# User's Manual Vista® with EasyMatch® Essentials





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A60-1017-433 Version 3.8 EasyMatch Essentials Version 1.10.0121 and above

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### **Safety Notes**

For your safety when using the Vista, you should pay attention to the following types of statements in this User's Manual:

- General safety instruction that should be observed always while operating the instrument.
- Specific safety instruction critical to the type of instrument operation being explained in the manual where the caution appears.
- Additional clarification of instructions, not safety-related.
- Use of this equipment in a manner not specified by the manufacturer may impair the protection afforded by the equipment.
- Danger of electric shock if liquids are spilled and fire if volatile or flammable liquids are spilled. Use care when measuring liquid samples.
- Unit is for indoor use only and not suitable for wet location.



Caution: UV Light hazard, avoid looking directly at light.

### VISTA with EasyMatch Essentials

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### **CHAPTER ONE**

### **Setting Up the Vista**

### **Standard Accessories**

- Didymium diagnostic filter
- Certificate of Compliance
- Power Supply
- Vista Quick Start Guide
- Stylus
- USB Flash Drive
- Cleaning Cloth

### **Power Jack**

• The instrument is supplied with a 12 VDC (5A) power supply. The power supply is plugged into the back of the instrument as shown along with the Ethernet port and the USB port.



# CAUTION: Use only the power supply included with this instrument or a replacement obtained from HunterLab. Be certain that the power supply is in good condition before connecting it.

### **Power Switch**

• To turn the instrument on, press the rocker switch on the right side of the instrument.



Figure 2. Rocker Switch

### **Keyboard and Mouse**

- The Vista works with the following keyboard and mouse:
  - L02-1017-434 Wireless keyboard and mouse kit.
- To use this accessory, turn the power off. Plug in the micro USB adaptor to the rear of the instrument and then attach the nano-receiver for the keyboard into the USB port. Install the batteries into the keyboard/mouse and turn the power back on.

### **Front and Rear USB Connectors**

• There are two USB connectors on the Vista. The one in the front is typically used for saving jobs and workspaces, backing up the instrument and updating software. The USB port on the back of the instrument is typically used to connect a printer or a keyboard to the Vista.



### **Ethernet Port**

• This port is used to connect the Vista to a computer or to a network with the purpose of sending data (ASCII) to a server.

### **CHAPTER TWO**

### **Taking a Simple Measurement**

### What is HunterLab Vista & Essentials?

Vista is a transmittance-only color measuring instrument capable of measuring color and haze of transparent and translucent liquid, films, and plaques and transparent extruded or formed blanks. All samples will be measured by placing in the transmission compartment, either at the sphere port or receptor port. The size and nature of the sample will determine how the sample is presented and the type of sample handling device that is deployed. Sample handling will include cuvette, cells, and ampules for liquids and film holders for sheets and films.

### **Connecting the Sensor and Taking a Measurement**

- After unpacking and setting up the instrument, turn on the power using the rocker switch on the lower right side.
- Once inside the software, the main measurement screen is displayed Color Data Table (D65/10).



Figure 4. Measurement Screen

- The instrument is automatically connected, and this is reported on the status bar. Next, the unit must be Standardized.
- Press the WORKSPACE icon and select STANDARDIZATION. Alternately, the Standardization Status at the bottom of the screen can be used to access a new standardization. Select a mode and press STANDARDIZATION to initiate. The status will be reported in the lower left screen.

Name	L*	a* b*	dL*	da*	db*		
Standa	rdization						
Standa	ardization Mo	de: TTRAN	- Total Transmi	ssion 🔻			100
	lude Haze						$\geq$
		Standardize	Clo	ose			
						Ľ	

Figure 5. Standardization Parameters

- Main Measurement Screen. To make a measurement, press the green lightning bolt 🕐.
- The **Color Data Table** view shows the configured Color Scale, Color Differences and Indices data for the Standard and Sample measurements in the job. The configured Tolerances can be applied to the Job; Pass/Fail results will also be displayed.
- To change the color scale, etc., see WORKSPACE: COLOR SCALES. To add tolerances, see WORKSPACE: TOLERANCES. To save these setups as a job or output, see Jobs: Save Job. To change the views, select WORKSPACE > VIEWS.

*	EasyMatchQ	C Essentials		Color Da	ta Table [I	D65/10]			٢	ŝ	0
		Name	Pass/Fail	L*	a*	b*	dL*	da*	db*		
		Standard		95.03	0.09	2.46				1	
		+ Tolerance		2.18	0.74	0.79	2.18	0.74	0.79	1	
		- Tolerance		2.18	0.75	0.79	2.18	0.75	0.79		
		Sample 5	Fail	99.95	0.02	-0.10	4.92	-0.06	-2.56	1	
		Sample 4	Fail	43.60	0.90	1.48	-51.44	0.82	-0.98		
		Sample 3	Pass	93.74	0.10	2.51	-1.30	0.01	0.05		
1	_	Sample 2	Pass	95.04	0.09	2.46	0.01	0.00	0.00		- 1
		Ð									



Sample Name: The default sample name is Sample + numerical increment. To customize the sample name, go to WORKSPACE > READ OPTIONS > PROMPT FOR SAMPLE/STANDARD NAME. Select the PROMPT for SAMPLE NAME to manually input the name during the measurement cycle. Or change the default Sample Name to another name for numerical sequence. Press APPLY when done.

Name L* Read Options	a* b*
Averaging     2 Samples       Continuous Read Interval     10 sec       Auto Save Job     10       Prompt for Standard Category     Index Bias Configuration	Prompt for Sample Name Default Sample Name Prompt for Standard Name Default Standard Name Standard TimeStamp for Standard/Sample External Triggering
	Defaults Apply Cancel

Note: The standard/sample name in Essentials should not be empty and should not contain any of the characters , : ; ' " + = ? \* < > \ /.

- A long press on the Sample name will show a menu with the following options:
  - SET AS STANDARD to set the sample as Standard.
  - **RENAME** to rename the sample.
  - **DELETE** to delete the sample.

Name	L*	a*	b*		
Sample6	98.24	-5.54	17.88		
Sample5	94.87	0.41	4.26		
Sample4	94.85	0.42	4.26		
Sample3			8.35		
Sample2	Set as	standard	-11.62		
Sample1	Renan	ne	0.00		
	Delete				
			-		

Figure 8. Changing, Renaming or Deleting a Sample

- A long press on the Standard name will show a menu with the following options:
  - **EDIT** to rename or hitch the standard or setup standard tolerances.
  - **DELETE** to delete the standard. The deleted standard is reverted into the samples list with its original name.

Color Data Table [D65/	/10]				9	٢	ŝ	
	Name	-1.	a*	b*				
	Standard_2022020 3110106	Edit	-58.30	-47.87				
	Sample3	Delete	0.44	-9.15				
	Sample2	71.26	-58.28	-47.88				
	Sample1	71.25	-58.30	-47.87				
								>
<b>F</b>								
Standardized - TTRAN			Job	Edmu nds 50	00nm Shortp	ass Filter*	Workspa	ce: Default

Figure 9. Long Press to Edit or Delete

### **Hitch Standard**

- Once a standard is named, it can be changed to a **Hitch** standard. **Hitch Standardization** is a process by which two or more instruments of similar design can be made to read the same color values on a group of specimens. This process is very useful in expanding the communications of color around the world or between vendor and customer.
- The process of Hitch Standardization involves assigning one instrument to be the reference, or master, unit and mathematically adjusting the secondary, or slave, unit(s) to read the same values. In this way, two or more instruments can be hitched together. Hitching a secondary unit to a reference instrument requires that a specimen be read on both units and the values compared and adjusted accordingly. This specimen, known as the hitch standard, is first read on the reference instrument and its values recorded as spectral data or colorimetric (tristimulus) data. The hitch standard is then physically moved to the secondary instrument where it is reread and the values from the reference unit are input into the secondary instrument's processor.

Standard Type Edit Standard Nam	Phy e Star	vsical ndard_2	0220203	<b>•</b>	Read Hitch	Scales: : CIELAE III/Obs : D65/10	3	
L* 71.2520	] -	0	+	0	Cal	c AutoTolerances		>
<b>a*</b> -58.3014	] - [	0	+	0		beelute		
<b>b*</b> -47.8708	] -[	0	+	0		lifference		
De	elete	Save	to Datab	ase	Defaults	Apply	Close	
	L* 71.2520 a* -58.3014 b* -47.8708	L* 71.2520 - a* -58.3014 - b* -47.8708 - Delete	L* 71.2520 - 0 a* 58.3014 - 0 b* -47.8708 - 0 Delete Save	L* 71.2520 - 0 + a* -58.3014 - 0 + b* -47.8708 - 0 + Delete Save to Datab	L* 71.2520 - 0 + 0 a* -58.3014 - 0 + 0 b* -47.8708 - 0 + 0 Delete Save to Database	L* 71.2520 · 0 + 0 Cal a* 58.3014 · 0 + 0 A b* -47.8708 · 0 + 0 @ C Delete Save to Database Defaults RAN Job: Edmun	L*         71.2520         ·         0         +         0         Calc AutoTolerances           a*         ·58.3014         ·         0         +         0         Absolute           b*         ·47.8708         ·         0         +         0         Difference           Delete         Save to Database         Defaults         Apply           RAN         Job Edmunds 500nm Shortpass Filt	L*         71.2520         0         +         0         Calc AutoTolerances           a*         558.3014         -         0         +         0         Absolute           b*         -47.8708         -         0         +         0         Initial State           Delete         Save to Database         Defaults         Apply         Close           RAN         Job: Edmunds 500nm Shortpass Filter         Workspil

Figure 10. Hitch Standardization

### **CHAPTER THREE**

### **Navigating the Essentials Screen**

The EasyMatch Essentials Tools and Status features are shown below.



Figure 11. Color Data Screen for Vista Essentials

**Tools: Read** 



- Samples and Standards are read using this key.
- This tool can be moved around the screen by pressing and moving the icon.
- Assigning a Standard is done by pressing and holding the sample number and following the onboard instructions.
- Once a Standard is named, it can be **Renamed**, **Deleted** or changed to a **Hitch Standard**.

### **Tools: View Flippers**



Switching between Views can be accomplished by using the semi-transparent *NEXT* and *PREV* buttons placed at the side edges of the screen or by swiping left or right with two fingers on the screen.

### **Tools: Status Bar**

#### **Sensor Status**

• The Vista serial number is shown at the bottom left side of the SYSTEM BAR .

### **Standardization Status**

• The current state of standardization is reported. To initiate standardization, one can press on the **SENSOR STATUS** to open the standardization dialog.

#### **Jobs Status**

• **JOB** Status is reported on the bottom right side of the System Bar. To open a Job, one can click on the **JOB NAME** in the status bar.

#### Workspace Status

• **WORKSPACE** Status is reported on the bottom right side of the System Bar. To load a Workspace, one can click on the **WORKSPACE NAME** in the status bar.

### **Tools: Recall Standard**



• This menu option provides a selection of saved standards to use when measuring samples.

### **Tools: View Options**



 This menu shows the options for the active view. See TOOLBAR > VIEW OPTIONS for a list of the features under each view.

### **Tools: Workspace and System Settings**



• The Workspace menu sets up the data screen with **MEASUREMENT COLOR SCALES, READ OPTIONS, STANDARDS and TOLERANCES** and **VIEWS**. • Systems Settings initiates **STANDARDIZATION**, **DIAGNOSTICS**, **PREFERENCES**, and the **USER MANAGER** for System Security.

**Tools: Jobs** 



- A **JOB** is a collection of all the data views (displays) and measurements (standards and samples) used for a task, product, or customer. Jobs are the 'documents' of EasyMatch Essentials, analogous to word processing documents containing text and formatting.
- Jobs can be created for many different reasons, such as to hold data for a certain customer or a specific product line. Each operator may maintain their own job with preferences or create separate jobs for different operations.

### **CHAPTER FOUR**

### **Toolbar: Search/Recall Standards**



Allows for efficient recall of standards from the main screen. Each standard is shown with color scale values based on current configured III/Obs and rendering color. If a standard is selected, the details are shown on the right side of the screen. Details include:

- Standard Name,
- Category, Type (Numeric Or Hitched),
- Time Created,
- Sensor Type,
- Sensor Serial Number,
- Sensor Mode,
- Illuminant/Observer.

Customer can filter standard search by CATEGORY and/or by STANDARD NAME.

Select Category	All	Standard Name				
Blue	Red	Blue2	Red2	Details		
L*: 64.38	L*: 46.34	L*: 37.88	L*: 47.79	Standard Name	: Green2	[H]
a*: -34.61	a*: 74.56	a*: 28.48	a*: 74.91	Category	: Green	
b*: -39.90	b*: 79.49	b*: -83.31	b*: 82.01	Is Numeric	: false	
				is Hitched	: true	
Yellow	Green	Green2[H]		As Read	:	
L*: 94.04	L*: 39.01	L*: 70.00	L*: 80.00	L*: 77.27	, a*: -42.5	58, <b>b</b> *: -12.50
a*: -11.12	a*: -65.06	a*: -40.00	a*: 10.00	Created Time	: 11/16/	2021_3:45 PM
b*: 24.11	b*: 40.49	b*: -10.00	b*: 27.00	Sensor Type	: Vista	
				Serial No :	: VTS00	105
Gray	Gray2	Air 1	Std 1 air	Sensor Mode	: TTRAN	Í.
L*: 76.76	L*: 57.70	L*: 99.95	L*: 100.00	III/Obs	: D65/10	)
a*: -3.50	a*: -3.05	a*: 0.03	a*: -0.00			
b*: 2.92	b*: 3.88	b*: -0.11	b*: -0.00			
				B	eall	Close

Figure 12. Recall Standard

### **CHAPTER FIVE**

### **Toolbar: View Options**



### **Views: EZ View**

This view provides a simple display of **STANDARD** vs. **SAMPLE** and **PASS/FAIL** results.

EZ View	[D65/10]		6	\$ ■
Result: Pa	ass			
	Name	Standard	Sample3	
	L*	100.00	100.00	
<	a*	-0.00	-0.01	>
	b*	-0.01	0.00	
J				
💑 Vista-VTS00119 s	Standardized Mode: TTRAN		User : Admin Job : Untit	led WorkSpace : Default

Figure 13. EZ View Display

### View Options for EZ View

-

includes the selection of NO COLOR SCALE, PASS/FAIL, MEASUREMENT PRECISION and FONT SIZE.



Figure 14. EZ View Options

### **Views: Color Data Table**

The COLOR DATA TABLE view shows COLOR SCALE, COLOR DIFFERENCE, and INDEX data for the **STANDARDS** and **SAMPLES** in the job.



Figure 15. Color Data Display

### View Options for Color Data

 Color Data Options such as TOLERANCES, PASS/FAIL, DATE AND TIME, USER NAME, STANDARDIZATION MODE, SENSOR NUMBER, PRODUCT ID, EXTRA ID and DATA ORDER can be selected using the VIEW OPTIONS.

View Options	
Product ID	
Latest Data First	$\checkmark$
Tolerances	
User Name	
No Color Scale	
Standardization Mode	
Date	
Extra ID	
Sensor Number	
Time	
Pass/Fail	
Precision 2	ок

 A LONG PRESS on the Sample Name can enable the user to turn the sample into a Standard, change the name or delete the reading.

EasyMatchQC Essentials	Color Dat	ta Table [D65/10]		$\overline{\mathbf{O}}$	ŝ	000
	Name	Set as standard	b*			
	Sample 3	Rename	0.02			
	Sample 2	Delete	0.00			
	Sample 1		0.00			
<						$\geq$
3						
Vista 💑 Standardized				Job : Untitled1	WorkSpace	: Default

Figure 17. Changing a Sample into a Standard

To delete a Sample (or Standard), select *DELETE* and then choose *YES* to confirm the action.



Figure 18. Delete the Sample Measurement

### **Views: Spectral Data Table**

The **SPECTRAL DATA TABLE** displays percent transmittance or absorbance values for each selected measurement at the wavelengths being measured.

4	kasyMatchQC Essentials				Spectral Data Table [Refl/Trans]				٢	000			
Wav	veLength(nm)	400	410	420	430	440	450	460	470	480	490	500	510
1	Sample 10	89.24	90.06	91.26	91.38	91.48	91.61	91.76	91.99	92.00	92.16	92.29	92.31
	Sample 9	71.65	81.96	90.12	91.11	91.41	91.58	91.71	91.86	91.85	92.00	92.11	92.13
	Sample 8	71.58	81.88	90.03	91.03	91.33	91.49	91.63	91.78	91.77	91.91	92.02	92.05
	Sample 7	58.52	75.39	89.30	91.10	91.56	91.73	91.84	91.92	91.86	92.00	92.08	92.08
	Sample 6	31.02	58.10	85.90	90.14	91.11	91.42	91.56	91.52	91.43	91.58	91.63	91.62
	Sample 5	24.27	52.11	83.37	88.47	89.64	90.04	90.24	90.20	90.12	90.30	90.37	90.39
1	Sample 4	23.05	43.07	63.82	67.06	67.72	68.25	68.74	69.26	69.55	70.03	70.47	70.79
$\mathbf{x}$	Sample 3	51.94	67.06	79.70	81.36	81.69	82.01	82.31	82.66	82.79	83.09	83.34	83.49
	Sample 2	66.98	76.58	84.30	85.23	85.46	85.71	85.96	86.27	86.34	86.60	86.81	86.92
	Sample 1	88.37	00.12	00.38	00.46	90.54	90.71	00.87	01.12	01 11	01.20	01.44	01.40

Figure 19. Spectral Data Table

### View Options for Spectral Data Table

 The VIEW OPTIONS menu allows a selection of ABSOLUTE VS. DIFFERENCE, SPECTRAL DATA TYPE (%T, Absorbance, Strength%, Difference), WAVELENGTH RANGE, INTERVAL and DIGITS OF PRECISION.

+	EasyMatch	QC Esse	ntials		Spectral	Data Ta	ble [Refl,	/Trans]	_		٢	ŝ	0
Wa	veLength(nm)	400	410	420	430	440	450	460	470	480	490	500	510
	Sample 10	89.24	90.06	91.2	5 91 38	91.48	91.61	91.76	91.99	92.00	92.16	92.29	92.31
	Sample 9	71.65	81.96	90.1	Spectral Da	ita Optio	ns		1.86	91.85	92.00	92.11	92.13
	Sample 8	71.58	81.88	90.0	Absolu	te O D	Differenc	e	1.78	91.77	91.91	92.02	92.05
	Sample 7	58.52	75.39	89.3	Spectral D	ata Type	e Reflec	tance/Tr	1.92	91.86	92.00	92.08	92.08
	Sample 6	31.02	58.10	85.9					11.52	91.43	91.58	91.63	91.62
	Sample 5	24.27	52.11	83.3	Start Wave	elength	400 r	m	0.20	90.12	90.30	90.37	90.39
	Sample 4	23.05	43.07	63.8	End Wave	enath	700 r	m	9.26	69.55	70.03	70.47	70.79
	Sample 3	51.94	67.06	79.7		er gu			2.66	82.79	83.09	83.34	83.49
	Sample 2	66.98	76.58	84.3	Interval		10 r	nm	6.27	86.34	86.60	86.81	86.92
	Sample 1	88.37	89.13	90.3	Precision		2		1.12	91.11	91.30	91.44	91.48
							ОК	Close					
									_				
Vista	JE Standard	lized								Jo	b : Untitled	1 WorkSp	ace : haz

Figure 20. Spectral Data Table Options

### **Views: Spectral Plot**

This view provides a plot of wavelength vs. spectral measurement parameter.



Figure 21. Spectral Plot View

- Press *CLEAR ALL* to remove all the samples to display. Press *SELECT ALL* to enable display of all samples. To select an individual sample, click on the respective *SAMPLE* in the list located on the right edge of the screen.
- The Sample List is paginated. Click the *LEFT AND RIGHT ARROW* buttons below the samples list to navigate between pages.

• Press and hold on the *LEFT/RIGHT ARROWS* to show a small dialog box. This dialog allows you to select the number of records per page to display and the page number to display.

Spectral Plot Options			
Spectral Data Type	Y-Axis		
O Absorbance (A)	Start	0.0	
Transmittance     % Strength	End	100.0	
Show Background	X-axis		
Auto Range	Start (nm)	400	
	End (nm)	700	
c	ок с	ancel	

Figure 22. Spectral Plot Options

### **View Options for Spectral Plot**

- Spectral Data Type can be TRANSMITTANCE, ABSORBANCE, % STRENGTH.
- Uncheck the SHOW BACKGROUND, to display the plot with white background color.
- Check AUTO RANGE to automatically scale the contents to fit. If Auto Range is not selected, then enter the Y-and X-axis range to display.

### **Views: Trend Plot**

This tool can be used to study the trends in production and identify color variations. There are four parameters of color measurement (three scale values and optional index) which can be represented in four traces. If a sample point is selected in one of the four traces, it is highlighted in the other 3 traces in blue. The name is shown at the bottom right hand corner of the View. The **AVERAGE** and **STANDARD DEVIATION** can be shown as per the view configuration settings.



Figure 23. Trend Plot

View Options					
Display	Statistics				
🗹 Line	🖂 Avera	ge			
Point 🛛	Std. Deviation				
Measureme	nts per Displa	ay 10			
	ок	Close			

Figure 24. Trend Plot Options

#### View Options For The Trend Plot

Trend Plot includes the TYPE OF DISPLAY, the STATISTICS and the NUMBER OF READINGS PER DISPLAY. Continuing with the VIEW OPTIONS/TRACES, this dialog box sets the RANGES FOR THE TRACES or allows selection of AUTO RANGE. Trace 1 to 3 uses the current Color Measurement Scale and Trace 4 will allow for measurement of differences or index. The user can select which Traces to view (VISIBLE TRACES) and set CONTROL LIMITS as a percent.

Traces								
Trace Ranges				Trace13				
Trace1(L*) +/-	1.0	-1.0		Illuminant/Observer D65/10				
Trace2(a*) +/-	1.0	-1.0		Scale CIELAB				
Trace3(b*) +/-	1.0	-1.0		Trace4				
Trace4(None) +/-	1.0	0.0		Indices None ▼				
🖂 Auto Range				O Differences None				
Visible Traces	Visible Traces							
🖂 Trace1	<u> </u>	Trace2		✓ Trace3 □ Trace4				
Control Limits (Per	centage	e)						
Trace1 0	Trace	2 0		Trace3 0 Trace4 0				
				OK Close				

Figure 25. Trend Plot Traces

### **Views: Color Plot**

This shows the sample location in two-dimensional Color Space with respect to the standard for difference measurements or the samples in absolute measurement. For differences, the standard is the center point of the plot and the samples are plotted separately on the graph.

• The displayed samples are shown in a list box on the right of the screen. The color plot can be zoomed and the data points can be viewed in detail.

 Press and hold on the left/right page arrows to show a small dialog box. This dialog allows you to select the number of records per page to display and the default page number to display.



Figure 26. Color Plot View

### View Options for Color Plot

The DISPLAY MODE is ABSOLUTE or DIFFERENCE. The tolerance plot is available in RECTANGULAR and ELLIPTICAL when tolerances are applied. The PASS/FAIL sample points are shown in green and red when in difference mode, respectively. In Absolute Mode, they are shown in green.

Color Plot (	Options		Color Plot	Options			
Illuminant/	Observer D6	5/10	Illuminant/Observer D65/10				
Scale	CIE	LAB	Scale		CIELAB		
Display Mo	ode At	osolute 🔻	Display Mo	ode	Difference 🔻		
			Tolerance		Rectangular 🔻		
🖂 Auto R	ange		🛛 🖂 Auto R	ange			
	ОК	Close		ОК	Close		

Figure 27. Color Plot Options

### **CHAPTER SIX**

### **Tool Bar: Workspace**



Under the **WORKSPACE** Function, the following tasks can be accomplished:



Figure 28. Workspace Parameters

### Workspace: Color Scales

Color Scales provides selection of SCALES, INDICES, DIFFERENCES, and ILLUMINANT/OBSERVER (ILL/OBS). Once selected, TOLERANCES and VIEW OPTIONS can be set.

Color Scales				
Scales	III/Obs	Indices	Di	fferences
CIELAB				۲
CIELCh				0
HunterLab				0
XYZ				0
Үху				0
Show Color D	ifference Scales			
		Defaults	Apply	Cancel

Figure 29. Color Measurement Scales

- This screen shows the five scales available for measurement. Select the absolute scale (3 parameters) and color difference scales (3 parameters) if needed. Press *APPLY* and begin to read your samples.
- The Illuminant/Observer screen displays combination selections for these parameters. To see all of the choices, you can scroll through the selections by viewing the screen.

Color Scales				
Scales	III/Obs	Indices	Dif	ferences
D65/10				۱
C/2				0
F02/10				0
A/10				0
A/2				0
C/10				0
D50/10				0
		Defaults	Apply	Cancel

Figure 30. Illuminant/Observer Configuration

• To select indices, check the corresponding box on the right side. Multiple selections are available as well as difference indices and custom indices. To see more choices, the screen can be scrolled my moving your finger from the bottom to the top.

Show Difference	e Indices		Custom Indices
APHA-20mm [C/2]			П
APHA-10mm [C/2]			
AOCS Y [C/2]			
AOCS R [C/2]			
ADMI-50mm [C/2]			
ADMI-10mm [C/2]			
Scales	III/Obs	Indices	Differences

Figure 31. Indice Configuration

- CUSTOM INDICES: Users can create modified pathlength indices and add transmittance data into the indices list using custom indices. Pathlength modification is available for APHA, ASBC, ASTM D1500, Chinese Acid Wash Color, CP Indices, EBC, EP, FAC, Gardner, Iodine, JP, Saybolt, USP and transmittance/absorbance data from 400nm to 700nm for Difference and Biased Index Difference.
  - All the created custom indices except %T indices will be showed in Bias Configuration list so that user can do bias and gains on these new indices.
  - The configured pathlength can be any number between 1-99 with maximum one decimal.

 Due to the implementation of custom indices, most indices names have been changed compared to the names in Vista Essentials 1.03.0045. If any old index name is found in different format the index will not be calculated. In such case, please go to *COLOR SCALES > INDICES* and *APPLY* to update the list of indices.

ADMI-10mm [C/2] ADMI-50mm [C/2] AOCS R [C/2] AOCS Y [C/2] APHA-10mm [C/2]	
ADMI-50mm [C/2] AOCS R [C/2] AOCS Y [C/2]	
AOCS R [C/2] AOCS Y [C/2] APHA-10mm [C/2]	
AOCS Y [C/2]	
APHA-10mm [C/2]	
or the round for a	
APHA-20mm [C/2]	П
Show Difference Indices Custom In	dices

Figure 32. Custom Indices

- The custom indices are not listed in the default indices list and Essentials will not allow creation of default indices under custom indices as this index already exists in the default indices list.
- Scale factors of LOVIBOND<sup>\*</sup>/AOCS/ICUMSA 420/ICUMSA 560/Saybolt/ASTM D1500 can be adjusted in custom indices dialog. LOVIBOND<sup>\*</sup>/AOCS cell pathlength, instead of only 5 pathlength options in dropdown list, can be entered with any number between 1-99 with maximum one decimal.



Figure 33. Parameters for LOVIBOND®

For ICUMSA 420 and ICUMSA 560, the density (g/ml) and weight% (g/g) need to be configured for accurate ICUMSA calculation. Density (g/ml) should be from 0.5-2. Weight% (g/g) should be from 1-100.

	Custom Indices				
	Select Indices		Available Indices :		
	USP	-	APHA-14.5mm [C/2]		
	Path Length (mm) 10	ICUMSA Config	nomittance 470nm	0	
		Density (n/ml)			
	O Transmittance (T%)	Weight & (gin) ED D			
	WaveLength (nm) 400	weight is (grg) [50:0			
	Adjust Dark Eastern	Apply Clos	ie -		
	Adjust Scale Factors :				
-	Lavibond	AOCS ICUMSA 420	ICUMSA 560		
			States and	Plane	

Figure 34. Parameters for ICUMSA

• For Saybolt and ASTM D1500, these factors can be adjusted.



Figure 35. Saybolt Factors

	Custom Indices				
	Select Indices		Available Indice	3 :	1
	APHA	M D1500			
	Path Length (mm	Alpha 0.25			
<	<ul> <li>Transmittanc</li> <li>Absorbance (</li> <li>WaveLength(nm)</li> </ul>	Beta 0.869	5 In Factor		
	Adjust Scale Factor	Default App	ly Close	ASTM	
			Apply	Close	

Figure 36. ASTM D1500 Factors

 To select dE differences, check the corresponding box on the right side. Multiple selections are available. Press *APPLY* when all selections have been made.

Color Scales				
Scales	III/Obs	Indices	Dit	ferences
dE				
dE*				
dE CMC				
dE* 2000				
		_		
		Defaults	Apply	Cancel

Figure 37. Color Measurement Differences

Illuminant	Observer	Scales	Differences	Indices	View Options
D65	2/10	CIE Lab	dL*a*b*	ADMI	Pass/Fail <sup>1</sup>
С	2/10	CIE LCh	dL*C*h	APHA/PtCo/Hazen <sup>4</sup>	Tolerances
F02	2/10	Hunter Lab	dXYZ	Saybolt <sup>4</sup>	Time <sup>3</sup>
D50	2/10	XYZ <sup>1</sup>	dLab	Gardner <sup>4</sup> 10mm and 20mm	Date <sup>3</sup>
D55	2/10	Yxy <sup>1</sup>	dYxy	Haze	
D75	2/10		dE	Y Transmittance <sup>4</sup> Absorbance	Trace Range 1 <sup>2</sup>
F07	2/10		dE CMC	EBC <sup>4</sup>	Trace Range 2 <sup>2</sup>
F11	2/10		dE* 2000	ASBC <sup>4</sup> & Turbidity	Trace Range 3 <sup>2</sup>
TL84	2/10		dE*	ADMI	Trace Range 4 <sup>2</sup>
ULT 30	2/10			ASTM D1500 <sup>4</sup> for 10mm and 24mm	Auto Range <sup>2</sup>
ULT 35	2/10			YI D1925	Display: Line <sup>2</sup>
	2/10			YI E313, WI E313	Display: Point <sup>2</sup>
				USP <sup>4</sup> , JP <sup>4</sup>	Zoom
				EP <sup>4</sup> 10mm Y, GY, R, BY, B	Average <sup>2</sup>
				Iodine <sup>4</sup>	Std. Deviation <sup>2</sup>
				NTU	Meas per Display <sup>2</sup>
				LOVIBOND® RY4 LOVIBOND RYBN	
				AOCS RY <sup>4</sup>	
				Chinese Acid Wash Color4	
				FAC <sup>4</sup>	
				ICUMSA 420/560 <sup>4</sup>	
				EPOP	
				CP - 10mm, CP GY/YG/Y/OY/ORR/BR 10mm	
				OffHue	

## Table 1. Overview of Color Measurement Parameters forEZ View, Color Data Table, Trend Plot & Color Plot

<sup>1</sup>Not Available on Color Plot, <sup>2</sup>Trend Plot Only, <sup>3</sup>Color Data Table Only, <sup>4</sup>Custom Indice available with pathlength modification

LOVIBOND<sup>®</sup> is a trademark of Tintometer LTD, UK.

### Workspace: Read Options

Read Options provides selection of *AVERAGING, AUTO SAVE, AUTO READ, PROMPT FOR STANDARD CATEGORY* and *READ HAZE*. The Read command performs the operation based on the configured options.

Read Options		
Averaging     2     Samples       Continuous Read Interval     10     sec       Auto Save Job     Prompt for Standard Category       Index Bias Configuration     Config       External Triggering	Prompt for Sample Name Default Sample Name TimeStamp for Standard/Sample Prompt for Product and Extra IDs	
	Defaults Apply Cancel	

Figure 38. Read Options

### AVERAGE

Select the number of readings to average to produce the final measurement. The total number of readings to be averaged can be no less than two. Close the screen and press *READ* to initiate.



Figure 39. Reading and Averaging

Once the **READ** button is pressed, the instrument will display a unique dialog box to **READ** and **AVERAGE** the readings. The second reading is taken using the unique dialog box button, **READ**. Once all the readings are taken, press **AVERAGE** to obtain the results. To stop the averaging, press **CANCEL**.

#### CONTINUOUS READ

This feature performs continuous measurements. In **CONTINUOUS READ INTERVAL** mode, measurements are initiated and stopped using the *READ* Button. The minimum value of the Read interval is <3 seconds and it will read as fast as it can update. When in Continuous Read mode, the Read Button is enhanced with a checkmark. To stop the Continuous Read, press the *READ* button.

	Name	L*	a*	b*		
	Test9	100.00	-0.01	-0.00		
	Test8	100.00	-0.01	0.00		
	Test7	100.00	-0.01	0.00		
	Sample6	98.24	-5.54	17.88		
	Sample5	94.87	0.41	4.26		
	Sample4	94.85	0.42	4.26		
	Sample3	98.80	-0.27	8.35		
-	Sample2	91.96	-19.65	-11.62		
	Sample1	100.01	-0.01	0.00		
<b>₹</b> ∎						

Figure 40. Auto Read

#### AUTO SAVE JOB

This selection will automatically save a job. Once this feature is selected, a dialog box will be displayed to name the job.

ResyMatchQC Essentials	Color Data Table [D65/10]	٢	ŝ	0
	Save Job			
	Path: /storage/sdcard0/Hunterlab FileName ezm			
				$\geq$
<b>3</b>	Save New Folder Back Cancel			
Vista 🚓 Standardized		Job : Untitled1	WorkSpace :	Default

Figure 41. Auto Save Job

#### PROMPT FOR STANDARD CATEGORY

When this option is selected, the user will be prompted to enter the category name to which the standard can be assigned.

Standard Catego	ry	
Select Category	Default	•
New Category	Default	
	ОК	Cancel

Figure 42. Prompt for Standard Category

A category is a product type (i.e. Pale Ale) to which multiple standards can be associated. This can also be used to *RECALL* a group of standards.

#### INDEX BIAS CONFIGURATION

This option allows the user to input a custom slope and intercept correction for indices. The user can select any Index from the list of applicable indices and input the desired **GAIN AND BIAS** values. After selecting the required Indices, select the **APPLY** button to save the selected Indices values and update the Views accordingly. The Bias-corrected Indices will be marked with \* (eg: APHA \*10mm) in the respective view display.

To calculate the slope and bias correction, read a series of samples around the target values of interest. Three methods can be used to provide corrected values:

1. **One standard data point**: In this case, the single data point is compared to the expected value. The Gain remains at 1.0 and the Bias is corrected:

Bias= Expected Value- Measured Value

 Two data points: In this case, the two readings are compared to the expected values. Bias Correction=Expected Value 1-(Measured Value 1\*Gain) Gain Correction= (Expected Value 1-Expected Value 2)/

(Measured Value 1- Measured Value 2)

3. Linear regression: Create a y=mx + b relationship comparing actual readings to target values, where target values is on the Y-axis and actual readings are on the x-axis. Enter the slope correction under Gain and the intercept correction under Bias.

Select Index Bias Configuration	Name     L <sup>a</sup> a <sup>a</sup> P <sup>a</sup> Read Options     Averaging     2 samples     Prompt for Sample Name       Auto Read     1 sec     Default Sample Name       Auto Save Job     1 min     Prompt for Standard Name       Prompt for Standard Category     Index Bias Configuration     Config	>
	Defaults Apply Cancel	

Figure 43. Slope & Bias Correction

ADMI-10mm [C/2]	1.0	0.0
APHA-10mm [C/2]	1.0	0.0
APHA-10mm Macro [C/2]	1.0	0.0
APHA-10mm Semi [C/2]	1.0	0.0
APHA-10mm Micro [C/2]	1.0	0.0
APHA-20mm [C/2]	1.0	0.0
APHA-24mm Vial [C/2]	1.0	0.0
APHA-50mm [C/2]	1.0	0.0
	Apply	Close

Figure 44. Input Gain & Bias

### EXTERNAL TRIGGERING

When it is checked on, a new dialog box will be opened to configure the port number. The IP address shown in Vista Essentials is the Vista's **IP ADDRESS**. After entering this information and selecting **DONE**, then **OK**, the enable status and **PORT NUMBER** will be saved and the application will be in listening mode as a server. **STANDARDIZE** and **READ SAMPLE** commands can then be operated using this tool.



Figure 45. Configure Connection to External Trigger
PROMPT FOR SAMPLE NAME. Select this feature to input the Sample name manually during the measurement cycle so that the Sample measurement will be inserted with the specified name. If this option is not selected, the Samples will be inserted with the specified default sample name suffixed with the auto incremented index number. Press APPLY when done.

Averaging	2 samples	Prompt for Sample Name
Auto Read	1 sec	Prompt for Standard Name
Auto Save Job  Promot for Stand	1 min	Default Standard Name Standard
Index Bias Config	guration Config	
		Defaulte Apply Cance

Figure 46. Prompt for Sample (Standard) Name



Figure 47. Input Sample Name

#### • TIME STAMP FOR STANDARD/SAMPLE

User can uncheck/check this, so when take a measurement, the sample name will include/exclude timestamp in the end.

#### PROMPT FOR PRODUCT ID and EXTRA ID

This is a function where the user can enter a sample/standard name and have extra options to name with more details.

	Name	L*	a*	b*		
	Sample2	99.97	-0.01	-0.08		
	Sample 1	99.97	-0.01	-0.08		
<	Extra ID		_			
		Арріу	CIOS	e		

Figure 48. Prompt for Product/Extra ID

## Workspace: Standard and Tolerances

Standards can be one of four types: retrieved from database, physical (measured), and ad hoc and numeric. A standard that is retrieved from Database has been previously stored. A physical standard is one that has been read as a sample and made into a standard. An Ad Hoc (or working) standard is one that is read at the beginning of a job and becomes the standard for a run. In this case, auto tolerances are recommended. A numeric standard is one that has color measurement values but is not present and cannot be read. A subset of this is the Hitch Standard. All types of standards can apply Hitch.

A Standard is saved with standard name, standard color value and standard tolerances to the database by pressing the button at the bottom of the screen. When there is a standard applied in a job, you must delete it first if you want to change the standard type (Recall. Physical/Adhoc and Numeric). You can click the *CALC AUTO TOLERANCES* here to calculate the tolerances of standards.

This command can be used to specify the TOLERANCES, selected in VIEW OPTIONS dialog box.

ard and To Scales	rd and Tolerances Scales		ndices		C	Differences	Auto	Tolerance
Standa Edit St	ard Type andard Name	Phy	sical dard_2	0220203	<b>*</b> 311010	Read Hitch	Scales: : CII III/Obs : D6	ELAB 55/10
L*	71.2520	-	0	+	0	Cal	c AutoTolerand	ces
a*	-58.3014	-	0	+	0		bsolute	
D*	-47.8708	-	U	+[	U		lifference	
	Del	ete	Save	to Datat	base	Defaults	Apply	Close

Figure 49. Standard and Tolerances Configuration

• **TOLERANCES** can be entered manually for a selected scale, index and difference, or can be auto-calculated using **AUTO TOLERANCE**. Tolerances will be displayed on the measurement screen if enabled under **VIEW OPTIONS** for the Color Data and the Color Plot Screens. **PASS/FAIL** based on these tolerances can be used on the EZ View Screen.

Scales	Indices	Differences	Auto T	olerances
Scales: CIELA8		III/Obs: 065/10		
	L* -2.182	+2.182		
	a* -0.746	+0.743		
	b* -0.790	+0.790		
🔿 Absolute 🛞 Dif	ference			
Calcul	ate AutoToleranc	ne Defector	Apply	Caprel

Figure 50. Tolerances for Scales

Figure 51. Indices Tolerance Configuration

Tolerances			
Scales	Indices	Differences	Auto Tolerances
Index:	None	III/Obs:	D65/10
	- 0	+0	
🔘 Absolute 🔘 I	Difference		
Calo	culate AutoTolerances	Defaults	Apply Cancel

Figure 52. Difference Tolerance Configuration

Tolerances				
Scales	Indices	Differences	Auto T	olerances
Differenc	es: None 💌	III/Obs:	D65/10	
	- 0	+0		
O Absolute	I Difference			
	Calculate AutoTolerances	Defaults	Apply	Cancel

• AUTO TOLERANCES are calculated for CMC by considering the values as I:C – 2:1 with auto correction factor = 0.75 and commercial factor = 1. However, these ratios can be modified as needed.

Tolerances				
Scales	Indices	Differences	Auto	Tolerances
Scales: CIELAB		III/Obs:D65/10		
l: C	c Ratio Commercial Factor Autotolerance Correcti	2 1 on factor 0.75	:1	
🔿 Absolute 🔘	Difference			
Cal	culate AutoTolerance	s Defaults	Apply	Cancel
Fig	ure 53. Auto Toler	ance Configura	ition	

• Once the tolerance parameters are selected, press *APPLY* and then *CALCULATE AUTO TOLERANCES*. The calculated tolerances are displayed under the **AUTO TOLERANCE** tab. If Auto Tolerances are selected, the user cannot manually enter tolerances.

#### Workspace: Views

This option can be used to select the views to be presented in the application. Simply check on the box of the screen needed. Press **APPLY** to save one or all of the screens. The default screen is the Color Data Table. To navigate between screens once the selections have been applied, use the View Flippers on the left and right of the screen.



Figure 54. Workspace Views

## Workspace: Load Workspace

A workspace is a collection of user preferred parameters as a template. When a user exits EasyMatch Essentials and returns, the last used Workspace will be loaded if the user has selected that option in **JOBS: PREFERENCES**.

- JOBS VS. WORKSPACE: A job consists of standard and samples measured into a specific workspace. There can be only one job open at a time. A new job will use the current loaded workspace settings. The user can change the settings and these changes are applied into the current job. The last loaded workspace settings are applied automatically when the user creates a new job. The main tool bar provides the options to CREATE a new job, OPEN an existing job and SAVE a job.
- **LOAD WORKSPACE**: When the user selects this button, any previously saved workspace can be loaded from the database. The newly loaded workspace settings will be applied to the job and all existing measurements within the job are adjusted accordingly.

## Workspace: Save Workspace

The current workspace parameters are saved into a database with a user specified name. Saved workspaces can be moved up to the **SWITCH TO** area if desired by dragging and dropping. If no workspaces have been saved, then only default will be present.

• To override the current workspace, press **YES** to **SAVE WORKSPACE**. To **CHANGE the WORKSPACE**, press **NO** to change the name of the workspace.

Alert			
Do you w Sel	ant to overrid ect 'No' to Sav	e existing w ve WorkSpac	orkspace? ce As.
	Yes	No	

Figure 55. Save Workspace

 To LOAD A SAVED WORKSPACE, press LOAD WORKSPACE and choose a workspace to recall or choose a new workspace.

Load Work	Spa <b>ce</b>		
WorkSpac	ce Name		
Switch To			
ţ <u>;</u> }	<u>(</u>	۲¢۶	(1)
None	new ws	None	None
Choose W	/orkSpace	<u>.</u>	
Default			0
one			0
ws			0
aaa			0
		Load	Cancel

Figure 56. Load Workspace

Note: When a user exits EasyMatch Essentials and reopens Essentials, the last used Workspace will be loaded when the option 'Load Last Workspace at Startup' is selected in Jobs > Preferences dialog.

#### Workspace: Standardization

There are two ways to initiate Standardization:

- From the WORKSPACE menu select STANDARDIZATION and then choose TOTAL or REGULAR TRANSMITTANCE for measurement from the drop-down menu. For HAZE, select TTRAN and check the option INCLUDE HAZE.
- 2. Select **STANDARDIZATION** on the status bar of the measurement screen.

# Note: When samples are positioned for measurement from the middle of the compartment to the lens choose RTRAN. When samples are positioned against the sphere wall opening select TTRAN. Haze measurements are always standardized against the sphere wall and in TTRAN.

- Remove all samples from the sample compartment to standardize. If desired, a blank cell can be inserted to zero any effect of a cell or clear solvent. Press **STANDARDIZATION**, to initiate. When complete, the status is shown in the system status bar on lower left screen.
- The TIME INTERVAL for the re-Standardization can be entered under JOBS > PREFERENCES.



Figure 57. Standardize

- HAZE MEASUREMENTS
  - To add HAZE MEASUREMENTS to the Color Data Screen, go to WORKSPACE > COLOR SCALES > INDICES > HAZE.
  - Then, select STANDARDIZATION > TTRAN and check the box beside HAZE.

	Name	L* a*	b*	Haze% [C/2]	
	Standardization				
<	Standardization N	lode: TTRAN - 1	otal Transı	nission 🔻	

Figure 58. Standardization for Haze

- Install the sample holder needed to measure your samples against the sphere port for TTRAN.
- *READ* samples using the button on the measurement screen.

## **Workspace: Diagnostics**

Five performance diagnostics and EasyCert are included with software version 1.05.0064 and higher. The five performance diagnostics are **REPEATABILITY**, **ND FILTER**, **DIDYMIUM FILTER**, **HAZE STANDARD TEST** and **AUTO DIAGNOSTICS**. The ND filter and Haze standards are optional. If you have these standards, you can run these tests. The EasyCert<sup>™</sup> and EasyCal<sup>™</sup> programs under "Validate" offers instrument qualification and performance validation for end-users to self-certify their Vista with traceable standards. For updated software, please check support.hunterlab.com.



Figure 59. Performance Diagnostics Menu

#### Testing the Vista for Colorimetric Repeatability

The **REPEATABILITY TEST** assesses how consistently the instrument can measure color. To begin, the sample compartment should be free of samples and obstacles and the user is prompted to press **START** to standardize. The test continues automatically. All sample readings must pass the test.



Figure 60. Set up for Colorimetric Repeatability

• A table of the difference between the current reading and the first reading (Standard) is shown after every measurement. By comparing each reading to the tolerance, a Pass/Fail assessment is shown.

-	Result criteria	a with Tole	erance:	dE* ≤ 0.0	125					
	Name	Result	х	Y	z	L*	a*	b*	dE*	
Repeatabi	Standard		94.81	100.01	107.31	100.00	-0.01	0.00		
	Sample1	Pass	94.82	100.01	107.31	100.00	-0.01	0.00	0.00	
ND Filte	Sample2	Pass	94.82	100.01	107.31	100.00	-0.01	0.00	0.00	
	Sample3	Pass	94.82	100.01	107.31	100.00	-0.01	0.00	0.00	
)idymium F	Sample4	Pass	94.82	100.01	107.31	100.01	-0.01	0.01	0.00	
Jayman	Sample5	Pass	94.82	100.01	107.31	100.00	-0.01	0.00	0.00	
lana Ctana	Sample6	Pass	94.82	100.01	107.31	100.00	-0.01	0.00	0.00	
Haze Stant	Sample7	Pass	94.81	100.01	107.31	100.00	-0.01	0.00	0.00	
	Sample8	Pass	94.81	100.01	107.30	100.00	-0.01	0.00	0.00	
Run Auto	Sample9	Pass	94.82	100.01	107.31	100.00	-0.01	0.00	0.00	
	Sample10	Pass	94.82	100.01	107.31	100.00	-0.01	0.00	0.00	
	Sample 11	Page	04.82	100.01	107.31	100.01	-0.01	0.00	0.00	

Figure 61. Repeatability Readings with Pass/Fail

 When all 30 readings have been made, the final test result is shown and saved automatically. To *PRINT* the results, press *REPEATABILITY TEST > OPEN* the file.

V	👆 Color Data Ta	ble [D65/10]				(0)	ŝ		
	Diagnostics								Γ
	P			Advan	iced				
	Repeatability Test	Results / Status	O Data View	OChart	View				
	ND Filter Test		Name	Result	х	Y	z	L*	
		Repeatability Test	Standard		94.81	100.01	107.31	100.0	
		Result criteria with Tolerance:	Sample1	Pass	94.82	100.01	107.31	100.0	L
<		dE* ≤ 0.025	Sample2	Pass	94.82	100.01	107.31	100.0	
			Sample3	Pass	94.82	100.01	107.31	100.0	Ľ
	Haze Standard Test	Test Result: Pass	Sample4	Pass	94.82	100.01	107.31	100.0	
			Sample5	Pass	94.82	100.01	107.31	100.0	
	Run Auto-Diag		Sample6	Pass	94.82	100.01	107.31	100.0	
			Sample7	Pass	94.81	100.01	107.31	100.0	
							c	lose	
¥	🚓 Vista - VTS00119 Standa	rdized Mode: TTRAN				Job : Untit	ed WorkSp	ace : Defaul	t

Figure 62. Read Options to select Pass/Fail and Tolerances

#### **Reading the Neutral Density Filter**

This test requires that you enter the target values for the ND filter that you are using in the test.

MD_	Filter Test,									=
Diag	Be	fore begi iter filter	nning nev targets b	v test, elow:	Name	430nm	550nm	630nm	Result	_
R	WaveLe 430n	ngth m	Target 58.29	Tolerance						
< Did	550n	m [	64.15	±0.15						
	-	+		1		2	3		Ð	
	*			4		5	6		Done	
	(	)		7		8	9			
				*		0	#			

Figure 63. Input Target Values for ND Filter

• Once the target values have been entered, remove all samples from the transmittance compartment and press **START** to Standardize in RTRAN on air.



Figure 64. Press Start to Begin Standardization

• After Standardization, insert the ND filter next to the lens and press START.

ND_Filter To	est - Untitled						-	~	≣
Diag	Please input	filter data	Name	430nm	550nm	630nm	Result		
_	for 420mm	100.0	Sample1	100.00	100.02	100.01			
	for 430nm	100.0	Sample2	100.00	100.02	100.01			
	for 550nm	100.0	Sample3	100.01	100.02	100.02			
			Sample4	100.01	100.02	100.00			
	for 630nm	100.0	Sample5	100.01	100.02	100.01			
			Sample6	100.01	100.02	100.01			
<			Sample7	100.00	100.02	100.02			
									e
								Cancel	
Vista - VTS00119	Standardized M	ode: TTRAN				Jser : Admin	Job : Untitle	d WorkSpac	ce : Default

Figure 65. Reading the ND Filter

• Ten readings are taken and compared to the tolerance as an average. This test is then automatically saved and can be output to a printer by pressing **ND FILTER > OPEN > PRINT**.

		Name	430nm	550nm	630nm	Result
Before beginning new te Enter filter targets below	est, w:	Sample1	58.30	64.18	63.19	
		Sample2	58.31	64.18	63.19	
WaveLength Target To	lerance	Sample3	58.30	64.19	63.20	
		Sample4	58.31	64.18	63.18	
430nm 58.29	± 0.15	Sample5	58.31	64.18	63.19	
		Sample6	58.31	64.19	63.19	
550nm 64.15	± 0.15	Sample7	58.32	64.18	63.19	
630nm 63.16	+0.15	Sample8	58.32	64.18	63.19	
		Sample9	58.31	64.18	63.18	
		Sample10	58.31	64.18	63.19	
Test Result:	Pass	Average	58.31	64.18	63.19	Pass

Figure 66. ND Test Result

#### Reading the Didymium Filter on the Vista

The wavelength test allows you to assess readings of the didymium filter that are provided with the instrument. This checks for wavelength accuracy of the instrument and should be run on a regular basis (i.e., weekly or bi-weekly) as part of a routine instrument performance check. To begin, input the target values for the Didymium filter at 430nm and 570nm.

Didymiu	tral Data Table [Transmittance] m_Filter Test				٢	ු	
2 Rr	Before beginning new test, Enter filter targets below:       WaveLength     Target       Tolerance       430nm     80.33       ± 1.25       570nm     36.59       ± 2.65	Name	430nm	570nm	Result		6 7 2 2
		New	Оре	n	Print	Close	e
Vista - VTS00	119 Standardized Mode: TTRAN				Job : Untitled	WorkSpa	ace : Default

Figure 67. Select Didymium Target Values

• Remove all samples from the instrument and **STANDARDIZE > RTRAN** on air.

Diag B 3. 2. F	Spectral Data Table [Transmitta Didymium_Filter Test - Untitled Before beginning new t Enter filter targets below WaveLength Standardiza 430nm Please 570nm	est, ww: tion e remove all samples an in compartment. Press S	430nm 57 d clear the tart when ready.	Tonm Result	٢ 	
н	oruniti _	Start Cancel				
		New	Open	Print	Close	е
\ م	ista - VTS00119 Standardized Mode: TTRAN			Job : Untitled	WorkSpac	e : Default
	Figure 68	. Standardize i	n RTRAN			

• Place the didymium filter at the lens side of the instrument. Press **START.** 

Note: The didymium filter should be clean and free of fingerprints.

P	erformance	_		Advan	ced	
Repeatability Test	Results / Status	Data View	OChart	View		
	Diduction Filter Test	Name	430nm	570nm	Result	
ND Filter Test	Didymium_Filter Test	Sample1	80.35	36.59		
	WaveLength Target Tolerance	Sample2	80.33	36.59		
Didymium Filter Test	430nm 80.33 ± 1.25 550nm 25.50 ± 2.55	Sample3	80.34	36.60		
	000mm 00.09 12.00	Sample4	80.34	36.60		
Haze Standard Test		Sample5	80.34	36.60		
	Test Result: Pass	Sample6	80.34	36.60		
Run Auto-Diag		Sample7	80.35	36.61		
		Sample8	80.34	36.60		
						 _

Figure 69. Didymium Test Results

 Using average of the 10 readings, the results are shown and automatically saved. If a printer is available, the results can be output pressing *DIDYMIUM FILTER > OPEN > PRINT*.

#### Reading the Haze Standard

The Haze test reads the haze standard and provides a pass/fail evaluation based on an average of 10 readings and the value associated with the standard.

• Select **NEW** to initiate the Haze Test. **STANDARDIZE** the instrument and then enter the Haze C/2° value of the **HAZE STANDARD**.

Note that the tolerance used is ±10% of the standard value.

 When all readings have been taken, the results are shown. This test is automatically saved and can be printed by pressing HAZE STANDARD TEST > OPEN > PRINT.

#### **Run Auto Diagnostics**

Auto Diagnostics is for use by the service department at HunterLab and not recommended for customer use. It runs all tests and detailed readings for short term repeatability, ND filter, Didymium Filter and Haze Standard performance are available by opening the CSV file.

#### Validate

Vista Essentials offers instrument validation options for end-users who wish to self-certify their color measurement instrumentation with traceable liquid color standards or filters. Standards are available in individual or three-sample sets, representative of the end user's working color range. Each standard is supplied with a Certificate of Analysis with traceable values and uncertainties. Standards are available for purchase in single quantity or as a time-based subscription option.

For more information, please contact HunterLab.

## **Advanced Tests**

Advanced Tests are primarily for use by HunterLab's Service Department. The Service Department might find it useful to diagnose a problem using the Performance tests of **SHUTTER**, **HAZE SHUTTER**, **SIGNAL AND LOG FUNCTIONS**. Each of these tests can be shown in **DATA VIEW** or in **CHART VIEW**. **SIGNAL/DARK/ZERO** can be exported in CSV format. Under the System menu, you can **STANDARDIZE**, **MEASURE**, **UPLOAD PRINTER DRIVERS**, **RESTART** communications with a computer and use Remote Access Support through NetOps.



Figure 70. Advanced Menu

#### **Advanced Tests**

Performance tests include the SHUTTER, HAZE DOOR, READ and LOG tests.

- Shutter
- Haze Door
- Read
- Log

#### SHUTTER

The Shutter Test allow the user to control the shutter in different positions while reporting the current position on the screen. Toggle allows for one cycle to be performed. Auto test will continue for a group of tests starting with 25 Cycles.



Figure 71. Auto Shutter Test

#### HAZE DOOR

This test allows user control of the Haze Door to open, close or toggle open and closed. The Auto Test will run a minimum of 25 cycles to determine if the door is operating properly.



Figure 72. Press Start to Begin the Auto Haze Door Test



Figure 73. Enter the Number of Test Cycles

When the Cycles are complete the failures are reported.

#### <u>READ</u>

Once enabled, this feature records the instrument actions for tracking purposes. When complete the user returns to this screen and exports the data to a thumb drive. Once the data export is completed the data size becomes '0' again. **READ SIGNAL, DARK, ZERO**: This function will enable the Service Department to determine proper performance of the instrument. The **SIGNAL DATA** and **CHART** for the white tile are shown in the next figure. These measurements can be put on a continuous **LOOP**.

User's Manual for Vista with EasyMatch Essentials ver. 3.8

	Pe	erformance				Advanced	
Shutter				System	Signal	Data	hart Export
In	Out	Toggle	Auto Test	Standardize	S No	Sample	Monitor
	Failures.ir	v>0, 001->0		Measure	1	280	366
Haze Door					2	216	486
Open	Close	Toggle	Auto Test	Printer Drivers	3	175	662
	Failures:Clo	se>0,0pen>0	,	Restart COMM	4	147	986
Read				The State Commit	5	127	1620
Cinnal	Dark	7.010		Support Region	6	113	2781
Log	Dark	2010	Coop	Restart Support	7	105	4607
							01

Figure 74. Signal Data



Figure 75. Signal Chart

#### LOG

Once enabled, this feature records the instrument actions for tracking purposes. When complete the user returns to this screen and exports the data to a thumb drive. Once the data export is completed the data size becomes '0' again.

#### System Tests

Standardize & Measure

Standardize can be used prior to measurement of spectral data. This data can be exported to a download folder on a USB drive.

	P	erformance			A	dvanced	
Shutter				System	Data View	V O Chart Vi	ew
In	Out	Toggle	Auto Test	Standardize	Measure - Sp	ectral Data	Expor
	Shutt	er is OUT.		Measure	S No	WL (mm)	Data
Haze Door					1	400	0.999705
Open	Close	Toggle	Auto Test	Printer Drivers	2	410	1.000186
	Door	is Closed		D	3	420	1.000080
nl				Hestart COMM	4	430	0.999995
Head			-	Support Region	5	440	0.999981
Signal	Dark	Zero	Loop		6	450	0.999878
Log				Restart Support	7	460	1.000093
				····-	No.		

Figure 76. Measure Spectral Data

#### **Printer Drivers**

To upload a new print driver, download the *apk* file needed from the internet onto a flash drive. Place the flash drive into the instrument (front port) so that it can access the list of apk files. Select the driver to upload and press *OK*.



Figure 77. Insert USB with Printer Driver

	🔶 Color Data	Table [DEE /10] Select Printer Driver File to	install			۲	෯ ≣	∎
	Diagnostics	Path: /storage/udisk						
		[2016-11-04 16:26:00	]					_
	In Out	Vista Essentials APKs [2016-10-14 11:49:00	3			View Data		
	sł	Biogen data [ 2016-10-12 13:54:00	1					
<	Open Close	System Volume Inform [ 2016-08-08 16:03:00	nation					$\geq$
	Do	LOST.DIR [ 2016-10-10 15:02:00	]					
	Read Signal Da	EZMQCEssentials.apl	( ] 4.29MB			1		
		Canon Print Service_v [2016-08-18 14:07:00	2.3.1_apkpure. ] 18.31MB	com.apk			01	
			Ok	Back	Cancel		Close	
	💑 Vista - VTS00119 Star	ndardized Mode: TTRAN			Job	: Untitled	WorkSpace : [	Default

Figure 78.Select Printer Driver

Color Data Table	[D65/10]	<ul> <li>இ</li> </ul>
- Diagnostics	🚊 Canon Print Service	
Perfo	✓ App installed.	nced
Shutter		Chart View
In Out 1		ctral Data
Shutter is		
Haze		
Open Close		
Doorns ch		
Read		
Sigilar Dark		
		Close
	Done	Close
Vista - VTS00119 Standardized	Mode: TTRAN	Job : Untitled   WorkSpace : Default

Figure 79. Driver Enabled Figure 80. Printer Drive Installed

iagnostics						_	
	Perfo	Do you existin	g data will not be lo	pdate to this built-in a st. The updated appli	application? Your ication will get	hced	
hutter		access	s tu.	NEW ALL			
In	Out					ctral Data	1
	Shutter is						
laze							
	Door is Cl						
ead			This update r	equires no new perm	hissions.		
Signal	Dark						
Signai	Daik						
_	_						_
Vista - VTS00119	standardized Data Table		Cancel		Install	Job : Untitle	d WorkSpace
Vista - VTS00119 Color Diagnostics	3 Standardized Data Table		Cancel TRAN 10]		Install	Job: Untitle	d WorkSpace:
Vista - VTS00119 Color Diagnostics Repeatabl	3   Standardized Data Table unAuto_Diag	Mode: T [D65/ gnostics	Cancel TRAN 10]	er.Jet M402dn (COAFC Service Plagin	Install 05) 7-Apr-24	Job : Untitle (3) (2) (2) (2) (2) (2) (2) (2) (2	d WorkSpace:
vista - VTS00115 Color Diagnostics Repeatabi	3 Standardized Data Table unAuto_Diag	Mode: T	Cancel TRAN   10] 10 10 10 10 10 10 10 10 10 10 10 10 10	er.Jet M402dn (COAFC Service Plags PAPER SIZE	Install 05) 7-Apr-24	Job : Untitle	d WorkSpace
Vista-VTS00119 Color Diagnostics Repeatabl ND Filte	a   Standardized Data Table unAuto_Diag	Mode: 1   [D65/ gnostics Test	Cancel TRAN 10] COPIES 1	er.Jet M402dn (COAFC Bervice Plagn PAFER 522E Letter	05) 7.Apr.24	Job : Untitle	WorkSpace :
Vista - VTS00119 Color i Diagnostics Repeatabi ND Filte	3 Standardized Data Table unAuto_Diag	Mode: T : [D65/ ]nostics Test I Repe	Cancel TRAN  TRAN  TO  Point  Point  Point  TRAN  TRA	er.Jet M402dm (COAFD Bervice Plagin PAPER 522E Letter DRONTATION	install D5) Apr-24 Mode TTRAN	Job : Untitle	d WorkSpace:
Vista - VTS00119 Color Diagnostics Repestabi ND Filte Didymium 1	3   Standardized Data Table un Auto_Diag	Mode: 1 [D65/ ]nostics Test I Repe- ND Fi	Cancel TTRAN	er.Jet M402drn (COAFC Service Plagin PAPER 522E Letter ORENTATION POrtrait	Vestall D5) Apr-24 Mode TTRAN 3TRAN	Job : Untitle	cros
Vista - VTS00115 Color Diagnostics Repeatabi ND Filte Didymium I	i Standardized Data Table	Mode: 1 [D65/ prostics Test I Repe ND Fi Didyr	Cancel TTRAN	er.Jet M402drn (COAFC Service Plagin PAPER 522E Letter DREINTATION POrtrait	Dob) ZApr-24 Dob) Mode TTRAN 3TRAN	Jub : Unitife	d WorkSpace
Vista - VTS00116 Color Diagnostics Repeatabl ND Filte Didymium I Haze Stand	I Standardized Data Table	Mode: T [D65/ ]nostics Test I Repe ND Fi Didyr Haz=	Cancel TTRAN	er.Jet M402drn (COAFC Service Plagin PAPER 522E Letter Desentation Portrait	Notell Apr-24 Mode TRAN TRAN TRAN	Jeb: Unitik	d WorkSpace
Vista-VTS00116 Color Diagnostics ND Filte Didymium I Haze Stanc Run Aut	i Standardored Data Table	Mode: T [D65/ mostics Test I Repe ND Fi Didyr Haze	Cancel TRAN	er.Jet M402dn (COAFG Service Plagin PAPER 1822 Letter OKENTATION POrtrait	Dob) ZADI-24 Dob) ZADI-24 Mode TRAN TRAN TRAN	Job : Unitik	d WorkSpace
Vista-VTS00110 Color Diagnostics ND Filte Didymium I Haze Stand	9   Standardord Data Table IumAuto_Diag	Mode: 1 [D65/ mostics Test I Repe: ND Fi Didyr Haze	Concel	er.Jet M402dn (COAFG Berlos Plagin PAPAPR 1822 Letter OKENTATION POrtrait	Dos) Apr-24 Mode TRAN TRAN TRAN	.02-41-50	d WorkSpace
Vista-VTS00115 Color Diagnostics Repeatabl ND Filte Didymium I Haze Stand	) Standardized Data Table	I Mode 1 I [D65/ I [D65/ Test I Repe ND Fi Didyr Haze	Conesi TTRAN 100 100 100 100 100 100 100 10	er.Jet M402dn (COAF C Service Plagn PAPER SIZE Letter OKERITATION POrtrait	Dos) ZADr-24 Mode TTRAN TTRAN TTRAN TTRAN TTRAN	.ob: Unitité Close	d WorkSpace

The Vista will install the new printer driver and it will be then available to use.

Figure 81. Printer Page

#### **Restart Comm**

**RESTART COMM** can be used to reset the ethernet communications for EasyMatch QC.

Remote Connection through Netops

Note: Your instrument must connect to the Ethernet.

 Select **RESTART SUPPORT** to view the Netops Host Screen. From the top right side of the Netops Host screen, select the **3 DOTS**. From the list menu, select **RESTART**.



Figure 82. Netops Screen

2. To ensure that your application is successfully restarted, make sure that you see the message *WEBCONNECT: 'HUNTERLABS' ONLINE*. If this message does not appear, please contact our support teams.



Figure 83. WebConnect to HunterLab

#### **Predictive Tests**

HunterLab Predictive Diagnostic is designed to monitor the software and hardware components of the Vista. Predictive Diagnostic is used to capture different low-level and user-initiated data during normal operation. Following are predictive diagnostics features that have in Vista Rev 1.10.0120 and above.

- 1. Go to WORKSPACE MENU > DIAGNOSTICS > PREDICTIVE.
- 2. Set up Reminder intervals for the white tile (repeatability), didymium filter test, ND filter test (optional) and Haze standard test (optional). Select the number of days for the reminder. *DISABLE WARNING/ERROR ALERT* should be checked.

Color Data Table [D65/10]		<u>S</u>	٢	\$ ■
Diagnostics				
Performance	Advanced		Predictiv	ve
Reminder interval (days) for Repeatability Test 30 ND Filter Test 0 Didymium Filter Test 30 Haze Standard Test 0 Disable Warning/Error Alert Repeatability Trend Y Show				
	Ар	ply Ex	port	Close
_;				

Figure 84. Predictive Diagnostics

3. View trend plots of repeatability, didymium filter, ND filter, Haze standard and monitor channel TOS (Collected from each standardization. For each trend plot, first select the time range, then click *SHOW* to display the data. In the plot, select each data point to get the details displayed on the right side.



Figure 85. Monitor Channel Pixels

4. Select **EXPORT** to send the predictive diagnostics data to a thumb drive. It is recommended to share the predictive diagnostic files when users contact <a href="mailto:support@hunterab.com">support@hunterab.com</a> with instrument issues. There are three types of predictive diagnostic files.



Figure 86. Predictive Test Options

**Diagnostics Data**: Records all of the diagnostics tests (i.e. White Tile Repeatibility and Didymium filter).

**Standardization Vector Log**: Records raw data from the sample and monitor channel during each standardization.

**Initial Data:** The original raw data from the sample and monitor channel. This data should not be modified by users.

Test	Sample to Measure	Warning alert
Standardization Vector Data		
Sample channel signal Data	Light Trap	Max BOS is above 4000.
Monitor Channel Signal Data TOS	White Tile	Max monitor data is below 16000.
Sample Channel Signal Data of BOS	Light Trap	Max BOS is above 700.
Sample Channel Signal data of TOS	White Tile	Max TOS is below 16000.
Service Date		Within 1 month

#### 5. Warning Messages – Collect the following raw data:

Once the Disable Error/Warning Alerts is unchecked and applied in Workspace Menu > Diagnostics > Predictive, the info button in the tool bar will list all of the existing warning and error messages. It will be labeled with a different colored dot – Red dot for errors, a yellow dot for warnings and no color for no error or warning.



Figure 87. Red Dot for Errors

Figure 88. No Error or Warning

## Workspace: Convergence

Convergence is an optional CMR feature in EasyMatch QC and Essentials. It allows users to save measurement data from Essentials-based instruments into SQL database automatically, which could help users to organize data.

Essentials and EasyMatch QC applications use independent data storage formats and database



locations. With Convergence, measurements performed by Essentials or EasyMatch QC will be saved to a common database. This database will be updated to both Essentials and EasyMatch QC in parallel upon measurement completion. This feature is very helpful if the user takes measurements in Essentials but later wants to use EasyMatch QC to analyze data.

The Common Data Storage is updated as measurements are taken from both connected applications.

- 1. Whenever a measurement is performed from any connected application, a Data Update notification is sent to both the connected applications.
- 2. The operation can be carried out only when the system status changes to 'active'. A 'busy' status is shown when any operation is in process.
- 3. Once convergence is setup, EasyMatch QC and Vista Essentials can talk to each other: If both software packages are open, the measurement data is shown at the same time. All data measured from two software packages will be saved into the Common SQL Database. Both software packages can recall data from the Common DB.
- 4. Data in an SQL database is more secure in compared to be saved locally in instruments.

To begin, select **WORKSPACE > CONVERGENCE** to display the below options as shown in the below list of options



Figure 89. Select Convergence

#### Convergence > Data Management



Figure 90. Convergence Sub-menu

Select type as *LOCAL DATABASE* or *NETWORK DATABASE*. The Local DB option can be selected to save the measurement records on the instrument side.

Common DB Settings		
Please select Commo	n DB location	
O Local DB		
Network DB		
Server IP Address	10.33.50.120	Test Connection
Server Port Number	1433	Connected
User Name	COMMONDBUSER	
Password	•••••	
	Apply	Cancel

Figure 91. Select Database Type

The **NETWORK DB** option can be used to configure the network information (**IP ADDRESS**, **SERVER PORT NUMBER, USERNAME, PASSWORD**) and save the measurements. Click **TEST CONNECTION** to verify the Database connection then click **APPLY** to save the configuration settings.

Note: Please use Server Port number as 1433 (for below SQL Server 2012). For SQL Server 2012 and above, please follow the below steps to find the port number to be used.

- Run SQL SERVER CONFIGURATION MANAGER on the SQL SERVER system.
- Click on PROTOCOLS FOR SQLEXPRESS item and open the TCP/IP Properties dialog.

File Action View Help			TCP/IP Properties		? 💌
	1		Protocol IP Addresses		
<ul> <li>SQL Server Configuration Manager (Local)         <ul> <li>SQL Server Services</li> <li>SQL Server Network Configuration</li> <li>Protocols for SQLEXPRESS</li> <li>Protocols for MSQLEXPRESS</li> <li>SQL Native Client 11.0 Configuration</li> </ul> </li> </ul>	Protocol Name Thared Memory Thared Dipes TOP/IP	Status Enabled Enabled Enabled	TCP Dynamic Ports TCP Port PP4 Active Enabled IP Address TCP Ports TCP Ports TCP Ports TCP Ports TCP Port PAddress TCP Port PAddress TCP Port TCP Port TCP Ports TCP Port Active Indicates whether the select OK	0 Yes Yes 122.0.0.1 0 1433 Yes No re80::5efe:10.33.50.120%1 0 49401 1433 ted IP Address is active. Cancel Apply	2 E Help

• Now, use the port number mentioned in **TCP DYNAMIC PORTS** under **IPAII** section.

Figure 92. SQL Configuration Manager

#### Convergence > Recall Measurements

Click *RECALL* to select the Samples/Standards from the Common DB.



Figure 93. Convergence > Recall Measurements

Select individual samples using the radio buttons next to the sample name or type the text in the FILTER BY NAME text box and filter the list of measurement records whose names matching to the text typed as shown below.

Recall Measurements					
Sensor: Vista					
Filter By Name:					
Samples					
Sample 1_20190508_10:34:43					
Sample 1_20190508_10:35:44					
Sample 1_20190508_10:38:34					
Sample1_20190508_23:00:19					
Sample2_20190508_23:01:23	0				
Sample3_20190508_23:02:07	0				
Set Filter Clear All	Select All				
Recall	Cancel				

Figure 94. Recall Measurements

Recall Measurements				
Sensor: Vista				
Filter By Name: S				
Sample 1_20190508_10:34:43				
Sample 1_20190508_10:35:44				
Sample 1_20190508_10:38:34				
Sample1_20190508_23.00.19	0			
Sample2_20190508_23:01:23	0			
Sample3_20190508_23:02:07	0			
Set Filter Clear	All Select All			
Recall	Cancel			

Figure 95. Filter by Name

To **SET FILTER**, press this option on the bottom of the dialog box. Then select the type of measurements (i.e. Standard or Sample) or specify the dates. Then press **OK** to continue.

Set Filter		
Select Type Samples		•
🗌 Filter On Date		
From 09-05-2019	<b>To</b> 09-05	5-2019
	ОК	Cancel

Figure 96. Set Filter

After selecting the records from the populated list, press *RECALL* to bring the selected measurements into the current Job.

#### Convergence > Connected Clients

**CONNECTED CLIENTS** is used to display the list of the current connected active clients using the convergence service.



Figure 97. Convergence Connected Clients

Connected Clients Info				
S.NO	Info	Status		
1	/10.33.50.129	Connected		
2	/127.0.0.1	Connected		
		Close		

Figure 98. Connected Clients Info

Measurement data is shown in both connected clients when they are connected to the sensor. When reading samples, both clients are updated with data and both can recall data from the common database.

Name	L*	a*	b*		
Convergence Test 1_20191101_10:55:	100.00	-0.01	0.01		

Figure 99. Convergence in Essentials

ľ	♦ Leg-Materity: Ser (3601 - Untilled John)   Datelline (173) ♦ Re: Edit View Messurements Options Sensor Window Help											
	🗋 😥 🚝 🗋 📙 🧮 🤐 🧐 🗐 🖉											
		ID Convergence Test	L* 100.00	6* -0.01	6* 0.01	dL^	da*	db*	JE*	9E CMC	dE CMC (I∷c)	

Figure 100. Convergence Showing Data in EasyMatch QC

# **CHAPTER SEVEN**

# **Tool Bar: Jobs Function**



Under the Job function, the following tasks can be accomplished:



## Jobs vs Workspace

**JOBS** vs. **WORKSPACE**: A job consists of standard and samples measured into a specific workspace. A workspace is a template with measurement conditions such as Color Scale, Index, illuminant, etc. There can be only one job open at a time. A new job will use the current loaded workspace settings. The user can change the settings and these changes are applied into the current job. The last loaded workspace settings are applied automatically when the user creates a new job. The main tool bar provides the options to create a new job, open an existing job and save a job.

## Jobs: New

Create a new empty Job. Select **JOB** > **NEW** and the current job is replaced with a blank screen. The Job Status bar displays the new job as 'untitled'.

## Jobs: Open

**OPEN** a saved Job using the main tool bar or using the Jobs listing on the status bar. A list of available jobs under the current path are displayed for selection. If the job that is needed exists in another folder, then it is an option to change the folder (**NEW FOLDER**). When the job to be opened is displayed select the appropriate button and press **OPEN**.

*	EasyMatchQC Essential	s Color Data Table [D65/10]	٢	ŝ	800
		Open Job	2		
	_	Path: /storage/emulated/0/Hunterlab			
		test [2016-03-31 13:28:00]			
1		Etst4.ezm [2016-03-31 12:29:00] 2.1KB			
$\leq$		E test6.ezm [2016-03-31 13:39:00] 3.33KB			$\geq$
		test5.ezm [2016-03-31 12:47:00] 2.09KB			
Ţ		Open New Folder Back Cancel			
Vista g	Standardized		Job : Untitled1	WorkSpace	: haze
		Figure 102. Open A Job			

## Jobs: Save & Save As

**SAVE** the Job under the desired name. To save a job, select the folder, **NAME THE JOB** and **SAVE THE JOB** contents into a file. These files have an .ezm or a CSV extension. There will be a default name filled in Filename box as date&time&instrument#&workspace. You can edit it if needed.

🔶 Б	asyMatchQC Essentials		Color Data Tabl	e [D65/10]		ô	ŝ	0
		Save Job						
		Path: /stor	age/emulated/0/Hur	terLab				
		FileName			ezm 🔻			
		🖹 Jobs [2016	6-04-08 18:41:00 ]					
<								$\geq$
Ţ		Save	New Folder	Back	Cancel			
Vista 🚓	> Not Standardized					Job : Untitled1	WorkSpace	Default

Figure 103. Save A Job

## Jobs: Print

**PRINT** an open Job using the parameters set up under Preferences. Drivers included in the Vista are shown below. Also available is the ability to save to PDF.

Printer	Driver
Canon	Canon Print Service 4.4+
НР	HP Print Service Plugin 4.1+
Epson	Epson Print Enabler 4.4+
Konica Minolta	Konica Minolta Print Service Plugin 4.4+
Kyocera	Kyocera Print Service Plugin 4.4+
Lexmark	Lexmark Print Service Plugin 4.4+
Samsung	Samsung Print Service Plugin 4.4+
Sharp	Sharp Print Service Plugin 4.4+
Xerox	Xerox Print Service Plugin 4.4+

- Additional drivers can be added under WORKSPACE > DIAGNOSTICS > ADVANCED.
- To save the report as a PDF file, select SAVE AS PDF > SAVE as shown below. A keyboard will be presented for naming the file. Please save the pdf file into DOWNLOADS. To get the PDF

file exported, please go to *JOBS > DATA MANAGEMENT > EXPORT >OTHERS*, then switch the folder to **DOWNLOAD** to select the pdf file and export.



Figure 104. Select Save as PDF



Figure 105. Name the PDF

#### **Jobs: Preferences**

This menu item shows a dialog box with two pages **General** & **Print** as shown below, where the **GENERAL** page contains the options to configure.

- Load the last used workspace and job.
- Set standardization time interval.
- Set screen brightness and date/time.
- Enable novice tooltip.
- Enable application security.
- Use last login credentials.
- Configure and enable network data export.
- Configure network settings for Ethernet.
- Select LANGUAGE.

Preferences			
General	Print		
Load Last WorkSpace at Startup	Enable Novice Tooltip		
Load Last Job at Startup	Enable Application Security		
Standardization Time Interval (hrs) 8	🔲 Use Last Login Credentials		1
	Auto Export Measurement	Config	
Brightness 100%	Configure Network settings		
Date 12/11/2018 Adjust Clock	Configure Network settings		
Time 2:12 PM	Language Settings		
	Defaults Apply	Cancel	
	Defaults Apply	Cancel	

Figure 106. Jobs> Preferences> General Page

• To LOAD THE LAST WORKSPACE AT STARTUP, check this box and press APPLY.

• To LOAD THE LAST JOB AT STARTUP, check this box and press APPLY.

	Color Data Table [D65/10]		Image: A state of the state	⇒ ≡
	Preferences	Print		
<	Check United Control C	Enable Novice Tooltip     Enable Application Security     Use Last Login Credentials     Auto Export Measurement     Configure Network settings     Language Settings	Config	
Ţ		Defaults Apply	Cancel	
-∰c> Stand	Jardized - TTRAN	Ja	sb: Untitled W	/orkspace: Default

Figure 107. Standardization Time Interval

- The **STANDARDIZATION TIME INTERVAL** is a useful reminder to restandardize after time (hours). Press *APPLY* to set the new interval. When the time has lapsed, a prompt to **RESTANDARDIZE** will be displayed before measurements can be taken.
- Set the **SCREEN BRIGHTNESS** using a sliding scale and press **APPLY**. After 15 minutes of idle the screen brightness will automatically reduce to 3%.
- Set the DATE/TIME and TIME ZONE using the ADJUST CLOCK feature.
- **ENABLE NOVICE TOOLTIPS** by checking on the box. Once enabled, screen tips are displayed for 3 seconds. To display again, roll over the lightbulb icon on the lower right part of the screen.



Figure 108. Example of Novice Tool Tip

- **ENABLE APPLICATION SECURITY**. This selection is available after the User Manager has been set up. Please refer to the **JOBS** > **USER MANAGER** for more information.
  - When this is selected, the application will require valid login credentials at startup. On successful login, the user name will be shown in the status bar. If USE LAST LOGIN CREDENTIALS is checked, the user will be automatically logged in on subsequent startups.

• For AUTO EXPORT MEASUREMENT, check AUTO EXPORT Measurement and click CONFIG to setup the Vista. Then set up parameters in the PC or server that is used to collect data from Vista. For more detail, please see the chapter on Special Functions

Pref	erences		
	General	Print	
	Load Last WorkSpace at Startup	Enable Novice Tooltip	
	Load Last Job at Startup	Enable Application Security	
Star	ndardization Time Interval (hrs)	Use Last Login Credentials	
		Contract Section Contract Cont	onfig
Brig	htness 100%	Configure Network settings	
Dat	Adjust Clock	configure methodik detango	
IIm	e z:1z PM	Language Settings	
		Defaults Apply C	ancel
		2.141.144	

Figure 109. Auto Export

• **LANGUAGE** Settings provide a selection of language and change of keyboard for German, Japanese and Chinese. After changing the language selection, please restart Vista Essentials to get the new language applied.

	olor Data Table [D65/10]				٢	¢	
	Preferences General			Print			
<	Load Last WorkSpace     Load Last Job at Start     Standardization Time Inte     Brightness	anguage Settings anguage: E Configure H	nglish 💌 Keyboard	Tooltip tion Security Credentials assurement	Config		>
	Date 12/11/2018 Adjust		Language Setti	ngs			
Ţ			Defaults	Apply	Cancel		
<b>⊲¥c</b> ∋ Standar	rdized - TTRAN				Job: Untitled	Workspac	e: Default

Figure 110. Language Selection

- The **PRINT** page allows the user to configure:
  - The *MEASUREMENTS* and *VIEWS* to print.
  - The option to **PREVIEW** before print.
  - Print report **TITLE** and **LOGO**.
  - Orientation of the report (**PORTRAIT** or **LANDSCAPE**) orientation.

To save changes, press APPLY.

Preferences	
General	Print
Title Essentials-Vista Orientation Portrait LandScape Readings Last Measurement All Readings Preview before Print	<ul> <li>✓ Set Default Print Logo</li> <li>Logo Default</li> <li>Browse</li> <li>Logo Preview</li> <li>Print Logo</li> <li>Size: 128 x 128 pix</li> </ul>
	Defaults Apply Cancel

Figure 111. Jobs> Preferences> Configure Print Page

## Jobs: Data Management

The data contains standard(s) and sample measurements saved in Job files and database along with the sensor information. The saved measurements are also associated with a respective Workspace and Job.

- The **DATA MANAGEMENT** contains the features to Recall, Import, Export, Email a Job and Backup/Restore. After a job is saved, it can be used to create a CSV file for export and email.
  - *RECALL* the measurements from the database.
  - IMPORT a selected Job(s), Standard(s), Workspace(s) and Diagnostics from a USB flash drive.
  - EXPORT the Job(s), CSV files, Standard(s), Workspace(s) and Diagnostics in the Download folder or to a USB flash drive.
  - **EMAIL** the selected Job(s), CSV or files in the Download folder on a USB.
  - DELETE a Job(s), Standard(s), Workspace(s), Diagnostics and in the Download folder on a USB.
  - **BACKUP** the Job Files and Database into a USB Flash drive or to Network.
  - *RESTORE* the Job files and Database from a USB Flash drive or from a Network.



Figure 112. Data Management Menu

#### JOBS > DATA MANAGEMENT > RECALL

Recall measurements that have been stored to a job.

The Recall measurement dialog is updated in Vista Essentials Rev 1.10.0121 and above. Since we have "Recall Standard" feature already, the Recall Measurement dialog is used to recall samples only.

Users can enter sample name to search the sample. Also, they can filter samples by workspace or Job.

Check samples that need to be recalled and click "Recall" button to recall these samples to the current job.

Recall Measuremer	nts			
Sample Name				
Select Workspace	All	•		
Select Job	All	•		
				_
Sample Name	e Sensor Type	Sensor Number	Created	d Time
Gyt & zr	Vista	VTS00105	10/27/202	1_3:04 PM
/& ty nb	Vista	VTS00105	10/28/202	1_4:32 PM
Sample2	Vista	VTS00105	11/9/2021	1_9:55 AM
Sample3	Vista	VTS00105	11/9/2021	I_9:56 AM
Sample4	Vista	VTS00105	11/9/2021	1_9:58 AM
Sample5	Vista	VTS00105	11/9/2021	_9:58 AM
Sample6	Vista	VTS00105	11/9/2021	1_9:59 AM
Sample7	Vista	VTS00105	11/9/2021	1_9:59 AM
Sample8	Vista	VTS00105	11/9/2021.	_10:00 AM
Cample0	Viete	V/TCOOLOF	11/0/2021	10.00 414
		l	Recall	Cancel

Figure 113. Recall Measurements

#### Jobs > Data Management > Import

This feature allows the user to import the below Job, Standard, Workspace or Diagnostics from a USB flash drive into the instrument. Data can be one file, multiple files or all files. All selected files should be in the same file path location.



Figure 114. Import Data Type

#### IMPORT JOB

This option allows the user to browse and select a Job file(s) (.ezm) from the USB flash drive and import into the instrument. If a file name already exists, then the name will be incremented numerically.

Select Job to Import				
Path: /storage/udisk				
E Hunterlab(1) [ 2016-07-29 18:50:00 ]				
System Volume Information [ 2016-07-23 17:13:00 ]				
E [unterlab [ 2016-07-29 15:20:00 ]				
Android [2016-07-25 14:38:00]				
Select Bac	k Cancel			

Figure 115. Import Job

#### IMPORT STANDARD

This option allows the user to browse and select a Standard (extension *.std*) from the USB flash drive and import into the database. If required, the Standard Name can be changed.

Import Standar	d	
Details		
Record Name: Sample Name: is Hazed : is Hitched : Group : Job : Sensor Name: Sensor Name: Sensor Mode:	StdHaze HazeData1 true false CatHaze HazeTest Vista VTS00103 TTRAN - Total Tr	ansmission
	Import	Close

Figure 116. Import Standard

#### IMPORT WORKSPACE

This option allows the user to browse and select a Workspace(s) (extension *.ws*p) from the USB flash drive and import into the database. If the workspace already exists, then the user is prompted to specify a different name.

Select Import Workspace				
Path: /storage/udisk				
E Hunterlab(1) [ 2016-07-29 18:50:00 ]				
System Volume Information [ 2016-07-23 17:13:00 ]				
E Hunterlab [ 2016-07-29 15:20:00 ]				
Android [ 2016-07-25 14:38:00 ]				
Select Back	Cancel			

Figure 117. Import Workspace

To use the above functions, a USB flash drive must be present in the port.

#### Jobs > Data Management > Export

This feature allows the user to export Jobs, Standards, Workspace Settings, Diagnostics results and Others from the instrument into a USB flash drive. Data can be one file, multiple files or all files. All selected files should be in the same file path location.
# EXPORT JOB

This option allows the user to browse and select an existing Job(s) (*.ezm*) or the current active Job data and copy into a USB flash drive either in *CSV* or *EZM* file format. While exporting into EZM format, the current active Workspace settings can be applied. The color data shown in the Color Data View and the Spectral Data is saved in a CSV file. (In Rev 1.03.0070 and above, the .csv file will be automatically created/updated when a job is saved. CSV files are stored at *HUNTERLAB > CSV FOLDER*. User can export .csv file through *EXPORT > OTHERS*.

Color Data Table [[	065/10]				٢	ŝ	
<	Name Port 1 July Export Current Job Use Current Works Job Source	L*	a* b*	wse			>
<b>()</b>		Expo	rt Clos	e			
Vista - VTS00119 Standardized	Mode: TTRAN		u	ser : Admin	Job : Untitled	WorkSpa	ace : Default

Figure 118. Export Current Job

## EXPORT STANDARD

This option allows the user to browse and select an existing Standard(s) in the database and copy into the USB flash drive as a file (.*std*).



Figure 119. Export Standard

### EXPORT WORKSPACE

This option allows the user to browse and select an existing Workspace(s) in the database and copy into the USB flash drive as a file (*.wsp*). To use the above functions, a USB flash drive must be present in the port.

# EXPORT OTHERS

This is used to export the saved pdf file in the **DOWNLOADS** folder.

Color Data Table [D65/10]		٢	‡ ∰
	Select Object Type		
	Job		
	Standard		
	Workspace		
	Diagnostics		
	EventLogs		
	Others		
	Close		
Standardized - TTRAN		Job: Untitled*	Workspace Default

Figure 120. Export Others

• With a USB file in the drive, select **OTHERS.** 

🔶 Color Data Ta	able [D65/	10]				٢	ŝ	
	Select File Path: /stor Switch to:	Name (s) to rage/emulate Hunterlab Hunterlab Download	ed/0/Hunterlab	a*	p.			>
<b>3</b>		Select All	ОК	Back	Cancel			
Standardized - TTRAN					Jol	o: Untitled*	Workspa	ice: Default

Figure 121. Select the Download

 Switch from HunterLab folder to DOWNLOADS and then select pdf files and click to get them exported.

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	Name	L*	a*	b*			
Selec	t File(s) to						
Path:	/storage/emulated/	0/Download	1				
Switc	h to: Download 🔻						
<b>(</b>	Access Privileges Report.pdf [2018-05-15 15:59:00] 0.32MB						
	Haze Standards VTS 2018-10-25 11:57:00	105.pdf 0] 65.07KB					
fin t	esting repeatability f 2018-10-19 11:36:00	ile.pdf 0] 157.29K	В				
	RunAuto Diagnostics	ndf	1	1			
	Coloret All	OK		Cancel			

Figure 122. Select File to Download

## Jobs > Data Management > Email

Saved Jobs and downloads can be emailed if there is an active internet connection. When the *EMAIL* option is clicked, the following screen is shown prompting the user to browse and select a user and enter the recipient email address. You can email any file in HunterLab folder as well as in the downloads folder. Data can be one file or multiple files, e.g. csv file in *HUNTERLAB* > *CSV FOLDER*, pdf reports in Download folder. In Rev 1.03.0070 and above, the .csv file will be automatically created/updated when a job is saved. CSV files are stored at *HUNTERLAB* > *CSV FOLDER*. These .csv files can be emailed.

📥 Color Da	ta Table [D65/10]	۲	> @ ■
-	Compose Email		
	From hunterlabvista@gmail.com	Settings	
	То	Send Email	
	Subject	Close	
<	0 No Attachments	• 2+	>
	Compose		
Ţ			
- Vista - VTS00119	Standardized Mode: TTRAN	Job : U	ntitled WorkSpace : Default

Figure 123. Enter an Address to Email a Job

MAIL SETTINGS

Click **MAIL SETTINGS** button to configure the SMTP mail server configuration (**PORT**, **SERVER**) as shown below. The mail settings configuration is mandatory to enable the mail job feature in the application. When done, press **SEND**.

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easyMatchQC E	ssentials		Trend P	lot [D65/10	]		2	ම දි	} 8
148.47 _	Compose	Email							
5 95 00	From	Email Settin	gs			ting	s		
43.69 0	То	Name				I Em	va Jail	me S.De	ev Avg
G 81		Server					3*	26.4	16 83.08
410	Subject	Port				lose	0.4 b*	2 1.22	2 0.28
	0 No A	From				-	0.0 51	0 – łaze	1.59
Q W	E	R	т	Y	U	8	0	Р	×
A S	D	F	G	н	J	К	L		Next
▲ Z	х	С	v	В	Ν	м	!	?	•
?123 苹	/						,		٢

Figure 124. Enter SMTP Mail Server Information

### Jobs > Data Management > Delete

The **DELETE** function will allow deletion of Jobs, Standards, Workspace, Diagnostics and files in the Download folder. Data can be one file, multiple files or all files. All selected files should be in the same file path location. Files can be deleted on a thumb drive using the **DELETE > OTHERS** function as shown under Data Management Export. .

### Jobs > Data Management > Backup/Restore

The **BACKUP** function will copy the entire Vista database to a selected folder on a thumb drive or to a network. **RESTORE** enables the user to upload a backup folder from a thumb drive or from the network to the Vista.

- To run the network backup/store, first setup the HunterLab File Service Package on a network PC. See SPECIAL FUNCTIONS.
- Setting up File Storage from Vista (Client) Side

In Vista Essentials, navigate to *JOBS > DATA MANAGEMENT > BACKUP (or RESTORE).* The *SELECT ACTION* dialog will be displayed. The user can choose between **USB DRIVE** or **NETWORK STORAGE**. When *USB DRIVE* option is selected, the Backup and Restore operations will be performed into the USB flash drive plugged into the system.



Figure 125. Select USB Option

When **NETWORK STORAGE** is selected, the Backup and Restore operations are performed into a network folder of the specified system where the HunterLab File Service is installed. Click on **NETWORK STORAGE SETTINGS**.

Select Action	
O USB Drive	e <ul> <li>Network Storage</li> </ul>
₽↓	Backup
<b>₽</b> †	Restore
o Netwo	rk Storage Settings
	Close

Figure 126. Network Storage Settings

In the next screen enter the **IP ADDRESS** and **PORT NUMBER**. Click on **TEST CONNECTION** button to verify the connectivity. Click **APPLY** to save the settings. The saved network settings will be used for the Network Backup and Restore operations.

Network Storage Settings			
Server IP Address 10.33.50. Server Port Number 8888	131	Test C	onnection
	Apply		Cancel

Figure 127. Network Storage Settings

After successful configuration of network settings, click **BACKUP** (or **RESTORE**) to perform the complete backup of **HUNTERLAB** folder in Essentials-Vista to the specified network server's folder.

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4	Color Data Table [D65/10]		٢	<u>ن</u>	
	Backup				
<	2019-Aug-12 10:54:23:980: Backup appln data 2019-Aug-12 10:54:24:292: Dir created: /storage/emulated/0/Hunterla 2019-Aug-12 10:54:24:25: Dir created: /storage/emulated/0/Hunterla 2019-Aug-12 10:54:24:50: Dir created: /storage/emulated/0/Hunterla 2019-Aug-12 10:54:24:50: Dir created: /storage/emulated/0/Hunterla 2019-Aug-12 10:54:25:059: Copied 533 bytes of 20190712_152818_V 2019-Aug-12 10:54:25:377: Copied 2730 bytes of PROFILE-journal 2019-Aug-12 10:54:25:437: Copied 8720 bytes of FDOFILE-journal 2019-Aug-12 10:54:26:591: Copied 8720 bytes of UM_SETTINGS 2019-Aug-12 10:54:26:771: Copied 20460 bytes of UM_SETTINGS 2019-Aug-12 10:54:26:712: Copied 2140 bytes of FDOFILE-journal 2019-Aug-12 10:54:26:712: Copied 1538 bytes of PROFILE- 2019-Aug-12 10:54:26:712: Copied 1538 bytes of PROFILE- 2019-Aug-12 10:54:27:122: Copied 1538 bytes of	b b/CommonD b/Csv b/Jobs b/Diagnostic /TS00119_De /TS00119_De	B.db s efault.csv efault.ezm		>
		Print	Export	Close	
- ČE>	Standardized - TTRAN		Job: Untitled*	Workspace:	Default
	Figure 128. Backup Files o	on Vista			
•	his PC → OS (C:) → HunterLab → BackUoFolder				

	^	Name	^	*	Date modified	Туре	Size
		📕 Hu	interlab_VTS00105_Jul08_2019_162242		7/8/2019 04:22 PM	File folder	
5		🔒 Hu	interlab_VTS00105_Jul09_2019_162038		7/9/2019 04:22 PM	File folder	
ces		H	nterlab_VTS00119_Aug12_2019_105425		8/12/2019 10:54 AM	File folder	
Software		🔒 Hu	interlab_VTS00119_Jul08_2019_162228		7/8/2019 04:22 PM	File folder	
2		🔒 ter	np		6/10/2019 02:54 PM	File folder	

Figure 129. Backup Folder in the Networked PC

# Jobs: User Manager

Security can be enabled on the Vista to ensure that operators cannot modify, delete folders or files and limit their functionality. An administrator is identified to set up the users/groups with selected privileges.

• To begin, go to JOBS > USER MANAGER to CREATE ADMINISTRATIVE GROUPS followed by CREATE USER GROUPS.

User Manager			
	Group	Use	r
Create	Group Name		
Privileges	Type Adn	ninistrative 🔻	
Delete	Description		1
Reset Password			
		Create	Close

Figure 130. Create a Group

• Once the groups have been established, then individuals with **USER NAMES** and **PASSWORDS** can be setup for both Administrator and User Groups.

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ser Manager			
	Group	Use	r
Create	User Name		
Privileges	Password		
Delete	Confirm Password		
Reset Password	Group Description	Administrators	
-			
		Create	Close

Figure 131. Setup Administrative & General Users

• Users in Administrative Groups have all features enabled. For User Groups, **PRIVILEGES** can be setup as shown below. Press **UPDATE PROFILE** to complete.

User Manager			
Create	User Groups HW 💌 Edit Privileges		
Privileges	🔺 🛛 Main Menu		
Delete	Read		
Reset	⊠New Job		
rassword	⊠Open Job		
	⊠Save Job		
	⊠Save Job As		
	Upd	ate Profile	Close

Figure 132. User Privileges

 To complete enabling security, go to JOBS > PREFERENCES > ENABLE SECURITY on the right side.

Preferences	
General	Print
<ul> <li>Load Last WorkSpace at Startup</li> <li>Load Last Job at Startup</li> </ul>	Enable Novice Tooltip     Enable Application Security
Standardization Time Interval (hrs) 8 Brightness 40%	Use Last Login Credentials
Date 2017/02/23 Time 14:29	Configure Network Settings
	Defaults Apply Cancel

Figure 133. Enabling Security

• After enabling security, each user must enter a name and password when logging into the Vista. For convenience, the user can check the box under *JOBS > PREFERENCES > GENERAL* to use the LAST LOGIN CREDENTIALS.



Figure 134. Login Credentials

Preferences		
General	Print	
Load Last WorkSpace at Startup	Enable Novice Tooltip	
Load Last Job at Startup	Enable Application Security	
Standardization Time Interval (hrs) 8	🖂 Use Last Login Credentials	
	Automatic Network Data Export Config	
Date 2017/03/09 Time 13:34	Configure Network Settings	
	Defeate tests Orest	

Figure 135. Enable Last Login Credentials

• If needed, the administrative user can delete groups and users and reset passwords of all Groups & Users.

# Jobs: Help

To access the onboard manual, use *JOBS > HELP*. NOVICE HELP can also be enabled under *PREFERENCES > GENERAL*.

# Jobs: About

The **ABOUT** menu provides information about HunterLab and the current software version.

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📥 Color Data Table [D	65/10]	٢	ŝ	
	Name     L*     a*     b*       About.     About.     About.     About.       Hunter Associates Laboratory, Inc. 11491 Sunset Hills Rd Reston, VA 20190 Phone: (703) 471-6870 Fax: (703) 471-68			
Vista - VTS00119 Standardized M	ode: TTRAN	Job : Untitle	d WorkSpace	: Default

Figure 136. Job> About the Software

To update the software version from a USB, install the USB in the port on the front of the instrument. Press **UPDATE** to continue.

For detailed information on firmware and more, please press the *INFO* button on the screen.

Vista Instrument Info				
Serial Number:	VTS00119			
IP Address:	207.176.71.143			
MAC Address:	00:19:B8:02:4E:89			
Firmware:	SFDA V1.31.16.354A			
OS Build:	201609011428			
Essentials:	1.01.0023			
Home Screen:	1.20.6280			
Diagnostics:	1.60.6281			
	Close			

Figure 137. Instrument Info

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# **CHAPTER EIGHT**

# **Electronic Records (ER only)**



HunterLab's EasyMatch Essentials Electronic Records allows communication with the Vista to measure samples and standards, while providing electronic signature capabilities and an audit trail. The special software considerations are described below.

# **Login Feature**

EasyMatch Essentials-Electronic Records contains a login feature. The EasyMatch Essentials Electronic Records login feature has several benefits that may be helpful to some companies.

Once a user logs into EasyMatch Essentials Electronic Records, a user ID is stored as an Operator ID and may be displayed and printed as desired. These actions are also recorded in the Audit Log.

By assignment of individual user accounts and configuration of EasyMatch Essentials-Electronic Records menu items may be configured to allow and disallow specific EasyMatch Essentials Electronic Records software functions.

# **Storing Data/Permanent Records**

# **Creating Job Files**

Job files store the measurements made using EasyMatch Essentials-Electronic Records. While individual sample measurements are saved within EasyMatch Essentials-Electronic Records jobs, these readings are considered work in progress, not end products.

# Storing

In EasyMatch Essentials-Electronic Records, users cannot delete job files. Further, they do not have access to the android operating system to delete the folder.

# Altering

Modification of job files beyond adding measurements, configuring the screen display, and signing is not allowed by EasyMatch Essentials Electronic Records. The raw data behind stored measurements may not be altered in any way within the software. EasyMatch Essentials-Electronic Records alerts the user if a job has been modified from outside the software and then disallows opening of the job, in which case it should be considered invalid and restored from an earlier back-up, if available.

### Deleting

The EasyMatch Essentials Electronic Records job files are retained (and backed up) for the period indicated by predicate rule. The job and database files in EasyMatch Essentials Electronic Records. are protected from deletion.

# Displaying

EasyMatch Essentials Electronic Records jobs may be displayed on screen from within the software and e-mailed to other users with the same software version of EasyMatch Essentials Electronic Records.

# Printing

EasyMatch Essentials-Electronic Records jobs and/or displays may be printed to any installed printer.

# **Standardization**

EasyMatch Essentials Electronic Records prompts for standardization at intervals set by the system administrator and will not allow measurements to be made unless the instrument has been successfully standardized.

# Signatures and Audit Trail

Each job will be electronically signed with the name of the signer, date and time of signing, and the meaning of the signature. The electronic signatures applied to the jobs are linked to the jobs, may not be deleted, and are always available for display or printing. Only a user with e-signature access can sign a job file.

# IQ/OQ/PQ Protocols for EasyMatch Essentials-Electronic Records

The following steps define the IQ/OQ/PQ process.

**IQ** – **Installation Qualification of Hardware and Software** is accomplished by verifying that Administrative group can log in and standardize the sensor indicating that power and communications have been established.

**OQ** – **Operation Qualification** occurs after a member of the Administrative group can operate the instrument and run all sensor diagnostic tests with a **PASS** rating.

**PQ – Performance Qualification** is defined by establishing a measurement method for the application and successfully measuring the client's samples – typically transparent and translucent liquids.

# **Installing Essentials ER**

If the Vista was ordered with EasyMatch Essentials ER, then the instrument will be ready to go. HunterLab will load the software at the factory and create a User Name and Password. These will ship with the sensor and are needed to access the software when it is first started. HunterLab recommends changing these as soon as possible.



Figure 138. Initial Login for Admin

To upgrade or install the software, place a thumb drive with the software upgrade into the front USB on the Vista. Go to *JOBS > ABOUT > UPGRADE* to install ER.

If the upgrade is from a non-ER version, passwords of all previous accounts will become expired. Users must change their password. When the software has finished the update, please **RESTART** the instrument by powering off and then powering on.

If the upgrade is from an older ER version, all user accounts are saved and applied. There is no need to restart the instrument.



Figure 139. Jobs > About

The initial screen will require entry of a **PASSWORD** and **CONFIRMATION** of this password for the Administrator. You can enter an existing administrator account or create a new administrator account in this dialog.

7.0				12:38
	Configure - Adminis	trator Account		
	User Name	Administrator		
	Password			
	Confirm Password			
		Plate		
1 2 3	4 5	6 7 8	9	0
q w e	r t	y u i	o p	×
a s d	f g	h j	k I	Next
⇔ z x	c v	b n m	!?	¢
?123 苹 <b>/</b>			, .	٢

Figure 140. Opening Screen Requiring an Administrator Password

A new ER menu will be shown on the tool bar. Under the **ER MENU**, the following functions can be accomplished:



# **ER: View Audit Logs**

The audit log can be used to monitor activity on the instrument along with User, type of activity and date/time. Steps taken within a Job such as naming a standard or sample are stored with each Job in the order taken with the description. A data filter can be used to isolate Sample and Standards, Save, Edits, e-Signatures and Printing.

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AdditLo	js			
Filter B	y: All	*		
Audit L	ogs:			
S.No	User	Event	Description	Date
1	Hladmin	Job Open	20160920 lovibond 20mm#119	2017-Oct-12 09:13:56
2	Hladmin	Diagnostic Tests	RestartEthernet	2017-Oct-12 01:06:54
3	Hladmin	Diagnostic Tests	RestartEthernet	2017-Oct-12 01:06:55
4	Hladmin	Job Saved	20160920 lovibond 20mm#119	2017-Oct-12 01:07:05
5	Admin	Job Open	20160920 lovibond 20mm#119	2017-Oct-23 11:49:33
-				
5	Admin	Job Open	20160920 lovibond 20mm#119	2017-Oct-23 11:49:33





Figure 143. Audit Filter

# **ER: e-Signature**

All users with access to *e-SIGNATURE* can create an e-Signature for a job. Enter the *USER NAME*, *PASSWORD* and *COMMENT*. The latest e-Signature information can be printed in the job report.



Note that e-Signatures cannot be deleted.

# **ER: View Event Logs**

The *EVENT LOG* provides a list of **ACTIVITIES** with **DATE** and **TIME**, **USER TYPE (EVENT SOURCE)** and **CATEGORY** that are recorded. This list can be filtered and printed.

Event Lu	g viewei					
Event Lo	og:					
S.NO	Event Types	Date	Time	Source	Category	Description
1	Information	2017-Oct-11	12:09:11	Admin	Operations	Application Installed
2	Information	2017-Oct-11	12:09:11	Admin	Operations	New Job
3	Information	2017-Oct-11	12:09:20	Admin	Authentication	Logged Off
4	Information	2017-Oct-11	12:09:33	Admin	Authentication	Logged In
5	Information	2017-Oct-11	12:09:38	Admin	Operations	New Job
6	Information	2017-Oct-12	12:18:44	Admin	Application options	Change timeFormal from 10/11/2017 12:18 PM To 10/12/2017 12:18 PM

Figure 145. Event Log

Event Lo	g Viewer							
Event Lo	og:		Filter Event Log	s				
S.NO	Event Types		Event Types			egory	Des	cription
1	Error	201	🖾 Informatio	on 🛛 Warning 🖾 E	rror	itication	LoginFail Pas	ed-Incorrec ssword
2	Error	201	Event Source	All	•	itication	LoginFail Pas	ed-Incorrec ssword
3	Information	201	Category	All	Y I	tication	Log	ged In
4	Information	201	Filter On D	All		ations	Ne	w Job
5	Information	201		Operations		tication	Log	ged Off
6	Information	201	From 21-12-2017	Authentication		tication	Log	jged In
7	Information	201		Application options	cel	ations	Ne	w Job
				Sensor Operations	Pnn	ι S	et Filter	Cancel

Figure 146. Event Log Category

# **ER: User Manager**

# Create

For Essentials ER, the User Manager is moved from the Job menu to the ER menu. Select *ER MENU > USER MANAGER > CREATE* to set up **GROUPS.** All users of EasyMatch Essentials Electronic Records software must be assigned to a Group as either an Administrative Type or a User type to define their level of privilege within EasyMatch Essentials Electronic Records.

- Enter the GROUP NAME, then select the GROUP TYPE (Administrative or User).
- There can be multiple Administrative and User Groups.

• Groups can be changed, added, or deleted by a System Administrator at any time.

Figure 147. Administrative Groups

Once the Groups have been defined, users can be added with passwords through the User tab. Select **USER MANAGER > USER TAB** and **NAME THE USER, SELECT A PASSWORD** and **ASSIGN THE USER GROUP**. Click **CREATE** to continue.

		Group	User	·	
	Create	User Name	ER Test User		
	Privileges	Password	•••••		
ĺ	Disable	Conform Password Group	ER Test Group	-	
	Reset Password	Description			
	Unlock User				
	Enable				

Figure 148. Adding a User

# **Privileges**

For each **USER GROUP**, go to **ER MANAGER > USER MANAGER > PRIVILEGES** to assign the functions. Check a box next to each allowable function.

Note that Administrative Groups have all privileges which cannot be edited.

When all Privileges have been selected press UPDATE PROFILE to continue.

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	User Groups operators	
Create	Edit Privileges	
Privileges	Main Menu	
Disable	🔺 🛛 Job Menu	L 1
Reset Password	RNew Job	· '
Unlock User	⊠0pen Job	
Enable	Save Job	
	El Save Jou As	ī

Figure 149. Assign Privileges

# Disable/Enable

A Group or List of Users or a single User can be **DISABLED** or **ENABLED** as needed by the Admin. To Disable a user or group, select the *GROUP* > *LIST THE USER* to identify and then press *DISABLE*. These accounts can no longer be used while still saved in the database. If needed, admin users can enable them again through *USER MANAGER* > *ENABLE*.



Figure 150. Disable a Group or Users

# **Reset Password**

To reset a password, *IDENTIFY THE GROUP* and the *USER* and then *ENTER THE NEW PASSWORD* with confirmation of the new password.

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	User Manager			197		4	
	Create	Select Group	Administrators	•			
	Privileges	Select User	Administrator	•			
<	Disable	Confirm Password					>
	Reset Password	Description					
	Unlock User						
0	Enable						
Ŧ			Reset	Cance	ł		
Vista - VTS001	08 Standardized Mode: TTRAN		User	adminer	ob : Untitled	WorkSpi	ace: Default

#### Figure 151. Reset Password

# Unlock User

User accounts can be locked when they failed to login more than configured maximum attempts times. Admin users can unlock these users if needed through **USER MANAGER > UNLOCK.** 

🔶 Color D	ata Table [D65/10] User Manager			٢	Ø	
	Create Privileges Disable Reset Password Unlock User	Group ER Test Group ▼ List of Users ER Test User ☑				>
	Enable	Unlock	Close			
vista - VTS00105	Standardized Mode: TTRAN	Use	: Admin Job	: Untitled	WorkSpa	ice : Default

Figure 152. Unlock User

# **ER: Settings**

From the *ER MENU > ER SETTINGS* to set **PASSWORD AGE, LENGTH, LOCKING THRESHOLD** and **AUTO LOG-OFF DURATION**.

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		Namo	1*		*		
		Maille	L.	d- U			
	ER Settings						
	Enter Maxim	um Password age :	[	30	days		
	Enter Minime	um Password lengt	h: [	8	characters		
	Enter Accourt	nt Locking Threshol	ld :	3	attempts		
	Enter AutoLo	gOff Duration when	n Idle for :	5	minutes		
				Configure	Cancel	1	
				conligure	Galicei		
-							

Figure 153. ER Settings

MAXIMUM PASSWORD AGE can be set to the desired length of time from 1 to 365 between required password changes (determined by company policy). Set the MINIMUM PASSWORD LENGTH to the desired minimum password length (determined by company policy) from 8 and up to 15. Set the ACCOUNT LOCKING THRESHOLD to the desired allowable number of password entry attempts from 3 to 100 before account lockout (determined by company policy).



Figure 154. Locking Threshold Exceeded

Set the **ACCOUNT LOCKING DURATION** to the desired length of time between 5 and 30 minutes (determined by company policy).

# **CHAPTER NINE**

# **Special Functions**

# Auto-Exporting Data from Vista to an external data collection system.

There are three methods for exporting data:

- Method 1: For direct Connection between Vista and Computer with Ethernet Cable (no network required).
- Method 2: For Direct Connection between Vista ad Computer with RS-232 Ethernet Adapter (No Network required)
- Method 3: Through Network (Ethernet Cable)

# Method #1: Direct Connection between Vista and Computer using an Ethernet Cable

## Materials Needed

- Vista Firmware needed: 1.01.0014 and above
- Other Hardware needed: Ethernet cable & USB Ethernet adapter.



Figure 155. Ethernet Cable



Figure 156. Ethernet Adapter

### Connect Vista to Computer

 Plug Ethernet cable (Figure 111) into RJ-45 Ethernet connection at rear of Vista. Plug other end of cable into Ethernet Adapter.



Figure 157. Rear View of Vista

Plug the other end of the Ethernet Adapter into the computer.

### Configure the Vista

- Requires Essentials Rev 14 or higher
- Configure the IP address on the Computer. Open the Command Prompt in the PC by typing In 'ipconfig' and check the auto configuration IPv4 Address and the Subnet Mask.



Figure 158. Computer IP Address

 Configure IP address in Vista. Open Vista Essentials and go to JOBS MENU > PREFERENCES and select CONFIG NETWORK SETTINGS. Uncheck the box next to USE DHCP FOR ETHERNET CONFIGURATION. Enter a valid IP address for the Ethernet port. In this example, the following parameters are selected.

IP Address:	192.168.0.110					
Subnet Mask:	255.255.255.0					
Gateway:	192.168.0.1					
Preferred DNS:	192.168.0.1					
Alternate DNS: 192.168.0.1						

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Preferences	Network Settings		
Load Last Wo	Ge Use DHCP fo	r Ethernet Config	t
Load Last Jol	b a IP Address	169.254.149.239	ecurity
Standardization 1	Subnet Mask	255.255.0.0	entials
	Gateway		ata Export Config
Brightness	Preferred DNS		
Date 2/9/2017 Time 4:58 PM	Ac Alternate DNS		ings
		Apply Cance	d ly Cancol

Figure 159. Assign IP Address to Vista

- Press **APPLY** on the Ethernet Configuration.
- Check **AUTOMATIC NETWORK DATA EXPORT** and click to configure. For a direct connection between the Vista and the computer with an Ethernet cable, set up the Vista as a server. Port Number is 10001.

# Configure the Computer Using HyperTerminal Software

- From the computer, open HyperTerminal.
  - 1. Enter the name for the connection
  - 2. Connect using TCP/IP (Winsock)
  - 3. Set computer as client by entering the IP address of Vista which is recorded above. Put the port number as '10001'.

## Send Data from the Vista.

- Configure the Vista for the Color Data Screen.
  - Go to WORKSPACE > COLOR SCALES to select Color Scales, Indices & Illuminant/Obs.
  - 2. Go to *WORKSPACE > STANDARDIZE* to standardize the instrument.
  - 3. Read Sample and View the Data on the Computer.

			zzz - H	yperTer	minal				-	
<u>File Edit View C</u>	all <u>T</u> ransfer <u>H</u> elj	p								
	0 🦰 😭									
0 40\$TCIE	LAB\$TD65/10	]\$TName\$T\$TL	<b>*\$</b> T100.	03\$T <i>e</i>	•*\$T-0.	Ø1\$Tb×\$	r−0.00\$T	E0E♥_		
Connected 0:03:08	Auto detect	9600 8-N-1 SCR	OLL CAPS	NUM	Capture	Print echo				

Figure 160. Data from Vista through Ethernet Connection

The data string is shown as follows:

<STX><PACKET SIZE>\$T<SCALE-LABEL>\$T<ill/Obs>\$T<LABEL NAME1> <\$T><VALUE1> \$T<LABEL NAME2><\$T><VALUE2><\$T><LABEL NAME3> \$T<VALUE3>\$T<LABEL NAME N><\$T> <VALUE N>\$T<CHKSUM><ETX> Where, <STX> is the Start of Text (value =0x02) <ETX> is the End of Text (value =0x03) \$T is the default delimiter. <SCALE-LABEL> is the Scale Label (e.g. CIELAB) <ill/Obs> is the Ill/Obs name (e.g. D65/10) <PACKET SIZE> is the Total size (HEX String) of the Packet excluding the <STX> and <ETX> <LABEL NAME> is the label name (e.g. L\*, a\*, b\*, dE\* etc.) <VALUE> is the value for the preceding Label Name <CHKSUM> is the Checksum (HEX String) - the sum of all the ASCII values in the total packet play load starting from <PACKET-SIZE> and till <CHKSUM>.

# Method #2: Direct Connection between Vista and Computer with RS-232 Ethernet Adapter.

## Materials Needed:

- Vista Essentials 1.01.0014 and above
- Hardware needed: Ethernet cable, Crossover adapter, Ethernet to RS-232 Connector, RS-232 to USB (optional).



Figure 161. Ethernet Cable



Figure 162. Crossover Adapter



Figure 163. Ethernet to RS-232 Converter for Connection via Serial Port



Figure 164. RS-232 to USB Converter for Connection via USB Port

### Configure Ethernet to RS-232

• Set up Ethernet to the RS-232 Adapter with a static IP address and Port Number such as an IP address of 192.168.0.100 and port 10001.

### **Connect Vista to the Computer**

- Plug the Ethernet cable into the RJ-45 Ethernet connection on the Vista. Plug the other end of the cable into the Crossover Adapter.
- Plug the Crossover Adapter into the Ethernet port of Ethernet to RS-232 Adapter.
- Plug Ethernet to RS-232 Adapter into the serial port of the computer or into RS-232 to USB converter for connection to USB port. Plug power into Ethernet to RS-232 adapter.



Figure 165. Cable Configuration for Direct Computer Connection

### Configure the Vista (Requires Essentials Rev 14 or higher)

 Configure the Ethernet port of Vista. Go to JOBS > PREFERENCES > CONFIGURE NETWORK SETTINGS. Uncheck DHCP FOR ETHERNET CONFIG and enter a valid IP address for the Ethernet port. In this example, the following ethernet parameters are selected.

🔶 Colo	or Data Table [D65/1	0]				0	ŝ	
	Preferences	Ethernet Configur	ration		nt			
<	Load Last V     Load Last V     Standardization     Brightness     Config Ethern	IP Address Subnet Mask Gateway Preferred DNS Alternate DNS	192.168.0.110         255.255.255.0         192.168.0.1         192.168.0.1         192.168.0.1	· · · · · · · · · · · · · · · · · · ·	ce Tool ication gin Cre	t <b>ip</b> Security dentials		>
Ţ			Apply Defau	Cancel	Apply	Cancel		
Vista - VTS0	0119 Standardized Mode: T	TRAN				Job : Untitled	WorkSpa	ace : Default

Figure 166. Configuration Parameters for Ethernet

- Press APPLY on the Ethernet Configuration and then APPLY on the Preferences Page to complete.
- Go to JOBS > PREFERENCES and select AUTOMATIC NETWORK DATA EXPORT to configure.

Preferences					-
Gen	Network Data Expor	t Configura	ation	int	
Load Last WorkSp     Load Last Job at S     Standardization Time	Connect as Client Server IP Address	nt C	) Act as Server	. Itip Security dentials	
Brightness	Server Port Numbe Delimiter	er 10 \$T	0001	rement tings	Config
Time 3:44 PM		Apply	Cancel		
		Defa	ults /	pply	Close

Figure 167. Preferences > Automatic Network Data Export

- For a direct connection between Vista and data collection computer, set up the Vista as a *CLIENT*.
- Set the IP ADDRESS to match the settings of the Ethernet to RS-232 Converter or as shown in the example - 192.168.0.100 and the PORT as 10001.
- Press APPLY and ten press APPLY on the Preferences screen to continue.

### Configure the Computer

- Connection configurations differ depending on data collection software. I this example, HYPERTERMINAL is used to demonstrate connectivity.
- The data collection computer is set up as a SERVER.
- Connection parameters are as follows:
  - 1. Select the Com Port for USB or Serial port connection.
  - 2. Bits per second: 9600
  - 3. Data Bits: 8
  - 4. Parity: None
  - 5. Stop Bits: 1
  - 6. Flow Control: None

### Send Data from the Vista

- Read Samples.
  - 1. Standardize the instrument.
  - Go to WORKSPACE > COLOR SCALES to select Color Scales, Indices & Illuminant/Obs.
  - 3. Please sample at the port and select *READ*.
  - 4. Data is transferred to the computer.

8			Vista Ho	st - Hype	erTermin	ial			- 0	×
File Edit View Call	Transfer Help									
0 📽   🐲 🔏   🕫 🗄	- F									
00047\$TCIELA	3 <b>4</b>	\$TName\$TS <i>c</i>	amp1e9\$⊺	[L <b>≈\$</b> T]	00.00	\$Ta×\$T−	0.01\$Tb×	\$T-0.00\$	T1171♥_	
Connected 0:00:11	Auto detect	TCP/IP	SCROLL	CAPS	NUM	Capture	Print echo			

Figure 168. Data from Vista through Ethernet Connection

The data string is shown as follows:

<LABEL NAME> is the label name (e.g. L\*, a\*, b\*, dE\* etc.) <VALUE> is the value for the preceding Label Name <CHKSUM> is the Checksum (HEX String) - the sum of all the ASCII values in the total packet play load starting from <PACKET-SIZE> and till <CHKSUM>.

### Method #3 – To export data through Network

### Connect Vista to a Network.

- You can connect Vista to a network hub using the Ethernet cable. The computer must be connected to the same network as the Vista.
  - To connect Vista to a network, go to WORKSPACES > PREFERENCES > CONFIG NETWORK SETTINGS.
  - Select Ethernet configuration and check USE DHCP FOR ETHERNET CONFIG. Write down the IP address showing in the Ethernet Setting dialog. In addition, you can check the IP address of Vista in JOBS > ABOUT > INFO.
  - 3. Go to *WORKSPACE > PREFERENCES* and check AUTO NETWORK DATA EXPORT measurement. Go to CONFIG and choose Vista as SERVER and PORT NUMBER as 10001.
  - 4. Choose a delimiter to mark your data.

### Configure the Computer.

- Set the Computer as **CLIENT**.
- Enter the IP ADDRESS of the Vista.
- Enter the **PORT NUMBER** as 10001.

# **Measuring Haze**

• Standardize the instrument. For *HAZE*, select *TTRAN* and check the option *INCLUDE HAZE*.

Color Data Table	[D65/10]					0	٩	
	Name	L*	a*	b*	Haze% [C/2]			
	Standardization							
Standardization Mode: TTRAN - Total Transmission 💌								>
		Stan	dardize	C	Cancel			
<b>J</b>								
Vista - VTS00105 Standardizati	on Expired Mode: TTRAN	Us	er: Admin	Job : 20171	228_183322_VTS0	0105_Defau	lt WorkSp	ace : Default

Figure 169. Select TTRAN and include Haze

- Go to **WORKSPACE > COLOR SCALE > INDICES** and scroll down to check the corresponding box on the right side for Haze.
- Install the sample holder needed to measure your samples against the sphere port for TTRAN.
- *READ* samples using the button on the measurement screen.

# Connecting Vista to EasyMatch® QC

EZMQC Version 4.88 and above have ability to connect with current Vista Sensors. For Vista with serial number less than VTS00135 probably need to have some hardware added and the software updated (Vista Essentials 1.00.14 and above).

- A. Connect Vista and PC with EasyMatch QC to the same network.
- B. Connect Vista to PC through an Ethernet Cable

**Option A: Connect Vista and PC with EasyMatch QC to the same network.** 

# Connect to a network hub through Ethernet cable

Both Vista and PC with EasyMatch QC must be connected to Ethernet ports with same Ethernet network.



Figure 170. Ethernet Cable

- Plug the ethernet cable into the back of the Vista and plug the other end into a network hub. Plug the PC into the network hub as well. If a network hub is not preferred, the customer can also use a stand-alone router with DHCP service feature to connect the Vista and PC.
- Connect Vista to network, go to JOBS > PREFERENCES > CONFIG NETWORK SETTINGS. Select CONFIGURE ETHERNET SETTINGS. Check USE DHCP FOR ETHERNET CONFIG and click APPLY. If you used the other network setting before, please restart Vista to apply the new network setting.
- Open EasyMatch QC in the PC. In *SENSOR > ADD SENSOR > VISTA*. Select *ETHERNET* and check the box **DISCOVER AND SELECT A SENSOR IN THE NETWORK** and then click **SEARCH** to automatically search.

Setup Sensor	×
Select your Sensor Type from the list, whether to use the sensor's serial number or enter your own Sensor IID, and the Communications Port that the sensor is connected to.	Sensor Type Vista Sensor ID Use Sensor's Serial Number Serial  Serial  Ethernet Viscover and Select a Sensor in the Network 207.176.71.92=VTS00108SFDA V1.31.16.3  Search
	< Back Next > Cancel

Figure 171. Discover a Sensor in the Network

There will be a drop-down list of all available Vista sensors. If the sensor in the list including IP address as well as sensor name, then it is connectable. If the sensor in the list with "?????" instead of sensor name, it means that EasyMatch QC cannot find the VISTA as the VISTA is not free to connect to EasyMatch QC. If you meet this problem, you can restart VISTA and click search again. Also, you can go to Vista Essentials, WORKSPACE > DIAGNOSTICS > ADVANCED and click RESTART COMM to have Vista communication available, and then go back to EasyMatch QC and click

search again. **RESTART COMM** is available in Vista Essentials Rev 21 and higher. Please download our latest Vista Essentials from our support website.

### **Option B: Connect Vista and PC with an Ethernet cable directly.**

(Note: You can use the ethernet adapter here to connect to USB port of the computer.)

- Connect Vista and the PC with an Ethernet cable. You can also apply the Ethernet adapter here to connect the Ethernet cable to a USB port on the computer. Restart Vista and the computer.
- On the computer, check IP settings. Open COMMAND PROMPT in the computer. Type in IPCONFIG and check the AUTOCONFIGURATION IPV4 ADDRESS and the . SUBNET MASK.

Ad	ministrator: Command Prompt	-	×	
Microsoft Windows [Version 6.3 (c) 2013 Microsoft Corporation	.9600] . All rights reserved.			^
C:\WINDOWS\system32>ipconfig				
Windows IP Configuration				
Wireless LAN adapter Local Are	a Connection* 3:			
Media State Connection—specific DNS Suf	: Media disconnected fix . :			
Wireless LAN adapter Local Are	a Connection* 2:			
Media State	: Media disconnected fix . :			
Ethernet adapter Bluetooth Net	work Connection:			
Media State Connection—specific DNS Suf	: Media disconnected fix . :			
Wireless LAN adapter Wi-Fi:				
Media State Connection-specific DNS Suf	: Media disconnected fix . :			
Ethernet adapter Ethernet:				
Connection-specific DNS Suf Link-local IPv6 Address Autoconfiguration IPv4 Addr Subnet Mask Default Gateway	fix . : fe80::D9de:e6de:d8a3:95f0%3 ess : 169.254.149.240 : 255.255.0.0 :			
C:\WINDOWS\system32>ipconfig_				

Figure 172. Configuration for EasyMatch QC

- Configure the Vista IP settings. Open VISTA ESSENTIALS, go to JOBS > PREFERENCES
   > CONFIGURE NETWORK SETTINGS > ETHERNET. Uncheck USE DHCP FOR
   ETHERNET CONFIG. Type in the IP ADDRESS and SUBNET MASK manually, then
   press APPLY. The IP address here should be exact same as the
   AUTOCONFIGURATION IPV4 ADDRESS in the PC, except for the last digit. Press
   APPLY on the Ethernet Configuration and then APPLY on the Preferences Page to
   complete.
- **RESTART** Vista to apply the network settings.

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Preferences	Network Settings			
	GI Use DHCP fo	r Ethernet Config	t	
🗌 Load Last Wo	ork:		p	
Load Last Jol	b a IP Address	169.254.149.239	ecurity	
Standardization 1	Subnet Mask	255.255.0.0	entials	
Stanuaruization	Gateway		ata Export	Config
Brightness	Preferred DNS			
Date 2/9/2017	Ar Alternate DNS		ings	
Time 4:58 PM				
		Apply Cano	el Iv Ca	ancel

Figure 173. Configure IP Address & Subnet in Essentials

 Open EASYMATCH QC and from the SENSOR menu > ADD SENSOR and select VISTA. Select ETHERNET and uncheck the box to DISCOVER AND SELECT A SENSOR IN THE NETWORK. Then type in the IP ADDRESS which has been set up in Vista Essentials. Or you can check the box to DISCOVER AND SELECT A SENSOR IN THE NETWORK and SEARCH to find the Vista.

:	Setup Sensor
Select your Sensor Type from the list, whether to use the sensor's serial number or enter your own Sensor ID, and the Communications Port that the sensor is connected to.	Sensor Type Vista Sensor ID Sensor ID Serial  Ethemet Discover and Select a Sensor in the Network Sensor Connectivity Info IP : 169 . 254 . 149 . 239 PortNo : 11111
	< Back Next > Cancel

Figure 174. Setup Sensor in EasyMatch QC

# HunterLab File Service Package

The HunterLab File Service is a customized background service which provides the network storage facility for Essentials-VISTA to backup a File or Folder to a networked PC. This package contains:

- HunterLab File Service Installer (FileServiceInstaller.exe)
- A package file *HLFSPACKAGE.PKG*.

# To Install the File Service Package

- Copy the above installation package files into a networked PC.
- Run the executable *FILESERVICEINSTALLER.EXE* and follow the guided steps to complete the installation process.
- After installation a shortcut for HUNTERLAB FILE SERVICE CONFIG TOOL will be created on Desktop. Double click on the shortcut HUNTERLAB FILE SERVICE CONFIG TOOL.



Figure 175. File Service Tool

Select the ROOT FOLDER by clicking on the BROWSE button. The Essentials Backup will be stored in the configured Root Folder path. Enter the PORT NUMBER for the network File service. Click on the APPLY button. The File service will be restarted with the new settings.

	HunterLab File Service Configura	tion	
Root Path	C:\HunterLab\BackUpFolder		Browse
Service Port No.	8888		
Ver:1.0.0.3		Cancel	Apply
	Figure 17C Colort Doot Fold		

Figure 176. Select Root Folder

Note: Make sure that the configured port number is added to Exceptions in the firewall. The configured port number in the server must be same at the client side (Essentials-VISTA).

In Vista Essentials, navigate to *JOBS > DATA MANAGEMENT > BACKUP (or RESTORE)*. The *SELECT ACTION* dialog will be displayed. The user can choose between **USB DRIVE** or **NETWORK STORAGE**. When *USB DRIVE* option is selected, the Backup and Restore operations will be performed into the USB flash drive plugged into the system.

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Select Action	
OUSB Drive	O Network Storage
₩ Į	Backup
₩ţ	Restore
	Close

Figure 177. Select USB Option

When **NETWORK STORAGE** is selected, the Backup and Restore operations are performed into a network folder of the specified system where the HunterLab File Service is installed. Click on **NETWORK STORAGE SETTINGS** Button.

Select Action					
O USB Drive	Network S	Storage			
₽↓	Backup				
<b>₩</b>	Restore				
• Network Storage Settings					
		Close			

Figure 178. Select Network Storage Settings

In the next screen enter the **IP ADDRESS** and **PORT NUMBER**. Click on **TEST CONNECTION** button to verify the connectivity. Click **APPLY** to save the settings. The saved network settings will be used for the Network Backup and Restore operations.

Network Storage Settings					
Server IP Address	10.33.50.	131	Te	st Connection	
Server Port Number					
		Apply		Cancel	

Figure 179. Network Storage Settings

After successful configuration of network settings, click **BACKUP** (or **RESTORE**) to perform the complete backup of **HUNTERLAB** folder in Essentials-Vista to the specified network server's folder.

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Figure 180. Select Action: File Restore



Figure 181. Select Restore

Select the files to be restored.

nes	tore							
201 201 201 201 201 201 201 201 201 201	9-Aug-12 11:00 9-Aug-12 11:00	:38:576: Re :38:815: Di :38:845: Di :38:946: Di :39:164: Di :39:164: Di :39:179: Cc :40:557: Cc :40:557: Cc :40:557: Cc :40:1002: Cc :41:542: Cc :41:542: Cc :41:705: Cc :42:476: 4	estoring Ap ir created: ir created: ir created: ir created: pied 1024 opied 1024 opied 1024 opied 0 bytopied 1024 opied 1024 opied 512C ummary: folders we	oln data from CommonDB. Jobs Diagnostics csv 00 bytes of PI 00 bytes of PI 00 bytes of FI 00 bytes of U 10 bytes of U	AOFILE-journal mqc.db-journal zmqc.db-journal zoFILE M_SETTINGS-jo 1190712_16281 M_SETTINGS M_SETTINGS 90712_162818	umal 8_VTS00119 _VTS00119_	_Default.ezm Default.csv	
201								

Figure 182. Select Files to be Restored.

# Protecting the Sphere Port with a Cover Glass

The purpose of this is to protect the sphere from chemical vapors.

- Before installing the cover glass, run the wavelength accuracy diagnostic. To complete this test, go to *WORKSPACE > DIAGNOSTICS* and run the *DIDYMIUM FILTER TEST*.
- Inside the Transmission Compartment, locate the 3 screws on the cover plate near the sphere. Remove the screws, cover plate (1) and the rubber ring (2). Insert the cover glass (3), being careful not to leave fingerprints. Replace cover plate and ring and secure with the screws.



Figure 183. Inserting a Protective Cover Glass

• Once the cover glass is installed, the instrument should be re-standardized and the didymium filter test rerun. Readings will be slightly different than before.

	Wavelength Check		
	430nm	570nm	
w/o Cover Glass			
w/Cover Glass			
### **Tips & Tricks: Assigning a Standard**

Color Data Table [D65/	710]				9	٢	ŝ	≡
	Name	T-di+	a*	b*				
	Standard_2022020 3110106	Delete	-58.30	-47.87				
	Sample3	10.15	0.44	-9.15				
	Sample2	71.26	-58.28	-47.88				
	Sample 1	71.25	-58.30	-47.87				
								>
J								
Standardized - TTRAN			Job:	Edmu nds 50	00nm Shortp	ass Filter*	Workspa	ice: Default

Figure 184. Assigning a Standard

 Read/recall/enter a standard in Standard and Tolerances dialog and click to apply it into the current job

Or

• In the current job, press and hold the Sample Name. A menu will be displayed. Select the *SET AS STANDARD* option. The system will then ask, "are you sure you want to set this sample as standard?". If yes, then the sample is renamed as Standard.

To edit the standard in a job, use "Edit" function to go to standard and tolerances dialog.

To delete the standard, use the **DELETE** function.

### **Tips & Tricks: Recover Unsaved Measurement Data**

• In the case where the application is closed unexpectedly, the data is temporarily stored in a table along with the Job details. When the application restarts, a prompt allows the user to recover the data.



• If the user answers **YES**, all measurements are recovered into a new job or appended to a saved job.

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## **CHAPTER TEN**

## **Specifications**

The specifications and characteristics of the instrument are given in this chapter. For best performance, the instrument should be placed where there is ample work space with medium or subdued illumination and no drafts. The operating conditions (temperature and humidity ranges) are given in the Operating Conditions section below.

Note: Do not leave Vista in an area where temperature or humidity extremes are possible.

### **Physical/Electrical**

Weight	6.35kg (14lbs)
Dimensions	177.8mm x 485.8mm x 228.6mm
(Height X width X length)	(7in x 19.13in x 9.0in)
Sample Compartment Cover	Removable to accommodate large samples
Base to Measurement Port Distance	63.5mm (2.5in)
Sample Compartment Height with Door closed	108mm x 101.6mm x 187.3mm
(Height x width x length)	(4.25in x 40in x 7.375in)
Communications Interface	<ol> <li>USB Micro OTG to printer, Keyboard, Mouse</li> <li>Front Panel USB: 2.0 bidirectional for data export/import via thumb drive</li> <li>Ethernet RJ45 for Save, Print, Email capability, LIMS and SPC systems</li> <li>Remote access support tool</li> </ol>
Standards Conformance	CIE 15:2004, ISO 7724/1, ASTM E1164, DIN 5033, Teil 7 and JIS Z 8722 Condition E, G
Safety Compliance	CE, IEC 61326-1
System Power	100-240 VAC/1.5A, 47-63 Hz, 60W
Standard Accessories	Didymium diagnostic filter, Certificate of compliance, power supply, Vista Quick Start Guide, Stylus, USB Flash Drive, Cleaning Cloth,

### **Environmental Requirements**

Operating Temperature	10°C - 40°C (50°F - 104°F)
Operating Humidity	10% to 90% relative, non-condensing
Storage Temperature	-21°C - 66°C (-5°F - 150°F)

## Conditions of Illumination and Viewing

Light Source	Full spectrum LED array; LED life – 5 years typical
Dual Beam Spectrophotometer	256 element diode array and high resolution, concave holographic grating
Geometry	Tt/0° or Td/0° per ASTM 1164, CIE 15-2018
Sphere	76 mm (3 in) coated with Spectralon™
Port Size/Measured Area	18.5 mm (0.73 in) illuminated/
	9.8 mm (0.39 in) measured
Transmittance Modes	Total (TRAN), Regular (RTRAN), Haze

### **Instrument Performance**

Spectral Data	Range: 400-700 nm Reporting Interval (nm): 10 nm
Spectral Resolution	<3 nm
Effective Bandwidth	10nm equivalent triangular
Measurement Path length	Up to 100 mm
Photometric Range	0-150%
Measurement Interval	<3 seconds
Measurement Speed (at 23°C)	≤2.5 seconds; 4 flashes
Inter-instrument Agreement	ΔE* ≤ 0.15 CIE L*a*b* (Avg) on Transmittance Filter Set; ΔE* ≤ 0.25 CIE L*a*b* (Max) on Transmittance Filter Set ±0.30% at 10% TH (Haze)
Colorimetric Repeatability	$\Delta E^* \leq 0.02$ on air w/30 readings
Spectral Repeatability	Standard deviation within 0.1%

Data Views	EZ view, Color Data Table, Color Plot, Spectral Data, Spectral Plot, Trend Plot
Color Scales	CIE L*a*b*, Hunter Lab, CIE L*C*h, CIE Yxy, CIE XYZ and differences
Color Difference Indices	$\Delta E^*$ , $\Delta E$ , $\Delta C$ , $\Delta E$ CMC, $\Delta E$ 2000
Indices & Metrics	APHA/PtCo/Hazen, ADMI, Saybolt, Gardner, ASTM D1500, Iodine, ICUMSA, EBC, ASBC, ASBC Turbidity, Chinese Acid Wash, Lovibond® RYBN, AOCS RY, FAC, YI E313 Yellowness, YI D1925, WI E313, CIE Y Transmission, Pharmacopeia -US, Japanese, Chinese, EU, EP Opalescence Haze NTU Pass/Fail Color Indication, Time/Date Stamp, Auto-Naming, Auto-
	Saving, Data backup and recovery.
Data Storage	8GB or >1 million data records
Illuminants	D65, C, A, D50, D55, D75, F02, F07, F11, TL84, ULT30, ULT35
Observers	$2^{\circ}$ and $10^{\circ}$
Languages	English, Japanese and Simplified Chinese
Display	Touch screen, High resolution 1280x800
External Software	EasyMatch QC and EasyMatch QC-Electronic Records

### **User Interface**

LOVIBOND<sup>®</sup> is a registered trademark of Tintometer Ltd. UK.

## **Regulatory Notice**

<b>Declaration of Conformity</b>			
EU / EMC Directive:	2014/30/EU		
Standard to which Conformity is Declared	EC 61326-1: 2012 / EN: 2013		
Manufacturer:	Hunter Associates Laboratory, Inc. 11491 Sunset Hills Rd, Reston, VA, USA		
European Representative: Representative's Address:	Christian Jansen Griesbraeustrasse 11, 82418 Murnau, Germany		
Type of Equipment:	Transmission Spectrophotometer		
Model No.:	Vista		
l, the undersigned conform:	l, hereby declare that the equipment specified above s to the Directive(s) and Standard(s) above		
Place: <u>Reston, VA, USA</u>	Signature Tun Burren		
Date: May 25, 2016	Full Name Tim Barrett		
	Position Systems Engineer		

## **CHAPTER ELEVEN**

## **Maintenance & Assistance**

### Vista Maintenance & Safety

The Vista is engineered to be virtually maintenance free. This section outlines the few parts of the sensor that are to be maintained for the instrument to function properly.

#### • Cleaning the Vista

The Vista is NOT waterproof, but the exterior of the case may be wiped with a damp cloth.

#### • Cleaning the inside of the Vista

Lift the light cover to access the transmittance compartment. The inside may be cleaned with a lens brush or with a small amount of soapy water on a lint-free cloth or towel.

#### Note: Do not spray directly into the instrument chamber.

#### Haze Standard Care

The Assigned % Haze for this standard is a combination of the surface and internal scattering properties of this material. To maintain the surface properties, it is important that the surfaces of this standard are not damaged during normal usage. If the surface is contaminated, a cotton cloth moistened with isopropyl alcohol, or a laboratory glass cleaner such as Sparkleen<sup>™</sup> can be used to gently wipe the surface. After wiping allow to dry for a minimum of 60 minutes.

#### • Didymium Standard Care

Check the filter for fingerprints, dust, and other contaminants. If necessary, gently clean the didymium filter with a cotton cloth moistened with Sparkleen<sup>™</sup>. After wiping allow the filter to dry for at least one hour.

#### • Power Required

Voltage: 100-240 VAC,1.5A, 47/63 Hz Single Phase 180 VA maximum Fuse: 1.4A, SB Installation Category (Over Voltage): II

- Safety
  - Do not view the instrument LED's directly as it may be damaging to the eyes.
  - Do not submerge the instrument in water.
  - Do not take the instrument apart as there are 'no user serviceable parts' in the instrument.
  - Do not disassemble the instrument and attempt to clean the optical components.
  - Do not open the instrument or remove any covers except using the instructions given in this User's Manual or under the direction of HunterLab Technical Support.

### When You Need Assistance

If you need for technical or sales assistance on applications, troubleshooting, , service, warranty, accessory pricing and more, please contact the office nearest you:

For the Americas, <a href="mailto:Support@hunterlab.com">Support@hunterlab.com</a>

For Asia, <u>AsiaSupport@hunterlab.com</u>

For Europe, <a>EuropeSupport@hunterlab.com</a>

For India, Middle East and Africa, IMEASupport@hunterlab.com

For all other regions, <a>Support@hunterlab.com</a>

Additionally, our global support website offers 24/7 assistance with a library of information on various color measurement and appearance topics such as applications, instrument operation, and troubleshooting. The HunterLab global support website is located at <u>support.hunterlab.com</u>.

For personalized assistance, go to <u>support.hunterlab.com</u> and locate the <u>Create A Ticket</u> button on the menu. A subsequent form gathers information on your request for response from our Customer Experience Teams around the globe.

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