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.

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**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**

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.
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

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<tr>
<td>Measurements not uploading to computer when the instrument is placed in the docking station.</td>
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