



JCM Products Quick Reference Guide

iVIZION® Units



NOTE: Due to advancements in related industry technologies and future product development, the information in this guide is subject to change without notice.

For more information about product set-up, use, testing procedures and troubleshooting methods, please contact the Technical Support Division of Customer Service via the email addresses listed below:

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QUICK REFERENCE TROUBLESHOOTING GUIDE

The operating condition of the iVIZION® is indicated by its Front Panel multi-color Status LED indicators. Refer to the Table 1 LED Error Code condition listing for the iVIZION® Error Status being indicated.

Table 1 iVIZION LED Error Codes

Symptom	Power LED	Status LED	Cause and Solution
Normal Condition	ON	OFF	The iVIZION is Operating Correctly
Initializing	ON	Blue Flashes	The iVIZION is Initializing
Downloading	ON	Lit Red	The iVIZION is Downloading
		Lit Green	
Near Full Detection	ON	Lit Yellow	A Nearly Full Cash Box condition
Test Mode	ON	Lit Blue	The iVIZION is in "Performance Test" Mode
Error Condition	ON	Red Flashes	Indicates an Error condition (see Table 5)
Banknote Jam	ON	Yellow Flashes	Indicates a Jammed Banknote (see Table 6)
Reject Condition	ON	Green Flashes	Indicates a Banknote Reject condition (see Table 7)
ICB Error	ON	Blue Flashes	Indicates a ICB Error condition (see Table 8)
iVIZION is not working	OFF	OFF	Power is not being supplied

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JCM TOOL SUITE

Access to programming applications supporting the iVIZION® is accomplished via the JCM Tool Suite Program. The JCM Tool Suite is a Windows® based PC application. Refer to the “JCM Tool Suite™ Software Installation Guide (JCM Part No. 960-100923R) for further information.

Table 2 JCM Tool Suite Application Functions

iVIZION Mode	Application	Purpose
Operational Mode	Download	Updating Software
	Statistics	Historical Information Bill Acceptance Fault Details Acceptable Banknotes
	Utility	Image View Enables ICB Setup (with PC)
Diagnostic Mode	Sensor Adjustment	Use to Initially Calibrate the Sensors
	Performance Test	Functional Tests of the Motors, Stacker, Sensors & Switches. Enables ICB Setup (with Tickets).

The JCM Tool Suite is used when the iVIZION® is connected to a PC using a Male A to mini-Male B USB Cable.

On the iVIZION®, the mini-USB Connector is located above the **GREEN** Power LED.

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OPERATIONAL MODE FUNCTIONS

DOWNLOADING SOFTWARE

Select “Download Mode” to update the iVIZION’s Software and proceed as follows:

1. Open the JCM Tool Suite Application.
2. Connect the iVIZION® Unit to the PC using a USB Cable.
3. Use the “Service Mode” pull-down Menu Arrow to select “Download” from the list.
4. On the “JCM Downloader” Screen, use “Browse” to locate and select the appropriate download File for the iVIZION® Unit.
5. Verify that the iVIZION® Unit is connected to the downloading PC.
6. Mouse-click on the “Download” Check-box.
7. Download progress is shown by a progress Barograph and a percentage complete indication located above the Graph.
8. Verify that the download indicates “Download Success” at 100% completion.
9. The Download is now complete. Disconnect all Cables, and reset the iVIZION® Unit to an normal operating status.

STATISTICS FUNCTION

Select the “Statistics” Tab to view the iVIZION® Unit’s performance and Banknote acceptance history. To view the current Statistics, perform the following steps:

1. Open the JCM Tool Suite Application.
2. Connect the iVIZION® Unit to the PC using a USB Cable.
3. Use the “Service Mode” pull-down Menu Arrow to select “Statistics” from the list.
4. Mouse-click on the “Read” Screen Button to read the information from the iVIZION® Unit’s Memory.
5. Various information is accessed by selecting a Tab located at the top of the Screen and using the pull-down Menu Arrows on each Screen accessed.

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NOTE: Refer to the “JCM AcLoad™ Software Installation Guide” (JCM Part No. 960-100918R) for details on the Statistical information being displayed.

UTILITY FUNCTION

Select the “Utility Function” Tab to view an image of the last Banknote or Ticket accepted into the iVIZION® Unit or to Activate/Deactivate ICB or change the ICB Settings. To view the Image, perform the following steps:

1. Open the JCM Tool Suite Application.
2. Connect the iVIZION® Unit to the PC using a USB Cable.
3. Use the “Service Mode” pull-down Menu Arrow to select “Utility” from the list.
4. Mouse-click on “1) CIS IMAGE” Selection.
 - a. Mouse-click on the “Read” Screen Button and the front and back sides of the Banknote or Ticket will appear.

To change to the ICB Setup follow these steps:

1. Open the JCM Tool Suite Application.
2. Connect the iVIZION® Unit to the PC using a USB Cable.
3. Use the “Service Mode” pull-down Menu Arrow to select “Utility” from the list.
4. Mouse-click on “2) ICB SETTING” Selection.
 - a. Mouse-click on Enable/Disable Screen Buttons to activate or disable the ICB capabilities.
 - b. Enter a Machine or Asset Number into the “Set M/C” Text Field to assign an ICB Machine/Asset Number to the iVIZION® Unit.
 - c. Mouse-click on the “Get M/C” Screen Button to read the current Asset/Machine Number from the iVIZION® Unit.
5. To inhibit ICB Information from being sent to the Cash Box, Mouse-click on the “Inhibit” Screen Button.

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ENTERING DIAGNOSTIC MODE

Diagnostic Mode is activated by turning Switch #8 on DIP Switch Block #1 **ON**, and applying Power on the iVIZION® Unit. The Status LED will light steady **BLUE** Color indicating that the iVIZION® Unit is in Diagnostic Mode.

SENSOR ADJUSTMENT

Sensors will only need to be calibrated at the end of production or if the Sensors or Processors (CPUs) have been replaced. Refer to Section 6 of the “iVIZION® Operation and Maintenance Manual” (JCM Part No. 960-100929R) for complete Calibration instructions.

PERFORMANCE TESTING

The iVIZION® is tested by using the Performance Test Functions included in the JCM Tool Suite Application. Refer to the “JCM Tool Suite™ Software Installation Guide” (JCM Part No. 960-100923R) for detailed information concerning the Tests listed in Table 3.

Table 3 Performance Tests

Test No.	Test Item	Test Purpose	Status LED Color	
			Good	Error
1	Motor Forward Rotation	Tests the Transport Motor's Banknote insertion direction	Yellow Flash	Yellow Lit Steady
2	Motor Reverse Rotation	Test of Transport Motor's Banknote return direction	Yellow Flash	Yellow Lit Steady
3	Stacker Motor	Tests the Stacking Mechanism Function	Yellow Flash	Yellow Lit Steady
4	Cycle Test	Performs a Full Transport and Stacker Test	Yellow Flash	Stops, Returns to Diagnostic Mode (Blue LED ON)
5	Status LED Test (Display Check)	Tests the Status LED	Red Lit Steady	NO LED Light exists
			Green Lit Steady	
			Blue Lit Steady	

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Table 3 Performance Tests (Continued)

Test No.	Test Item	Test Purpose	Status LED Color	
			Good	Error
6	Sensor ON/OFF Test	Tests all Validator and Transport Sensors	OFF → ON	No Change
7	DIP Switch Test	Tests the DIP Switch Block Switches	OFF → ON	No Change
8	Banknote Acceptance Test (Accept Mode)	Tests the Transport, Validation, Stacking and Reject performance	Yellow Flash	Red Flash
				Yellow Flash Banknote Jam Error
				Green Flash Reject Error
9	ICB Control Ticket Read Mode	Setup of the ICB System using Tickets	Green Flashes 3 Times	Green Flash Reject Error

Refer to Table 4 to view the Sensor Test Indications.
For the Banknote Acceptance Test Error Codes, refer to Tables 5, 6, or 7.

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SENSOR TESTING

Table 4 lists the iVIZION® Unit's Sensor Test Indications.

Table 4 Sensor Test Conditions

Action	Sensor	LED Indication
Open the Validator Cover	ENTRANCE	OFF → ON
	CIS L2	
	CIS L1	
	CIS R1	
	CIS R2	
	EXIT	
Open the Transport Cover	Feed-In	OFF → ON
	Feed-Out	
Remove Cash Box	Cash Box Seated & Size Check	OFF → ON
Move Cash Box Pusher Plate	Nearly Full	OFF → ON
Move Pusher Assembly	Pusher Home Sensor	OFF → ON

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OPERATIONAL ERRORS

iVIZION® Operational Errors are indicated by the number of **RED** LED flashes. Count the flashes that exist in between the longer pause periods to determine the Error Code number indicated in Table 5.

Table 5 Operational Error Codes

RED Flashes	Error Type	Cause and Solution
1	Stacker Full	Detected a Cash Box Full condition
2	CPU Comm Error (Processors)	Communications Error between Processor (CPU) Boards
3	Sensor Adjustment Error	Abnormal Sensor Adjustment condition encountered
4	Speed Error	Transport Motor Speed is incorrect
5	EEPROM Error	No Initial Sensor Adjustment
6	Transport Error	Transport or Stacker jam condition
7	Reject Error	Jam condition during a Banknote Reject operation
8	Stacker Pusher Movement Error	Jam in the Stacker Assembly
9	Pusher Position Error	Pusher Plate Sensor Error
10	No Cash Box	Cash Box not detected
11	No Acceptor Head	Acceptor Head Cover is not closed
12	Anti-String Error	Sensors detected irregular movement
13	Reserved	N/A
14	Damaged Processor (CPU) Board	Processor (CPU) component failure
15	Memory Error	ROM/RAM Failure – CPU Board



NOTE: Refer to the “iVIZION® Series Operation and Maintenance Manual” (JCM Part No. 960-100929R) for a full description of errors and corrective actions.

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BANKNOTE JAM ERRORS

Banknote Jam Errors are indicated by the number of **YELLOW** LED flashes. Count the flashes that exist in between the longer pause periods to determine the Error Code number indicated in Table 6.

Table 6 Banknote Jam Error Codes

YELLOW Flashes	Error Type	Cause and Solution
1	Reserved	N/A
2	Entrance Sensor Jam	Check/Clean the Entrance Sensor
3	CIS Sensor Jam	Check/Clean the CIS Sensor
4	Exit Sensor Jam	Check/Clean the Exit Sensor
5	Feed-In Sensor Jam	Check/Clean the Feed-In Sensor
6	Feed-Out Sensor Jam	Check/Clean the Feed-Out Sensor
7	Cash Box Jam	Check for Jammed Note in Cash Box
8	Reserved	N/A
9	Reserved	N/A
10	Reserved	N/A
11	Reserved	N/A
12	Reserved	N/A
13	Reserved	N/A
14	Reserved	N/A
15	Reserved	N/A



NOTE: Refer to the “iVIZION® Series Operation and Maintenance Manual” (JCM Part No. 960-100929R) for a full description of errors and corrective actions.

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BANKNOTE REJECT ERRORS

Banknote Reject Errors are indicated by the number of **GREEN** LED flashes. Count the flashes that exist in between the longer pause periods to determine the Error Code number indicated in Table 7.

Table 7 Banknote Reject Error Codes

GREEN Flashes	Error Type	Cause and Solution
1	Banknote Insertion Error	Skewed Insertion
2	UV Sensor Error	Check/Clean the UV Sensors
3	Banknote Detected in Acceptor	Check/Clean Banknote Path
4	Adjustment Error	Check/Clean the CIS/Transmissive Sensors
5	Transport Timing Error	Check Motor Speed
6	Denomination Error	Banknote not validated, Check/Clean all Sensors
7	Photo Pattern Error	Banknote Pattern not recognized, Clean Path
8	Photo Level Error	Check/Clean the Banknote Path
9	INHIBIT Error	Banknote rejected due to DIP Switch setting condition
10	Reject Command	Host commanded Banknote reject
11	Ticket Error	Ticket inserted Upside Down
12	Transport/Stacker Error	Sensors blocked in Stacker
13	Banknote Length Error	Banknote length longer than specified, Check Banknote Type
14	Photo Pattern Error	Banknote pattern not recognized, Clean Path
15	Banknote Identity Error	Unidentified Banknote, Check Sensors, Clean Path



NOTE: Refer to the “iVIZION® Series Operation and Maintenance Manual” (JCM Part No. 960-100929R) for a full description of errors and corrective actions.

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INTELLIGENT CASH BOX (ICB) ERRORS

ICB® Errors are indicated by the number of **BLUE** LED flashes. Count the flashes that exist in between the longer pause periods to determine the Error Code number indicated in Table 8.

Table 8 ICB Error Codes

BLUE Flashes	Error Type	Cause and Solution
1	Reserved	N/A
2	ICB Function Error	RFID Module in Cash Box not detected (Verify presence)
3	ICB Read/Write Error	ICB Communications Failure
4	ICB Data Error	Data is incorrect / Hardware Failure
5	ICB Number Error	Mismatch of Asset Number between Cash Box and iVIZION Unit
6	ICB Initialization Error	Replace Cash Box with a cleared Box
7	Reserved	N/A
8	Reserved	N/A
9	Reserved	N/A
10	Reserved	N/A
11	Reserved	N/A
12	Reserved	N/A
13	Reserved	N/A
14	Reserved	N/A
15	Reserved	N/A



NOTE: Refer to the “iVIZION® Series Operation and Maintenance Manual” (JCM Part No. 960-100929R) for a full description of errors and corrective actions.

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IVIZION® - DOWNLOAD TOOL

Using the JCM BlueWave-2 Download Tool



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

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 iVIZION® Unit.
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 mini-B USB Cable.
7. The upper most BlueWave Device Status LED will light **Green** when the BlueWave is communicating with the iVIZION® Unit.
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 iVIZION® Memory is being erased, then
 - b. Alternates between **Green** and **Red** while the Software file is being transferred to the iVIZION® Unit 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 iVIZION Unit to its Normal Operating State.

The BlueWave Tool Downloading process is now complete.

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PREVENTATIVE MAINTENANCE

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

- Keep the bill path, rollers and belts clean
- The Sensor Lenses are transparent, handle them with care. To clean them, use a dry Micro-fiber, lint-free cloth. If the dry lint-free cloth does not clean them thoroughly, use a mild, non-abrasive detergent mixed with water to clean the Sensors. Wipe off any excess moisture from the iVIZION® Unit's surfaces.



WARNING: Do not use Alcohol, paint thinner, solvents or citrus based solutions for cleaning any surfaces!

CASH BOX PREVENTATIVE MAINTENANCE

The following Periodic Maintenance checks must be routinely performed:

1. Use Compressed Air to blow out the Paper fibers and any other debris that may have build up in the Cash Box.
2. Clean the Stacker Feed Belts using a lint free cloth with a mild soap/water solution.



NOTE: The Stacking assembly may need to be removed from the Cash Box and disassembled to properly clean.

3. Check the Belts and all moving parts for wear and proper positioning. If this assembly does not operate properly, it will increase Banknote jams.

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