

DENON[®]

HDMI Diagnostics and Troubleshooting (Production in 2020)



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HDMI Diagnostics and Troubleshooting

The objective of this guide is provide support for users experiencing HDMI connectivity issues.

This guide should be used in combination with the AV Receiver's HDMI DIAGNOSTICS feature.

1 The HDMI diagnostics feature is used to correct the following issues.

- No picture from connected TV.
- No audio from the AV Receiver (Speaker).
- Intermittent picture or artifact (video snow, dots on the top of the picture).
- Intermittent audio or noise.

2 How to use.

- If the issues mentioned in 1 occur, press the button on the front panel of the AV receiver to enter HDMI DIAGNOSTICS mode.
- Use the buttons on the front panel or the included remote control to operate the HDMI DIAGNOSTICS function.
- Follow the guidance displayed in the front display to resolve issues using Auto Test in HDMI DIAGNOSTICS.
- Video Test and Audio Test in HDMI DIAGNOSTICS can be used to perform various tests manually according to the displayed error code.

3 What can be done with this feature?

- Find issues with the AV Receiver's hardware (Self diagnostics).
- Find issues with external equipment and settings.
- Find issues with HDMI cable capabilities and connection.
- Restrict EDID or HDCP on the AV receiver to resolve issues caused by incompatibility with the AV receiver.

NOTE

- The HDMI DIAGNOSTICS feature is a tool to help troubleshoot and solve common HDMI issues. It is not guaranteed to fix all issues.
- This feature is for people with knowledge about HDMI and Audio Video equipment.

Compatible Models

The following Denon AV Receiver products support the HDMI Diagnostics feature.

Production in 2020
AVR-X3700H/AVC-X3700H
AVR-X4700H/AVC-X4700H
AVR-X6700H/AVC-X6700H



How to operate


Starting HDMI DIAGNOSTICS Mode

1 Turn on the AV Receiver.

If a malfunction occurs, HDMI DIAGNOSTICS mode can be started without turning off the power.

2 Press and hold the main unit's buttons [A] and [B] at least 3 seconds until "HDMI DIAGNOSTICS" appears on the front panel display.

Production in 2020	Button [A]	Button [B]
AVR-X3700H	ZONE2 SOURCE	TUNER PRESET CH -
AVC-X3700H	ZONE2 SOURCE	PURE DIRECT
AVR-X4700H AVC-X4700H AVR-X6700H AVC-X6700H	CURSOR UP	BACK

- Front panel display sample (e.g. AVR-X4700H)
(For other display samples, refer to the "Display sample list".
( p. 46.))



HDMI DIAGNOSTICS



- HDMI DIAGNOSTICS mode cannot be entered from the Setup Menu or Setup Assistant. Close the menu first.

3 When starting the HDMI DIAGNOSTICS mode, the AV Receiver will automatically start the Hardware Self Diagnostics Test to check whether hardware failure occurs.

If there are no errors, the AV Receiver will show the HDMI Diagnostics menu on the front panel display.

If the hardware error is detected, the AV Receiver will show an error code on the front panel display. (e.g. H1-01)

In this case, the AV Receiver can not continue the HDMI Diagnostics mode. Please turn off the AV Receiver and contact customer service in your area.

(For contact service, refer to "Customer Support" ( p. 9.))

- Front panel display sample (e.g. AVR-X4700H)



HDMI DIAGNOSTICS Menu

When the Hardware Self-Diagnostics Test is passed, the AV Receiver displays the HDMI DIAGNOSTICS Menu below.

1 Use Δ / ∇ to select the menu to be set or operated, then press ENTER.

- Front panel display sample (e.g.AVR-X4700H)
(For other display samples, refer to the "Display sample list". (☞ p. 46.))



```
HDMI DIAGNOSTICS
1 Auto Test
```

Item	Description	page
1 Auto Test	The AV Receiver assists you in identifying the cause of any HDMI issues using Video Test, Audio Test, Cable Test or the limit mode feature according to the guidance indicated on the front panel display.	—
2 Video Test	Diagnose video-related issues. If an error is detected, please refer to the flow of the corresponding error number in the "Trouble shooting Guide".	<u>23</u>
3 Audio Test	Diagnose audio-related issues. If an error is detected, please refer to the flow of the corresponding error number in the "Trouble shooting Guide". This cannot be selected if the currently selected input source is an audio type source.	<u>23</u>
4 Cable Test	Check HDMI-Cable integrity and signal (resolution) capability.	<u>10</u>
5 Limitation Mode (Limit Mode)	Set settings to limit the AV Receiver's Video or Audio EDID. There are instances where limiting the AV Receiver video or audio EDID will fix various issues. Please try each limit settings in accordance with the "Trouble shooting Guide". If you want to clear the limit settings, please refer to "3.Initialization".	<u>13</u>
6 Log/EDID	Save the Logging data to USB file or network server. Please use it when receiving the requested by customer service.	<u>22</u>
7 Exit	Exit the HDMI Diagnostic mode	—



Control Keys for Navigation

You can operate each menu using the Cursors, Enter and Back buttons on the remote control or the main unit.

In the case of models that there is no cursor button on the main unit, the following buttons will work as the cursor buttons during HDMI Diagnostics mode.

RC buttons	Main unit buttons (Production in 2020)		
	AVR-X3700H	AVC-X3700H	AVR-X4700H AVC-X4700H AVR-X6700H AVC-X6700H
Up	ZONE2 SOURCE	TUNE +	CURSOR UP
Down	ZONE2 ON/OFF	TUNE -	CURSOR DOWN
Left	TUNER PRESET CH -	PURE DIRECT	CURSOR LEFT
Right	TUNER PRESET CH +	SOUND MODE	CURSOR RIGHT
ENTER	DIMMER	DIMMER	ENTER
BACK	STATUS	STATUS	BACK

To exit HDMI DIAGNOSTICS Mode

To exit the HDMI Diagnostics mode, please select "7 Exit" or turn off the AV Receiver.

NOTE

- The HDMI DIAGNOSTICS feature does not support ZONE2 related Video and Audio issues.



Initialization

The Limit setting in the HDMI DIAGNOSTICS mode is stored per input.

Please note that the limit mode settings backup memory will not be initialized (reset) using the initialization (reset) method described in the instruction manual.

There are two ways to reset the limit mode settings.

Reset option in HDMI DIAGNOSTICS mode

Limit mode settings that are made in the HDMI Diagnostics mode are reset to the factory default values.

However, settings other than HDMI Diagnostics (e.g. Speaker setup, Video Setup, Audio Setup) are not reset.

- 1** Select “5 Limit Mode” from the HDMI Diagnostics menu.
- 2** Select “Reset” from the Limit mode menu.
- 3** Select “All source”, then press ENTER.

Factory Reset mode

All settings including the Limit mode setting of HDMI Diagnostics mode are reset to the factory default values. (except for Network setup)

- 1** Press the **POWER** button to turn off the AV Receiver.
- 2** While holding down buttons [A] and [B] simultaneously, press **POWER** button.
- 3** Release the buttons after confirming that the front panel display flashes at 1-second intervals.

Production in 2020	Button [A]	Button [B]
AVR-X3700H AVC-X3700H	ZONE2 SOURCE	DIMMER
AVR-X4700H AVC-X4700H AVR-X6700H AVC-X6700H	SETUP	INFO



Customer Support

If you need additional help in solving problems, contact the nearest HDMI DIAGNOSTICS customer service in your area.

For US & Canada

■ **Denon US**

<https://usa.denon.com/us/support/home>

■ **Denon Canada**

<https://ca.denon.com/ca/support/home>

For Europe

■ **Denon UK**

<https://www.denon.co.uk/uk/support/home>

■ **Denon Germany**

<https://www.denon.de/de/support/home>

■ **Denon Netherland**

<https://www.denon-hifi.nl/nl/support/home>

■ **Denon France**

<https://www.denon.fr/fr/support/home>

■ **Other (EU)**

<http://www.denon.com/pages/Distributor-Network-Details.aspx?RegId=2>

For the other region

■ **Denon**

<http://www.denon.com>



To check the HDMI Cable integrity, signal quality and resolution capability.

Procedure

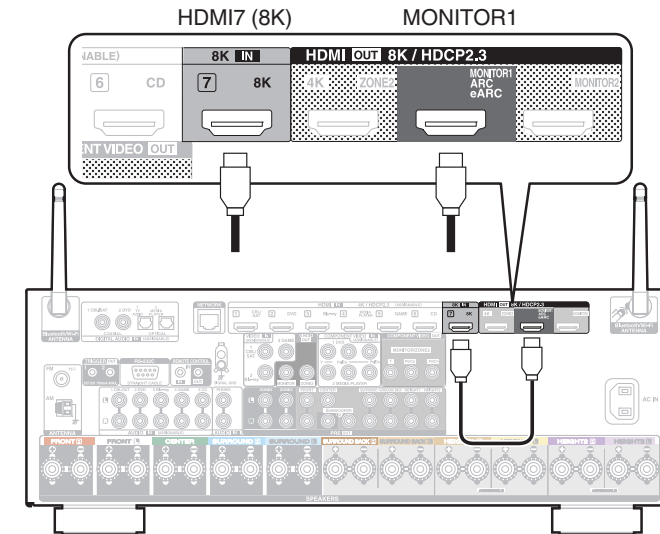
1 Use Δ / ∇ to select “4 Cable Test” in the HDMI Diagnostics mode, then press ENTER.

- Front panel display sample (e.g.AVR-X4700H)
(For other display samples, refer to the "Display sample list".
([p. 47](#)))

```
HDMI DIAGNOSTICS
4 Cable Test
```

2 Connect the HDMI cable to be tested to HDMI7(8K) and MONITOR(1) OUT as shown in the figure, then select “Connect the cable between HDMI7 IN and MONITOR(1) OUT, then press ENTER”.

```
CABLE TEST
▶Connect the cab
```



- 3** Select “Start”, then press ENTER.

```
CABLE TEST
▶Start
```

- 4** “Testing...” appears in the front panel display, and the test starts.

```
CABLE TEST
Testing...
```

- 5** The AV Receiver shows Cable test result on the front panel display.

To perform the cable test again, select “Retry” and press ENTER.

```
CABLE TEST FAIL
▶Retry
```

- 6** To exit the cable test, remove the tested HDMI cable, then use ▾ to select “Exit” and press ENTER.

```
CABLE TEST FAIL
▶Exit
```



Test Item & Test Result

Test whether there are issues in the HDMI cable communication line and whether the line is compatible with the transfer domains of the resolutions in the table below. After you finish the cable test, if you still have any issues, please try the following solution.

- 1 Replace the HDMI cable.
- 2 To use this cable in your system, please set the limit mode to the resolution that was passed in the following test.

Cable Test Item									Result (Front panel display)
Communication line	Video Resolution (RGB / 8bit)								
	8K (40Gbps)	8K (32Gbps)	8K (24Gbps)	4K (18Gbps)	4K (9Gbps)	1080p	720p	480p	
PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	CABLE TEST PASS-8K(40Gbps)
PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	8K(32Gbps) PASS / 8K(40Gbps) FAIL
PASS	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	8K(24Gbps) PASS / 8K(32Gbps) FAIL
PASS	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	4K(18Gbps) PASS / 8K(24Gbps) FAIL
PASS	FAIL	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	4K(9Gbps) PASS / 4K(18Gbps) FAIL
PASS	FAIL	FAIL	FAIL	FAIL	FAIL	PASS	PASS	PASS	1080p PASS / 4K(9Gbps) FAIL
PASS	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	PASS	PASS	720p PASS / 1080p FAIL
PASS	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	PASS	480p PASS / 720p FAIL
PASS	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	CABLE TEST FAIL
FAIL	---	---	---	---	---	---	---	---	CABLE TEST FAIL



To limit the Video/Audio output try the (EDID) or HDCP method to properly display picture on the TV and to correct sound issues.

Limit Mode Menu

The AV Receiver has various options for Limit Mode.

These limit modes are stored for each Video input source.

- Front panel display sample (e.g.AVR-X4700H)
(For other display samples, refer to the "Display sample list". (☞ p. 48.))

```
LIMIT MODE
1 Source#CBL/SAT
```

Item	Description
1 Source Select (Source)	The input source can be changed from this menu.
2 Max Resolution (MaxRes.)	Sets the video input/output resolution restrictions supported by the AV receiver.
3 HDCP	This limits the HDCP version of the AV Receiver to HDCP ver. 1.4. This can be set for any input with HDMI assigned to it.
4 HDR	This limits (disables) the HDR (HDR10, Hybrid Log-Gamma) capability of the AV Receiver. This can be set for any input with HDMI assigned to it.
5 Deep Color (DeepC)	This limits (disables) Deep Color capability of the AV Receiver. This can be set for any input with HDMI assigned to it.
6 Dolby Vision (DolbyV)	This limits the Dolby Vision capability information about the connected TV that is sent to the player by the AV Receiver. This can be set for any input with HDMI assigned to it.
7 DTS:X	This limits (disables) DTS:X capability. This can be set for any input with HDMI assigned to it.

Item	Description
8 Dolby Atmos (Atmos)	This limits (disables) Dolby Atmos capability. This can be set for any input with HDMI assigned to it.
9 PCM 2ch only (PCM2ch)	This limits the audio input capability to PCM 2ch only. This can be set for any input with HDMI assigned to it. When PCM 2ch only is set, DTS:X and Dolby Atmos are also restricted.
10 Reset	The setting content of Limit Mode is initialized.
11 Exit	Exit Limit Mode and return to HDMI DIAGNOSTICS mode.

Source Selection

You can switch inputs to check other video sources.

The input source encoder on the unit or remote control unit can be used to change the input source.

When the current input source is audio only, with no video assignment, "Audio" is displayed.



Setting

Max Resolution

Max Resolution has 6 selectable items.

No Limit	No limit. The AV Receiver works up to 8K(40Gbps).
4K18Gbps (Default):	This sets EDID information and max resolution of the video output from the AV Receiver to up to 4K18Gbps.
4K9Gbps:	This sets EDID information and max resolution of the video output from the AV Receiver to up to 4K9Gbps.
1080p:[*]	This sets EDID information and max resolution of the video output from the AV Receiver to up to 1080p (60/50).
720p:	This sets EDID information and max resolution of the video output from the AV Receiver to up to 720p, 1080i or 1080p 24. When 720p is set, the resolution may be 1080i for some playback devices or content.
480p:	This sets EDID information and max resolution of the video output from the AV Receiver to up to 480p or 576p.

* "1080p" is the default setting for audio input sources such as Tuner, Phono and HEOS Music. "No Limit", 4K18Gbps and 4K9Gbps cannot be set for these sources.



- When you set a resolution in the "Max Res." setting, you will not be able to change to a higher resolution in the AVR Setup Menu-Video-Output Settings.
- When the Max Resolution settings are changed from the default values, "Custom" is displayed in the AVR Setup Menu – Video – 4K/8K Signal Format. The Max Resolution settings take priority when "Custom" is set.



【Relationship between Max Resolution setting and Support Resolution】

Support Resolution	Color Space	Pixel Depth	Max Resolution setting					
			No Limit (8K(40Gbps))	4K(18Gbps)	4K(9Gbps)	1080p	720p	480p
480i/p, 576i/p	RGB, YCbCr 4:4:4	24, 30, 36 bit	✓	✓	✓	✓	✓	✓
	YCbCr 4:2:2	36 bit	✓	✓	✓	✓	✓	✓
1080i 60/50	RGB, YCbCr 4:4:4	24, 30, 36 bit	✓	✓	✓	✓	✓	-
	YCbCr 4:2:2	36 bit	✓	✓	✓	✓	✓	-
720p 60/50	RGB, YCbCr 4:4:4	24, 30, 36 bit	✓	✓	✓	✓	✓	-
	YCbCr 4:2:2	36 bit	✓	✓	✓	✓	✓	-
1080p 24	RGB, YCbCr 4:4:4	24, 30, 36 bit	✓	✓	✓	✓	✓	-
	YCbCr 4:2:2	36 bit	✓	✓	✓	✓	✓	-
1080p 60/50	RGB, YCbCr 4:4:4	24, 30, 36 bit	✓	✓	✓	✓	✓	-
	YCbCr 4:2:2	36 bit	✓	✓	✓	✓	✓	-
4K24p, 4K30p, 4K25p	RGB, YCbCr 4:4:4	24 bit	✓	✓	✓	-	-	-
		30, 36 bit	✓	✓	-	-	-	-
	YCbCr 4:2:2	36 bit	✓	✓	✓	-	-	-

(Continued on next page)



Support Resolution	Color Space	Pixel Depth	Max Resolution setting					
			No Limit (8K(40Gbps))	4K(18Gbps)	4K(9Gbps)	1080p	720p	480p
4K60p, 4K50p	YCbCr 4:2:0	24 bit	✓	✓	✓	-	-	-
		30, 36 bit	✓	✓	-	-	-	-
	RGB, YCbCr 4:4:4	24 bit	✓	✓	-	-	-	-
		30, 36 bit	✓	-	-	-	-	-
	YCbCr 4:2:2	36 bit	✓	✓	-	-	-	-
4K120p, 4K100p	YCbCr 4:2:0	24, 30, 36 bit	✓	-	-	-	-	-
	RGB, YCbCr 4:4:4	24, 30 bit	✓	-	-	-	-	-
	YCbCr 4:2:2	36 bit	✓	-	-	-	-	-
8K24p, 8K30p, 8K25p	YCbCr 4:2:0	24, 30, 36 bit	✓	-	-	-	-	-
	RGB, YCbCr 4:4:4	24, 30 bit	✓	-	-	-	-	-
	YCbCr 4:2:2	36 bit	✓	-	-	-	-	-
8K60p, 8K50p	YCbCr 4:2:0	24, 30 bit	✓	-	-	-	-	-



HDCP

The HDCP version of the AV Receiver can be limited to HDCP ver. 1.4. Use this when video is not output due to the problem of compatibility of the player and TV HDCP versions.

Auto (Default):	Automatically applies the HDCP version of this unit according to TV.
1.4:	Fixes the HDCP version of AV Receiver to 1.4.
2.3:	Fixes the HDCP version of AV Receiver to 2.3.

HDR / Deep Color / Dolby Vision / DTS:X / Dolby Atmos / PCM 2ch only

You can set a limit of each function of the AV Receiver according to your situation.

No Limit (Default):	No limit.
Limit:	Limit (Disable) each function by changing EDID and HDCP setting information.

Reset

You can reset the limit mode settings to the factory default values. Settings other than limit mode are not reset.

Current source ***:	Reset the limitation setting only for the current source.
All sources:	Reset the limitation setting for all sources.
Cancel:	Cancel this menu and go back to the limitation mode selection menu.

(*** is current source name)



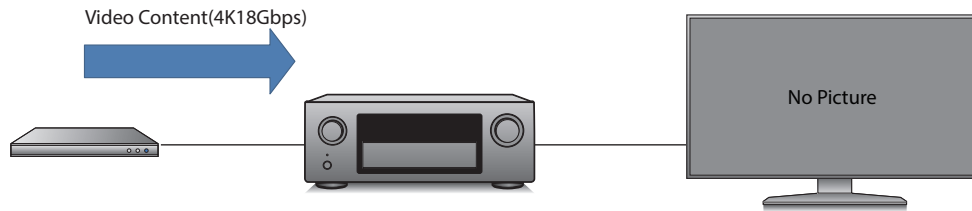
- You can reset the default settings by setting "Factory Reset mode". (🔑 p. 8)
- Please note that the Limit Mode setting will not be reset by performing the process described in "Resetting factory settings" in the owner's manual.
- You can easily check whether HDMI-related functions are limited for the currently selected input source in the AVR Setup Menu-General – Information – ZONE – MAIN ZONE. "HDMI Limitation Mode – 4K Enhanced" is displayed when the 4K/8K Signal Format is set to "Enhanced" (4K18Gbps). "4K Standard" is displayed when the 4K/8K Signal Format is set to "Standard" (4K9Gbps). "HDMI Limitation Mode – On" is displayed when any of the settings are limited in the HDMI Diagnostics Limitation Mode.
- This screen can be used to check restricted settings when "HDMI Limitation Mode – On" is set. These are not displayed when there are no limitations.




Procedure (Max Resolution)

When the TV doesn't play a video's content (4K18Gbps), there are two approaches to this issue.

1. To change to a new HDMI cable.
2. To set the limit mode (Max Resolution). As a result, the player outputs a lower resolution.



- 1 Use Δ / ∇ to select "5 Limit Mode" in the HDMI DIAGNOSTICS mode, then press ENTER.

- Front panel display sample (e.g. AVR-X4700H)
(For other display samples, refer to the "Display sample list".
( p. 49))

```
HDMI DIAGNOSTICS
5 Limit Mode
```

- 2 Use Δ / ∇ to select "2 MaxRes:***", then press ENTER.

("***" indicates the currently set backup information. In the example shown, "4K18G" is displayed.)

```
LIMIT MODE
2 MaxRes:4K18G
```

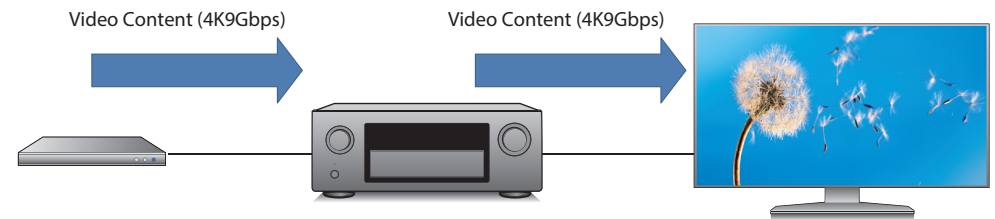
- 3 Select the maximum resolution to be set and press the ENTER button.

(In the example shown the setting is changed from "4K18Gbps" to "4K9Gbps". "***" indicates the currently set backup information.)

The AV Receiver limits the Input Resolution by changing the EDID.

```
MAX RESOLUTION
▶*4K9Gbps
```

- 4 Check whether the video is output.



5 The video is displayed. Save the settings if necessary.

To reflect the settings only on the current input source, select “Current source” and press the ENTER button.

To reflect the same settings on all input sources, select “All source” and press the ENTER button.

```
Save?  
▶Current source⟨
```

6 The system returns to the Limit Mode selection menu and the changed setting content is displayed.

```
LIMIT MODE  
2 MaxRes:4K96
```



Tips for Limit Mode Setup

The restriction modes may solve the issue when used in the following cases. Use them according to the issue that is occurring.

2 Max Resolution

- When your TV supports 8K (or 4K18Gbps) and the video's output is 8K (or 4K18Gbps) from the AV Receiver, and if the HDMI Input/output cable can not support 8K (or 4K18Gbps), it may cause some issues (e.g. no Video output, no Audio, Video noise, or Video Blinking)
- When the AV Receiver connects to a HDMI 2.0 compatible TV and a specific HDMI 2.0 incompatible player, there are some cases that the player works in DVI mode, the audio will not work and the video will be in RGB format.
- When a TV's EDID method are not standard or correct, a video will not be displayed.

There is a possibility that a video's output can properly be fixed by limiting the max video input/output resolution of the AV Receiver.

3 HDCP

- When an HDCP1.4 compatible TV and HDCP2.2 or 2.3 compatible player are connected through the AV Receiver, and Stream Type1 (HDCP 2.2 or 2.3 protected) content is attempted to be played, the AV Receiver does not play the video and shows a caution popup. (This is correct behavior based on HDCP)
- When HDCP1.4 compatible TV and HDCP2.2 or 2.3 compatible player are connected through the AV Receiver, and HDCP 1.4 content is played, there are some cases in which a player outputs HDCP 2.2/2.3 contents to the AV Receiver.

By limiting the HDCP version of the AV receiver to ver. 1.4, there is a possibility that the player works with HDCP 1.4 and outputs video at a limited resolution.

4 HDR

- There are some cases in which a video's color is incorrect when connecting an HDR (HDR10, HDR10+, Hybrid Log-Gamma, Dynamic HDR) compatible projector or TV, and HDR content is played.

There is a possibility that the video's color can be corrected by limiting the HDR capability of the AV Receiver.

5 Deep Color

- When connecting a deep color compatible TV and a player through the AV Receiver, some HDMI cables may have performance limitations that could cause an issue (e.g. no Video output, no Audio, noise or Video Blinking)

There is a possibility that video and audio can be output properly by limiting (disabling) the deep color capability of AV Receiver.

6 Dolby Vision

- There are some cases in which a video's color is incorrect when connecting an Dolby Vision compatible projector, and Dolby Vision content is played.

There is a possibility that the video's color can be corrected if the AV Receiver doesn't send the connected projector's Dolby Vision capability information.



7 DTS:X

- When a DTS:X compatible AV Receiver connects to a specific older DTS:X incompatible player, and it plays DTS-HD, there are some cases in which a player plays DTS Surround, not DTS-HD.

There is a possibility that the player will play DTS-HD correctly by limiting the DTS:X capability of AV Receiver.

8 Dolby Atmos

- When a Dolby Atmos compatible AV Receiver connects to a specific older Dolby Atmos incompatible player, and it plays Dolby TrueHD, there are some cases in which a player plays Dolby Digital, not Dolby TrueHD.

There is a possibility that the player will play Dolby TrueHD correctly by limiting Dolby Atmos capability of the AV Receiver.

9 PCM 2ch only

- When the AV Receiver connects to a specific source device, audio format or channel switching (e.g. Dolby Digital ->PCM, 2ch -> 5ch), or information from a source device is not correct, there are some cases in which the sound from the AV Receiver drops out or becomes noise.

There is a possibility that audio output can properly be fixed by limiting the audio input of the AV Receiver to PCM 2ch.



Save logs or EDID information on a USB memory device or our server via the network.

This menu is for developers. Please use it only when requested by customer service.

Use a USB memory device formatted to FAT32 format. Check the network connection in advance before saving a log on the network server.

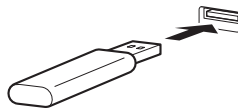
Procedure

1 Use Δ / ∇ to select “6 Log/EDID” in the HDMI Diagnostics mode, then press ENTER.

- Front panel display sample (e.g. AVR-X4700H) (For other display samples, refer to the "Display sample list". (🔗 p. 50))



2 When saving a log to a USB Memory Device, connect the USB Memory Device to the AV receiver, select “Start” and press the ENTER button.



- When saving a log to the server via the network, select “Start” without connecting a USB.



3 When saving the log to the USB memory device is complete, “USB SUCCESS” is displayed on the front display.

- (Example log file name: “logs-xxxxxxxxx.tar.gz”)



- When saving the log via the network is complete, a 5-digit ticket number is displayed on the front panel display. Take a note of this number as you will need it when contacting the customer center.



4 Select “Exit” and press the ENTER button. Return to the HDMI DIAGNOSTICS menu.



Trouble shooting Guide for HDMI Diagnostics (Video Test, Audio Test, Auto Test)

If an error ID is displayed when running tests from the Video Test/Audio Test/Auto Test menus, check in accordance with the flow of the appropriate error ID number.
If "PASS" is displayed even when the problem is not solved, refer to Audio/Video Flow "Other". (☞ p. 38)

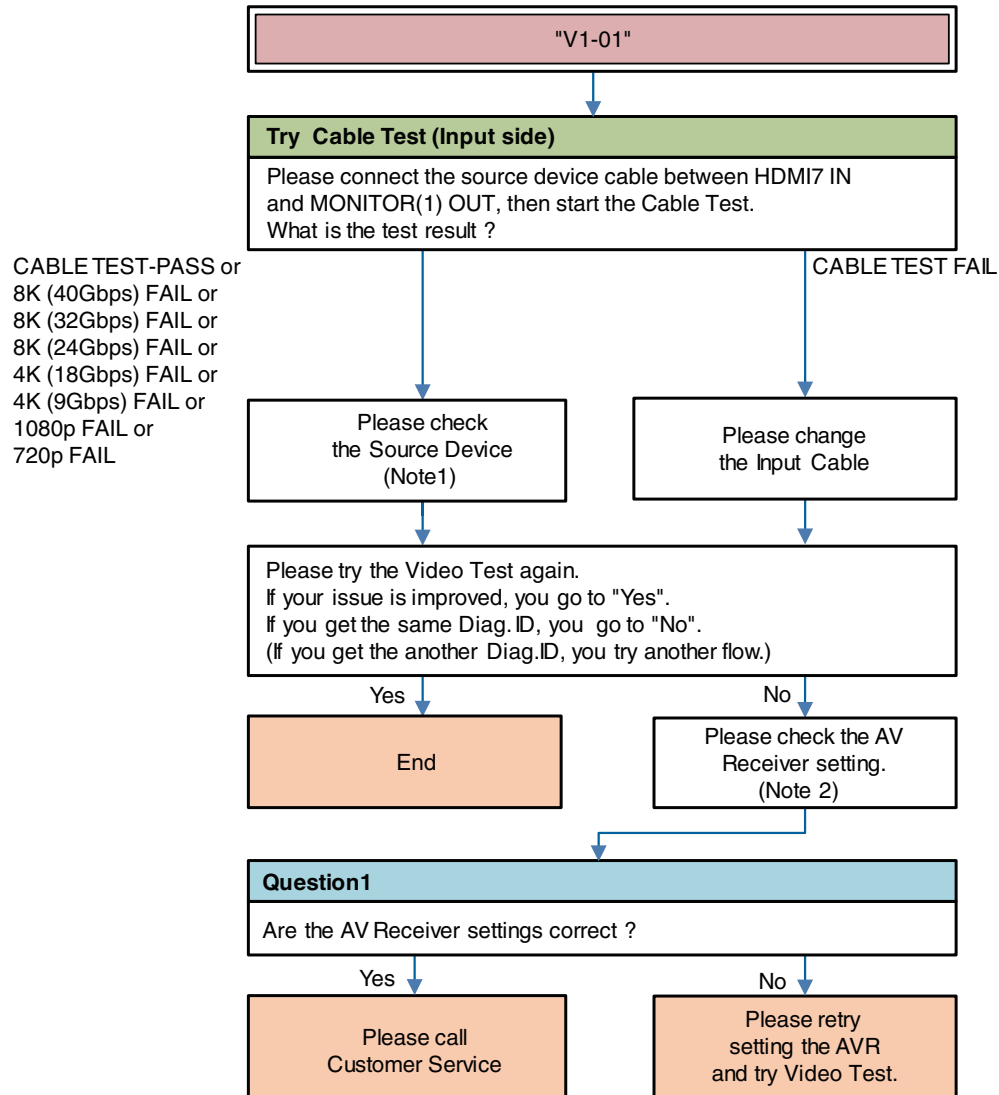
ID	Description
V1-01 V1-02 V1-03 V1-04 V1-05 V1-06 V1-07 V1-08 V1-09 V1-10 V1-11	Video RX Cannot detect the HDMI cable connected to the AVR input terminal (as detection of 5V from Source Device). Cannot detect the HDMI signal from the source device at the AVR input terminal (as TMDS Rx PLL UnLock). Cannot detect the HDMI signal from the source device at the AVR input terminal (TMDS Rx PLL Lock, but SCDT(CKDT) OFF). Missing Video Info, or receiving Info Error (AVI Info does not exist). HDMI signal has video timing Error (Timing is not correct). Copyright Protection certification Error with Source Device. (HDCP Error). HDCP2.2 or 2.3/Stream ID Type mismatch (ie. Stream ID = 1, but Monitor's HDCP = V1.4). Mismatch between input resolution and the resolution that is supported by monitor. Audio/Video MUTE command from Source Device is always ON. Quality of HDMI Signal(TMDS) is bad. FRL Link Training failed and Video signal format is limited to TMDS.



ID	Description
V2-01 V2-02 V2-03 V2-04 V2-05 V2-06 V2-07	Video TX (Monitor1) Miscommunication with Monitor at output terminal (HPD always low). Miscommunication with Monitor at output terminal (4K60 output setting error). Miscommunication with Monitor at output terminal (HPD continuous assert error). Miscommunication with Monitor at output terminal (Rx Sense continuous assert error). Cannot get Monitor information (EDID from Monitor). Copyright protection certification error with Monitor.(HDCP Error). FRL Link Training failed and Video signal format is limited to TMDS.
V3-01 V3-02 V3-03 V3-04 V3-05 V3-06 V3-07	Video TX (Monitor2) Miscommunication with Monitor at output terminal (HPD always low). Miscommunication with Monitor at output terminal (4K60 output setting error). Miscommunication with Monitor at output terminal (HPD continuous assert error). Miscommunication with Monitor at output terminal (Rx Sense continuous assert error). Cannot get Monitor information (EDID from Monitor). Copyright protection certification error with Monitor.(HDCP Error). FRL Link Training failed and Video signal format is limited to TMDS.
A1-01 A1-02 A1-03 A1-04 PASS	Audio RX Audio Packet doesn't come from Source (DVI). HDMI Rx Information is not correct. Information mismatch HDMI device and DSP device (N,CTS, Channel Status, Audio Info, Layout). DSP Setting Finished, but Muted. Please call Customer Support. No errors detected. See Audio/Video Flow "Other" if the issue is not resolved.



Video Flow V1-01



Description "V1-01": Cannot detect the HDMI cable connected to the AVR input terminal (as detection of 5V from Source Device).

Try *** :Item of AVR operation

Question * :Item of Question to answer user

Note 1 : Source Device check item (For details (🔗 p. 45))

Note 2 : AV Receiver check item (For details (🔗 p. 45))



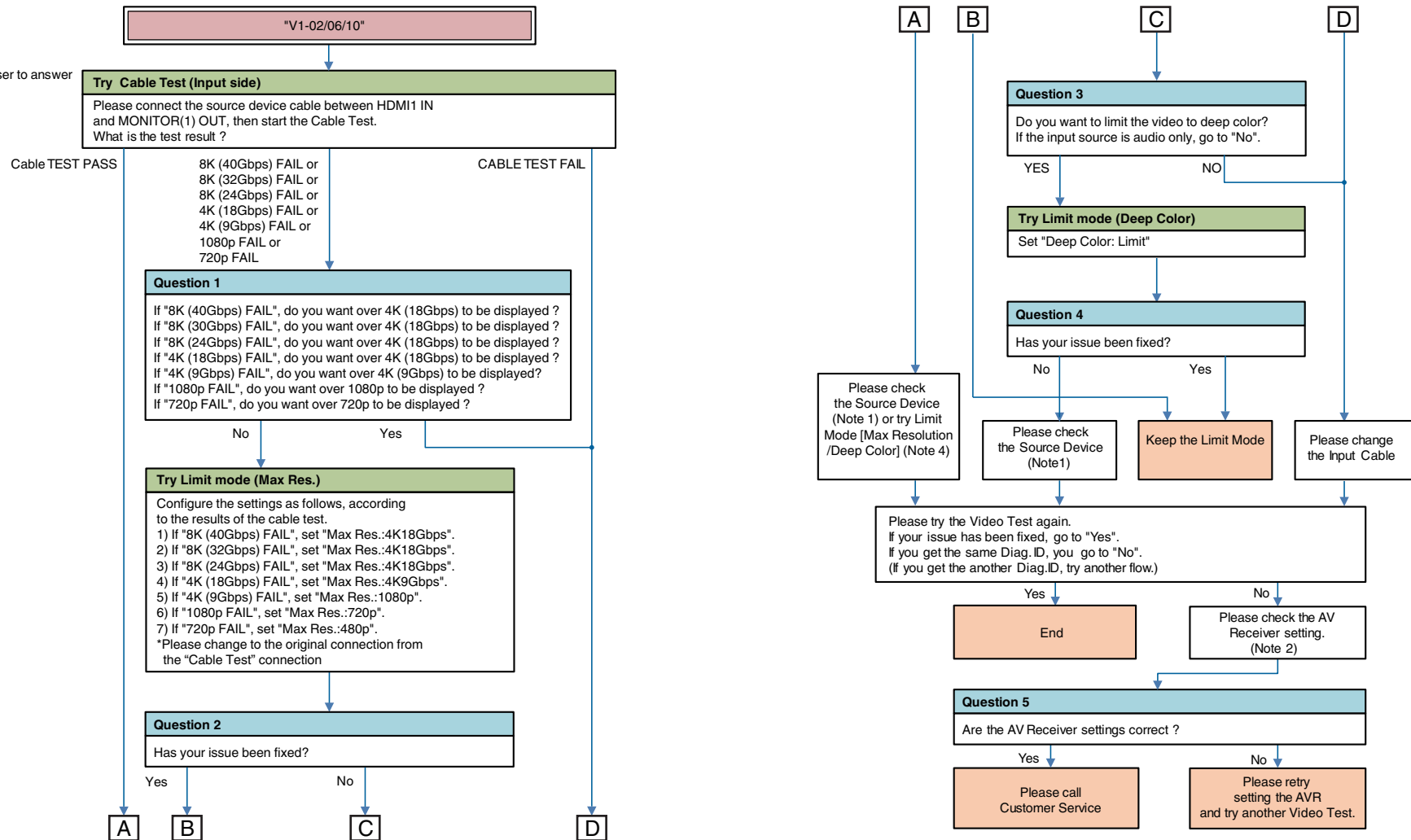
Video Flow V1-02/06/10

Try ***

:AVR operation

Question *


:Question for user to answer



Description “V1-02”: Cannot detect the HDMI signal from the source device at the AVR input terminal (as TMDS Rx PLL UnLock).

Description “V1-06”: Copyright Protection certification Error with Source Device. (HDCP Error).

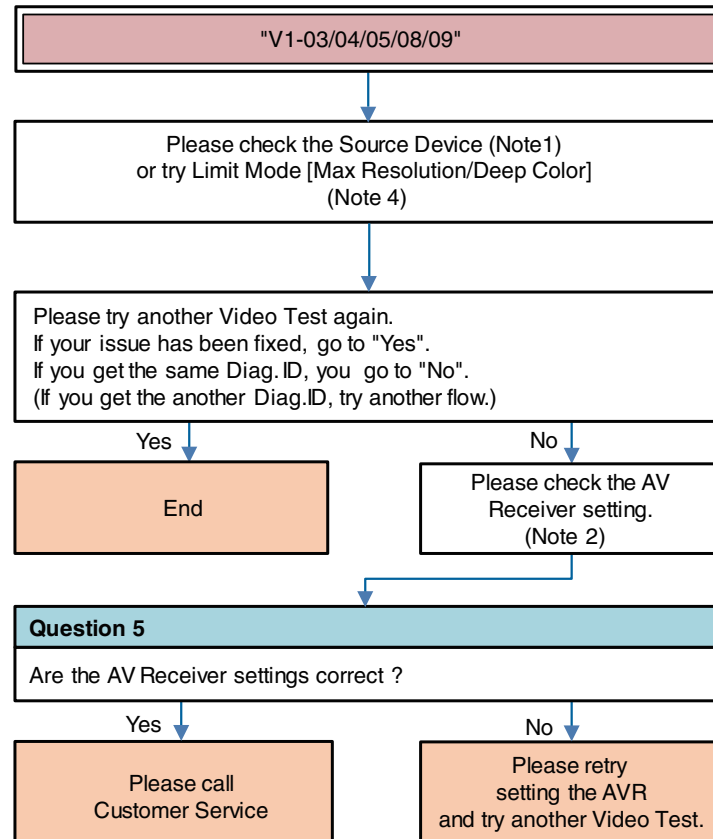
Description “V1-10”: Quality of HDMI Signal(TMDS) is bad.

Note 1 : Source Device check item (For details ( p. 45))

Note 2 : AV Receiver check item (For details ( p. 45))



Video Flow V1-03/04/05/08/09



Description “V1-03”: Cannot detect the HDMI signal from the source device at the AVR input terminal (TMDS Rx PLL Lock, but SCDT(CKDT) OFF).

Description “V1-04”: Missing Video Info, or receiving Info Error (AVI Info does not exist).

Description “V1-05”: HDMI signal has video timing Error (Timing is not correct).

Description “V1-08”: Mismatch between input resolution and the resolution that is supported by monitor.

Description “V1-09”: Audio/Video MUTE command from Source Device is always ON.

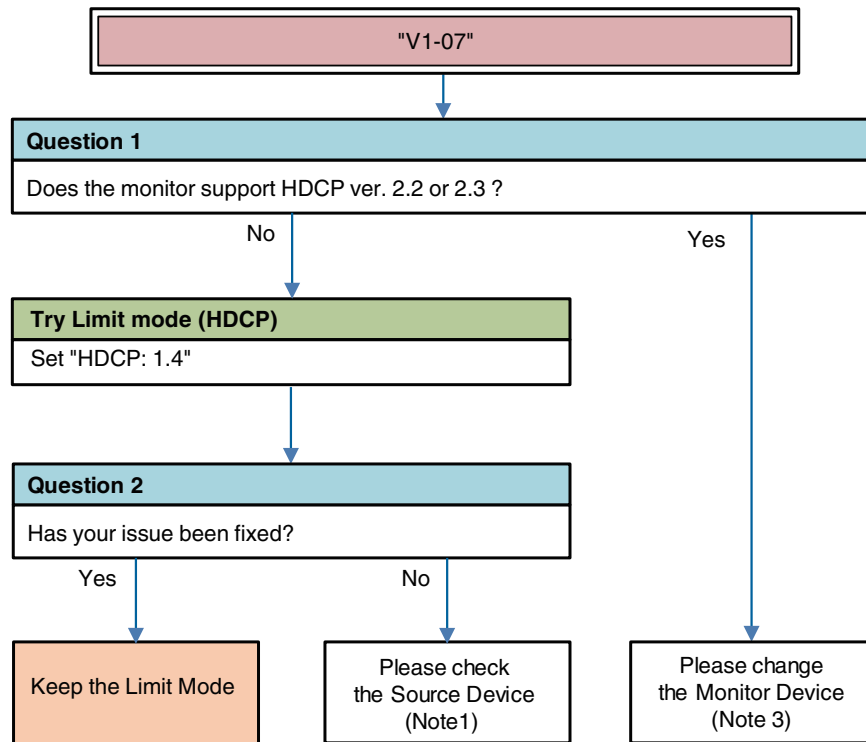
Question * :Question for user to answer

Note 1 : Source Device check item (For details (👉 p. 45))

Note 2 : AV Receiver check item (For details (👉 p. 45))



Video Flow V1-07



Description "V1-07": HDCP2.2 or 2.3/Stream ID Type mismatch (ie. Stream ID = 1, but Monitor's HDCP = V1.4).

Try *** :AVR operation

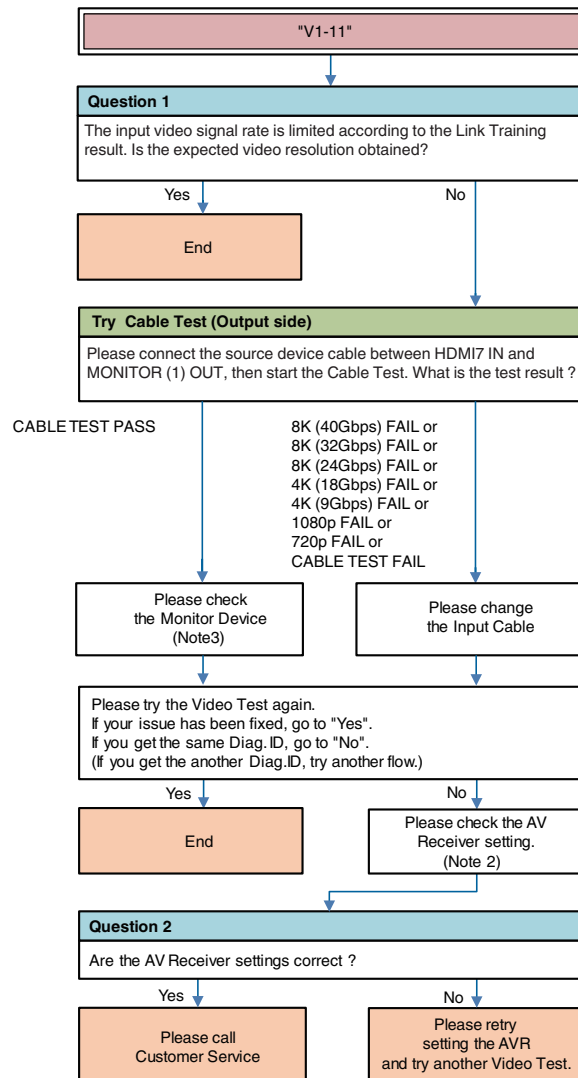
Question * :Question for user to answer

Note 1 : Source Device check item (For details (👉 p. 45))

Note 3 : Monitor Device check item (For details (👉 p. 45))



Video Flow V1-11



Description "V1-11":

Try *** :AVR operation

Question * :Question for user to answer

Note 2 : AV Receiver check item (For details (👉 p. 45.))

Note 3 : Monitor Device check item (For details (👉 p. 45.))



Video Flow V2-01/05 V3-01/05

Description "V*-01": Miscommunication with Monitor at output terminal (HPD always low).

Description "V*-05": Cannot get Monitor information (EDID from Monitor).

Try *** :AVR operation

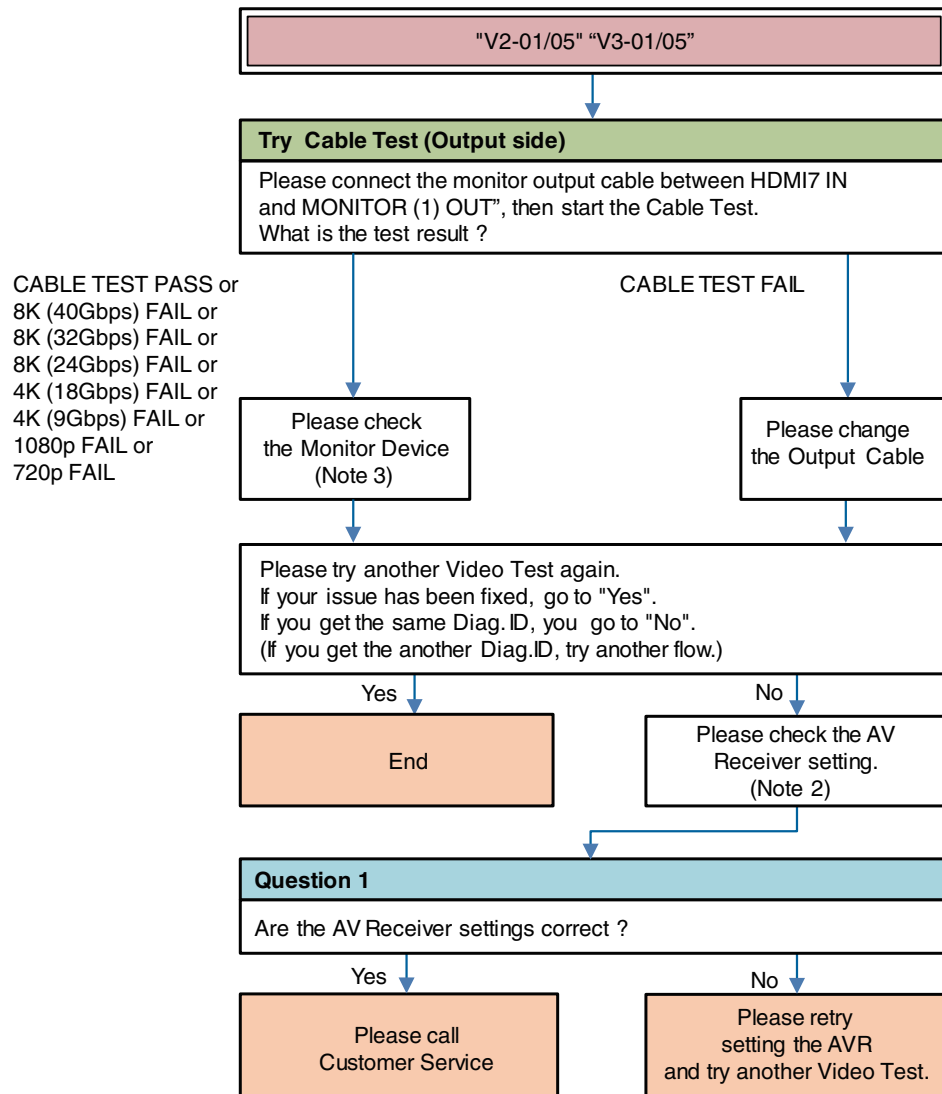
V2-** : Monitor1 error

Question * :Question for user to answer

V3-** : Monitor2 error

Note 2 : AV Receiver check item (For details (👉 p. 45))

Note 3 : Monitor Device check item (For details (👉 p. 45))



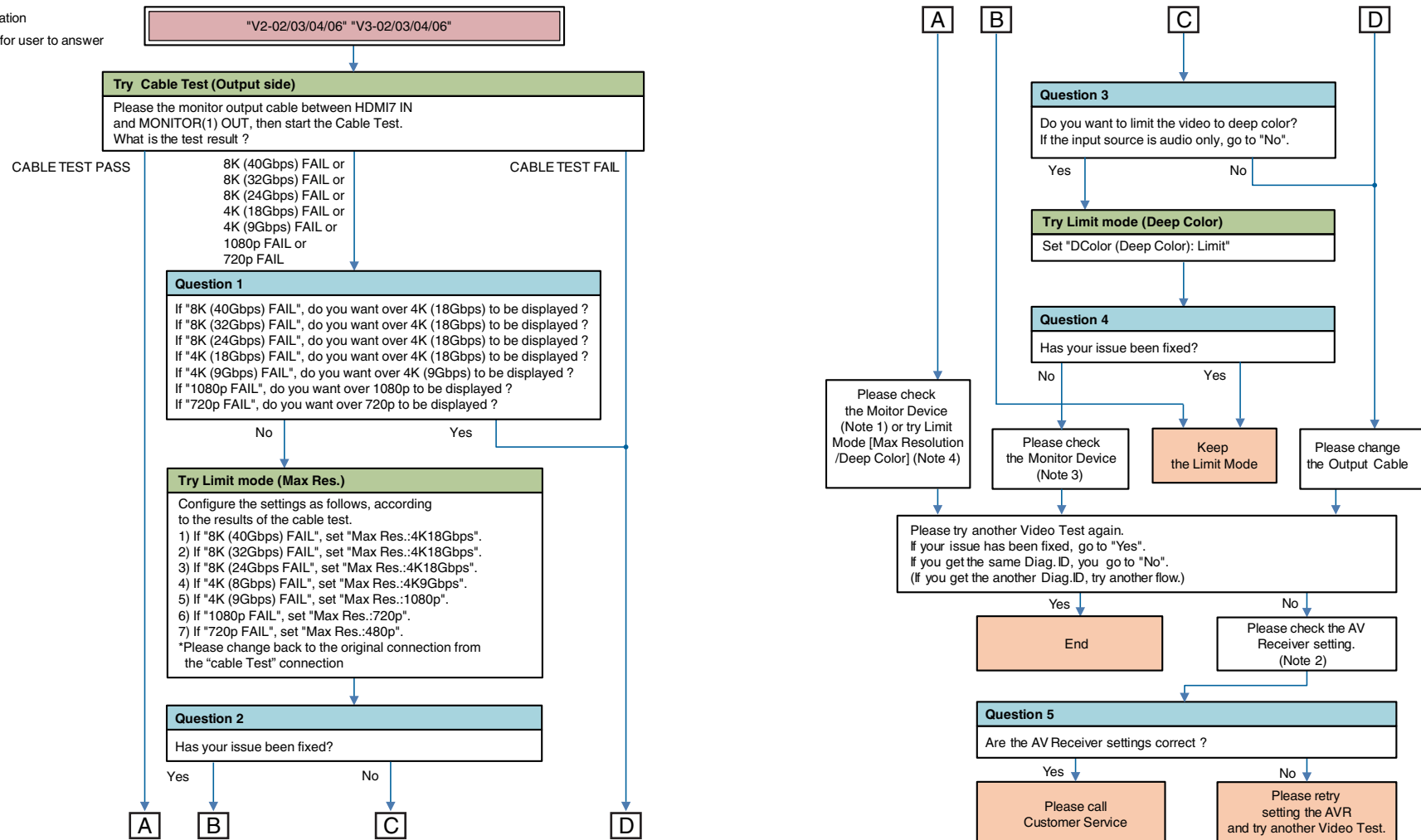
Video Flow V2-02/03/04/06 V3-02/03/04/06

Try *** :AVR operation

Question * :Question for user to answer

V2-**: Monitor1 error

V3-**: Monitor2 error



Description “V*-02”: Miscommunication with Monitor at output terminal (4K60 output setting error).


Description “V*-03”: Miscommunication with Monitor at output terminal (HPD continuous assert error).

Description “V*-04”: Miscommunication with Monitor at output terminal (Rx Sense continuous assert error).

Description “V*-06”: Copyright protection certification error with Monitor.(HDCP Error).

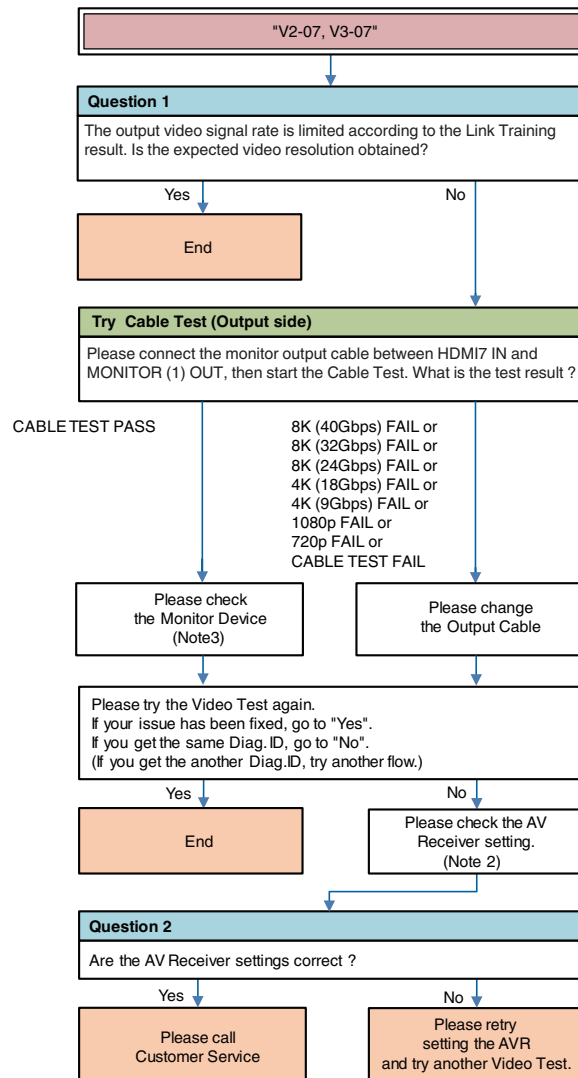
Note 2 : AV Receiver check item (For details ( p. 45))

Note 3 : Monitor Device check item (For details ( p. 45))

Note 4 : Try Limit Mode (For details ( p. 45))



Video Flow V2-07 V3-07



Description "V2-07": FRL Link Training failed and Video signal format is limited to TMDS.

Description "V3-07": FRL Link Training failed and Video signal format is limited to TMDS.

Try *** :AVR operation

V2-** : Monitor1 error

Question * :Question for user to answer

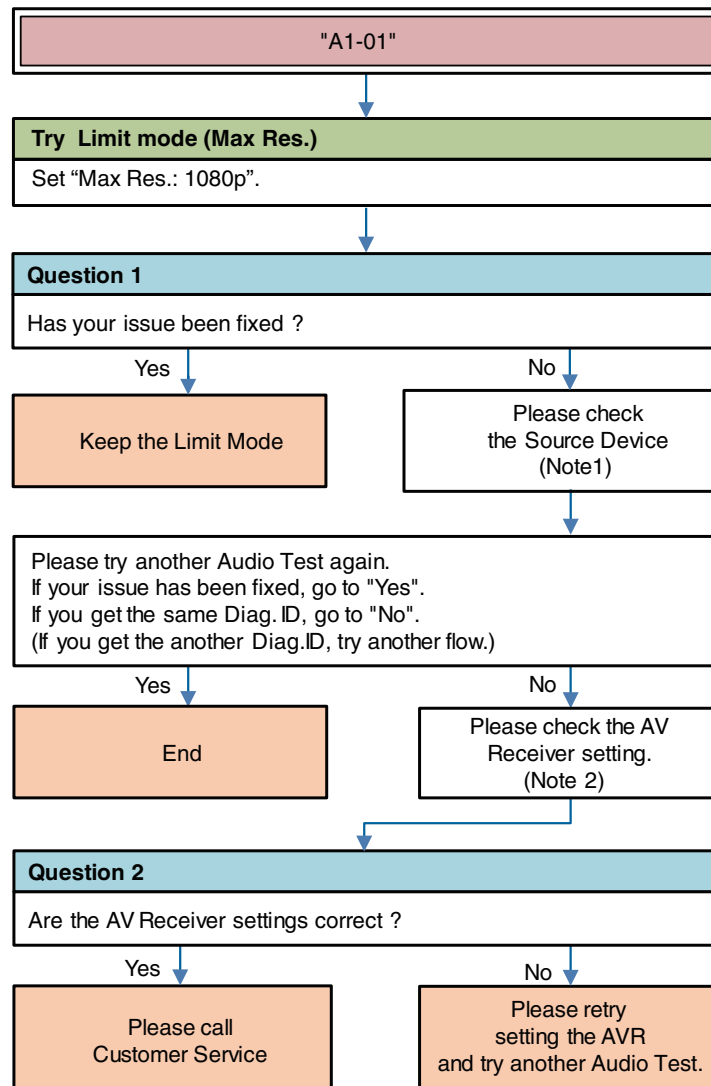
V3-** : Monitor2 error

Note 2 : AV Receiver check item (For details (👉 p. 45))

Note 3 : Monitor Device check item (For details (👉 p. 45))



Audio Flow A1-01



Description "A1-01": Audio Packet doesn't come from Source (DVI).

Try *** :AVR operation

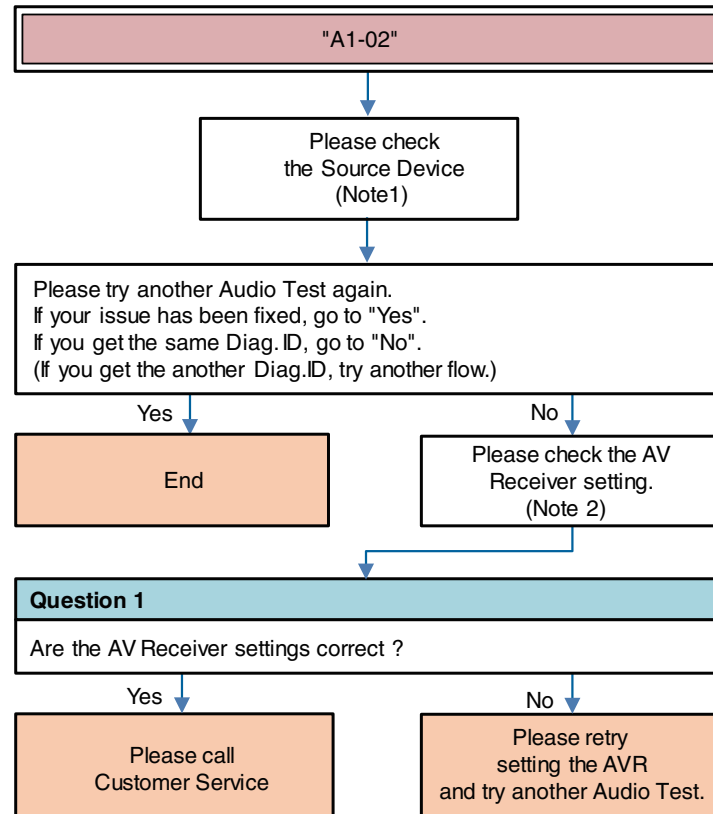
Question * :Question for user to answer

Note 1 : Source Device check item (For details (🔗 p. 45))

Note 2 : AV Receiver check item (For details (🔗 p. 45))



Audio Flow A1-02



Description "A1-02": HDMI Rx Information is not correct.

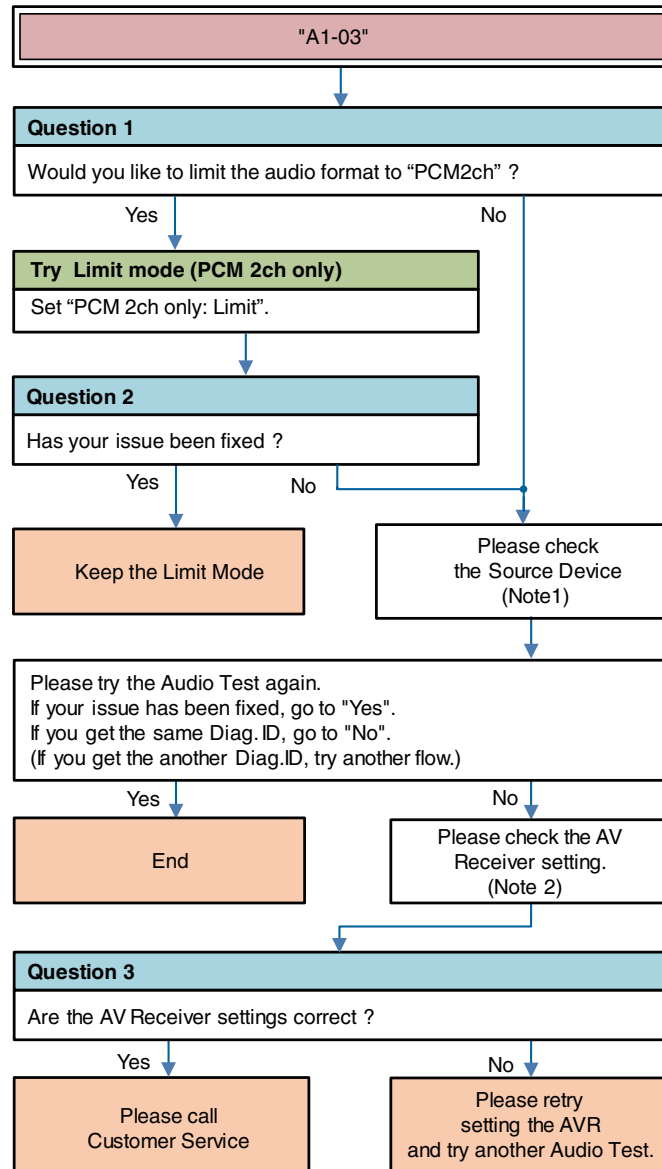
Question * :Question for user to answer

Note 1 : Source Device check item (For details (👉 p. 45))

Note 2 : AV Receiver check item (For details (👉 p. 45))



Audio Flow A1-03



Description "A1-03": Information mismatch HDMI device and DSP device (N, CTS, Channel Status, Audio Info, Layout).

Try *** :AVR operation

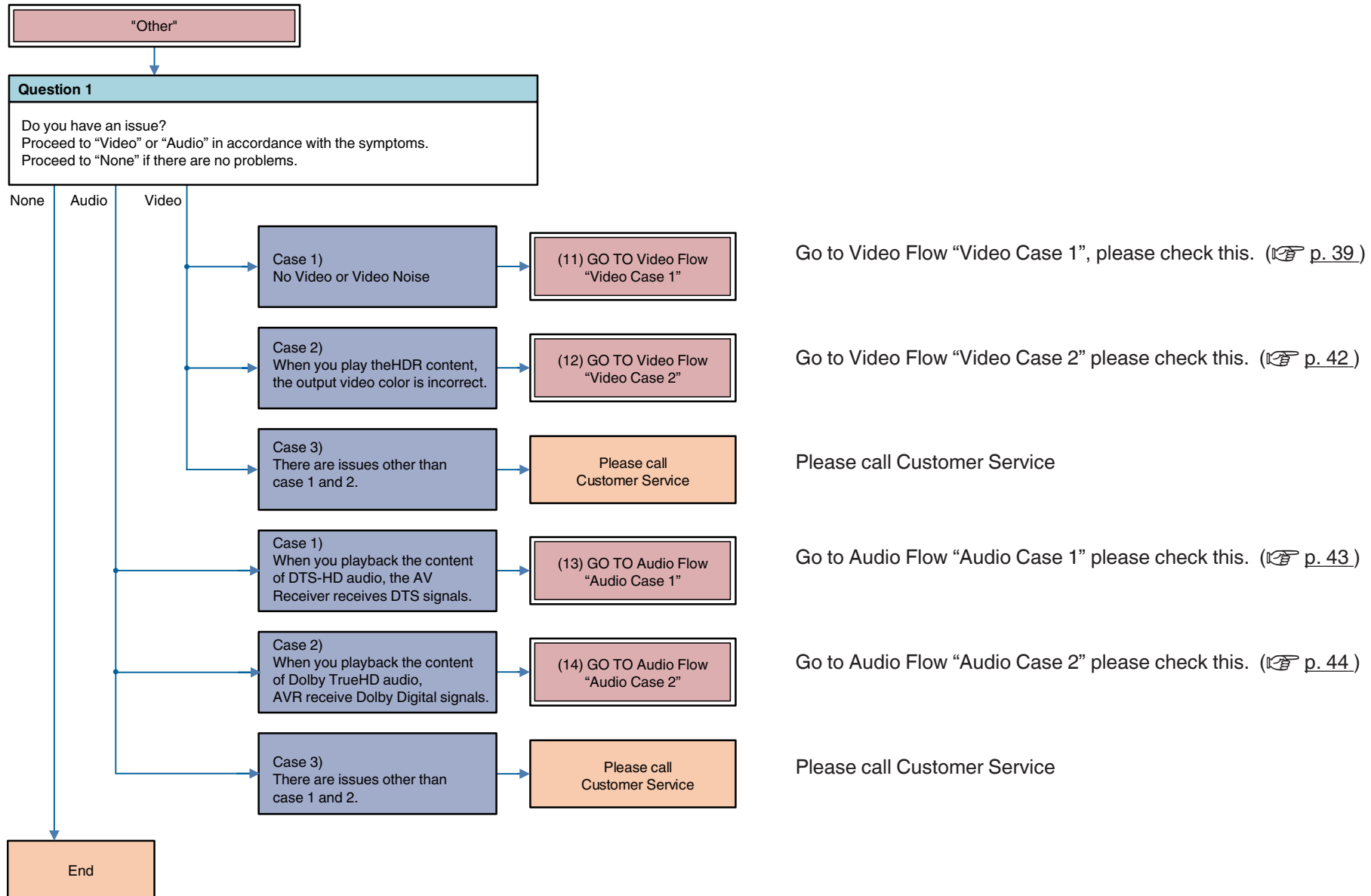
Question * :Question for user to answer

Note 1 : Source Device check item (For details (🔗 p. 45))

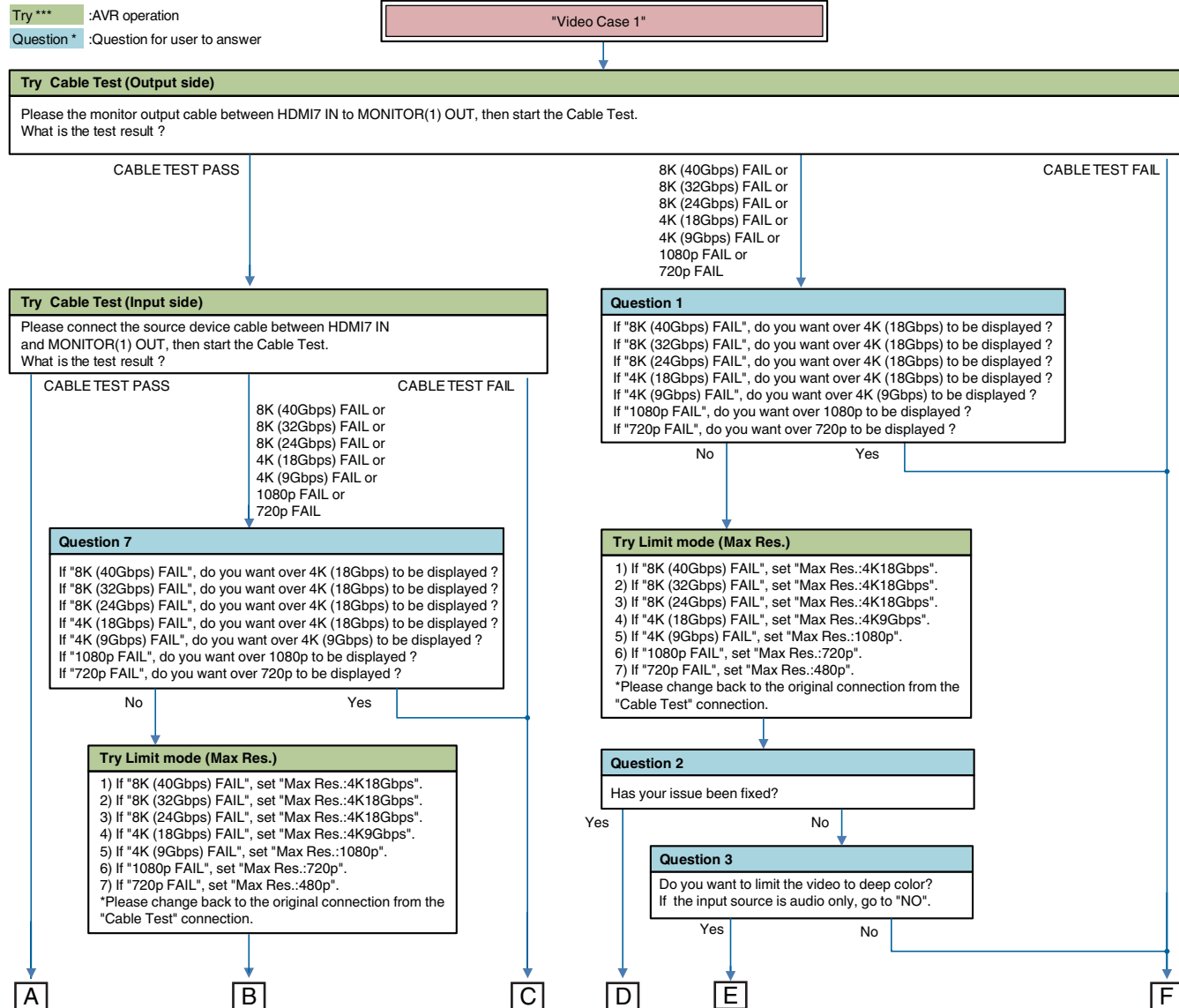
Note 2 : AV Receiver check item (For details (🔗 p. 45))

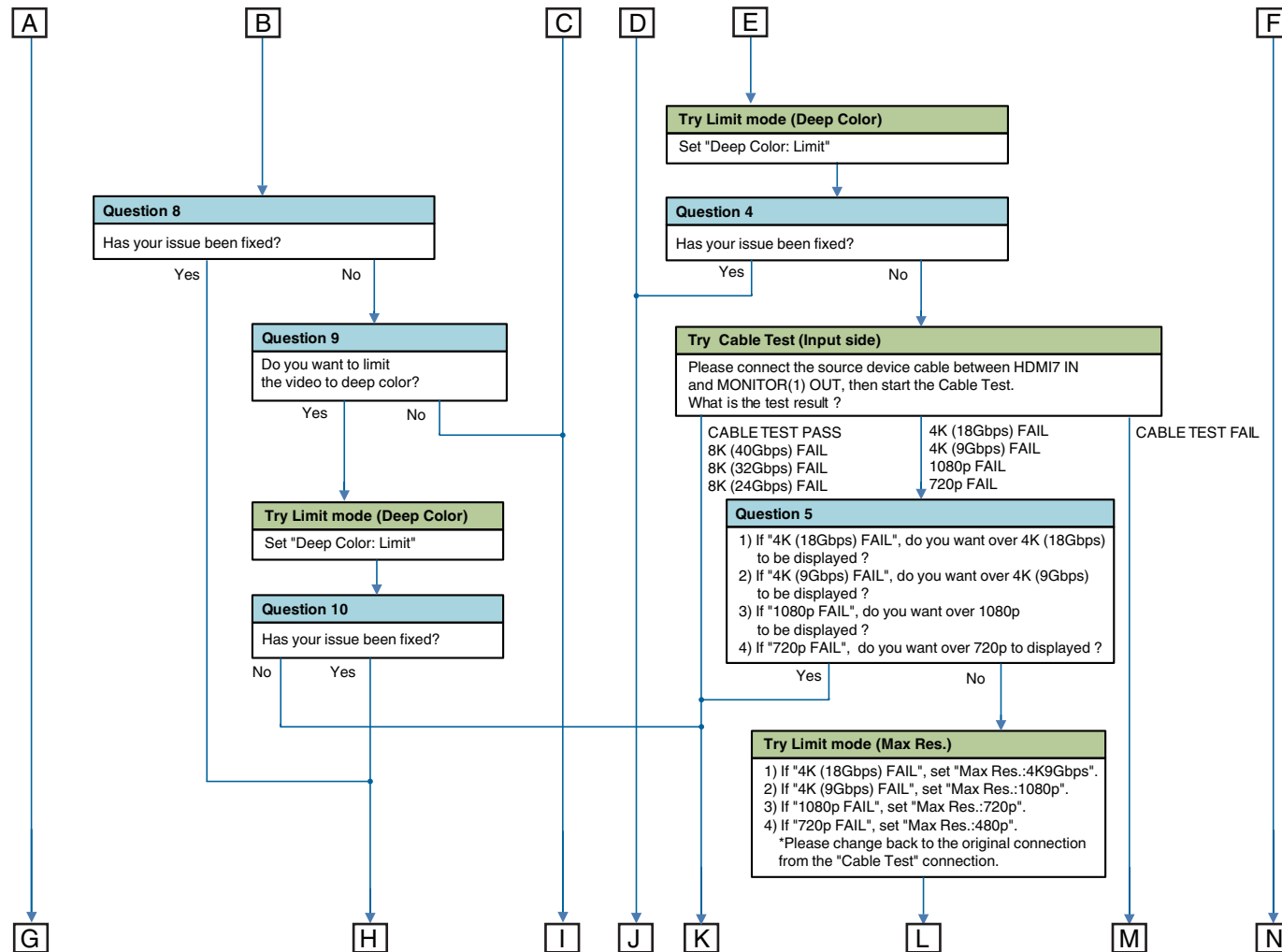


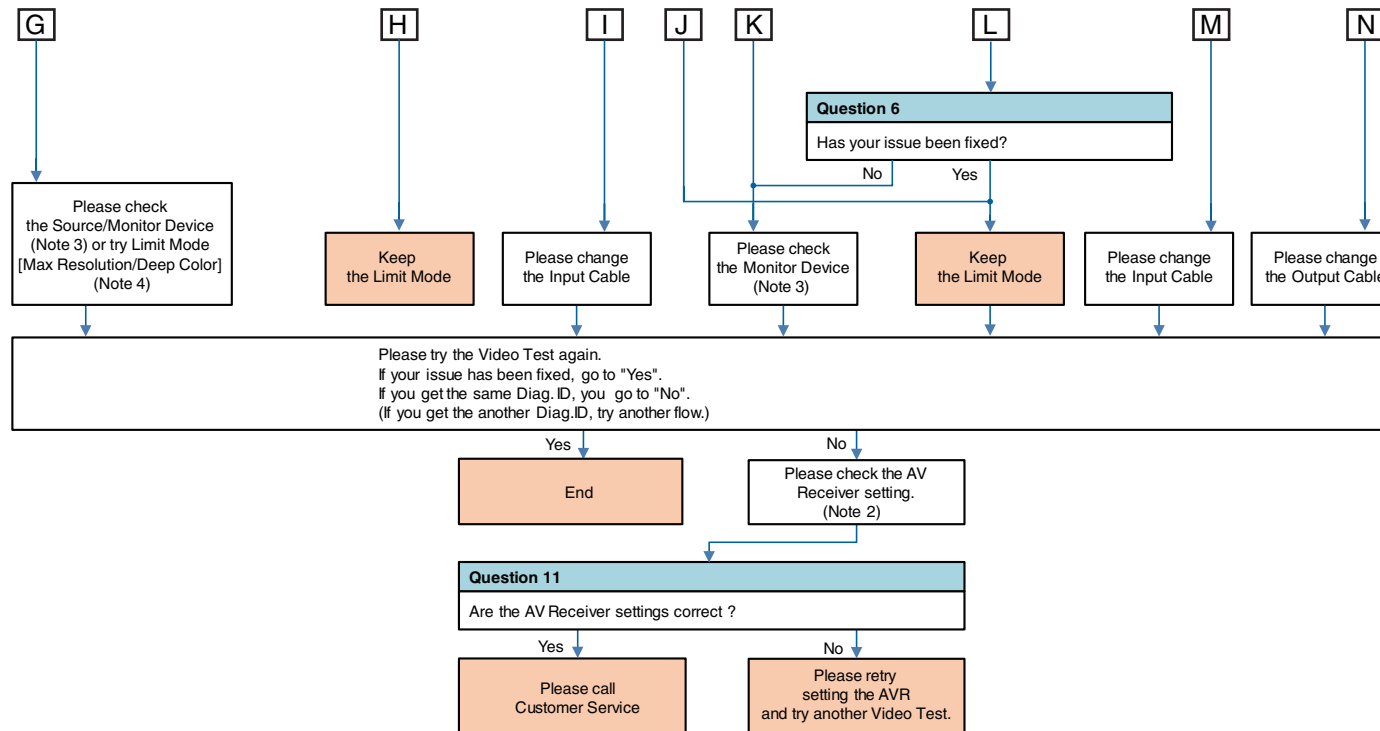
Audio/video Flow Other



Other Video Case1







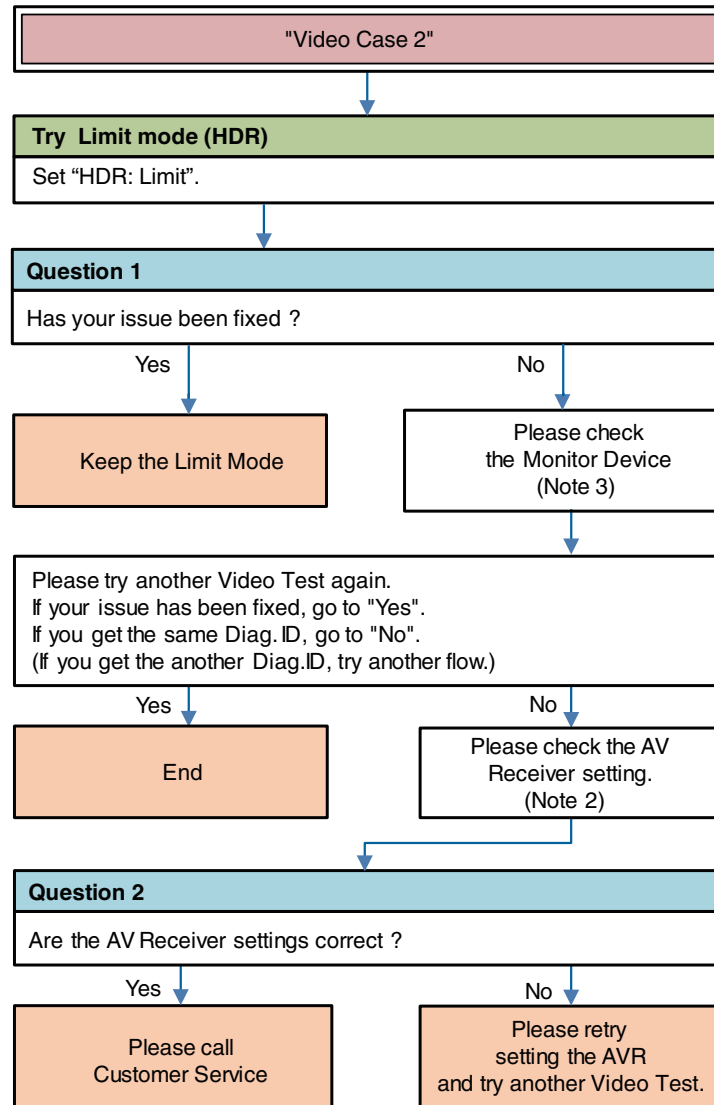
Note 2 : AV Receiver check item (For details (🔗 p. 45))

Note 3 : Monitor Device check item (For details (🔗 p. 45))

Note 4 : Try Limit Mode (For details (🔗 p. 45))



Other Video Case2



Try *** :AVR operation

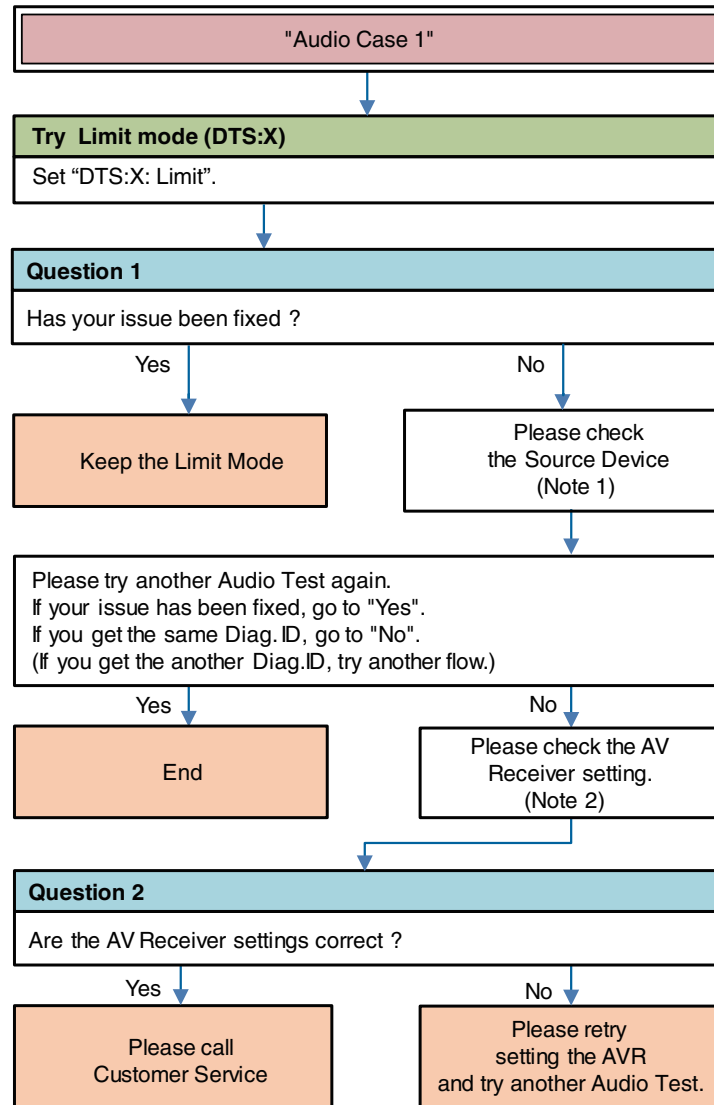
Question * :Question for user to answer

Note 2 : AV Receiver check item (For details (👉 p. 45))

Note 3 : Monitor Device check item (For details (👉 p. 45))



Other Audio Case1



Try *** :AVR operation

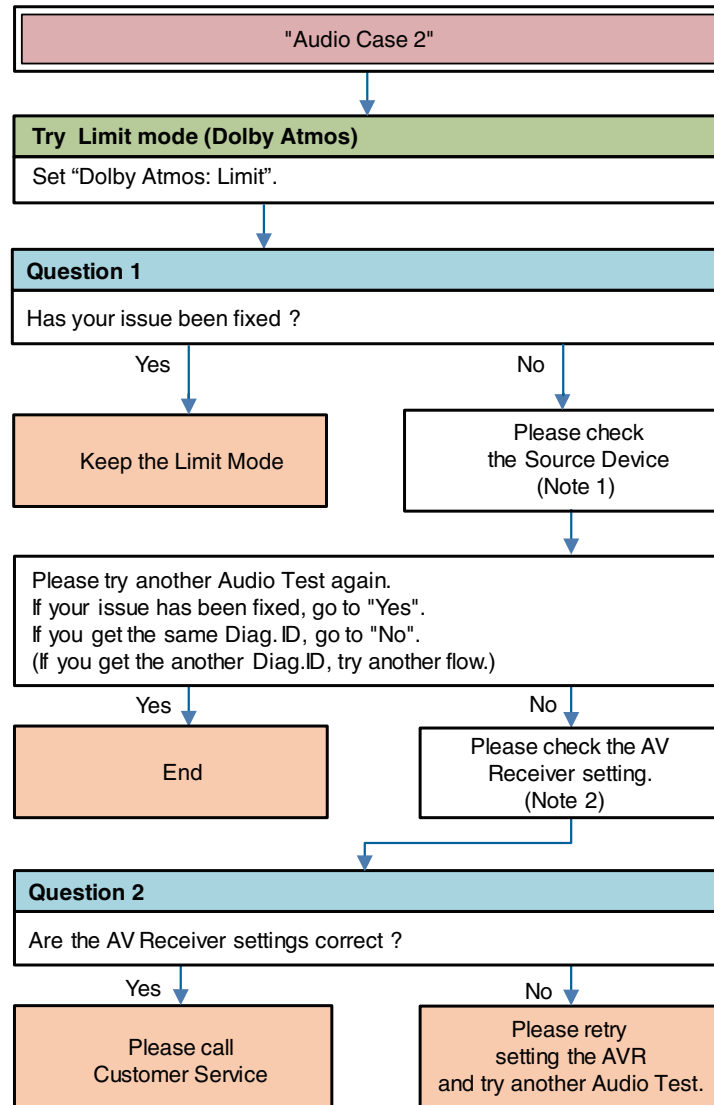
Question * :Question for user to answer

Note 1 : Source Device check item (For details (👉 p. 45))

Note 2 : AV Receiver check item (For details (👉 p. 45))



Other Audio Case2



Try *** :AVR operation

Question * :Question for user to answer

Note 1 : Source Device check item (For details (👉 p. 45))

Note 2 : AV Receiver check item (For details (👉 p. 45))



Note1: Source Device check item

- (Try) AC Off/On
- (Try) Standby/Power On
- (Check or change) Video setting (Resolution, etc...)
- (Check or change) Output Terminal setting (case of Dual output source device)
- Video check (connect the HDMI cable from Source device to the Monitor directly without the AV Receiver.)

Note 2: AV Receiver check item

- Menu Setting
 - Video → HDMI Setup → HDMI Audio Out
 - Video → 4K/8K Signal Format
 - Video → Output Settings → HDMI Video Output
 - Video → Output Settings → I/P Scaler
 - Video → Output Settings → Resolution
 - Video → TV Format
 - Inputs → Input Assign
- Connection [Source device / AV Receiver / Monitor device]

Note3: Monitor Device check item

- (Try) AC Off/On
- (Try) Standby/Power On
- (Check or change) HDCP Ver. setting
- (Check or change) EDID (4K/8K Limitation) setting
- (Check or change) limit of each HDMI input terminal
- Video check (connect the HDMI cable from Source device to the Monitor directly without AV Receiver.)

Note 4: Try Limit Mode

- Max Resolution setting
 - Set a lower resolution
 - NoLimit → 4K18Gbps → 4K9Gbps → 1080p → 720p → 480p
- Deep Color setting
 - Set a "Limit"











Appendix: Display sample list

Compatible Models



1 line display	2 line display
AVR-X3700H / AVC-X3700H	AVR-X4700H / AVC-X4700H / AVR-X6700H / AVC-X6700H

How to operate

“Starting HDMI DIAGNOSTICS Mode”(🔍 p. 5)

1 line display	2 line display
	
	
	
	

“HDMI DIAGNOSTICS Menu”(🔍 p. 6)

1 line display	2 line display
	



Cable Test



"Procedure" (👉 p. 10)

1 line display	2 line display
4 Cable Test	HDMI DIAGNOSTICS 4 Cable Test
▶Connect the cab Scrolling display	CABLE TEST ▶Connect the cab Scrolling display (2nd line)
▶CableTest Start	CABLE TEST ▶Start
Testing...	CABLE TEST Testing...
CABLE TEST FAIL ↓↑Blink ▶Retry	CABLE TEST FAIL ▶Retry
CABLE TEST FAIL ↓↑Blink ▶Exit	CABLE TEST FAIL ▶Exit



Limit mode

“Limit Mode Menu”(☞ p. 13)

1 line display	2 line display
	



“Procedure (Max Resolution)” (p. 18)

1 line display	2 line display
<pre>5 Limit Mode</pre>	<pre>HDMI DIAGNOSTICS 5 Limit Mode</pre>
<pre>2 MaxRes:4K18G</pre>	<pre>LIMIT MODE 2 MaxRes:4K18G</pre>
<pre>▶*4K9Gbps</pre>	<pre>MAX RESOLUTION ▶*4K9Gbps</pre>
<pre>Save? ↑↓Blink ▶Current source<</pre> <p>Scrolling display</p>	<pre>Save? ▶Current source<</pre> <p>Scrolling display (2nd line)</p>
<pre>2 MaxRes:4K9G</pre>	<pre>LIMIT MODE 2 MaxRes:4K9G</pre>



Log & EDID

"Procedure" (🔍 p. 22)

1 line display	2 line display
<pre> 6 Log/EDID </pre>	<pre> HDMI DIAGNOSTICS 6 Log/EDID </pre>
<pre> Log/EDID ↓↑Blink ▶Start </pre>	<pre> LOG/EDID ▶Start </pre>
<pre> USB SUCCESS ↓↑Blink ▶Exit </pre>	<pre> USB SUCCESS ▶Exit </pre>
<pre> Ticket No:xxxxx ↓↑Blink ▶Exit </pre>	<pre> Ticket No:XXXXX ▶Exit </pre>



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