

COLOR CORRECTION HANDBOOK

PROFESSIONAL TECHNIQUES
FOR VIDEO AND CINEMA,
2ND EDITION

ALEXIS VAN HURKMAN

TABLE OF CONTENTS

FOREWORD	xi
INTRODUCTION	xv
1 COLOR CORRECTION WORKFLOWS	1
Are You Grading for Cinema, Broadcast, or the Web?	1
Where Colorists Fit In	2
Before the Shoot: Choosing a Recording Format	4
Digital Dailies: The Start of Postproduction	12
Round-Trip Workflows	18
2 SETTING UP A COLOR CORRECTION ENVIRONMENT	25
Understanding Display-Referred Color Management	25
Choosing a Display	29
Display Calibration	50
Setting Up a Color Correction Suite	60
Configuring a Grading Theater	68
Other Hardware for Color Correction	76
3 PRIMARY CONTRAST ADJUSTMENTS	83
How We See Color	83
Luminance and Luma	84
Evaluating Contrast Using Video Scopes	92
Controls to Adjust Contrast	97
Expanding Contrast	110
Compressing Contrast	113

Y' _B C _R Luma Adjustments vs. RGB Luma Adjustments	114
Redistributing Midtone Contrast	117
Adjusting Log-Encoded Contrast	122
Setting Appropriate Highlights and Shadows	131
Working with High Dynamic Range (HDR) Media	141
Contrast and Perception	146
Contrast During Exhibition	151
Dealing with Underexposure	152
Dealing with Overexposure	160
4 PRIMARY COLOR ADJUSTMENTS	175
Color Temperature	177
What Is Chroma?	181
Analyzing Color Balance	192
Using Color Balance Controls	202
Using Log Color Controls	229
Color Temperature Controls	237
Using Color Curves	238
Saturation Adjustments	249
Understanding and Controlling Color Contrast	262
5 HSL QUALIFICATION AND HUE CURVES	273
HSL Qualification in Theory	274
Individual Qualifier Controls	277
A Basic HSL Qualification Workflow	289
Tips for Using and Optimizing HSL Qualifications	297
Different Ways of Using HSL Qualifiers	304

Hue Curve Adjustments	315
Other Types of HSL Adjustments	323
Advanced Keyers	325
6 SHAPES	331
Shape UI and Controls	332
Highlighting Subjects	338
Creating Depth	343
Shapes + HSL Qualifiers	349
Aggressive Digital Relighting	350
Shapes and Motion	355
7 ANIMATING GRADES	365
Grade Animation Controls Compared	365
Correcting Changes in Exposure	373
Correcting Hue Shifts	375
Grade Transitions Using Through Edits and Dissolves	383
Artificial Lighting Changes	385
Creative Grade Animation	389
8 MEMORY COLORS: SKIN TONE, SKIES, AND FOLIAGE	393
What Are Memory Colors?	394
Ideals for Skin Tone	407
Techniques for Adjusting Complexion Using Secondaries	452
Ideals for Skies	468
Techniques for Adjusting Skies	477
Ideals for Foliage	496

9	SHOT MATCHING AND SCENE BALANCING	511
	Color Timing	512
	Strategies for Working with Clients	515
	How to Begin Balancing a Scene	517
	How to Match One Shot to Another	520
	Recycling Grades	535
	Scene Matching in Action	542
10	QUALITY CONTROL AND BROADCAST SAFE	549
	Grading for Film Output	551
	Video Signal Standards and Limits	552
	Quality Control Issues That Affect Colorists	560
	Six Structured Steps to Legalizing Your Picture	561
	Monitoring and Legalizing Saturation in Detail	562
	RGB Color Space Legality and the RGB Parade Scope	575
	Soft Clipping for Luma and RGB	578
	Other Video Scope Options for Broadcast Gamut Monitoring	579
	Creating Graphics and Animation with Legal Values	584
	Broadcast-Safe Settings in Grading Applications	586
	Broadcast-Safe Settings in Editing Applications	587
	Avid Media Composer and Symphony Broadcast-Safe Settings	588
	Adobe Premiere Pro Broadcast-Safe Settings	591
	Final Cut Pro X Broadcast-Safe Settings	592
	Final Cut Pro 7 Broadcast-Safe Settings	592

PREVIEW: COLOR CORRECTION
LOOK BOOK 599

Tints and Color Washes 600

Undertones 610

Vibrance and Targeted Saturation 618

INDEX 621