



JCM Products Quick Reference Guide

UBA[®] Units



NOTE: Some of the information in this guide may change over time, depending on the software and possible modifications due to advancements in related industry technologies.

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Part No. 960-000131R_Rev. 4

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QUICK REFERENCE TROUBLESHOOTING GUIDE

Table 1 UBA Troubleshooting Descriptions

Description	Probable Cause	Possible Solutions
Bill Acceptor is not Working	No external power	Verify that the +12 Volt power and Ground cables are properly connected
	Corrupted Software	Re-download the current Software
	CPU Circuit Board Failure	Test and/or replace the CPU Circuit Board
	ICB Sensor Circuit Board is not inserted into the CPU Circuit Board	Remove and reinsert the ICB Sensor Circuit Board
	The EPROM is inserted backwards (UBA-11)	Remove the EPROM and reinsert it again correctly
Frequent Bill Jams	Drive Belts are dirty	Clean the Drive Belts and Pressure Rollers
	A Pressure Roller Spring is missing or loose	Check all pressure Roller Springs with a finger to ensure tension is present
	Foreign material is in the Acceptor's Banknote path or in the Cash Box	Clean the Banknote path
	The Acceptor is not seated properly in the Frame	Re-seat the Acceptor Unit. Ensure that the Release Lever Latches securely lock into the Frame
	The Banknote is wider than 85 mm or narrower than 62 mm	Use only Banknotes of the correct Specification size for use with a UBA.



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Table 1 UBA Troubleshooting Descriptions (Continued)

Description	Probable Cause	Possible Solutions
Low Acceptance Rate	Dirt and/or stains on the Rollers, Belts and Lenses	Clean the Banknote path in the Acceptor
	The UBA Unit has been dis-assembled and calibration was not performed following reassembly	Run the Calibration Procedure. Refer to the latest revision of the UBA Series Operation and Maintenance Manual (Part No. 960-000097R)
	The wrong Software or an old version of Software is being used in the Unit	Check the jcmglobal.com Web Site for the current version of Software and download it into the Unit.
	Sensor Lenses are loose or missing	Replace or reinstall Sensor lenses
All Bills are being Rejected	Incorrect Software	Download the correct Software for the Currency Type being accepted
	Banknotes are not being accepted by the Software	Ensure the Banknote denominations are included in the Software Specifications being used
	Incorrect DIP Switch settings	Enable all denominations disabled by DIP Switch settings
	Banknote acceptance is being inhibited by the Host Controller	Enable all acceptance modes at the Host Controller
	Upper/Lower Sensor Circuit Board failure	Change the Upper/Lower Sensor Circuit Board with a known good Board
	The Unit has been dis-assembled and calibration was not performed following reassembly.	Re-calibrate ALL UBA Sensors.

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Table 1 UBA Troubleshooting Descriptions (Continued)

Description	Probable Cause	Possible Solutions
Upper Guide cannot be opened	Centering guides are not at their Home position	Turn the power OFF then ON again. This action should reset the Acceptor and cause the centering mechanism to return to its Home position
		If power cannot be applied, use a 2.5 mm Hex Nut Driver to manually move the centering mechanism to the open position
Motor continues to run	Upper Guide is open	Firmly close the Upper Guide
	A foreign object or a jammed Banknote is stuck in the transport path	Open the Upper Guide and remove the foreign object or jammed Banknote. Close and re-latch the Upper Guide
	Motor Drive Failure	Run the Forward/Reverse Motor Rotation Test. If the test fails, replace the Motor and/or CPU Circuit Board
Cannot enter the test mode	Incorrect DIP Switch settings	Set DIP Switch No. 8 to ON, and reapply power to the UBA
	DIP Switch Failure	Run test No. 9 - "DIP Switch Test" If the test fails, replace the CPU Circuit Board
	CPU Circuit Board Failure	Exchange the CPU Circuit Board with known good Board



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Table 2 UBA Diagnostic Tests

Test No.	Test Name	Function	Where Used
1	Transfer Motor Forward/Reverse Test	Runs the Motor in a forward/reverse direction	When errors indicate a Motor problem
2	Stacker Mechanism Test	Tests the operation of the Stacker	When a stacking error is indicated
3	Running Test	Repeatedly cycles the entire Unit	When the Unit has intermittent errors
4	Anti-Pullback Mechanism Test	Tests the operation of the Anti-Pullback Mechanism	When Anti-Pullback errors occur
5	Centering Mechanism Test	Tests the Centering Mechanism	When Centering Mechanism errors occur
6	Solenoid Test	Tests the Solenoid and Sensor	When errors indicate a Solenoid problem exists
7	General Sensor Test	Tests Various Acceptor Sensors	When indicators report a Sensor error
8	Banknote Acceptance Test	Performs a Banknote acceptance with or without a Cash Box installed	Starting point for troubleshooting the Acceptor
9*	DIP Switch Test	Tests DIP Switch Block reliability	When Switch settings do not yield their programmed function correctly

*. See Table 5 for further Test Switch settings.

How to Initiate the Standard Tests

Perform the following steps to initiate the Standard Tests:

1. Set DIP Switch #8 to the **ON** position, and set all remaining switches to the **OFF** position.
2. Attach the Power Connector. This action puts the Unit into the Test Mode, indicated by the lit **Red & Green** LEDs.
3. Select a Test Mode from the Table 3 List and set the DIP Switches accordingly.
4. Move DIP Switch #8 to the **OFF** position. This action activates the particular Test Mode chosen.

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Table 3 Standard Test Initiation

Test No.	Test Name	DIP Switch an "X" = Switch ON							
		1	2	3	4	5	6	7	8
1a	Transport Motor - Forward Test	X							
1b	Transport Motor - Reverse Test		X						
2	Stacker Mechanism Test			X					
3	Running Test				X				
4	Anti-Pullback Mechanism Test					X			
5	Centering Mechanism Test	X				X			
6	Solenoid Test		X			X			
7	General Sensor Test*							X	
8a	Banknote Acceptance Test without a Cash Box	X	X	X					
8b	Banknote Acceptance Test with a Cash Box	X	X	X	X				
9	DIP Switch Test†	X	X	X	X	X	X	X	

*. See Table 4 for further Test Switch settings.

†. See Table 5 for further Test Switch settings.



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Table 4 Head Sensor Sub-Test DIP Switch Settings

Sensor Name	Test LED Color	DIP Switch* an "X" = Switch ON								
		1	2	3	4	5	6	7	8	
Entrance Sensor	Green	X							X	
Centering Timing Sensor	Red									X
Anti-Pullback Timing Sensor	Green		X							X
Exit Sensor	Red									X
Anti-Pullback Home Sensor	Green			X						X
Centering Home Sensor	Red									X
Transport Encoder Sensor	Green				X					X
Stacker Encoder Sensor	Red					X				X
Stacker Home Sensor	Green						X			X
Cash Box Sensor	Red							X		X

*. During these tests, Dip switch No. 7 can stay ON as each Sensor Test is selected.

Table 5 DIP Switch Test DIP Switch Settings

Step No.	DIP Switch an "X" = Switch ON								LED Status	
	1	2	3	4	5	6	7	8	Green	Red
1	X	X	X	X	X	X	X	X	ON	ON
2	X	X	X	X	X	X	X		OFF	OFF
3	X		X		X		X		ON	OFF
4		X		X		X			OFF	ON
5									ON	ON

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Malfunction Error Codes

Table 6 Malfunction Error Code Table

LED Status		Error	Cause and Solution
Red Flashes	Green Steady		
1	ON	Boot ROM Error	Change CPU Circuit Board
2	ON	Corrupted External ROM / No Program in External Flash ROM	
3	ON	Internal RAM Error	
4	ON	External RAM Error	
1	OFF	Cash Box Full	Empty the Cash Box and re-install
2	OFF	Stacker Pusher Mechanism Fault (Transport Jam Type 1)	Stacker Motor Failure, Stacker Encoder Failure and/or Stacker Jam
3	OFF	Transport Jam (Type 2)	Exit Sensor Circuit Board Failure
4	OFF	Acceptor Jam	Clean Banknote Path and/or Lower Sensor Circuit Board Failure
5	OFF	Transport Motor Speed Error	Transport Encoder Failure
6	OFF	Transport Motor Failure	Motor or CPU Circuit Board Failure
7	OFF	Sensor Failure	Check Upper and/or Lower Sensor Circuit Board for Failure
8	OFF	Processor (CPU) Communications Failure	Check Upper Sensor Board, CPU and Cable connecting the two.
9	OFF	Anti-Pullback Unit Error	Anti-Pullback Home Sensor Failure / Lower Sensor Circuit Board Failure
10	OFF	Cash Box Error	Cash Box not seated or not present / Cash Box Sensor Circuit Board Failure



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Table 6 Malfunction Error Code Table (Continued)

LED Status		Error	Cause and Solution
Red Flashes	Green Steady		
11	OFF	ICB Module	ICB Communications Error (Failure Type 02)
12	OFF	Cheated	Cheat attempt detected. Check all Sensors & clear debris
13	OFF	Centering Mechanism Solenoid Error	Solenoid or Upper Sensor Board Failure
14	OFF	Centering Mechanism Fault	Centering Mechanism Home Sensor Failure
15	OFF	Reserved	N/A

Table 7 ICB Initialization Errors

LED Status		Error	Cause and Solution
Red Flashes	Green Steady		
3 Flashes	OFF	ICB Disabled	ICB is Disabled/Cash Box is Active
11 Flashes	OFF	ICB Module Failure Type 2	Intelligent Cash Box (ICB) Communications Error
12 Flashes	OFF	ICB Module Failure Type 7	Intelligent Cash Box (ICB) Check Sum Error. Memory partially cleared
13 Flashes*	OFF	ICB Module Failure Type 8*	Intelligent Cash Box (ICB) Installed containing data from another Machine (i.e., data not cleared)
14 Flashes	OFF	ICB Module Failure Type 9	Intelligent Cash Box (ICB) not initiated. Memory was not properly cleared
15 Flashes	OFF	ICB Module Failure Type AF	Intelligent Cash Box (ICB) Module Error. No ICB Module detected present on Validator.

*. Occurs when three (3) rapid flashes are present when Unit is initially powered-up indicating an ICB failure.

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Reject Error Codes

Table 8 Reject Error Codes

LED Status		Error	Cause and Solution
Red LED	Green LED (Flashes)		
OFF	1	Slant Insertion	Re-Insert Banknote
OFF	2	Magnetic Sensor Pattern Error	Check for dirt on Magnetic Head and Rollers
OFF	3	Paper Detected in Acceptor at Standby	Clean - Check for debris
OFF	4	Sensor Adjustment	Clean all Sensors
OFF	5	Banknote Feed Error 1	Check and clean all Belts and Rollers
OFF	6	Banknote Identification Error	Clean Sensor Lens
OFF	7	Barcode Error	Clean Barcode Sensor / Upper Sensor Board Error
OFF	8	Double Banknotes Detected	Clean Sensor Lens - Check for double Banknotes
OFF	9	Inhibited Banknote	Check DIP Switch Settings and/or Game settings
OFF	10	Return Banknote	Banknote inhibited by Host Machine
OFF	11	Reserved	N/A
OFF	12	Banknote detection Error	Check all Banknote path Sensors
OFF	13	Banknote Length Error	Check and clean all Belts and Rollers
OFF	14	Photo Pattern Error	Check for dirty/clouded Lenses; Upper/Lower Sensor Circuit Board failure.
OFF	15	UV Optical Sensor Error	Check and clean the UV Sensor and White Block



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ACCEPTOR PREVENTIVE MAINTENANCE

To maintain the unit properly, the following conditions must be periodically performed:

- Replace belts if frayed, slick and/or worn.
- Keep the bill path, rollers and belts clean.

The Sensor lenses are transparent and made of a Polymer material. Handle them with care. To clean them, we suggest using a lint-free, Micro-fiber Cloth and a mild, nonabrasive detergent, such as liquid dish washing soap mixed with water.



WARNING: Do not use Alcohol, paint thinner or Citrus based solutions for cleaning ANY surfaces!



IMPORTANT NOTE: After wiping, inspect Lenses to ensure that none have been moved out of position, or are not flush with the transportation path.

See “Available Cleaning Card” on page 16 regarding the new JCM Waffletechnology® Cleaning Card authorized for use on all UBA® Gaming Validators.

Cashbox Preventive Maintenance (P/M)

The following Periodic Maintenance checks must be routinely performed:

- Do Periodic P/M on the Cash Boxes to ensure proper operation.
- Use Compressed Air via pressurized can, or an Air Compressor jet to blow out paper fibers and any other debris that may have built up over time.
- Clean the Stacker Feed Rollers (“O” Rings) with a lint free, Micro-Fiber Cloth containing a mild soap/water solution.
- Check the Belts and all moving parts for wear and proper positioning. If this assembly does not operate properly, it can cause Banknote jams.

UBA® Units

AUTO CALIBRATION - SENSORS

Sensor's Description

Calibration sets a starting reference point for all Optical Sensors within the Unit. This should only be done at a repair facility. Field calibration is not required.

When to Calibrate

- After the Acceptor's components have been disassembled for repair.
- After a Sensor or Processor (CPU) Circuit Board has been replaced.

Procedure

Refer to UBA® Series Operation and Maintenance Manual JCM Part No. 960-000097R for calibration procedures.



UBA® Units
UBA® IN-FIELD TEST

Stand Alone Test Mode



NOTE: Testing can only be performed with the Acceptor Head installed in a Frame, Power applied and NO Cash Box in place.

Proceed as follows:

1. Remove power from the Unit.
2. Prior to starting, set DIP Switches #1, #2, #3 and #8 to the **ON** position.
3. Apply Power to the Unit.
4. Turn DIP Switch #8 **OFF**. The Unit should cycle briefly. The Unit is now ready to run a Test.
5. Insert a good Banknote/Ticket. The Banknote/Ticket will either be accepted by the Unit, or will be rejected. If it is rejected, clean ALL of the Sensors. Check the condition of the Banknote/Ticket.
6. If the Unit still rejects, there is a possible Sensor problem, or incorrect Software Version installed. Check the Error Code and locate it in the "Reject Error Codes" Table on page 10 of this Guide.
7. If the Unit still does not accept the Banknote/Ticket, check that proper Power levels are being applied.



NOTE: While in this Test Mode, you can verify if the unit is working properly.

8. When the Unit cycles on Power-up, it indicates the Power and forward Motor operation is functioning.
9. When you insert a plain piece of Paper and it is rejected, it indicates proper reverse Motor operation.
10. When various denominations of Banknotes are inserted and accepted, it indicates the Banknote was successfully matched against its characteristics recorded in the Software.

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UBA® - BLUEWAVE-2 DOWNLOAD TOOL

Using the JCM BlueWave-2 Download Tool



NOTE: Refer to the "BlueWave 2.0 Download Tool" Operators Manual (JCM Part No. 960-000924R) for detailed instruction.

Perform the following procedure to initiate a Software Download:

1. Copy the required Software File to be downloaded into a "DOWNLOAD" Folder on a Standard SD Memory Card.
2. Insert the SD Memory Card into the BlueWave Tool.
3. Ensure that Power is applied to the UBA®.
4. Turn the BlueWave Device's Power **ON**, and confirm that the Battery Life LED is illuminated **Green**.
5. Confirm that the SD Memory Card Status LED initially lights **Orange** and then turns **Green**.
6. Connect the BlueWave Device to the PC using a Male-A to Male-B USB Cable.
7. The upper most BlueWave Device Status LED will light **Green** when the BlueWave is communicating with the UBA®.
8. Press the "**LOAD**" Button on the BlueWave Device to begin the required Software Download.
9. The BlueWave Device Status LED will display the following LED States:
 - a. **Orange** while the UBA® Memory is being erased, then
 - b. Alternates between **Green** and **Red** while the Software file is being transferred to the UBA®; then
 - c. **Orange** during the CRC verification check. When the upper most BlueWave Device Status LED (Top) and the center SD Memory LED (Middle) BOTH light **Green**, the download was successfully completed.
 - d. Turn the BlueWave Power Switch to **OFF**; disconnect the USB Cable, and reset the UBA® to it Normal Operating State.

The BlueWave Tool Downloading process is now complete.



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UBA® - PC DOWNLOADING



NOTE: This procedure assumes that:

1. The “JCM Tool Suite Standard Edition” Application (available at <http://www.jcmglobal.com/en/support/downloads/tools.aspx>) program has been pre-loaded onto the PC.
2. The USB Device Drivers have been installed on the PC and
3. The UBA Software is available for download

Perform the following to initiate a PC download:

1. Make sure power is applied to the UBA®.



NOTE: When updating the same Protocol Software, the DIP Switches can be left in the operating position.

2. Connect the PC to the UBA® via a standard USB (A[male]/B[male]) Cable connection.
3. Click on the JCM Tool Suite ICON to start the program download.
4. Use the Download Arrow located to the right of the “Service Mode” block and Mouse-click on the “**Download**” Screen Button.
5. Use the “**BROWSE**” Screen Button to select the Program Data File to be downloaded into the UBA®.
6. Mouse-click on the “**Download**” Screen Button.
When the “**Target file has been Downloaded Successfully**” Dialog Box appears on the PC Screen, disconnect the USB Cable. The download is complete.

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AVAILABLE CLEANING CARD

A JCM Waffletechnology® Validator Cleaning Card is now available (JCM Part No. 501-000180R, Manufacturer's Part No. KWJCM-B2B15M). The cleaning card is designed to be used as a supplemental part of a Preventive Maintenance program to help in reducing dirt and Paper dust build-up within a Unit. Use of this Card will optimize performance between regular Preventive Maintenance intervals. This is the **ONLY** cleaning card authorized for use on the UBA® Gaming Validator (See Figure 1).

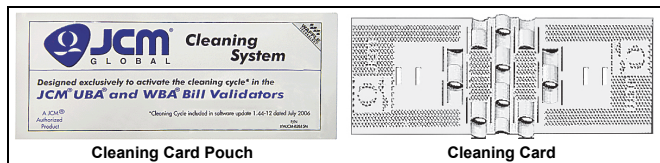


Figure 1 JCM Waffletechnology Cleaning Card

CARD FEATURES

- A unique Waffletechnology® design that hugs all surfaces to insure complete surface cleaning
- Specially designed scrubber patterns insure that Belts and O-ring Rollers are cleaned and lubricated to prevent them from drying out over time.

DIRECTIONS FOR USE

1. Remove the Cleaning Card from it's Pouch and insert it into the Validator.
2. The Cleaning Card will be accepted and rejected automatically.
3. Repeat this process several times to ensure that sufficient soil build-up has been removed.
4. Insert and **HOLD** the Cleaning Card while the Validator pulls in on it to ensure proper Belt cleaning.
5. Dispose of the used Card in an environmentally safe manner.

For more information and a list of Authorized Waffletechnology® Distributors visit: <http://www.jcmwaffletechnology.com>.



UBA® Units

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