



MURIDEO®

SEVEN GENERATOR

Professional Audio/Video Testing Device for HDMI 2.0, eARC, Latency & Calibration

An Approved Test Device for Dolby Audio™

User Manual

(Version 1.0)



The Seven Generator: An Approved Test Device for Dolby Audio™

The Seven Generator is an audio video testing and troubleshooting tool. Able to generate thousands of different types of signals via HDMI, ARC and eARC signal paths. The extensive audio and video capabilities include:

- An Approved Test Device for Dolby Audio™
- ARC, eARC Generator
- Up to 120 Frame Video Playback and Testing
- A/V Sync, Audio Latency, Video Latency (AV Sync & Input Lag)
- Dolby Vision, HDR, HLG, SDR Support
- User Patterns & Video Uploads (USB 3.0)
- Raw YUV Video & Test Pattern Playback
- Diversified Video Systems (DVS) HDR Test pattern Suite (YUV)
- Other clips and patterns from ISF, PVA, Spears & Munsil, Sony Pictures, Portrait Displays, and Bill Wetzel

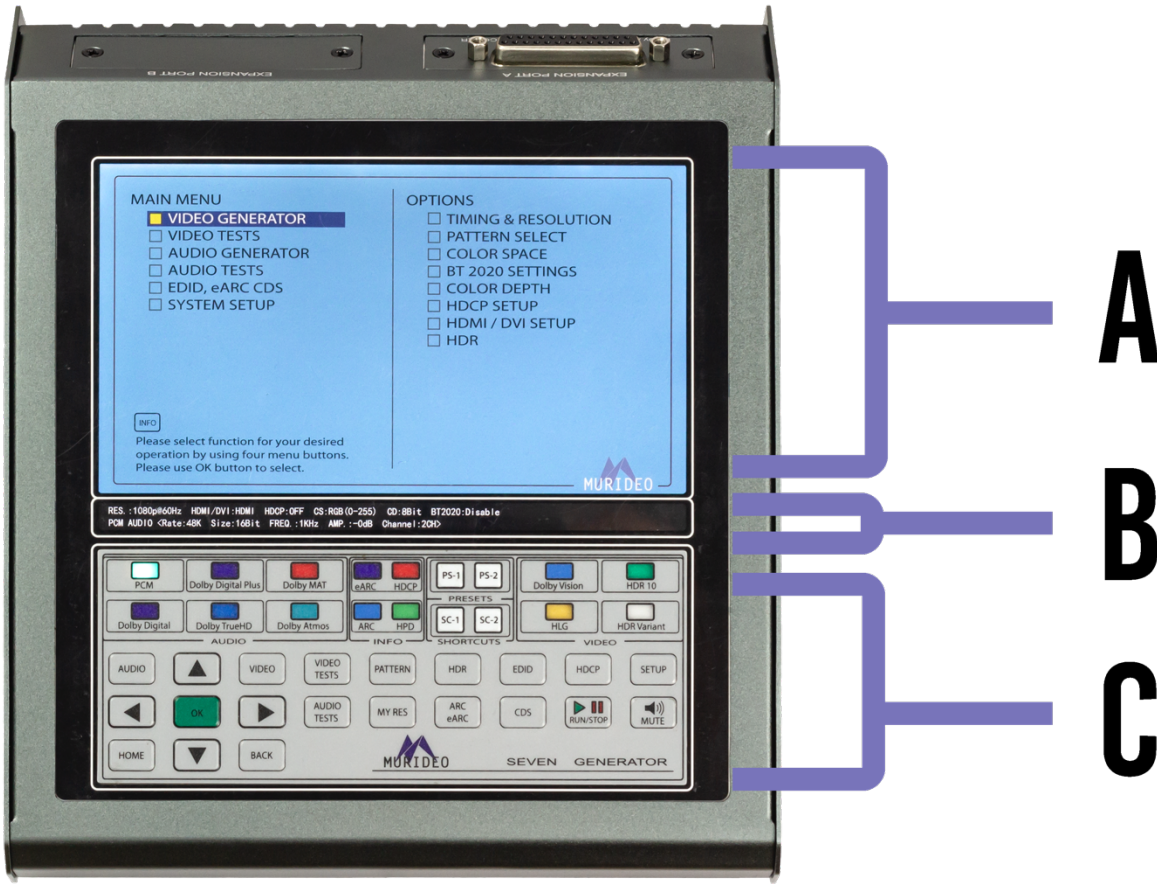
Key Features:

- Complete HDMI 2.0 Support (All Revisions)
- 600 Mcsc - 2160P @60 4:4:4 Maximum Resolution
- 4K BT2020 (WCG) 10/12 Bit Support (Native)
- Dolby Vision, HDR 10, HLG, SDR
- HDCP 2.3 Support
- HDMI 2.1 Features
 - eARC Tx
 - 1080P 120Hz patterns and video playback
- HDMI 2.1 Upgrade Option (Future)
 - Full FRL Support
 - Full 48Gbps Video Playback
- ISF Labs Certified
- Control
- Haptic Front Keypad & 1080P Screen
- PC Control Software
- Web Interface (Hosted on device)
- API (Application Programming Interface) Available
- Reporting/Exporting
- Reference Source / Auto-Control for CalMAN (coming soon), Light Illusion (coming soon)
- Optimized 7" 1080P OLED display and simple menu system, paired with logical feedback make it ideal to "pick up and use".
- Pattern Uploader
- USB 3.0 for fast uploads
- 1.5 TB of memory with plenty of memory for user uploads
- Reservation for up to 3 minutes of full 4K video
- Native YUV File upload and playback

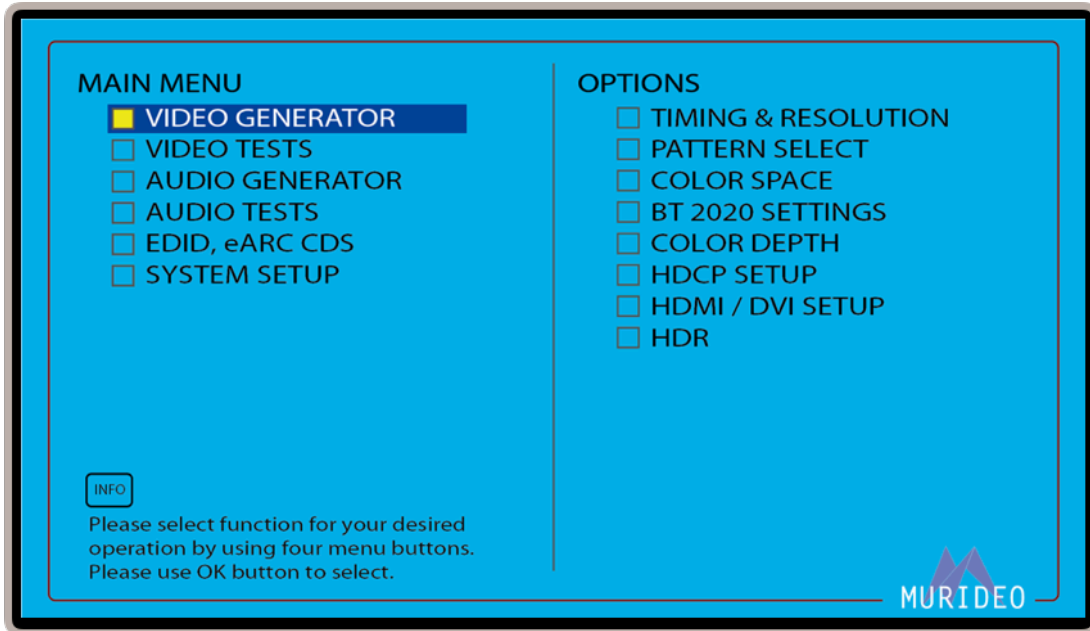
Included Accessories

- SEVEN Generator
- Hard Case
- Mini XLR Microphone
- Optical Sensor
- Mini Tripod
- Hand Straps
- Power Supply (12V/3A Locking Barrel Type)





A - SEVEN GENERATOR – DISPLAY



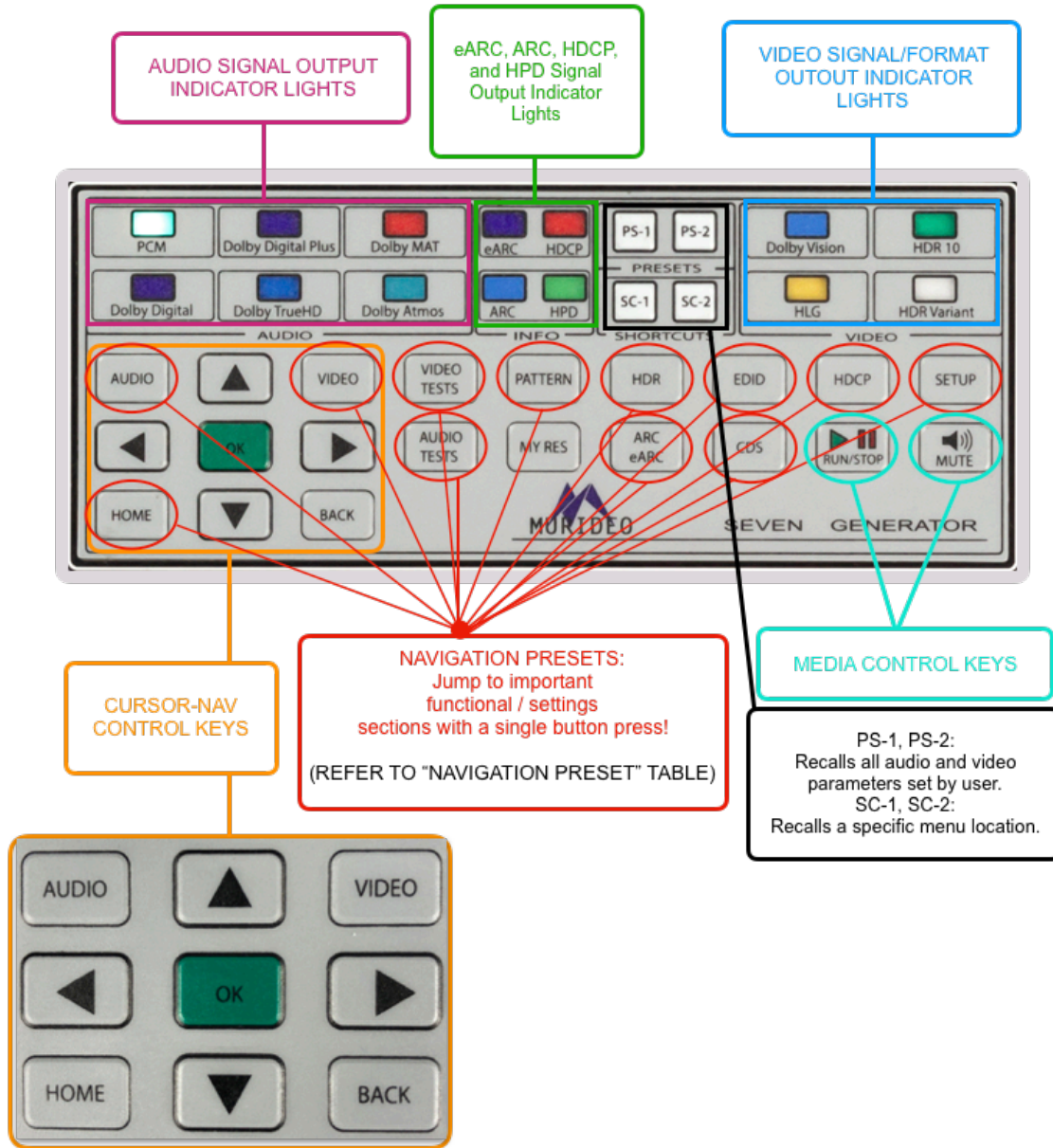
The SEVEN GENERATOR includes a High Resolution 1080P Full Color display.

B - SEVEN GENERATOR – AUDIO / VIDEO OUTPUT INFO BAR

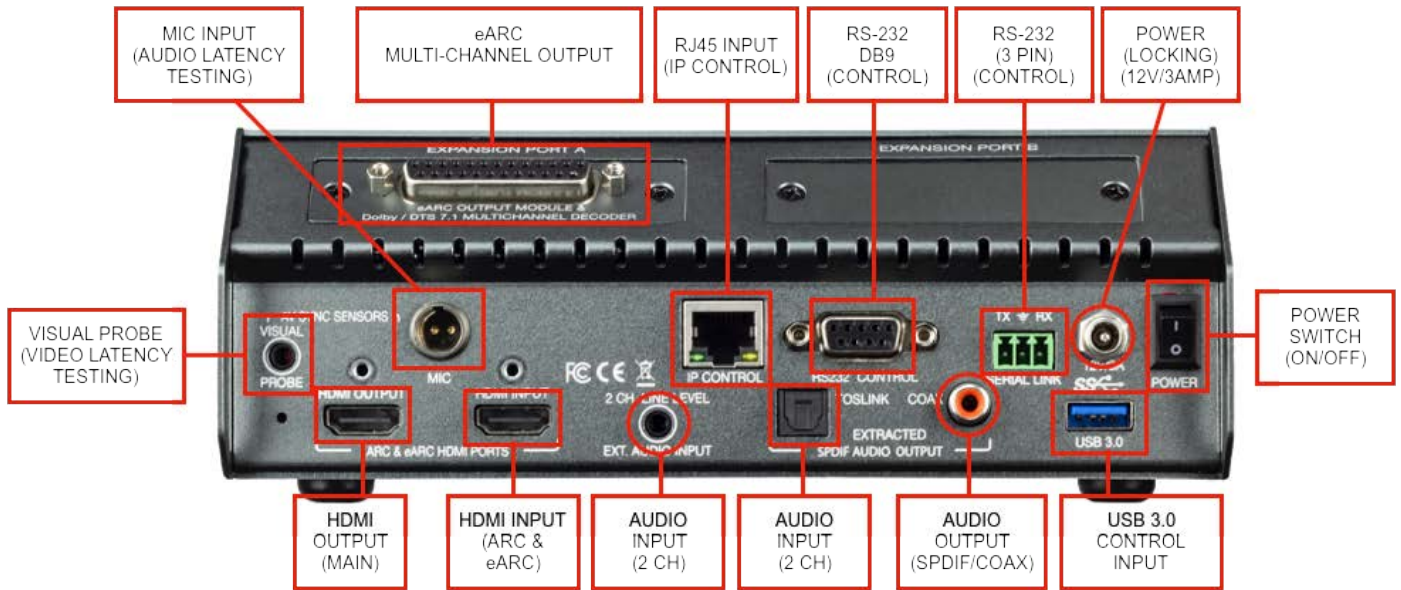


The AUDIO / VIDEO OUTPUT INFO BAR includes all pertinent video and audio output information including resolution, timing, color space, color depth, PQ, PCM audio, Dolby Audio, sample rates, data size, audio frequency, and audio channel counts.

C- SEVEN GENERATOR – KEYBOARD



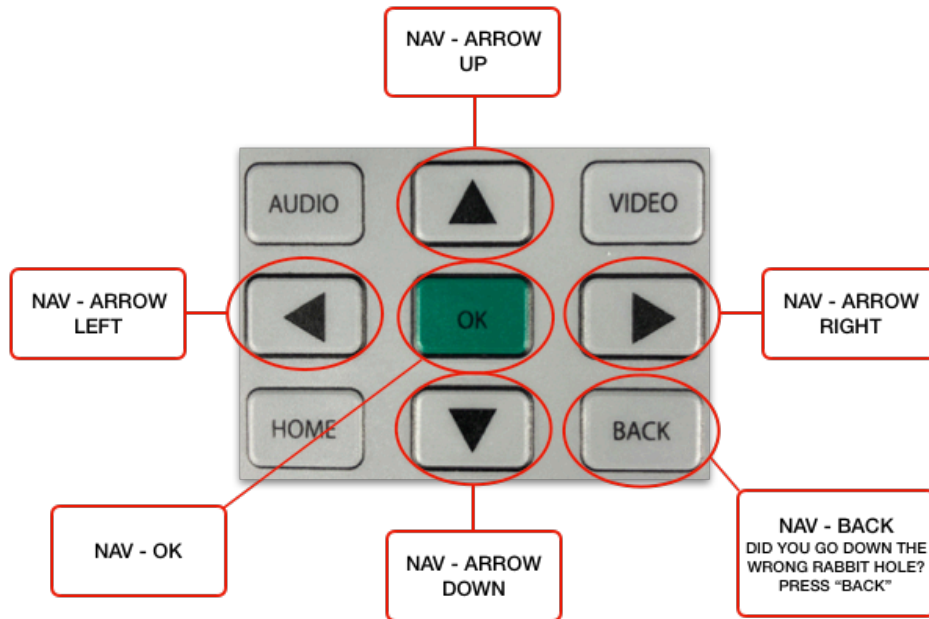
SEVEN GENERATOR – CONNECTIONS



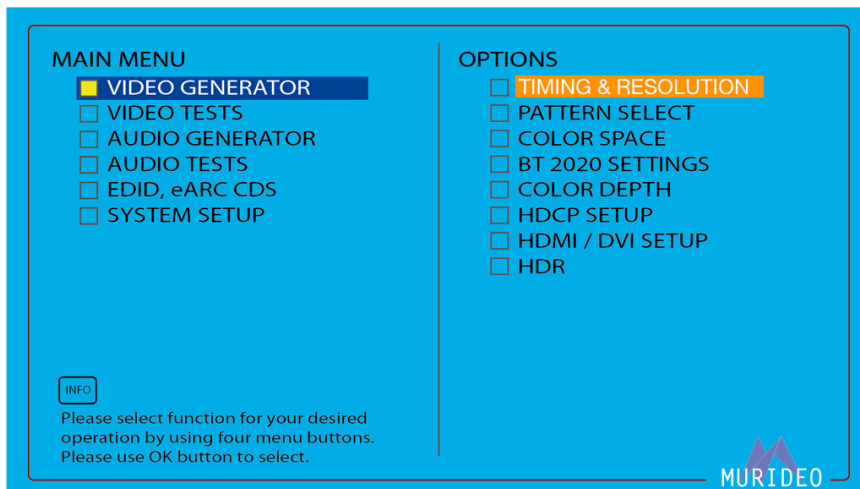
SEVEN GENERATOR – NAVIGATION TUTORIAL

FIRST ACTIVITY: LEARN TO NAVIGATE THRU THE SEVEN GENERATOR’S EXPANSIVE MENUS.

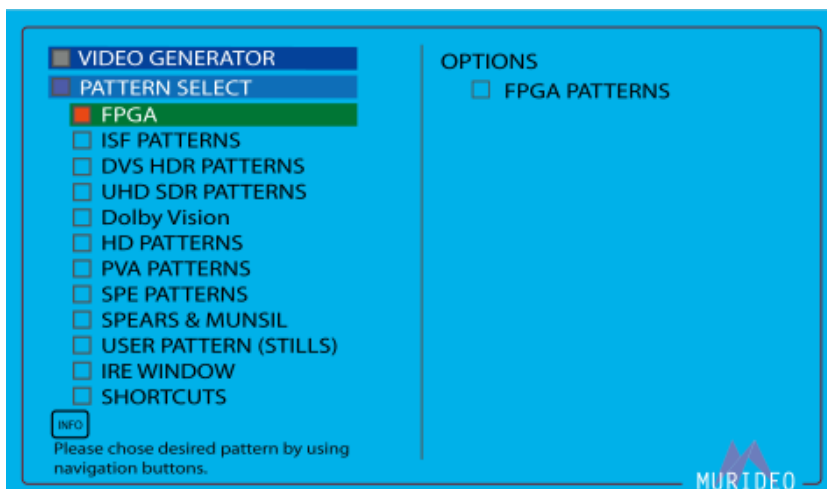
SELECT A DVS HDR EVALUATION PATTERN by navigating to the DVS HDR Menu, then OPTIONS, and then EVALUATION PATTERNS. Refer to the diagram immediately below



1. Verify that the SEVEN GENERATOR is Powered OFF.
2. Connect a high-performance HDMI cable to the SEVEN GENERATOR'S "HDMI OUTPUT" port, and also to an HDR 10 compatible display.
3. Power Up the SEVEN GENERATOR using the On/Off switch.
4. Starting from the MAIN MENU screen, use the NAV-ARROW UP and NAV-ARROW DOWN keys to highlight the "VIDEO GENERATOR" Section. (This one is easy since it is at the top of the list.)
5. Press the GREEN "OK" key.

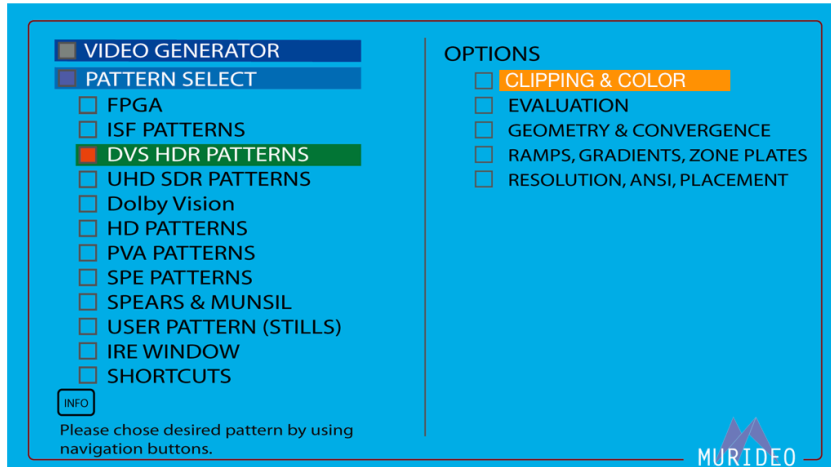


6. Looking at the right side of the screen, notice that the "TIMING & RESOLUTION" OPTION is now highlighted in ORANGE.
7. Press the "NAV-ARROW DOWN BUTTON" to highlight the "PATTERN SELECT" OPTION.
8. Press the GREEN "OK" key.



9. Looking at the left side of the screen, notice new sub-menu selections under the "VIDEO GENERATOR" / "PATTERN SELECT" menu tree.
10. Arrow Down and highlight the "DVS HDR PATTERNS" menu item.

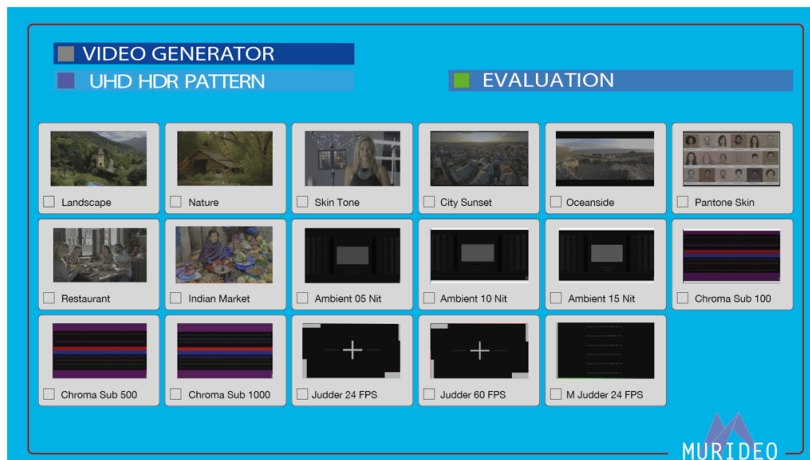
11. Press the GREEN “OK” key.



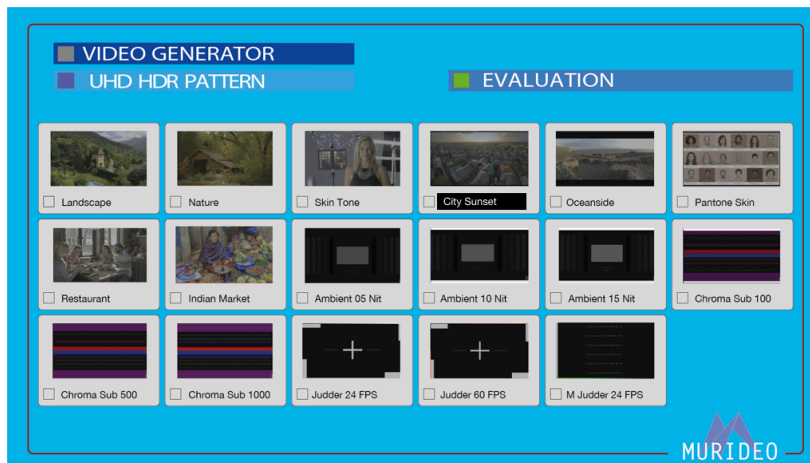
12. On the right side of the screen, notice that the “CLIPPING & COLOR” OPTION is now highlighted in ORANGE.

13. Arrow Down and highlight the “EVALUATION” OPTION.

14. Press the GREEN “OK” key.

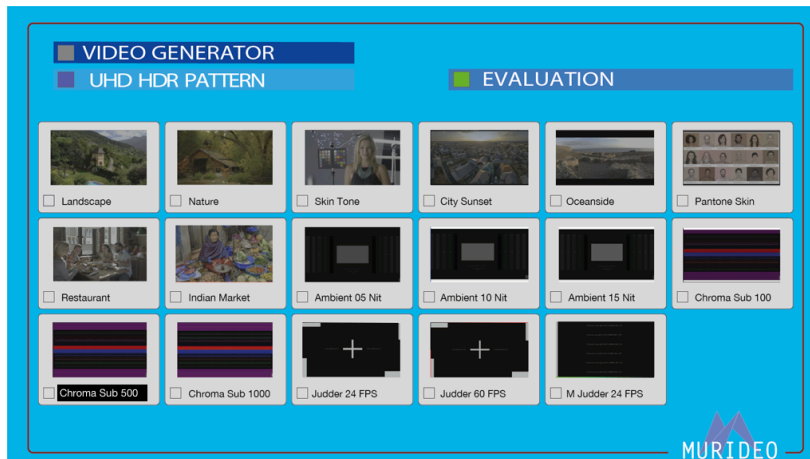


15. Press the NAV-ARROW RIGHT button until the “City Sunset” pattern is highlighted in BLACK and then press the GREEN “OK” key.



16. Now, NAV-ARROW DOWN and then NAV-ARROW LEFT until the “Chroma Sub 500” pattern is highlighted in BLACK.

17. Press the GREEN “OK” key.



18. Select any other patterns you might like to look at, and when you are finished - press the “BACK” key several times - or press the “HOME” key to jump all the way back to the “MAIN MENU” screen.

SEVEN GENERATOR – NAVIGATION PRESET TABLE

The following table covers the various SEVEN GENERATOR'S NAVIGATION PRESET buttons and the screens/pages that are accessed after pressing any NAVIGATION PRESET button.



HOME / MAIN MENU PAGE

MAIN MENU

- VIDEO GENERATOR
- VIDEO TESTS
- AUDIO GENERATOR
- AUDIO TESTS
- EDID, eARC CDS
- SYSTEM SETUP

OPTIONS

- TIMING & RESOLUTION
- PATTERN SELECT
- COLOR SPACE
- BT 2020 SETTINGS
- COLOR DEPTH
- HDCP SETUP
- HDMI / DVI SETUP
- HDR

INFO

Please select function for your desired operation by using four menu buttons. Please use OK button to select.

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VIDEO PRESET MENU PAGE

MAIN MENU

- VIDEO GENERATOR
- VIDEO TESTS
- AUDIO GENERATOR
- AUDIO TESTS
- EDID, eARC CDS
- SYSTEM SETUP

OPTIONS

- TIMING & RESOLUTION
- PATTERN SELECT
- COLOR SPACE
- BT 2020 SETTINGS
- COLOR DEPTH
- HDCP SETUP
- HDMI / DVI SETUP
- HDR

INFO

Please select function for your desired operation by using four menu buttons. Please use OK button to select.

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VIDEO TESTS MENU PAGE

MAIN MENU

- VIDEO GENERATOR
- VIDEO TESTS
- AUDIO GENERATOR
- AUDIO TESTS
- EDID, eARC CDS
- SYSTEM SETUP

OPTIONS 1 OF 2

- Spicey Pixels Chongqing Day
- Spicey Pixels Chongqing Night
- Spicey Pixels Chongqing Lighs
- Spicey Pixels Chongqing Cars
- Spicey Pixels Chongqing Cars2
- Spicey Pixels London Yogurt
- Spicey Pixels London River
- Spicey Pixels London Sidewalk
- Spicey Pixels London Busses
- Spicey Pixels London Café
- Spicey Pixels Mukilteo Street
- Spicey Pixels Mukilteo Loading
- Spicey Pixels Carnival Wheel
- Spicey Pixels Carnival Ride

INFO
Please select function for your desired operation by using four menu buttons. Please use OK button to select.

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AUDIO GENERATOR MENU PAGE

MAIN MENU

- VIDEO GENERATOR
- VIDEO TESTS
- AUDIO GENERATOR
- AUDIO TESTS
- EDID, eARC CDS
- SYSTEM SETUP

OPTIONS

- PCM AUDIO
- Dolby AUDIO GENERATOR
- EXT. ANALOG L/R INPUT

INFO
Please select function for your desired operation by using four navigation buttons. Please use OK button to select.

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AUDIO TESTS MENU PAGE

AUDIO TESTS

- AUDIO TESTS
- SOURCE-SPEAKER TEST
- SYNC & LATENCY TESTS

OPTIONS

- SPEAKER ALLOCATION
- WHITE NOISE
- SWEEP AUDIO

INFO

Please select desired option for SPEAKER TEST, by using navigation buttons. Press OK to execute selected function.

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PATTERN SELECT FPGA PATTERNS

VIDEO GENERATOR

PATTERN SELECT

FPGA PATTERNS 1 OF 2

- 100% COLOR BARS
- 75% COLOR BARS
- 8 STEP GRAY BARS
- 16 STEP GRAY BARS
- RED SCREEN
- GREEN SCREEN
- BLUE SCREEN
- CYAN SCREEN
- CYAN SCREEN
- YELLOW SCREEN
- BLACK SCREEN
- WHITE SCREEN
- VERTICAL SPLIT
- HORIZONTAL SPLIT
- MULTIBURST VER.
- MULTIBURST HOR.
- QUARTER BLOCK 1
- QUARTER BLOCK 2

▼ SCROLL DOWN

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HDR OPTIONS MENU PAGE

VIDEO GENERATOR

HDR

INFO

Please select desired Dynamic Range standard for your video output, by using navigation buttons.

OPTIONS

- HDR OFF (SDR)
- HDR-10
- HLG
- HDR CUSTOM 1
- HDR CUSTOM 2
- HDR CUSTOM 3
- HDR CUSTOM 4
- HDR CUSTOM 5
- HDR CUSTOM 6
- HDR CUSTOM 7
- HDR CUSTOM 8



DISPLAY EDID INFO PAGE (example info showing)

EDID, eARC CDS

SINK DEVICE EDID INFO

- eARC/ARC AUDIO INFO
- ARC HPD CTL
- eARC PHYSICAL HPD CTL
- eARC HPD bit CTL
- HDMI +5V POWER CTL
- eARC TX LATENCY
- eARC RX LATENCY

INFO

Please select desired function by using navigation buttons. Press OK button to execute

Manufacture Name:GSM
 Monitor Name: LG TV
 Short Audio Descriptor:
 LPCM/2CH/192K 96K 48K 1K 32K/24b 20b 16b
 AC-3/6CH/48K 44 1K 32K/640(kbps)
 Dohly D+/8CH/48K 44 1K 32K/Atmos/no acmed28
 MAT/8CH/48K/DTHD&MAT PCM/hash opt.
 DTS/6CH/96K 88K 48K 44 1K/1536(kbps)
 DTS-HD/8CH/192K 176K 96K 88K 48K 1K
 YSDB:
 Deepcolor>YES 3D>NO Ex-Res (4K 3G)> YES
 Latency>not present
 I_Latency>not present
 HF-VSDB: 340Msc>YES SCDC>YES Y420 DC>YES
 Data Block: Y420>YES HDR>YES DolbyVision>YES
 VSVDB(version1 12Byte):
 YUV422 12bit>NO 2160p60Hz>YES global_dimming>NO
 Backlight_ctl>NO BackLt_Min_Luma>N/A
 Interface>Standard&Low latency 422 DM Support for 444>NO
 Colorimetry>P3-D65
 Rx>0.683 Ry>0.320 Gx>0.253 Gy>0.703 Bx>0.140 By>0.046
 DM Version>3. x Min>0.000062 (CV=0x01) Max>700(CV=0x0c)



HDCP OPTIONS PAGE

VIDEO GENERATOR

HDCP SETUP

OPTIONS

- HDCP OFF
- HDCP 1.4
- HDCP 2.2
- HDCP AUTO

INFO

Please select desired HDCP option for your video output, by using navigation buttons.

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SYSTEM SETUP MANAGEMENT PAGE

SYSTEM SETUP

IP MANAGEMENT

- ARC/eARC OUT SETUP
- VITALS
- FAN CONTROL
- RESET ALL SETTINGS

OPTIONS

- DHCP ON
- DHCP OFF

HOST IP:
192. 168. 001. 239

ROUTER IP:
192. 168. 001. 001

IP MASK:
192. 255. 255. 000

MAC ADDRESS:
00. 08. dc. 01. 02. 03

INFO

Please chose desired eARC TX latency in SEVEN-G, that will emulate TV set eARC TX, by using navigation buttons.
Use OK button to select.
ERX stands for eARC RX according to HDMI Specification 2.1

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MY RES SETTINGS PAGE

- VIDEO GENERATOR
- MY RESOLUTION

OPTIONS

- 720P 60Hz
- 1080i 60Hz
- 1080P 24Hz
- 1080P 60Hz
- 3840x2160 24Hz
- 3840x2160 60Hz
- 4096x2160 24Hz
- 4096x2160 60Hz
- 1920x1200 60Hz

INFO
Please select desired Video resolution for your test.






ARC & eARC SETUP PAGE

- SYSTEM SETUP
- IP MANAGEMENT
- ARC/eARC OUT SETUP
- VITALS
- FAN CONTROL
- RESET ALL SETTINGS

OPTIONS

- DISABLE ARC/eARC
- ENABLE eARC
- ENABLE ARC

INFO
Please select desired Audio Return Channel option, for your test.





CDS

eARC / ARC

AUDIO INFO PAGE

- EDID, eARC CDS
- SINK DEVICE EDID INFO
- eARC/ARC AUDIO INFO
- ARC HPD CTL
- eARC PHYSICAL HPD CTL
- eARC HPD bit CTL
- HDMI +5V POWER CTL
- eARC TX LATENCY
- eARC RX LATENCY

Parsed Audio information from
ARC or eARC

SADs:

MAT/8CH/192K 176K 96K 88K 48K 44. 1K/DTHD&MAT PCM/hash opt.
DTS-HD/8CH/192K 176K 96K 88K 48K 44. 1K
Dolby D+/8CH/48K 44. 1K/Atmos/acmod28
AC-3/6CH/48K 44. 1K 32K/640(kbps)
DTS/7CH/96K 88K 48K 44. 1K 32K/1536(kbps)
LPCM/2CH/192K 176K 96K 88K 48K 44. 1K 32K/24b 20b 16b
LPCM/8CH/192K 176K 96K 88K 48K 44. 1K 32K/24b 20b 16b

Speaker Allocation:
FLR=1, LFE=1, FC=1, BLR=1, BC=1, FLRC=0, RLRC=1, FLRW=0
TFLR=0, TC=0, TFC=0, LRS=0, LFE2=0, TBC=0, SLR=0, TSLR=0
TBLR=0, BFC=0, BFLR=0, TLR=0

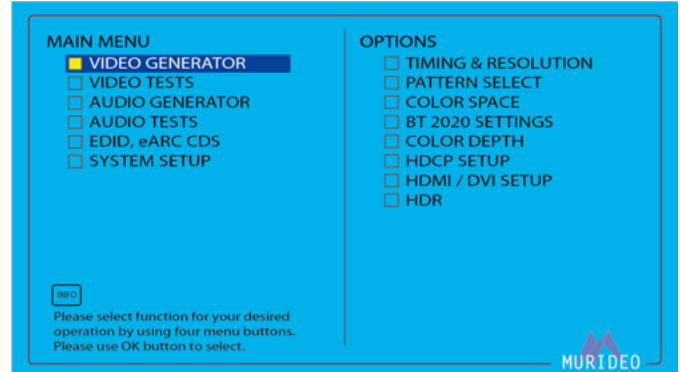
Audio Stream Layout Block:
AI>0 OneBit>none/6 CH LPCM>2/8 CH

SEVEN GENERATOR - MENU TREE OVERVIEW

MAIN MENU>VIDEO GENERATOR:

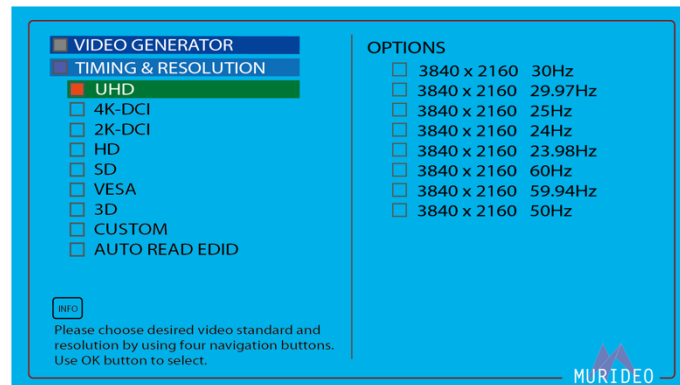
This is the MAIN MENU screen or HOME page.
Select from the following OPTIONS:

- TIMING & RESOLUTION
- PATTERN SELECT
- COLOR SPACE
- BT 2020 SETTINGS
- COLOR DEPTH
- HDCP SETUP
- HDMI / DVI SETUP
- HDR



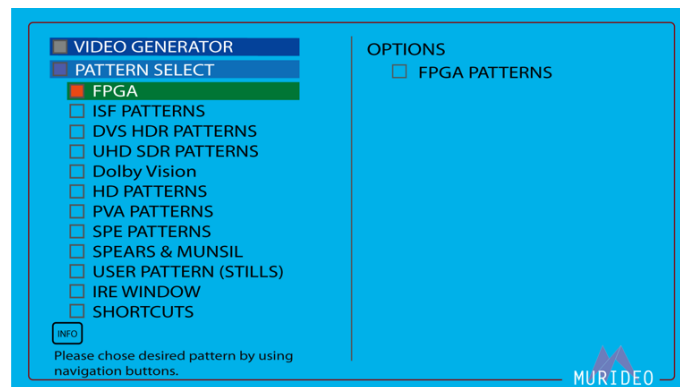
MAIN MENU>VIDEO GENERATOR>TIMING & RESOLUTION:

- Timings available listed here – For a complete list of timings, visit www.murideo.com



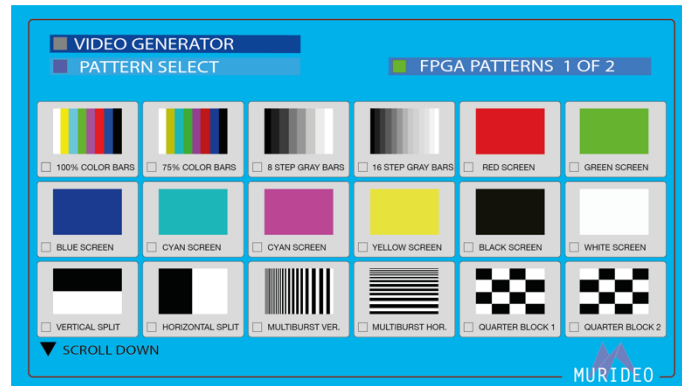
MAIN MENU>VIDEO GENERATOR>PATTERN SELECT:

- Select from over 500 ultra high-quality stand-alone patterns. However, the pattern choices are virtually unlimited when using the FPGA processor in addition to patterns generated with IRE and APL (Average Picture Level).



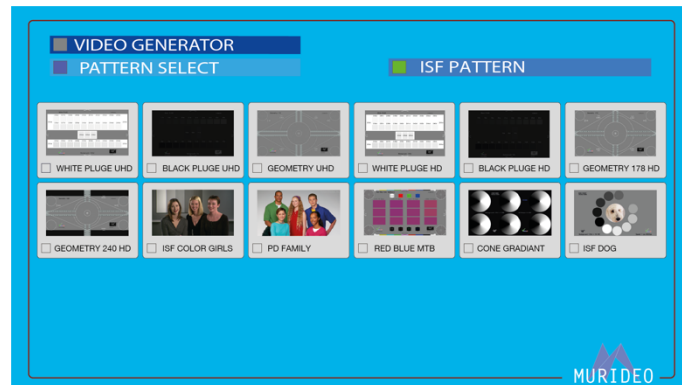
MAIN MENU>VIDEO GENERATOR>PATTERN SELECT>FPGA:

- FPGA (Field Programmable Gate Array) patterns are generated “on-the-fly” in any resolution you set the generator to.
- Check out the Pattern Library for descriptions on how each pattern is used.
www.murideo.com



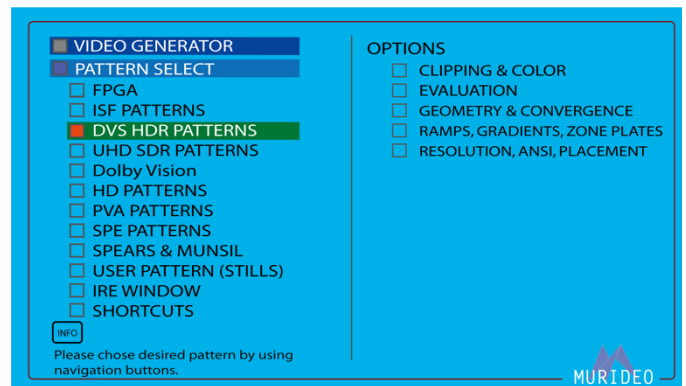
MAIN MENU>VIDEO GENERATOR>PATTERN SELECT>ISF PATTERNS:

- ISF Patterns are designed by the Imaging Science Foundation. 4K and HD Patterns are available.
- Check out the Pattern Library for descriptions on how each pattern is used.
www.murideo.com
- <https://imagingscience.com/>



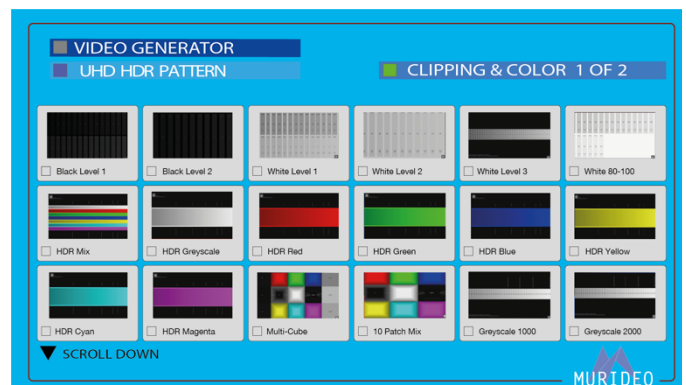
MAIN MENU>VIDEO GENERATOR>PATTERN SELECT>DVS HDR PATTERNS:

- DVS Patterns are designed by Diversified Video Solutions – these patterns are all HDR and displayed in native format from raw YUV data.
- Check out the Pattern Library for descriptions on how each pattern is used.
www.murideo.com
- <https://diversifiedvideosolutions.com/>



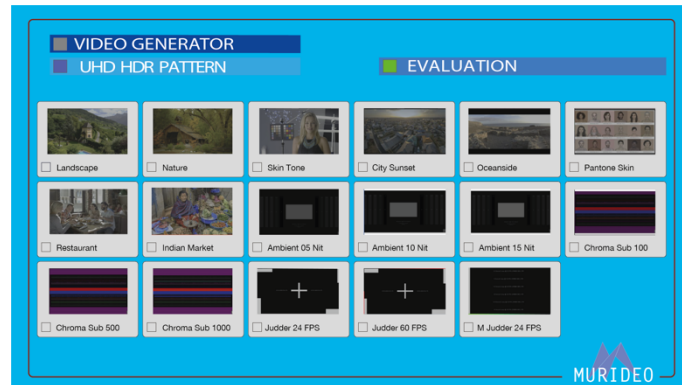
MAIN MENU>VIDEO GENERATOR>PATTERN SELECT>DVS HDR PATTERNS>CLIPPING & COLOR:

- DVS Patterns specifically for setting/checking Clipping and Color performance
- Check out the Pattern Library for descriptions on how each pattern is used.
www.murideo.com



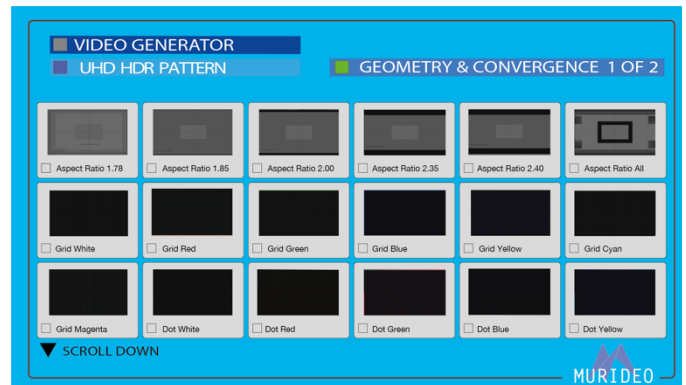
MAIN MENU>VIDEO GENERATOR>PATTERN SELECT>DVS HDR PATTERNS>EVALUATION:

- DVS Patterns that are “real world” images which include Ambient Light tests, RGB Compression tests and Judder tests:
- Check out the Pattern Library for descriptions on how each pattern is used. www.murideo.com



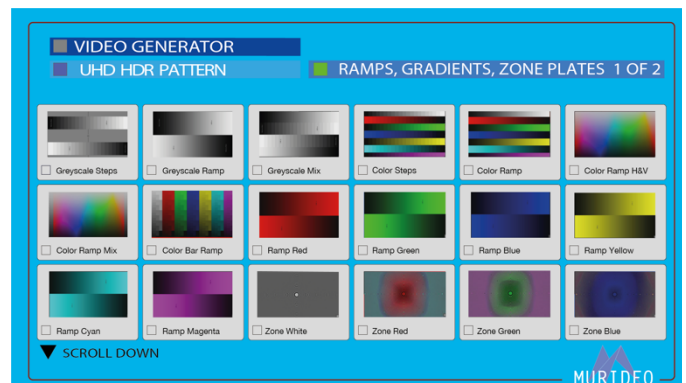
MAIN MENU>VIDEO GENERATOR>PATTERN SELECT>DVS HDR PATTERNS>GEOMETRY & CONVERGENCE:

- DVS Patterns for Geometry and Convergence
- Check out the Pattern Library for descriptions on how each pattern is used. www.murideo.com



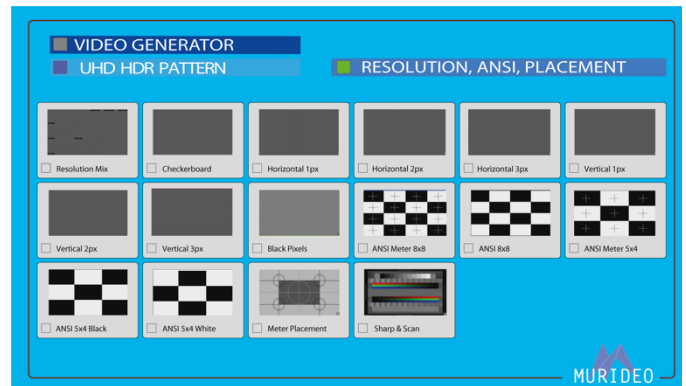
MAIN MENU>VIDEO GENERATOR>PATTERN SELECT>DVS HDR PATTERNS>RAMPS, GRADIENTS, ZONE PLATES:

- DVS Patterns for checking Gamma, Deep Color and decoding performance
- Check out the Pattern Library for descriptions on how each pattern is used. www.murideo.com



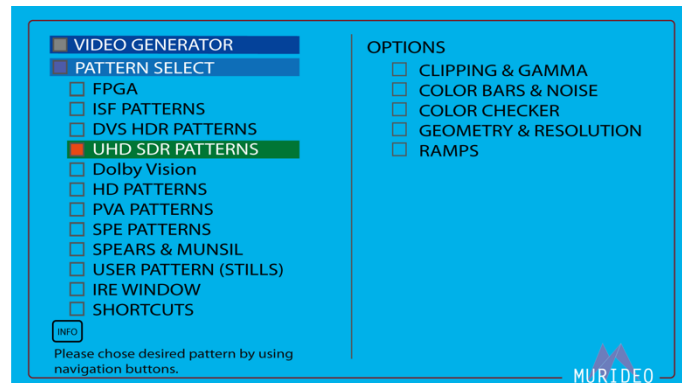
MAIN MENU>VIDEO GENERATOR>PATTERN SELECT>DVS HDR PATTERNS>RESOLUTION, ANSI, PLACEMENT:

- DVS Patterns for resolution, meter placement and ANSI Contrast Ratio
- Check out the Pattern Library for descriptions on how each pattern is used. www.murideo.com



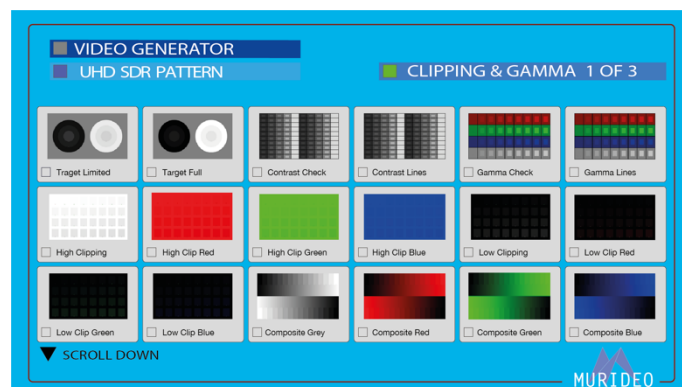
MAIN MENU>VIDEO GENERATOR>PATTERN SELECT>UHD SDR PATTERNS:

- UHD (Non-HDR) Test patterns for video verification and calibration.
- Check out the Pattern Library for descriptions on how each pattern is used. www.murideo.com



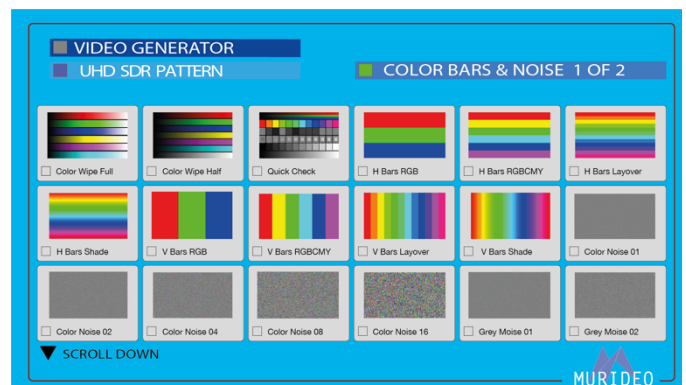
MAIN MENU>VIDEO GENERATOR>PATTERN SELECT>UHD SDR PATTERNS>CLIPPING & GAMMA:

- UHD (Non-HDR) Test patterns for video verification and calibration of clipping, white level, black level and chroma clipping, and Gamma.
- Check out the Pattern Library for descriptions on how each pattern is used. www.murideo.com



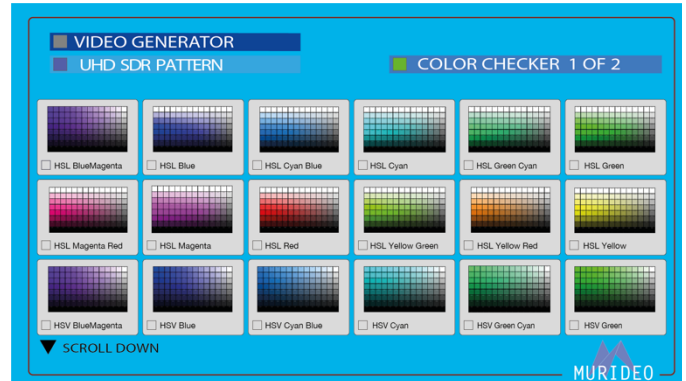
MAIN MENU>VIDEO GENERATOR>PATTERN SELECT>UHD SDR PATTERNS>COLOR BARS & NOISE:

- UHD (Non-HDR) Test patterns for video verification and calibration of chroma gradients and 1-16 pixel random noise patterns (Chroma and B&W)
- Check out the Pattern Library for descriptions on how each pattern is used. www.murideo.com



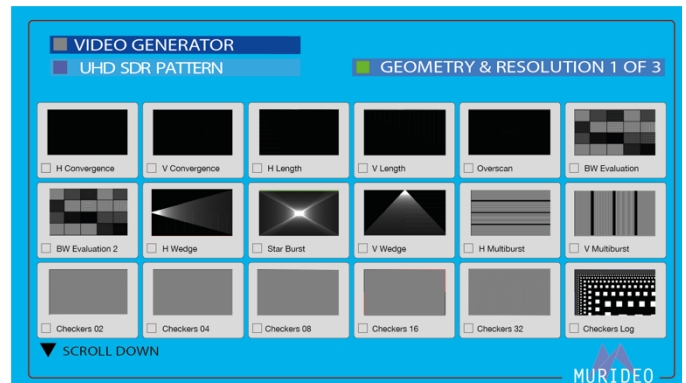
MAIN MENU>VIDEO GENERATOR>PATTERN SELECT>UHD SDR PATTERNS>COLOR CHECKER:

- UHD (Non-HDR) Test patterns for checking color accuracy, patches express the YUV value and the RGB Triplet - HSL (Hue, Saturation Luminance) and HSV (Hue, Saturation, Value) methods are used
- Check out the Pattern Library for descriptions on how each pattern is used.
www.murideo.com



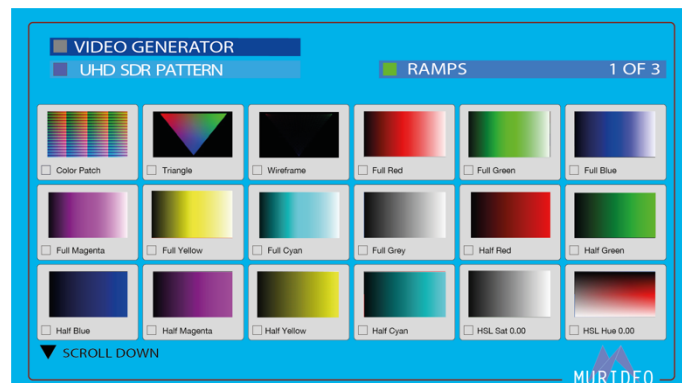
MAIN MENU>VIDEO GENERATOR>PATTERN SELECT>UHD SDR PATTERNS>GEOMETRY & RESOLUTION:

- UHD (Non-HDR) Test patterns for checking geometry and resolution performance.
- Check out the Pattern Library for descriptions on how each pattern is used.
www.murideo.com



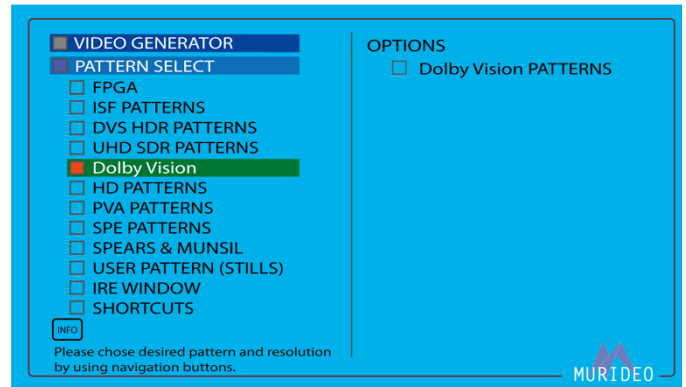
MAIN MENU>VIDEO GENERATOR>PATTERN SELECT>UHD SDR PATTERNS>RAMPS:

- UHD (Non-HDR) Test patterns for checking Color decoding performance and gradient performance
- Check out the Pattern Library for descriptions on how each pattern is used.
www.murideo.com



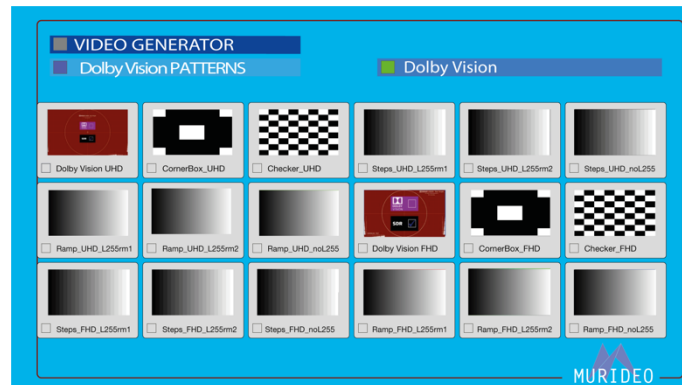
MAIN MENU>VIDEO GENERATOR>PATTERN SELECT>Dolby Vision:

- Dolby Vision test patterns for decoding, contrast and deep color performance.
- Check out the Pattern Library for descriptions on how each pattern is used. www.murideo.com. Also use your Dolby SDK for more information.



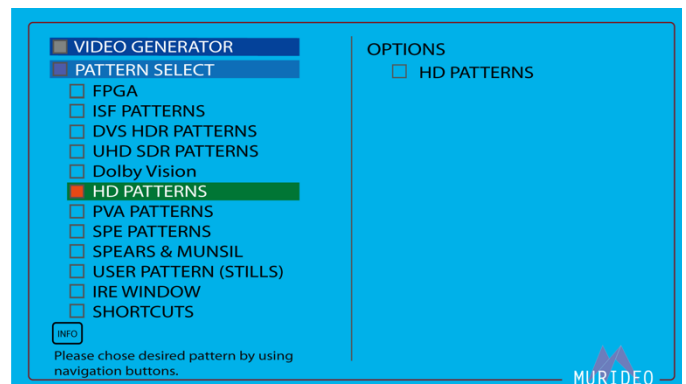
MAIN MENU>VIDEO GENERATOR>PATTERN SELECT>Dolby Vision:

- Dolby Vision test patterns for decoding, contrast and deep color performance.
- Check out the Pattern Library for descriptions on how each pattern is used. www.murideo.com. Also use your Dolby SDK for more information.



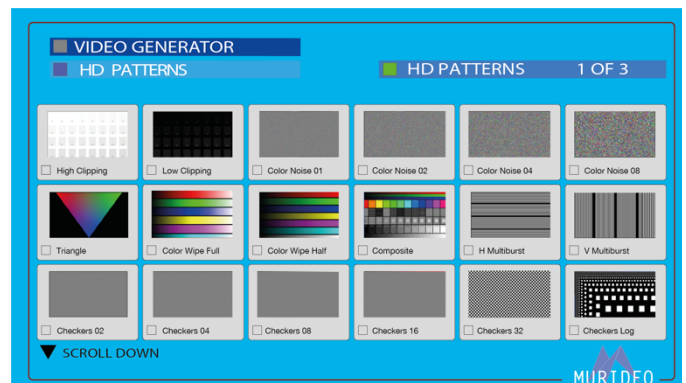
MAIN MENU>VIDEO GENERATOR>PATTERN SELECT>HD PATTERNS:

- HDTV Patterns (1920x1080) patterns for HDTV verification and calibration
- Check out the Pattern Library for descriptions on how each pattern is used. www.murideo.com.



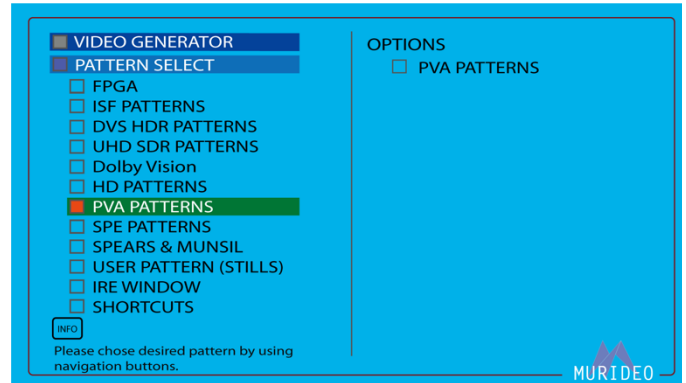
MAIN MENU>VIDEO GENERATOR>PATTERN SELECT>HD PATTERNS:

- HDTV Pattern selection contains all patterns (Black level, white level, noise, geometry, gradients, etc...)
- Check out the Pattern Library for descriptions on how each pattern is used. www.murideo.com.



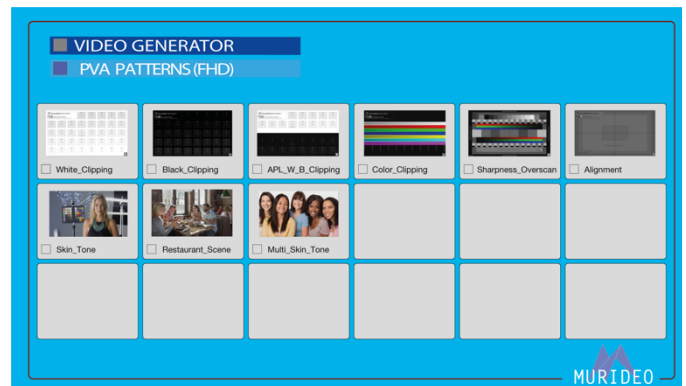
MAIN MENU>VIDEO GENERATOR>PATTERN SELECT>PVA PATTERNS:

- PVA (Professional Video Alliance) Patterns designed in collaboration with DVS and PVA for HDTV and UHD/HDR video calibration.
- Check out the Pattern Library for descriptions on how each pattern is used. www.murideo.com.
- <https://professionalvideoalliance.com/>



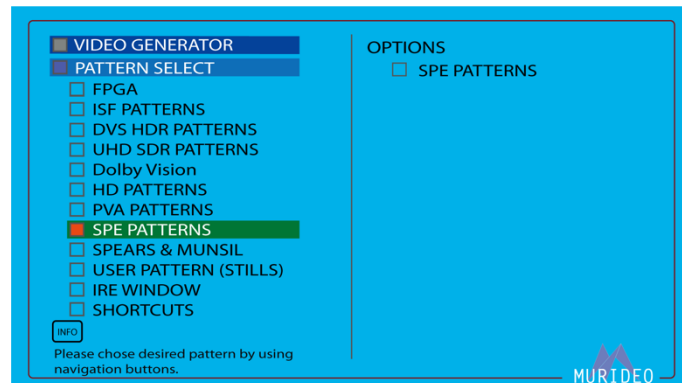
MAIN MENU>VIDEO GENERATOR>PATTERN SELECT>PVA PATTERNS:

- PVA (Professional Video Alliance) Patter Selection includes, evaluation patterns, skin tones, sharpness, alignment, black and white clipping.
- Check out the Pattern Library for descriptions on how each pattern is used. www.murideo.com.



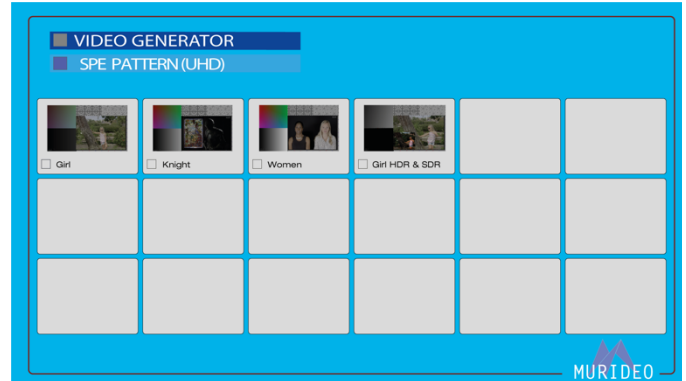
MAIN MENU>VIDEO GENERATOR>PATTERN SELECT>SPE PATTERNS:

- SPE (Sony Pictures Entertainment) Patterns designed by SPE for display evaluation.
- Check out the Pattern Library for descriptions on how each pattern is used. www.murideo.com.



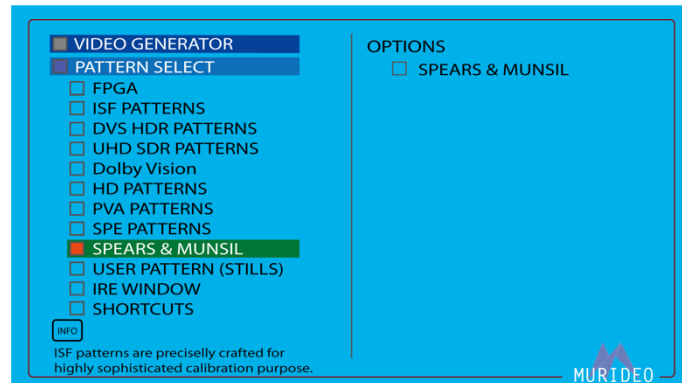
MAIN MENU>VIDEO GENERATOR>PATTERN
SELECT>SPE PATTERNS:

- SPE (Sony Pictures Entertainment) Pattern Selection includes 4 selected frames from their video file (located in the SEVEN G under VIDEO TESTS). These files are in raw YUV original format. 4K 24 frame 10-Bit.
- Check out the Pattern Library for descriptions on how each pattern is used. www.murideo.com.



MAIN MENU>VIDEO GENERATOR>PATTERN
SELECT>SPEARS & MUNSIL:

- Spears & Munsil test patterns for display evaluation and calibration.
- Check out the Pattern Library for descriptions on how each pattern is used. www.murideo.com.



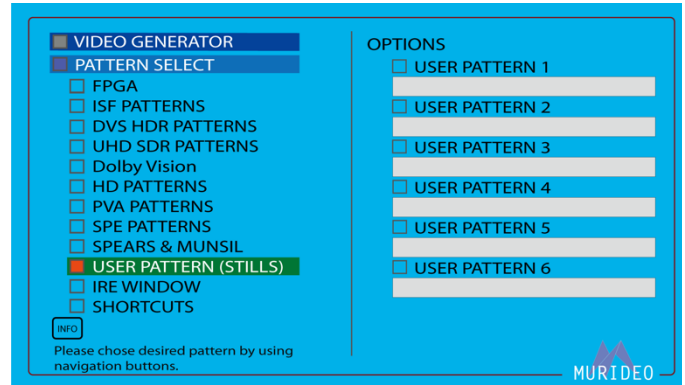
MAIN MENU>VIDEO GENERATOR>PATTERN
SELECT>SPEARS & MUNSIL:

- Spears & Munsil Pattern Selection includes Bias, Framing, "Sara on a Hammock", Motion Video, Color, Tint, Jaggies, and 1080i Motion.
- Check out the Pattern Library for descriptions on how each pattern is used. www.murideo.com.



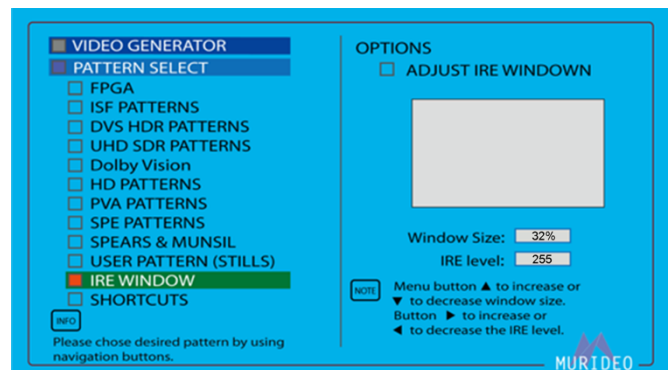
MAIN MENU>VIDEO GENERATOR>PATTERN SELECT>USER PATTERN (STILLS):

- Upload up to SIX of your own patterns (up to 4K) and you can recall them here.
- There is free software to load patterns at www.murideo.com.
- The patterns can be .YUV or .RGB file types.



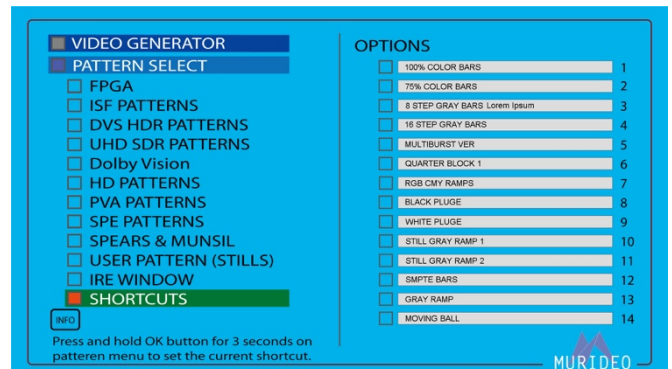
MAIN MENU>VIDEO GENERATOR>PATTERN SELECT>IRE WINDOW:

- Allows the user to create a custom IRE window
- You may adjust the window size and the IRE level.
- The IRE level stated is in RBG Triplet values 0-255



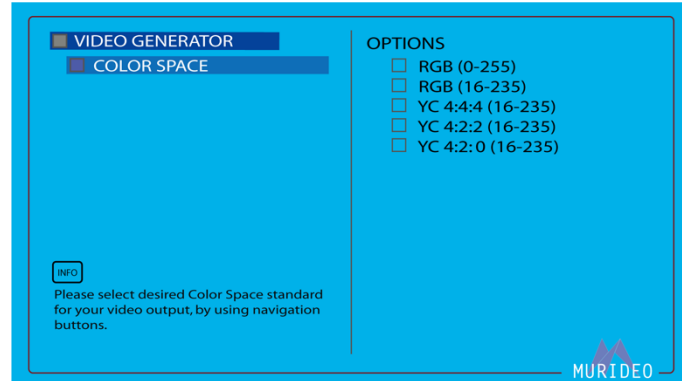
MAIN MENU>VIDEO GENERATOR>PATTERN SELECT>SHORTCUTS:

- A selection of patterns the user chooses for quick access to their 14 favorite patterns.
- To use see the “Using Shortcuts” user guide located at www.murideo.com



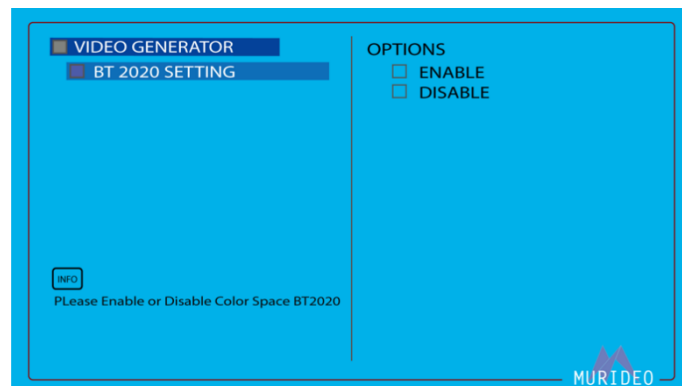
MAIN MENU>VIDEO GENERATOR>COLOR SPACE:

- Select the desired color space of the FPGA generator output.
- NOTE: When you select a pattern that is NOT from the FPGA, the generator will automatically set the native setting for the pattern file. You can overwrite after a pattern is selected, but this is not recommended.



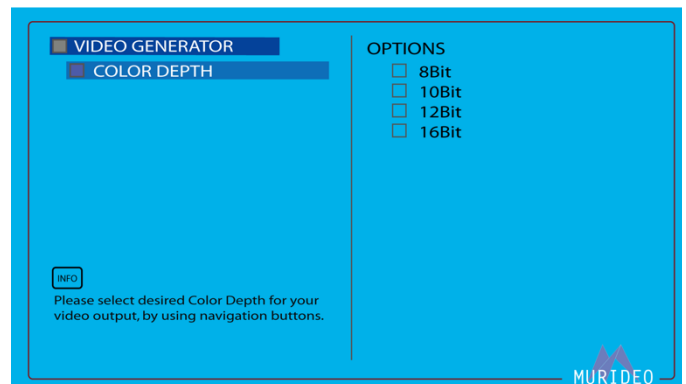
MAIN MENU>VIDEO GENERATOR>BT 2020 SETTINGS:

- Enable or disable BT2020 for the FPGA Generator
- NOTE: When you select a pattern that is NOT from the FPGA, the generator will automatically set the native setting for the pattern file. You can overwrite after a pattern is selected, but this is not recommended.



MAIN MENU>VIDEO GENERATOR>COLOR DEPTH:

- Change the color depth for the FPGA Generator
- NOTE: When you select a pattern that is NOT from the FPGA, the generator will automatically set the native setting for the pattern file. You can overwrite after a pattern is selected, but this is not recommended.



MAIN MENU>VIDEO GENERATOR>HDCP SETUP:

Use this page to set HDCP options:

- HDCP OFF
- HDCP 1.4
- HDCP 2.2
- HDCP AUTO – Based of the downstream EDID

This is for the HDMI output only

MAIN MENU>VIDEO GENERATOR>HDMI/DVI SETUP:

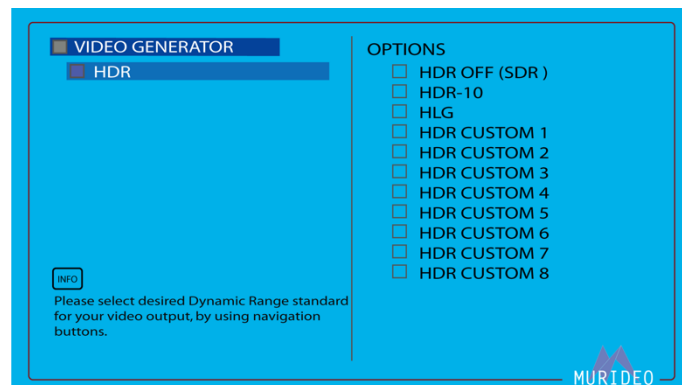
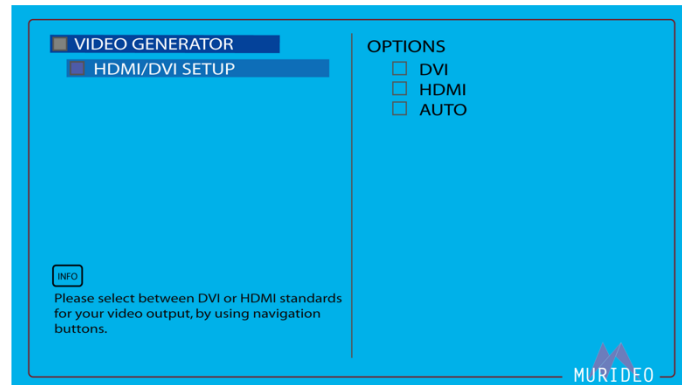
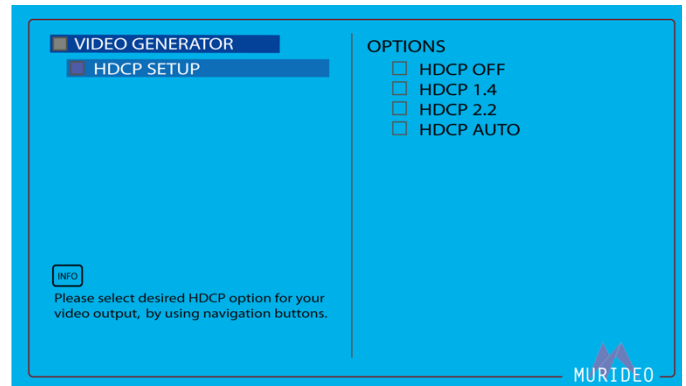
Use this page to set the HDMI Tx interface:

- DVI – Sets the output to DVI (RGB 4:4:4)
- HDMI – Sets the output to HDMI (YUV)
- AUTO – Based of the downstream EDID

This is for the HDMI output only

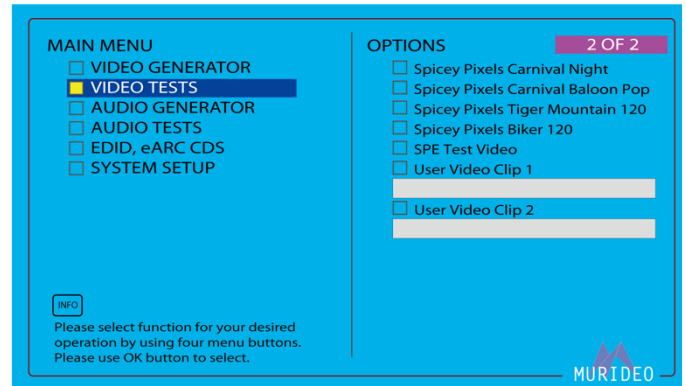
MAIN MENU>VIDEO GENERATOR>HDR:

- Change the metadata for the FPGA Generator
- NOTE: When you select a pattern that is NOT from the FPGA, the generator will automatically set the native setting for the pattern file. You can overwrite after a pattern is selected, but this is not recommended.
- NOTE: You can view the HEX detail of the pre-loaded HDR metadata at www.murideo.com



MAIN MENU>VIDEO TESTS:

- Playback actual video files, pre-loaded files from Spicely Pixels and SPE.
- There is free software at www.murideo.com to load **TWO** of your own video files (.MOV or multiple .YUV frames)
- There are currently 19 pre-loaded native video files



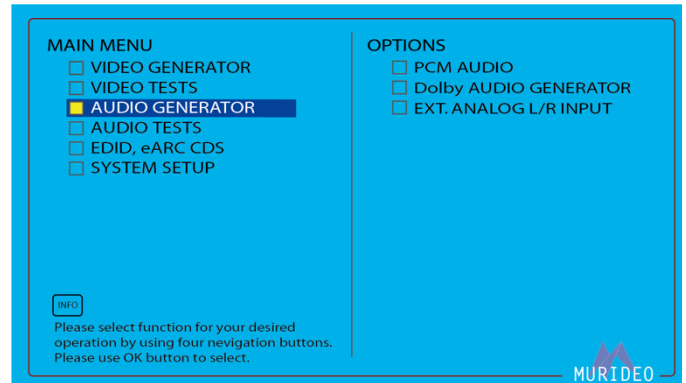
MAIN MENU>AUDIO GENERATOR>OPTIONS:

Use this area to evoke the audio generator features:

Choose from:

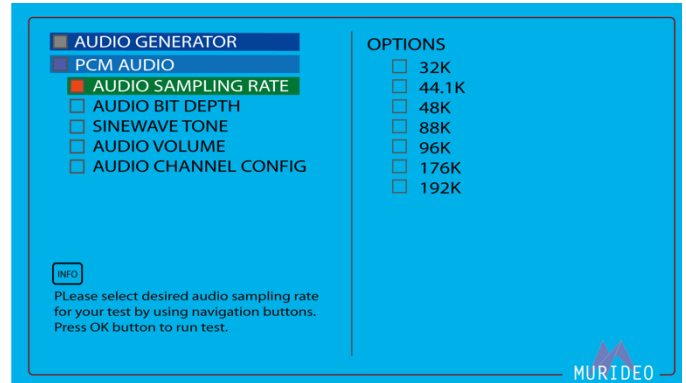
- PCM
- Dolby Audio
- External L/R Input

NOTE: These setting apply for both HDMI Tx and Rx (for eARC and ARC) – You must enable ARC or eARC from the system setup menu.



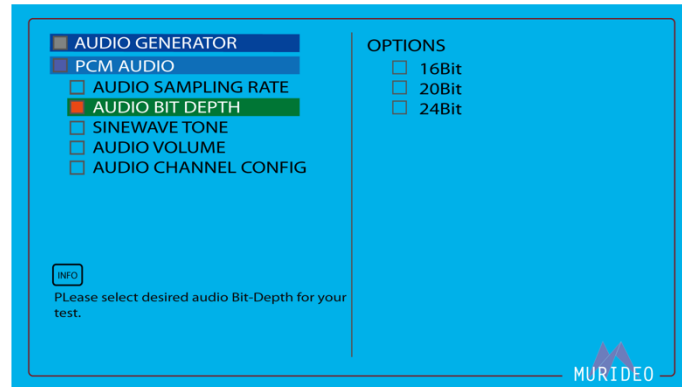
MAIN MENU>AUDIO GENERATOR>PCM AUDIO>AUDIO SAMPLING RATE:

- When in PCM audio, you can customize the sampling rate you want to generate
- NOTE: These setting apply for both HDMI Tx and Rx (for eARC and ARC) – You must enable ARC or eARC from the system setup menu



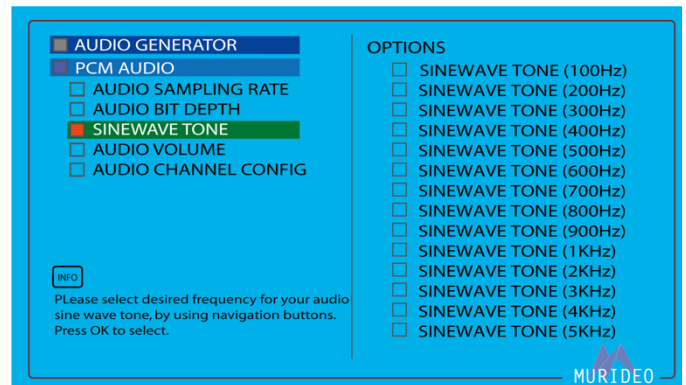
MAIN MENU>AUDIO GENERATOR>PCM
AUDIO>AUDIO BIT DEPTH:

- When in PCM audio, you can customize audio bit depth you want to generate
- NOTE: These setting apply for both HDMI Tx and Rx (for eARC and ARC) – You must enable ARC or eARC form the system setup menu



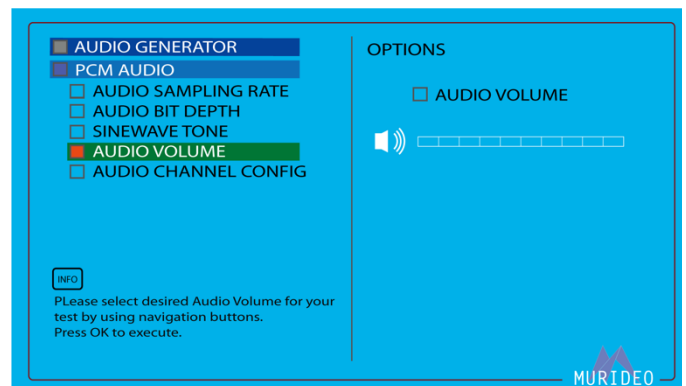
MAIN MENU>AUDIO GENERATOR>PCM
AUDIO>SINEWAVE TONE:

- When in PCM audio, you can customize the frequency you want to generate
- NOTE: These setting apply for both HDMI Tx and Rx (for eARC and ARC) – You must enable ARC or eARC form the system setup menu



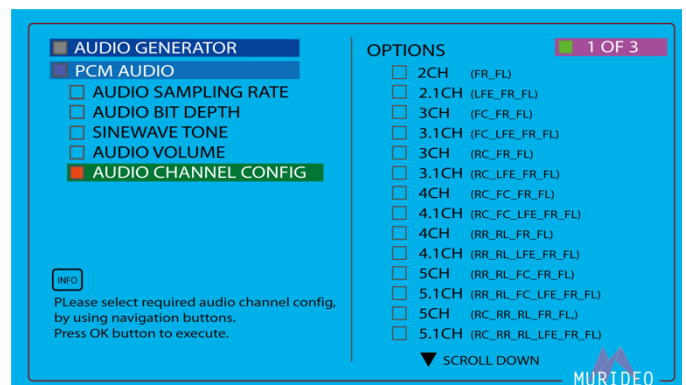
MAIN MENU>AUDIO GENERATOR>PCM
AUDIO>AUDIO VOLUME:

- Adjust the volume of the generator output
- NOTE: These setting apply for both HDMI Tx and Rx (for eARC and ARC) – You must enable ARC or eARC form the system setup menu



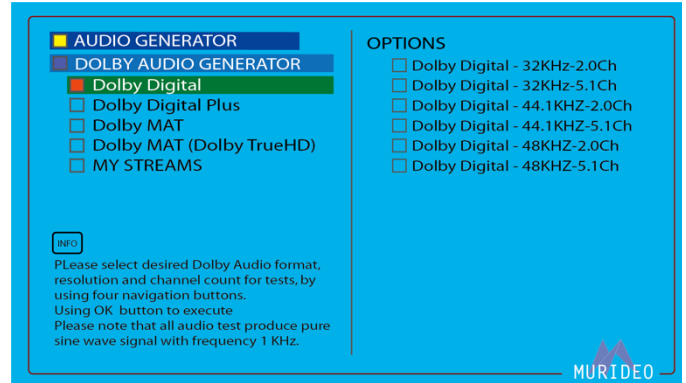
MAIN MENU>AUDIO GENERATOR>PCM
AUDIO>AUDIO CHANNEL CONFIG:

- Use this page to select between various multi-channel audio samples starting with 2 CH Stereo with OPTIONS up to 7.1CH.
- There are three pages of AUDIO CHANNEL CONFIGURATIONS. Use the ARROW DOWN key to navigate to the lower pages.



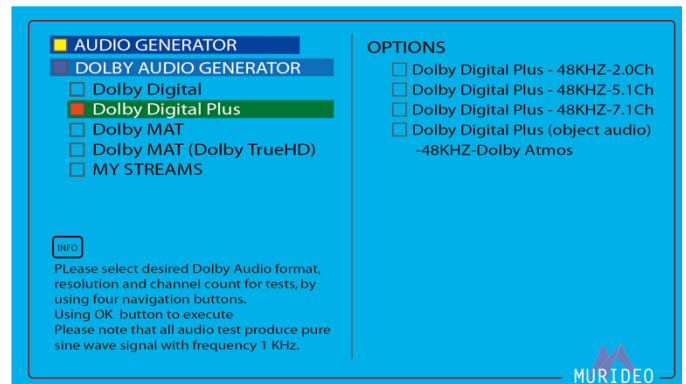
AUDIO GENERATOR>DOLBY AUDIO GENERATOR>Dolby Digital:

- Use this page to select between various Dolby Digital streams.
- NOTE: These setting apply for both HDMI Tx and Rx (for eARC and ARC) – You must enable ARC or eARC form the system setup menu



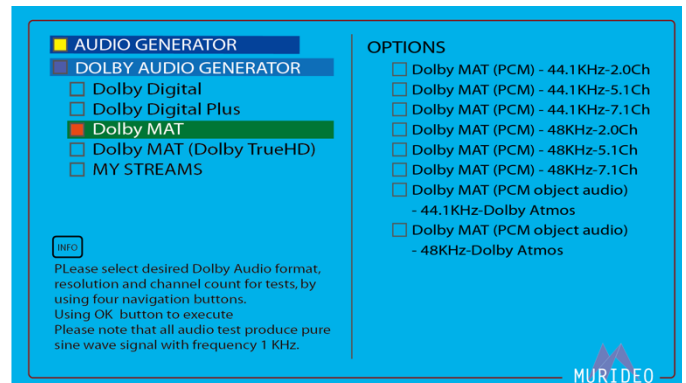
AUDIO GENERATOR>DOLBY AUDIO GENERATOR>Dolby Digital Plus:

- Use this page to select between various Dolby Digital Plus streams.
- NOTE: These setting apply for both HDMI Tx and Rx (for eARC and ARC) – You must enable ARC or eARC form the system setup menu



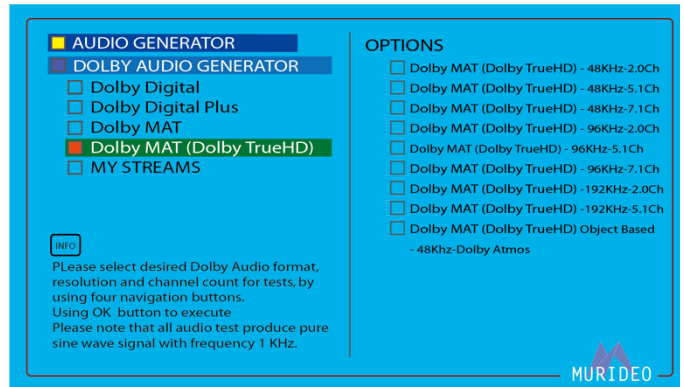
AUDIO GENERATOR>DOLBY AUDIO GENERATOR>Dolby MAT:

- Use this page to select between various Dolby MAT streams.
- NOTE: These setting apply for both HDMI Tx and Rx (for eARC and ARC) – You must enable ARC or eARC form the system setup menu



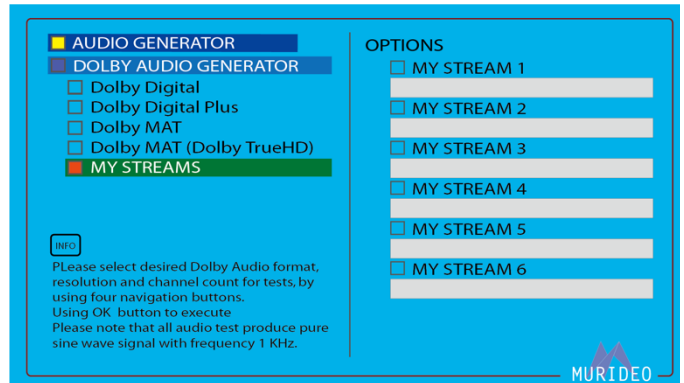
AUDIO GENERATOR>DOLBY AUDIO GENERATOR>Dolby MAT (Dolby TrueHD):

- Use this page to select between various Dolby TrueHD streams.
- NOTE: These setting apply for both HDMI Tx and Rx (for eARC and ARC) – You must enable ARC or eARC form the system setup menu



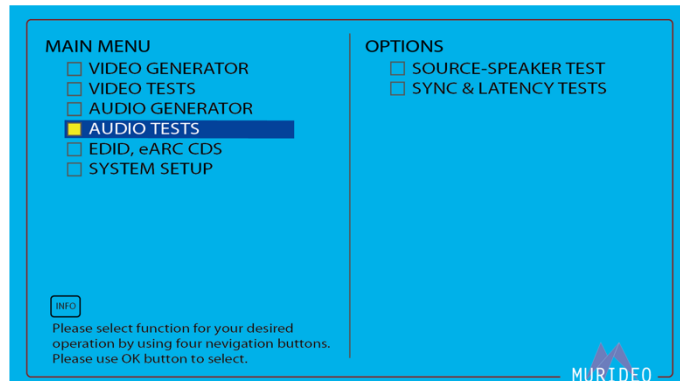
AUDIO GENERATOR>DOLBY AUDIO GENERATOR>MY STREAMS:

- Use this page to select between SIX various MY STREAMS custom user audio streams.
- Free software is available from the www.murideo.com with complete instructions on how to install/upload up to six custom audio streams.



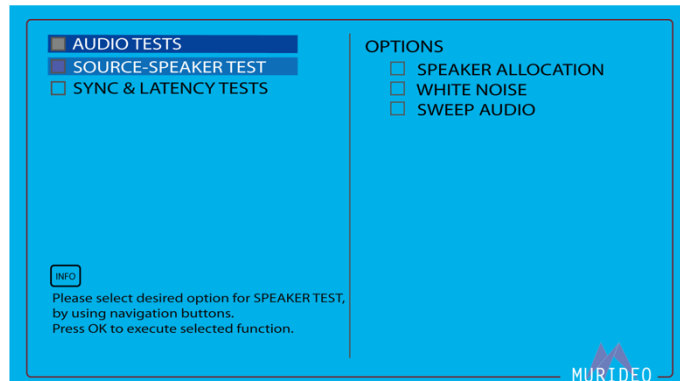
MAIN MENU>AUDIO TESTS>OPTIONS

- Audio test options are divided between simple loudspeaker sound output, and complex audio/video latency analysis requiring the use of a light sensor and microphone (included).



AUDIO TESTS>SOURCE-SPEAKERTEST:

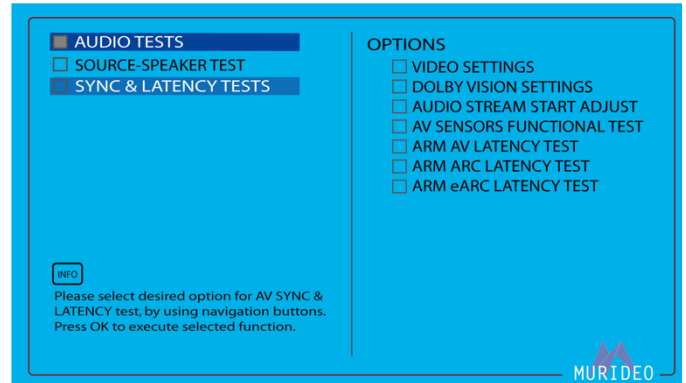
- SPEAKER ALLOCATION: This feature is under development all will be fully implemented with a future firmware update.
- WHITE NOISE: Sounds like smooth static.
- SWEEP AUDIO: Starts with a low frequency sound and continues up the scale a very high frequency sound and then back down.



NOTE: These functions are UNDER DEVELOPEMENT

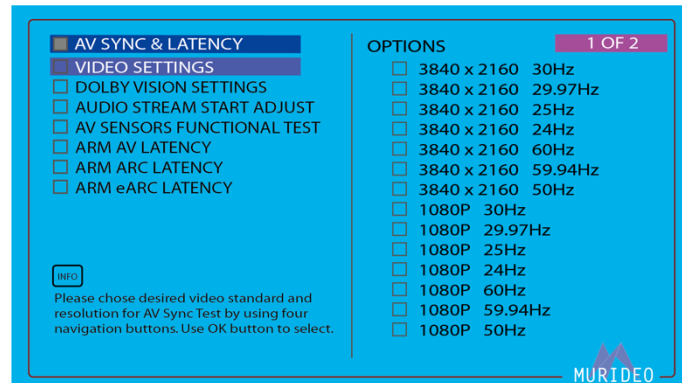
AUDIO TESTS>SYNC & LATENCY TESTS:

- Sync & latency tests are done using the visual sensor and microphone.
- Here you will setup and run a sync/latency test.
- NOTE: a complete guide on this testing is available at www.murideo.com



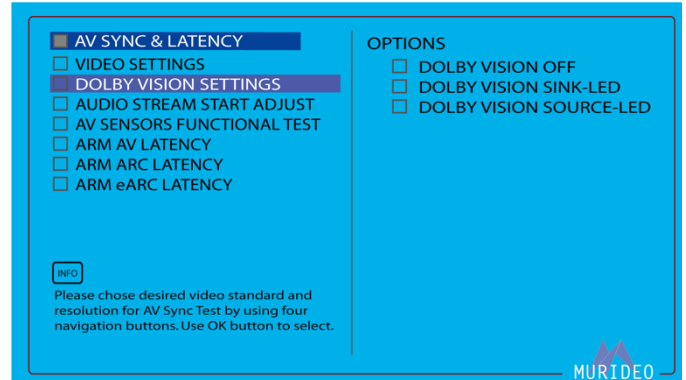
AUDIO TESTS>SYNC & LATENCY>VIDEO SETTINGS>OPTIONS:

- Choose the video resolution you would like to use in the test.
- NOTE: a complete guide on this testing is available at www.murideo.com



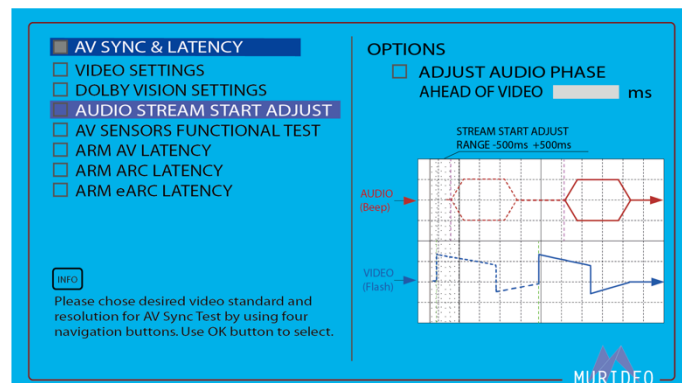
AUDIO TESTS>AV SYNC & LATENCY>DOLBY VISION SETTINGS:

- Enable/Disable Dolby Vision for the upcoming test.
- NOTE: a complete guide on this testing is available at www.murideo.com



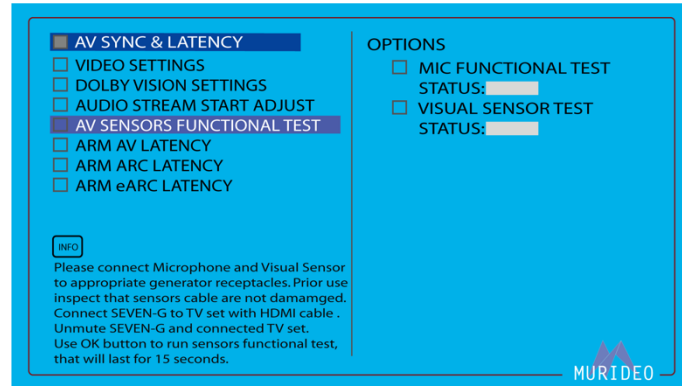
AV SYNC & LATENCY>AUDIO STREAM START ADJUST

- Set the amount of time the audio signal starts, in advance of the video.
- NOTE: a complete guide on this testing is available at www.murideo.com



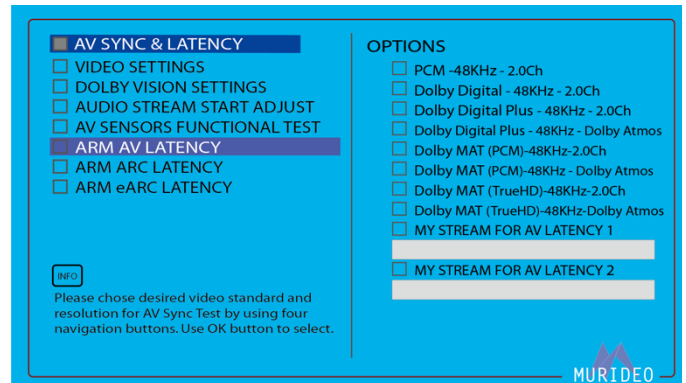
AV SYNC & LATENCY > AV SENSORS FUNCTIONAL TEST

- Once connected, you can verify that the Mic and Sensor are functioning appropriately.
- NOTE: a complete guide on this testing is available at www.murideo.com



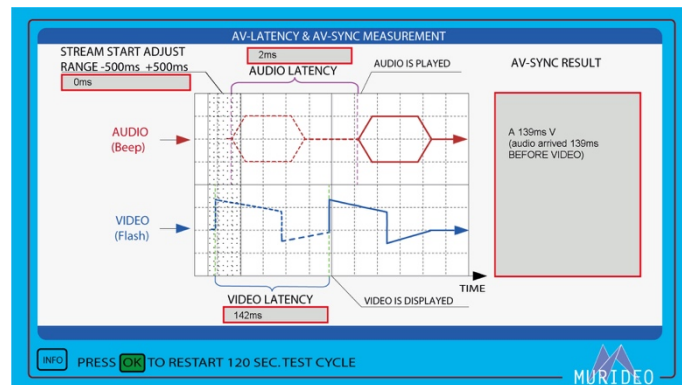
AV SYNC & LATENCY > ARM AV LATENCY

- Choose the audio stream to go with the video stream.
- ARM AV LATENCY – Runs the AV Sync test via the HDMI Tx (HDMI Generator)
 ARM ARC LATENCY – Runs the Latency test via the HDMI Rx (ARC Generator)
 ARM eARC LATENCY – Runs the Latency test via the HDMI Rx (eARC Generator)
- NOTE: a complete guide on this testing is available at www.murideo.com



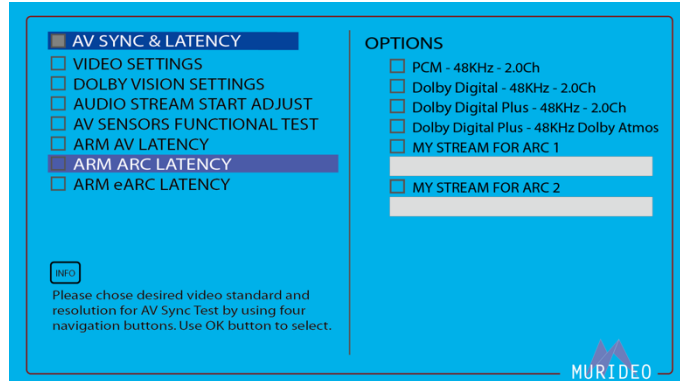
AV SYNC & LATENCY > ARM AV LATENCY: (RESULTS)

- After you run the test, this screen indicates the results from the ARM AV LATENCY TEST.



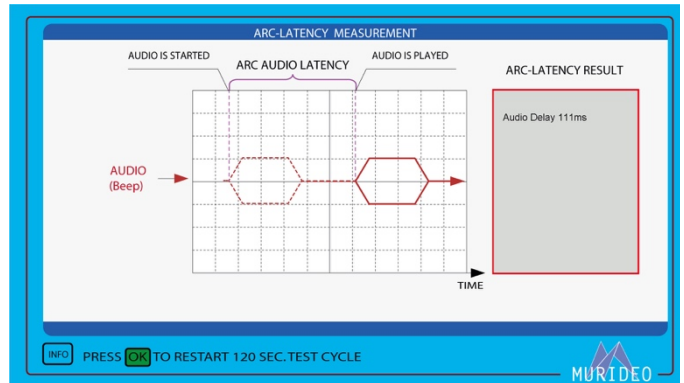
AV SYNC & LATENCY>ARM ARC
LATENCY>OPTIONS:

- Choose the audio stream to go with the video stream.
- ARM AV LATENCY – Runs the AV Sync test via the HDMI Tx (HDMI Generator)
 ARM ARC LATENCY – Runs the Latency test via the HDMI Rx (ARC Generator)
 ARM eARC LATENCY – Runs the Latency test via the HDMI Rx (eARC Generator)
- NOTE: a complete guide on this testing is available at www.murideo.com



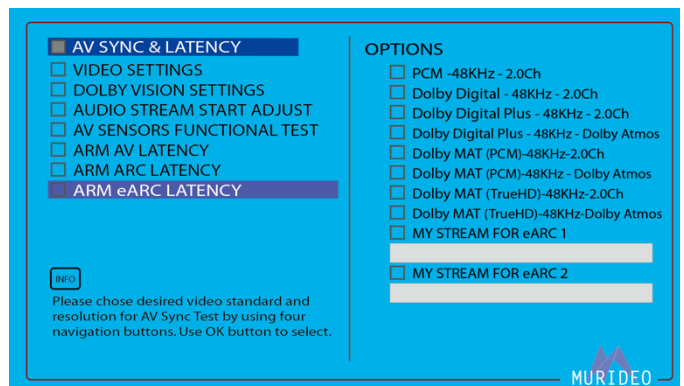
AV SYNC & LATENCY>ARM ARC LATENCY:
(RESULTS)

- After you run the test, this screen indicates the results from the ARM ARC LATENCY TEST.



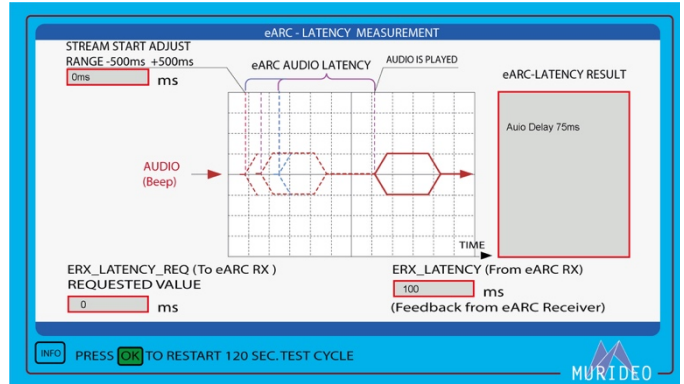
AV SYNC & LATENCY>ARM eARC LATENCY:

- Choose the audio stream to go with the video stream.
- ARM AV LATENCY – Runs the AV Sync test via the HDMI Tx (HDMI Generator)
 ARM ARC LATENCY – Runs the Latency test via the HDMI Rx (ARC Generator)
 ARM eARC LATENCY – Runs the Latency test via the HDMI Rx (eARC Generator)
- NOTE: a complete guide on this testing is available at www.murideo.com



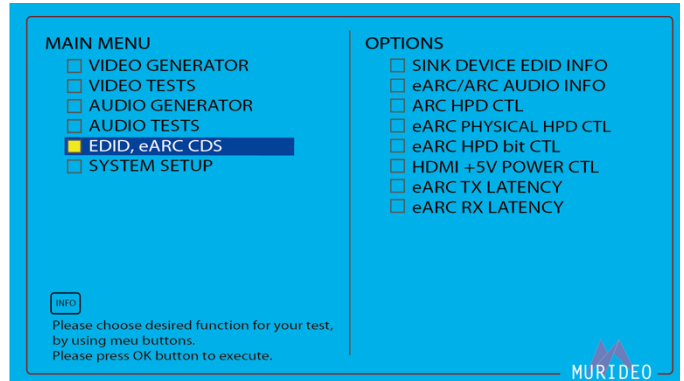
AV SYNC & LATENCY > ARM eARC LATENCY: (RESULTS)

- After you run the test, this screen indicates the results from the ARM eARC LATENCY TEST.



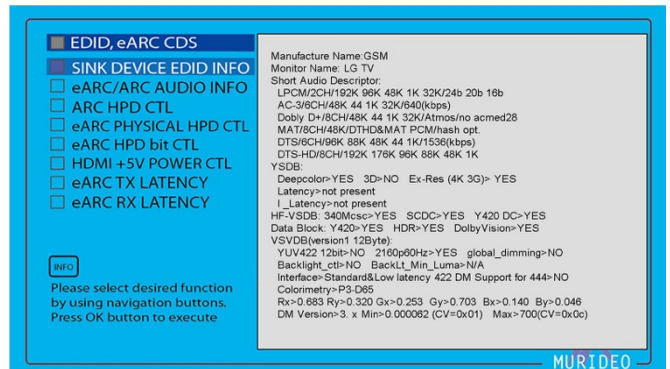
MAIN MENU > EDID, eARC CDS:

- This menu accesses HDMI protocol analysis functions and HDMI control functions



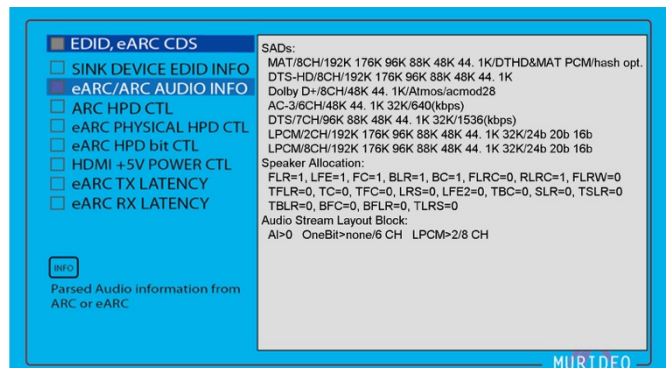
EDID, eARC CDS > SINK DEVICE EDID INFO:

- Displays the SINK device EDID information.
- EDID data is display in Human readable format.



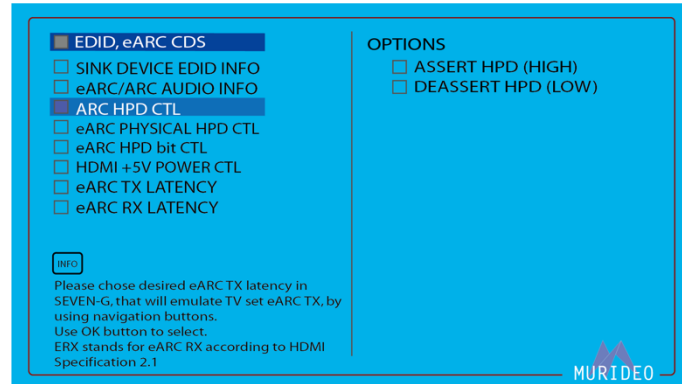
EDID, eARC CDS > eARC/ARC AUDIO INFO:

- Displays the CDS (Capabilities Data Structure)
- Info as it relates to eARC/ARC



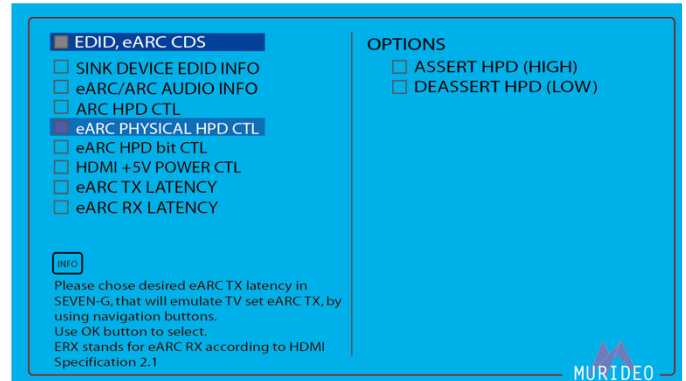
EDID, eARC CDS>ARC HPD CTL:

- HPD (Hot Plug Detect)
- Turn ON or OFF +5V HDMI power output.
- ASSERT HPD = ON
- DEASSERT HPD = OFF



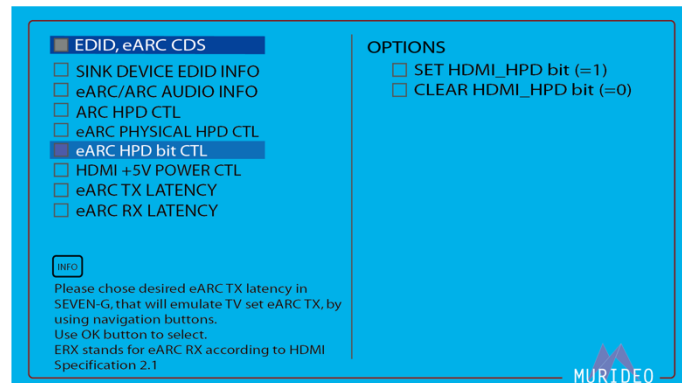
EDID, eARC CDS>eARC PHYSICAL HPD CTL:

- HPD (Hot Plug Detect)
- Turn ON or OFF +5V HDMI power output.
- ASSERT HPD = ON
- DEASSERT HPD = OFF



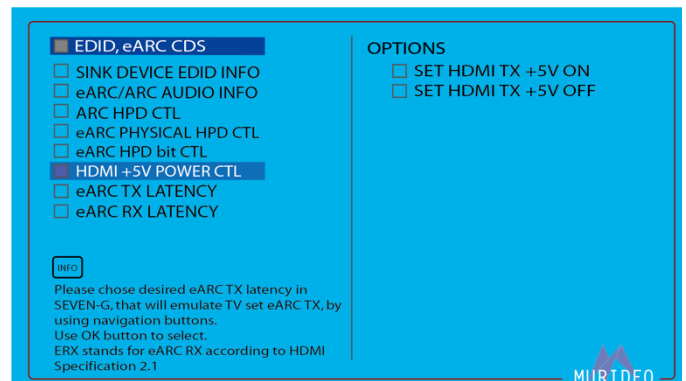
EDID, eARC CDS>eARC HPD bit CTL:

- HPD (Hot Plug Detect) +5V HDMI is still active, but this will digitally change the status.



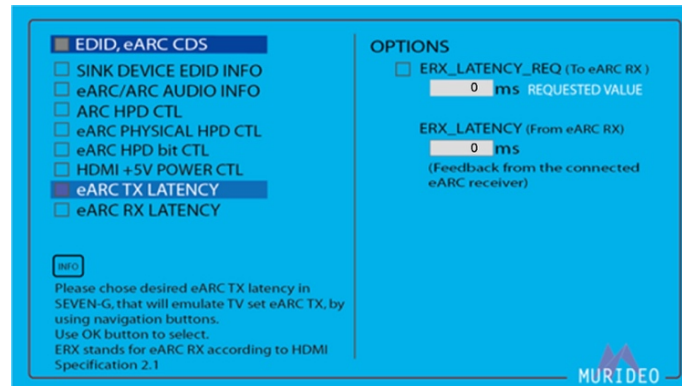
EDID, eARC CDS>HDMI +5V POWER CTL:

- Activate or disable +5V HDMI power output.



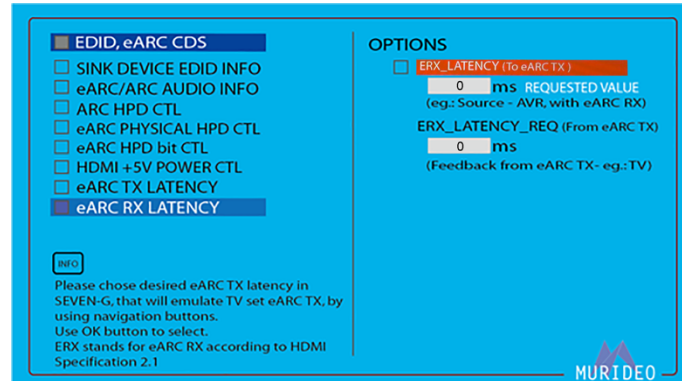
EDID, eARC CDS>eARC TX LATENCY

- Sends a latency request to eARC Rx and read latency value from that eARC Rx.
- This is performed using the HDMI Sink (Rx) on the Seven G.



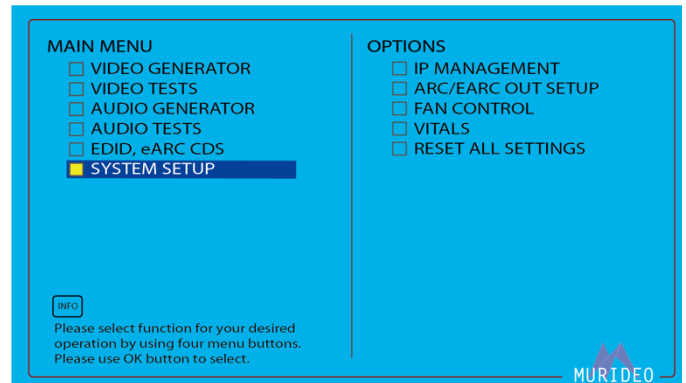
EDID, eARC CDS>eARC RX LATENCY

- Sends a latency request to eARC Tx and read latency value from that eARC Tx.
- This is performed using the HDMI Source (Tx) on the Seven G



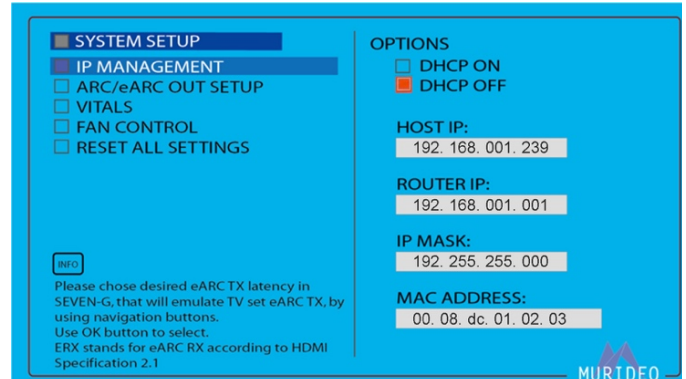
MAIN MENU>SYSTEM SETUP

- This is for general device setup and management.



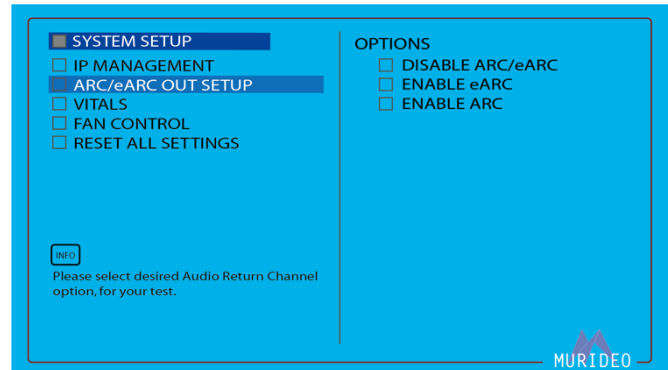
MAIN MENU>SYSTEM SETUP>IP MANAGEMENT

- Set the Seven G network connection to a desired IP address configuration.



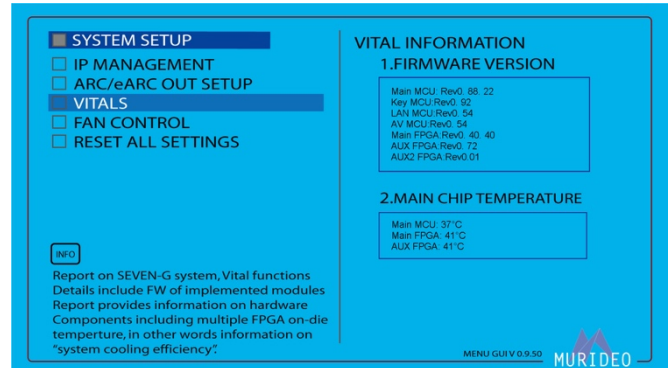
SYSTEM SETUP>ARC/eARC OUT SETUP>OPTIONS

- Disable or enable ARC and/or eARC.
- NOTE: This is used when you want to send the selected audio signals in “Audio Generator” through a specific output.
- NOTE: You do not need to use this setting when performing sync & latency tests.



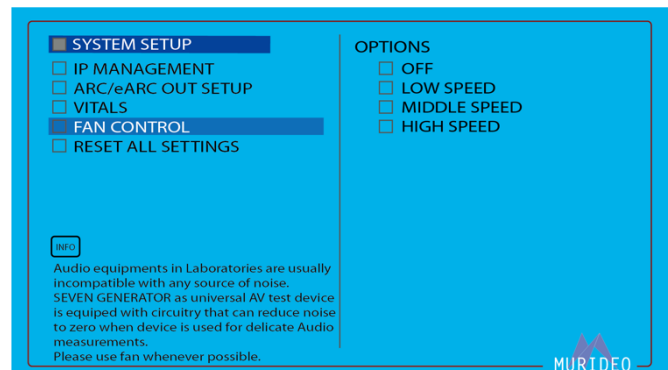
SYSTEM SETUP>VITALS

- Vital information for the Seven G such as Firmware Revisions, etc.



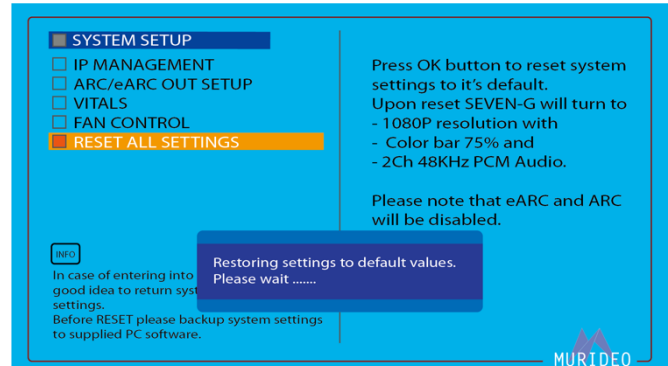
SYSTEM SETUP>FAN CONTROL

- Use this page to adjust the Seven G fan speed or to turn it off.



SYSTEM SETUP>RESET ALL SETTINGS

- Reset the Seven G back to factory default.



FCC Interference and Compliance Statement

This device complies with part 15 of the FCC Rules.

Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

FCC WARNING

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution

To comply with the limits for an FCC Class B computing device, always use the shielded signal cord supplied with this unit. The Federal Communications Commission warns that changes or modifications of the unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

CE mark for Class B ITE (Following European standard EN55022/1998; EN61000-3-2/1995; EN61000-3-3/1995, EN55024/1998, EN60950-1/2001)

Radio Frequency Interference Statement Warning: This is a Class B product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

Warranty and Getting Help

General Warranty Terms

AVPro Global Holdings (DBA MURIDEO) offers a limited warranty for its MURIDEO products. Any product first sold to you is guaranteed to be free from defects in both components and workmanship under regular uses. The warranty period commences on the date the item ships. Attention: Your invoice with the date of purchase, model number and serial number of the product is your proof of the date of purchase. The International Limited Warranty is applicable and shall be honored in every country where MURIDEO or its Authorized Service Providers offer warranty service subject to the terms and conditions provided in this International Limited Warranty Statement.

MURIDEO Products Warranty Period

The warranty terms for MURIDEO products are: Domestic & Asia EU & UK

MURIDEO – SEVEN Generator, 2 Year

System Warranty

During the warranty period, the defective hardware of MURIDEO products will be either repaired or replaced, with new or like new products, at the discretion of MURIDEO except in the cases listed in the Limitation of Liability Clause of this document. This International Limited Warranty covers the costs of service parts and labor required to restore your product to fully functional condition. MURIDEO will, at its discretion, repair or replace any defective products or parts thereof covered by this International Limited warranty with refurbished parts of the product that are equivalent to new or like new products in both functionality and performance. A product or part that is repaired or replaced under this International Limited Warranty shall be covered for the remainder of the original warranty period applying to the product or part, or for 90-days, whichever expires last. All exchanged parts and products under this International Limited Warranty will become the property of MURIDEO.

Obtaining the Warranty Service

Warranty service or Returned Merchandise Authorization (RMA) under this International Limited

Warranty will be honored only if claims are made within the warranty period. For notifications to MURIDEO or products outside the warranty period, the process will be the same, but charges may apply. Contact details may be obtained on MURIDEO website. Customers are requested to perform the following actions before claiming MURIDEO product as defective:

- (a) Owner must notify MURIDEO, during the warranty period, in writing of alleged defect, and allow MURIDEO a reasonable opportunity to inspect the allegedly defective product;
- (b) No Product may be returned without MURIDEO's consent, The MURIDEO RMA# must accompany all returns, and all returns must be delivered to MURIDEO within the warranty period; (c) Owner may, then at its own expense, return the allegedly defective Product, freight pre-paid and in the original packaging, accompanied by a brief statement explaining the alleged defect to MURIDEO;
- (d) If MURIDEO determines that any returned Product is not defective, or if MURIDEO determines that the defect is not covered by the warranty, MURIDEO will return the Product to the Owner at Owner's expense, freight collect, and Owner agrees to pay MURIDEO's reasonable cost of handling and testing;
- (e) Upon determining that a returned product is defective, to receive warranty service Owner will need to present the invoice showing the original purchase transaction. If shipping the product, Owner will need to package it carefully and send it, transportation prepaid by a traceable, insured method, to the MURIDEO Service Center. Package the product using adequate padding material to prevent damage in transit. The original container is ideal for this purpose. Include the RMA #, your name, return shipping address, email address and telephone number where you may be reached during business hours, inside the shipping package with the unit. Any replacement unit will be warranted under these Terms and Conditions for the remainder of the original warranty period or ninety (90) days whichever is longer. Refer to user manual enclosed within the product package and/or information on <http://www.murideo.com/generators.html> for important tips on how to operate and troubleshoot the product.

International Warranty

Warranty may be valid when a MURIDEO product is purchased in one country and transferred to another country, without voiding the warranty. Please be advised that service availability and response time may vary from country to country. Warranty is transferrable within the warranty period.

MURIDEO is not responsible for any export and import control issues, handling fees, tariffs, import duties, and all other related fees where owner is responsible for shipping its products. This International Limited warranty does not affect your statutory rights.

Limitation of Liability

MURIDEO reserves the right to refuse warranty service of products under disputable conditions. MURIDEO also holds the rights to declare final decision whether products are within warranty conditions. The following actions and damages will result in voiding the limited warranty:

- Damage caused by act of nature, such as fire, flood, wind, earthquake, lightning, etc.
- Damage or incompatibility caused by failure to perform a proper installation or to provide an appropriate operational environment for the product, including but not limited to unstable wired/ wireless network connection and phone lines, bad grounding, external electro-magnetic fields, direct sunlight, high humidity and vibration.
- Damage caused by impact with other objects, dropping, falls, spilled liquids, or submersion in liquids.
- Damage caused by unauthorized repair or disassembling of the product.
- Damage caused by any other abuse, misuse, mishandling, or misapplication.
- Damage caused by third party peripherals (including but not limited to visible damages on motherboard or other electronic parts of the product such as burn spots after electric discharge, melting, fusing, splitting, etc.)
- Any unauthorized software or modification of built-in software not approved by MURIDEO. • The serial number of the product (or serial number stickers of its parts) has been modified, removed, blurred or damaged. • Defects caused by transportation, handling or customer abuse.

Disclaimer of Warranty

THIS WARRANTY IS EXPRESSED IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY, THE IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE AND OF ALL OTHER OBLIGATIONS OR LIABILITIES ON MURIDEO'S PART, AND IT NEITHER ASSUMES NOR AUTHORIZES ANY OTHER PARTY TO ASSUME FOR MURIDEO ANY OTHER LIABILITIES. THE FOREGOING CONSTITUTES THE BUYER'S SOLE AND EXCLUSIVE REMEDY FOR THE FURNISHING OF DEFECTIVE OR NONCONFORMING PRODUCTS AND MURIDEO WILL NOT IN ANY EVENT BE LIABLE FOR COST OF SUBSTITUTE OR REPLACEMENT, COST OF FACILITIES OR SERVICE, DOWNTIME COSTS, LOSS OF PROFITS, REVENUES OR GOODWILL, RELIANCE DAMAGES, LOSS OF DATA, LOSS OF USE IF OR DAMAGE TO ANY ASSOCIATED EQUIPMENT, OR ANY OTHER INDIRECT, INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES BY REASON OF THE FACT THAT SUCH PRODUCTS WILL HAVE BEEN DETERMINED TO BE DEFECTIVE OR NONCONFORMING. THE RIGHTS AND OBLIGATIONS OF THE PARTIES UNDER THIS AGREEMENT SHALL NOT BE GOVERNED BY THE PROVISIONS OF THE 1980 U.S. CONVENTION ON CONTRACTS FOR THE INTERNATIONAL SALE OF GOODS OR THE UNITED NATIONS CONVENTION ON THE LIMITATION PERIOD IN THE INTERNATIONAL SALE OF GOODS, AS AMENDED (COLLECTIVELY, THE "CONVENTIONS"); RATHER, THE RIGHTS AND OBLIGATIONS OF THE PARTIES SHALL BE GOVERNED BY THE LAWS OF THE STATE OF SOUTH DAKOTA, INCLUDING ITS PROVISIONS OF THE UNIFORM COMMERCIAL CODE, AS APPLICABLE. FOR THE AVOIDANCE OF DOUBT, THE CONVENTIONS ARE HEREBY EXCLUDED.

This Limited Warranty gives you specific legal rights. You may also have other rights that may vary from state to state or from country to country. You are advised to consult applicable state or country laws for full determination of your rights. Some jurisdictions do not allow the exclusion or limitation of special, incidental or consequential damages, or limitations on how long a warranty lasts, so the above exclusion and limitations may not apply to everyone.

Getting Help

For service and support, contact your local dealer.

To find your dealer or to contact MURIDEO support, go to:

<http://www.murideo.com/>

or call

+1-605-274-6055 for worldwide technical support

MURIDEO Inc.

2222 E 52nd Street N

Sioux Falls, SD 57104

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