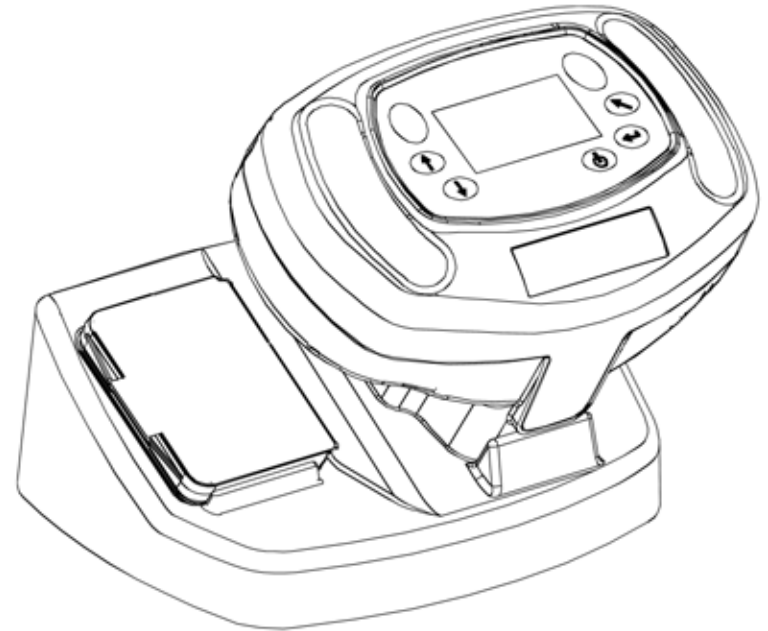


RapidMatch™ X-5 User Guide

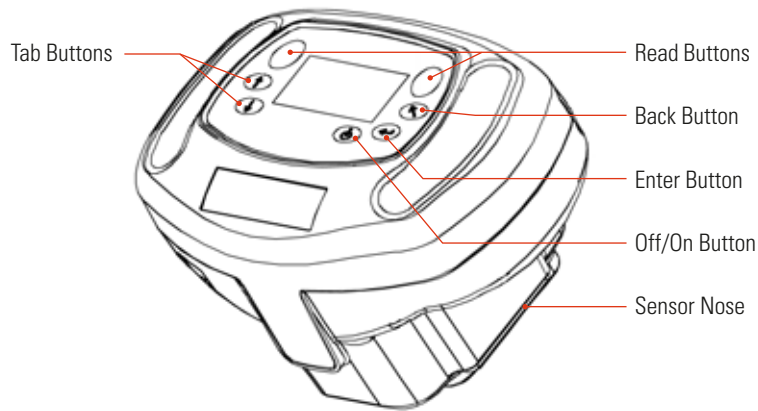


RapidMatch™ X-5



The RAPIDMATCH™ X-5 Spectrophotometer provides state-of-the-art measurement technology for commercial use. This user reference guide provides an overview of how to properly calibrate, operate and maintain the *RapidMatch* X-5 Spectrophotometer.

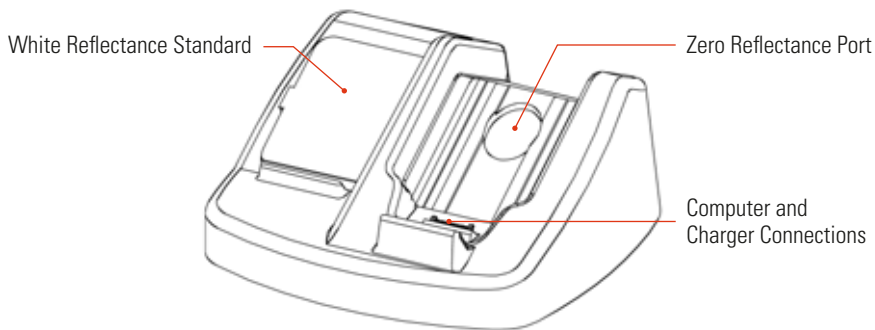
-
- Instrument Features and Benefits:**
- A 5-angle instrument available for the refinish industry
 - PPG exclusive technology—supplied by X-Rite®, Inc.
 - Advanced optics provide the most stable and reproducible lamp source
 - Ergonomic design with touch controls
 - Easy and simple to use
 - Multiple measurement storage
 - Affordable



Instrument Description

The *RapidMatch X-5* multi-angle spectrophotometer is designed for measuring color on metallic and pearlescent paint finishes. The instrument incorporates a single light source and fixed (aspecular) viewing angles.

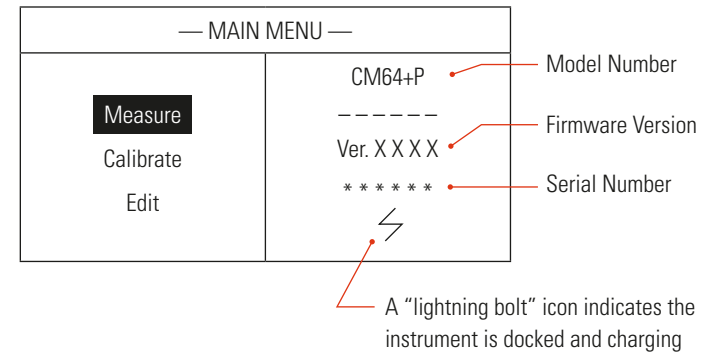
To ensure measurement accuracy, the instrument also includes a two read switch triggering mechanism. This allows a measurement to be taken only after the spectrophotometer has been properly positioned.



Docking Station Description

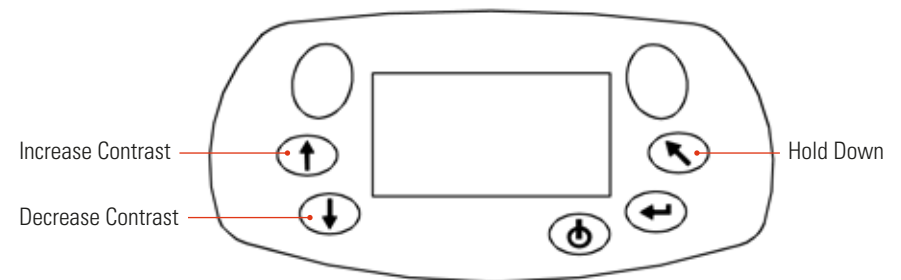
The docking station provides several important functions:

- Storage of the instrument when not in use
- Data transfer to the local computer (via RS-232 or USB interface connection)
- Charging of the instrument's internal batteries
- Storage for the white calibration reference and an open port for zero reflectance readings



Main Screen Description

When the instrument is powered-up, the main (top level) screen appears. The main screen consists of two areas—Main Menu and Instrument Data. The left side of the screen lists all available modes. The right side of the screen lists the system name and firmware version information.



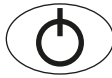
Adjusting Display Contrast

The contrast of the display can be set for optimal viewing. Make sure the instrument screen is at the main menu before adjusting.

To adjust, hold down the Back button (↶) and press the Tab Up button (↑) to increase contrast or the Tab Down button (↓) to decrease contrast.

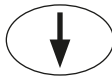
RapidMatch X-5 Instrument Button Operation

Perform reading and menu navigation using the six buttons arranged around the display screen. Each button has a unique symbol for performing a specific operation.



On/Off button

Controls the instrument's power status when it is not in the docking station. As an added feature to conserve battery life, the instrument automatically powers down after five minutes of non-use. The On/Off button must be used to turn on the instrument after an auto power down.



Tab Down button

Advances the highlighted bar (reverse image) to the next available "tab stop." A "tab stop" indicates an item that can be acted on further, such as a measurement or an edit option. Tab stops generally follow a left-to-right or top-to-bottom sequence. When the last tab stop is reached, the next button press returns to the first tab stop in that menu's list.



Tab Up button

Performs the same function as the Tab Down button except in reverse order. Tab stops follow a right-to-left or bottom-to-top sequence.



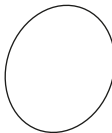
Enter button

Used to activate/select the control chosen (highlighted) with the tab buttons.



Back button

Backs up the instrument screen by one menu level.



Read button(s)

Initiates a reading when either Read button is pressed and both read switches are activated.

Calibration

Calibration is an internal check and adjustment of the instrument's lamp and optical system. A proper calibration ensures that your instrument will perform correctly. Daily calibration is required.

It is imperative that you only use the white calibration tile that came with your *RapidMatch X-5* instrument. If you calibrate using anything other than this exact white calibration tile, the performance and instrument integrity will be compromised and could cause poor formula choices.

Getting Started

1. Charge the device well before using—it takes 12 hours for a full charge.
2. Serial number on calibration tile should match the *RapidMatch X-5* device serial number.
3. A clean white tile is needed for the best performance. Clean with a soft cloth, if needed.

Instrument Calibration Protocol

— MAIN MENU —	
Measure	CM64+P
Calibrate	-----
Edit	Ver. X X X X

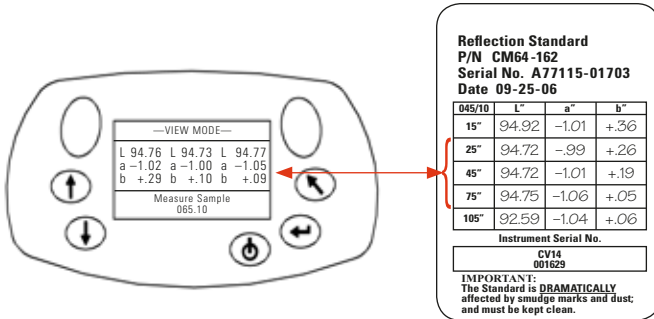
	⚡

— CALIBRATION —
< Measure White Ref >
< Press Firmly >
STATUS: CAL REQUIRED
S/N: X X X X X

1. Select Calibrate on the Main Menu Screen.
2. Open the white calibration case and measure the white calibration tile as if you were taking a measurement on a vehicle. Place the white tile on a solid, sturdy surface to ensure the tile does not move. Hold the instrument steady during the measurement.
3. Press the Read button. Two measurements will be taken. <White Cal Updated> message will appear followed by "Measure Black Ref."
4. Place the *RapidMatch X-5* device into the docking station. You are now ready to perform the zero reflectance reading.
5. Press the Read button. Four measurements will be taken. <Black Cal Update> message will appear. The *RapidMatch X-5* device is now calibrated.

Instrument Verification Protocol

1. Select Measure on the Main Menu Screen.
Measure the white calibration tile.
2. Press the View button and compare the L*a*b* values displayed on the instrument to the values listed on the back of the white calibration tile.
3. Review the data for the 25°, 45° and 75° angles.
The numbers viewed on the instrument display for these angles should not vary more than 0.15 from the corresponding values on the white calibration tile decal.



If there is greater deviation than 0.15, then do the following:

- Review cleaning procedures for both the white tile and zero reflectance port (see Maintenance tips)
- Ensure the instrument measurement port is free of dust and dirt (see Maintenance tips)
- Perform calibration procedure again, comparing instrument values to white calibration tile
- If the deviation continues to be more than 0.15, contact an X-Rite customer service representative

Measurement

Correct Technique for Reading Vehicle Parts

Your measurement technique can have a dramatic effect on the Search and Rate feature of *RapidMatch* software.

Be sure to follow these best practices:

1. Be consistent when positioning the *RapidMatch* X-5 device. Position the device horizontal to the panel and take all 5 readings in the horizontal position. Do not rotate the device.
When measuring parts with aluminum particles or pearl pigments, changing the position from horizontal to vertical or rotating the instrument will dramatically hinder an accurate reading.
2. Hold the *RapidMatch* X-5 device with both hands.
3. Place on a clean, polished, flat surface.
4. Press firmly against panel without moving, then take reading.
5. Carefully slide the *RapidMatch* X-5 device back into the docking station when finished reading the part.

Maintenance Tips

The *RapidMatch X-5* device is a sensitive and technical instrument—handle with care!

- Cover the docking station when not in use for extended periods of time
- Clean white and zero reflectance ports regularly
- Optics—clean weekly with short bursts of clean, dry air into the measurement aperture

White Calibration Tile

- Wipe with clean soft cloth
- DO NOT use high pressure hoses
- DO NOT use Freon

Zero Reflectance Port

- Remove from back of docking station and wipe with clean soft cloth
- DO NOT use high pressure hoses
- DO NOT use Freon

Storage

- Always store and carry the *RapidMatch X-5* device in its protective case

Troubleshooting Tips

Problem	Cause	Solution
The instrument display is hard to read.	Screen contrast set incorrectly.	Adjust the contrast as explained on page 3.
The instrument's battery pack will not charge.	AC adapter is not attached.	Check the connection on the back of the docking station and at the AC adapter.
	Internal battery pack is bad.	Contact an authorized service center.
Measurements not uploading to computer when the instrument is placed in the docking station.	Instrument is not properly seated in the docking station.	Make sure instrument is properly seated over the contacts.
	Interface cable is not attached.	Check the connection on the back of the docking station and at the computer.
	Contaminated connectors.	Disconnect docking station from computer and wall outlet. Clean connectors on the instrument and the docking station with a cotton swab dampened with Isopropyl Alcohol. Cotton swab should not be saturated.
Instrument will not calibrate correctly.	Calibration reference is dirty.	Clean the calibration reference as specified on page 8.
	Optics are dirty.	Clean the optics as specified on page 8.
The instrument will not store jobs.	Instrument contains the maximum number of jobs.	Delete jobs from the instrument before storing any new jobs.
The instrument screen does not display anything.	Instrument is in power down mode.	Press the On/Off button to wake up the instrument.
	Screen contrast is set too low.	Adjust the contrast as explained on page 3.
	Internal batteries require charging.	Place instrument on docking station and charge battery pack for a minimum of 4 hours before use.



PPG Color Solutions

