

Test Pattern Generator v8



May 26, 2025

1 Copyrights and Trademark Notices.....	10
1.1 General.....	10
1.2 GNU LESSER GENERAL PUBLIC LICENSE.....	20
1.2.1.1 0. Additional Definitions.....	20
1.2.1.2 1. Exception to Section 3 of the GNU GPL.....	20
1.2.1.3 2. Conveying Modified Versions.....	20
3. Object Code Incorporating Material from Library Header Files.....	21
4. Combined Works.....	21
5. Combined Libraries.....	22
6. Revised Versions of the GNU Lesser General Public License.....	22
1.3 MPEG Disclaimers.....	23
1.3.1 MPEGLA MPEG2 Patent.....	23
1.3.2 MPEGLA MPEG4 VISUAL.....	23
1.3.3 MPEGLA AVC.....	23
1.3.4 MPEG4 SYSTEMS.....	23
1.4 Drastic Technologies Limited Warranty and Disclaimers.....	24
1.4.1 Warranty Remedies.....	24
1.4.2 Software Updates.....	24
1.4.3 Restrictions and Conditions of Limited Warranty.....	24
1.4.4 Limitations of Warranties.....	25
1.4.5 Damages.....	25
2 About Test Pattern Generator.....	26
3 Reference.....	27
3.1 Main Interface Overview.....	27
4 Operations.....	29
4.1 Install the Software.....	29
4.2 License Test Pattern Generator.....	30
4.3 Run the Software.....	33
4.3.1 File Menu.....	35
4.3.1.1 Open.....	35
4.3.1.2 Save As.....	35
4.3.2 View – Add Test Pattern Output.....	36
4.3.3 Configure.....	37
4.3.3.1 Video.....	37
4.3.3.2 Audio.....	42
4.3.3.3 Metadata.....	44
4.3.3.4 Output.....	45
4.3.4 Options – PTP Settings.....	47
4.3.4.1 Misc - Themes.....	48
4.3.4.2 DefaultClassic.....	48
4.3.4.3 DefaultLight.....	48
4.3.4.4 Gray.....	48
4.3.4.5 Light.....	48
4.3.4.6 BlackCodz01.....	49
4.3.4.7 DarkCodz01.....	49
4.3.4.8 GrayCodz01.....	49

4.3.4.9 Purple.....	49
4.3.4.10 Cherry.....	50
4.3.4.11 DarkOpaque.....	50
4.3.4.12 Soft.....	50
4.3.4.13 EdinBlack.....	50
4.3.4.14 EdinWhite.....	51
4.3.4.15 Maya.....	51
4.3.4.16 LightGreen.....	51
4.3.4.17 Design.....	51
4.3.4.18 Dracula.....	52
4.3.4.19 Greenish.....	52
4.3.4.20 C64.....	52
4.3.4.21 PhotoStore.....	52
4.3.4.22 CorporateGreyFlat.....	53
4.3.4.23 CorporateGreyFramed.....	53
4.3.4.24 VisualDark.....	53
4.3.4.25 SteamingLife.....	53
4.3.4.26 SoftLife.....	54
4.3.4.27 GoldenBlack.....	54
4.3.4.28 Windowed.....	54
4.3.4.29 OverShiftedBlack.....	54
4.3.4.30 AieKickGreenBlue.....	55
4.3.4.31 AieKickRedDark.....	55
4.3.4.32 DeepDark.....	55
4.3.4.33 DarkOpaqueInverse.....	55
4.3.4.34 GrayCodz01Inverse.....	56
4.3.4.35 PurpleInverse.....	56
4.3.4.36 LightGreenInverse.....	56
4.3.4.37 DesignInverse.....	56
4.3.4.38 DeepDarkInverse.....	57
4.3.5 Settings - Enable Remote.....	57
4.3.6 Settings – License Message.....	57
5 Workflows.....	58
5.1 Multiple pattern output.....	58
5.2 UnReal Engine Output.....	59
5.3 AJA Board Output.....	59
5.4 Bluefish444 Board Output.....	59
5.5 Blackmagic Board Output.....	59
5.6 Matrox Board Output.....	59
5.7 NDI Output.....	59
5.8 SMPTE2110 Output.....	59
6 The Patterns.....	60
6.1 Motion Patterns.....	60
6.1.1 EBU Digital A/V Sync Motion 1.....	60

6.1.2 EBU Digital A/V Sync Motion 2.....	61
6.2 Static Patterns.....	62
6.2.1 Color Patterns.....	62
6.2.1.1 <i>Black</i>	63
6.2.1.2 <i>SuperBlack</i>	63
6.2.1.3 <i>ZeroBlack</i>	64
6.2.1.4 <i>White</i>	64
6.2.1.5 <i>SuperWhite</i>	65
6.2.1.6 <i>FullWhite</i>	65
6.2.1.7 <i>White75pc</i>	66
6.2.1.8 <i>Yellow75pc</i>	66
6.2.1.9 <i>Cyan75pc</i>	67
6.2.1.10 <i>Green75pc</i>	67
6.2.1.11 <i>Magenta75pc</i>	68
6.2.1.12 <i>Red75pc</i>	68
6.2.1.13 <i>Blue75pc</i>	69
6.2.1.14 <i>Gray75pc</i>	69
6.2.1.15 <i>Grey25pc</i>	70
6.2.1.16 <i>Grey50pc</i>	70
6.2.1.17 <i>White100pc</i>	71
6.2.1.18 <i>Yellow100pc</i>	71
6.2.1.19 <i>Cyan100pc</i>	72
6.2.1.20 <i>Green100pc</i>	72
6.2.1.21 <i>Magenta100pc</i>	73
6.2.1.22 <i>Red100pc</i>	73
6.2.1.23 <i>Blue100pc</i>	74
6.2.2 Grid Patterns.....	75
6.2.2.1 <i>Grid</i>	75
6.2.2.2 <i>Dots</i>	75
6.2.2.3 <i>GridAndDots</i>	76
6.2.2.4 <i>Cross</i>	76
6.2.2.5 <i>CrossCircle</i>	77
6.2.2.6 <i>Circle</i>	77
6.2.2.7 <i>CrossHatch</i>	78
6.2.2.8 <i>EdgeMarkers</i>	78
6.2.2.9 <i>HDR_GridPattern_1</i>	79
6.2.3 Bars Patterns.....	80
6.2.3.1 <i>Camera601Bars75pc</i>	80
6.2.3.2 <i>Camera601Bars100pc</i>	80
6.2.3.3 <i>Camera709Bars75pc</i>	81
6.2.3.4 <i>Camera709Bars100pc</i>	81
6.2.3.5 <i>BarsRed75pc</i>	82
6.2.3.6 <i>BarsRed100pc</i>	82

6.2.3.7 BarsBasicHD75pc.....	83
6.2.3.8 BarsBasicHD100pc.....	83
6.2.3.9 SMPTEBars601_75pc.....	84
6.2.3.10 SMPTEBars709_75pc.....	84
6.2.3.11 SMPTEBars601_100pc.....	85
6.2.3.12 SMPTEBars709_100pc.....	85
6.2.3.13 CameraBars_709_75pc.....	86
6.2.3.14 CameraBars_709_100pc.....	86
6.2.3.15 Bars709Inverts_75pc.....	87
6.2.3.16 HDBars.....	87
6.2.3.17 Camera2020Bars75pc.....	88
6.2.3.18 Camera2020Bars100pc.....	88
6.2.3.19 BarsHD2020_75pc.....	89
6.2.3.20 BarsHD2020_100pc.....	89
6.2.3.21 BTBars.....	90
6.2.3.22 DSC_Camera_Bars_37pc.....	90
6.2.3.23 Bars709InvertsFull.....	91
6.2.3.24 SMPTE-ARIB-B72_HDRBars.....	91
6.2.3.25 CameraBars_601_75pc.....	92
6.2.3.26 CameraBars_601_100pc.....	92
6.2.3.27 CameraBars_2020_75pc.....	93
6.2.3.28 CameraBars_2020_100pc.....	93
6.2.3.29 CameraBarsInvert_601_75pc.....	94
6.2.3.30 CameraBarsInvert_709_75pc.....	94
6.2.3.31 CameraBarsInvert_2020_100pc.....	95
6.2.4 Step Patterns.....	96
6.2.4.1 Luma5Step.....	96
6.2.4.2 Luma7Step.....	96
6.2.4.3 Luma10Step.....	97
6.2.4.4 Luma5StepInvert.....	97
6.2.4.5 Luma7StepInvert.....	98
6.2.4.6 Luma10StepInvert.....	98
6.2.4.7 IRELowHoriz.....	99
6.2.4.8 IRELowVert.....	99
6.2.4.9 IRESplitSteps.....	100
6.2.4.10 HDR_StepGrayscale_1.....	100
6.2.4.11 HDR_GammaStep_1.....	101
6.2.4.12 HDR_Contrast_1.....	101
6.2.4.13 Chroma5Step.....	102
6.2.4.14 Luma20Step.....	102
6.2.4.15 Luma20StepInvert.....	103
6.2.5 Ramp Patterns.....	104
6.2.5.1 ChromaRamp.....	104

6.2.5.2 <i>LumaRamp</i>	104
6.2.5.3 <i>ModRamp</i>	105
6.2.5.4 <i>ValidRamp</i>	105
6.2.5.5 <i>DigitalRamp</i>	106
6.2.5.6 <i>ShallowRamp</i>	106
6.2.5.7 <i>ShallowRamps</i>	107
6.2.5.8 <i>100iRamp</i>	107
6.2.5.9 <i>120iRamp</i>	108
6.2.5.10 <i>UBMRamp</i>	108
6.2.5.11 <i>R-G_Vert</i>	109
6.2.5.12 <i>R-G_Horiz</i>	109
6.2.5.13 <i>R-G_Both</i>	110
6.2.5.14 <i>B-G_Vert</i>	110
6.2.5.15 <i>B-G_Horiz</i>	111
6.2.5.16 <i>B-G_Both</i>	111
6.2.5.17 <i>G_Vert_R-B_Horiz</i>	112
6.2.5.18 <i>R-B_Vert_G_Horiz</i>	112
6.2.5.19 <i>R-G-B_Horiz</i>	113
6.2.5.20 <i>R-G-B_Vert</i>	113
6.2.5.21 <i>LumaRampVert</i>	114
6.2.6 Patches Patterns.....	115
6.2.6.1 <i>SMPTE303M</i>	115
6.2.6.2 <i>ColorScales</i>	115
6.2.6.3 <i>HDR_50Amp_100Sat_1</i>	116
6.2.6.4 <i>HDR_Point_Pantone_SkinTones_Color</i>	116
6.2.7 ZonePlate Patterns.....	117
6.2.7.1 <i>ZonePlateY</i>	118
6.2.7.2 <i>ZonePlateC</i>	118
6.2.7.3 <i>ZonePlate</i>	119
6.2.8 Edges Patterns.....	120
6.2.8.1 <i>Border</i>	121
6.2.8.2 <i>BorderColorQuadrant</i>	121
6.2.8.3 <i>TitleActionSafe</i>	122
6.2.9 Gamma Patterns.....	123
6.2.9.1 <i>GammaStrip</i>	123
6.2.10 Multiburst Patterns.....	124
6.2.10.1 <i>MultiBurst</i>	125
6.2.10.2 <i>MultiBurst_5_0Mhz</i>	125
6.2.10.3 <i>SingleBurst</i>	126
6.2.10.4 <i>LumaSweep</i>	126
6.2.11 Luma Check Patterns.....	127
6.2.11.1 <i>Pluge</i>	128
6.2.11.2 <i>HDR_BlackClipping</i>	128

6.2.11.3 <i>HDR_WhiteClipping_1</i>	129
6.2.11.4 <i>IREField5</i>	129
6.2.11.5 <i>IREField10</i>	130
6.2.11.6 <i>IREField15</i>	130
6.2.11.7 <i>IREField20</i>	131
6.2.11.8 <i>IREField25</i>	131
6.2.11.9 <i>IREField30</i>	132
6.2.11.10 <i>IREField35</i>	132
6.2.11.11 <i>IREField40</i>	133
6.2.11.12 <i>IREField45</i>	133
6.2.11.13 <i>IREField50</i>	134
6.2.11.14 <i>IREField55</i>	134
6.2.11.15 <i>IREField60</i>	135
6.2.11.16 <i>IREField65</i>	135
6.2.11.17 <i>IREField70</i>	136
6.2.11.18 <i>IREField75</i>	136
6.2.11.19 <i>IREField80</i>	137
6.2.11.20 <i>IREField85</i>	137
6.2.11.21 <i>IREField90</i>	138
6.2.11.22 <i>IREField95</i>	138
6.2.12 Chroma Check Patterns.....	139
6.2.12.1 <i>ycHD</i>	140
6.2.12.2 <i>ChromaSweep</i>	140
6.2.12.3 <i>Chroma5Step</i>	141
6.2.12.4 <i>All_Hue_709_100pc</i>	141
6.2.12.5 <i>All_Hue_709_75pc</i>	142
6.2.12.6 <i>All_Hue_709_37pc</i>	142
6.2.12.7 <i>AllHue37_Markers</i>	143
6.2.13 Color Check Patterns.....	144
6.2.13.1 <i>HDR Clipping</i>	145
6.2.13.2 <i>HDR_BlueFilter_1</i>	145
6.2.13.3 <i>HDR_GreenFilter_1</i>	146
6.2.13.4 <i>HDR_RedFilter_1</i>	146
6.2.14 Signal Check Patterns.....	147
6.2.14.1 <i>CheckField</i>	148
6.2.14.2 <i>ColorQuadrant</i>	148
6.2.14.3 <i>FlatField</i>	149
6.2.14.4 <i>HorizPixOne</i>	149
6.2.14.5 <i>HorizPixTwo</i>	150
6.2.14.6 <i>HorizRes</i>	150
6.2.14.7 <i>VertPixOne</i>	151
6.2.14.8 <i>VertPixTwo</i>	151
6.2.14.9 <i>VertRez</i>	152

6.2.14.10 2TPulseLines.....	152
6.2.14.11 Pathological.....	153
6.2.14.12 PathologicalEQ.....	153
6.2.14.13 PathologicalPLL.....	154
6.2.14.14 NeedlePulseGray.....	154
6.2.14.15 NeedlePulseBlack.....	155
6.2.14.16 NeedlePulseWhite.....	155
6.2.14.17 NeedlePulse.....	156
6.2.14.18 NeedlePulseF.....	156
6.2.15 Composite Patterns.....	157
6.2.15.1 MultiPattern.....	158
6.2.15.2 SMPTE-ARIB-B28-HDBars75pc.....	158
6.2.15.3 SMPTE-ARIB-B28-HDBars100pc.....	159
6.2.15.4 SMPTE-ARIB-B28-HDBarsPlpc.....	159
6.2.15.5 BarsMultiburst_75pc.....	160
6.2.15.6 BarsMultiburst_100pc.....	160
6.2.15.7 RP-219.....	161
6.2.15.8 RP-219_100pc.....	161
6.2.15.9 RP-219Sub.....	162
6.2.15.10 RP-219Sub_100pc.....	162
6.2.16 Aspect Ratio Patterns.....	163
6.2.16.1 ConvergenceCircle.....	164
6.2.16.2 FillCircle240d.....	164
6.2.16.3 FillCircle120d.....	165
6.2.16.4 FillCircle60d.....	165
6.2.17 Window Patterns.....	166
6.2.17.1 WhiteWindow601c.....	167
6.2.17.2 YellowWindow601c.....	167
6.2.17.3 CyanWindow601c.....	168
6.2.17.4 GreenWindow601c.....	168
6.2.17.5 MagentaWindow601c.....	169
6.2.17.6 RedWindow601c.....	169
6.2.17.7 BlueWindow601c.....	170
6.2.17.8 WhiteWindow709p.....	170
6.2.17.9 YellowWindow709p.....	171
6.2.17.10 CyanWindow709p.....	171
6.2.17.11 GreenWindow709p.....	172
6.2.17.12 MagentaWindow709p.....	172
6.2.17.13 RedWindow709p.....	173
6.2.17.14 BlueWindow709p.....	173
6.2.17.15 WhiteWindow2020p.....	174
6.2.17.16 YellowWindow2020p.....	174
6.2.17.17 CyanWindow2020p.....	175

6.2.17.18 <i>GreenWindow2020p</i>	175
6.2.17.19 <i>MagentaWindow2020p</i>	176
6.2.17.20 <i>RedWindow2020p</i>	176
6.2.17.21 <i>BlueWindow2020</i>	177
6.2.18 Digital Patterns.....	178
6.2.18.1 <i>RandomLuma</i>	178
6.2.18.2 <i>RandomChroma</i>	178
6.2.18.3 <i>SinFreq</i>	179
6.2.18.4 0-value-0x000v.....	179
6.2.19 Multi Pattern Patterns.....	180
6.2.19.1 <i>MultiPattern</i>	180

1 Copyrights and Trademark Notices

1.1 General

Copyright 2025, Drastic Technologies Ltd. All rights reserved worldwide. No part of this publication may be reproduced, transmitted, transcribed, altered, or translated into any languages without the written permission of Drastic Technologies. Information and specifications in this document are subject to change without notice and do not represent a commitment on the part of Drastic Technologies.

A&E Television Networks - A&E Networks is a trademark of A&E Television Networks

Adobe, Inc. - Adobe, the Adobe logo, Adobe Premiere, Adobe After Effects, Creative Cloud, Frame.io, and Iridas are either registered trademarks or trademarks of Adobe in the United States and/or other countries.

Advanced Micro Devices, Inc. - AMD is a trademark of Advanced Micro Devices, Inc.

ADVANTECH CO., LTD - ADVANTECH and B&B are trademarks of ADVANTECH CO., LTD

AES Audio Engineering Society - AES and Audio Engineering Society are trademarks of the Audio Engineering Society

aescripts + aeplugins - ZXPIInstaller Copyright aescripts + aeplugins 2023

AIMS Alliance - The AIMS Alliance is a trademark of Alliance for IP Media Solutions (AIMS).

AJA Video Systems, Inc. - AJA® is a registered trademark of AJA Video Systems, Inc. AJA™ is a trademark of AJA Video Systems, Inc. Corvid Ultra®, KONA®, IO®, KUMO®, U-Tap®, and T-Tap® are registered trademarks of AJA Video Systems, Inc.

Amazon Web Services, Inc. - Amazon, AWS and Smile Logo, Powered by AWS Logo, AWS Co-Marketing Tools, the Partner Logo, the Program Marks, Amazon Web Services, AWS, AWS S3, and the names of AWS products, services, programs, and initiatives are trademarks or registered trademarks of Amazon Web Services, Inc.

Amberfin Limited - AMBERFIN is a trademark of Amberfin Limited.

AMERICAN BROADCASTING COMPANIES, INC - ABC is a trademark of AMERICAN BROADCASTING COMPANIES, INC

American Cinematographer - The ASC, American Cinematographer and Friends of the ASC are trademarks of the American Society of Cinematographers. (All rights reserved)

AMWA Advanced Media Workflow Association, Inc. - Copyright © 2025 AMWA – Advanced Media Workflow Association. All rights reserved.

Animation Magazine - © 2025 Animation Magazine. All Rights Reserved. The Business, Technology & Art Of Animation And VFX

Apple Inc. - Apple, the Apple logo, Final Cut, Final Cut Pro, Apple TV, iOS, iPad, iPhone, iPod touch, iTunes, Mac, Mac OS X, macOS, Shake, Final Cut Pro, ProRes, High Sierra, Mojave, Ventura, Sonoma, M1, M2, and QuickTime are trademarks of Apple Inc., registered in the U.S. and other countries. OpenCL and the OpenCL logo™ are trademarks owned by Apple Inc. and licensed to the Khronos Group.

ARRI AG – ARRI, Arri T-Link, and Alexa are registered trademarks of the ARRI Group

ASSIMILATE® Inc. - Assimilate SCRATCH and Assimilate SCRATCH Lab are either trademarks

or registered trademarks of ASSIMILATE® Inc. or its subsidiaries in the United States and/or other countries.

ATI TECHNOLOGIES ULC - ATI is a trademark of ATI TECHNOLOGIES ULC

ATSC: The Broadcast Standards Association - © 2025 ATSC Advanced Television Systems Committee, Inc.

Autodesk, Inc. - Autodesk, Discreet, Flame, Flare, Smoke, Lustre, Maya, and Moxion are either trademarks or registered trademarks of Autodesk, Inc. or its subsidiaries in the United States and/or other countries.

Avid Technology, Inc. - Avid Media Composer®, Avid MediaCentral®, Avid Interplay®, ProTools®, and Avid NewsCutter® are either trademarks or registered trademarks of Avid Technology, Inc. or its subsidiaries in the United States and/or other countries.

Axis Communications AB - Axis is a registered trademark of Axis Communications AB

Bell Media Inc. - Bell Media, BNN, CP24, CTV, CTV TWO, Much, MuchMusic and The Comedy Network, and all associated designs and logos are trademarks of Bell Media Inc.

Belle Nuit Montage - Matthias Bürcher August 2000-2016. All rights reserved. Written in Switzerland. Starting 2016 Belle Nuit Subtitler is released under the GNU Lesser General Public License

BirdDog Software Corporation - BIRDDOG is a trademark of BirdDog Software Corporation

Blackmagic Design Pty. Ltd. - DaVinci Resolve, DaVinci Fusion, UltraStudio, DeckLink, Intensity Pro 4K, UltraScope, and RED are either trademarks or registered trademarks of Blackmagic Design Pty. Ltd. or its subsidiaries in the United States and/or other countries.

Bluefish Technologies - Bluefish444, IngeSTore, Symmetry, Kronos, Epoch, Epoch:Neutron, Fury, Lust, Vengeance HD, Deepblue, Envy SD, and Epoch:SuperNova are trademarks of Bluefish Technologies

Boris FX, Inc. - Boris FX, Sapphire, and Silhouette are trademarks of Boris FX, Inc.

Bridge Digital, Inc. - Bridge Digital is a trademark of Bridge Digital, Inc..

Bridge Technologies Co AS - Bridge Technologies is a trademark of Bridge Technologies Co AS

Bright Technologies, Inc. - Bright and Bright Systems are trademarks of Bright Technologies, Inc.

British Broadcasting Corporation - BBC is a trademark of British Broadcasting Corporation

Broadcast Beat - © 2025 Relevant Media Properties, LLC. All Rights Reserved.

BT Group plc - BT is a trademark of BT Group plc

Cable News Network, Inc. - CNN is a trademark of Cable News Network, Inc.

Canadian Federal Institutions - Official symbols of federal institutions, including the Arms of Canada may not be reproduced, whether for commercial or non-commercial purposes, without prior written authorization.

CANON KABUSHIKI KAISHA - CANON is a trademark of CANON KABUSHIKI KAISHA

Catapult Group International Ltd - Catapult is a trademark owned by Catapult Group International Ltd

Changsha Kiloview Electronics Co., Ltd - KILOVIEW is a trademark of Changsha Kiloview Electronics Co., Ltd

Charter Communications Inc. - Charter Communications is a trademark of Charter Communications Inc.

CineSys LLC – CineSys is a registered trademark of CineSys LLC.

Cisco Systems, Inc. - Cisco, and Webex are registered trademarks of Cisco Systems, Inc.

Cloudfirst Technology Solutions Inc. - Cloudfirst is a registered trademark of Cloudfirst Technology Solutions Inc.

Cobalt Digital - Cobalt Digital is a registered trademark of Cobalt Digital Inc.

Codex Corporation - CODEX and Action Cam are trademarks of Codex Corporation

Comcast Corporation - Sky UK Limited is a wholly owned subsidiary of Comcast Corporation

Comtrol Corporation - Comtrol is a registered trademark of Comtrol Corporation

CoreCodec, Inc. - MATROSKA is a trademark of CoreCodec, Inc.

Corel Corporation - WinZip, the WinZip vise and file logo, and Pinnacle are registered trademarks of Corel Corporation

CORSAIR MEMORY, INC. - ELGATO is a trademark of CORSAIR MEMORY, INC.

Corus Entertainment Inc. - CORUS is a trademark of Corus Entertainment Inc.

Crayon Software Experts Spain SL - Crayon is a trademark of Crayon Software Experts Spain SL

CrypKey Inc (formerly Kenonics) - CrypKey is a registered trademark of CrypKey Inc.

Deadline - Deadline is a part of Penske Media Corporation. © 2025 Deadline Hollywood, LLC. All Rights Reserved.

Deltacast - © Copyright 2024 DELTACAST. All rights reserved

Deluxe Media Inc. - Deluxe is a trademark of Deluxe Media Inc.

Digital Formation, Inc. - Digital Formation is a Copyright of Digital Formation, Inc.

Digital Video Systems Ltd - DVS is a trademark of Digital Video Systems Ltd

DIGITNOW! - Digitnow is a trademark of DIGITNOW!

Docker Inc. - DOCKER is a trademark of Docker, Inc.

Dolby Laboratories – Dolby, Dolby Vision, the double-D symbol, and Millicast are registered trademarks of Dolby Laboratories.

DPP - The Digital Production Partnership - DPP is a registered trademark | Digital Production Partnership © 2025

Drastic Technologies, Ltd. – 2110Scope, 4KScope, ccConvert, Drastic Technologies, DrasticPreview, DrasticScope, FlowCaster, HDRScope, Media File Scanner, MediaNXS, MediaReactor, MediaReactor Workstation, MR Lite, ndiScope, Net-X-Code Channel, Net-X-Code Server, Net-X-Convert, Net-X-Proxy, Network Video Analyzer, NetXfer, NETXROUTER, NetXScope, QuickClip, sdiScope, SyncControl, TcCalc, TestPatternGenerator, videoQC Inspect, videoQC Pro, videoQC View, and videoQC Workstation are trademarks of Drastic Technologies Ltd.

DTS - DTS, the Symbol, and DTS and the Symbol together are registered trademarks of DTS, Inc.

Dublin Core™ Metadata Initiative - "Dublin Core" is a protected under common law trademark of the Dublin Core™ Metadata Initiative.

Eastman Kodak Company - Cineon™ is a trademark of Eastman Kodak Company

Eaton Corporation plc - Eaton, Tripp Lite, and PowerAlert are registered trademarks of Eaton Corporation plc

EBU - Copyright EBU 2025. All rights reserved.

Empress Media Asset Management (eMAM) – eMAM, and eMAMDirector are registered trademarks of Empress Media Asset Management (eMAM)

Entertainment and Sports Programming Network - ESPN is a trademark of Entertainment and Sports Programming Network

Epic Games, Inc. - UNREAL ENGINE is a trademark of Epic Games, Inc..

Epiphan - All Epiphan product names and logos are trademarks or registered trademarks of Epiphan

Evercast, LLC - EVERCAST is a trademark owned by Evercast, LLC

Evertz Technologies Limited - Evertz is a registered trademark of Evertz Technologies Limited

EVS Broadcast Equipment - EVS is a registered trademark of EVS Broadcast Equipment

Fabrice Bellard - FFmpeg is a trademark of Fabrice Bellard

Filestage GmbH - Filestage is a trademark of Filestage GmbH

FilmLight Ltd. - FilmLight and BaseLight are trademarks of FilmLight Ltd.

Filmworkz - Filmworkz is an operating brand of BlissTek Ltd. BlissTek Ltd. Filmworkz Nucoda is either a trademark or registered trademark of BlissTek Ltd. or its subsidiaries in England, Wales, and/or other countries.

For-A - For-A is a registered trademark of FOR-A COMPANY LIMITED, Copyright © FOR-A Company Limited.

France Télévisions - France.tv is a trademark of France Télévisions

Fraunhofer IIS and Thomson Multimedia - MPEG Layer-3 audio coding technology licensed from Fraunhofer IIS and Thomson Multimedia.

Fraunhofer-Gesellschaft zur Förderung der angewandten Forschung e.V. - EASYDCP is a trademark and brand of Fraunhofer-Gesellschaft zur Förderung der angewandten Forschung e.V..

Free Software Foundation (FSF) - Portions of this product are licensed under LGPL, governed by the GNU LESSER GENERAL PUBLIC LICENSE, published by the Free Software Foundation (FSF).

Ftrack AB - FTRACK is a trademark and brand of Ftrack AB

Gen Digital Inc. (formerly Symantec Corporation and NortonLifeLock) - Symantec, Symantec Endpoint Virtualization Suite, Sygate, Altiris, and Altiris Virtualization Agent are registered trademarks of Gen Digital Inc.

Google LLC – YouTube, Google, Google Cloud, Google.meet.com, and Android are registered trademarks of Google LLC

GoPro, Inc. - Cineform® is a trademark or registered trademark of GoPro, Inc.

Grass Valley USA, LLC - Grass Valley®, GV®, the Grass Valley logo, and EDIUS® are trademarks or registered trademarks of Grass Valley USA, LLC, or its affiliated companies in the United States and other jurisdictions.

HaiVision Systems, Inc. - Haivision is a registered trademark of HaiVision Systems, Inc.

Harmonic - Harmonic is a registered trademark of Harmonic Inc.

Harris Corporation - Harris, and Leitch Technology Corp. are registered trademarks of Harris Corporation

Hewlett Packard Enterprise Company – OpenGL and SGI are registered trademarks and the OpenGL SC logo is a trademark of Hewlett Packard Enterprise Company

Hewlett Packard Group LLC - HP is a trademark of HP Hewlett Packard Group LLC.

i-scream - i-scream is a trademark of i-scream

IABM - © 2025 IABM IABM is company limited by guarantee. Registered in England No: 5262009. Registered Office: IABM, 5 Deansway, Worcester, WR1 2JG

IBC - IBC (International Broadcasting Convention) is owned and run by the IBC Partnership, comprising six industry bodies: IEEE, IET, IABM, SCTE, SMPTE, and RTS.

Ideal Systems Asia Pacific Ltd. - Ideal Systems is a registered trademark of Ideal Systems Asia Pacific Ltd.

IEEE - IEEE Broadcast Technology Society - The IEEE emblem is a trademark owned by the IEEE for the purpose of indicating membership in the IEEE.

Ikegami Electronics (USA) Inc. - EditCam is a registered trademark of Ikegami Electronics (USA) Inc.

Indiecam GmbH - IndieCam is a registered trademark of Indiecam GmbH

Infocomm - InfoComm, AVIXA and associated logos are a trademark or registered trademark of AVIXA

INOGENI Inc - INOGENI® is a Registered Trademark and TOGGLE is a Trademark of INOGENI Inc

Institute of Electrical and Electronics Engineers - IRE is a trademark of the Institute of Electrical and Electronics Engineers

INTEL CORPORATION - INTEL is a trademark of INTEL CORPORATION

International Business Machines Corporation (“IBM”) - IBM® is a trademark owned by International Business Machines Corporation (“IBM”) and might also be trademarked or a registered trademark in other countries

Interactive Effects, Inc. - Piranha is a registered trademark of Interactive Effects, Inc.

Intraware, Inc. – Intraware is a registered trademark of Intraware, Inc.

IO Industries Ltd. - IO Industries is a trademark of IO Industries Ltd.

Iteris, Inc. - Odetics is a registered trademark of Iteris, Inc.

JVC KENWOOD CORPORATION - JVC is a trademark of JVC KENWOOD CORPORATION

Kinefinity Inc. - KINEFINITY is a trademark of Kinefinity Inc.

L3Harris Technologies, Inc. - Louth is a trademark of L3Harris Technologies, Inc.

LeeLu Soft - Watch 4 Folder is a trademark of LeeLu Soft

LinkedIn Corporation - LinkedIn is a trademark of LinkedIn Corporation

Linus Torvalds - Linux® is the registered trademark of Linus Torvalds in the U.S. and other countries.

Logitech International SA - LOGITECH is a trademark of Logitech International SA

LogMeIn, Inc. - GoTo is a trademarks and service marks of LogMeIn, Inc., and may be registered in the U.S. Patent and Trademark Office and in other countries.

Louper.io Ltd - Louper.io is a trademark of Louper.io Ltd

Lynx Technik AG - LYNX TECHNIK AG is a trademark of LYNX TECHNIK AG.

Magic Lantern - Magic Lantern is a registered trademark of Magic Lantern

MAINCONCEPT GMBH - MAIN CONCEPT is a trademark of MAINCONCEPT GMBH

Marshall Electronics, Inc. - Marshall is a registered trademark of Marshall Electronics, Inc.

Mastercard International Incorporated - Mastercard is a trademark of Mastercard International Incorporated

Matrox Electronic Systems, Ltd - Matrox and Matrox product names are registered trademarks and/or trademarks of Matrox Electronic Systems, Ltd.

MediaArea.net SARL - MediaInfo - Copyright © 2002-2013 MediaArea.net SARL. All rights reserved.

Mellanox Technologies, Inc - Mellanox® and ConnectX® are registered trademarks of Mellanox Technologies, Inc

Meta Platforms, Inc - Facebook and Instagram are trademarks of Meta Platforms, Inc

Metro-Goldwyn-Mayer Studios, Inc. - Metro Goldwyn Mayer, and MGM, are trademarks of Metro-Goldwyn-Mayer Studios, Inc.

Microsoft Corporation – Microsoft: Windows®, Video For Windows (VFW), DirectShow, Microsoft, Skype, Microsoft Azure, Microsoft Teams, Wave Mapper, Microsoft, Windows NT|2000|XP|XP Professional|Server 2003|Server 2008 |Server 2012, Windows 7, Windows 8, Windows 10, Media Player, Media Encoder, Windows Defender, Microsoft Office, .Net, Internet Explorer, SQL Server 2005|2008|2012|2014, Windows Media Technologies and Internet Explorer are trademarks of Microsoft Corporation.

MPEG LA - MPEG LA licenses patent pools covering essential patents required for use of the MPEG-2, MPEG-4, IEEE 1394, VC-1, ATSC, MVC, MPEG-2 Systems, AVC/H.264 and HEVC standards.

Nanjing Magewell Electronics Co. - MagewellTM , ULTRA STREAM® and (the MAGEWELL Logo) are trademarks or registered trademarks of Nanjing Magewell Electronics Co.

National Aeronautics and Space Administration - NASA is a registered trademark of The National Aeronautics and Space Administration

NAB - NABShow and NAB © 2025 National Association of Broadcasters

National Geographic Society - NATIONAL GEOGRAPHIC is a trademark of National Geographic Society

NBA Properties, Inc. - NBA and the NBA logo are trademarks of NBA Properties, Inc.

NBC UNIVERSAL MEDIA, LLC - NBC and NBC Universal are trademarks of NBC UNIVERSAL MEDIA, LLC

Netflix, Inc. - Netflix is a registered trademark of Netflix, Inc.

Nevion - copyright NEVION - All rights reserved. Nevion @ 2023

New Media Manitoba - Copyright © 2025 New Media Manitoba

NewTek, Inc. - NDI, TriCaster, 3Play, TalkShow, Video Toaster, LightWave 3D, and Broadcast Minds are registered trademarks of NewTek, Inc.

Nexidia Inc. - NEXIDIA is a trademark owned by Nexidia Inc.

NGC Corporation - NGC is a registered trademark of NGC Corporation

Nippon Hatsujo Kabushiki Kaisha - NHK is a trademark of Nippon Hatsujo Kabushiki Kaisha

Nokia Corporation - OSPREY is a trademark owned by Nokia Corporation

NVIDIA Corporation - NVIDIA, the NVIDIA logo, NVIDIA Quadro, Rivermax, BlueField2, PhysX, and NVIDIA RTX are trademarks and/or registered trademarks of NVIDIA Corporation in the U.S. and/or other countries

Object Matrix Limited - ObjectMatrix, and Object Matrix are registered trademarks of Object Matrix Limited

Omneon Video Networks, Inc - Omneon is a trademark of Omneon Video Networks, Inc

ONVIF - the ONVIF primary trademark is the word, "ONVIF". This trademark has been registered in the United States, European Union, China, Japan and other countries throughout the world.

OpenSSL Project Authors - OpenSSL is a trademark of OpenSSL Project Authors

Oracle Corporation - Oracle®, Java, Front Porch Digital, and MySQL are registered trademarks of Oracle Corporation and/or its affiliates.

Panasonic Holdings Co., Ltd - Panasonic, and Varicam are trademarks of Panasonic Holdings Co., Ltd

Pantone, Inc. - Pantone is a registered trademark of Pantone, Inc

PayPal, Inc. - PAYPAL is a trademark of PayPal, Inc.

PELOTON INTERACTIVE, INC. - PELOTON is a trademark of PELOTON INTERACTIVE, INC.

Pioneer Corporation - Pioneer is a registered trademark of Pioneer Corporation

Post Magazine - © Copyright 2024 Post Magazine. All Rights Reserved.

ProAV - PRO AV SYSTEMS is a trademark of Pro AV Systems, Inc

Production Weekly - Copyright © 2015-2025 Production Weekly

RE:Vision Effects, Inc. - RE:Vision Effects is a registered trademark of RE:Vision Effects, Inc.

Red Hat, Inc. - Red Hat, and the Red Hat logo are trademarks or registered trademarks of Red Hat, Inc. or its subsidiaries in the United States and other countries

Reddit - Reddit's trademarks and other brand assets are owned by Reddit.

Rogers Communications Inc. - Rogers and related marks are trademarks of Rogers Communications Inc. or an affiliate, used under licence.

Ross Video - ©2022 Ross Video Limited, Ross®, MiniME™, and any related marks are trademarks or registered trademarks of Ross Video Limited

Shenzhen Yunlang Technology Co., Ltd. - MOKOSE is a trademark of Shenzhen Yunlang Technology Co., Ltd.

Sigma Design Company, LLC - Sigma Design is a registered trademark of Sigma Design Company, LLC

Sinclair Broadcast Group, Inc. - Sinclair Broadcast Group is a trademark of Sinclair Broadcast Group, Inc.

Snell & Wilcox Limited - SNELL & WILCOX, and Quantel are trademarks owned by Snell & Wilcox Limited

Society of Broadcast Engineers - Copyright, Society of Broadcast Engineers Chapter One, all rights reserved. The SBE logo is used by permission of the Society of Broadcast Engineers.

Society of Cable Telecommunications Engineers (SCTE) - ©2025 Society of Cable

Telecommunications Engineers, Inc. is a subsidiary of CableLabs. All rights reserved.

Society of Motion Picture and Television Engineers - Motion Imaging Journal and SMPTE are trademarks of Society of Motion Picture and Television Engineers.

SoftNI Corporation – SoftNI is a trademark of SoftNI Corporation

Sony Corporation – Sony, Sony DVD Architect, DVD, Catalyst, and Vegas are trademarks of Sony Corporation and/or its affiliates.

Sound On Sound - copyright © SOS Publications Group and/or its licensors, 1985-2025. All rights reserved.

SRI International - SARNOFF CORPORATION is a trademark of SRI INTERNATIONAL.

SRT (Secure Reliable Transport) - SRT, developed by Haivision, is a royalty free, open source protocol

Streambox Inc. - Streambox is a trademark of Streambox Inc.

Streaming Media - Copyright © 2009 - 2025 Streaming Media Magazine

STREAMWELL LLC – Streamwell is a trademark of STREAMWELL LLC

Technicolor Creative Studios SA - Technicolor is a trademark of Technicolor Creative Studios SA

TechSmith Corporation - CAMTASIA STUDIO is a trademark of TechSmith Corporation

Tektronix, Inc. - Tektronix® and all identified Tektronix trademarks and logos are the property of Tektronix, Inc. or its wholly-owned subsidiaries

Telestream, LLC - Telestream, is a registered trademark, and MacCaption and CaptionMaker are trademarks of Telestream, LLC

The Apache Software Foundation (ASF) - Apache is a registered trademark of The Apache Software Foundation

The Foundry Visionmongers Ltd. - Nuke™ is a trademark of The Foundry Visionmongers Ltd.

The Perl Foundation - Perl and the Perl logo are trademarks of The Perl Foundation

The Qt Company Ltd - The Qt Company Ltd and its subsidiaries ("The Qt Company") is the owner of Qt trademarks ("Qt trademarks") worldwide, and "froglogic", "Squish" and "Coco" are trademarks of the Qt Company Ltd.

THE UNIVISION NETWORK LIMITED PARTNERSHIP - UNIVISION is a trademark of THE UNIVISION NETWORK LIMITED PARTNERSHIP

The Walt Disney Company - Disney, and The Walt Disney Company are trademarks of The Walt Disney Company. LucasFilm is a wholly owned subsidiary of The Walt Disney Company

Toolfarm.com Inc. - Toolfarm is a registered trademark of Toolfarm.com Inc.

Trend Micro Inc. - TrendMicro, and TrendMicro System Protection and registered trademarks of Trend Micro Inc.

Truevision, Inc - TARGA is a registered trademark of Truevision, Inc

TV Asahi Corporation - TV Asahi is a trademark of TV Asahi Corporation

TV Technology - TV Tech is part of Future US Inc, an international media group and leading digital publisher. © Future US, Inc. Full 7th Floor, 130 West 42nd Street, New York, NY 10036.

Twitch Interactive, Inc - TWITCH, the TWITCH Logo, the Glitch Logo, and/or TWITCHTV are

trademarks of Twitch Interactive, Inc. or its affiliates.

Twitter, Inc. - Twitter is a wholly owned subsidiary of X Holdings Corp.

Tyler Perry Studios, LLC - Tyler Perry Studios is a trademark of Tyler Perry Studios, LLC

Vefxi Corporation - VEFXi DiamondBlade is a registered trademark of Vefxi Corporation

ViaLA - Via Licensing®, ViaSecure® and the Via logo are registered service marks, and any other Via Licensing names, titles or logos are trademarks or service marks, in each case, of Via Licensing Corporation, and are protected by law.

Video Clarity, Inc. - Video Clarity and ClearView are trademarks of Video Clarity, Inc.

Video Services Forum - ©2024 Video Services Forum

VideoLAN Non-profit Organization - VideoLAN, VLC, VLC media player and x264 are trademarks internationally registered by the VideoLAN non-profit organization

Videomaker - © Videomaker Inc., 1986 - 2025

Visa International - Visa is a registered trademark of Visa International

Vision Research, Inc - PHANTOM is a trademark of Vision Research, Inc

VITEC - Names and logos identifying products of VITEC are registered trademarks or trademarks of VITEC respectively

Vizrt - VIZRT is a trademark of VIZRT AG.

Warner Bros. Discovery – Discovery, Turner, and Home Box Office, Inc. (HBO), are trademarks of Warner Bros. Discovery

Weisscam GmbH - Weisscam is a trademark and brand of Weisscam GmbH

Wheatstone - ® Wheatstone, Audioarts, and VoxPro are registered trademarks and Wheatstone Layers is a trademark of Wheatstone Corporation

Wizards of OBS, LLC – UNIX, OBS, Open Broadcast Software, the OBS logo, and OBS Studio are trademarks of Wizards of OBS, LLC (The Company)

World Animation Summit - © 2025 Animation Magazine. All Rights Reserved.

World Wrestling Entertainment, Inc. - WWE is a trademark of World Wrestling Entertainment, Inc.

Wowza Media Systems, LLC - Wowza is a trademark of Wowza Media Systems, LLC

wxWidgets - wxWidgets is a trademark of wxWidgets

Xceed Software Inc. - Xceed DataGrid for JavaScript, Xceed Ultimate ListBox for Silverlight, Xceed DataGrid for Silverlight, Xceed DataGrid for WPF, Xceed Grid for .NET, Xceed Zip for .NET, Xceed Real-Time Zip for Silverlight, Xceed Upload for Silverlight, Xceed Zip Compression Library, Xceed FTP for .NET, Xceed Chart for .NET, Xceed Chart for ASP.NET, Xceed SmartUI for .NET, Xceed SmartUI, Xceed Encryption Library, Xceed Binary Encoding Library, Xceed Streaming Compression Library, Xceed Streaming Compression for .NET, Xceed Zip for .NET Compact Framework, Xceed Ultimate Suite, Xceed Data Manipulation Suite, Xceed Absolute Packager are trademarks of Xceed Software Inc.

Xena Networks - Xena is a trademark of Xena Networks

Zapex Technologies - Zapex is a registered trademark of Zapex Technologies

Zhang Haijun - RYBOZEN is a trademark of Zhang Haijun

Ziflow Limited - Ziflow is a trademark of Ziflow Limited

Zixi - Zixi Software and any logos or icons identifying Zixi and the Zixi Software are trademarks of Zixi.

ZLIB - The ZLIB Compressed Data Format Specification is Copyright (C) 1995-2013 Jean-Loup Gailly and Mark Adler.

Zoom Video Communications, Inc. - Zoom and the Zoom logo are trademarks of Zoom Video Communications, Inc.

LGPL: Portions of this product are licensed under LGPL, governed by the following license:

1.2 GNU LESSER GENERAL PUBLIC LICENSE

Version 3, 29 June 2007

Copyright © 2007 Free Software Foundation, Inc. <<https://fsf.org/>>

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

This version of the GNU Lesser General Public License incorporates the terms and conditions of version 3 of the GNU General Public License, supplemented by the additional permissions listed below.

1.2.1.1 0. Additional Definitions.

As used herein, “this License” refers to version 3 of the GNU Lesser General Public License, and the “GNU GPL” refers to version 3 of the GNU General Public License.

“The Library” refers to a covered work governed by this License, other than an Application or a Combined Work as defined below.

An “Application” is any work that makes use of an interface provided by the Library, but which is not otherwise based on the Library. Defining a subclass of a class defined by the Library is deemed a mode of using an interface provided by the Library.

A “Combined Work” is a work produced by combining or linking an Application with the Library. The particular version of the Library with which the Combined Work was made is also called the “Linked Version”.

The “Minimal Corresponding Source” for a Combined Work means the Corresponding Source for the Combined Work, excluding any source code for portions of the Combined Work that, considered in isolation, are based on the Application, and not on the Linked Version.

The “Corresponding Application Code” for a Combined Work means the object code and/or source code for the Application, including any data and utility programs needed for reproducing the Combined Work from the Application, but excluding the System Libraries of the Combined Work.

1.2.1.2 1. Exception to Section 3 of the GNU GPL.

You may convey a covered work under sections 3 and 4 of this License without being bound by section 3 of the GNU GPL.

1.2.1.3 2. Conveying Modified Versions.

If you modify a copy of the Library, and, in your modifications, a facility refers to a function or data to be supplied by an Application that uses the facility (other than as an argument passed when the facility is invoked), then you may convey a copy of the modified version:

- a) under this License, provided that you make a good faith effort to ensure that, in the event an Application does not supply the function or data, the facility still operates, and performs whatever part of its purpose remains meaningful, or
- b) under the GNU GPL, with none of the additional permissions of this License applicable to that copy.

3. Object Code Incorporating Material from Library Header Files.

The object code form of an Application may incorporate material from a header file that is part of the Library. You may convey such object code under terms of your choice, provided that, if the incorporated material is not limited to numerical parameters, data structure layouts and accessors, or small macros, inline functions and templates (ten or fewer lines in length), you do both of the following:

- a) Give prominent notice with each copy of the object code that the Library is used in it and that the Library and its use are covered by this License.
- b) Accompany the object code with a copy of the GNU GPL and this license document.

4. Combined Works.

You may convey a Combined Work under terms of your choice that, taken together, effectively do not restrict modification of the portions of the Library contained in the Combined Work and reverse engineering for debugging such modifications, if you also do each of the following:

- a) Give prominent notice with each copy of the Combined Work that the Library is used in it and that the Library and its use are covered by this License.
- b) Accompany the Combined Work with a copy of the GNU GPL and this license document.
- c) For a Combined Work that displays copyright notices during execution, include the copyright notice for the Library among these notices, as well as a reference directing the user to the copies of the GNU GPL and this license document.
- d) Do one of the following:
 - 0) Convey the Minimal Corresponding Source under the terms of this License, and the Corresponding Application Code in a form suitable for, and under terms that permit, the user to recombine or relink the Application with a modified version of the Linked Version to produce a modified Combined Work, in the manner specified by section 6 of the GNU GPL for conveying Corresponding Source.
 - 1) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (a) uses at run time a copy of the Library already present on the user's computer system, and (b) will operate properly with a modified version of the Library

that is interface-compatible with the Linked Version.

- e) Provide Installation Information, but only if you would otherwise be required to provide such information under section 6 of the GNU GPL, and only to the extent that such information is necessary to install and execute a modified version of the Combined Work produced by recombining or relinking the Application with a modified version of the Linked Version. (If you use option 4d0, the Installation Information must accompany the Minimal Corresponding Source and Corresponding Application Code. If you use option 4d1, you must provide the Installation Information in the manner specified by section 6 of the GNU GPL for conveying Corresponding Source.)

5. Combined Libraries.

You may place library facilities that are a work based on the Library side by side in a single library together with other library facilities that are not Applications and are not covered by this License, and convey such a combined library under terms of your choice, if you do both of the following:

- a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities, conveyed under the terms of this License.
- b) Give prominent notice with the combined library that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

6. Revised Versions of the GNU Lesser General Public License.

The Free Software Foundation may publish revised and/or new versions of the GNU Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library as you received it specifies that a certain numbered version of the GNU Lesser General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that published version or of any later version published by the Free Software Foundation. If the Library as you received it does not specify a version number of the GNU Lesser General Public License, you may choose any version of the GNU Lesser General Public License ever published by the Free Software Foundation. If the Library as you received it specifies that a proxy can decide whether future versions of the GNU Lesser General Public License shall apply, that proxy's public statement of acceptance of any version is permanent authorization for you to choose that version for the Library.

Other brands, product names, and company names are trademarks of their respective holders, and are used for identification purpose only.

1.3 MPEG Disclaimers

1.3.1 MPEGLA MPEG2 Patent

ANY USE OF THIS PRODUCT IN ANY MANNER OTHER THAN PERSONAL USE THAT COMPLIES WITH THE MPEG-2 STANDARD FOR ENCODING VIDEO INFORMATION FOR PACKAGED MEDIA IS EXPRESSLY PROHIBITED WITHOUT A LICENSE UNDER APPLICABLE PATENTS IN THE MPEG-2 PATENT PORTFOLIO, WHICH LICENSE IS AVAILABLE FROM MPEG LA, LLC, 4600 S. Ulster Street, Suite 400, Denver, Colorado 80237 U.S.A.

1.3.2 MPEGLA MPEG4 VISUAL

THIS PRODUCT IS LICENSED UNDER THE MPEG-4 VISUAL PATENT PORTFOLIO LICENSE FOR THE PERSONAL AND NON-COMMERCIAL USE OF A CONSUMER FOR (i) ENCODING VIDEO IN COMPLIANCE WITH THE MPEG-4 VISUAL STANDARD ("MPEG-4 VIDEO") AND/OR (ii) DECODING MPEG-4 VIDEO THAT WAS ENCODED BY A CONSUMER ENGAGED IN A PERSONAL AND NON-COMMERCIAL ACTIVITY AND/OR WAS OBTAINED FROM A VIDEO PROVIDER LICENSE IS GRANTED OR SHALL BE IMPLIED FOR ANY OTHER USE. ADDITIONAL INFORMATION INCLUDING THAT RELATING TO PROMOTIONAL, INTERNAL AND COMMERCIAL USES AND LICENSING MAY BE OBTAINED FROM MPEG LA, LLC. SEE [HTTP://WWW.MPEGLA.COM](http://WWW.MPEGLA.COM).

1.3.3 MPEGLA AVC

THIS PRODUCT IS LICENSED UNDER THE AVC PATENT PORTFOLIO LICENSE FOR THE PERSONAL USE OF A CONSUMER OR OTHER USES IN WHICH IT DOES NOT RECEIVE REMUNERATION TO (i) ENCODE VIDEO IN COMPLIANCE WITH THE AVC STANDARD ("AVC VIDEO") AND/OR (ii) DECODE AVC VIDEO THAT WAS ENCODED BY A CONSUMER ENGAGED IN A PERSONAL ACTIVITY AND/OR WAS OBTAINED FROM A VIDEO PROVIDER LICENSED TO PROVIDE AVC VIDEO. NO LICENSE IS GRANTED OR SHALL BE IMPLIED FOR ANY OTHER USE. ADDITIONAL INFORMATION MAY BE OBTAINED FROM MPEG LA, L.L.C. SEE [HTTP://WWW.MPEGLA.COM](http://WWW.MPEGLA.COM).

1.3.4 MPEG4 SYSTEMS

THIS PRODUCT IS LICENSED UNDER THE MPEG-4 SYSTEMS PATENT PORTFOLIO LICENSE FOR ENCODING IN COMPLIANCE WITH THE MPEG-4 SYSTEMS STANDARD, EXCEPT THAT AN ADDITIONAL LICENSE AND PAYMENT OF ROYALTIES ARE NECESSARY FOR ENCODING IN CONNECTION WITH (i) DATA STORED OR REPLICATED IN PHYSICAL MEDIA WHICH IS PAID FOR ON A TITLE BY TITLE BASIS AND/OR (ii) DATA WHICH IS PAID FOR ON A TITLE BY TITLE BASIS AND IS TRANSMITTED TO AN END USER FOR PERMANENT STORAGE AND/OR USE.

SUCH ADDITIONAL LICENSE MAY BE OBTAINED FROM MPEG LA, LLC. SEE [HTTP://WWW.MPEGLA.COM](http://WWW.MPEGLA.COM) FOR ADDITIONAL DETAILS.

1.4 Drastic Technologies Limited Warranty and Disclaimers

Drastic Technologies Ltd (the Company) warrants to the original registered end user that the product will perform as stated below for a period of ninety (90) days from the date of licensing or; in the case of hardware, for a period matching the warranty period offered by the original manufacturer of said equipment.

Hardware and Media—The Product hardware components, if any, including equipment supplied but not manufactured by the Company but NOT including any third party equipment that has been substituted by the Distributor or customer for such equipment (the “Hardware”), will be free from defects in materials and workmanship under normal operating conditions and use.

1.4.1 Warranty Remedies

Your sole remedies under this limited warranty are as follows:

Hardware and Media—The Company will either repair or replace (at its option) any defective Hardware component or part, or Software Media, with new or like new Hardware components or Software Media. Components may not be necessarily the same, but will be of equivalent operation and quality.

1.4.2 Software Updates

Except as may be provided in a separate agreement between Drastic Technologies and You, if any, Drastic Technologies is under no obligation to maintain or support the Software and Drastic Technologies has no obligation to furnish you with any further assistance, technical support, documentation, software, update, upgrades, or information of any nature or kind.

1.4.3 Restrictions and Conditions of Limited Warranty

This Limited Warranty will be void and of no force and effect if (i) Product Hardware or Software Media, or any part thereof, is damaged due to abuse, misuse, alteration, neglect, or shipping, or as a result of service or modification by a party other than the Company, or (ii) Software is modified without the written consent of the Company.

1.4.4 Limitations of Warranties

THE EXPRESS WARRANTIES SET FORTH IN THIS AGREEMENT ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. No oral or written information or advice given by the Company, its distributors, dealers or agents, shall increase the scope of this Limited Warranty or create any new warranties.

Geographical Limitation of Warranty—This limited warranty is valid only within the country in which the Product is purchased/licensed.

Limitations on Remedies—YOUR EXCLUSIVE REMEDIES, AND THE ENTIRE LIABILITY OF Drastic Technologies Ltd WITH RESPECT TO THE PRODUCT, SHALL BE AS STATED IN THIS LIMITED WARRANTY. Your sole and exclusive remedy for any and all breaches of any Limited Warranty by the Company shall be the recovery of reasonable damages which, in the aggregate, shall not exceed the total amount of the combined license fee and purchase price paid by you for the Product.

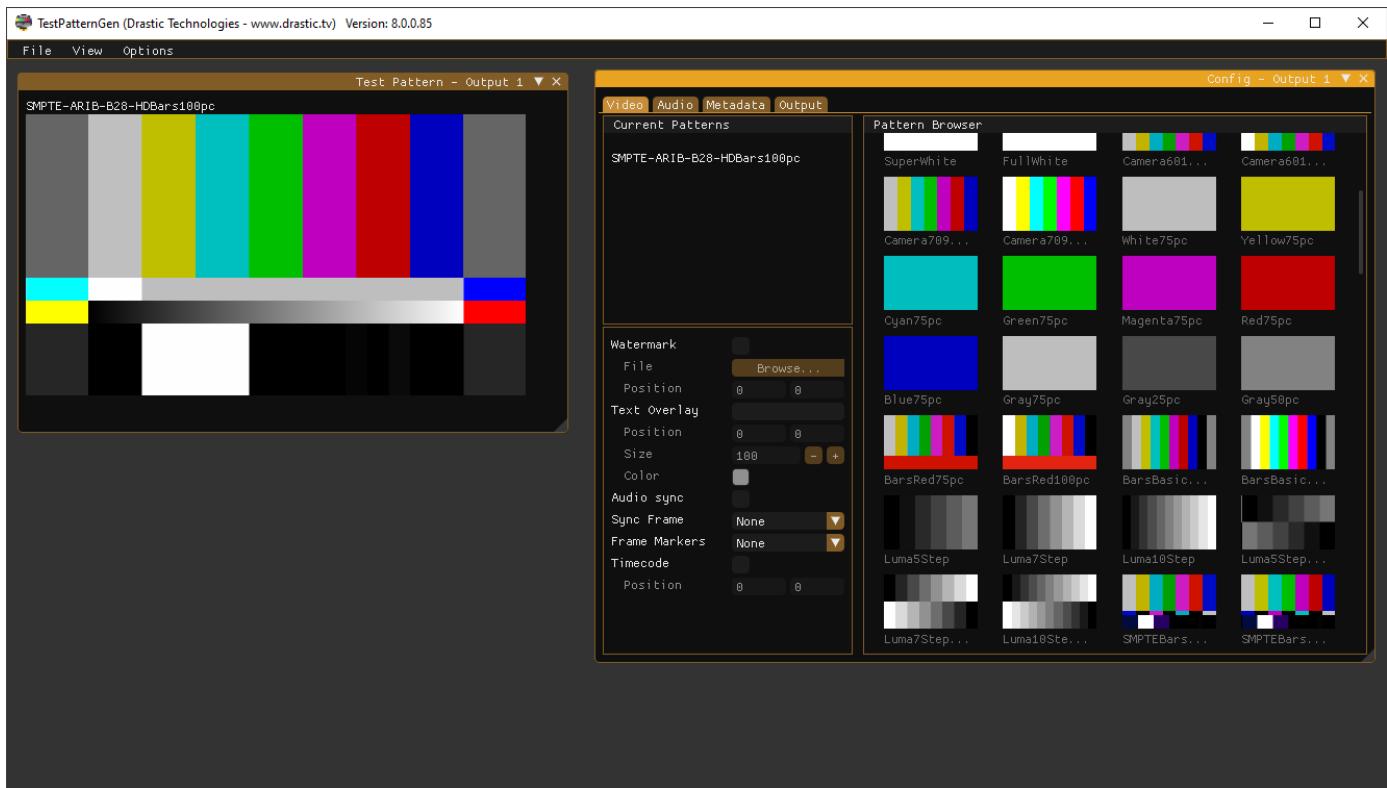
1.4.5 Damages

Drastic Technologies Ltd SHALL NOT BE LIABLE TO YOU FOR ANY DAMAGES, INCLUDING ANY LOST PROFITS, LOST SAVINGS, OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF YOUR USE OR INABILITY TO USE THE PRODUCT, OR THE BREACH OF ANY EXPRESS OR IMPLIED WARRANTY, EVEN IF THE COMPANY HAS BEEN ADVISED OF THE POSSIBILITY OF THOSE DAMAGES, OR ANY REMEDY PROVIDED FAILS OF ITS ESSENTIAL PURPOSE.

Further information regarding this limited warranty may be obtained by writing:

Drastic Technologies Ltd
523 The Queensway, Suite 201
Toronto, ON, M8V 1J7
Telephone: (416) 255-5636

2 About Test Pattern Generator



Test Pattern Generator is a software based test pattern generator.

It provides 197 static test patterns and two AV Sync motion patterns, with customizable elements including watermark, text overlay, audio sync, sync frame, time code, audio tones and beeps, and closed captions.

Supported outputs include: ScopeDirect AvVr3D (UnReal Engine), AJA, Bluefish444, Blackmagic, Matrox, NDI, and SMPTE 2110.

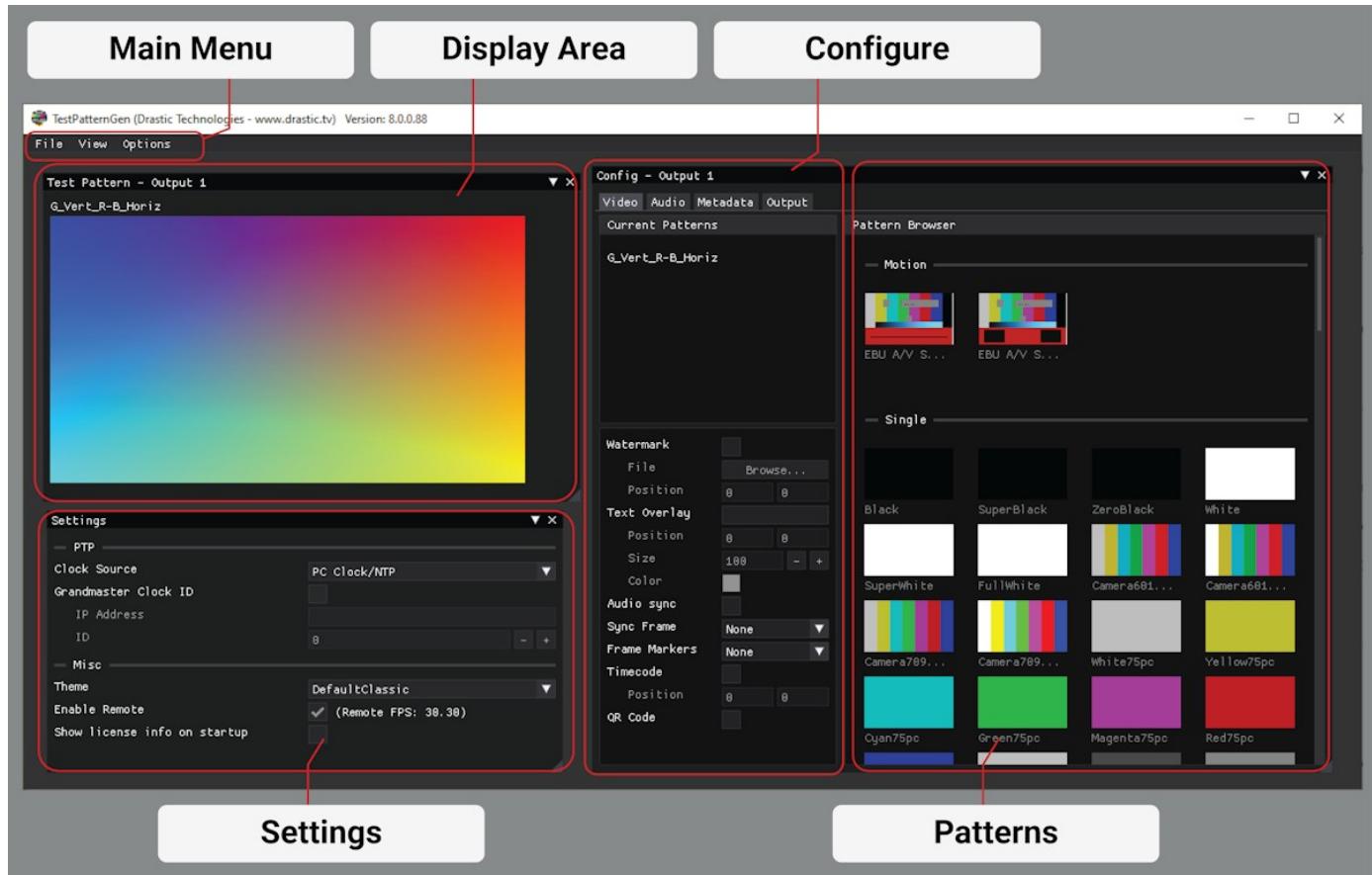
Patterns can be output in various industry standard sizes, with user selectable frame type and size, compression, number of audio channels, audio frequency and bit depth, and the video signal format.

Test Patterns are useful for analyzing and calibrating lip sync (AV Sync), format conversion and compression artefacts, color space mismatch, chroma subsampling errors, frequency response, field order, clipping, bit depth, skin tones, linearity and gamma.

3 Reference

The reference section provides a detailed look at each of the elements in the **Test Pattern Generator** graphical user interface.

3.1 Main Interface Overview



Main Menu

File – save the configuration, or open a saved configuration.

View – add a new test pattern output, or remove all test pattern outputs.

Options – opens the settings window, with a PTP section so the user can set the clock source and ID, and a miscellaneous section with controls for the “theme”, or look of the GUI. The user can also enable/disable the remote control feature here, and set whether the license details should be displayed on startup. Note: if the system has no license at all, the startup license message will always run and let you know you cannot run the software without a

license.

Display Area – for each test pattern output that is added, a Display window is opened.

Configure – once a Display window is open, the user can right click on its display window, and select Configure. This dialog provides the video/audio/metadata/output controls.

Settings – set the clock source, set the theme, choose whether to display a license message on startup.

Patterns – once a Display window is open, the user can right click on it to open a Configure dialog, and select patterns to display from the **Pattern Browser**.

4 Operations

4.1 Install the Software

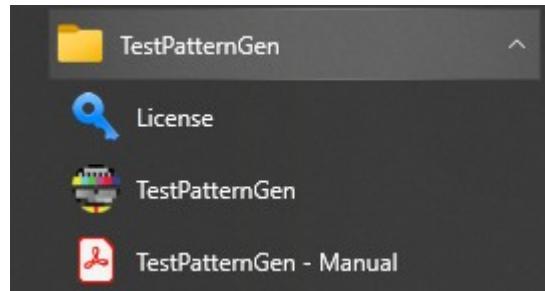
Install **Test Pattern Generator** software on the system. Regardless of the delivery method, the software will be available at some level as an (executable) installable file. Double-click on the file, or right click and select **Open** from the context menu. Follow the prompts to set where the software should be installed and make other installation-specific decisions.

Upon completion of the install, please restart the system.

4.2 License Test Pattern Generator

We provide licenses via email.

Run the licensing that is installed with the software. It can be run from the start menu.

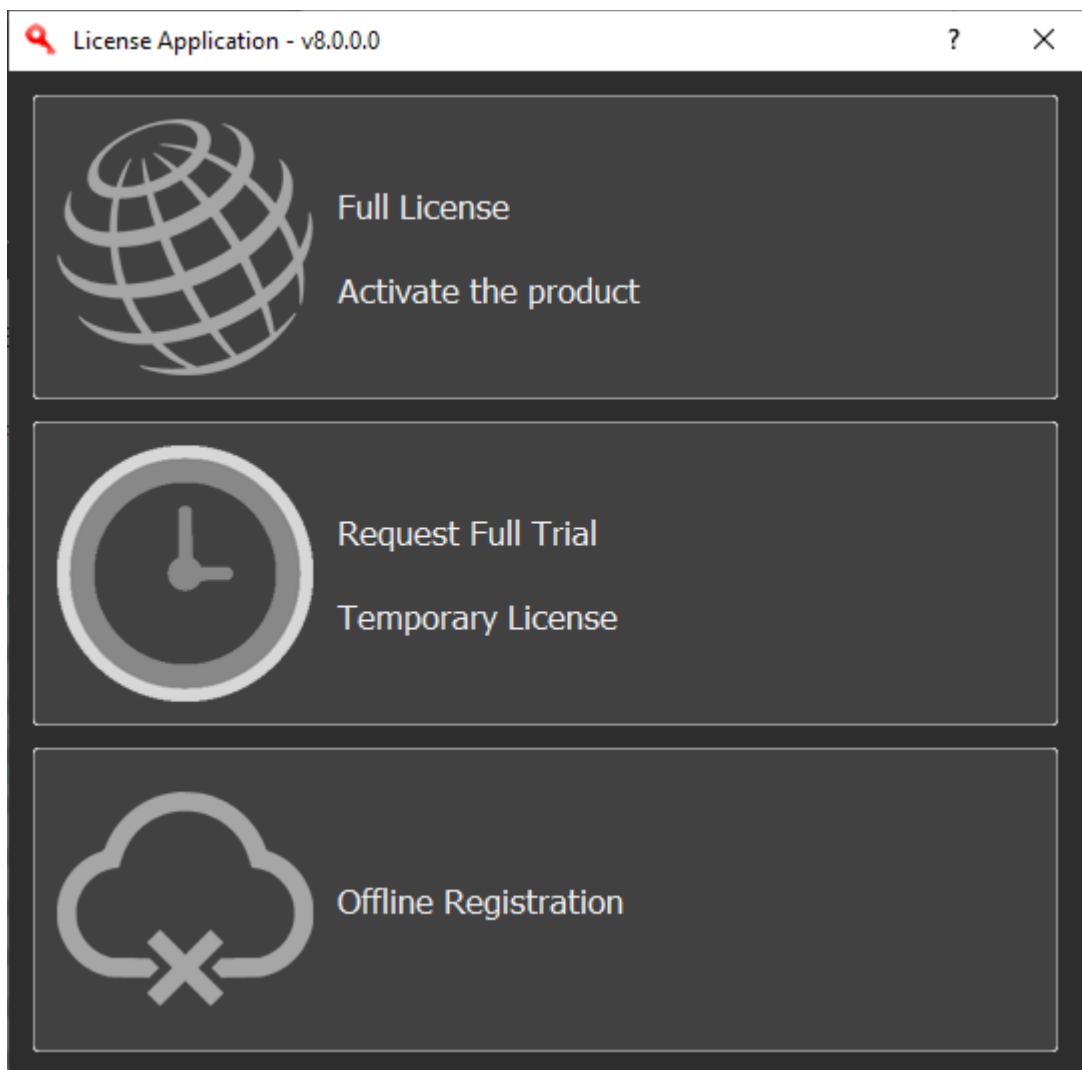


You can also find it in the Program folder, at:

C:\Program Files\TestPatternGen\DTLicense.exe

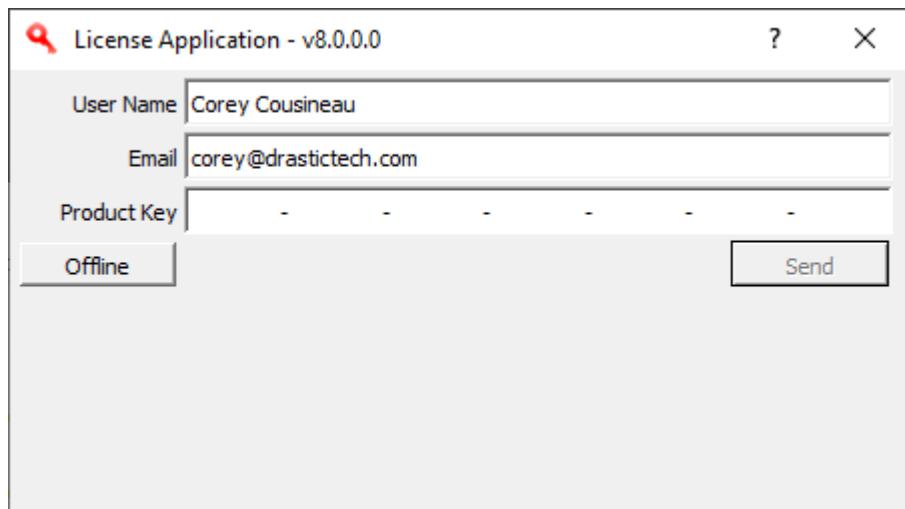
Name	Date modified	Type	Size
platforms	2025-05-21 7:02 AM	File folder	
TestPatternGen_v8.pdf	2025-03-21 10:42 AM	Adobe Acrobat D...	11,321 I
DTLicense.exe	2025-05-15 3:07 PM	Application	2,005 I
TestPatternGen.exe	2025-05-20 4:41 PM	Application	1,517 I
unins000.exe	2025-05-21 7:01 AM	Application	3,131 I
ArrlImageSdk.8.dll	2024-03-20 8:56 AM	Application exten...	17,308 I
AVCIntraDecoder.dll	2012-04-04 4:21 PM	Application exten...	515 I
AVCIntraEncoder.dll	2012-06-04 4:55 PM	Application exten...	439 I
AVCodecff-60.dll	2024-01-13 2:01 PM	Application exten...	18,090 I

An unlicensed install will open the following dialog:



If you have purchased a license and wish to activate the product, select the first option, **Full License – Activate the product**.

Selecting **Full License – Temporary License** opens an activation dialog window so you can enter the 16 digit site key.



Selecting **Request Full Trial – Activate the product** opens the request trial dialog. Confirm that you have entered a first and last name, and the email address is valid. Press **Send** to receive a full trial key in your email.

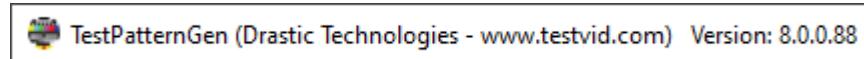


The key will arrive in your inbox. Open the email and copy the entire site key. Run the licensing app again and select the **Offline Registration** option. Paste the site key into the site key area and press the **Register** button.

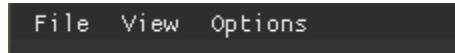
Details at [licensing](#).

4.3 Run the Software

Run **Test Pattern Generator** software.

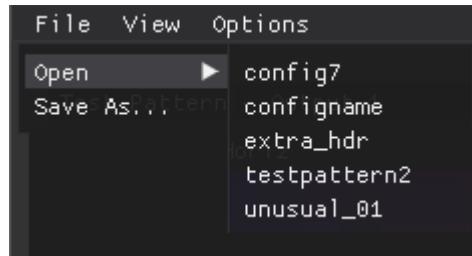


At the top of the Test Pattern Generator, the title bar provides the software name, a gratuitous mention of Drastic Technologies, a link to the Test Pattern Generator product page at www.testvid.com, and the version number of the software.

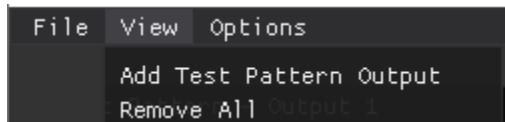


Test Pattern Generator provides three options via the main menu.

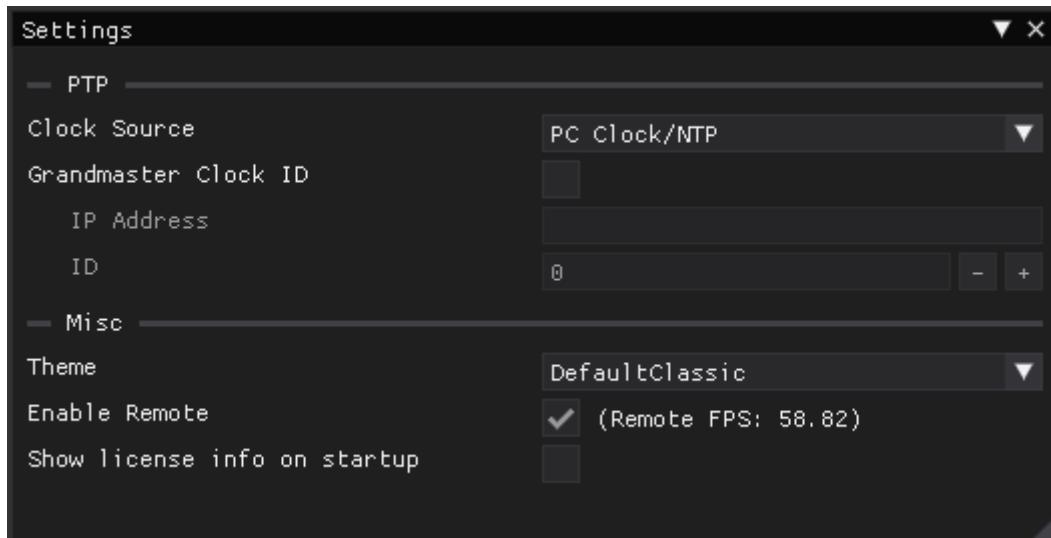
File menu – save the current setup or open an existing setup that has been saved. Here is a system where a few setups have been saved.



View menu – add a test pattern output, or remove all test pattern outputs.

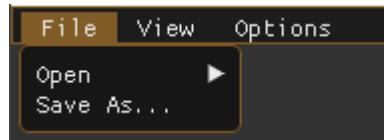


Options menu – opens the **Settings** window, where the user can set the clock source, and a Grandmaster Clock ID, set the theme, or “look” of the interface, enable/disable remote control, and specify whether the license check should run on startup.



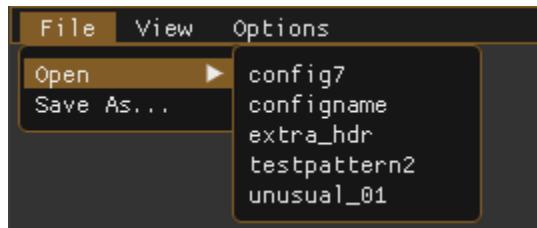
4.3.1 File Menu

File menu – clicking the file menu provides two options.



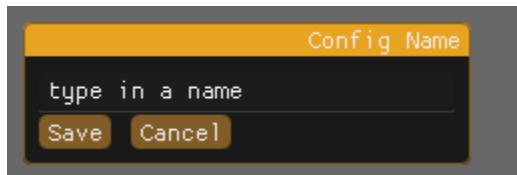
4.3.1.1 Open

Open – open a saved configuration file. Clicking the Open option should reveal a list of saved configuration files to choose from.



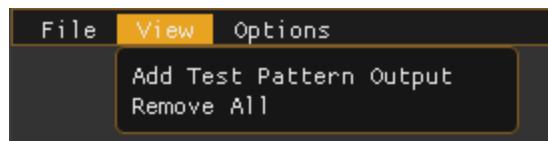
4.3.1.2 Save As

Save As – save the current configuration file for future use. If you like the configuration you have set up, you can save it for later use. Clicking Save As opens a dialog so you can provide a name for the configuration file.



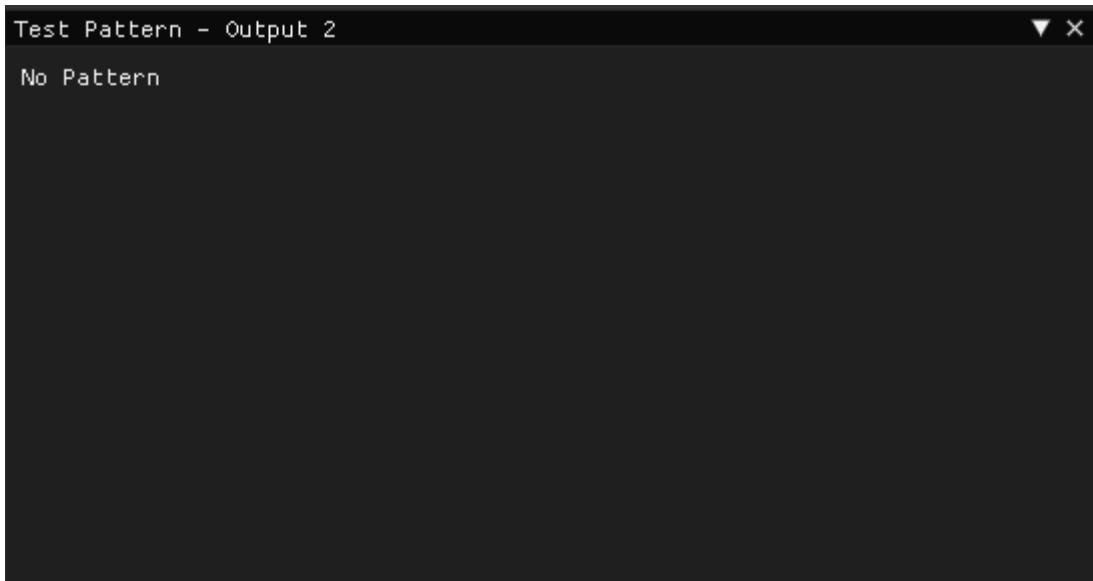
Configuration files are saved in: Documents\TestPatternGen\configs\filename.ini. Deleting a config file from this location will remove it from the list.

4.3.2 View – Add Test Pattern Output

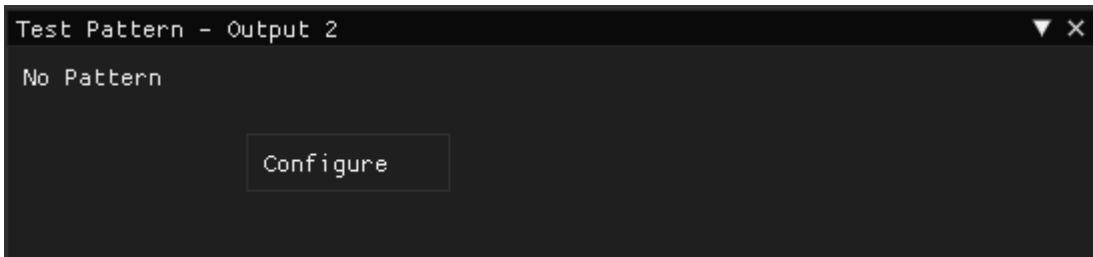


Clicking the **View** menu provides an option to add a test pattern output. This menu can also be used to **Remove All** of the test patterns, in case you'd like to start with a blank slate so to speak.

Clicking the **Add Test Pattern Output** menu item opens a Display for the output.



Right clicking on the **Display** provides a **Configure** option. This is where the user can set up test patterns and associated tones, closed captions etc.

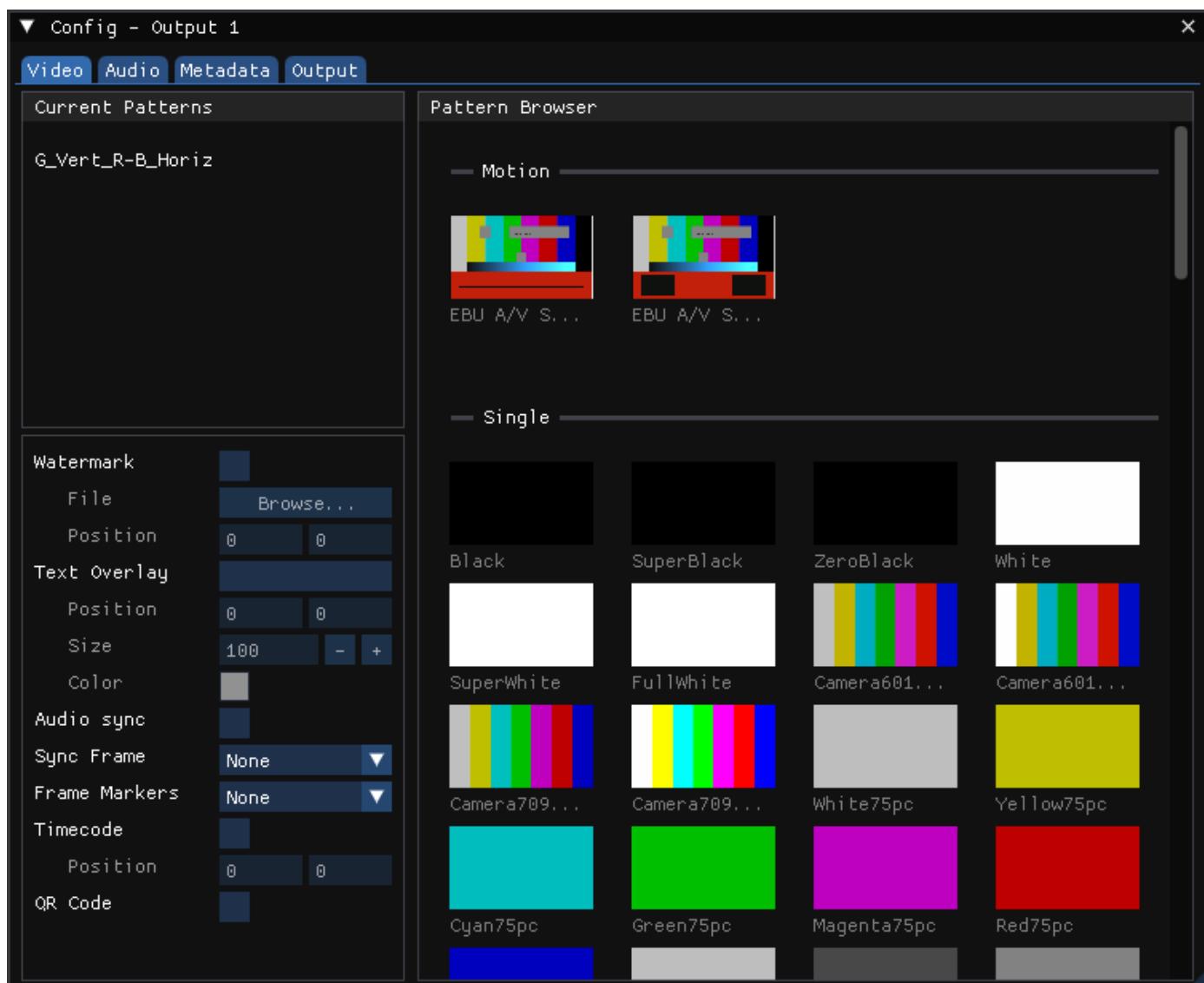


4.3.3 Configure

The Configuration is specific to each test pattern display, since **Test Pattern Generator** supports outputting different video standards and frame rates at the same time. The configure menu has four tabs.

4.3.3.1 Video

Provides options for setting up the test pattern output, including various overlays.

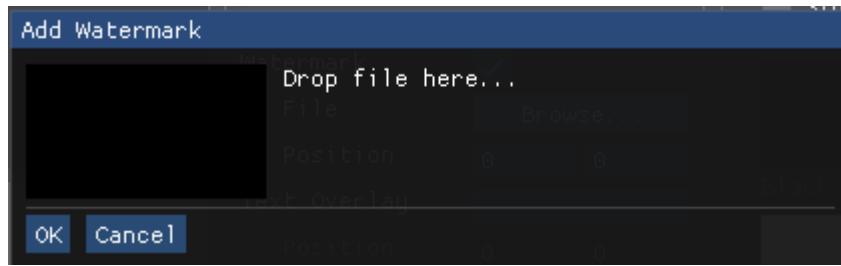


Current Patterns section - this section shows any test patterns that have been loaded into the

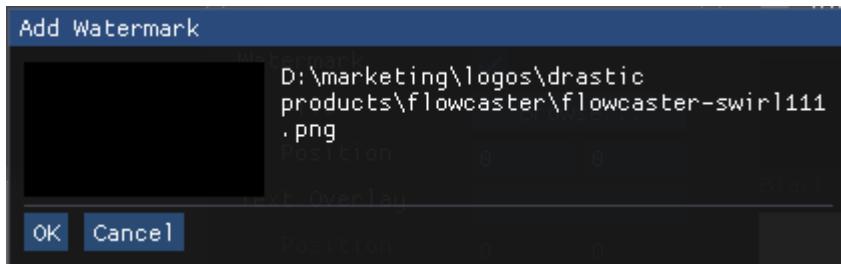
Display.

Overlay Options section - this section provides options to overlay watermarks, text overlays, audio sync tones, sync frames, time code, and a QR code, which provides details about the signal's path and timing. The available options are:

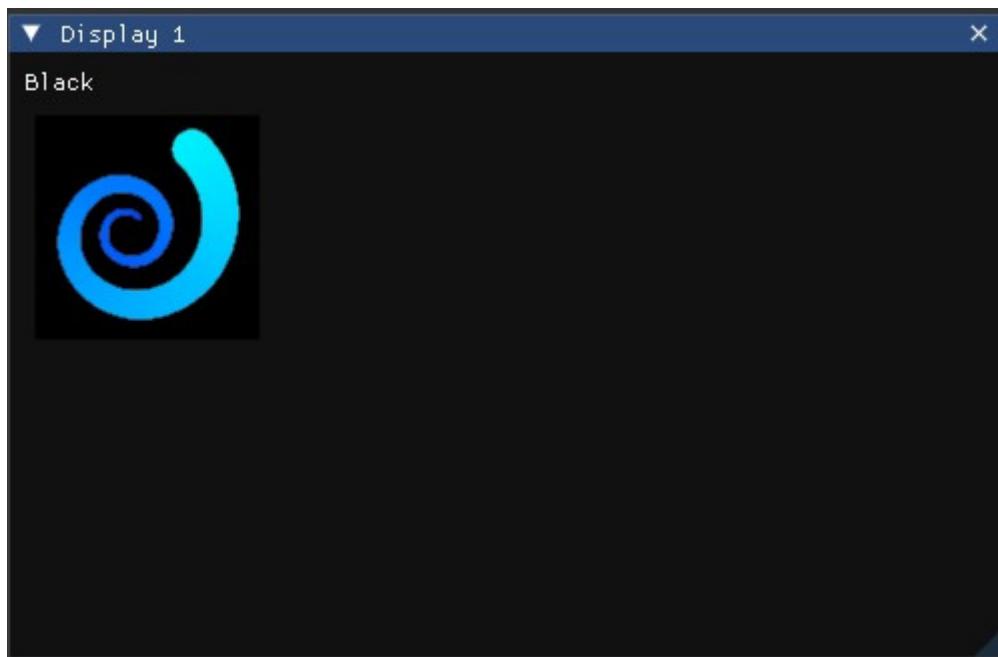
- **Watermark** – click the checkbox to enable a watermark overlay on output.
 - **File Browse** – click the **Browse** button to open a drag and drop option to add a watermark file.



Dropping a watermark file loads it onto the dialog.

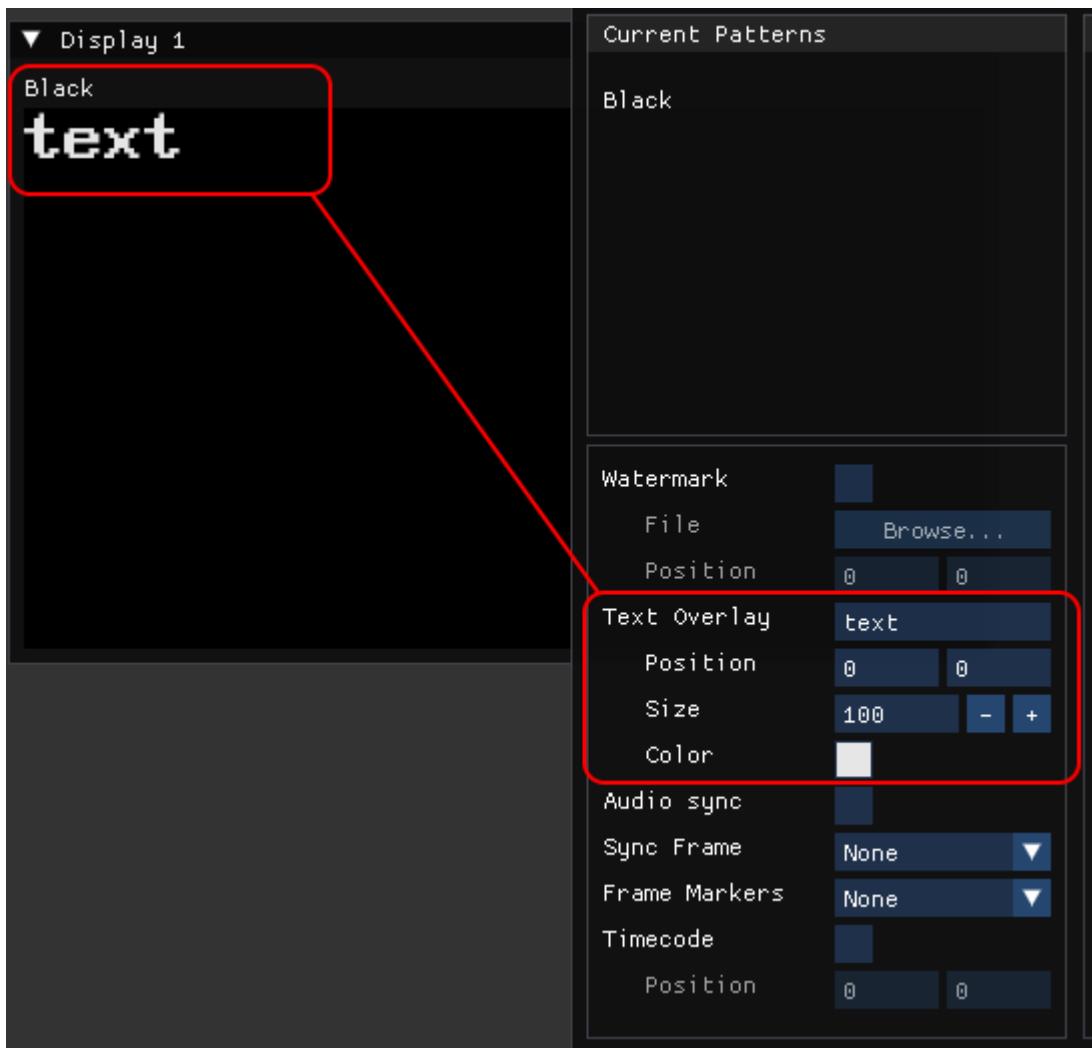


Clicking the OK button adds it to the output.



- **Position** – use the x and y fields to specify a location for the watermark. The default location (0, 0) will place the watermark in the upper left corner for example. Note that the watermark and any text that has been added may come into conflict unless their positions have been set carefully.
- **Text Overlay** – the first field is where you can type in some text to be overlaid.
 - **Position** – use the x and y fields to specify a starting point for left-to-right text.
 - **Size** – the text can be enlarged or reduced in size. The default is 100%. There are plus (+) and minus (-) arrows to reduce or enlarge the size of the text.
 - **Color** – typically a default color that is contrasting will be provided, but the user can click the color chip to open a color picker.

Here is some text that has been overlaid at 100% size, so you can decide whether you need to increase or decrease it.

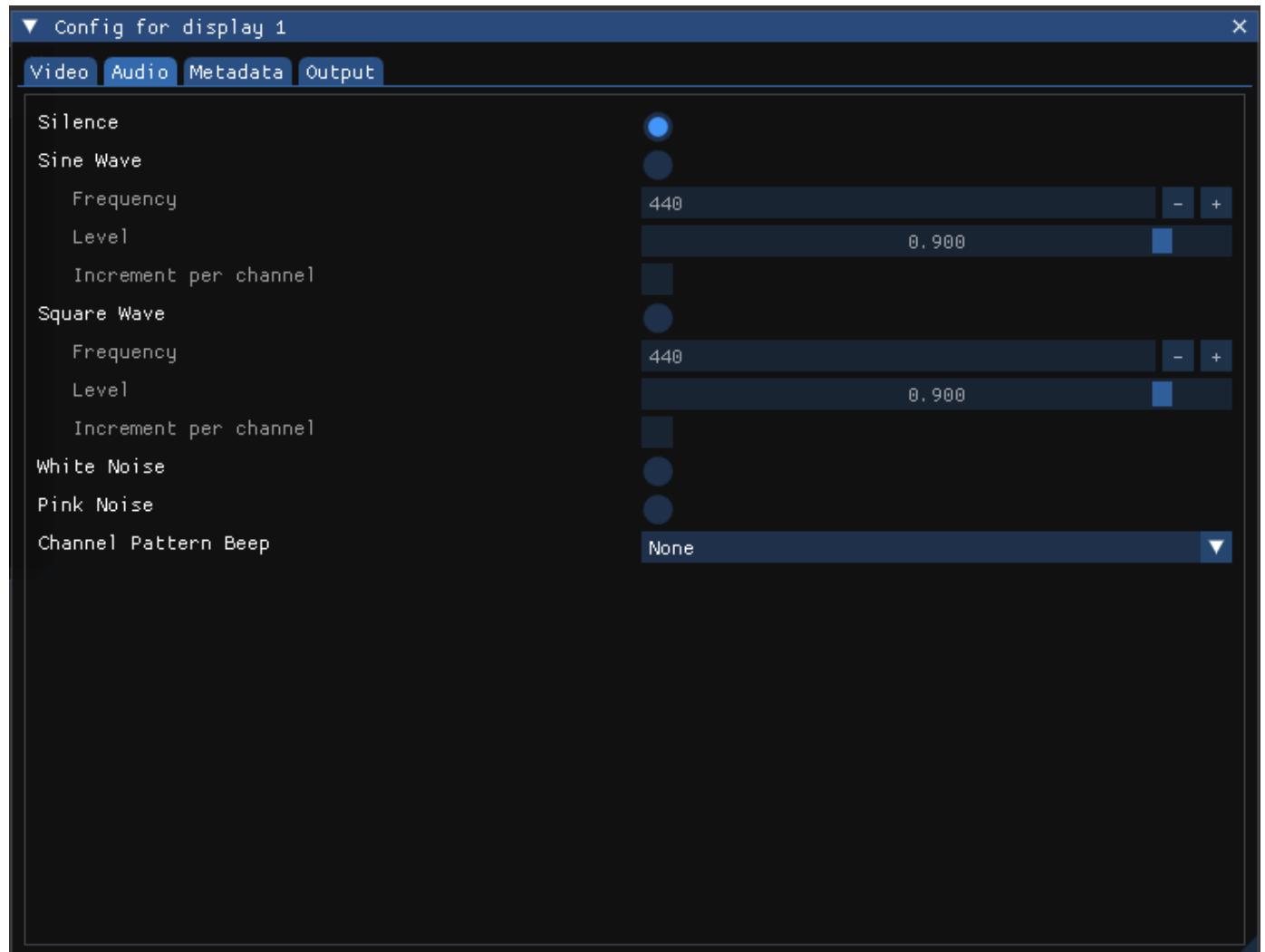


- **Audio Sync** – specify an audio beep to be sent regularly, for AV Sync testing.
- **Sync Frame** – specify a condition for a Sync Frame to be sent along with the audio tone. The options include:
 - **None** – do not interpose a frame of black or white (turn Sync Frame off).
 - **Black Frame** – show a black frame every second
 - **White Frame** – show a white frame every second.
- **Frame Markers** – specify a condition for frame markers to be overlaid on output. The options include:
 - **None** – do not show frame markers on the output.
 - **Top Left** – show frame markers along the top left
 - **Bottom Left** – show frame markers along the bottom left
- **Timecode** – display time code as an overlay. Its position can be set using the X and Y coordinates.
- **QR Code** – display a QR code over the output, which provides details about the signal and its timing.
- **Pattern Browser – Motion** – provides motion test patterns for AV Sync testing.

- **Pattern Browser – Single** – lets the user select between the available single frame video test patterns.

4.3.3.2 Audio

Provides options for setting up the audio output.



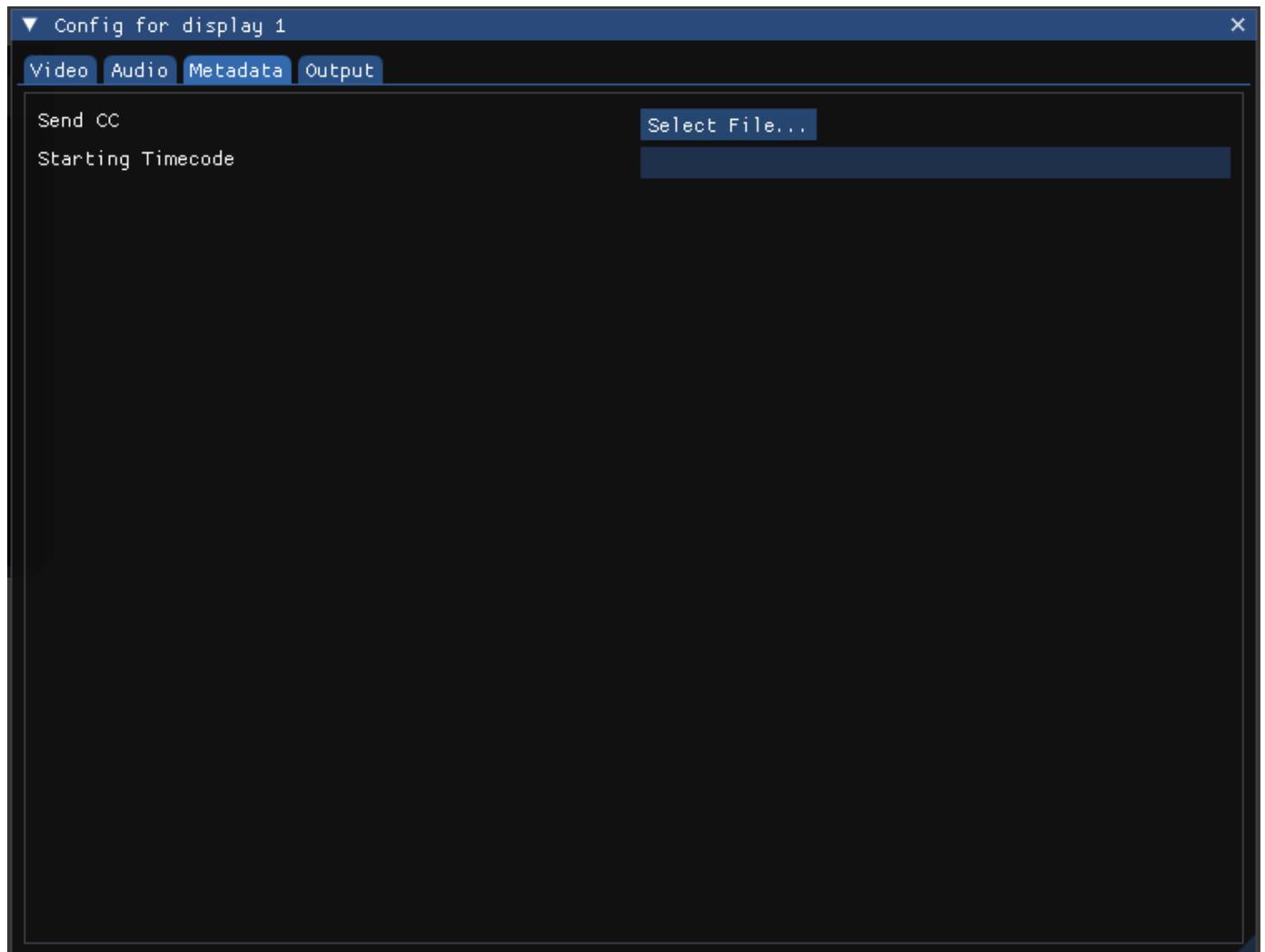
The Audio tab provides options for adding audio to the output.

- **Silence** – the default setting is no audio output. Clicking this checkbox will turn the other audio output settings off.
- **Sine Wave** – add a sine wave tone on output. A sine wave provides a single frequency output.
 - **Frequency** – opens set to 440 Hz. Provides plus (+) and minus (-) buttons to adjust the frequency.
 - **Level** – output level, opens set to 0.900. Provides plus (+) and minus (-) buttons to adjust the output level.
 - **Increment per channel** – increments the frequency of the sine wave per audio channel, to help diagnose any per channel issues.

- **Square Wave** – add a square wave tone on output. A square wave provides multiple frequencies, or harmonics, in addition to its fundamental frequency.
 - **Frequency** – opens set to 440 Hz. Provides plus (+) and minus (-) buttons to adjust the frequency.
 - **Level** – output level, opens set to 0.900. Provides plus (+) and minus (-) buttons to adjust the output level.
 - **Increment per channel** – increments the frequency of the square wave per audio channel, to help diagnose any per channel issues.
- **White Noise** – add white noise on output. White noise has a flat frequency spectrum when plotted as a linear function of frequency (e.g., in Hz). In other words, the signal has equal power in any band of a given bandwidth (power spectral density) when the bandwidth is measured in Hz.
- **Pink Noise** – add pink noise on output. Pink noise has equal power per octave. The spectral power density, compared with white noise, decreases by 3.01 dB per octave (10 dB per decade); density proportional to $1/f$. For this reason, pink noise is often called "1/f noise". Pink noise offers more of the lower frequencies, generally considered more soothing than White Noise.
- **Current Pattern Beep** – add beeps on output per channel. Options include:
 - **None** – do not specify a beep pattern per channel.
 - **1/2 sec on, 1/2 sec off** – output a beep for $\frac{1}{2}$ a second, and silence for $\frac{1}{2}$ a second, then do the same for the next channel.
 - **Start C** – add a beep per channel using the note of C. (middle C, or C4).
 - **One scale note up per channel** – provides an incremented series of notes in the scale of C major, so the first channel would output C (middle C, or C4), and second channel would output a D (the next note in the scale) and so on.
 - **Pause at end for 1 sec** – when cycling through channels, add a 1 second pause at the last channel.

4.3.3.3 Metadata

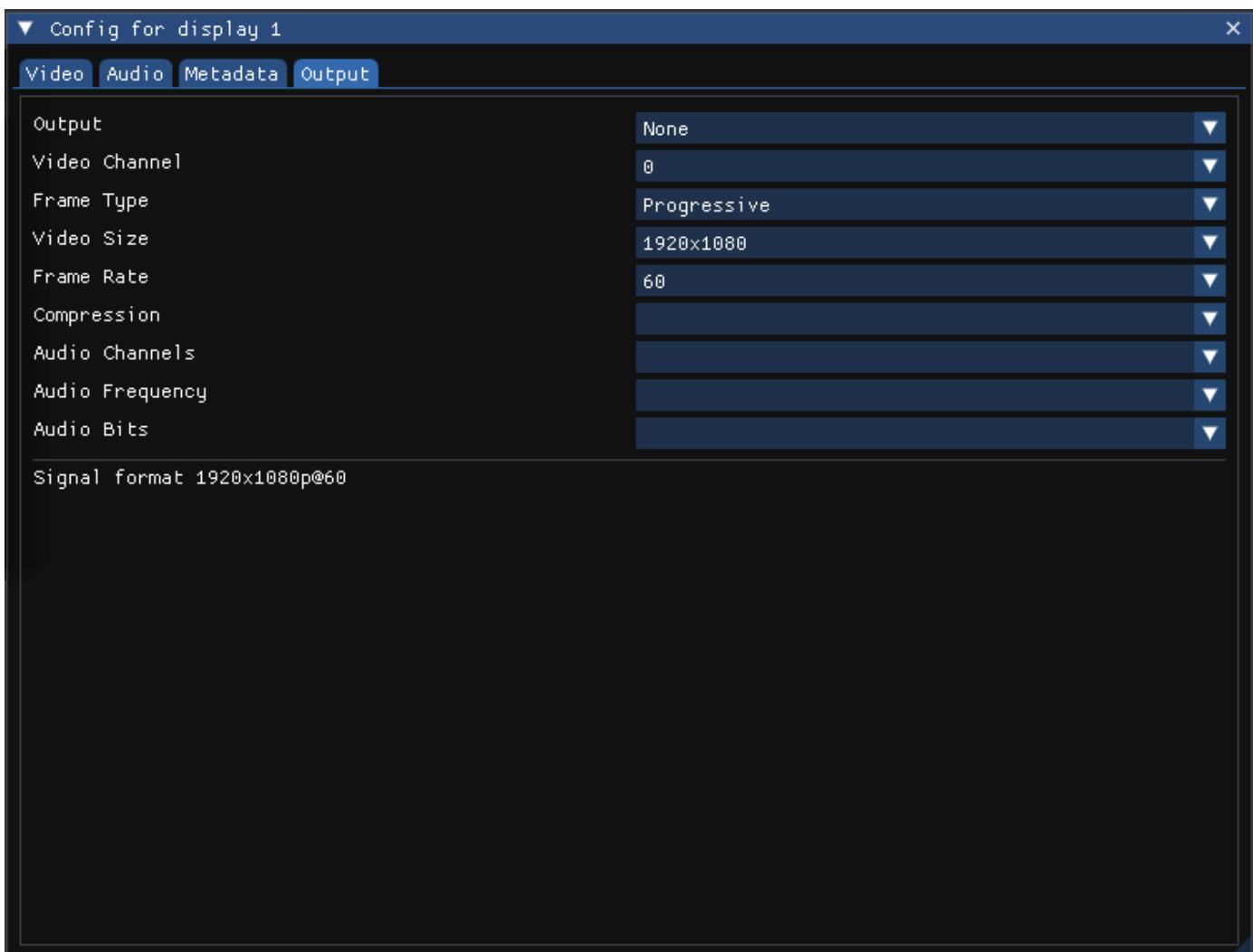
Provides options for adding metadata to the output, including adding closed captions, and a starting timecode.



- **Send CC** – send closed captions as an overlay on the test pattern. Pressing the Select File button opens a browser, so you can navigate to a closed caption file and add it to the output.
- **Starting Timecode** – specify a starting time code location, so when you overlay time code, it will use this as the first frame of time code.

4.3.3.4 Output

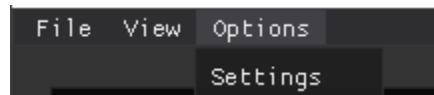
Provides configuration for the output.



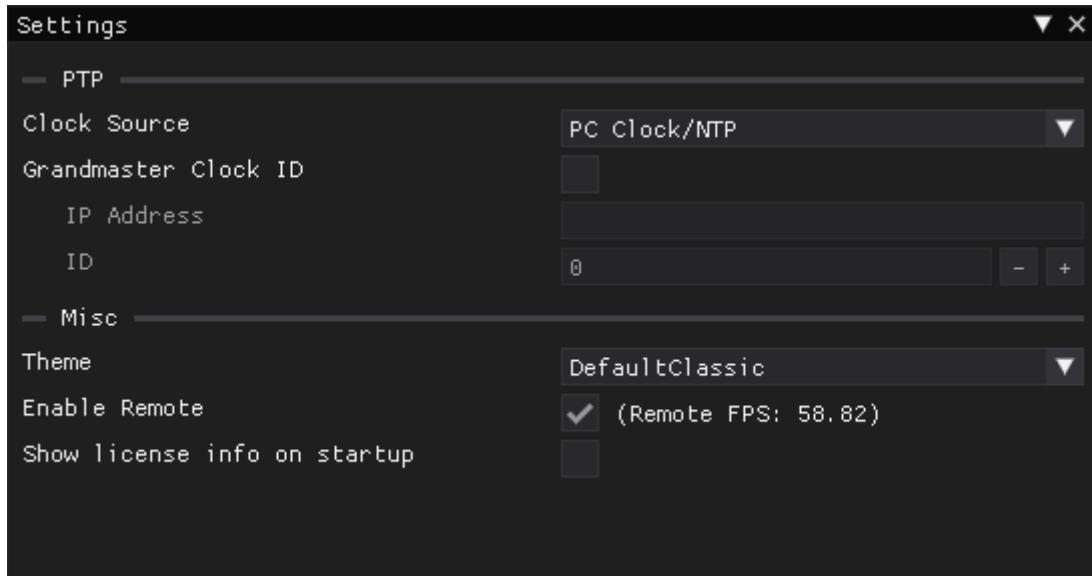
- **Output** – set the output type. Options include:
 - **None** – the default setting. This setting turns the output off.
 - **ScopeDirect (AvVr3D)** – use the ScopeDirect plugin for UnReal Engine as the output channel, so you can view test patterns in UnReal Engine.
 - **Aja** – use an AJA board installed in the system as the output.
 - **BlueFish** – use a Bluefish444 board installed in the system as the output.
 - **BlackMagic** – use a Blackmagic board installed in the system as the output.
 - **Matrox** – use a Matrox board installed in the system as the output.
 - **NDI** – send out the test patterns via NDI for local network use.
 - **SMPTE2110** – send out the test patterns as an ST-2110 stream or streams, for remote workflows. May require third party hardware and a separate third party software license.

- **Video Channel** – on a system where a supported video board (list above) has multiple channels, use this pulldown menu to set which channel the Display outputs video on.
- **Frame Type** – sets the frame type. Options include:
 - **Unknown** – don't know what to set? Use this and Test Pattern Generator will try to set a compatible type.
 - **Interlaced** – send the even and the odd numbered lines of a frame alternately as separate fields.
 - **Progressive** – send whole frames at once, one after another.
 - **Segmented Frame** – send progressive segmented (PsF) frames as output.
- **Video Size** – the size of the video frame in pixels, width by height. Test Pattern Generator uses standard size frames. Options include:
 - 720x480 (NTSC)
 - 720x576 (PAL)
 - 1280x720 (HD)
 - 1920x1080 (HD)
 - 2048x1080 (2K)
 - 3840x2160 (4K)
 - 4096x2160 (4K Cinema)
 - 7680x4320 (8K)
- **Frame Rate** – the frame rate, in frames per second. Test Pattern Generator uses standard frame rates. Options include:
 - 23.98
 - 25
 - 29.97
 - 30
 - 50
 - 59.94
 - 60
- **Compression** – compression options.
- **Audio Channels** – number of audio channels options.
- **Audio Frequency** – audio frequency settings.
- **Audio Bits** – audio bit depth setting
- **Signal format display** – shows the current system setup.

4.3.4 Options – PTP Settings



The options menu lets you open optional settings for Test Pattern Generator. The settings window looks like this:



PTP Setup

At the top, the PTP section provides controls to select the type of clock that will be used to handle timing display and analysis. Choices here include:

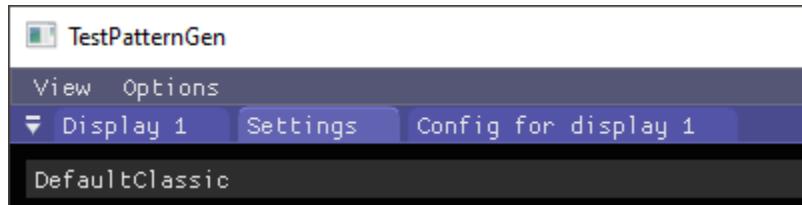
- **PC Clock/NTP** – use the system clock or a network timing protocol clock.
- **SMPTE 2059/PTP** – use a SMPTE 2059 or PTP timing source.

Grandmaster Clock ID – if a Grandmaster clock is used, specify its IP address and ID here.

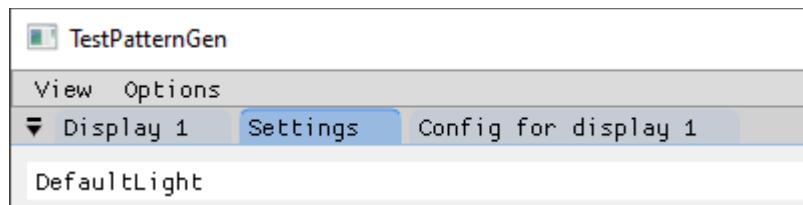
4.3.4.1 Misc - Themes

Themes – The **Theme** pulldown menu provides a number of “Themes” the user can apply to change how the GUI is displayed. Here is a quick look at the themes:

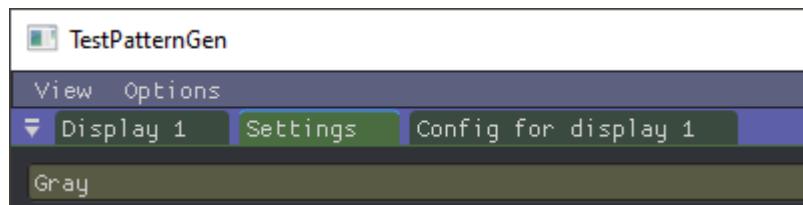
4.3.4.2 DefaultClassic



4.3.4.3 DefaultLight



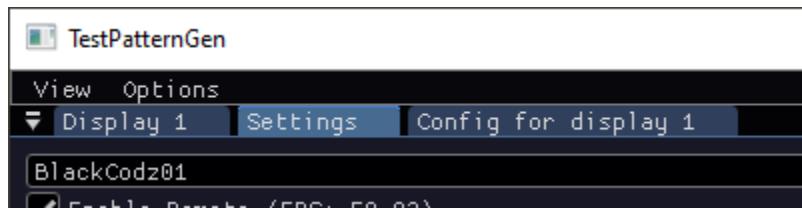
4.3.4.4 Gray



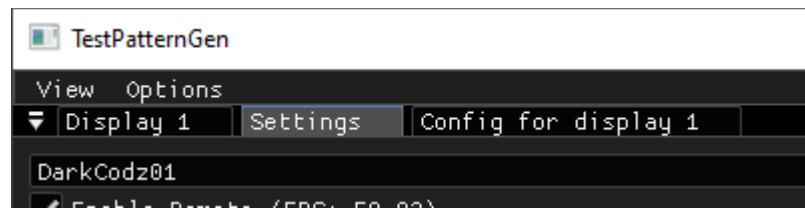
4.3.4.5 Light



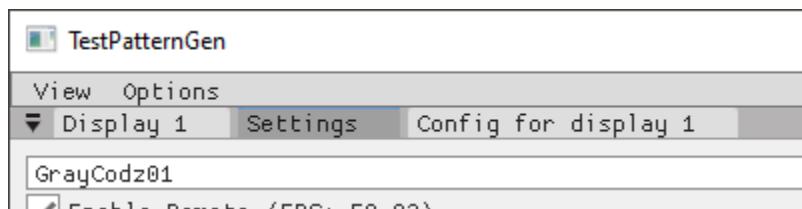
4.3.4.6 BlackCodz01



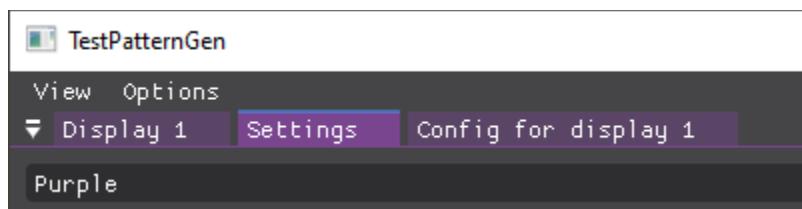
4.3.4.7 DarkCodz01



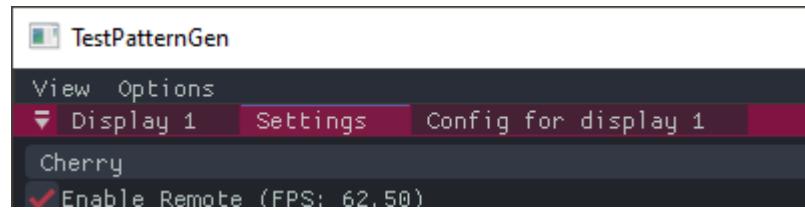
4.3.4.8 GrayCodz01



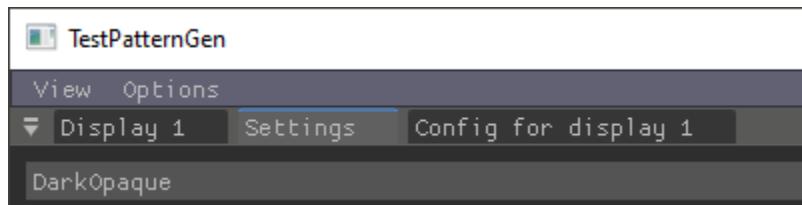
4.3.4.9 Purple



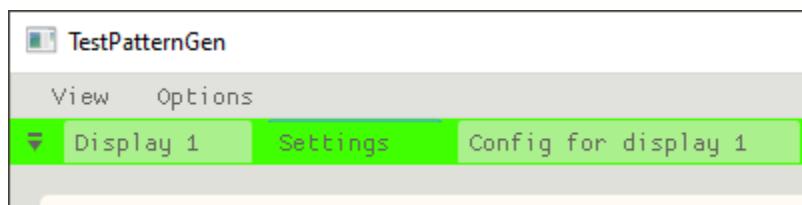
4.3.4.10 *Cherry*



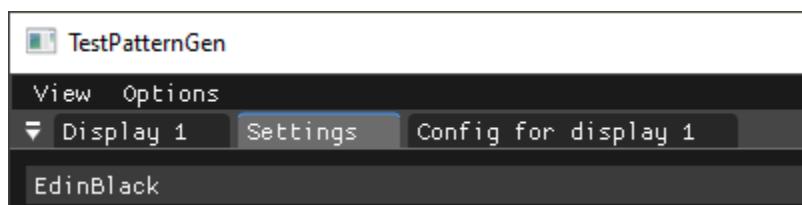
4.3.4.11 *DarkOpaque*



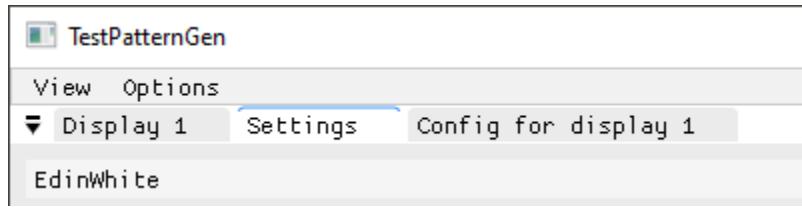
4.3.4.12 *Soft*



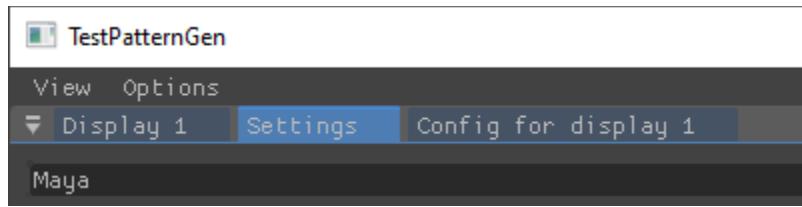
4.3.4.13 *EdinBlack*



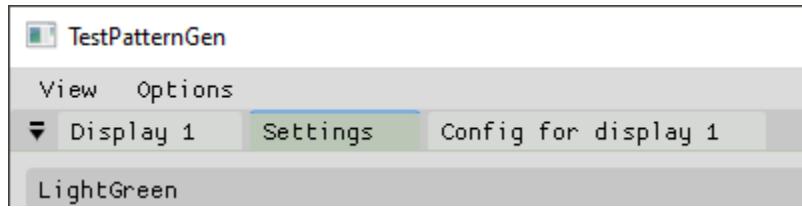
4.3.4.14 EdinWhite



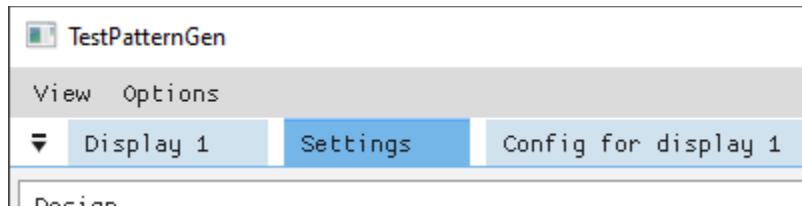
4.3.4.15 Maya



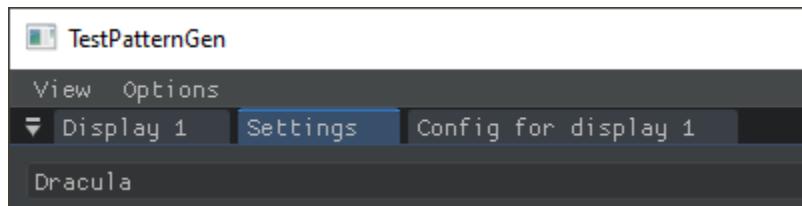
4.3.4.16 LightGreen



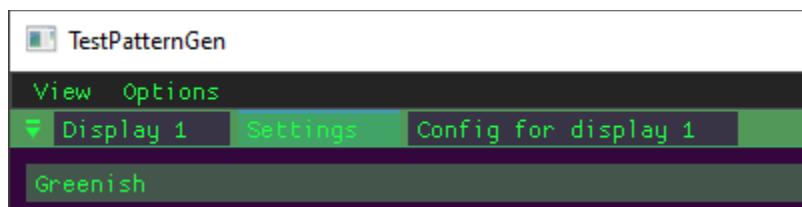
4.3.4.17 Design



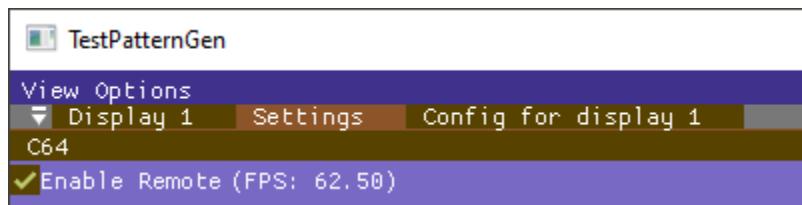
4.3.4.18 Dracula



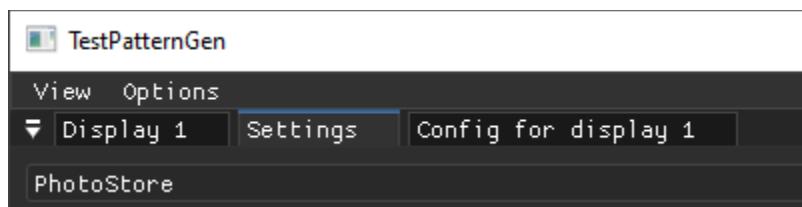
4.3.4.19 Greenish



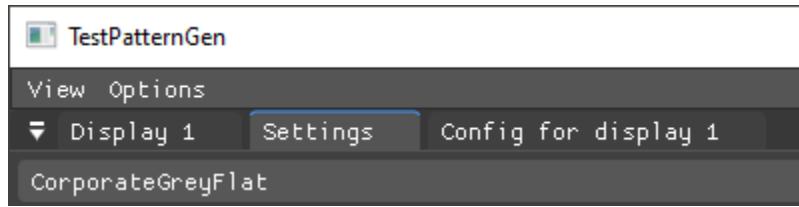
4.3.4.20 C64



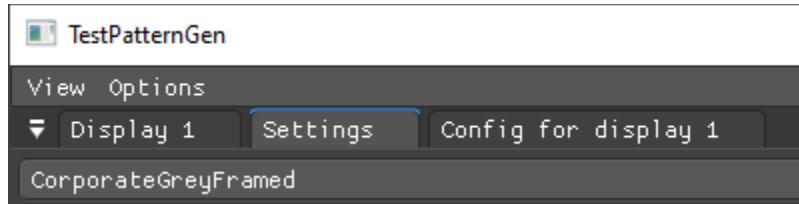
4.3.4.21 PhotoStore



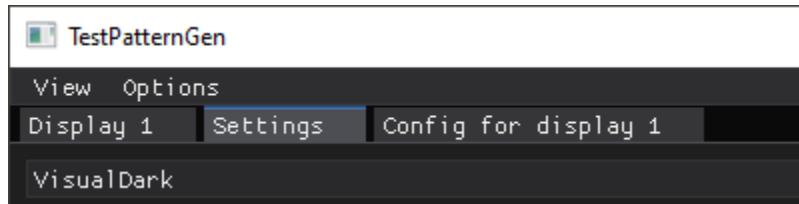
4.3.4.22 *CorporateGreyFlat*



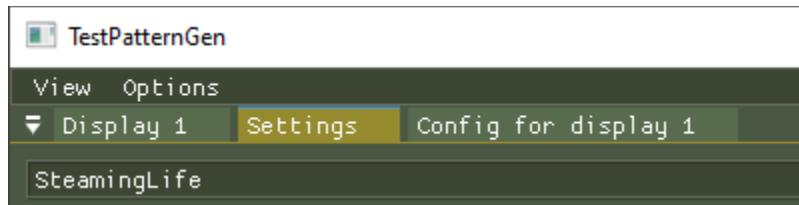
4.3.4.23 *CorporateGreyFramed*



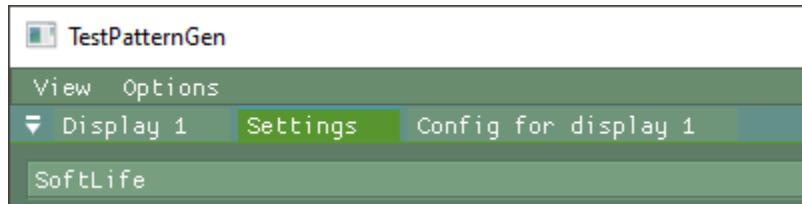
4.3.4.24 *VisualDark*



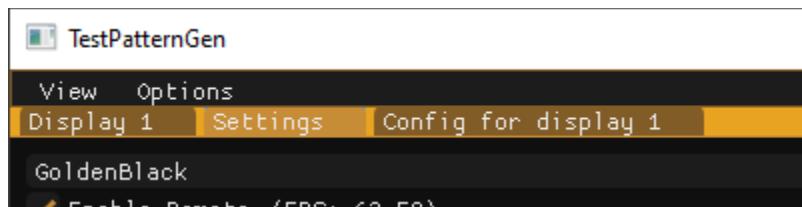
4.3.4.25 *SteamingLife*



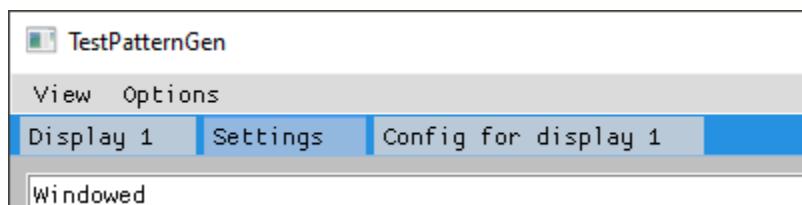
4.3.4.26 *SoftLife*



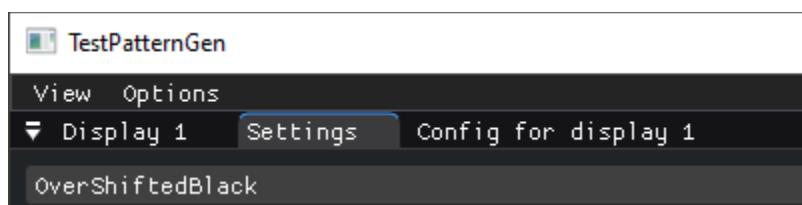
4.3.4.27 *GoldenBlack*



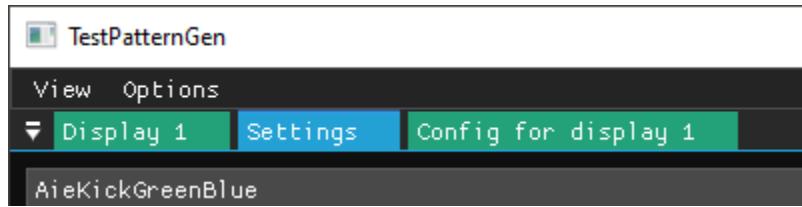
4.3.4.28 *Windowed*



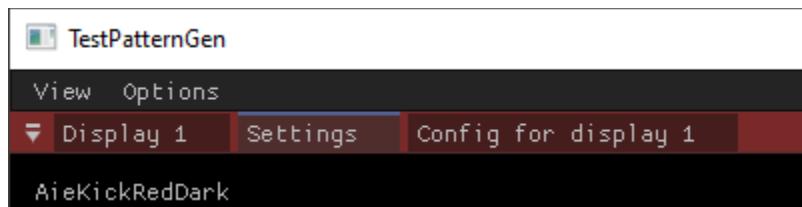
4.3.4.29 *OverShiftedBlack*



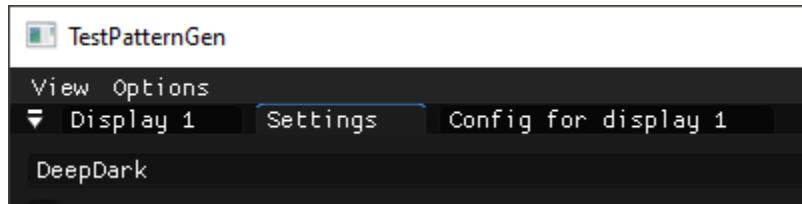
4.3.4.30 AieKickGreenBlue



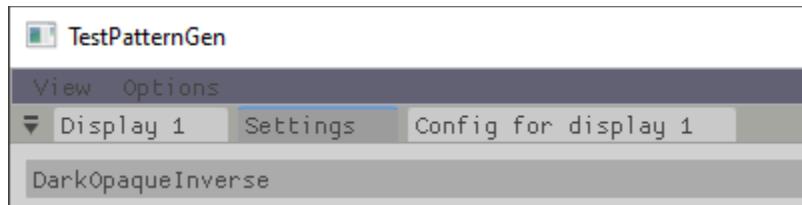
4.3.4.31 AieKickRedDark



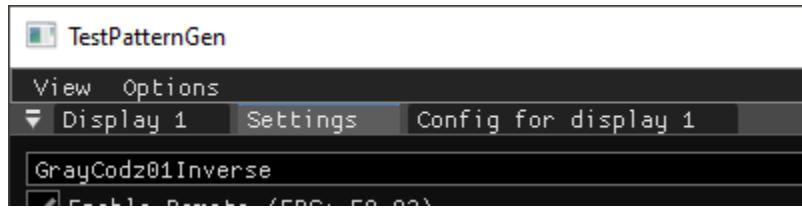
4.3.4.32 DeepDark



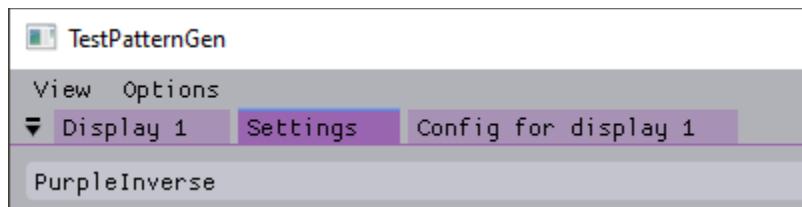
4.3.4.33 DarkOpaqueInverse



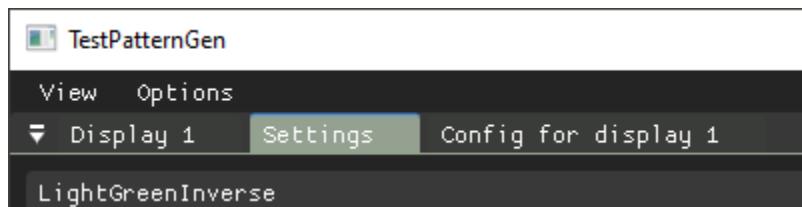
4.3.4.34 GrayCodz01Inverse



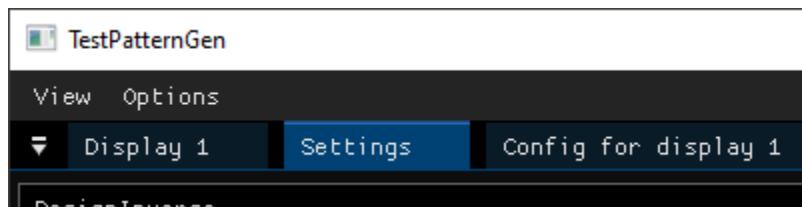
4.3.4.35 PurpleInverse



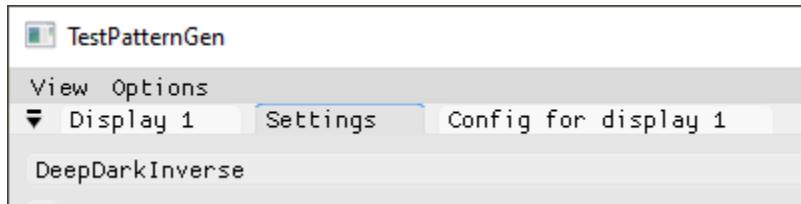
4.3.4.36 LightGreenInverse



4.3.4.37 DesignInverse



4.3.4.38 DeepDarkInverse



4.3.5 Settings - Enable Remote



Checking the **Enable Remote** checkbox enables use of the web GUI to control Test Pattern Generator. By default this box is checked, but it can be unchecked, where the user wants to disable its use for security purposes.

4.3.6 Settings – License Message

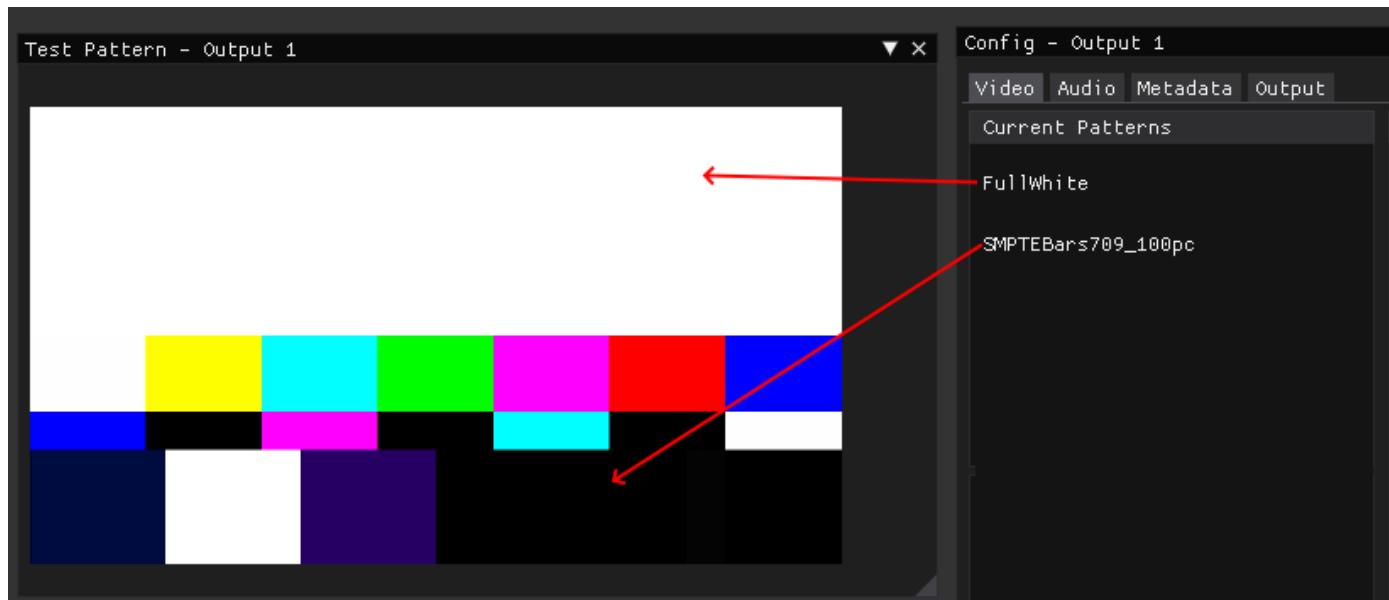
Checking the **Show license info on startup** checkbox loads the license check on startup so you can see the status of the license.

5 Workflows

5.1 Multiple pattern output

Test Pattern Generator will output multiple patterns on the same output. Below is an example where the user has selected FullWhite and SMPTEBars709_100pc for output.

The screen is divided horizontally, and the first pattern sits on top, with the second pattern on the bottom.



5.2 UnReal Engine Output

There are tips on getting the AvVr3D UnReal Engine plugin successful installed for use in Drastic software, at: <https://www.drastic.tv/support-59/supporttipstechnical/271-scopedirect-plugin-for-unreal-engine>

5.3 AJA Board Output

Test Pattern Generator will use a supported AJA board installed in the system.

5.4 Bluefish444 Board Output

Test Pattern Generator will use a supported Bluefish444 board installed in the system.

5.5 Blackmagic Board Output

Test Pattern Generator will use a supported Blackmagic board installed in the system.

5.6 Matrox Board Output

Test Pattern Generator will use a supported Matrox board installed in the system.

5.7 NDI Output

Test Pattern Generator will use NDI to send test patterns out over the local network.

5.8 SMPTE2110 Output

Test Pattern Generator will use ST-2110 to send test patterns out over the web. Third party hardware/software may be required to realize this feature.

6 The Patterns

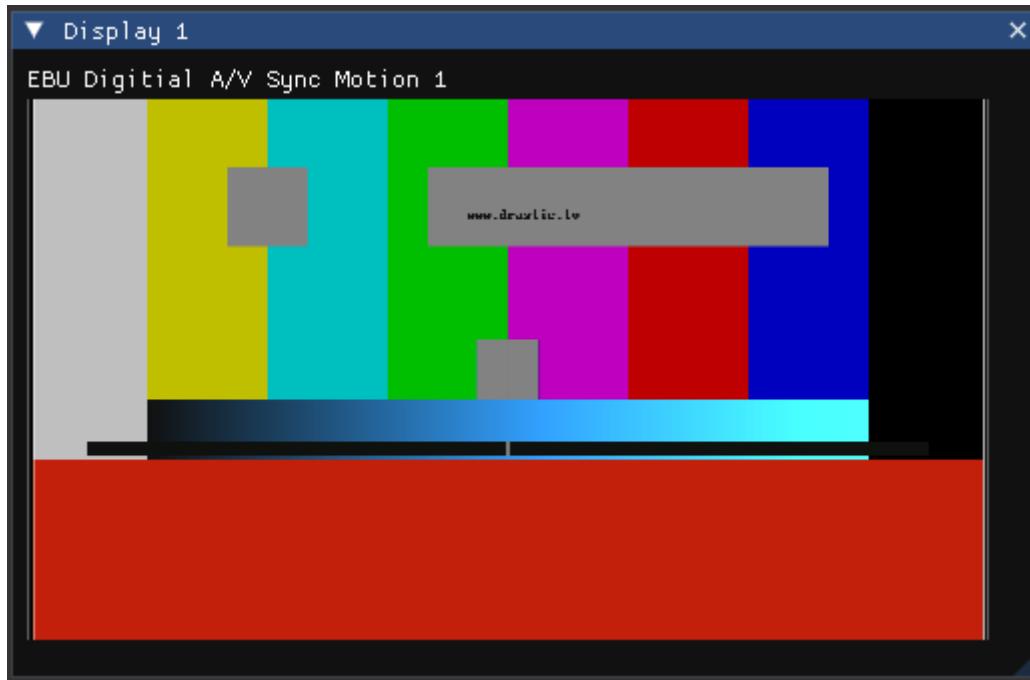
6.1 Motion Patterns

6.1.1 EBU Digital A/V Sync Motion 1



EBU Digital A/V Sync Motion 1 – Features bars and a moving black bar synchronized to an audio pulse.

6.1.2 EBU Digital A/V Sync Motion 2



EBU Digital A/V Sync Motion 2 – Features bars and a flashing white line synchronized to an audio pulse.

6.2 Static Patterns

6.2.1 Color Patterns

6.2.1.1 Black



Black – SMPTE black, or 64 luma in 10 bit.

6.2.1.2 SuperBlack



Super Black - Super Black, or 3 luma in 10 bit (the lowest legal value).

6.2.1.3 ZeroBlack



Zero black – having zero luma, which is an illegal value.

6.2.1.4 White

White – White, or 940 luma.

6.2.1.5 SuperWhite

Super White – Super white, at 1020 luma (the highest legal value).

6.2.1.6 FullWhite

Full White – full white, at 1023 luma (an illegal value).

6.2.1.7 White75pc



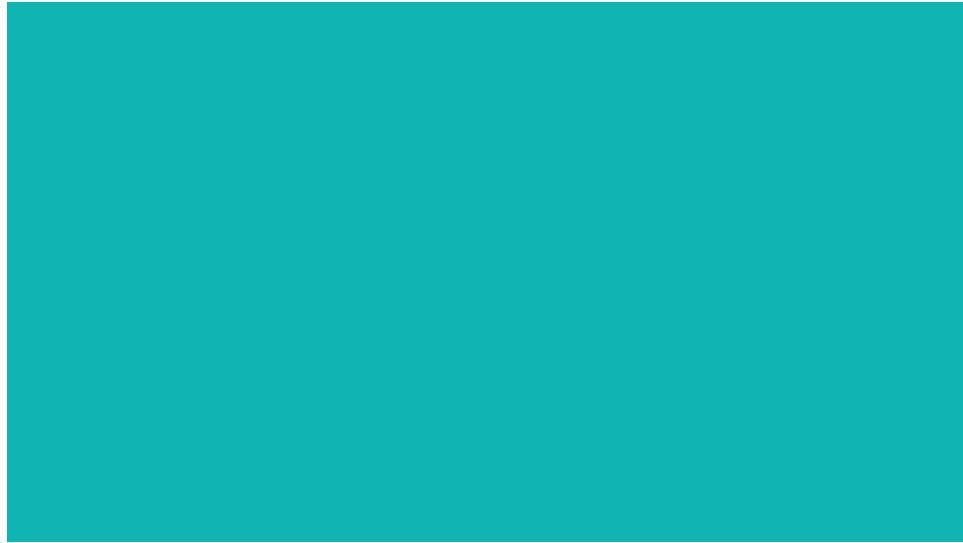
White 75% - a full frame of White at 75% saturation. Same as "Gray75pc".

6.2.1.8 Yellow75pc



Yellow 75% - a full frame of Yellow at 75% saturation.

6.2.1.9 Cyan75pc



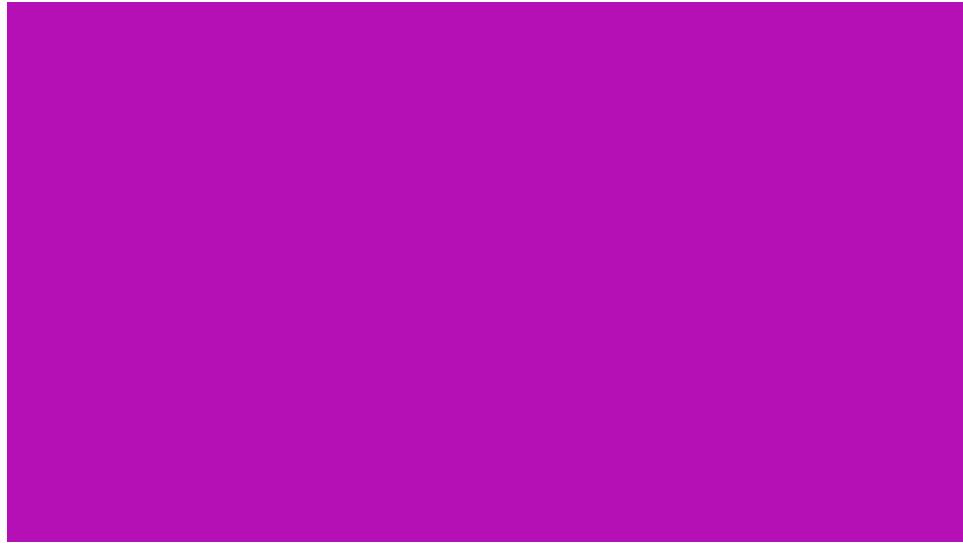
Cyan 75% - a full frame of Cyan at 75% saturation.

6.2.1.10 Green75pc



Green 75% - a full frame of Green at 75% saturation.

[**6.2.1.11**](#) *Magenta75pc*



Magenta 75% - a full frame of Magenta at 75% saturation.

[**6.2.1.12**](#) *Red75pc*

Red 75% - a full frame of Red at 75% saturation.



6.2.1.13 *Blue75pc*



Blue 75% - a full frame of Blue at 75% saturation.

6.2.1.14 *Gray75pc*



Gray 75% - a full frame of gray at 75% saturation. Same as “White75pc”.

6.2.1.15 *Grey25pc*



Grey 25% - a full frame of Grey at 25% saturation.

6.2.1.16 *Grey50pc*



Grey 50% - a full frame of Grey at 50% saturation. (same as Flat Field)

6.2.1.17 *White100pc*

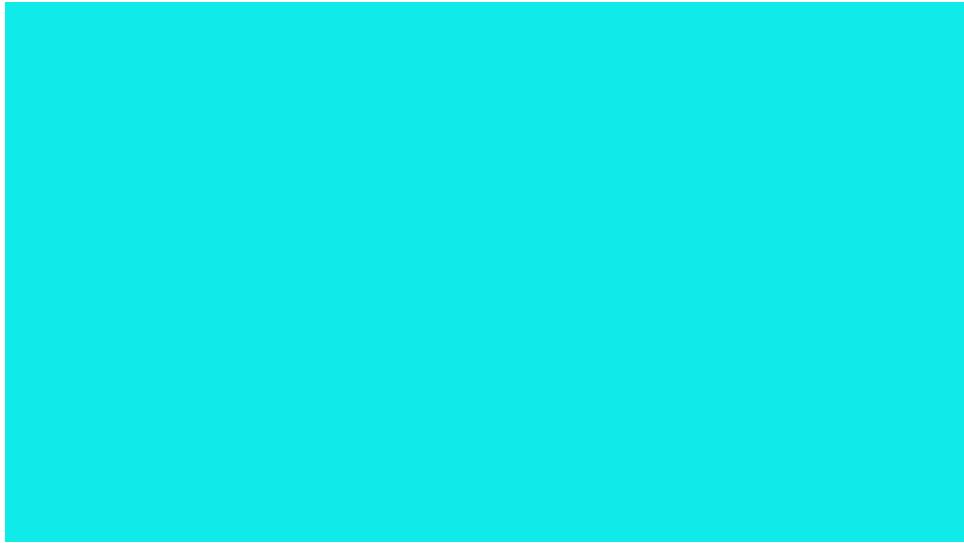
White 100% – a full screen of White at 100% saturation.

6.2.1.18 *Yellow100pc*



Yellow 100% – a full screen of yellow at 100% saturation.

6.2.1.19 Cyan100pc



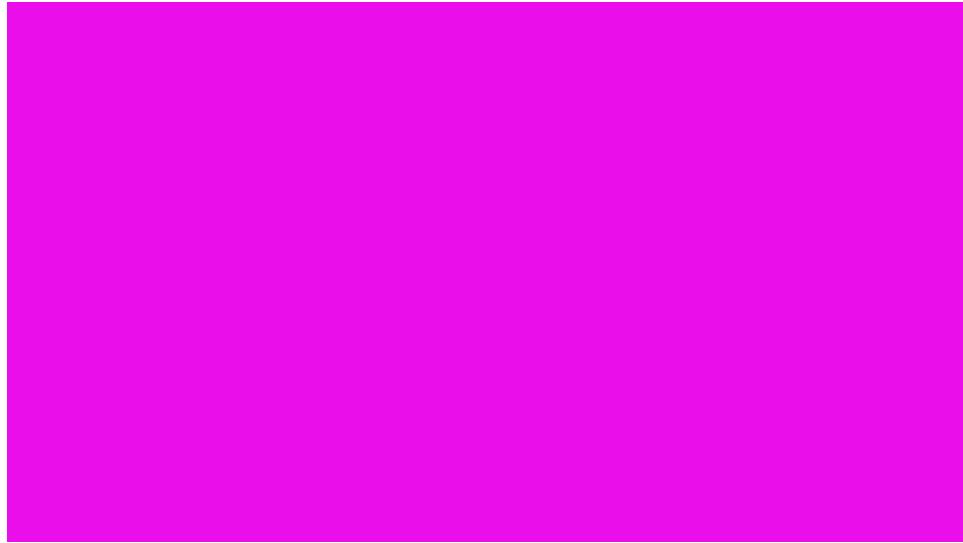
Cyan 100% – a full screen of cyan at 100% saturation.

6.2.1.20 Green100pc



Green 100% – a full screen of green at 100% saturation.

6.2.1.21 *Magenta100pc*



Magenta 100% – a full screen of magenta at 100% saturation.

6.2.1.22 *Red100pc*

Red 100% – a full screen of red at 100% saturation.



6.2.1.23 *Blue100pc*



Blue 100% – a full screen of blue at 100% saturation.

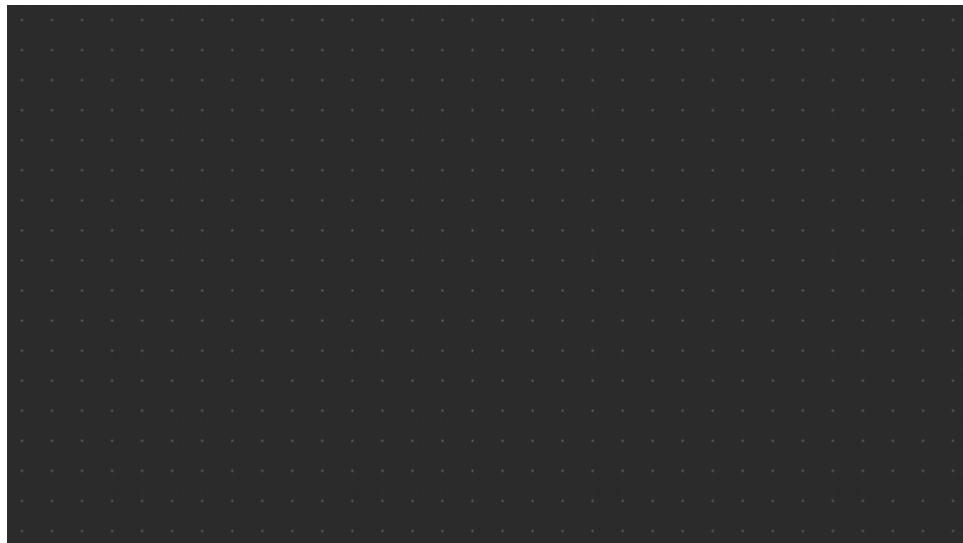
6.2.2 Grid Patterns

6.2.2.1 Grid



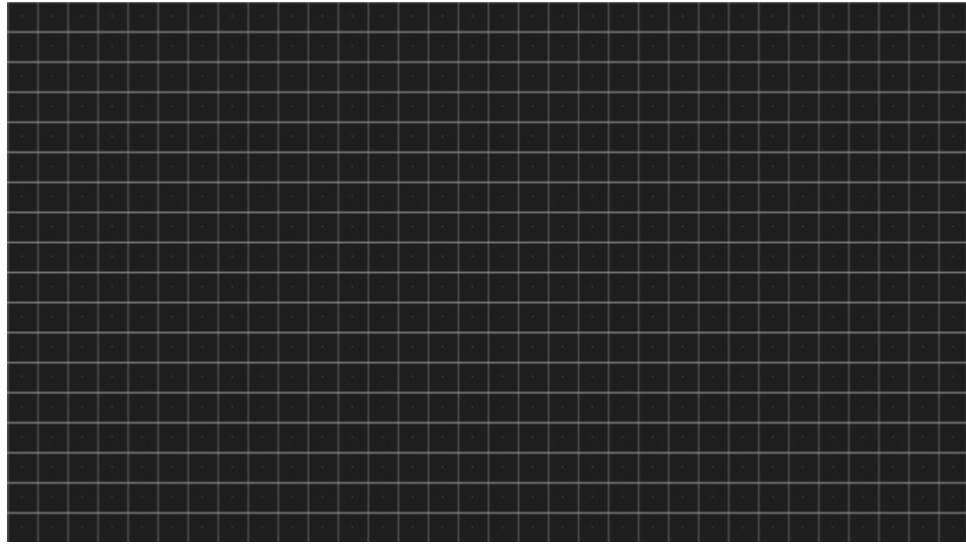
Grid – a grid used to calibrate RGB channels

6.2.2.2 Dots



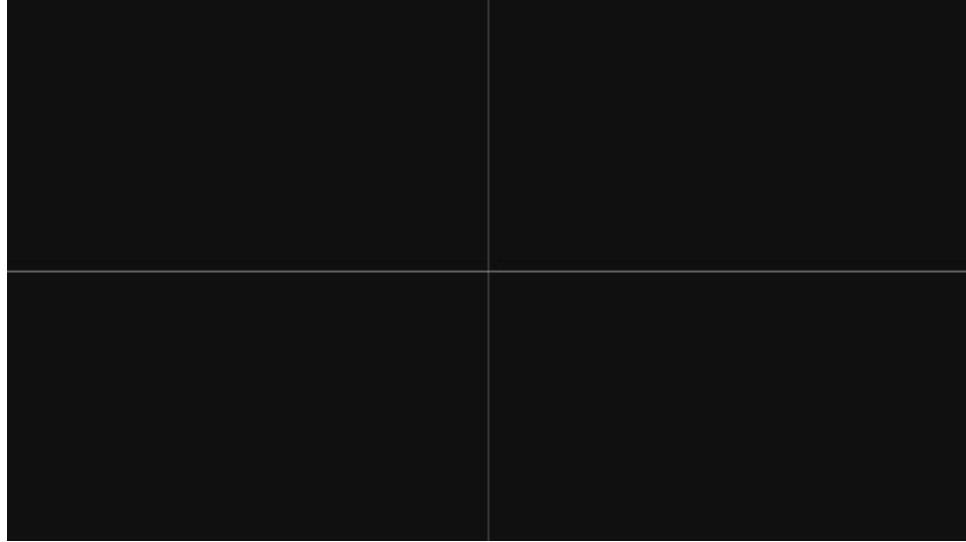
Dots – dots used to calibrate RGB channels

6.2.2.3 GridAndDots



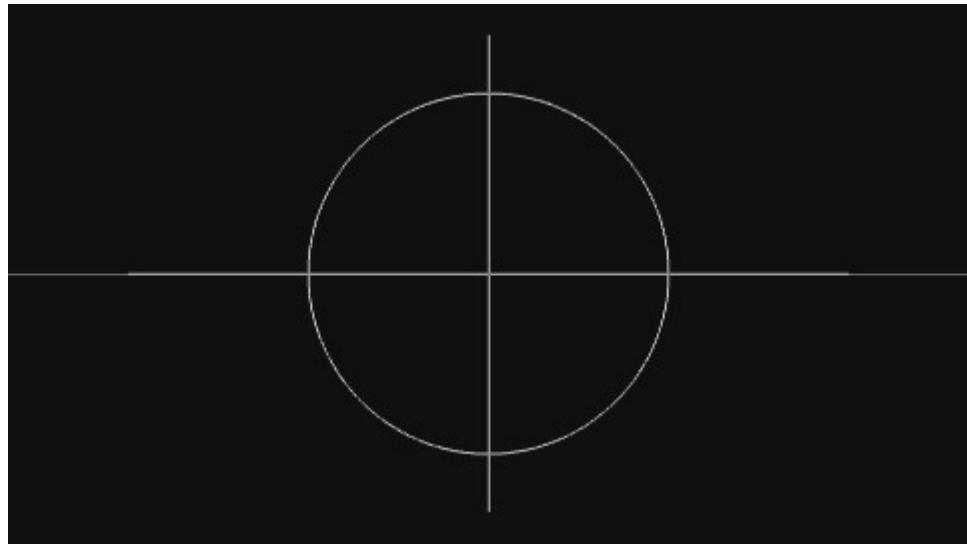
Grid and Dots – a grid and dots pattern used to calibrate RGB channels

6.2.2.4 Cross



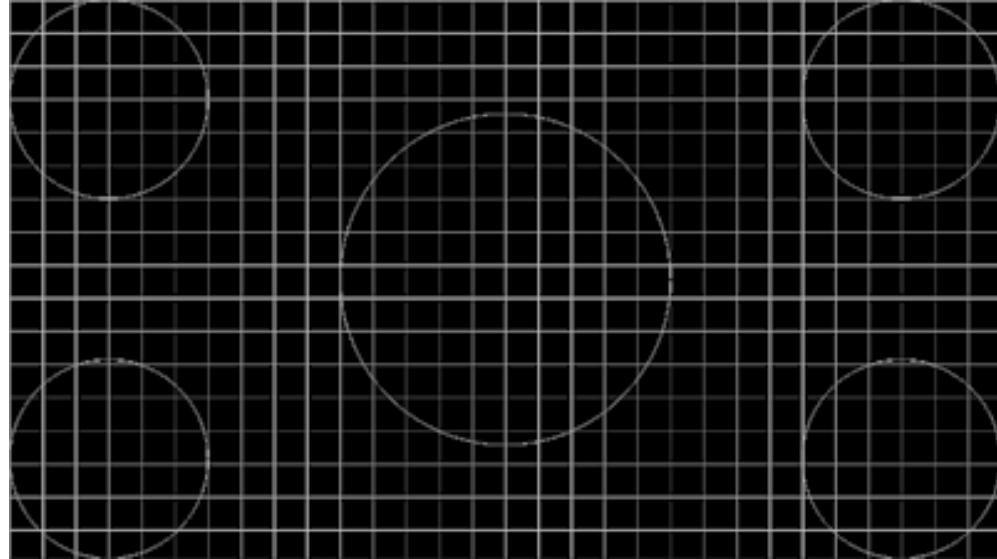
Cross – provides a screen of black with a white cross drawn in the center.

6.2.2.5 CrossCircle



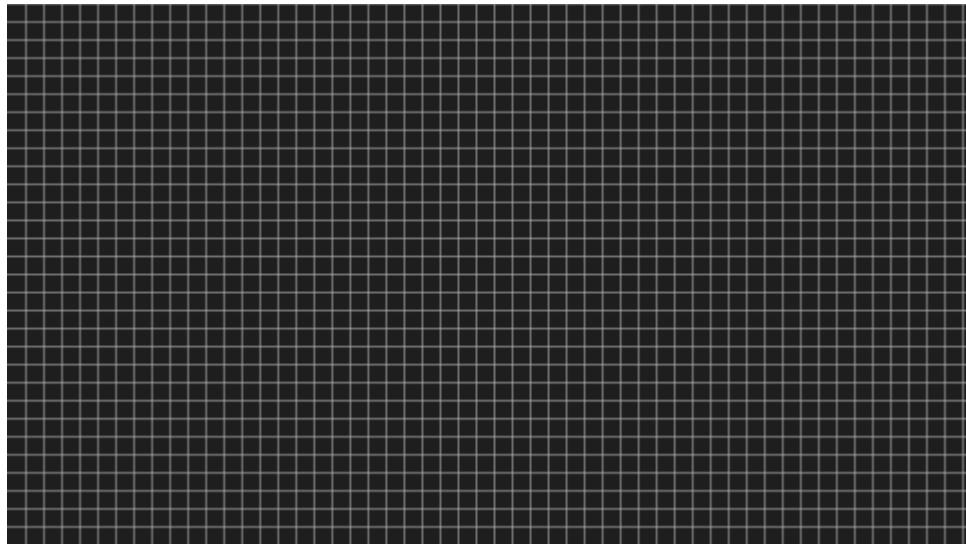
Cross Circle – provides a screen with a white cross in the middle, and a circle centered on it.

6.2.2.6 Circle



Circle – shows a frame of black with 5 circles on a grid for image alignment.

6.2.2.7 CrossHatch



Cross Hatch – a white grid on a black background.

6.2.2.8 EdgeMarkers



Edge Markers – a black screen with edge markers.

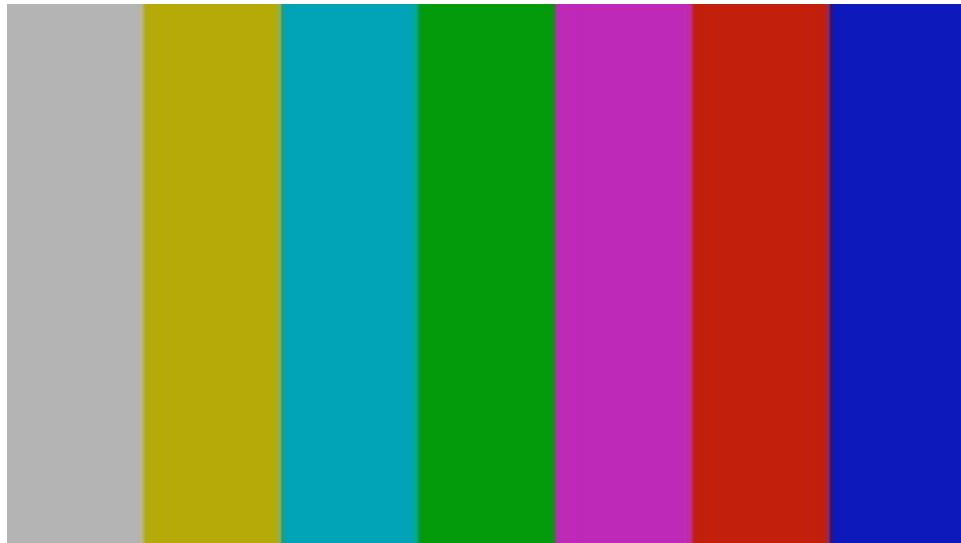
6.2.2.9 *HDR_GridPattern_1*



HDR Grid Pattern 1 – a black screen with a grid overlaid for RGB calibration in HDR workflows.

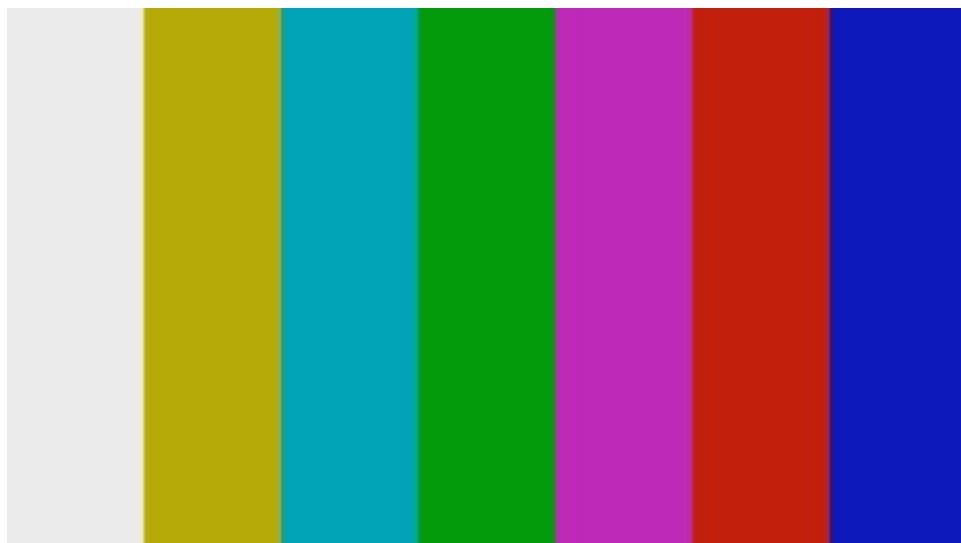
6.2.3 Bars Patterns

6.2.3.1 Camera601Bars75pc



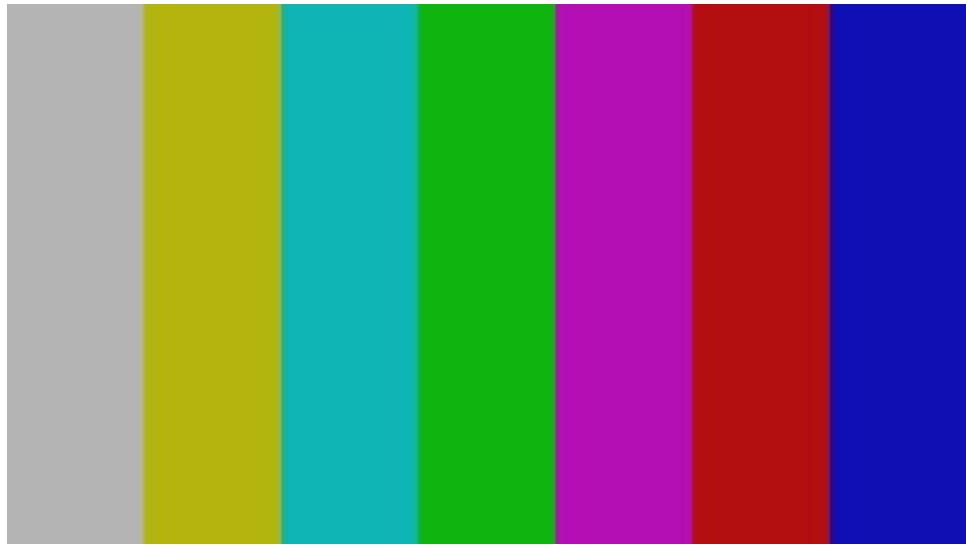
Camera 601 Bars 75% - Camera 601 (SD) bars at 75% saturation.

6.2.3.2 Camera601Bars100pc



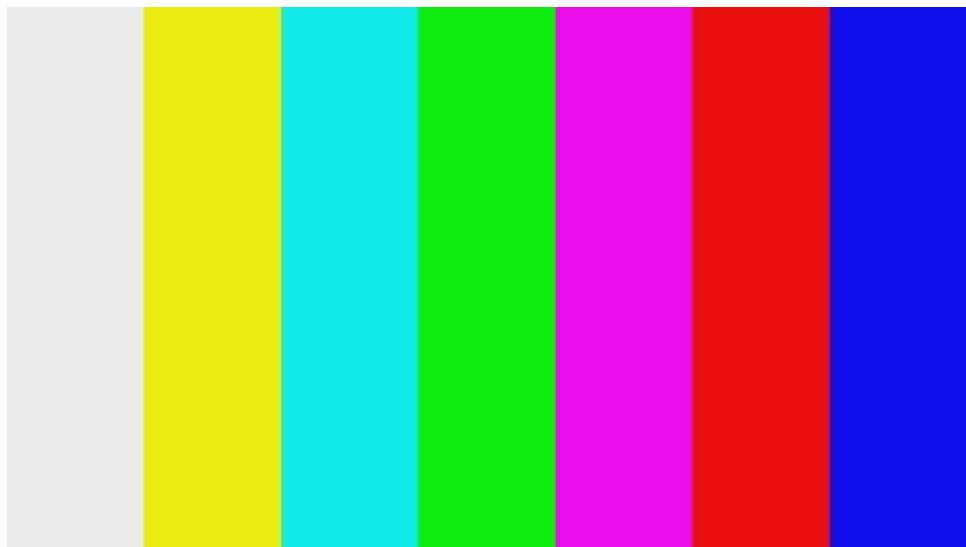
Camera 601 bars at 100% - Camera 601 (SD) bars at 100% saturation.

6.2.3.3 Camera709Bars75pc



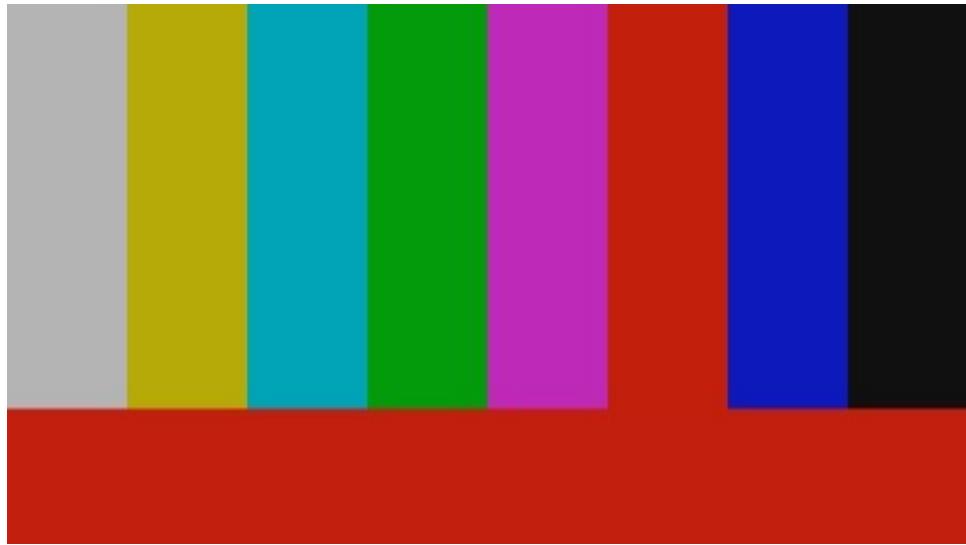
Camera 709 bars at 75% - Camera 709 (HD) bars at 75% saturation.

6.2.3.4 Camera709Bars100pc



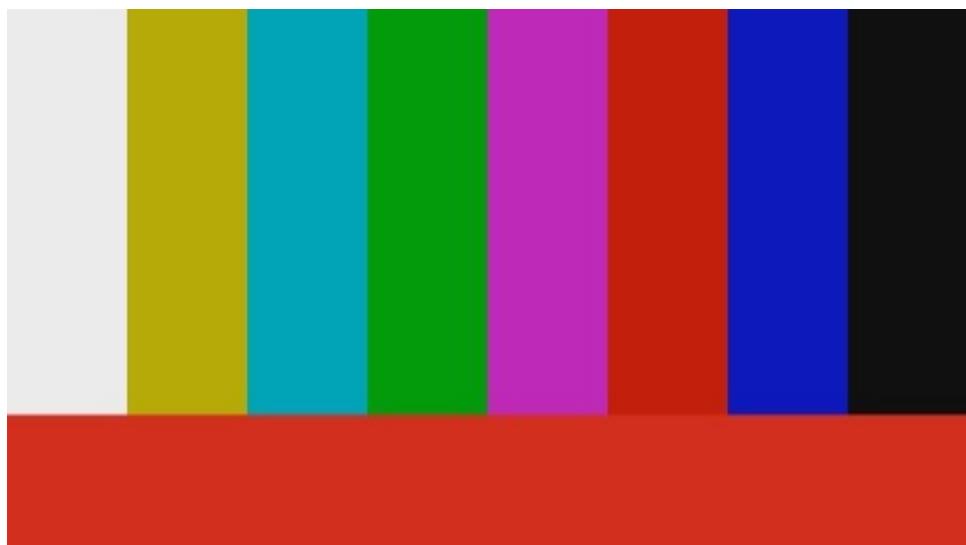
Camera 709 bars at 100% - Camera 709 (HD) bars at 100% saturation.

6.2.3.5 BarsRed75pc



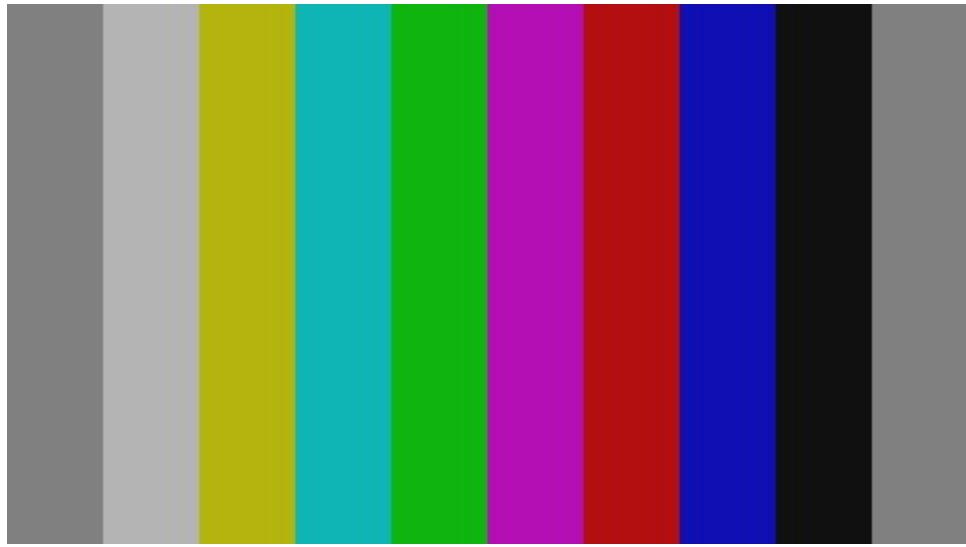
Bars Red 75% - Bars at 75% saturation, with a field of red in the lower quarter.

6.2.3.6 BarsRed100pc



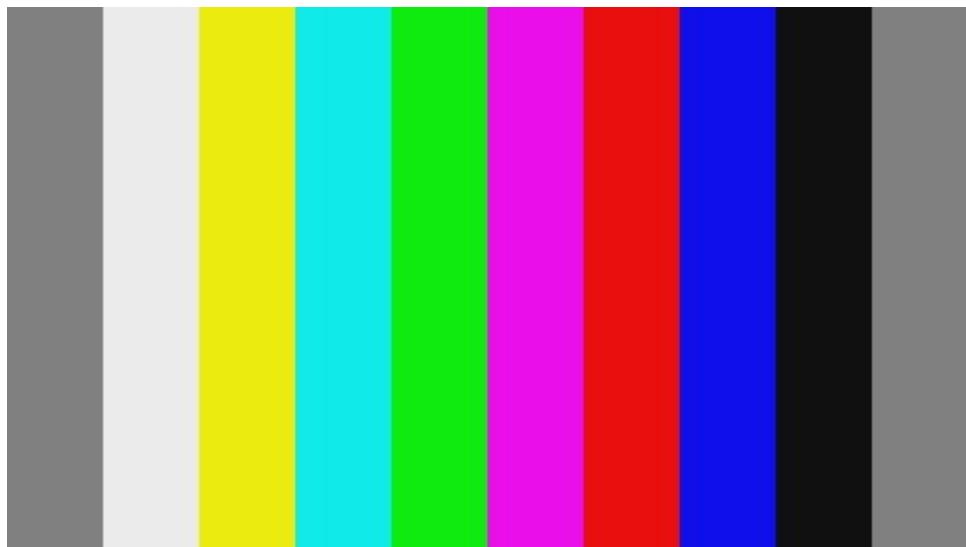
Bars Red 100% - Bars at 100% saturation, with a field of red in the lower quarter.

6.2.3.7 BarsBasicHD75pc



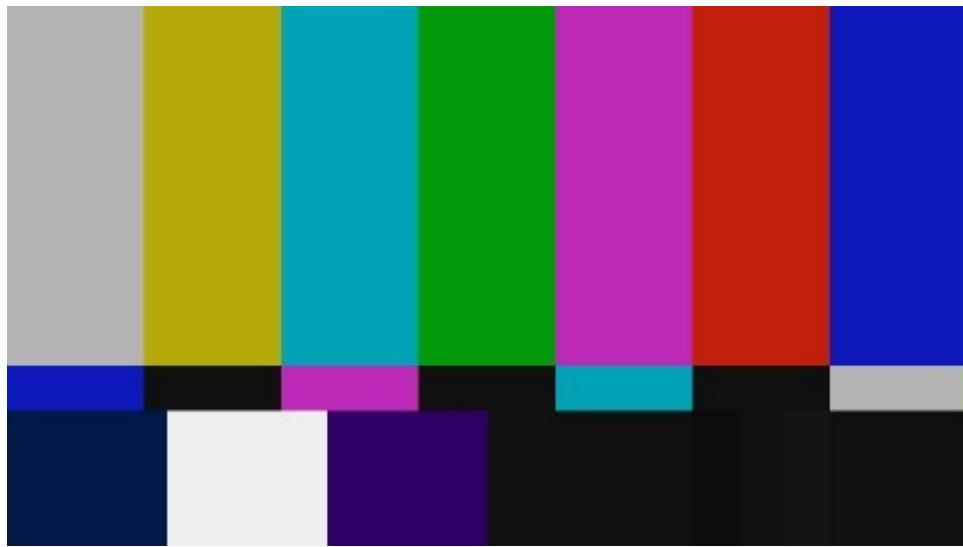
Bars Basic HD 75% - Basic HD bars at 75% saturation.

6.2.3.8 BarsBasicHD100pc



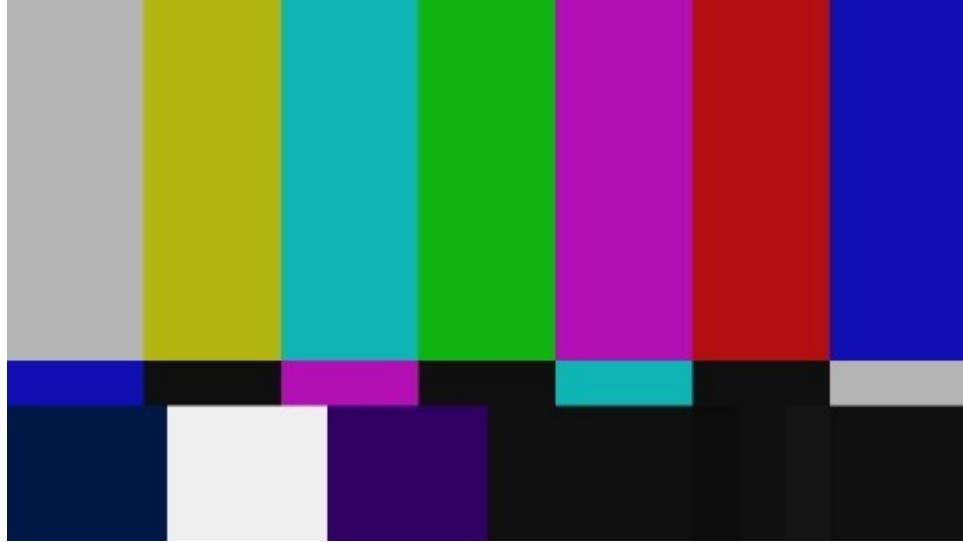
Bars Basic HD 100% - Basic HD bars at 100% saturation.

6.2.3.9 SMPTEBars601_75pc



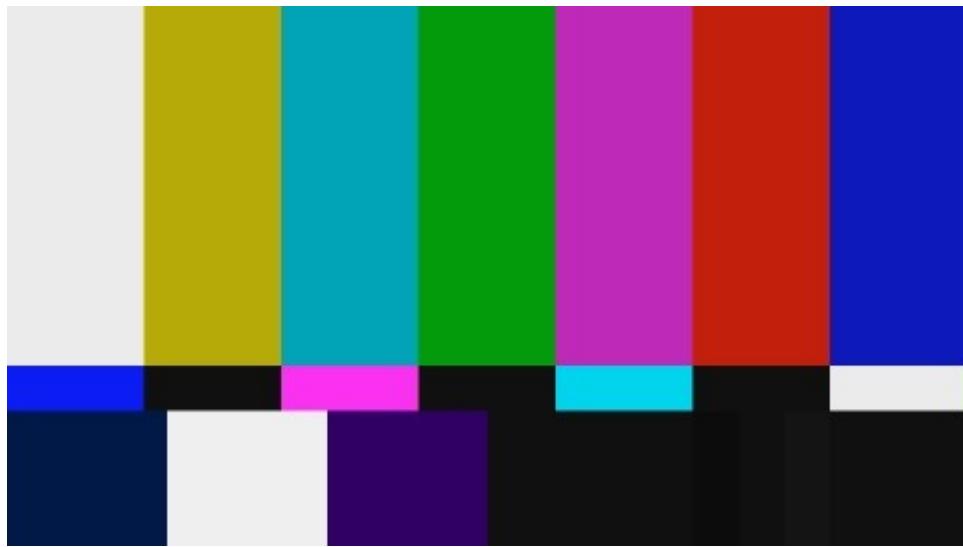
SMPTE Bars 601 75% – standard 601 (SD) SMPTE color bars at 75% saturation.

6.2.3.10 SMPTEBars709_75pc



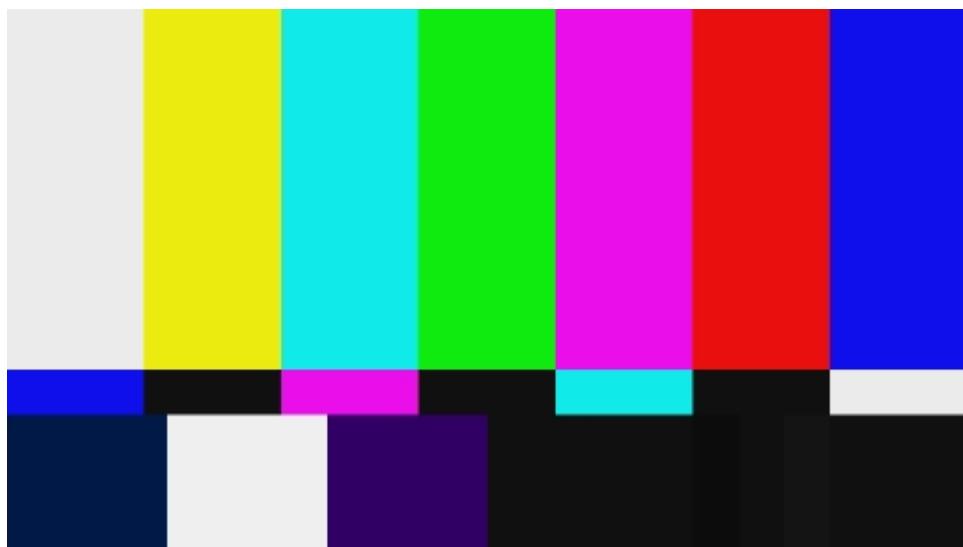
SMPTE Bars 709 75% – standard 709 (HD) SMPTE color bars at 75% saturation.

[**6.2.3.11 SMPTEBars601_100pc**](#)



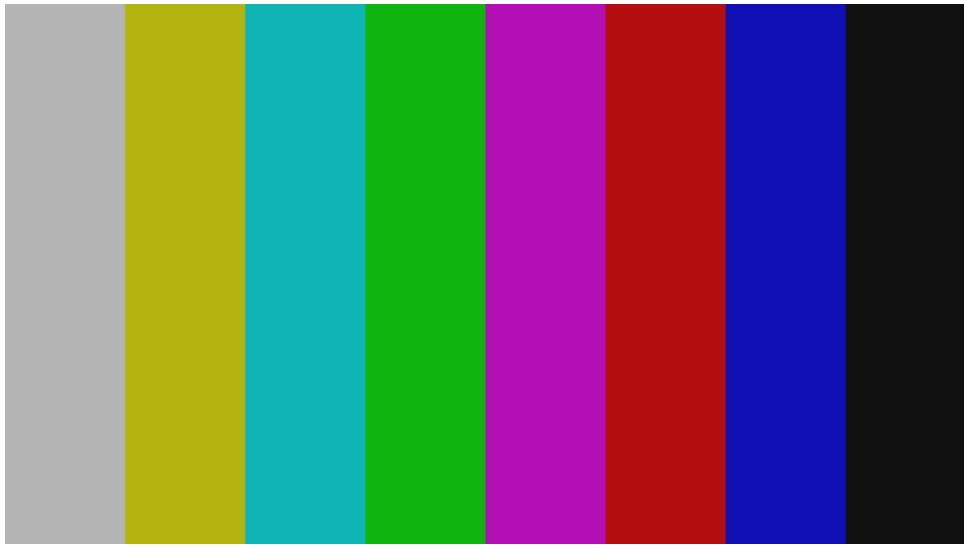
SMPTE Bars 601 100% – standard SD SMPTE color bars at 100% saturation.

[**6.2.3.12 SMPTEBars709_100pc**](#)



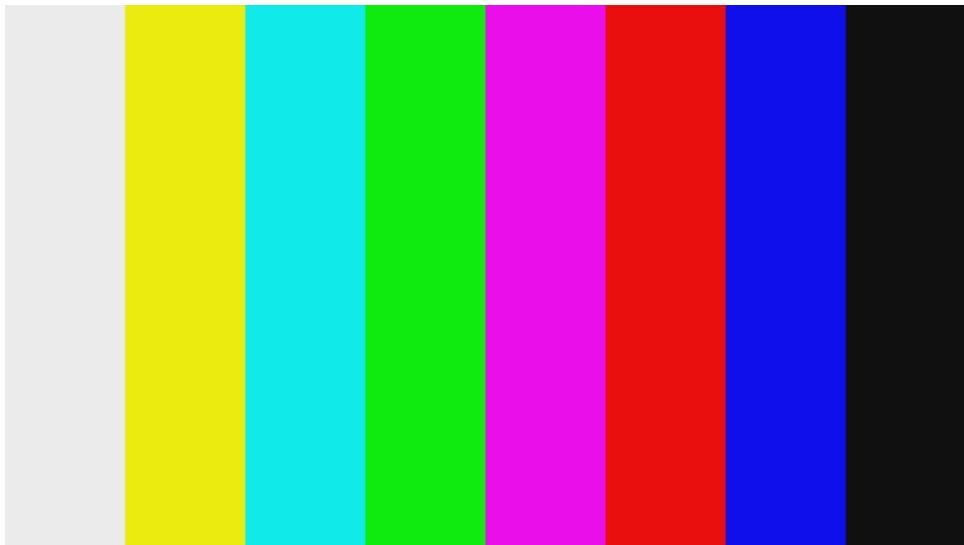
SMPTE Bars 709 100% – standard HD SMPTE color bars at 100% saturation.

6.2.3.13 *CameraBars_709_75pc*



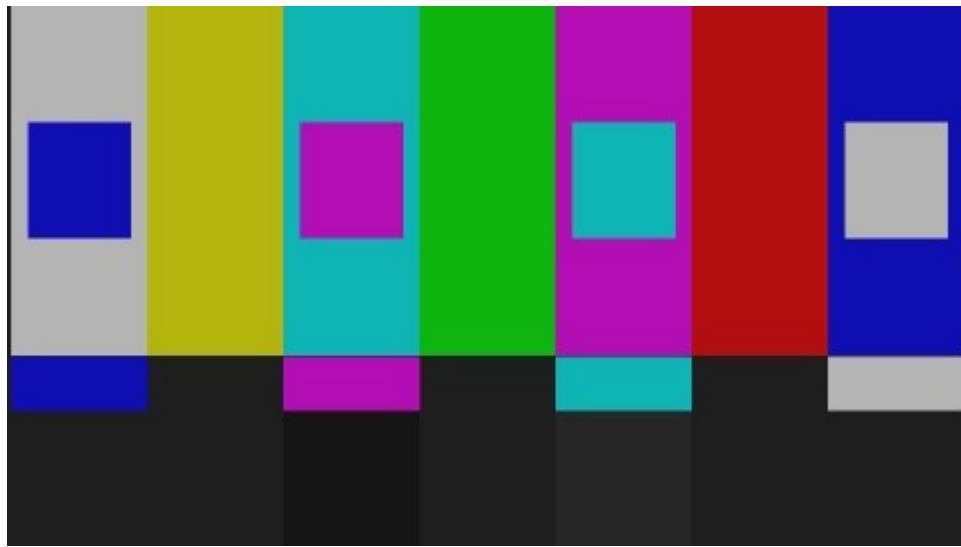
Camera 709 bars at 75% - camera 709 (HD) bars at 75% saturation.

6.2.3.14 *CameraBars_709_100pc*



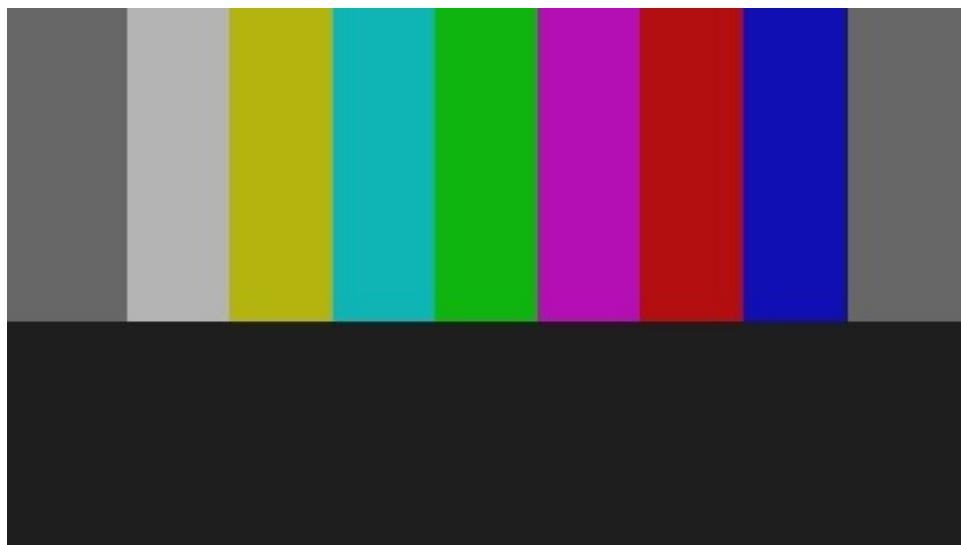
Camera 709 bars at 100% - Camera 709 (HD) bars at 100% saturation.

6.2.3.15 *Bars709Inverts_75pc*



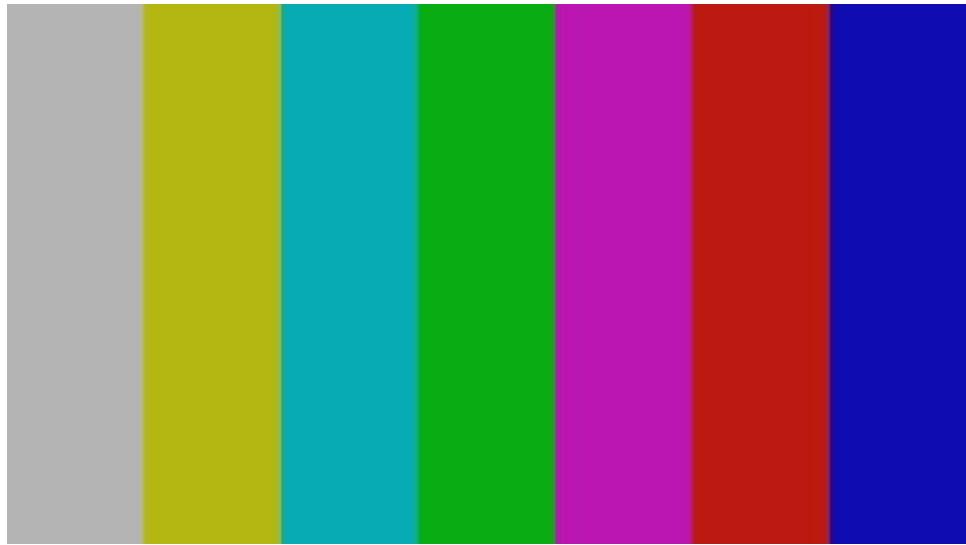
Bars 709 Inverts 75% – 709 (HD) 75% color bars with magenta/teal inversion, blue/white inversion, plus a panel of black along the bottom.

6.2.3.16 *HDBars*



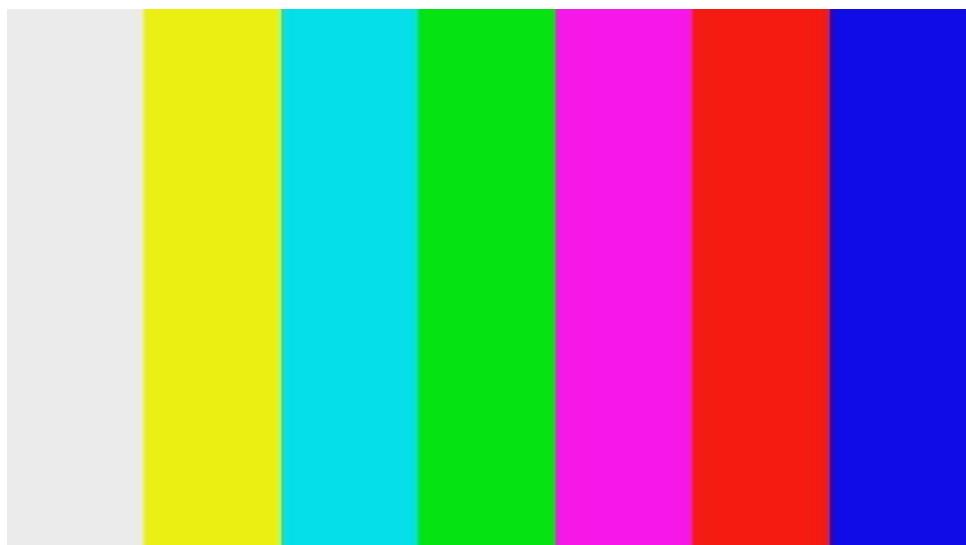
HD Bars – features standard HD color bars at 75% saturation, flanked by two gray bars on top, and a panel of black along the bottom.

6.2.3.17 *Camera2020Bars75pc*



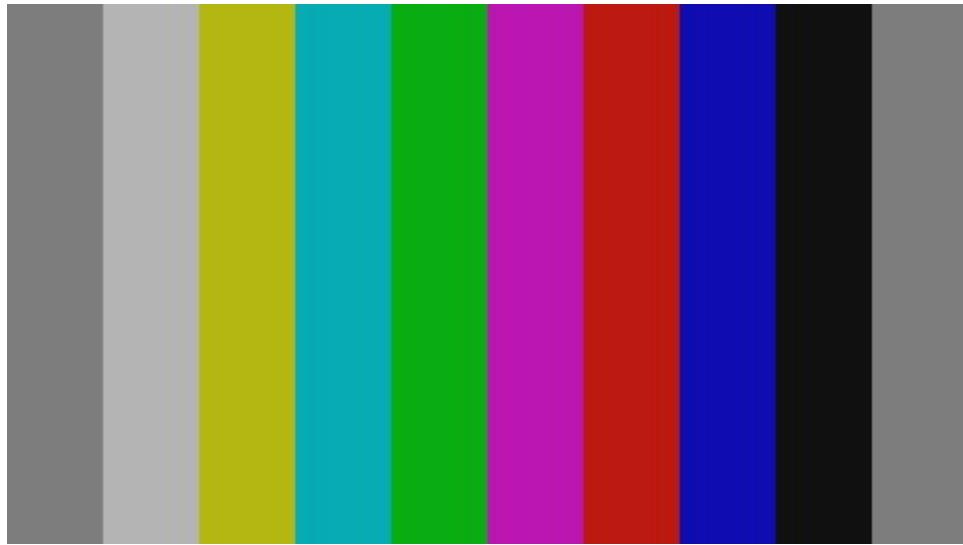
Camera 2020 Bars 75% – Camera BT-2020 color bars at 75% saturation.

6.2.3.18 *Camera2020Bars100pc*



Camera 2020 Bars 100% – Camera BT-2020 color bars at 100% saturation.

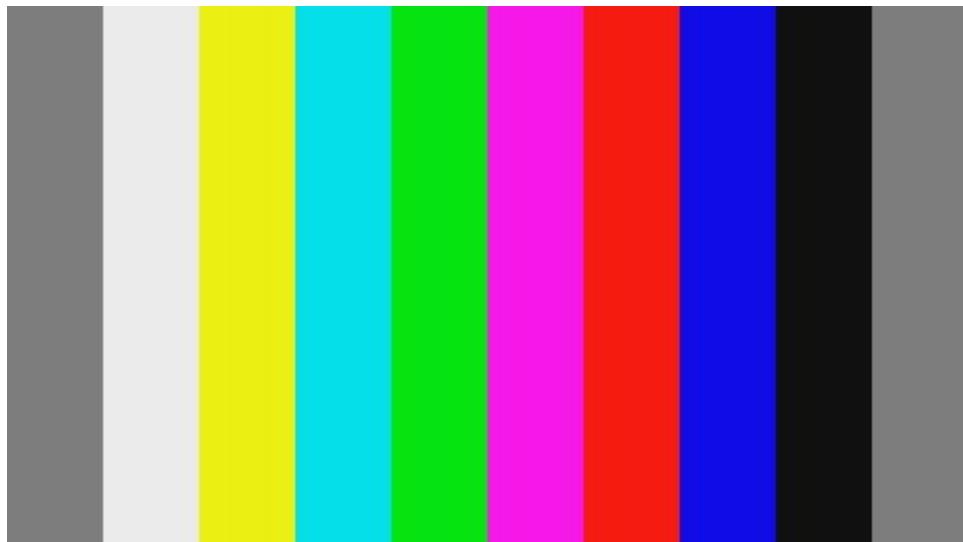
[**6.2.3.19**](#) *BarsHD2020_75pc*



Bars HD 2020 75% – BT-2020 HD color bars at 75% saturation.

[**6.2.3.20**](#) *BarsHD2020_100pc*

Bars HD 2020 100% – BT-2020 HD color bars at 100% saturation.

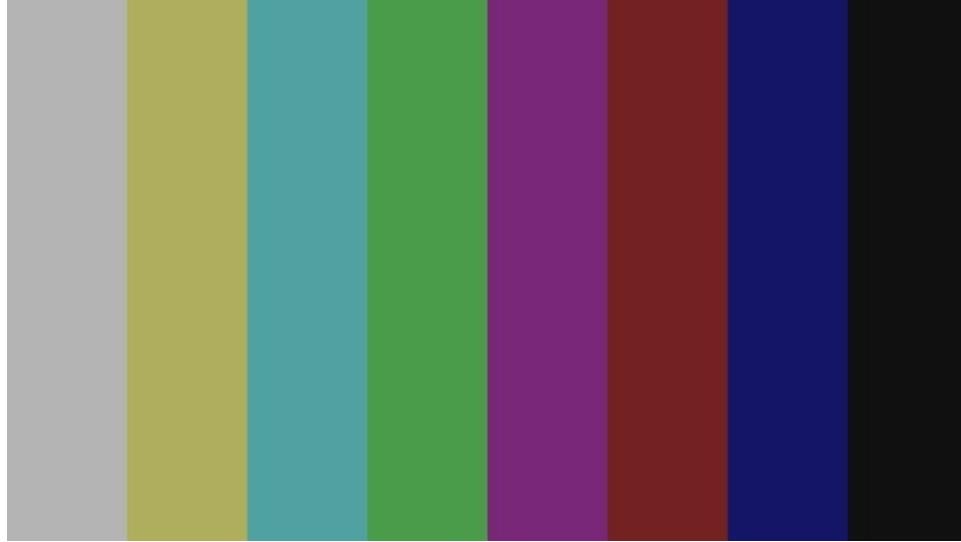


6.2.3.21 BTBars



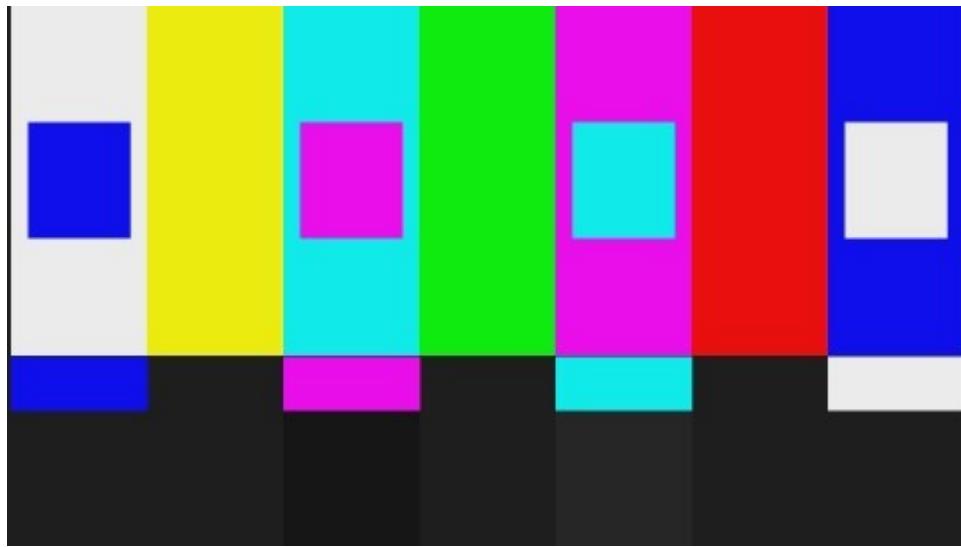
BT Bars – color bars at 75% saturation with a panel of black on the lower third.

6.2.3.22 DSC_Camera_Bars_37pc



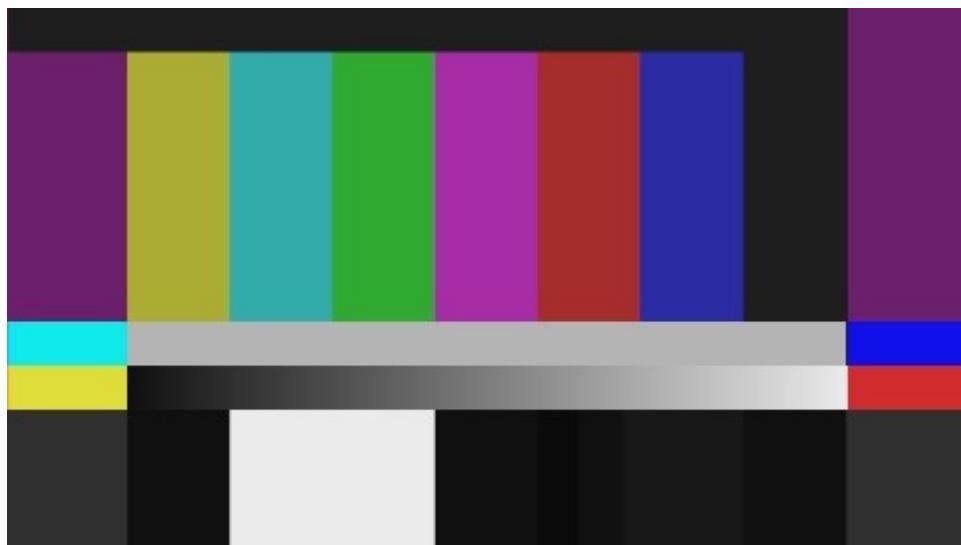
DSC Camera Bars 37% – color bars at 37% of saturation, for camera setup and lighting calibration. Corresponds to the DSC ChromaDuMonde color charts for setup purposes.

6.2.3.23 *Bars709InvertsFull*



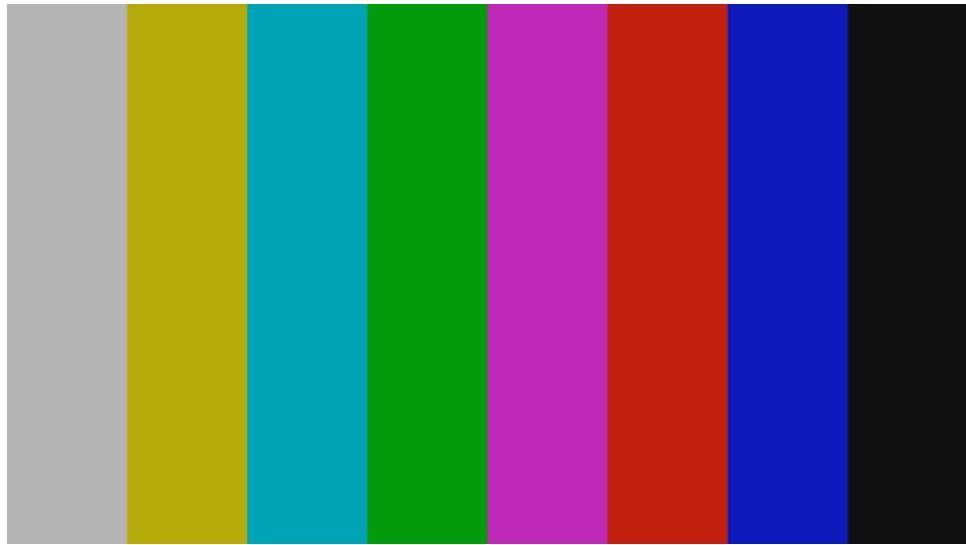
Bars 709 Inverts Full – 709 (HD) 100% color bars with magenta/teal inversion, blue/white inversion, plus a panel of black along the bottom.

6.2.3.24 *SMPTE-ARIB-B72_HDRBars*



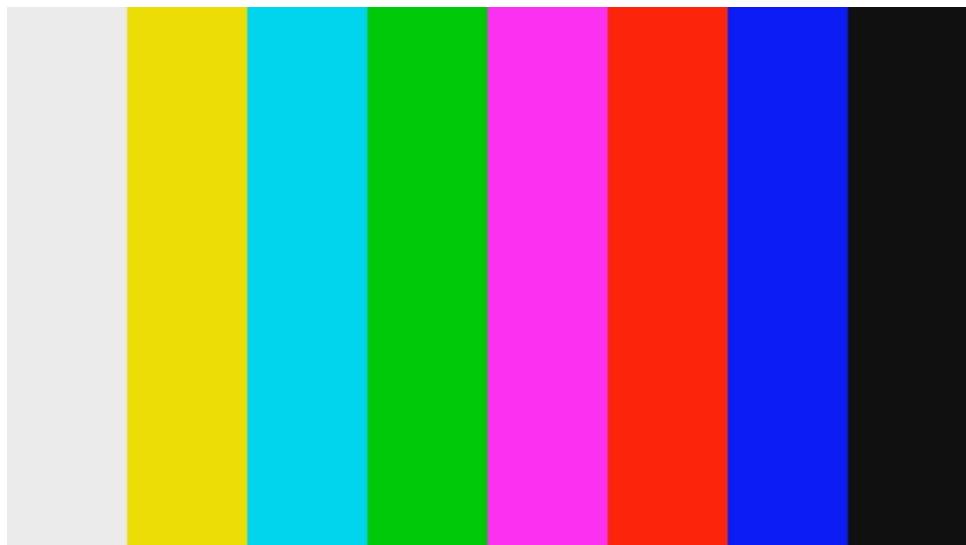
SMPTE ARIB B72 HDR Bars – color bars to support the SMPTE ARIB B72 HDR specification.

6.2.3.25 *CameraBars_601_75pc*



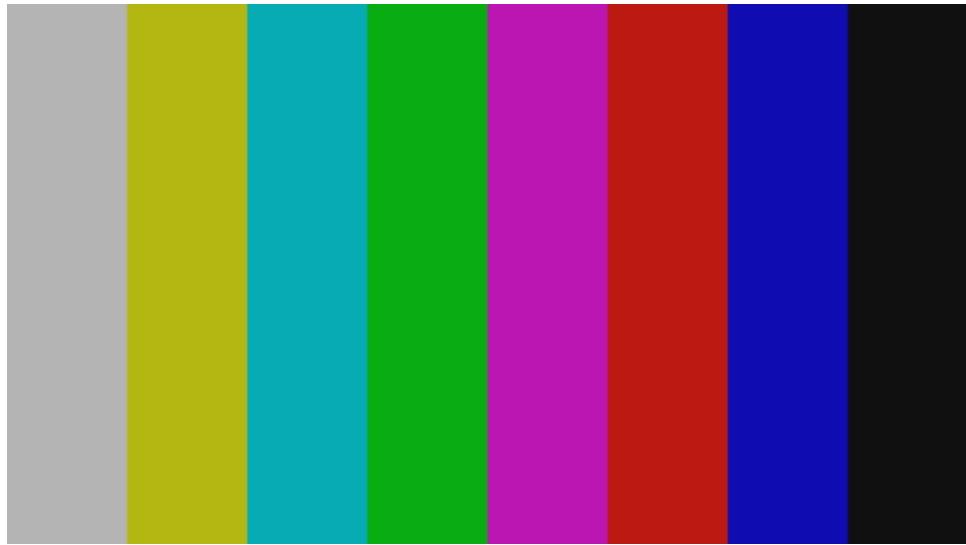
Camera 601 Bars 75% - Camera 601 (SD) bars at 75% saturation.

6.2.3.26 *CameraBars_601_100pc*



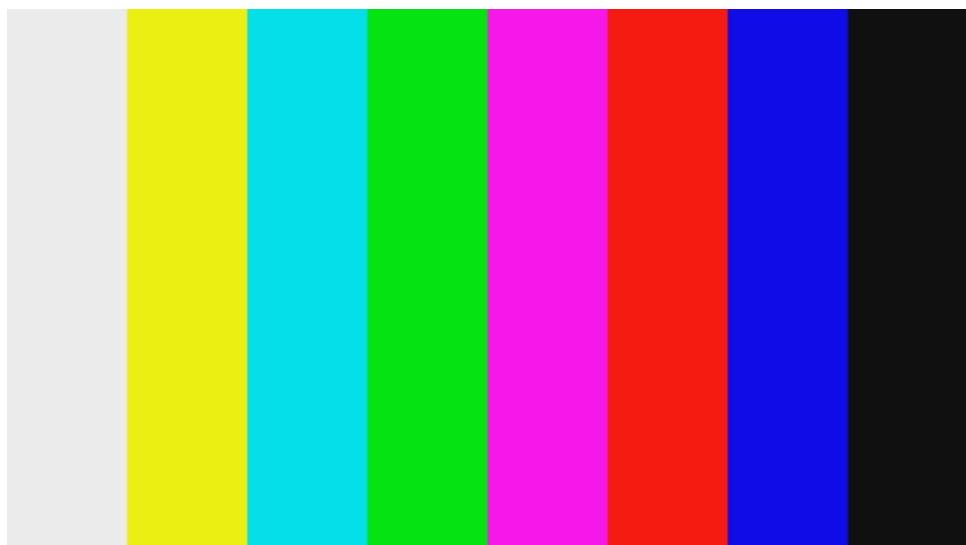
Camera 601 bars at 100% - camera 601 (SD) bars at 100% saturation.

6.2.3.27 *CameraBars_2020_75pc*



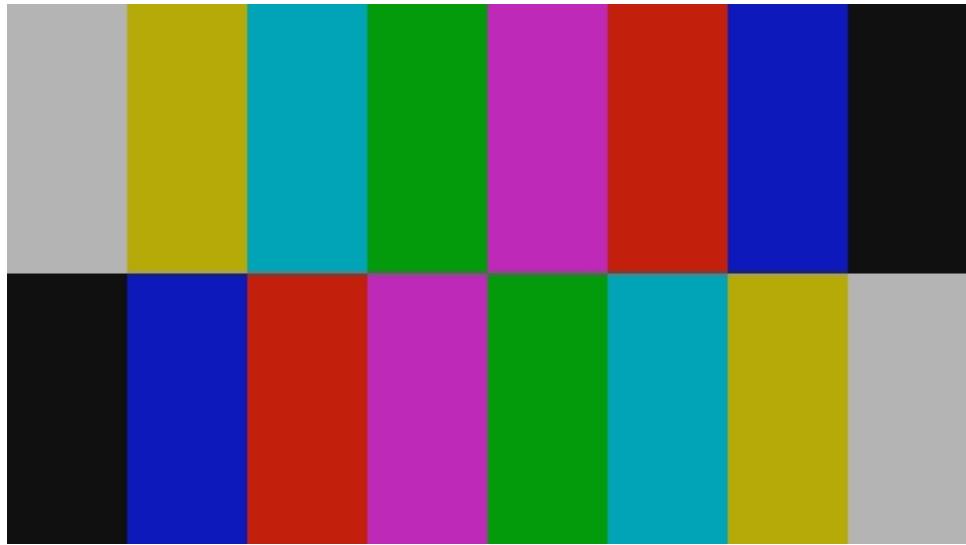
Camera 2020 Bars 75% - Camera BT-2020 bars at 75% saturation.

6.2.3.28 *CameraBars_2020_100pc*



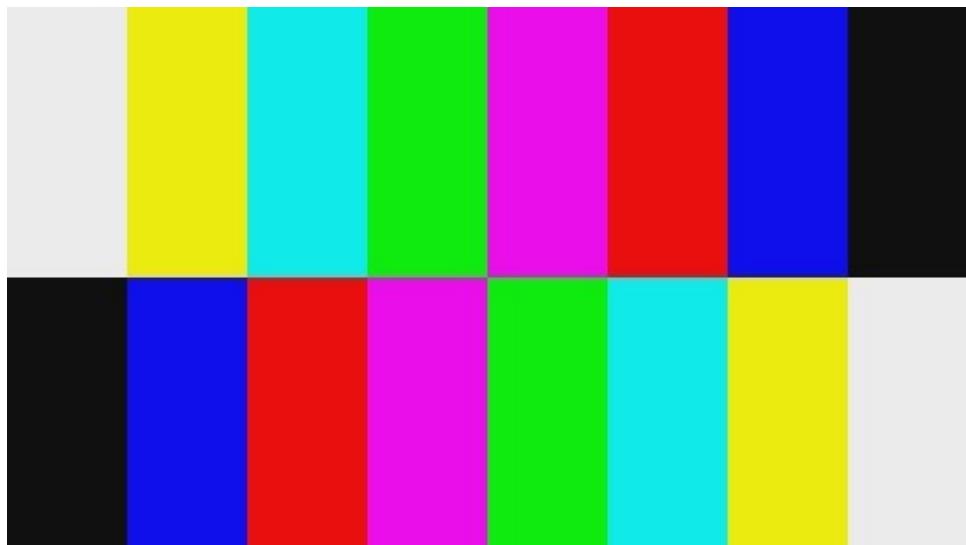
Camera 2020 bars at 100% - camera BT-2020 bars at 100%

6.2.3.29 *CameraBarsInvert_601_75pc*



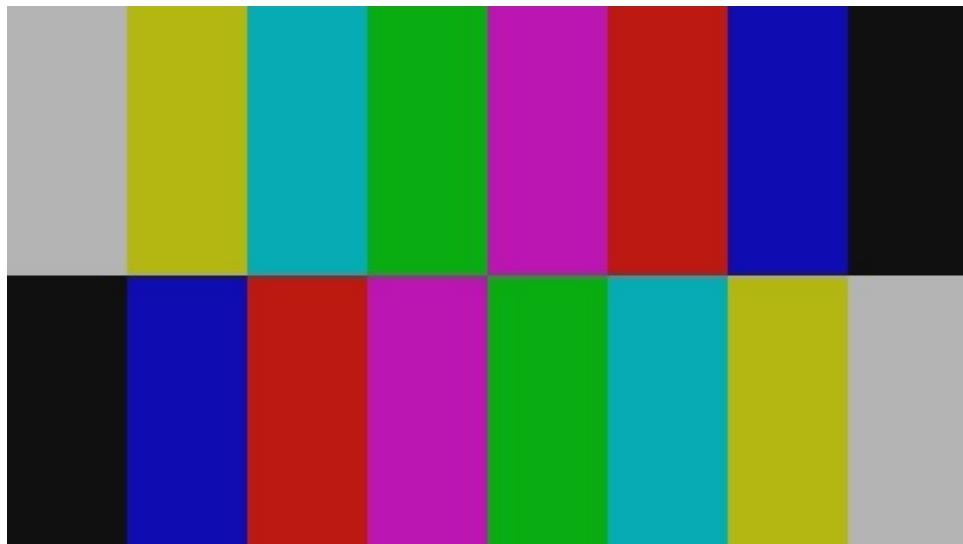
Camera Bars Invert 601 75% – CCIR-601 camera color bars at 75% saturation with invert.

6.2.3.30 *CameraBarsInvert_709_75pc*



Camera Bars Invert 709 75% – Camera 709 color bars at 75% saturation with invert.

6.2.3.31 *CameraBarsInvert_2020_100pc*



Camera Bars Invert 2020 100% – Camera 2020 color bars at 100% saturation with invert.

6.2.4 Step Patterns

6.2.4.1 Luma5Step



Luma 5 step – from black (floor) to a mid gray in 5 increasingly lighter steps, left to right.

6.2.4.2 Luma7Step



Luma 7 Step – from black (floor) to a mid gray in 7 increasingly lighter steps, left to right.

6.2.4.3 Luma10Step



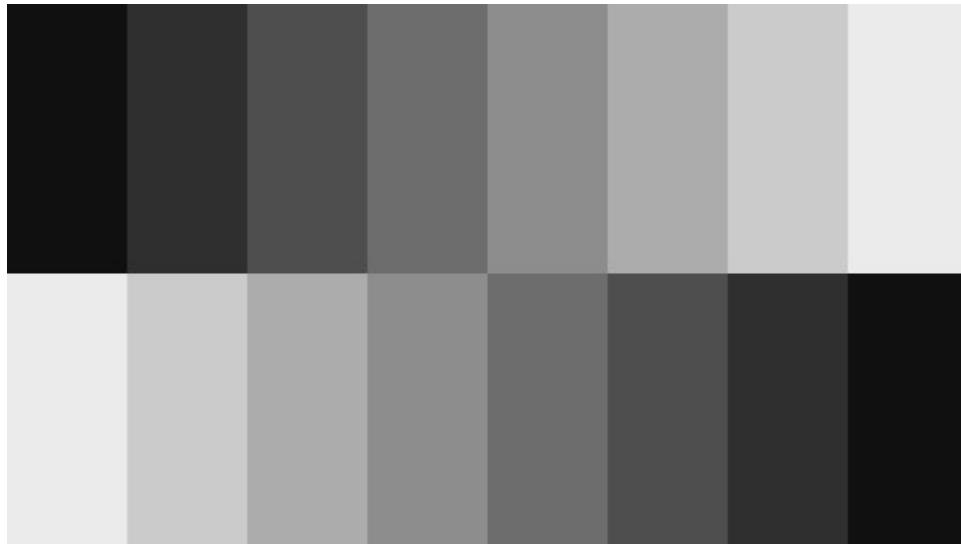
Luma 10 Step – from black (floor) to a mid gray in 10 increasingly lighter steps, left to right.

6.2.4.4 Luma5StepInvert

Luma 5 step Invert – from black (floor) to a mid gray in 5 even steps, left to right on the top, and right to left (the invert) along the bottom.



6.2.4.5 Luma7StepInvert



Luma 7 Step Invert – a panel of black (floor) followed by 7 increasingly lighter bars of gray, left to right along the top, and from right to left (the invert) along the bottom.

6.2.4.6 Luma10StepInvert



Luma 10 Step Invert – from black (floor) to white in 10 even steps, left to right on the top, and right to left (the invert) along the bottom.

6.2.4.7 IRELowHoriz



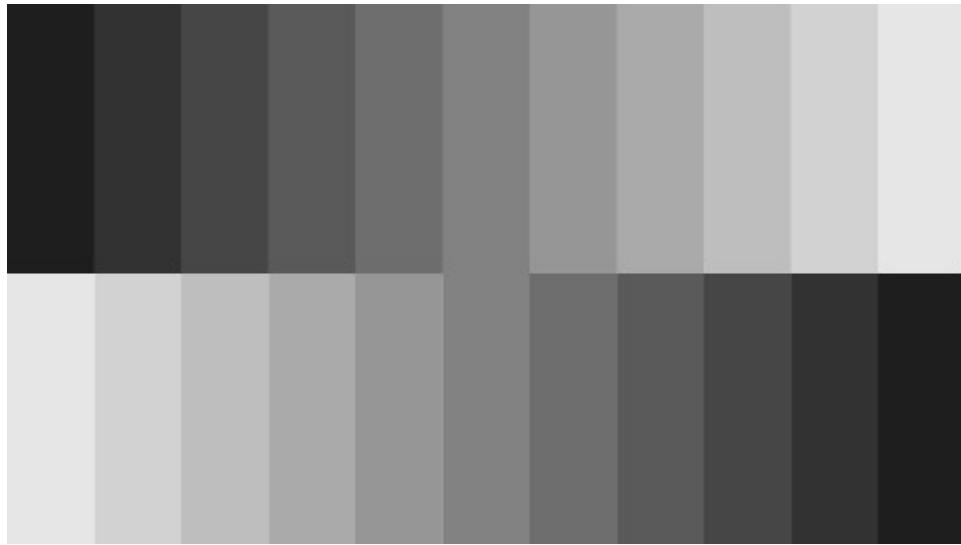
IRE Low Horizontal – horizontal IRE (dark grays) 5 step scale, for setup.

6.2.4.8 IRELowVert



IRE Low Vertical – a very dark set of 10 vertical IRE gray steps, for setup.

6.2.4.9 IRESplitSteps



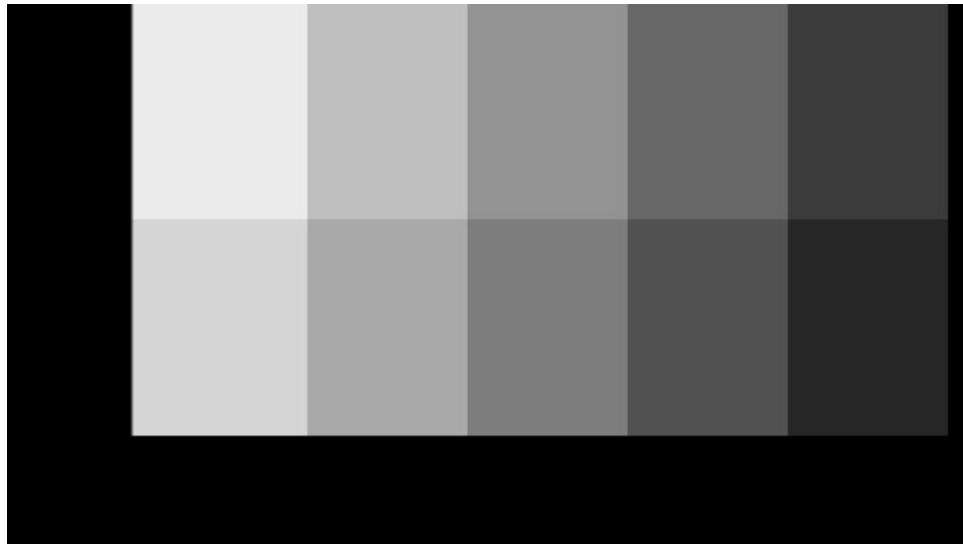
IRE Split Steps – shows black to white across the top, and white to black across the top, and bottom, for luminance distribution analysis.

6.2.4.10 HDR_StepGrayscale_1



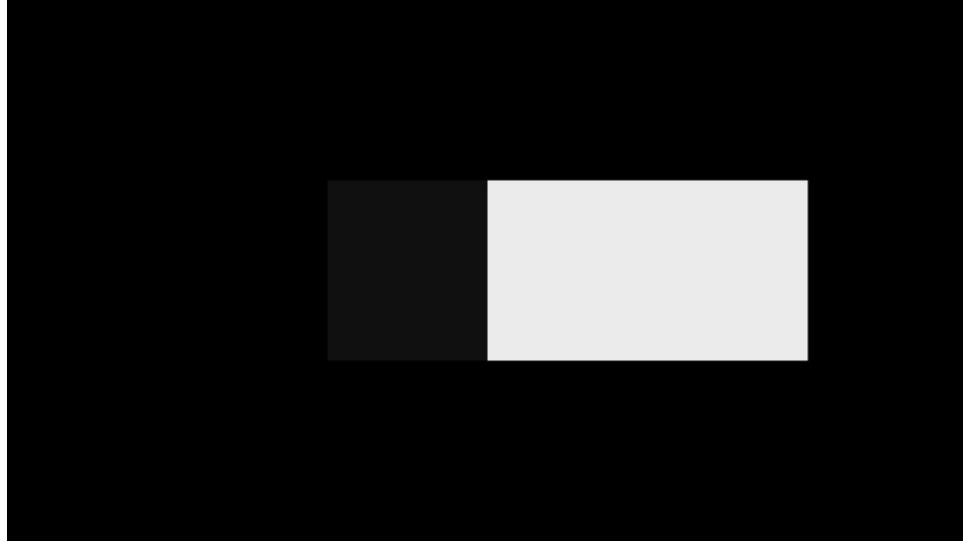
HDR Step Grayscale 1 – a gray scale for HDR workflows.

[**6.2.4.11 *HDR_GammaStep_1***](#)



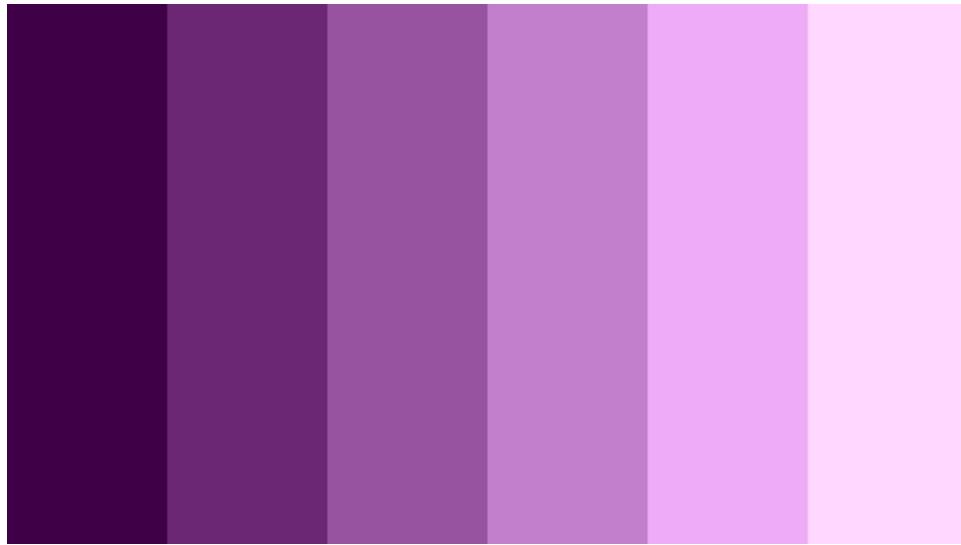
HDR Gamma Step 1 – a gray scale for HDR gamma analysis.

[**6.2.4.12 *HDR_Contrast_1***](#)



HDR Contrast 1 – black screen with a white panel, to show contrast in HDR workflows.

6.2.4.13 *Chroma5Step*



Chroma 5 Step – a dark magenta vertical bar (floor) followed by five steps of increasingly lighter magenta.

6.2.4.14 *Luma20Step*



Luma 20 Step – a black vertical bar (floor), followed by a 20 steps from dark gray to white, for luma adjustment in HDR workflows.

6.2.4.15 *Luma20StepInvert*



Luma 20 Step Invert— a set of 20 steps from black to white with invert, for luma adjustment in HDR workflows.

6.2.5 Ramp Patterns

6.2.5.1 ChromaRamp



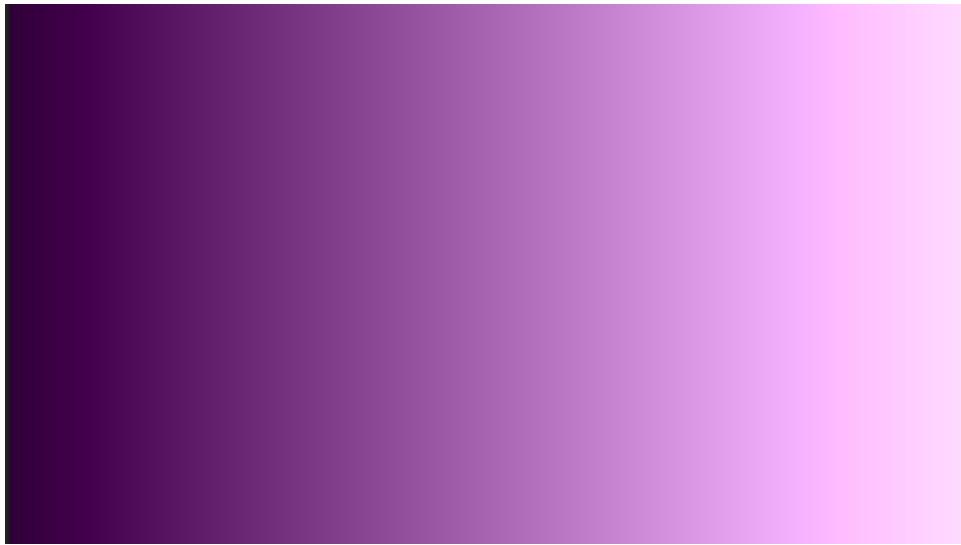
Chroma Ramp – shows a green to magenta chroma ramp, to confirm the chrominance is evenly gradated.

6.2.5.2 LumaRamp



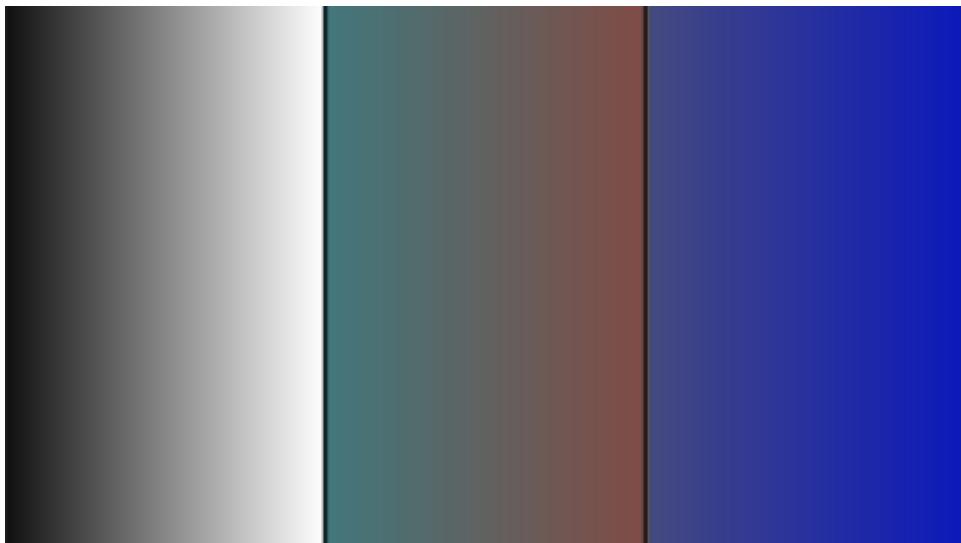
Luma Ramp – a luma ramp that goes from black on the left to white on the right.

6.2.5.3 ModRamp



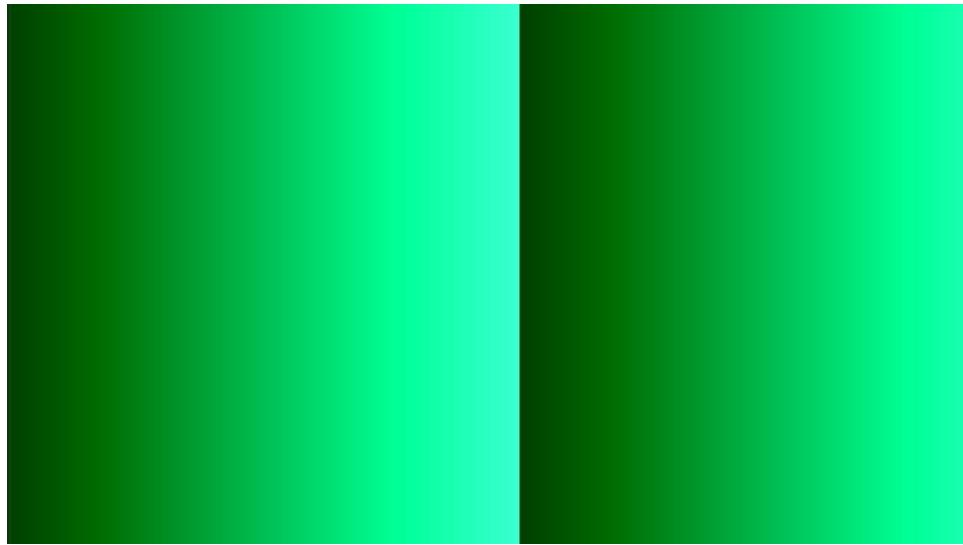
Mod Ramp – a screen of magenta whose luma goes from zero (black) on the left to 100 (white) on the right.

6.2.5.4 ValidRamp



Valid Ramp – features a black to white ramp, a teal to red ramp, and a blue panel.

6.2.5.5 DigitalRamp



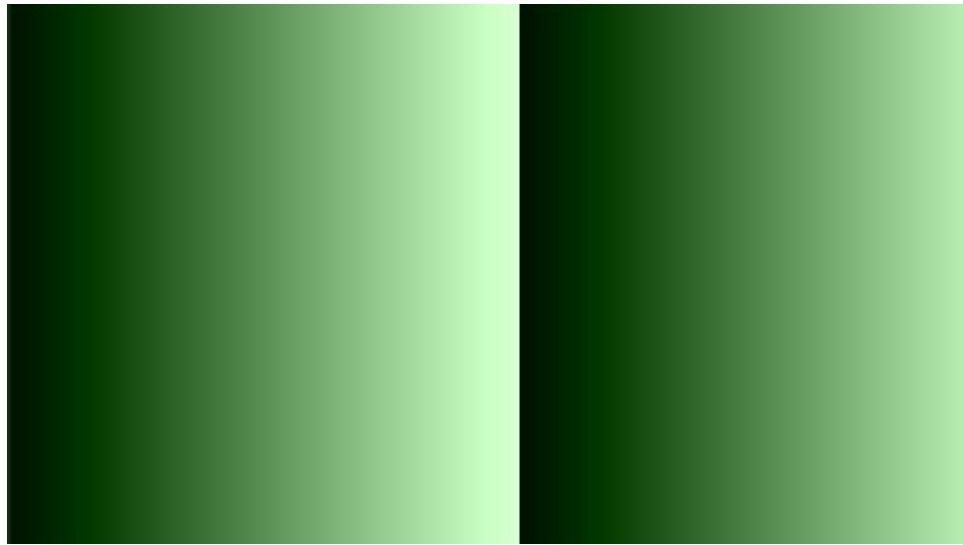
Digital Ramp – features two green ramps from black to rather light.

6.2.5.6 ShallowRamp



Shallow Ramp – features a green to magenta ramp.

6.2.5.7 ShallowRamps



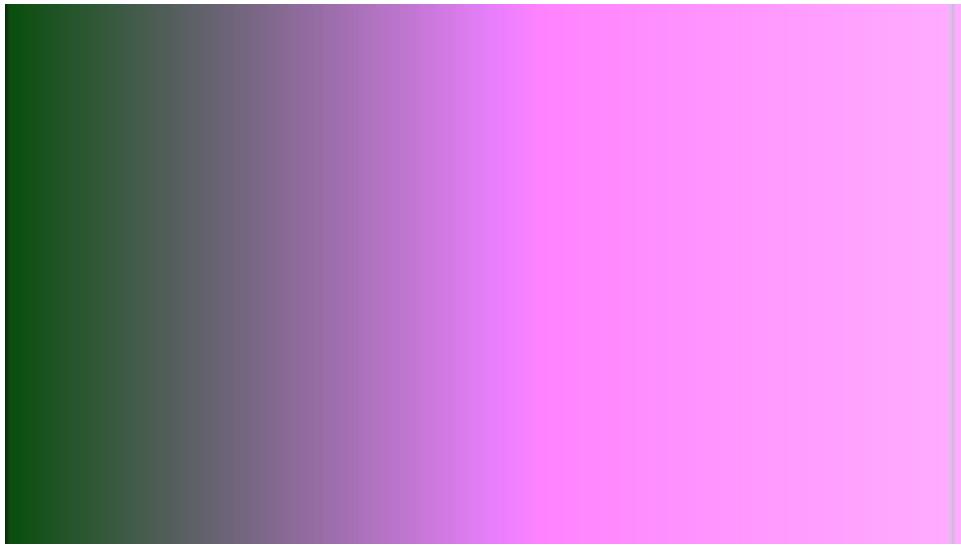
Shallow Ramps – features two dark green to rather light green ramps side by side.

6.2.5.8 100iRamp



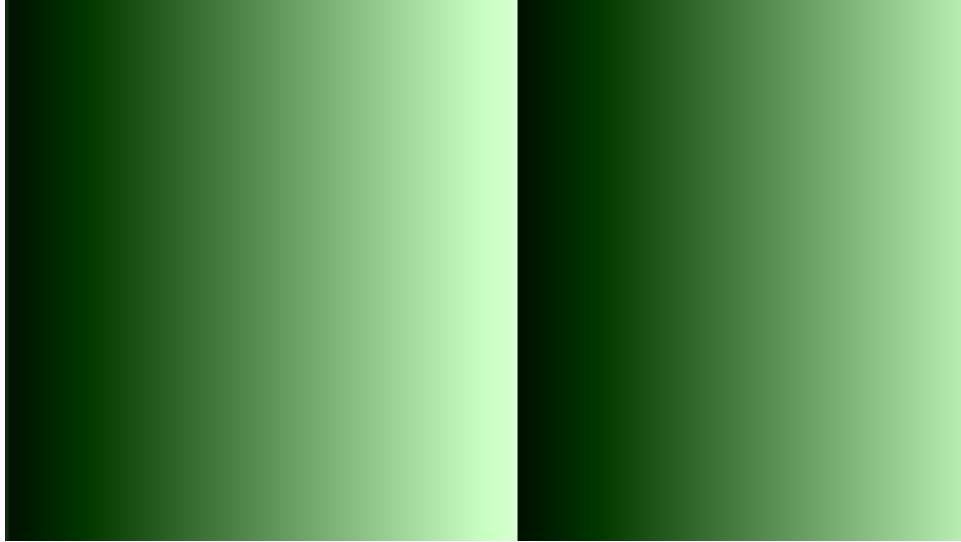
100i Ramp – features a green to magenta ramp, with a spike of green on the right.

6.2.5.9 *120iRamp*



120i Ramp – features a green to magenta ramp, with a spike of green on the right.

6.2.5.10 *UBMRamp*



UBM Ramp – features two green vertical ramps side by side, from no saturation (black) to full saturation (white).

[6.2.5.11](#) *R-G_Vert*



Red to Green Vertical – a smooth vertical gradation from red on the bottom to green on top, at full saturation.

[6.2.5.12](#) *R-G_Horiz*



Red to Green Horizontal – a smooth horizontal gradation from red on the right to green on the left, at full saturation.

6.2.5.13 R-G_Both



Red and Green Both – a smooth vertical gradation of yellow, from pure hue (yellow) at the bottom, to zero saturation (black) at the top.

6.2.5.14 B-G_Vert



Blue to Green Vertical – a smooth vertical gradation from blue on the bottom to green on top, at full saturation.

6.2.5.15 *B-G_Horiz*



Blue to Green Horizontal – a smooth horizontal gradation from blue on the right to green on the left, at full saturation.

6.2.5.16 *B-G_Both*



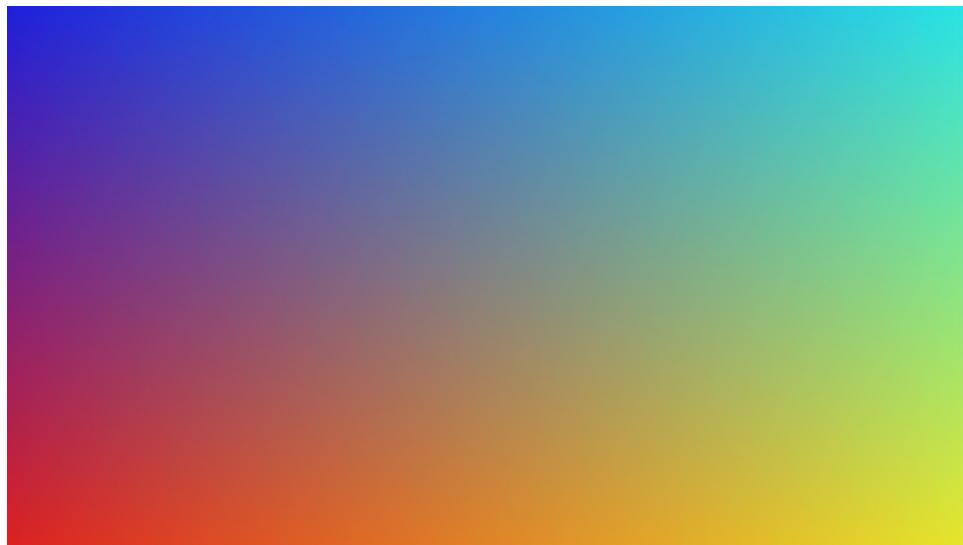
Blue and Green Both – a smooth vertical gradation of blue and green combined, with full saturation (teal) at the bottom and zero saturation (black) at the top.

6.2.5.17 G_Vert_R-B_Horiz



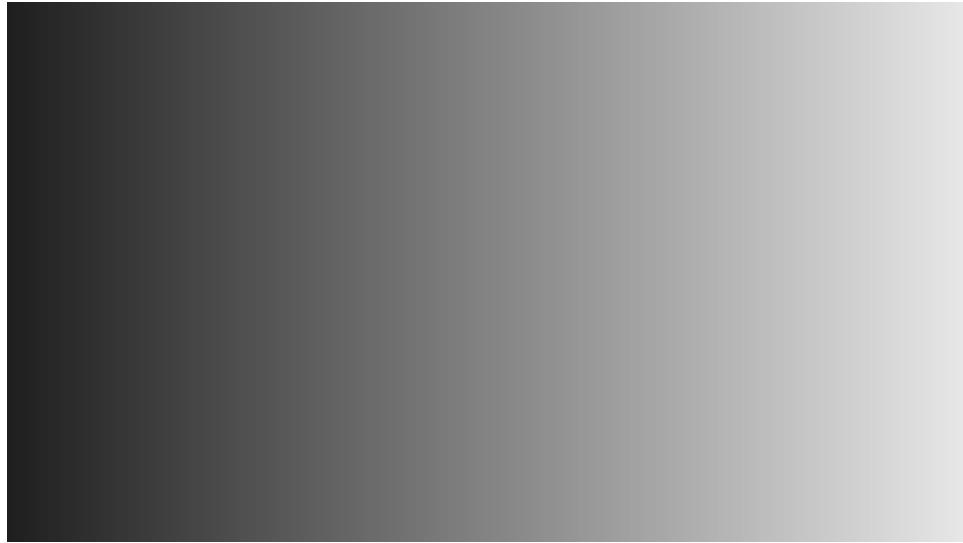
Green Vertical Red to Blue Horizontal – a smooth vertical gradation of green, combined with a red to blue horizontal gradation.

6.2.5.18 R-B_Vert_G_Horiz



Red to Blue Vertical Green Horizontal – a smooth vertical gradation of red to blue, with a horizontal gradation of green.

6.2.5.19 R-G-B_Horiz



Red Green Blue Horizontal – all three channels (R, G, and B) combined in a smooth gradation from zero saturation (black) to full saturation (white).

6.2.5.20 R-G-B_Vert



Red Green Blue Vertical – all three channels (R, G, and B) combined in a smooth gradation from zero saturation (black) to full saturation (white).

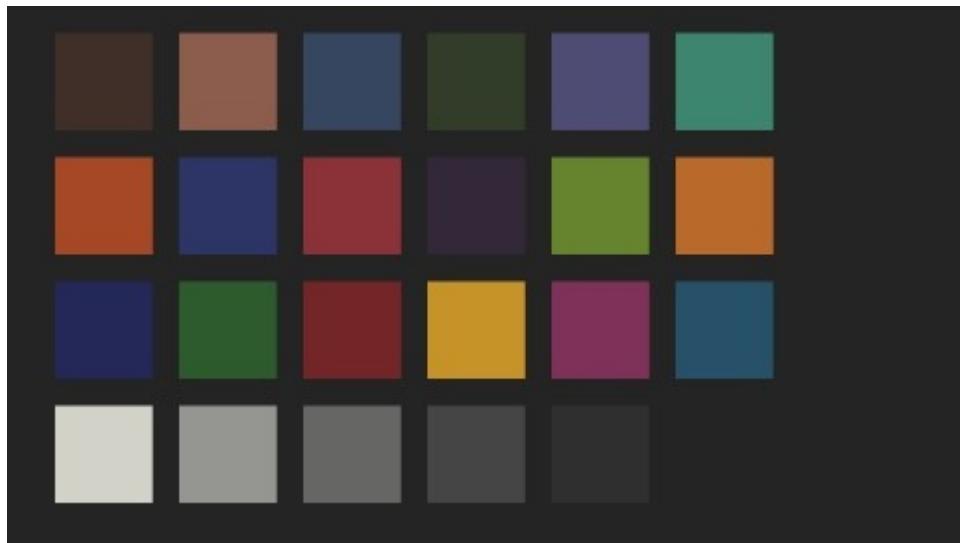
6.2.5.21 *LumaRampVert*



Luma Ramp Vertical – a smooth vertical luminance gradation, from zero saturation (black) to full saturation (white).

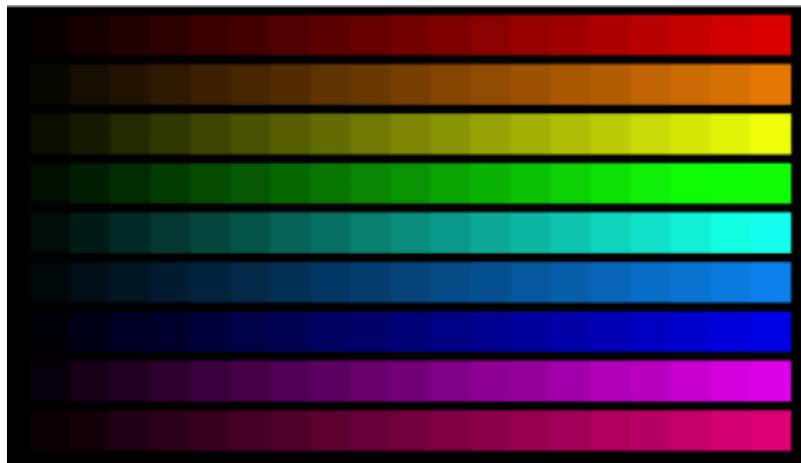
6.2.6 Patches Patterns

6.2.6.1 SMPTE303M



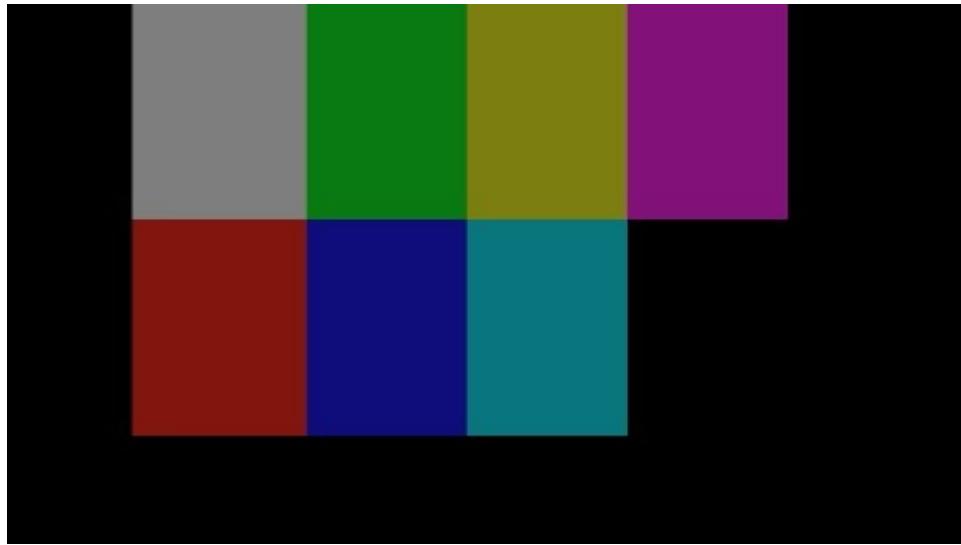
SMPTE 303M – a MacBeth style SMPTE 303 chart with 24 sample colors whose colorimetric designations are distributed throughout the color television gamut.

6.2.6.2 ColorScales



Color Scales – shows a 20 step scale for red, orange, yellow, green, cyan, light blue, blue, magenta, and red magenta, from zero saturation (black) to full hue with no black.

6.2.6.3 HDR_50Amp_100Sat_1



HDR 50 Amp 100 Saturation 1 – High dynamic range color bars with black.

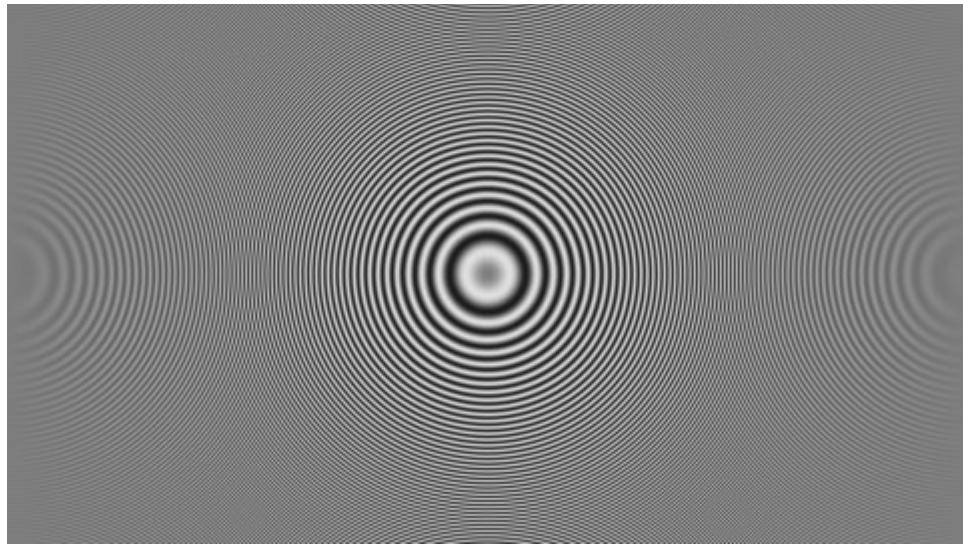
6.2.6.4 HDR_Point_Pantone_SkinTones_Color



HDR Point Pantone SkinTones Color – various skin tones from the Pantone collection, along with a panel of black for high dynamic range workflows.

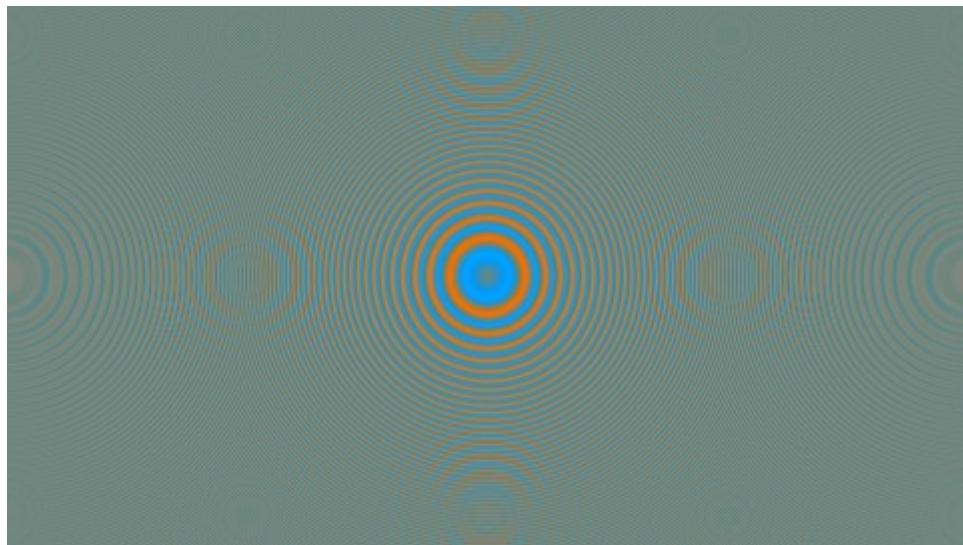
6.2.7 ZonePlate Patterns

6.2.7.1 ZonePlateY



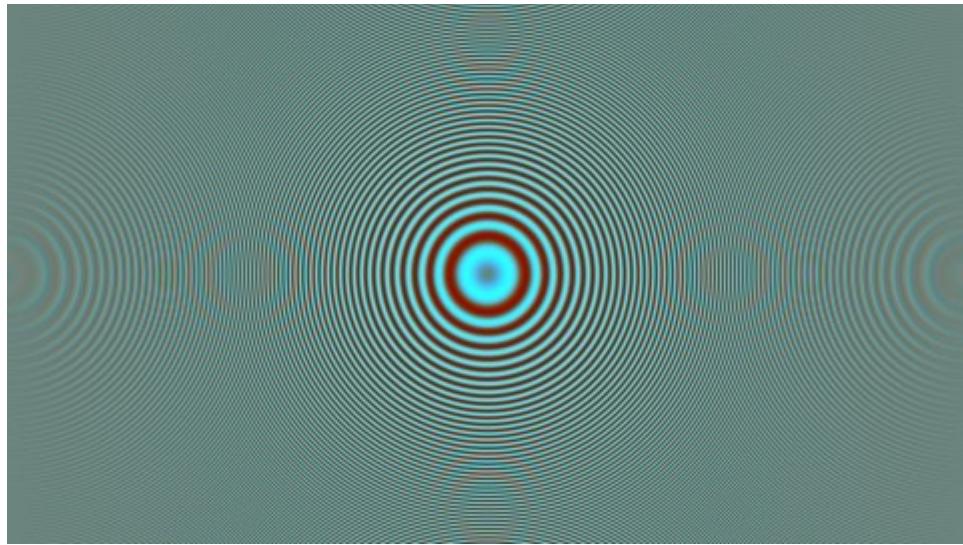
Zone Plate Y – luma (black and white) zone plate type patterns of overlaid concentric circles use frequencies in the image to assess issues in format or standards conversion.

6.2.7.2 ZonePlateC



Zone Plate C – chroma (orange to blue) zone plate type patterns of overlaid concentric circles use frequencies in the image to assess issues in format or standards conversion.

6.2.7.3 ZonePlate



Zone Plate – chroma (cyan to red) zone plate type patterns of overlaid concentric circles use frequencies in the image to assess issues in format or standards conversion.

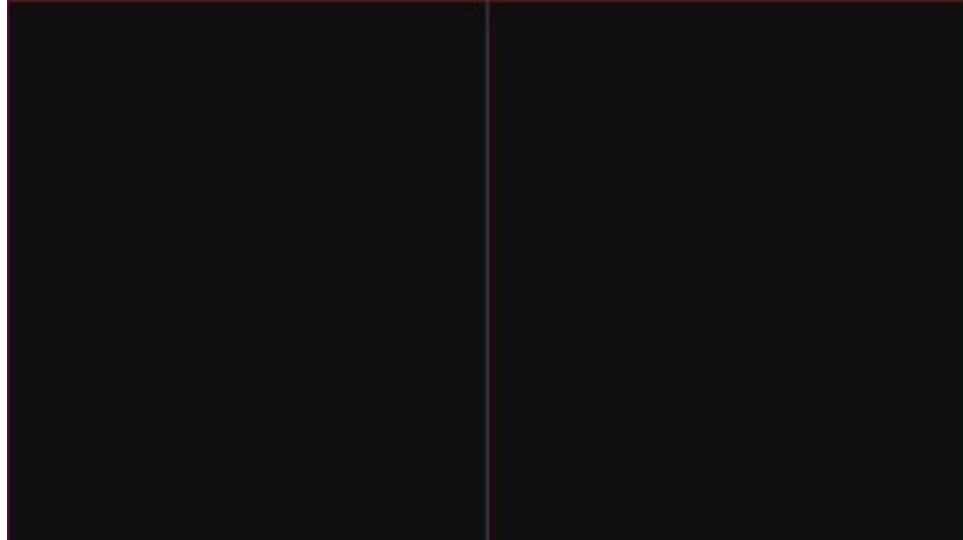
6.2.8 Edges Patterns

6.2.8.1 Border



Border – provides a screen of black with a border around it.

6.2.8.2 BorderColorQuadrant



Border Color Quadrant – provides a screen of black with a border and quadrant markers.

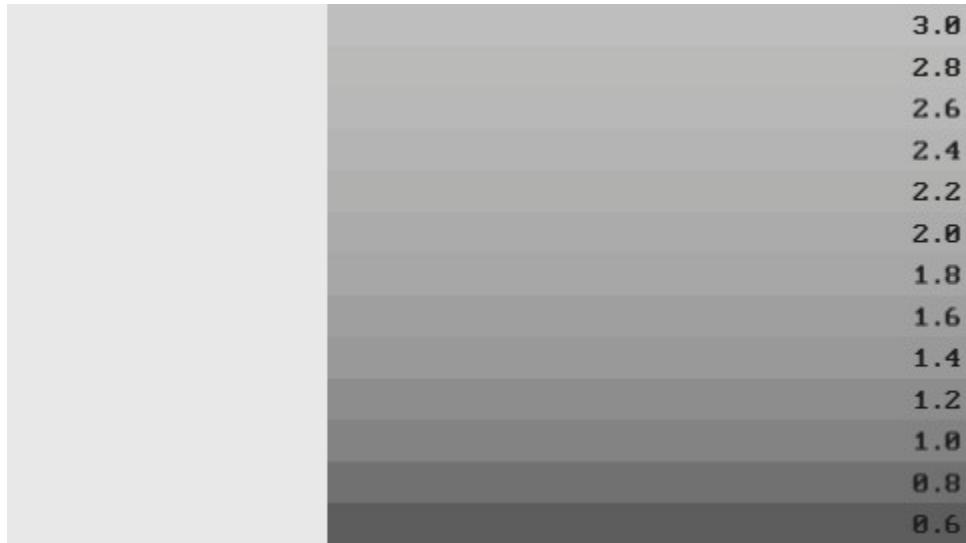
6.2.8.3 *TitleActionSafe*



Title Action Safe – a black screen featuring title safe and action safe graticules with a cross in the center.

6.2.9 Gamma Patterns

6.2.9.1 *GammaStrip*



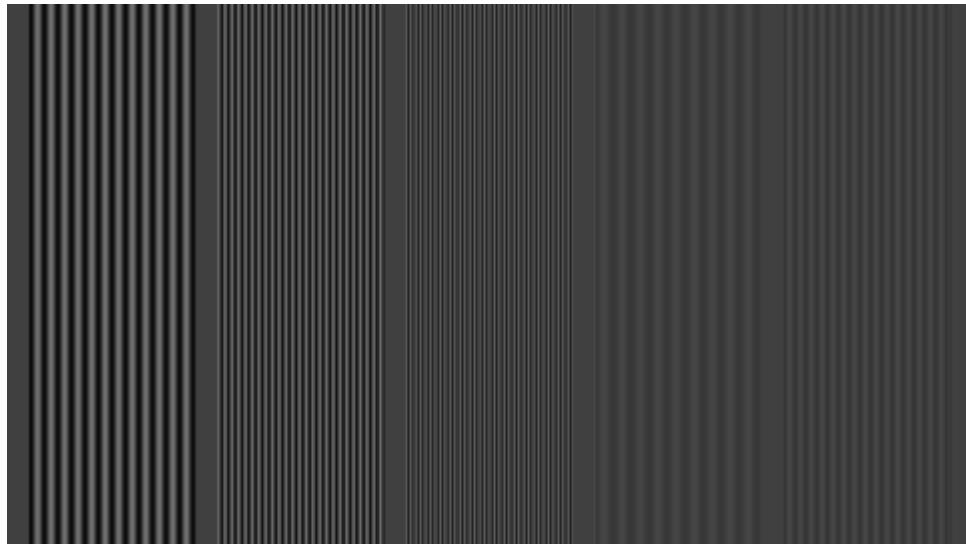
Gamma Strip – a panel of gray on the left, with a panel of evenly spaced grays and their corresponding gamma values on the right.

6.2.10 Multiburst Patterns

A multiburst waveform is used to test the frequency response of a video system. The pattern provides multiple bursts of sine wave in the active video generated with varying frequency, but identical in amplitude.

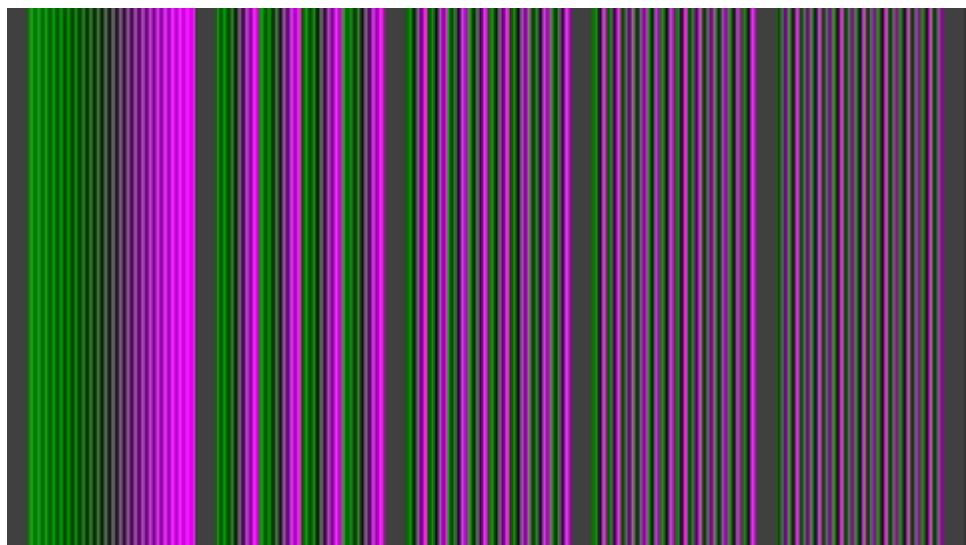
The test pattern is usually input at the start of the signal chain and analysed at the end. By measuring the amplitude of each of the 'bursts' of waveform at the end of the video chain, spot measurements of the frequency response of the system can be obtained and errors in the response quickly identified.

6.2.10.1 *MultiBurst*



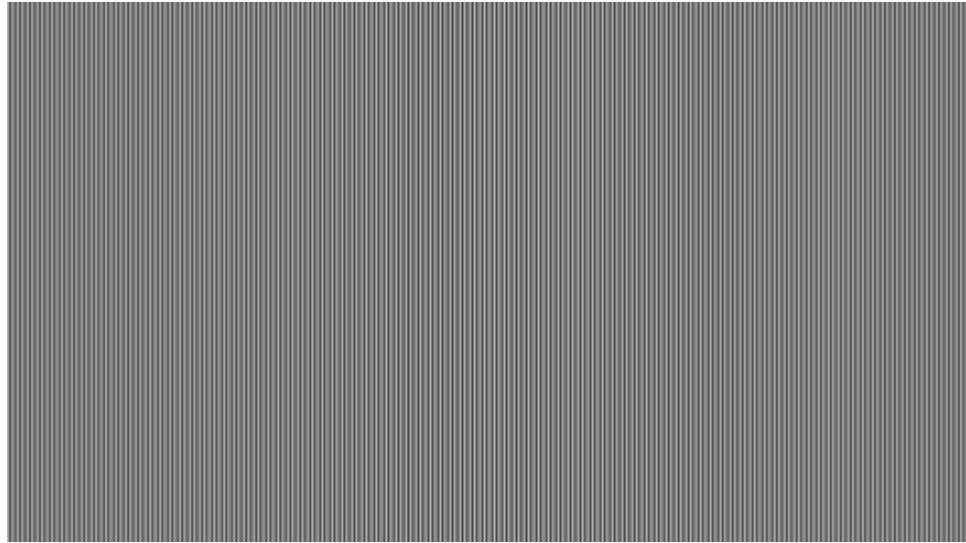
Multiburst – shows a series of vertical lines of varying thickness in shades of gray.

6.2.10.2 *MultiBurst_5_0Mhz*



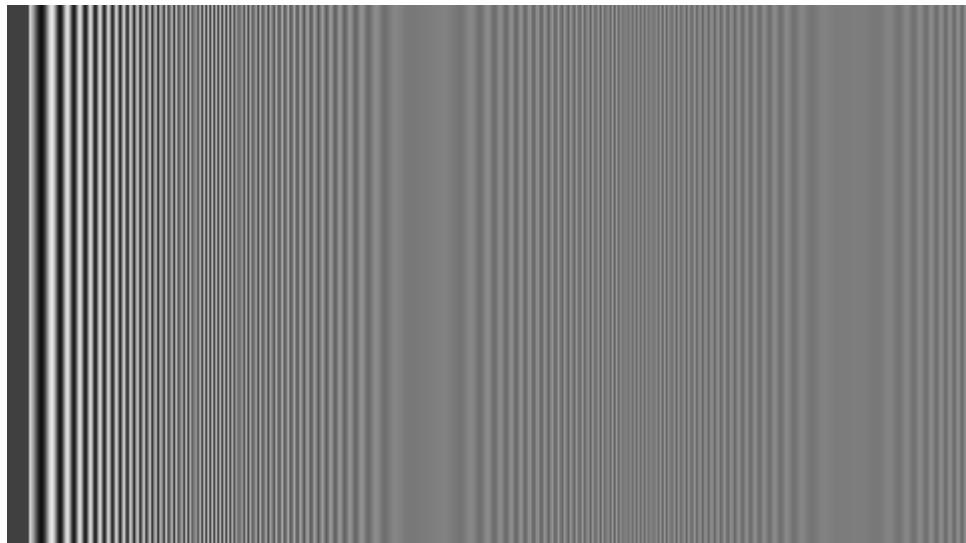
Multiburst 5.0 Mhz – shows a series of green, gray, and magenta vertical lines of varying thickness.

6.2.10.3 *SingleBurst*



Single Burst – a series of evenly spaced white and black vertical lines of varying thickness.

6.2.10.4 *LumaSweep*



Luma Sweep – a series of white, gray, and black vertical lines of varying thickness.

6.2.11 Luma Check Patterns

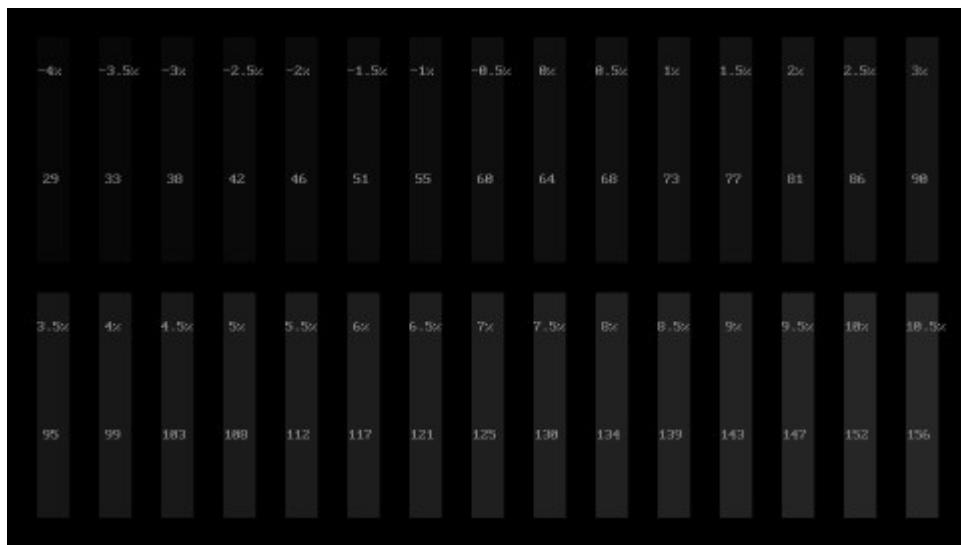
Luma patterns or fields used to check monitor response and luma levels.

6.2.11.1 *Pluge*



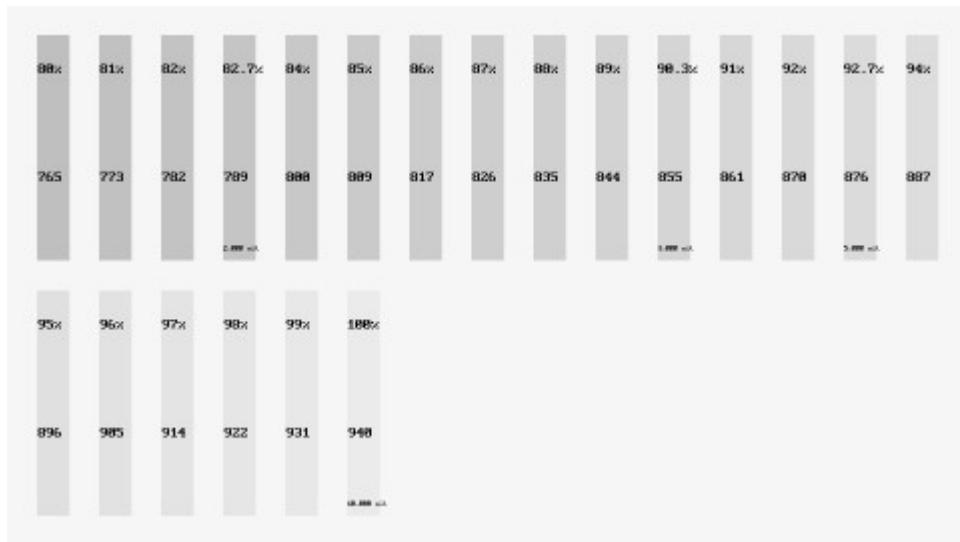
Pluge – Picture Lineup Generation Equipment uses pluge, a greyscale test pattern, to adjust the black level and contrast of the picture monitor.

6.2.11.2 *HDR Black Clipping*



HDR Black Clipping – a series of very dark black panels with their values displayed on them, used to check legal gamut in high dynamic range signals.

6.2.11.3 *HDR_WhiteClipping_1*



HDR White Clipping 1 – a series of rather light gray panels with their values displayed on them, used to check legal gamut in high dynamic range signals.

6.2.11.4 *IREField5*



IRE Field 5 – a screen of IRE 5% gray.

6.2.11.5 IREField10



IRE Field 10 – a screen of IRE 10% gray.

6.2.11.6 IREField15



IRE Field 15 – a screen of IRE 15% gray.

6.2.11.7 *IREField20*



IRE Field 20 – a screen of IRE 20% gray.

6.2.11.8 *IREField25*



IRE Field 25 – a screen of IRE 25% gray.

6.2.11.9 *IREField30*



IRE Field 30– a screen of IRE 30% gray.

6.2.11.10 *IREField35*



IRE Field 35 – a screen of IRE 35% gray.

[**6.2.11.11**](#) *IREField40*



IRE Field 40 – a screen of IRE 40% gray.

[**6.2.11.12**](#) *IREField45*



IRE Field 45 – a screen of IRE 45% gray.

6.2.11.13 IREField50



IRE Field 50 – a screen of IRE 50% gray.

6.2.11.14 IREField55



IRE Field 55 – a screen of IRE 55% gray.

6.2.11.15 IREField60



IRE Field 60 – a screen of IRE 60% gray.

6.2.11.16 IREField65



IRE Field 65 – a screen of IRE 65% gray.

6.2.11.17 IREField70



IRE Field 70 – a screen of IRE 70% gray.

6.2.11.18 IREField75



IRE Field 75 – a screen of IRE 75% gray.

6.2.11.19 IREField80



IRE Field 80 – a screen of IRE 80% gray.

6.2.11.20 IREField85



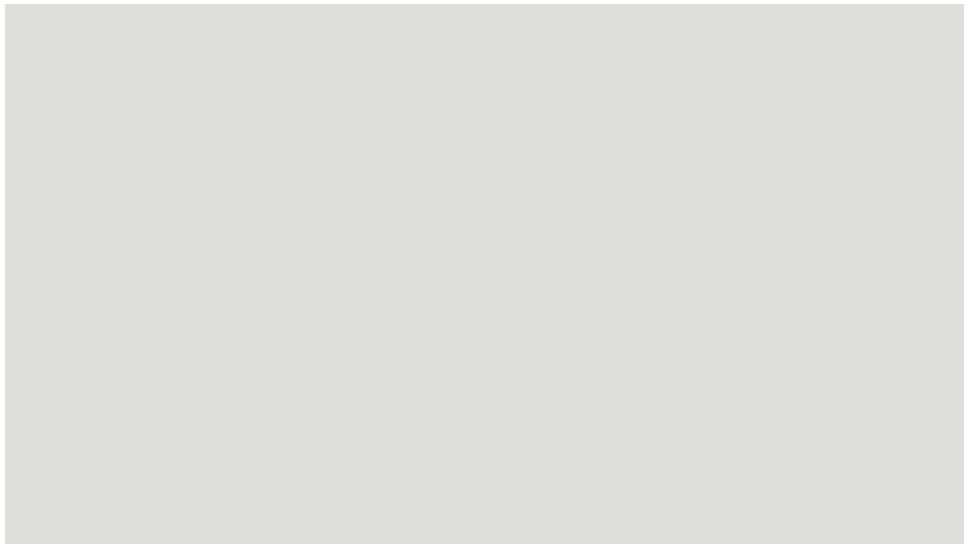
IRE Field 85 – a screen of IRE 85% gray.

6.2.11.21 IREField90



IRE Field 90 – a screen of IRE 90% gray.

6.2.11.22 IREField95

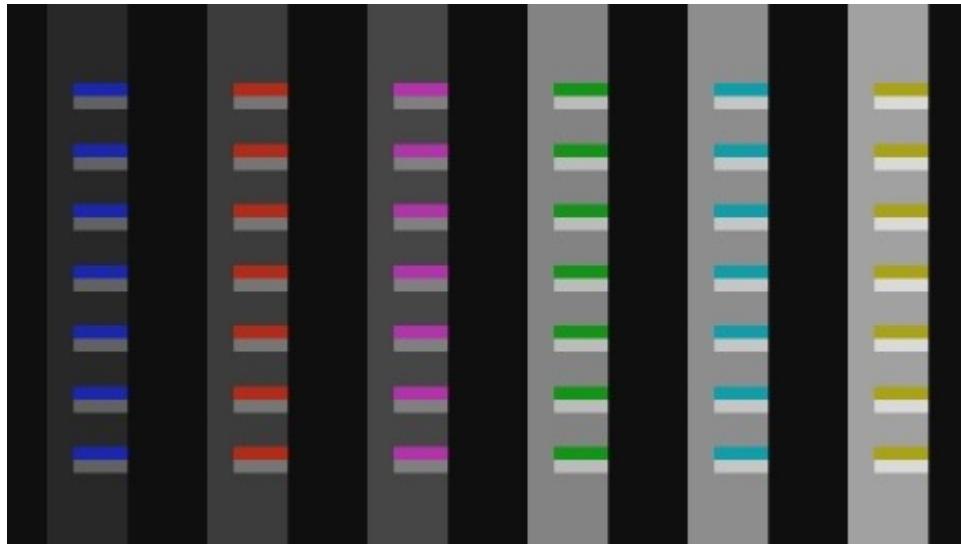


IRE Field 95 – a screen of IRE 95% gray.

6.2.12 Chroma Check Patterns

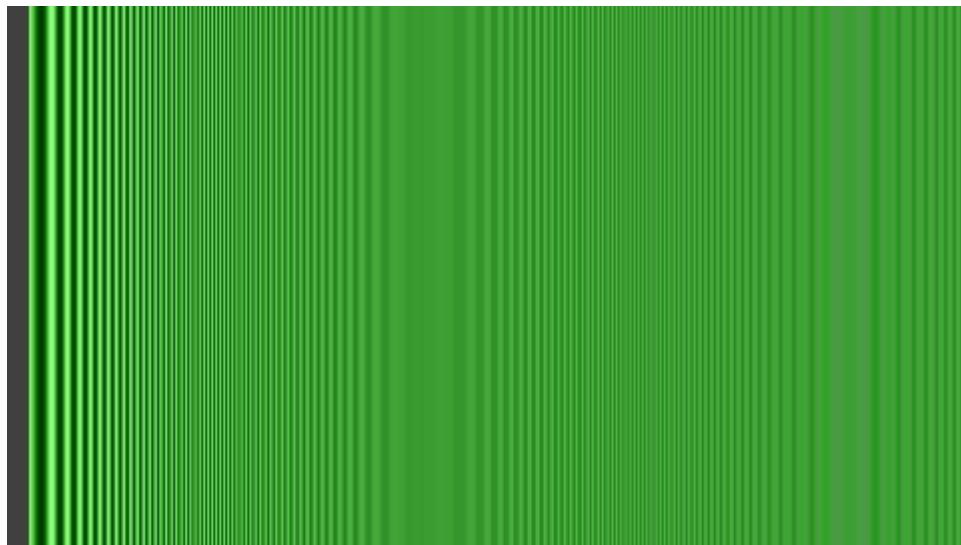
Chroma patterns or fields used to check monitor response and chroma levels.

6.2.12.1 *ycHD*



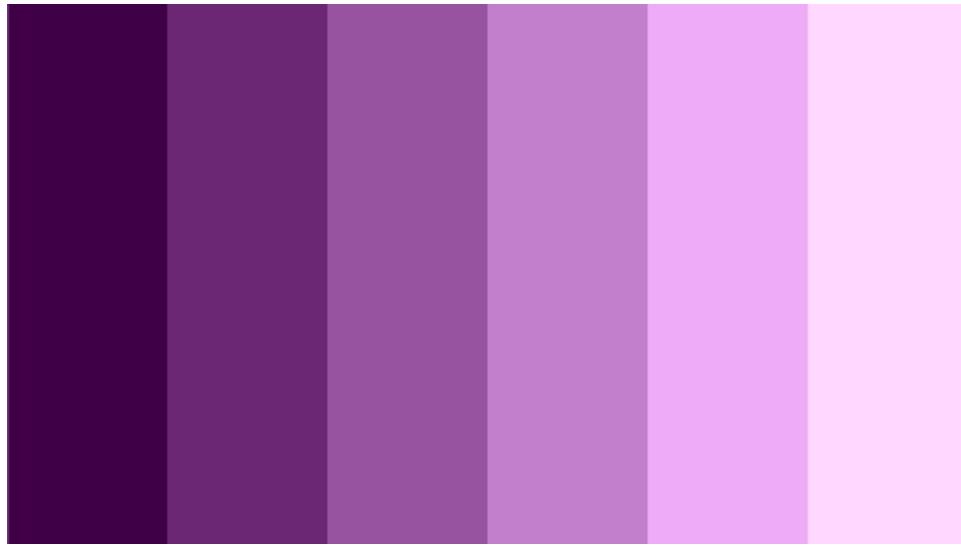
YC HD – a black screen with gray bars containing colored and gray to white rectangles for YC HD offset check.

6.2.12.2 *ChromaSweep*



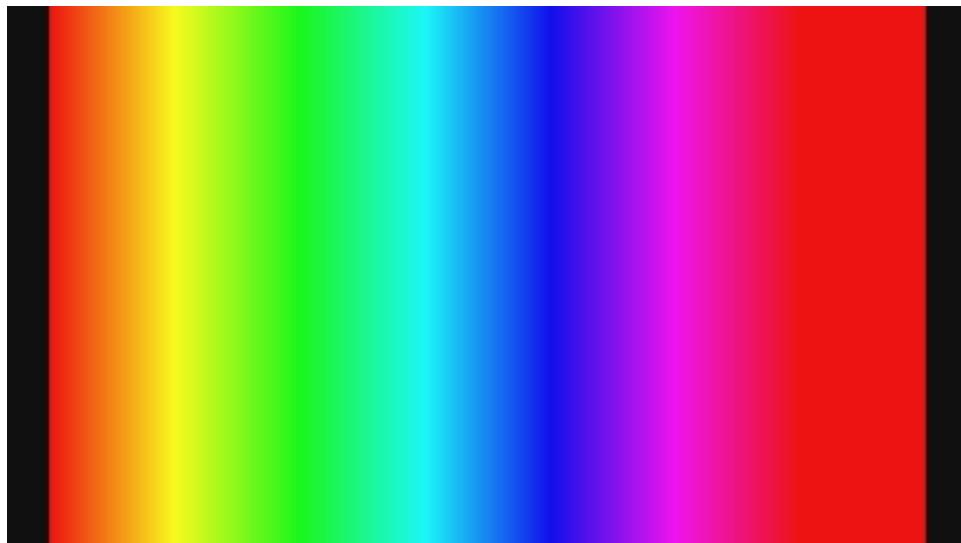
Chroma Sweep – a series of green and gray vertical lines of varying thickness.

6.2.12.3 *Chroma5Step*



Chroma 5 Step – a vertical magenta five step, from dark magenta on the left (floor) with 5 steps of increasingly lighter magenta to its right.

6.2.12.4 *All_Hue_709_100pc*



All Hue 709 100% – all the visible colors at full (100%) saturation arranged in a spectrum, with vertical bars of black on the left and on the right.

[**6.2.12.5 All_Hue_709_75pc**](#)



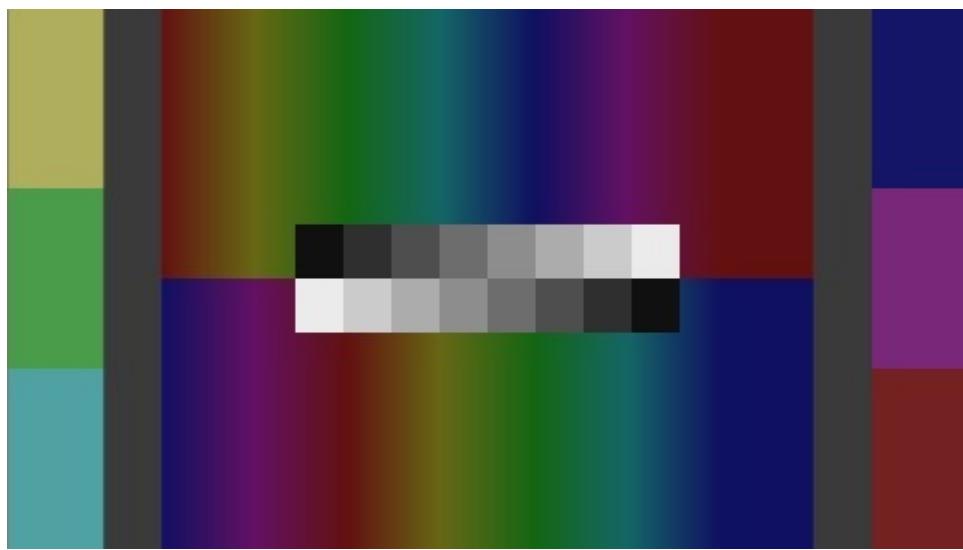
All Hue 709 75% – all the visible colors at three quarters (75%) saturation arranged in a spectrum, with vertical bars of black on the left and on the right.

[**6.2.12.6 All_Hue_709_37pc**](#)



All Hue 709 37% – all the visible colors at 37% saturation arranged in a spectrum, with vertical bars of black on the left and on the right.

[**6.2.12.7 AllHue37_Markers**](#)

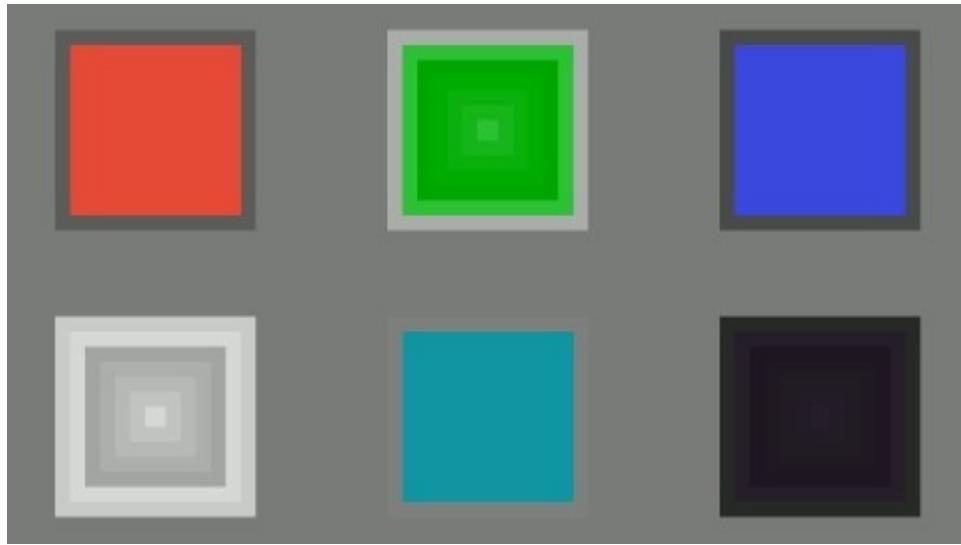


All Hue 37% Markers – features a panel with all the visible colors at 37% saturation arranged in a spectrum on top with inverse below, and adds a black and white 7 step with inverse, as well as two panels of gray, and the gamut primaries at 37% saturation.

6.2.13 Color Check Patterns

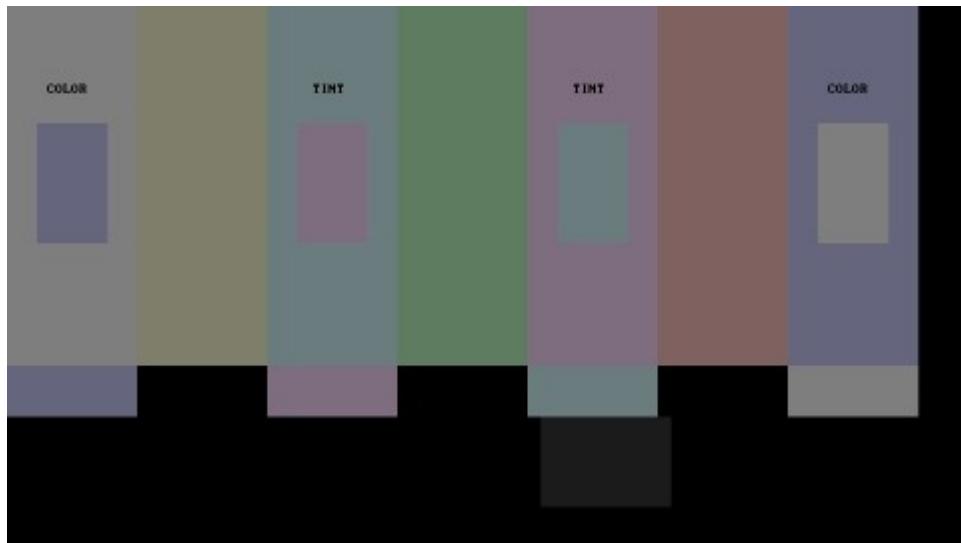
Color checks for high dynamic range workflows

6.2.13.1 *HDR Clipping*



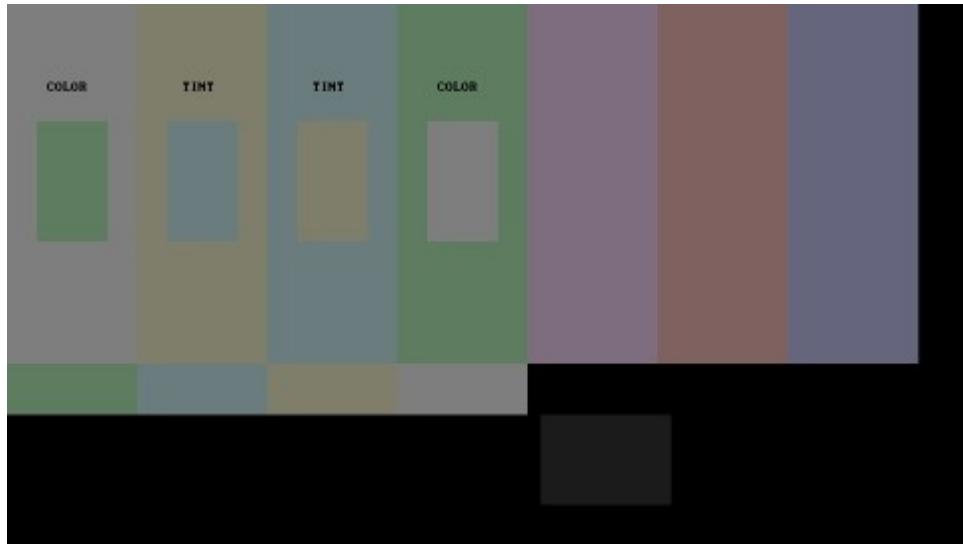
Clipping – a gray screen with 6 square sections, each designed to test whether a specific aspect of a high dynamic range signal is clipping.

6.2.13.2 *HDR_BlueFilter_1*



HDR Blue Filter 1 – color bars with inverts, overlaid with a blue filter, for testing color processing in a high dynamic range signal.

6.2.13.3 *HDR_GreenFilter_1*



HDR Green Filter 1 – color bars with inverts, overlaid with a green filter, for testing color processing in a high dynamic range signal.

6.2.13.4 *HDR_RedFilter_1*



HDR Red Filter 1 – color bars with inverts, overlaid with a red filter, for testing color processing in a high dynamic range signal.

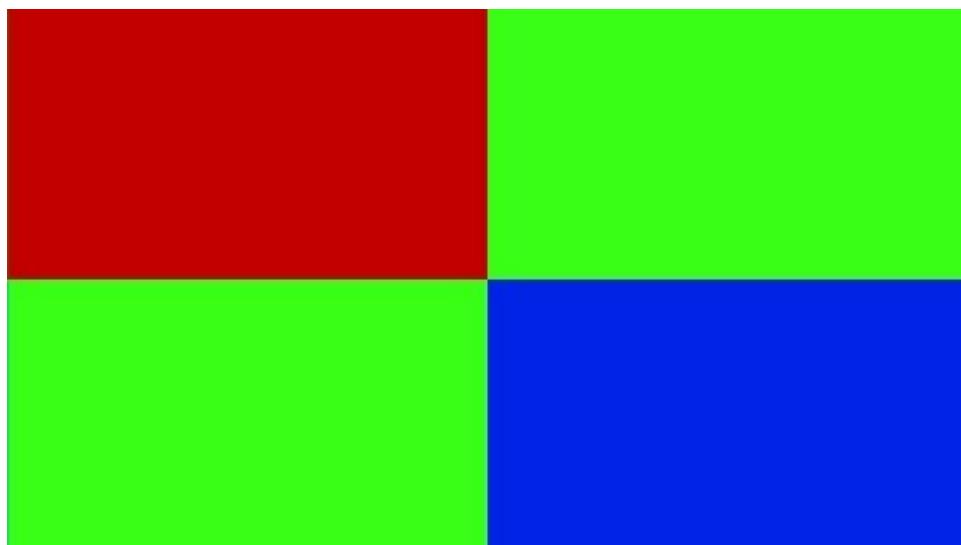
6.2.14 Signal Check Patterns

6.2.14.1 *CheckField*



Check Field – provides a panel of magenta on top and a panel of gray on the bottom.

6.2.14.2 *ColorQuadrant*



Color Quadrant – divides the screen into 4 quadrants, with red top left, green top right and lower left, and blue on the lower right.

6.2.14.3 *FlatField*



Flat Field – provides an even gray screen (same as 50% gray).

6.2.14.4 *HorizPixOne*



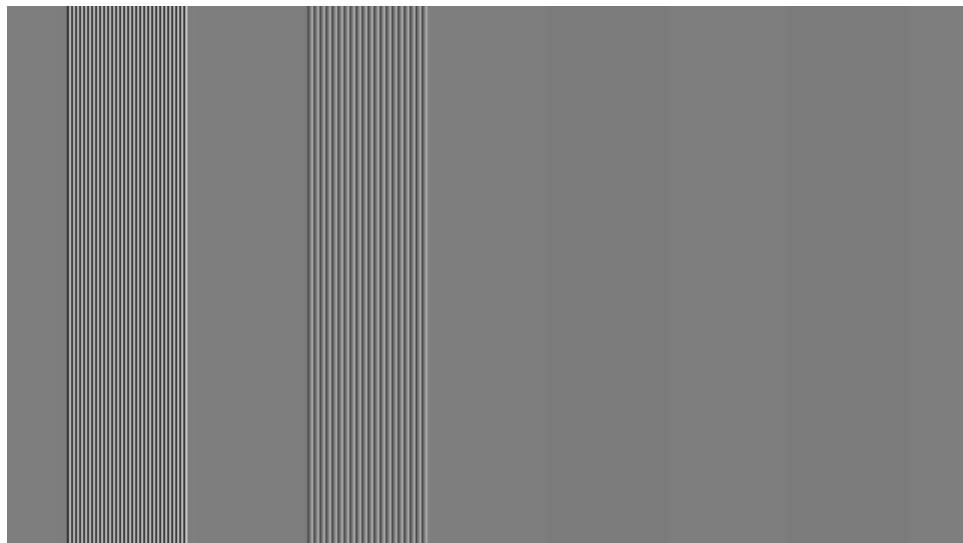
Horizontal Pixel One – provides a test of horizontal resolution with single pixel vertical lines across the screen.

6.2.14.5 *HorizPixTwo*



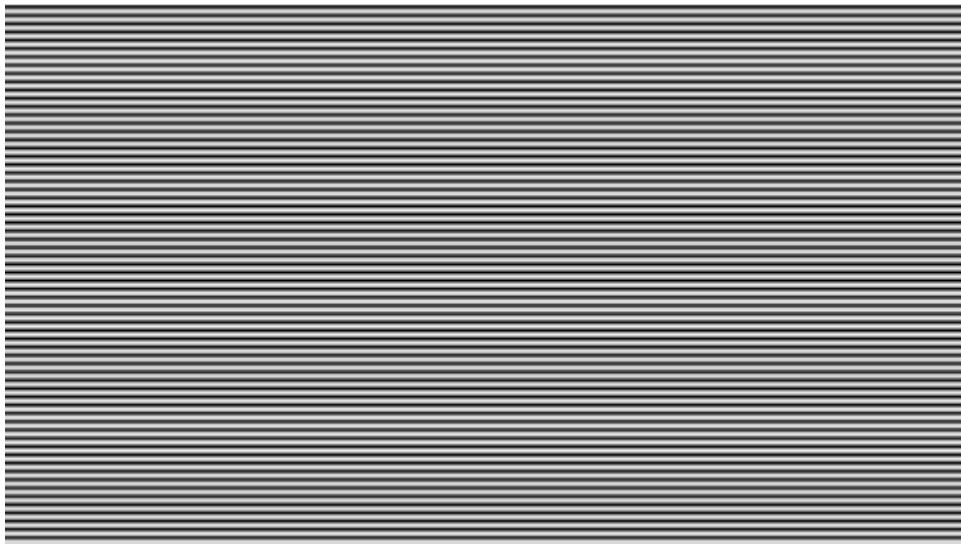
Horizontal Pixel Two – provides a test of horizontal resolution with two pixel wide vertical lines across the screen.

6.2.14.6 *HorizRes*



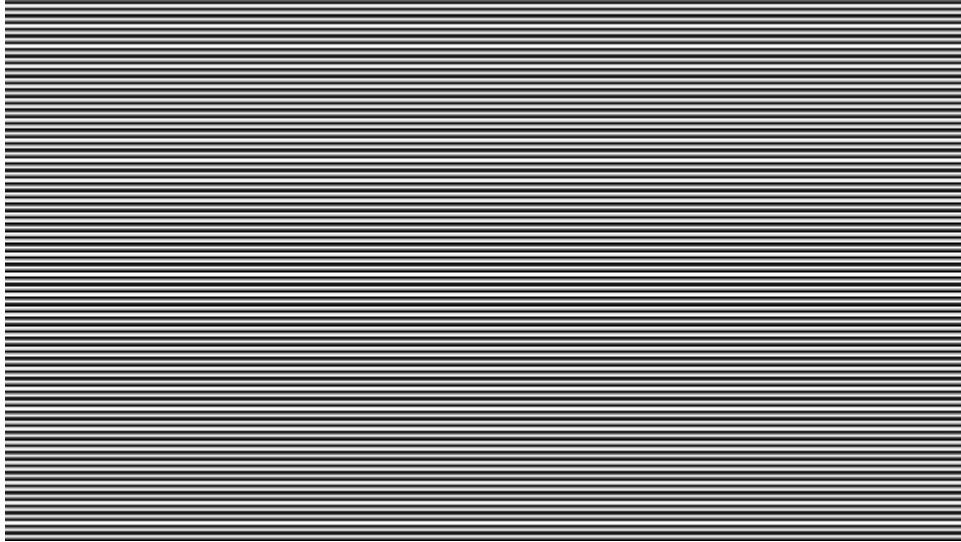
Horizontal Resolution – provides a test of horizontal resolution with a series of vertical lines across the screen.

6.2.14.7 *VertPixOne*



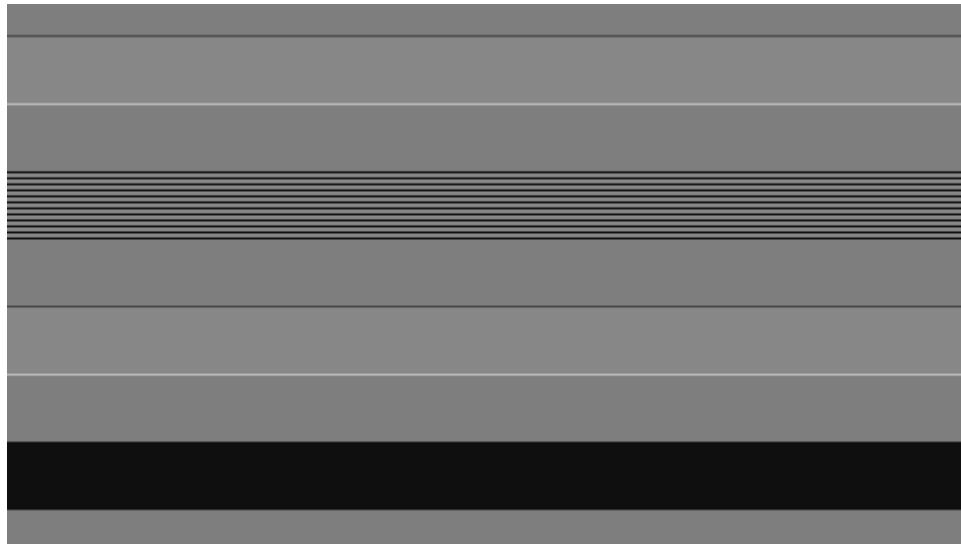
Vertical Pixels One – a series of horizontal one pixel lines for checking vertical resolution

6.2.14.8 *VertPixTwo*



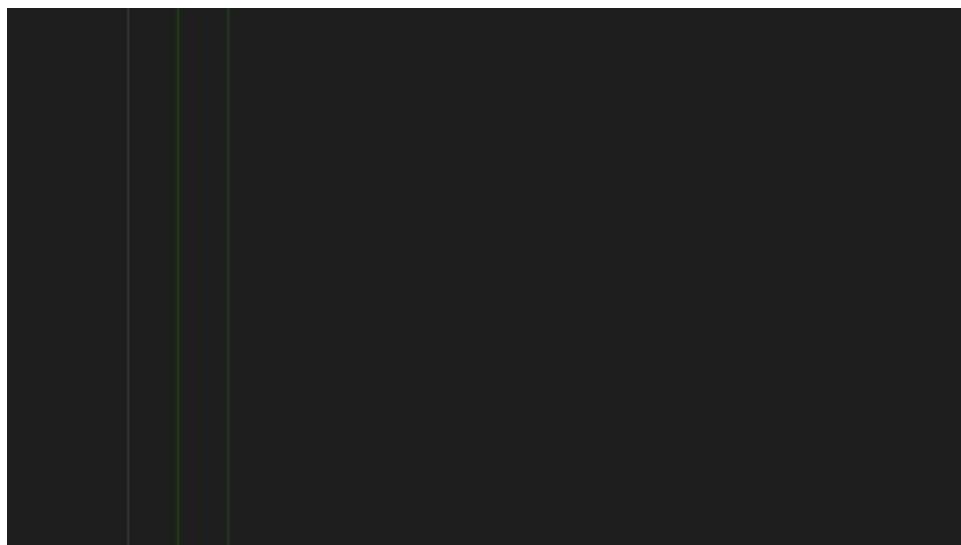
Vertical Pixels Two – a series of horizontal two pixel lines for checking vertical resolution

6.2.14.9 *VertRez*



Vertical Resolution – a series of horizontal lines with gray spaces for checking vertical resolution.

6.2.14.10 *2TPulseLines*



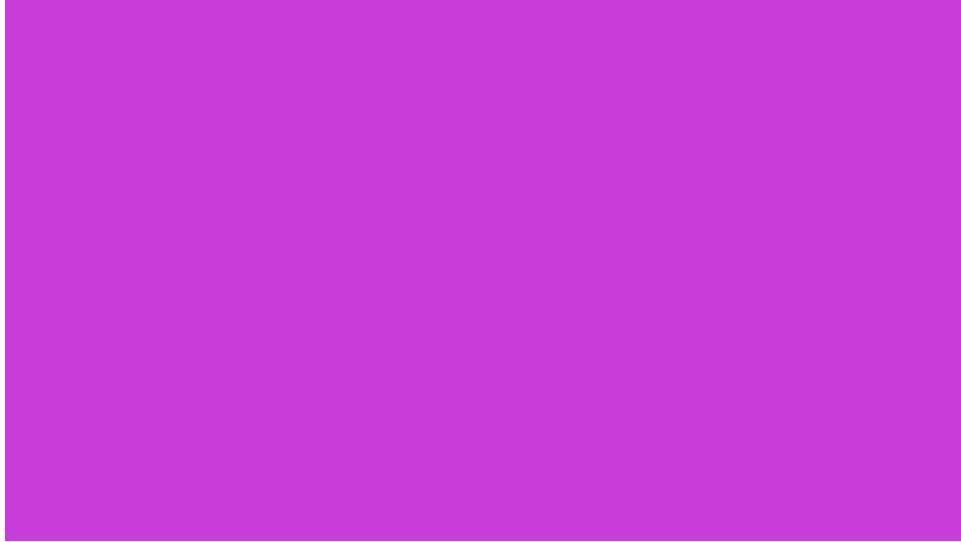
2T Pulse Lines – a mostly black screen with 3 narrow green vertical lines on the left side.

6.2.14.11 *Pathological*



Pathological – pathological SDI check field pattern.

6.2.14.12 *PathologicalEQ*



Pathological EQ – pathological SDI EQ check pattern.

6.2.14.13 PathologicalPLL



Pathological PLL – pathological SDI phase locked loop check pattern designed to stress the cable equalizers and clock timing.

6.2.14.14 NeedlePulseGray



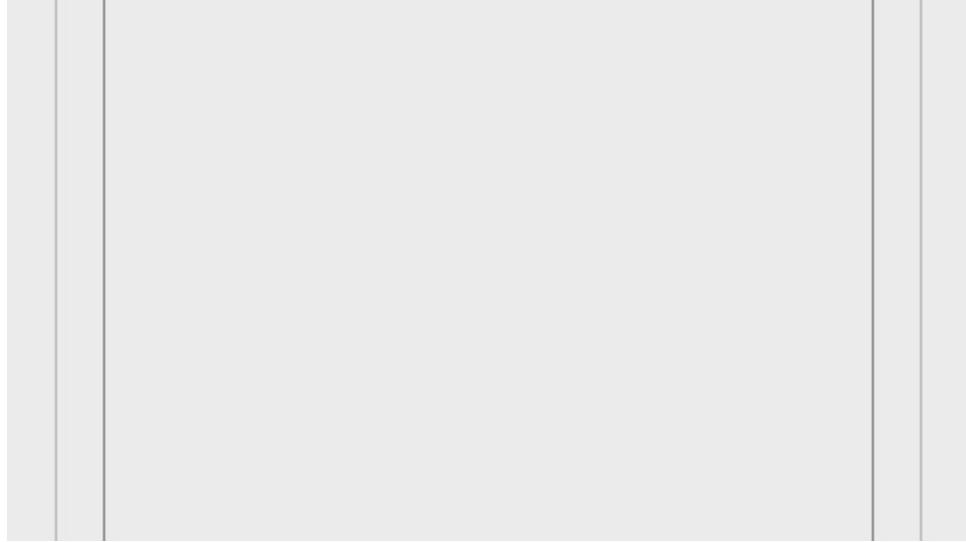
Needle Pulse Gray – a gray screen with vertical needle pulses of white.

6.2.14.15 *NeedlePulseBlack*



Needle Pulse Black– a black screen with vertical needle pulses of white.

6.2.14.16 *NeedlePulseWhite*



Needle Pulse White – a white screen with vertical needle pulses of black.

6.2.14.17 *NeedlePulse*



Needle Pulse – vertical needle pulses of white over a screen featuring four rectangles, two white and two black.

6.2.14.18 *NeedlePulseF*

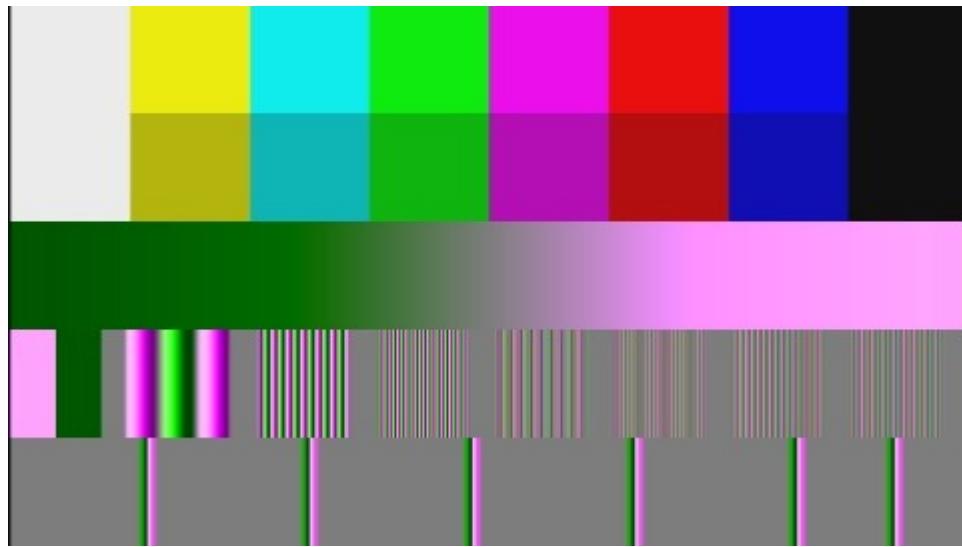


Needle Pulse F – vertical needle pulses of white and a series of vertical bands of gray over a screen featuring four rectangles, two white and two black.

6.2.15 Composite Patterns

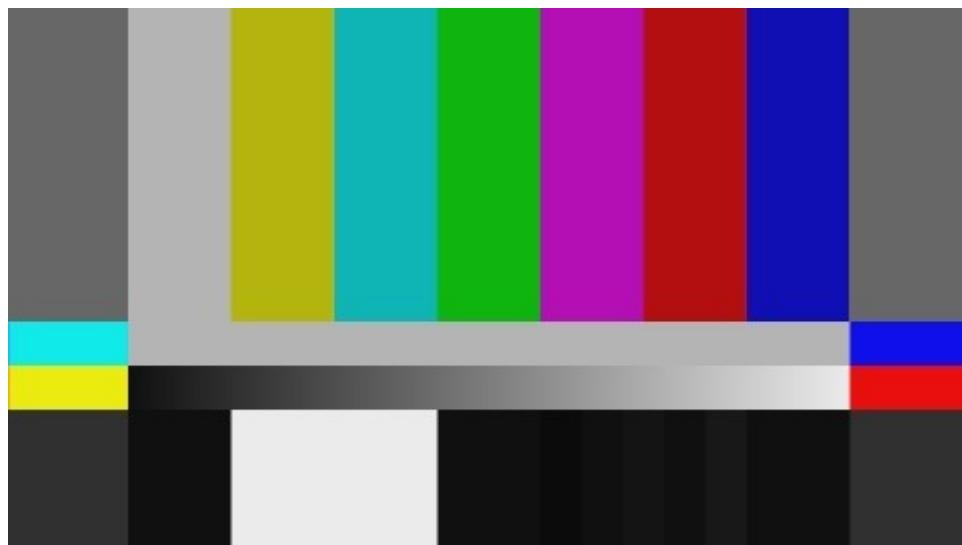
Patterns with regions or areas designed to test a range of functions.

6.2.15.1 *MultiPattern*



MultiPattern – a multi pattern with: a band of color bars at 100% across the top, then a band of color bars at 75% next, then a green to magenta ramp, the two different multibursts.

6.2.15.2 *SMPTE-ARIB-B28-HDBars75pc*



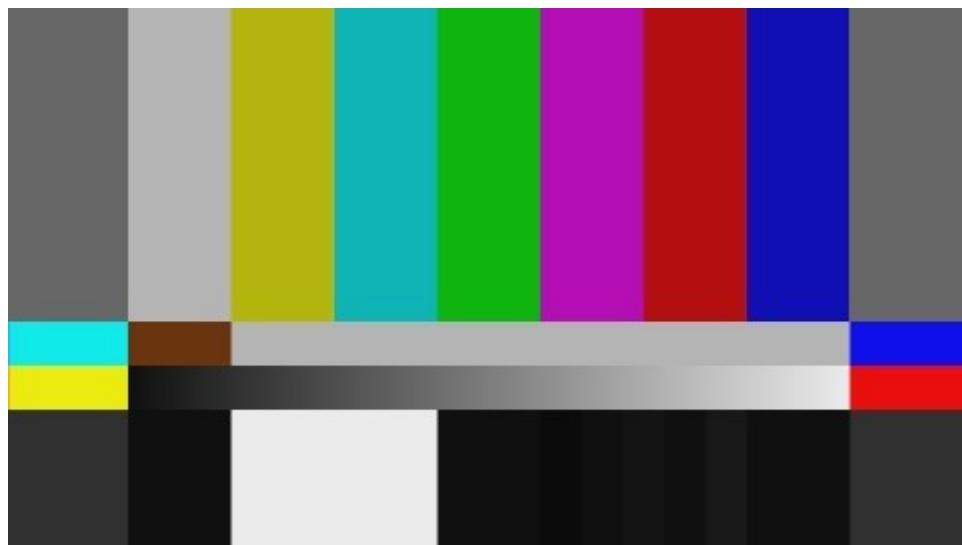
SMPTE ARIB B28 HD Bars 75% – a multi pattern corresponding to SMPTE ARIB B28 specification, at 75% saturation.

6.2.15.3 SMPTE-ARIB-B28-HDBars100pc



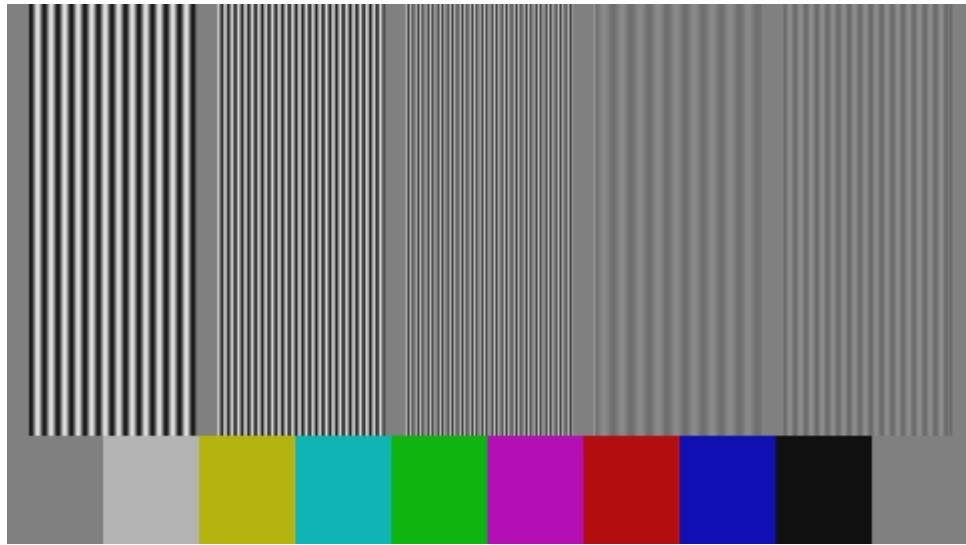
SMPTE ARIB B28 HD Bars 100% – a multi pattern corresponding to SMPTE ARIB B28 specification, at 100% saturation.

6.2.15.4 SMPTE-ARIB-B28-HDBarsPIpc



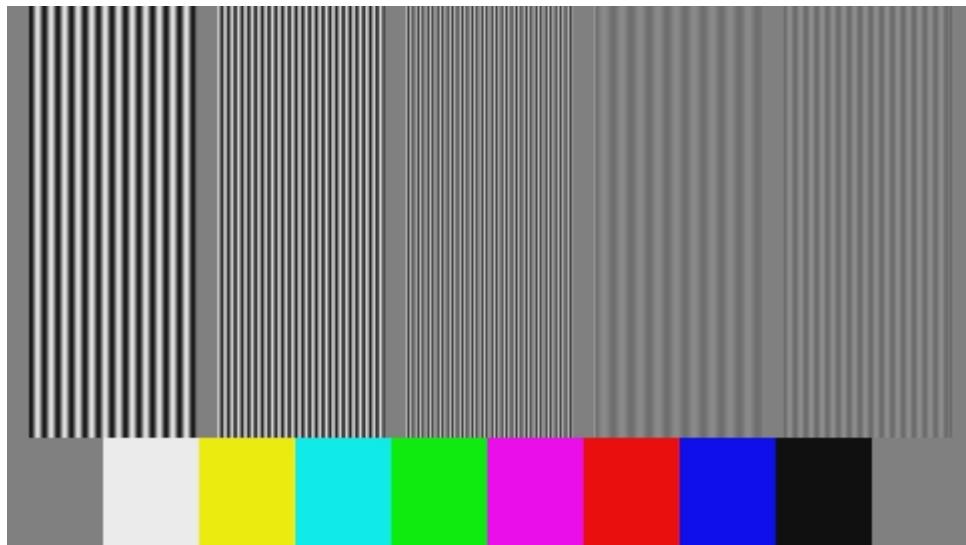
SMPTE ARIB B28 HD Bars PI% – a multi pattern corresponding to SMPTE ARIB B28 specification, with a brown chip to analyze PI saturation.

6.2.15.5 *BarsMultiburst_75pc*



Bars Multiburst 75% – a multi pattern with a multiburst pattern on the top plus color bars at 75% saturation along the bottom.

6.2.15.6 *BarsMultiburst_100pc*



Bars Multiburst 100% – a multi pattern with a multiburst pattern on the top plus color bars at 100% saturation along the bottom.

6.2.15.7 RP-219



RP-219 – a multi pattern as specified in SMPTE RP-219, featuring a 75% panel with no sub.

6.2.15.8 RP-219_100pc



RP-219 100% – a multi pattern as specified in SMPTE RP-219, featuring a 100% panel with no sub.

6.2.15.9 RP-219Sub



RP-219 Sub – a multi pattern as specified in SMPTE RP-219, featuring a 75% panel with sub, or pluge panels.

6.2.15.10 RP-219Sub_100pc

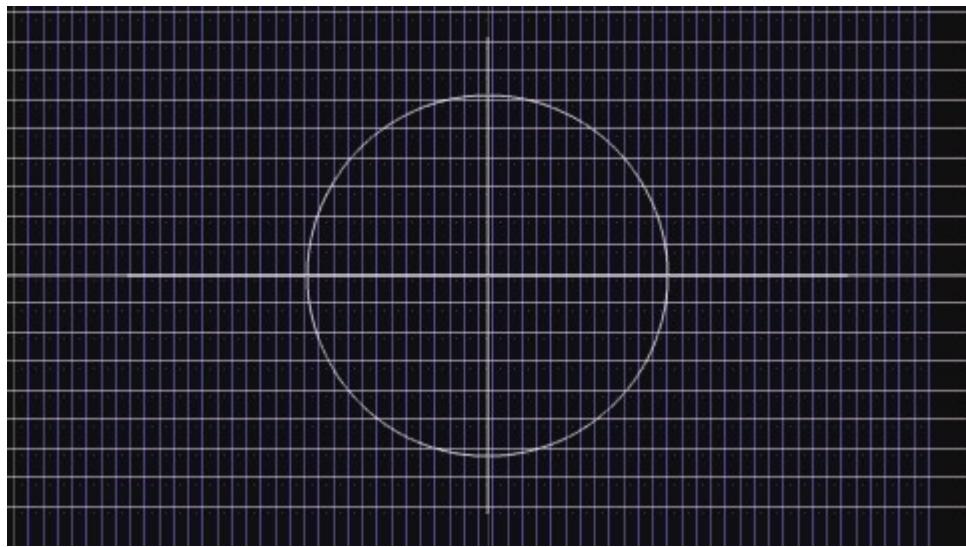


RP-219 100% – a multi pattern as specified in SMPTE RP-219, featuring a 100% panel with sub, or pluge panels.

6.2.16 Aspect Ratio Patterns

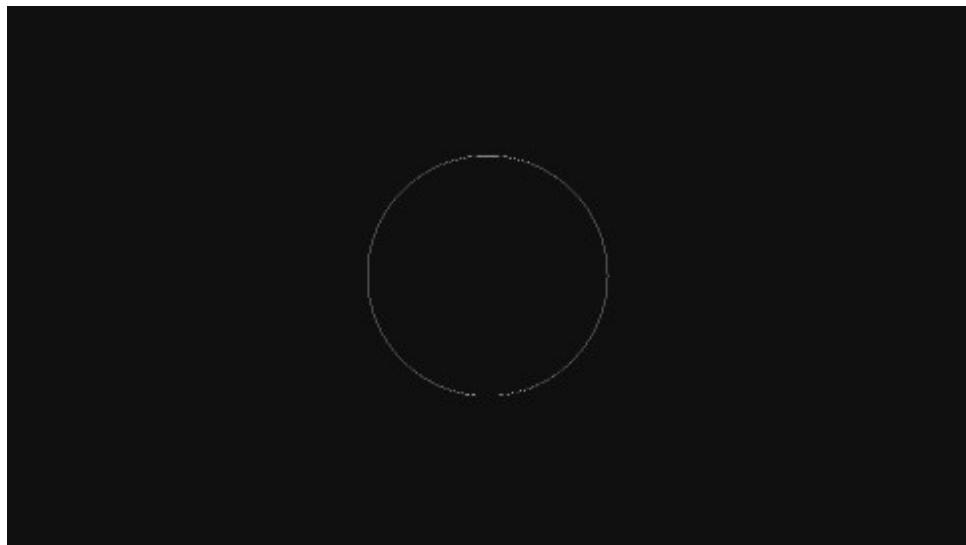
Patterns with circles used to confirm the aspect ratio being used is correct, or if a bad conversion has altered the circles' shape (stretched or squeezed).

6.2.16.1 *ConvergenceCircle*



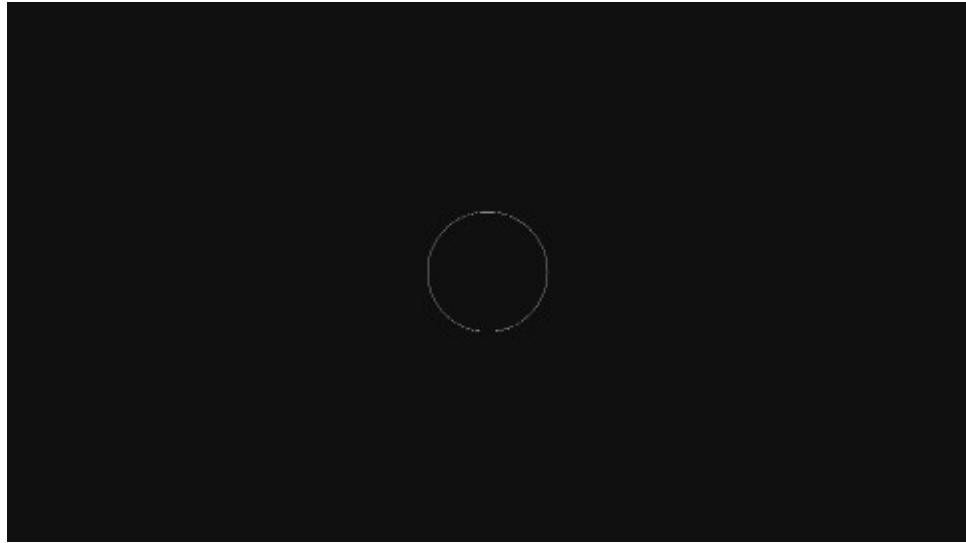
Convergence Circle – a black screen overlaid with a white grid, featuring a circle and a cross in the center, used to test aspect ratio and resolution.

6.2.16.2 *FillCircle240d*



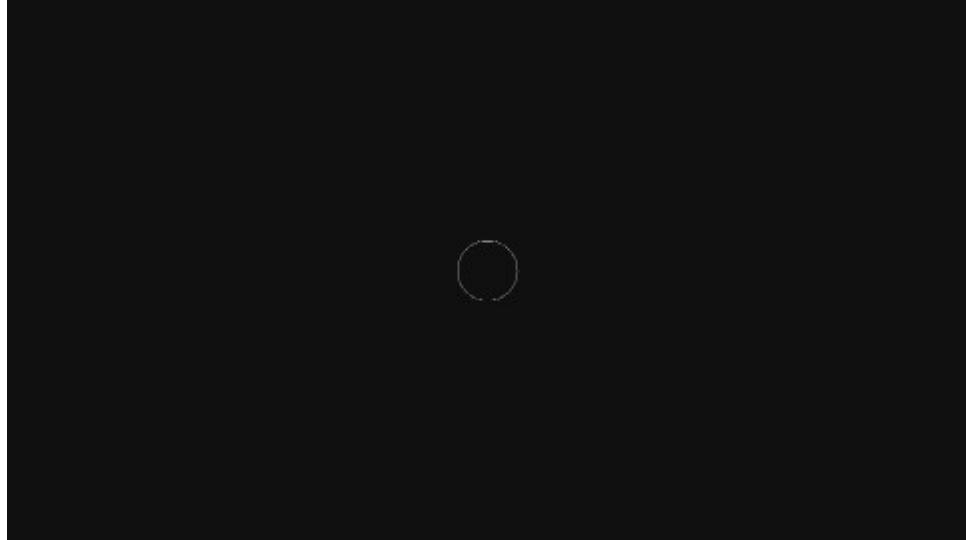
Fill Circle – a black screen with a 240 pixel white circle in the middle, filled with black.

6.2.16.3 *FillCircle120d*



Fill Circle 2 – a black screen with a 120 pixel white circle in the middle, filled with black.

6.2.16.4 *FillCircle60d*



Fill Circle 3 – a black screen with a 60 pixel white circle in the middle, filled with black.

6.2.17 Window Patterns

The window patterns feature a rectangle of a color in the center, on a screen of black, for various chroma and resolution tests.

6.2.17.1 *WhiteWindow601c*



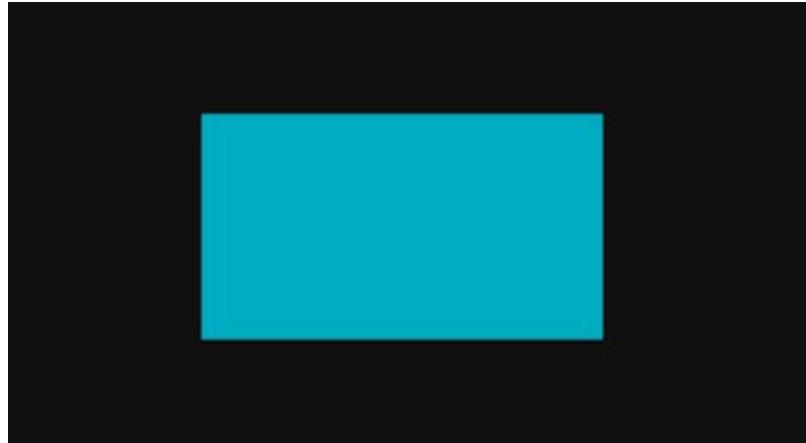
White Window 601 C – a black screen with a CCIR-601 white rectangle in the center, at 75% of saturation.

6.2.17.2 *YellowWindow601c*



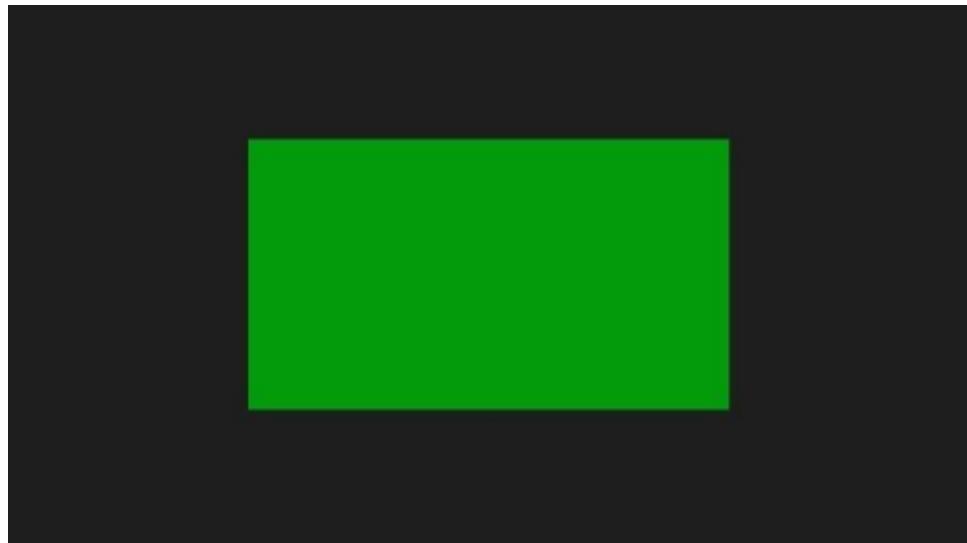
Yellow Window 601 C – a black screen with a CCIR-601 yellow rectangle in the center, at 75% of saturation.

6.2.17.3 CyanWindow601c



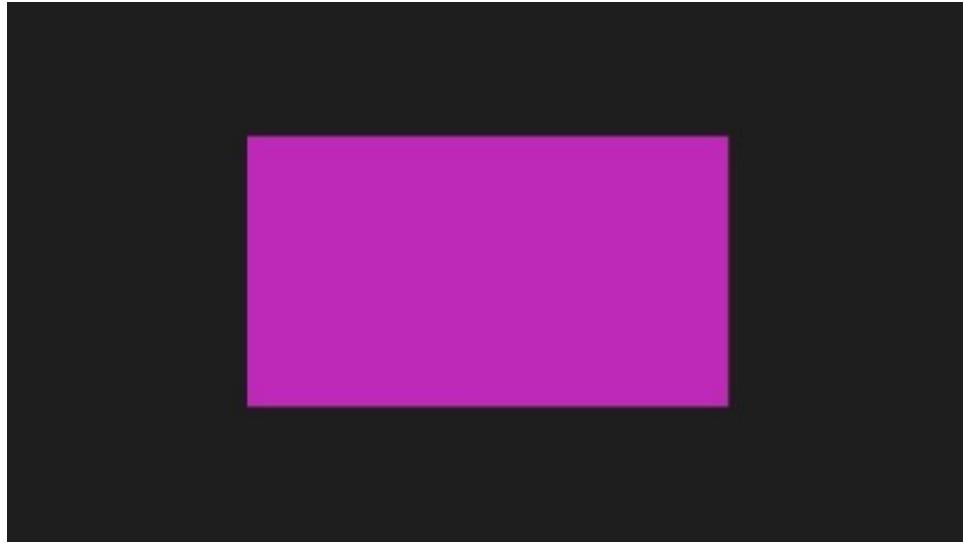
Cyan Window 601 C – a black screen with a CCIR-601 cyan rectangle in the center, at 75% of saturation.

6.2.17.4 GreenWindow601c



Green Window 601 C – a black screen with a CCIR-601 green rectangle in the center, at 75% of saturation.

6.2.17.5 *MagentaWindow601c*



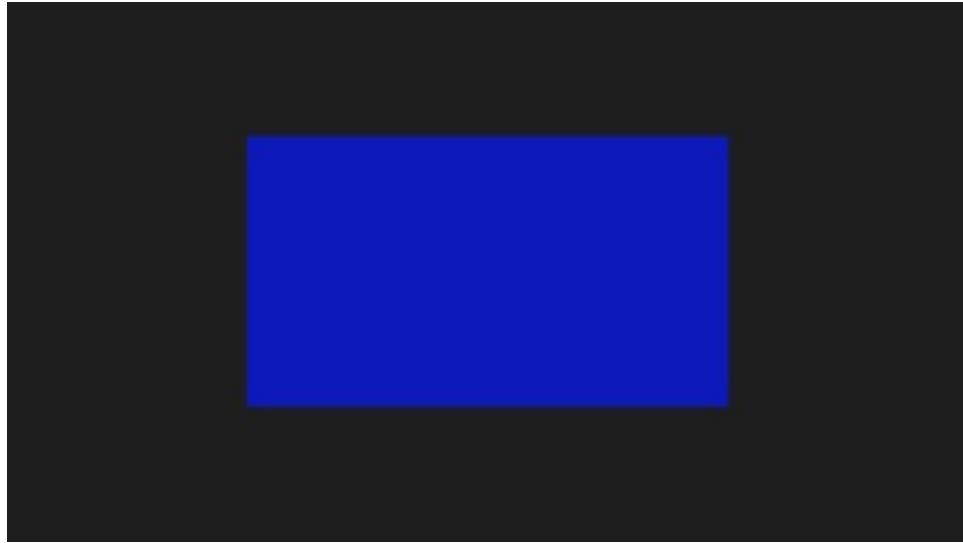
Magenta Window 601 C – a black screen with a CCIR-601 magenta rectangle in the center, at 75% of saturation.

6.2.17.6 *RedWindow601c*



Red Window 601 C – a black screen with a CCIR-601 red rectangle in the center, at 75% of saturation.

6.2.17.7 *BlueWindow601c*



Blue Window 601 C – a black screen with a CCIR-601 blue rectangle in the center, at 75% of saturation.

6.2.17.8 *WhiteWindow709p*



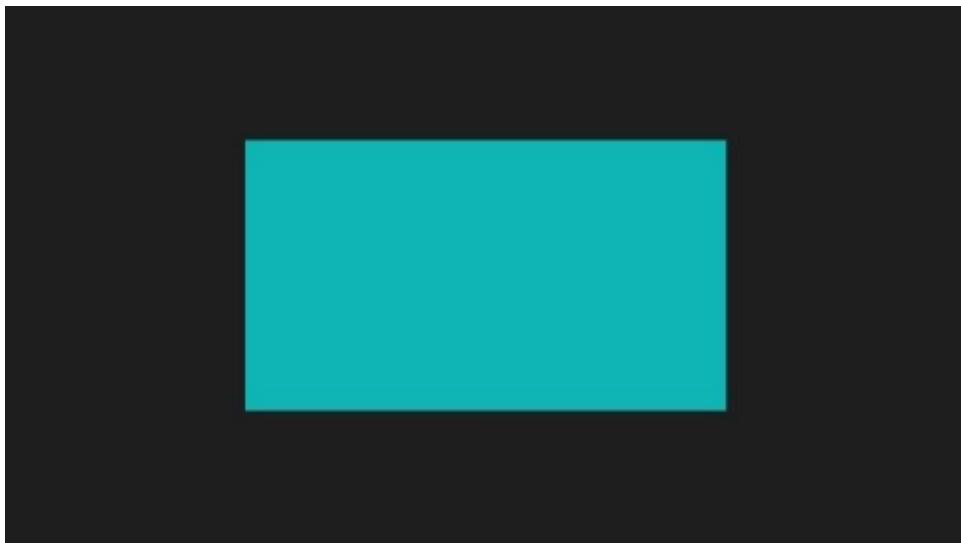
White Window 709 – a black screen with a 709 white rectangle in the center, at 75% of saturation.

6.2.17.9 *YellowWindow709p*



Yellow Window 709 – a black screen with a 709 yellow rectangle in the center, at 75% of saturation.

6.2.17.10 *CyanWindow709p*



Cyan Window 709 – a black screen with a 709 cyan rectangle in the center, at 75% of saturation.

6.2.17.11 *GreenWindow709p*



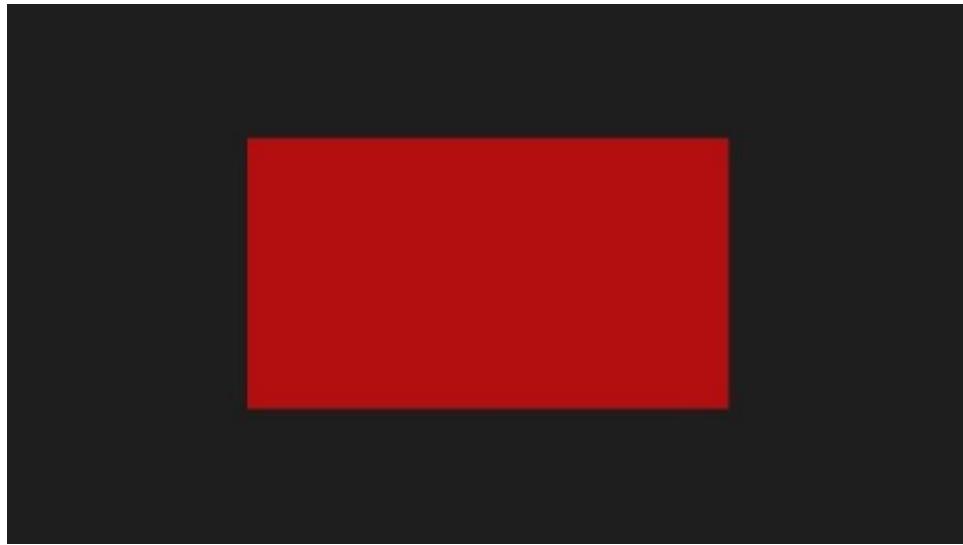
Green Window 709 – a black screen with a 709 green rectangle in the center, at 75% of saturation.

6.2.17.12 *MagentaWindow709p*



Magenta Window 709 – a black screen with a 709 magenta rectangle in the center, at 75% of saturation.

6.2.17.13 *RedWindow709p*



Red Window 709 – a black screen with a 709 red rectangle in the center, at 75% of saturation.

6.2.17.14 *BlueWindow709p*



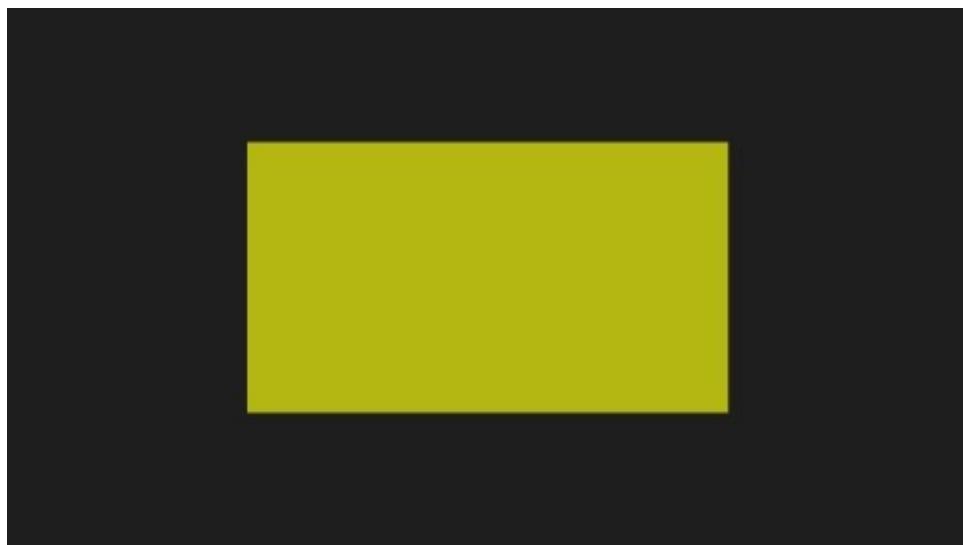
Blue Window 709 – a black screen with a 709 blue rectangle in the center, at 75% of saturation.

6.2.17.15 WhiteWindow2020p



White Window 2020 – a black screen with a BT-2020 white rectangle in the center, at 75% of saturation.

6.2.17.16 YellowWindow2020p



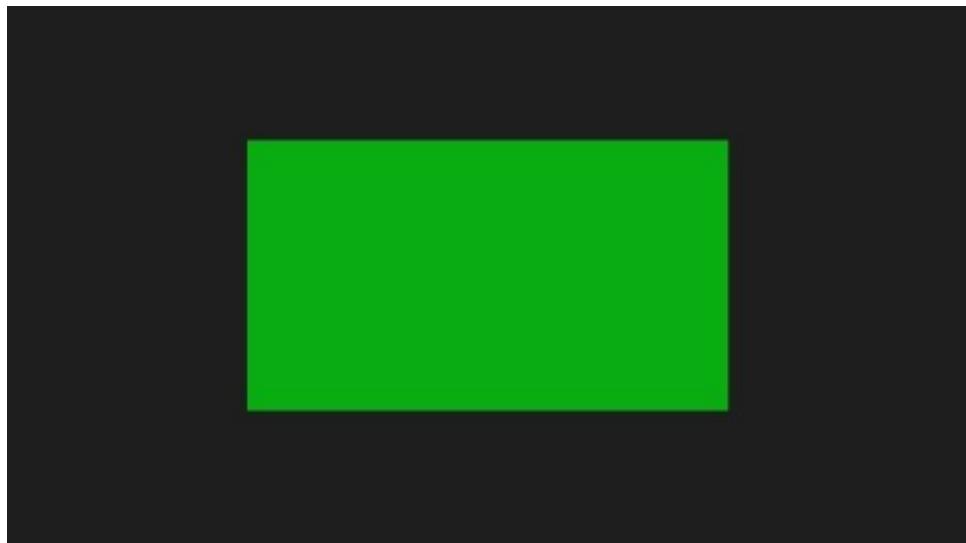
Yellow Window 2020 – a black screen with a BT-2020 yellow rectangle in the center, at 75% of saturation.

6.2.17.17 CyanWindow2020p



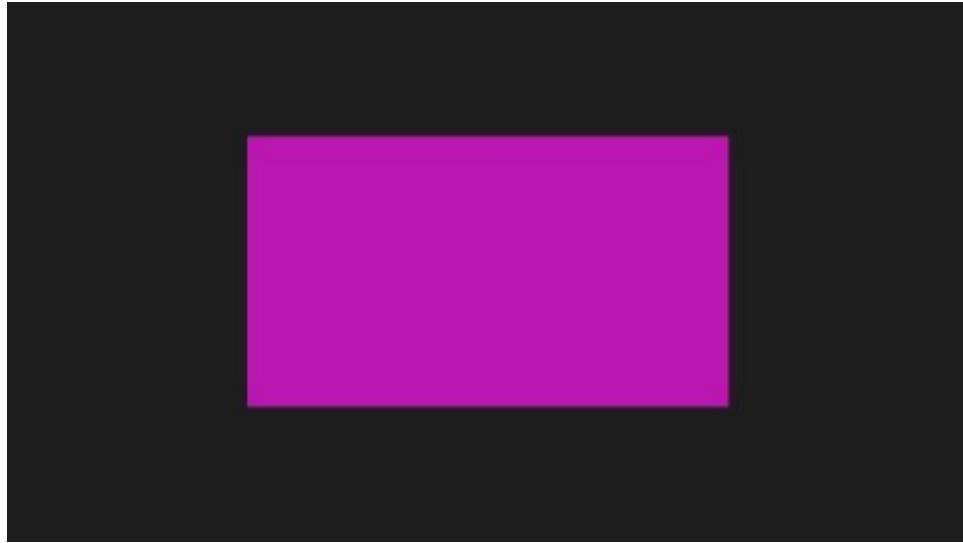
Cyan Window 2020 – a black screen with a BT-2020 cyan rectangle in the center, at 75% of saturation.

6.2.17.18 GreenWindow2020p



Green Window 2020 – a black screen with a BT-2020 green rectangle in the center, at 75% of saturation.

6.2.17.19 MagentaWindow2020p



Magenta Window 2020 – a black screen with a BT-2020 magenta rectangle in the center, at 75% of saturation.

6.2.17.20 RedWindow2020p



Red Window 2020 – a black screen with a BT-2020 red rectangle in the center, at 75% of saturation.

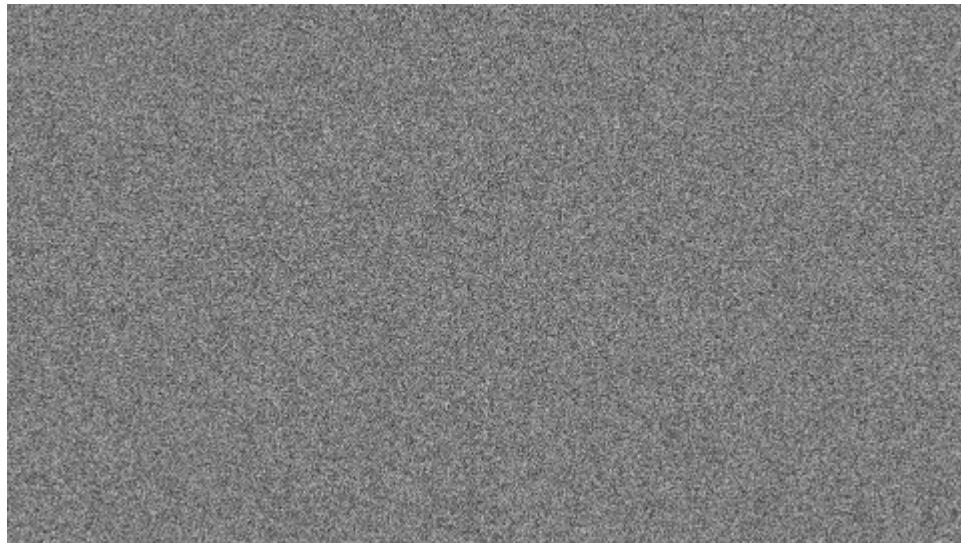
6.2.17.21 *BlueWindow2020*



Blue Window 2020 – a black screen with a BT-2020 blue rectangle in the center, at 75% of saturation.

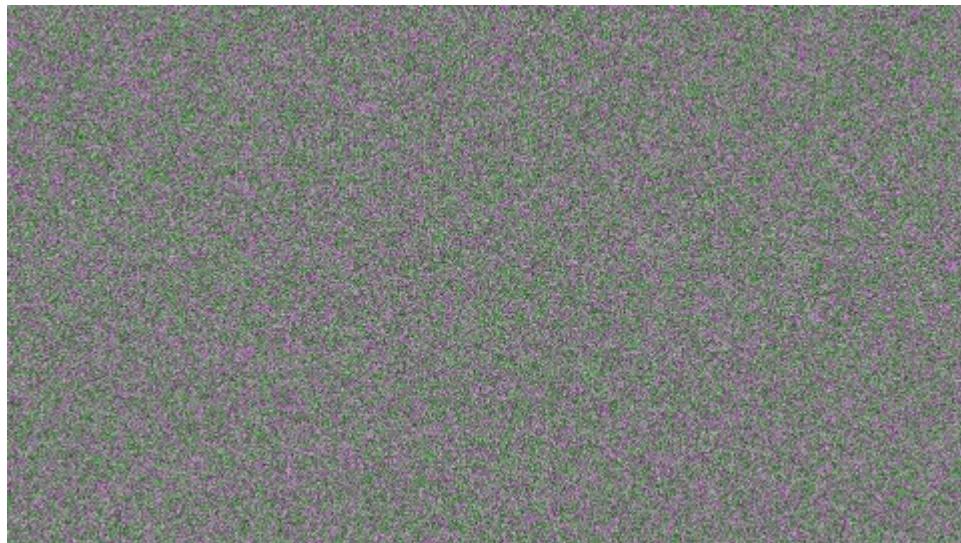
6.2.18 Digital Patterns

6.2.18.1 *RandomLuma*



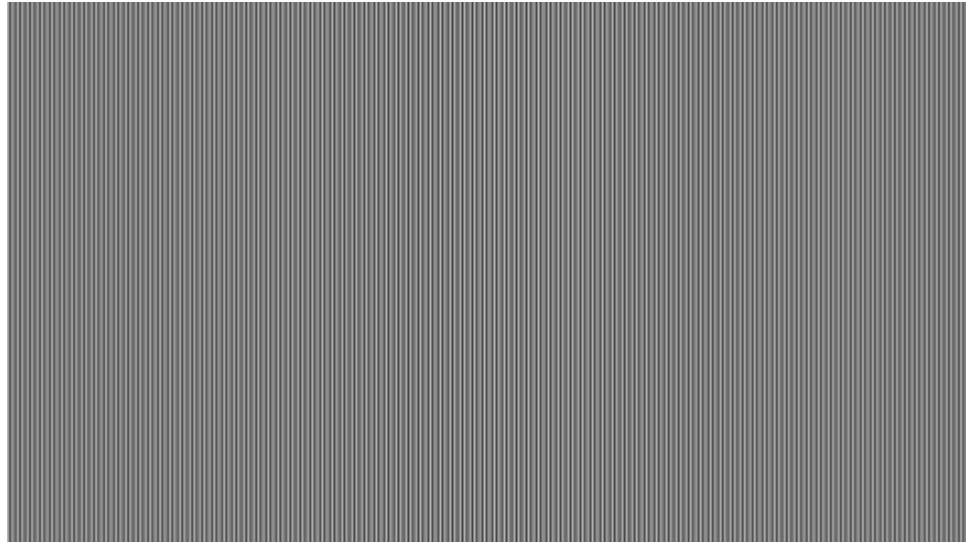
Random Luma – a screen filled with random black, white, and gray pixels.

6.2.18.2 *RandomChroma*



Random Luma – a screen filled with random colored pixels.

6.2.18.3 *SinFreq*



Sin Freq – a screen of sine frequency black and white vertical lines.

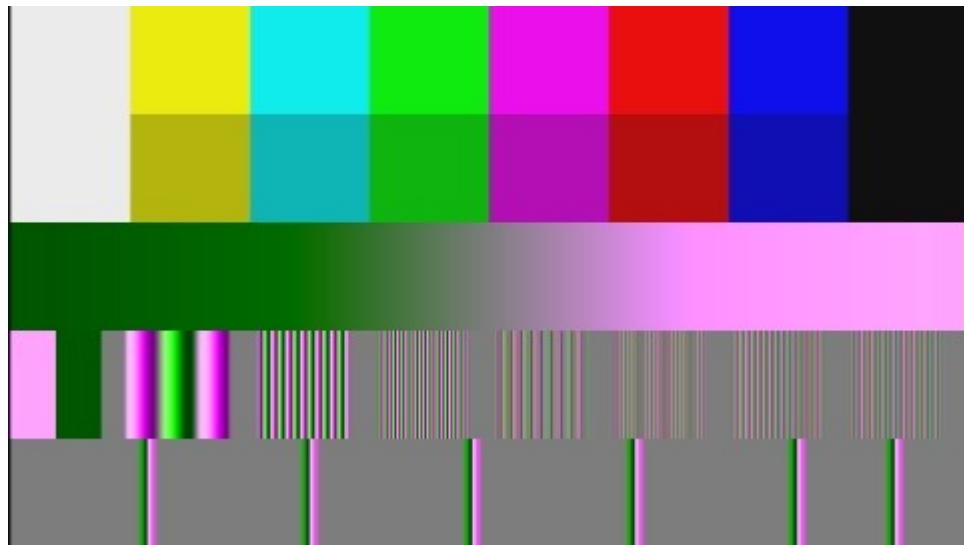
6.2.18.4 *0-value-0x000v*



0 Value 0x000V – a digital single value pattern based on 0/0x0.

6.2.19 Multi Pattern Patterns

6.2.19.1 *MultiPattern*



Multipattern – a multiple pattern feature, a top row of 100% color bars, a second row of 75% color bars, a green to magenta ramp, and two multiburst patterns along the bottom.

Drastic Technologies Ltd. does not assume responsibility for loss or damage resulting from errors, omissions, or inaccuracies herein. This document is subject to change, and revisions may be made and issued to include such changes.

No part of this document may be reproduced, saved to a storage and retrieval system, or transmitted in any form or by any means, electronic, mechanical, recorded, or otherwise without the prior written consent of Drastic Technologies Ltd.

This manual has been compiled to assist the user in their experience using **DrasticScope** software. It is believed to be correct at the time of writing, and every effort has been made to provide accurate and useful information. Any errors that may have crept in are unintentional and will hopefully be purged in a future revision of this document. We welcome your feedback.

Drastic Technologies Ltd
523 The Queensway, Suite 201
Toronto, ON, M8Y 1J7
Canada
(416) 255 5636
(416) 255 8780

Copyright 2025 © Drastic Technologies Ltd. All rights reserved. Software products licensed are owned by Drastic Technologies Ltd. and are protected by international treaty provisions and national copyright laws. All Rights Reserved.