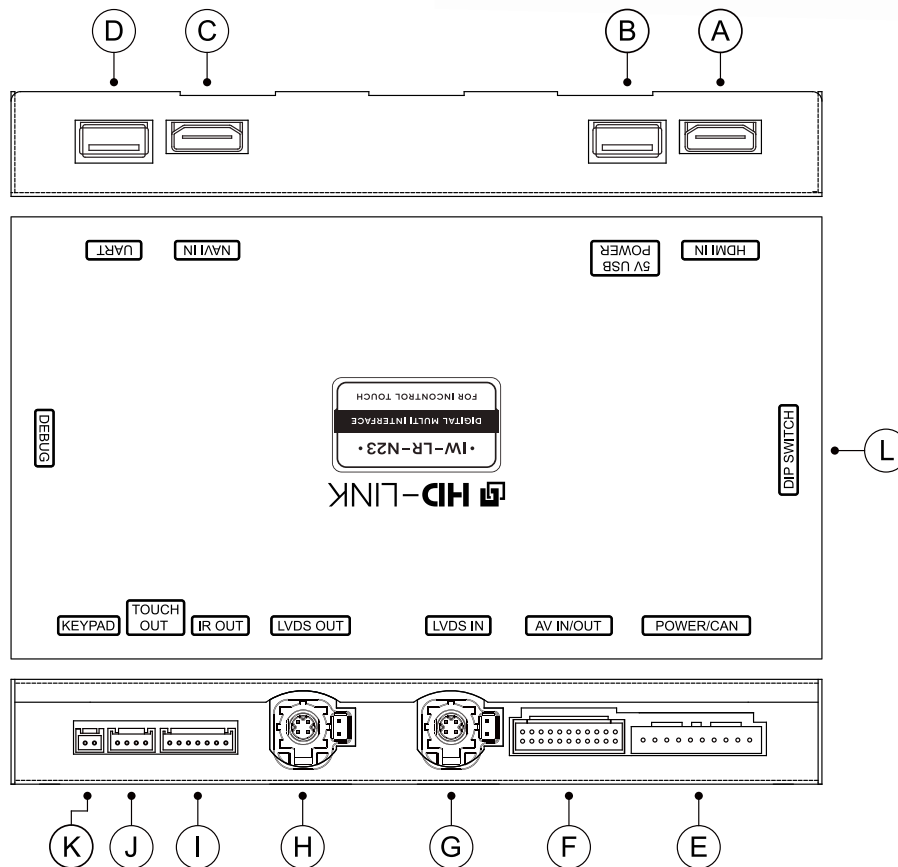


Jaguar F-pace

Dimension



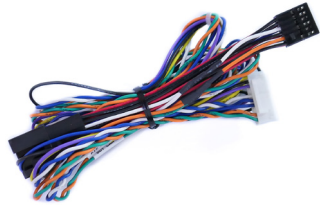
Exterior



- (A) HDMI IN
- (B) 5V USB POWER
- (C) NAVI IN
- (D) UART

- (E) POWER/CAN
- (F) AV IN/OUT
- (G) LVDS IN
- (H) LVDS OUT
- (I) IR OUT
- (J) TOUCH OUT
- (K) KEY PAD
- (L) DIP SWITCH

Components



1.Power Cable



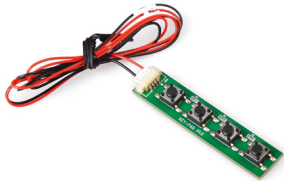
2.LVDS Cable



3.AV Cable



4.IR Cable



5.KEYPAD



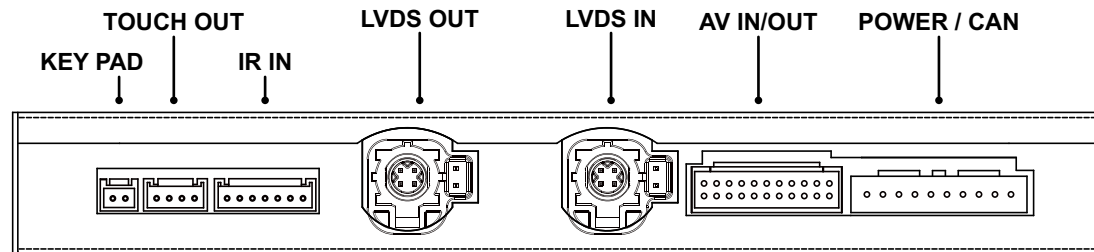
6.Micro USB

Optional Parts (sold separately at the indiwork)

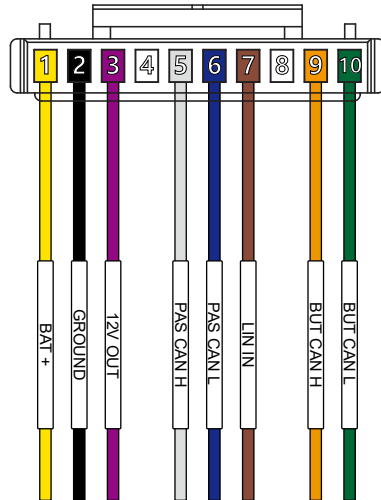


Extend LVDS Cable

Body Connector specifications



POWER/CAN
CABLE

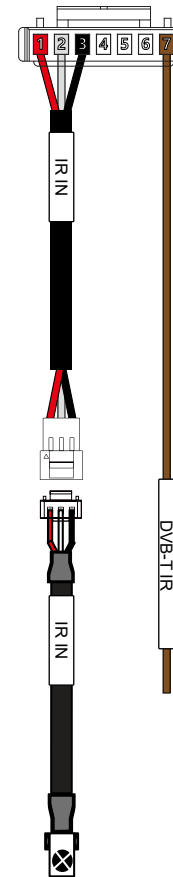


POWER / CAN CABLE	
1	BATTERY POWER INPUT
2	GROUND
3	12V(ACC) OUT
4	
5	PAS_CAN_H
6	PAS_CAN_L
7	LIN IN
8	
9	BUT_CAN_H
10	BUT_CAN_L

LVDS OUT
CABLE



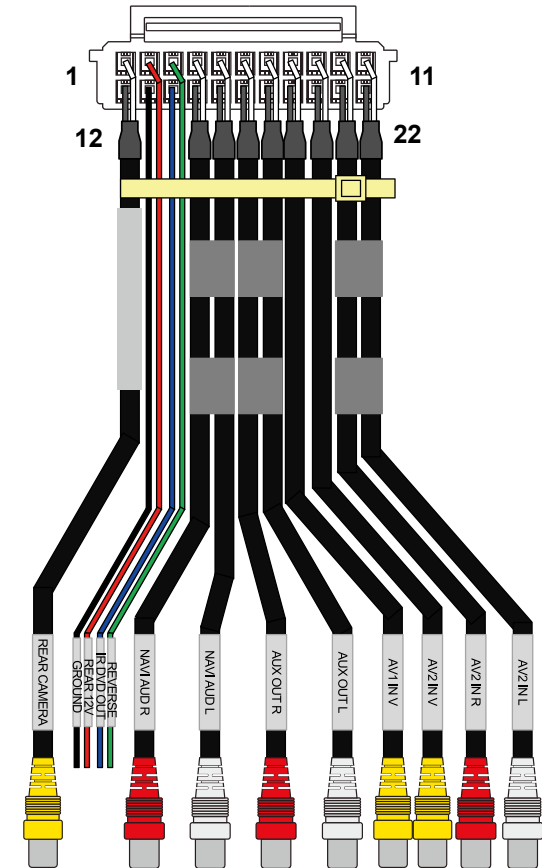
IR CABLE



IR CABLE

IR CABLE	
1	POWER
2	SIGNAL
3	GROUND
4	
5	
6	
7	DVB-T IR

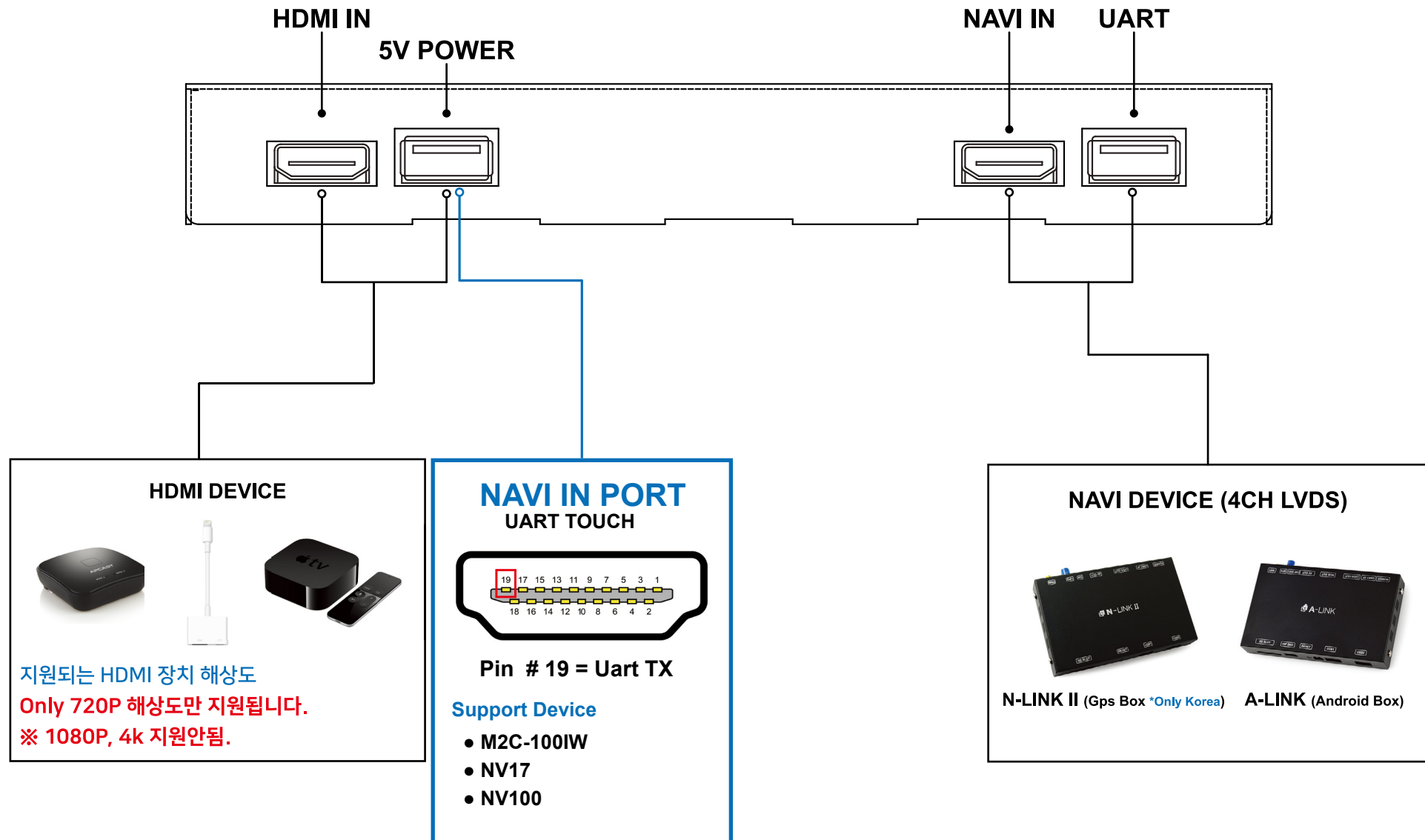
AV CABLE



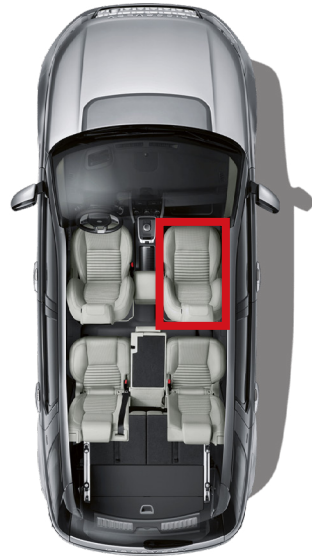
AV CABLE

1	RV-CAM VIDEO INPUT	2	GND(RV-CAM VIDEO)
2	RV-CAM POWER OUT	4	GND OUTPUT(RV-CAM)
3	REVERSE DETECTION	6	IR OUT
4	NAVI AUX INPUT R	8	GND(NAVI AUX IN R)
5	NAVI AUX INPUT L	10	GND(NAVI AUX IN L)
6	AUDIO OUTPUT R	12	GND(AUDIO OUT R)
7	AUDIO OUTPUT L	14	GND(AUDIO OUT L)
8	AV1 VIDEO INPUT	16	GND(AV1 VIDEO IN)
9	AV2 VIDEO INPUT	18	GND(AV2 VIDEO IN)
10	AV2 AUDIO INPUT R	20	GND(AV2 AUDIO IN R)
11	AV2 AUDIO INPUT L	22	GND(AV2 AUDIO IN L)

Body Connector specifications



Location "Main Head unit"



Under the passenger seat



LAND ROVER_DISCOVERY SPORT

RANGE ROVER_SPORT
RANGE ROVER_EVOQUE

JAGUAR E-PACE



Under the driver's seat



LAND ROVER_DISCOVERY 5



JAGUAR XE
JAGUAR XF
JAGUAR F-PACE

TRUNK

Full Installation Diagram

 Click
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KEYPAD
It's only for Setting menu

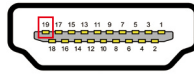


NAVI DEVICE (4CH LVDS)



N-LINK II (Gps Box *Only Korea) A-LINK (Android Box)

NAVI IN PORT UART TOUCH



Pin # 19 = Uart TX

Support Device

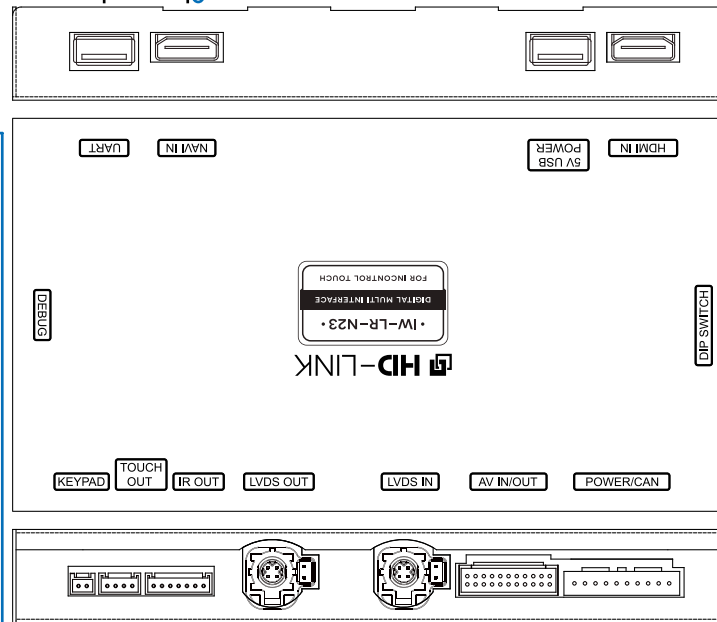
- M2C-100IW
- NV17
- NV100

HDMI DEVICE



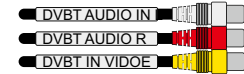
Compatibility Resolution

Supports Only 720P
Does Not Supports 4K, 1080P,

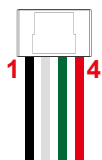


AV IN 1 CABLE

The sounds is automatically switched (HDMI,NAVI,DVB-T)

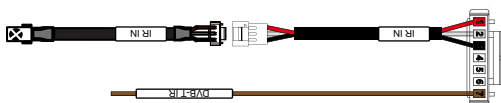


Touch Cable Spec



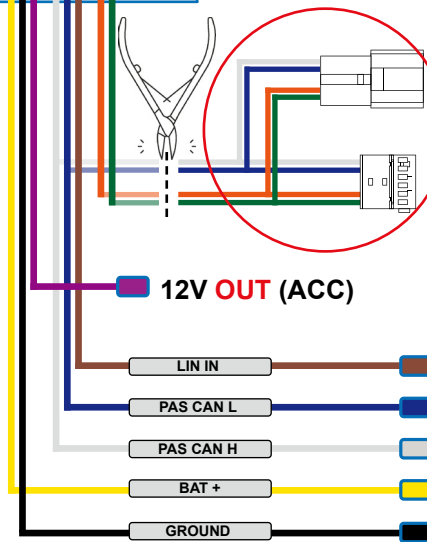
PIN #1	X -
PIN #2	Y -
PIN #3	X +
PIN #4	Y +

DVB-TV IR

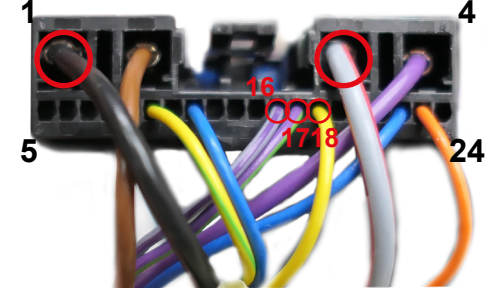


OEM
LVDS Cable

Provided
LVDS Cable



Head Unit Main Connector



- Pin # 18 = LIN IN (Yellow)
- Pin # 16 = PAS Can Low (Gray,Purple)
- Pin # 17 = PAS Can High (Purple,Green)
- Pin # 3 = B+ (Gray,Red)
- Pin # 1 = Ground (Black)

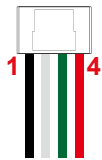
Full Installation Diagram

Click
Go to contents page

KEYPAD
It's only for Setting menu

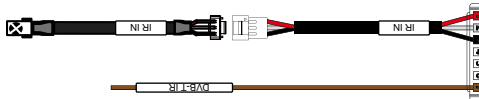


Touch Cable Spec



PIN #1	X -
PIN #2	Y -
PIN #3	X +
PIN #4	Y +

DVB-TV IR



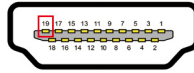
LVDS Cable

NAVI DEVICE (4CH LVDS)



N-LINK II (Gps Box *Only Korea) A-LINK (Android Box)

NAVI IN PORT UART TOUCH



Pin # 19 = Uart TX

Support Device

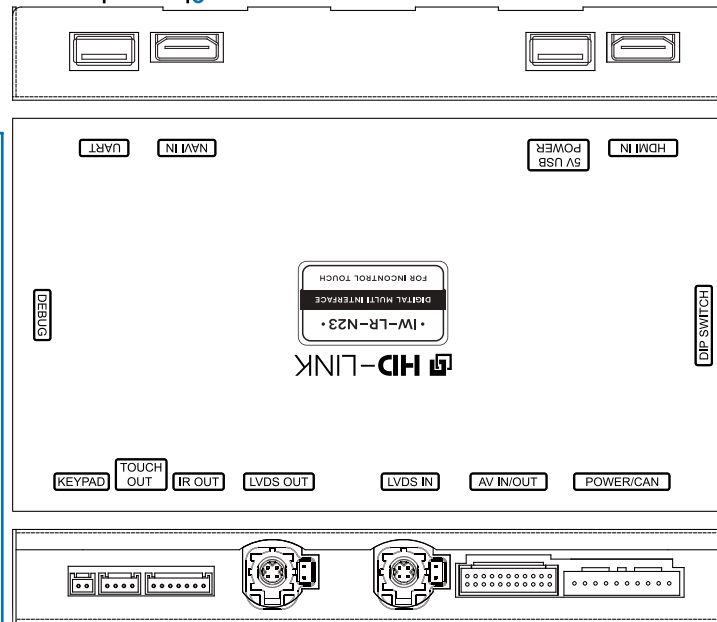
- M2C-100IW
- NV17
- NV100

HDMI DEVICE



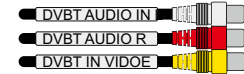
Compatibility Resolution

Supports Only 720P
Does Not Supports 4K, 1080P,



AV IN 1 CABLE

The sounds is automatically switched (HDMI,NAVI,DVB-T)



OEM
LVDS Cable

Provided
LVDS Cable

12V OUT (ACC)

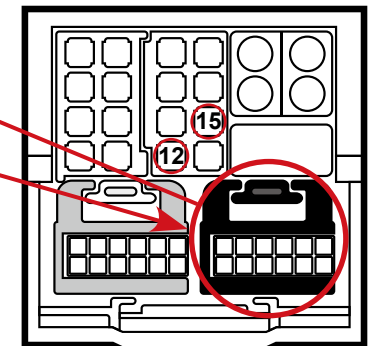
LIN IN

Not Used

BAT +

GROUND

Head Unit Main Connector



Pin # 15 = B+ (Gray,Red)

Pin # 12 = Ground (Black)

DIP Switch Settings



PIN	ON (▼)	OFF(▲)
1	HDMI Mode	Skip HDMI Mode
2	Navigation Mode	Skip Navigation Mode
3	External Rear View Camera	Original Rear View Mode (OEM CAMERA)
4	External Front View Camera(AV1 Mode)	Skip External Front View Camera(AV1 Mode)
5	AV2(DVBT) Mode	Skip AV2(DVBT) Mode
6	Enable Auto Switching	Skip Auto Switching
7	Select car model	
8		
9		
10	Screen Type <8 inch Screen>	Screen Type <10.2 inch Screen>

No.6	No.7	No.8	No.9	No.10	Car Model
OFF(▲)	OFF(▲)	OFF(▲)	OFF(▲)	OFF(▲)	Land Rover Discovery 5 < 10.2inch >
					Range Rover Sport < 10.2inch >
OFF(▲)	OFF(▲)	ON(▼)	OFF(▲)	OFF(▲)	Land Rover Discovery Sport < 10.2inch >
ON(▼)	OFF(▲)	ON(▼)	OFF(▲)	OFF(▲)	Range Rover Evoque < 10.2inch >
OFF(▲)	OFF(▲)	OFF(▲)	ON(▼)	OFF(▲)	Jaguar XE, XF < 10.2inch > Jaguar XJ < 10.2inch > Jaguar F-Pace < 10.2inch > Jaguar E-Pace < 10.2inch >

No.6	No.7	No.8	No.9	No.10	Car Model
OFF(▲)	OFF(▲)	OFF(▲)	OFF(▲)	ON(▼)	Land Rover Discovery 5 < 8 inch >
					Range Rover Sport < 8 inch >
OFF(▲)	OFF(▲)	ON(▼)	OFF(▲)	ON(▼)	Land Rover Discovery Sport < 8 inch >
ON(▼)	OFF(▲)	OFF(▲)	ON(▼)	ON(▼)	Range Rover Evoque < 8 inch >
OFF(▲)	OFF(▲)	OFF(▲)	ON(▼)	ON(▼)	Jaguar XE, XF < 8 inch > Jaguar XJ < 8 inch > Jaguar F-Pace < 8 inch > Jaguar E-Pace < 8 inch >

Dip switch NO.6 Script **ON (▼)**

NAVI,HDMI,AV1,AV2 Mode
OEM Mode


Support OEM PDC Sensor

It will be automatically switching from HDMI,NAVI,AV1,AV2 screen to OEM.
When Driving and PDS sensor work

❖ The PDC image may not come out in OEM screen on some car models

Activation by original buttons



8 inch Screen



Steering Wheel Buttons (10 inch)

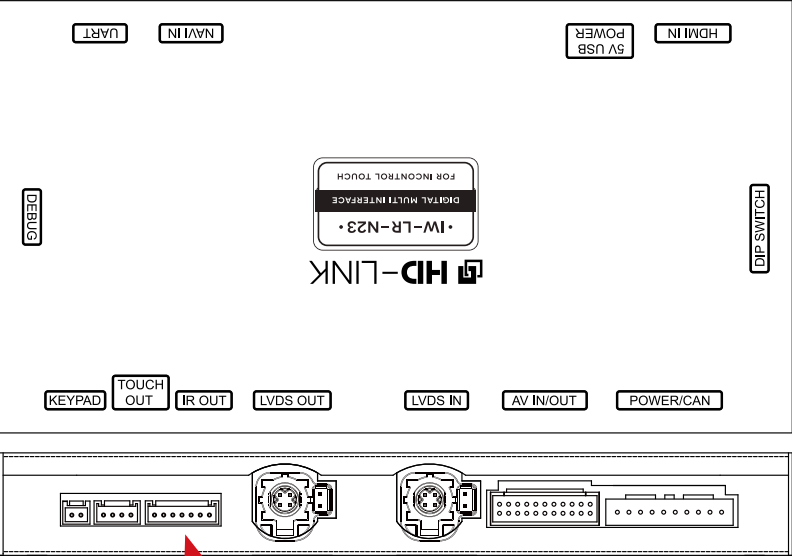
Button	Function	Operation	Remarks
1 VOICE MODE	Changing Modes	Press the button 2 seconds	Order : HDMI → NAVI → AV1 → AV2→ OEM
		Press the button short time	Return to the OEM mode in any modes.
2 MODE	Changing Modes (Front Cam)	Press the button 2 seconds	Order : AV1 (Front View Camera)
		Press the button short time	Order : AV1 → Previous screen
1 VOICE MODE	Reset	Press the button 10 seconds	You can use this function when you get in trouble



Jaguar Steering Wheel Buttons

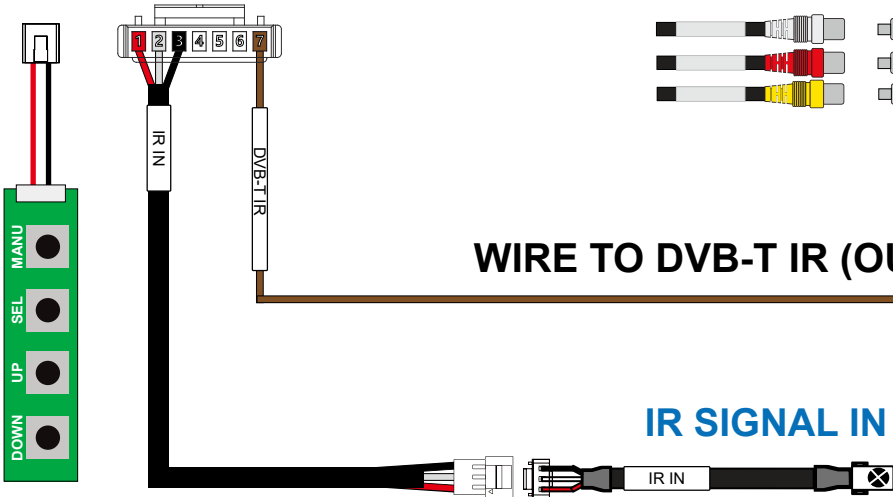
Button	Function	Operation	Remarks
1 MODE	Changing Modes	Press the button 2 seconds	Order : HDMI → NAVI → AV1 → AV2 → OEM
		Press the button short time	Return to the OEM mode in any modes.
1 MODE	Reset	Press the button 10 seconds	You can use this function when you get in trouble

DVB-T Diagram



HDMI
OR
CVBS

DVB-T DEVICE



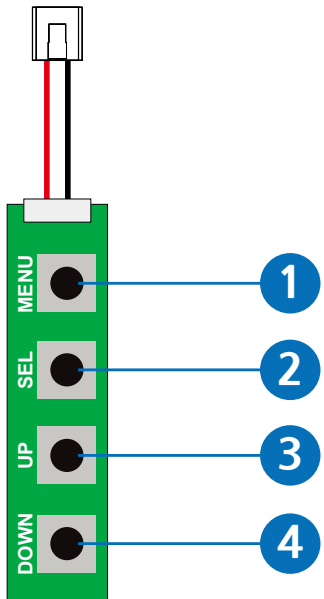
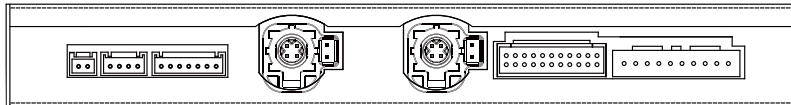
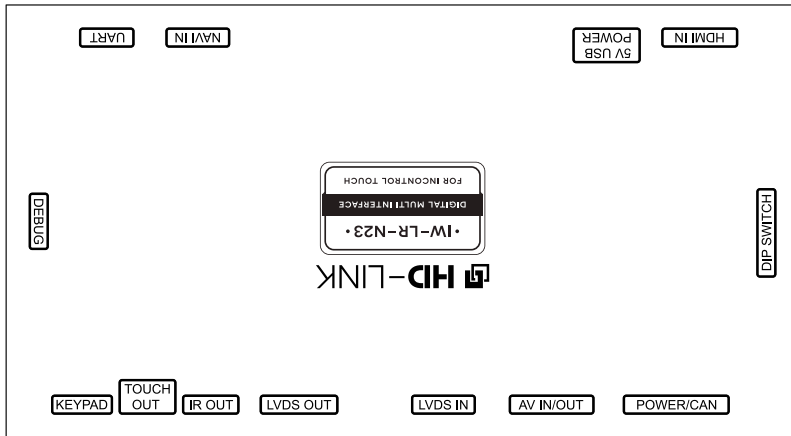
WIRE TO DVB-T IR (OUT)



DVB-TV IR Sensor	
Red	POWER
White	SIGNAL
Black	GROUND



Settings (How To Use KEYPAD)



KEYPAD - Function #1

Button	Function	Operation	Remarks
1 MENU	Changing Modes	Press the button short time	Order : HDMI → HDMI2 → HDMI3 → NAVI → DVB-T → DVD → OEM
2 SEL	Enter into the setting menu	Press the button short time	

KEYPAD - Function #2

Button	Function	Operation
1 MENU	Back to previous menu When press the button short.	Press the button short time
2 SEL	Select the setting menu and setting values.	Press the button short time
3 UP 4 DOWN	Move the menu-pointer and adjust the setting values	Press the button short time

Settings

IW-LR-N23		
HDMI 1	INPUT SOURCE	DEFAULT
HDMI 2	BRIGHT	AVM
HDMI 3	CONTRAST RED	DTV
NAVIGATION	CONTRAST GREEN	
REAR VIEW	CONTRAST BLUE	
AV1 (FRONT VIEW)		
AV2 (DTV)		
NONE		
CUSTOM		
EXIT		
DIP SWITCH INFO :		FIRMWARE DATE :
       		MAIN : 2018-03-02 SUB : 2018-03-02 TW23 : 2018-03-02

IW-LR-N23		
HDMI 1	INPUT SOURCE	AVM (AROUND VIEW)
HDMI 2	BRIGHT	128
HDMI 3	CONTRAST RED	128
NAVIGATION	CONTRAST GREEN	128
REAR VIEW	CONTRAST BLUE	128
AV1 (FRONT VIEW)	AVM KEEPING TIME R → D	7 Sec
AV2 (DTV)	AVM KEEPING TIME P → D	7 Sec
NONE	PGS ON / OFF	OFF
CUSTOM	PGS - HORIZONTAL	128
EXIT	PGS - VERTICAL	128
	PDC ON / OFF	OFF
DIP SWITCH INFO :		FIRMWARE DATE :
       		MAIN : 2018-03-02 SUB : 2018-03-02 TW23 : 2018-03-02

HDMI - DEFALUT

- INPUT SOURCE (Hdmi device model select)

- **DEFALUT** (Basic HDMI Device)
- **AVM** (360° Around View Camera)
- **DTV** (Digital Television)

- BRIGHT and CONTRAST

Adjust the values of brightness and contrast

HDMI INPUT - AVM

- BRIGHT and CONTRAST

Adjust the values of brightness and contrast

- AVM KEEPING TIME

- When you shift gear 'from reverse to drive' or 'from parking to drive', it just works automatically during the activation time you selected.

- PGS (Parking Guide System)

- Adjust position of parking guide lines and select the lines 'ON or OFF'.

Settings

IW-LR-N23		
HDMI 1	INPUT SOURCE	DTV
HDMI 2	BRIGHT	128
HDMI 3	CONTRAST RED	128
NAVIGATION	CONTRAST GREEN	128
REAR VIEW	CONTRAST BLUE	128
AV1 (FRONT VIEW)	REMOTE OSD ON / OFF	ON
AV2 (DTV)	REMOTE TYPE	ALPINE
NONE	MEMORY UP ①	0x807f807f
CUSTOM	MEMORY DOWN ②	0x807f807f
EXIT	MEMORY LEFT ③	0x807f807f
	MEMORY RIGHT ④	0x807f807f
	MEMORY OK ⑤	0x807f807f
	MEMORY MENU ⑥	0x807f807f
	MEMORY EXIT ⑦	0x807f807f
	MEMORY ETC1 ⑧	0x807f807f
	MEMORY ETC2 ⑨	0x807f807f

DIP SWITCH INFO :

FIRMWARE DATE :

MAIN : 2018-03-02

SUB : 2018-03-02

TW23 : 2018-03-02

IW-LR-N23		
HDMI 1	BRIGHT	128
HDMI 2	CONTRAST RED	128
HDMI 3	CONTRAST GREEN	128
NAVIGATION	CONTRAST BLUE	128
REAR VIEW	GPS BOX MODEL	DEFAULT
AV1 (FRONT VIEW)		
AV2 (DTV)		
NONE		
CUSTOM		
EXIT		

DIP SWITCH INFO :

FIRMWARE DATE :

MAIN : 2018-03-02

SUB : 2018-03-02

TW23 : 2018-03-02

HDMI INPUT - DTV

- BRIGHT and CONTRAST

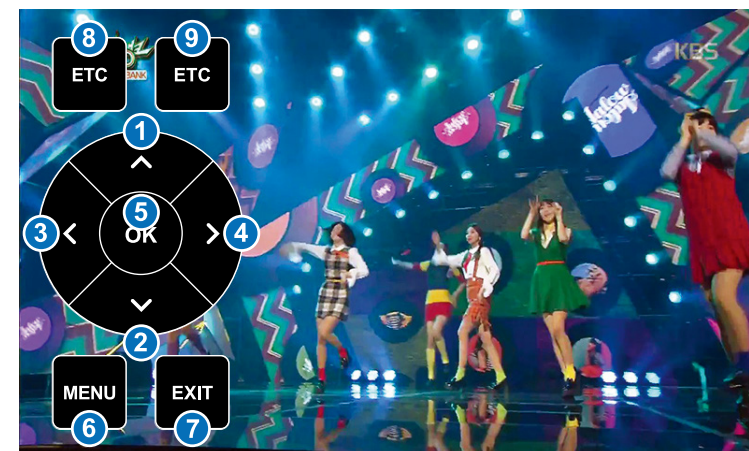
Adjust the values of brightness and contrast

- REMOTE OSD ON / OFF

· You can control to some of function on DTV remote control by OSD UI

- REMOTE TYPE

· ALPINE - TUE-T500 · Pioneer - GEX909 · HIT7700



NAVIGATION

- BRIGHT and CONTRAST

Adjust the values of brightness and contrast

- GPS BOX MODEL

< Using for UART in HDMI Navigation model must be setting >

· A-LINK , M2C-100 IW
 · NV17
 · NV100

Settings

IW-LR-N23		
HDMI 1	INPUT SOURCE	OEM CAMERA
HDMI 2	BRIGHT	AVM (AROUND VIEW)
HDMI 3	CONTRAST RED	EXTERNAL CAMERA
NAVIGATION	CONTRAST GREEN	
REAR VIEW	CONTRAST BLUE	
AV1 (FRONT VIEW)		
AV2 (DTV)		
NONE		
CUSTOM		
EXIT		
DIP SWITCH INFO :		FIRMWARE DATE :
		MAIN : 2018-03-02
		SUB : 2018-03-02
		TW23 : 2018-03-02

IW-LR-N23		
HDMI 1	INPUT SOURCE	AVM (AROUND VIEW)
HDMI 2	BRIGHT	128
HDMI 3	CONTRAST RED	128
NAVIGATION	CONTRAST GREEN	128
REAR VIEW	CONTRAST BLUE	128
AV1 (FRONT VIEW)	AVM KEEPING TIME R → D	7 Sec
AV2 (DTV)	AVM KEEPING TIME P → D	7 Sec
NONE	PGS ON / OFF	OFF
CUSTOM	PGS - HORIZONTAL	128
EXIT	PGS - VERTICAL	128
	PDC ON / OFF	OFF
DIP SWITCH INFO :		FIRMWARE DATE :
		MAIN : 2018-03-02
		SUB : 2018-03-02
		TW23 : 2018-03-02

REAR VIEW INPUT - OEM CAMERA

- INPUT SOURCE

- OEM CAMERA
- AVM (360° Around View Camera)
- EXTERNAL CAMERA

- BRIGHT and CONTRAST

Adjust the values of brightness and contrast

REAR VIEW INPUT - AVM

- BRIGHT and CONTRAST

Adjust the values of brightness and contrast

- AVM KEEPING TIME

- When you shift gear 'from reverse to drive' or 'from parking to drive', it just works automatically during the activation time you selected.

- PGS (Parking Guide System)

- Adjust position of parking guide lines and select the lines 'ON or OFF'.

Settings

IW-LR-N23		
HDMI 1	INPUT SOURCE	EXTERNAL CAMERA
HDMI 2	BRIGHT	128
HDMI 3	CONTRAST RED	128
NAVIGATION	CONTRAST GREEN	128
REAR VIEW	CONTRAST BLUE	128
AV1 (FRONT VIEW)	PGS ON / OFF	OFF
AV2 (DTV)	PGS - HORIZONTAL	128
NONE	PGS - VERTICAL	128
CUSTOM	PDC ON / OFF	OFF
EXIT		
DIP SWITCH INFO :		FIRMWARE DATE :
		MAIN : 2018-03-02 SUB : 2018-03-02 TW23 : 2018-03-02

REAR VIEW INPUT - EXTERNAL CAMERA

- BRIGHT and CONTRAST

Adjust the values of brightness and contrast

- PGS (Parking Guide System)

· Adjust position of parking guide lines and select the lines 'ON or OFF'.

Settings

IW-LR-N23		
HDMI 1	INPUT SOURCE	OEM CAMERA
HDMI 2	CAM KEEPING TIME R → D	7 Sec
HDMI 3	CAM KEEPING TIME P → D	7 Sec
NAVIGATION		
REAR VIEW		
AV1 (FRONT VIEW)		
AV2 (DTV)		
NONE		
CUSTOM		
EXIT		
DIP SWITCH INFO :		FIRMWARE DATE :
       		MAIN : 2018-03-02 SUB : 2018-03-02 TW23 : 2018-03-02

AV1 (FRONT VIEW INPUT) - OEM CAMERA

- CAM KEEPING TIME

- When you shift gear 'from reverse to drive' or 'from parking to drive', it just works automatically during the activation time you selected.

IW-LR-N23		
HDMI 1	INPUT SOURCE	EXTERNAL CAMERA
HDMI 2	BRIGHT	128
HDMI 3	CONTRAST RED	128
NAVIGATION	CONTRAST GREEN	128
REAR VIEW	CONTRAST BLUE	128
AV1 (FRONT VIEW)	CAM KEEPING TIME R → D	7 Sec
AV2 (DTV)	CAM KEEPING TIME P → D	7 Sec
NONE		
CUSTOM		
EXIT		
DIP SWITCH INFO :		FIRMWARE DATE :
       		MAIN : 2018-03-02 SUB : 2018-03-02 TW23 : 2018-03-02

AV1 (FRONT VIEW INPUT) - EXTERNAL CAMERA

- BRIGHT and CONTRAST

Adjust the values of brightness and contrast

- FRONT CAM KEEPING TIME

- When you shift gear 'from reverse to drive' or 'from parking to drive', it just works automatically during the activation time you selected.

Settings

IW-LR-N23		
HDMI 1	INPUT SOURCE	DTV
HDMI 2	BRIGHT	128
HDMI 3	CONTRAST RED	128
NAVIGATION	CONTRAST GREEN	128
REAR VIEW	CONTRAST BLUE	128
AV1 (FRONT VIEW)	REMOTE OSD ON / OFF	ON
AV2 (DTV)	REMOTE TYPE	ALPINE
NONE	MEMORY UP ①	0x807f807f
CUSTOM	MEMORY DOWN ②	0x807f807f
EXIT	MEMORY LEFT ③	0x807f807f
	MEMORY RIGHT ④	0x807f807f
	MEMORY OK ⑤	0x807f807f
	MEMORY MENU ⑥	0x807f807f
	MEMORY EXIT ⑦	0x807f807f
	MEMORY ETC1 ⑧	0x807f807f
	MEMORY ETC2 ⑨	0x807f807f

DIP SWITCH INFO :


FIRMWARE DATE :
MAIN : 2018-03-02
SUB : 2018-03-02
TW23 : 2018-03-02

AV2 DTV

- BRIGHT and CONTRAST

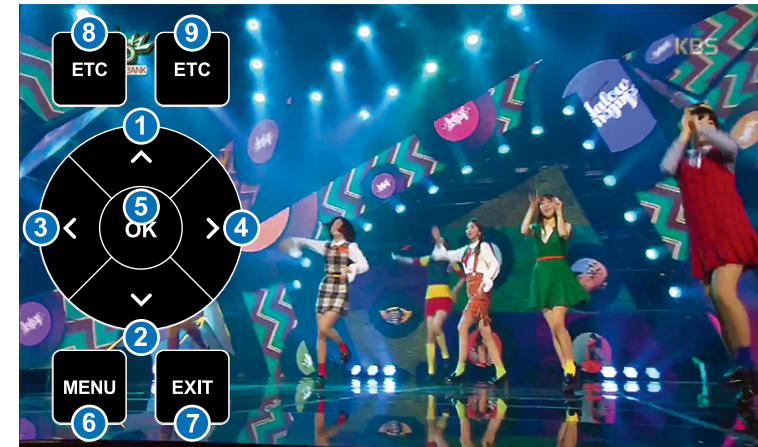
Adjust the values of brightness and contrast

- REMOTE OSD ON / OFF

· You can control to some of function on DTV remote control by OSD UI

- REMOTE TYPE

· ALPINE - TUE-T500 · Pioneer - GEX909 · HIT7700



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