



OPEX CORPORATION

System 150 Image Export Module

Operator's Manual

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System 150 IEM Operator's Manual

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Table of Contents

From the President of OPEX	iii
OVERVIEW :	ONE
IEM Functional Description	4
Benefits of IEM Processing	5
Integration of IEM with System 150	5
Operator Requirements	6
Processing Rates	6
OPERATOR :	TWO
150 Interface	8
Controls	9
Screens	10-13
IEM INTERFACE	THREE
Controls	14
Screens	15
IEM Main Menu	16
Batch Viewer Procedure	17
Exiting Batch Viewer	18
IEM RE - FEEDER	FOUR
Re-feeder uses	19
Re-feeder Screens	19
Re-feeder Batch Preparation	20
JAM CONTROL	FIVE
Clearing a Jam in the IEM	21
Jam Messages	22

From the President of OPEX Corporation

*We're excited about the future of
mail-based payment processing!*



Welcome to the future of Mail-Based Image Payment automation. The OPEX System 150-IEM reduces to one continuous flow the process of (1) qualifying and opening a payment, (2) extracting the document and check, (3) properly sequencing and orienting each, (4) capturing Image, OCR and MICR data, (5) spraying an audit trail on each document, (6) exporting the data package to a remittance processing fileserver, and (7) preparing the document for archiving and the check for encoding.

All this takes place in the blink of an eye—about 1/3rd of a second per transaction. That's a rate of 10,000 transactions (20,000 pieces) per hour. And it takes just one operator like you to successfully manage the entire process!

The key to this fully automated process is the System 150-IEM operator. We've gone to great lengths to design our equipment to be operator-friendly, and I believe you'll be pleased with the results we've achieved.

OPEX listens to its customers. Over the past quarter century, we've been a major driver in the full automation of mail-based payments. Our commitment to innovative design has brought about a steady decline in processing costs (in real terms) over the last two decades. The IEM will continue that desirable trend.

New technologies breed new opportunities. When imaging became a viable processing tool, our customers suggested that we deliver **images instead of paper** in order to shrink the process while expanding the window of available processing time. That's what we've done. I believe that the IEM will be a revolutionary product—a watershed in the industry that will continue to drive down costs and expand opportunities. Thanks for being a part of it!

Sincerely,
OPEX Corporation

A handwritten signature in cursive script that reads "Albert Stevens".

President

IEM Functional Description

What is the IEM? What does it do?

ICON KEY	
	Requires keyboard
	Requires mouse
	Requires disk
	Requires technician

The Image Export Module is an inline option for the OPEX System 150 High Speed Automated Extractor. Its function is to perform Image Capture on documents immediately after they are extracted from envelopes by the OPEX System 150. The IEM module fits in between the main extractor portion of the System 150 and the output Stacker Bins.

Adding only 45" to the System 150's footprint, the IEM accepts sequenced, oriented documents from the extractor and performs OCR and MICR read as well as Image capture on each remittance coupon/check pair.

As documents flow into the IEM, three data acquisition events occur in sequence. The first is MICR read from the check. The second is Image Capture, where the front side and optionally, the back side of each document is imaged. The third event is Scan-line Read from the remittance coupon.

An inkjet printer adds an audit trail to each document, following which the transaction pair is separated. Coupons are stacked sequentially for archiving. Checks are stacked sequentially in preparation for encoding, which takes place on a remittance processing transport.

The data package, consisting of images, MICR line data and OCR line data, is exported to the remittance processing fileserver for Character Amount Read (CAR) and/or distribution to keying stations for transaction balancing.

Processing Benefits of IEM

Remittance processing is a time-critical operation. It used to be a labor-intensive operation as well. The OPEX System 150 IEM combination provides a time benefit and a labor benefit to the overall process.



Time Benefit

The IEM allows the extraction step and the Image Capture Pass to occur simultaneously rather than sequentially, cutting several hours from the typical Image Processing workflow. The result is a wider window of processing time, which translates into increased availability of funds processed prior to cutoff.



Labor Benefit

The typical Image Processing workflow in a large-volume shop consists of three steps: (1) High Speed Extraction, (2) Image Capture Pass, and (3) Encoding Pass.

One operator is required for each function, since the workflow steps occur in sequence. Implementation of the IEM combines the first two steps—automated extraction and image capture—so that they occur simultaneously, reducing the manpower requirements of the total workflow by one third, from three to two.

Integration of IEM with System 150

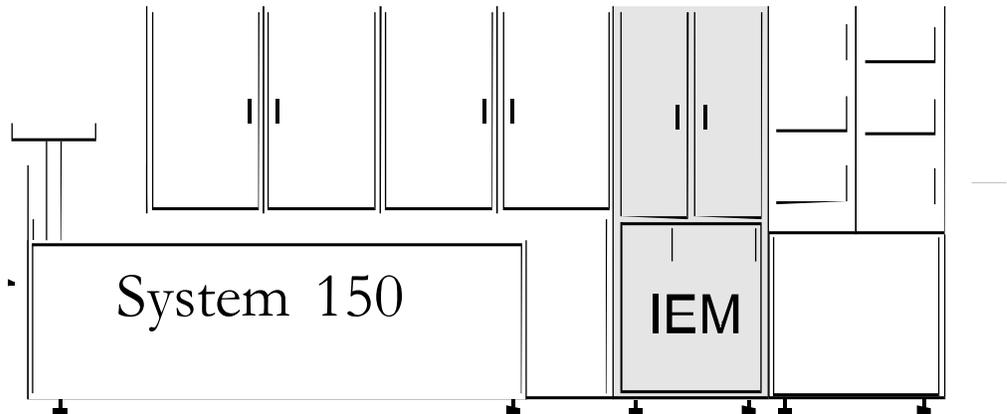


Figure 1.1 The Image Export Module

The IEM is a modular component of the OPEX System 150 High Speed Automated Extractor. It fits in between the extractor and bin stacker unit. The IEM may be retrofitted to existing System 150s in the field. The retrofit process takes approximately 24 hours.

Operator Requirements

System 150 IEM:

The IEM, like all modules of the System 150, increases the functionality of the System 150 without adding to the labor required to operate the machine. Only one operator is required to run the System 150 with the IEM module.

IEM Processing Rates



Input Rate:

The IEM can input up to 15,000 transactions or 30,000 documents per hour. This rate is compatible with the maximum throughput rate of the System 150. Throughput rates are dependent upon envelope / document length, as described below.

IEM Feeder Rate:

The Re-Feed module can input documents at a rate of up to 20,000 per hour.

Track Speed:

150 inches per second.

Factors Affecting Processing Rate

Length of Document:

The IEM operates at a fixed track speed of 150 inches per second. The rates quoted above assume an envelope length of seven (7) inches and a document length of up to 6 ³/₄" to provide a good fit within the envelope. Shorter envelopes and documents will enhance throughput rates. Longer envelopes will degrade the throughput rates, since fewer envelopes can pass through the machine in a given period of time.

Paper Quality:

Quality in document construction has two components: (1) the content and construction of the paper itself, and (2) the consistency with which each document is printed, perforated, and cut to size.

Paper Basis Weight:

24# white wove (virgin) paper provides optimum performance in most applications. A decrease in paper basis weight usually means a decrease in the stiffness of the paper. This can result in a higher jam rate and poorer performance. The System 150 and IEM are designed to run best using envelopes and documents manufactured from paper with a basis weight of 20 to 24 pounds.

Recycled paper has less stiffness for a given basis weight than white wove (virgin) paper. This can generate excessive paper dust, and may degrade performance.

Factors Affecting Processing Rate (cont'd)

Quality of Envelope Construction

Well-constructed envelopes have a positive impact on the throughput rate of the System 150, which in turn directly affects the IEM throughput rate.

Poorly constructed envelopes—those with out-of-specification window locations, for example—can require an unusual orientation of the envelope as it feeds into the System 150. Add the IEM to the machine configuration, and you may have a situation that requires each piece of paper to be reversed in the System 150 in order to get the required document first flowing through the IEM.

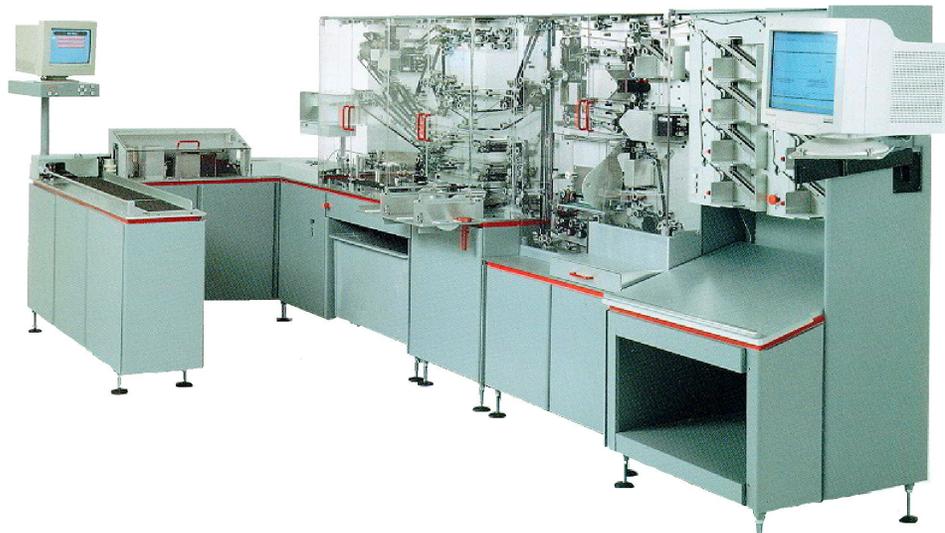
This is not an optimal situation, because the jam rate in the extractor will likely be higher at the reverser, causing overall productivity to degrade.

A quality envelope and document, designed within specifications, will contribute greatly to optimum performance of the machine.

OPEX offers expert help in envelope and document design. There is no cost for this service to OPEX customers. For help, call OPEX at (609) 727-1100 and ask to speak with a product specialist.

System 150 • IEM: 150 Operator Interface

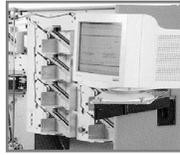
The System 150 IEM has two operator interface monitor screens. The primary operator interface is the System 150 monitor located at the feed area of the extractor. The secondary operator interface is the monitor located at the stacker end of the System 150, near the IEM module.



The primary S150 operator interface is mounted on a pedestal at the feed section of the System 150 IEM. The controls for this monitor are mounted directly beneath the monitor, and consist of an On/Off switch, four directional cursor buttons: ◀ ▶ ▲ ▼, Enter and Delete.

The primary monitor Machine Controls allow the operator to:

- power up the System 150 and the IEM,
- log on to the system at the appropriate access level,
- select and run jobs,
- monitor the functionality of the System 150,
- generate statistical reports, and
- power down the System 150 and the IEM.



The secondary IEM operator interface is mounted on a swing arm attached to the output stacker bin section of the System 150 IEM. The IEM computer monitor is controlled by an internal PC running the Windows NT™ operating system. The IEM PC interacts with the System 150 PC to maintain control of a continuous flow of documents and checks delivered by the System 150 extractor.

The IEM PC Operator Interface serves several purposes:

1. Periodic display of documents for image quality monitoring.
2. Display MICR / OCR data for batch being run.
3. Display status of output bins: batch number and number of documents in bin (not including the batch ticket.)
4. Warn operator if OCR or MICR read rate falls below preset quality levels.
5. Allow operator to view batches.

System 150 Controls

The System 150 operator interface is Menu driven. Operators log on and make choices by using the keypad.

ON/OFF Buttons

The O/I Buttons turn the machine on and shut it off. The Off Button must be depressed in order for the On Button to power the machine up. The On Button **will light** when the machine is operational.

Enter Key

The Enter Key is the primary control for making choices and moving between screens.

Left Key

Allows the operator to make selections within a given screen.

Up Key

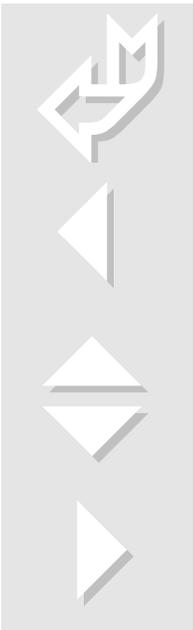
Allows the operator to make selections within a given menu.

Down Key

Allows the operator to make selections within a given menu.

Right Key

Allows the operator to make selections within a given screen.



System 150 Run Screens

Startup Screen



Figure 2. 1
System 150

Operator Menu list is displayed upon startup when the operator presses the enter button.

Log On Screen

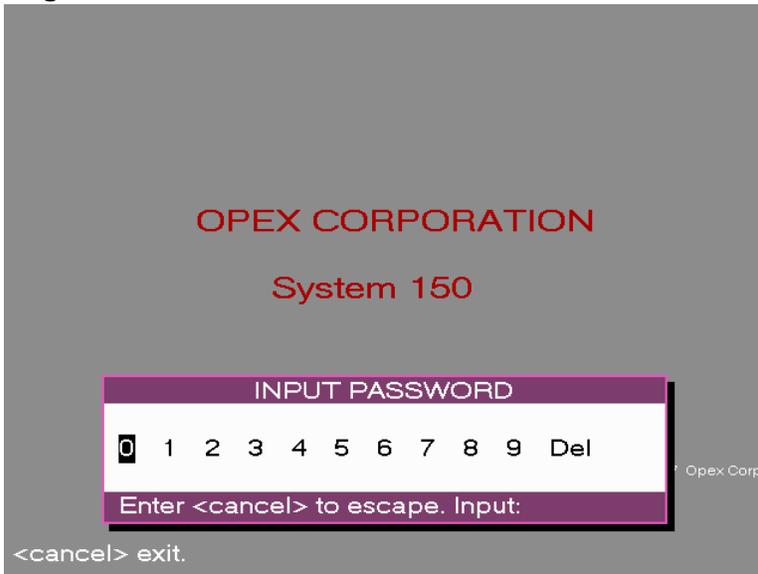


Figure 2. 2
System 150

Operator logs on using an assigned 4-digit password.

Four levels of access are possible:

- Entry
- User
- Supervisor
- Manager

System 150 Run Screens

Main Menu Screen

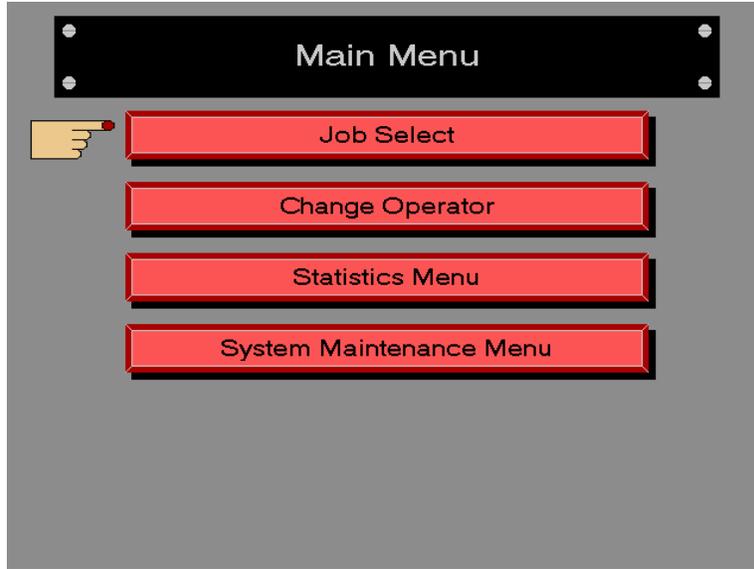


Figure 2. 3
System 150

Move cursor up or down to make a choice. Press Enter to continue.

Levels of access below supervisor will not view Statistics Menu bar or System Maintenance Menu bar.

Job Run Menu

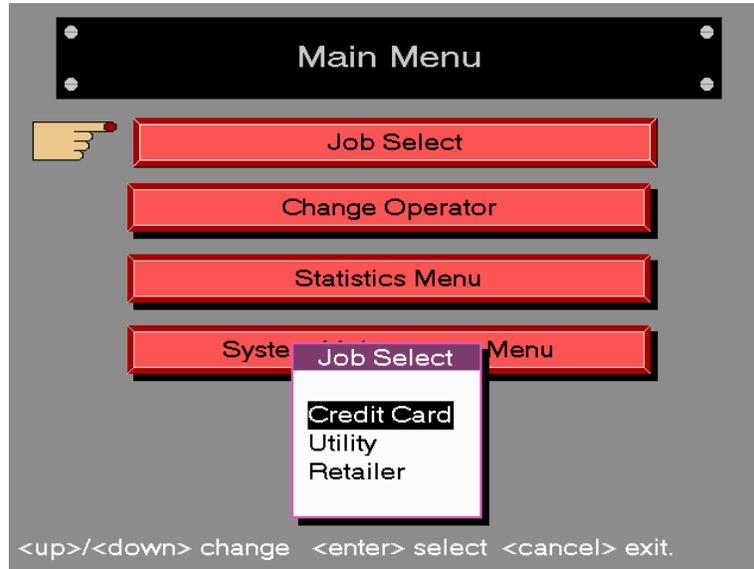


Figure 2. 4
System 150

Job Menu appears when the Job Select bar is chosen by the operator.

Usually, more than one job will be displayed on the menu.

System 150 Run Screens

Job Settings Screen

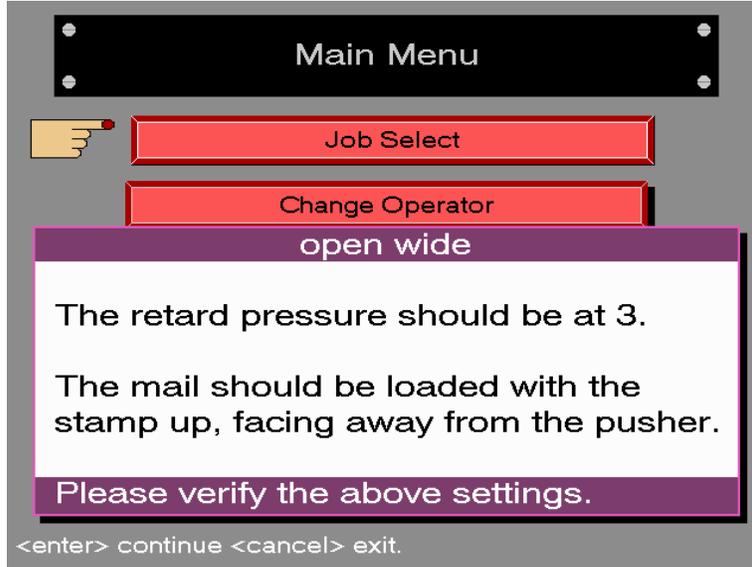


Figure 2. 5
System 150

System settings are displayed prior to running the job.

Very Important:

Mail must be loaded per instructions on the screen. Orientation will determine the sequencing and orientation of pieces as they feed into the IEM.

Run Menu Screen



Figure 2. 6
System 150

Operators will choose Run Continuous in a production environment. Other run choices are for job setup and diagnostics.

System 150 IEM Bin Status Color Key

Run Screen

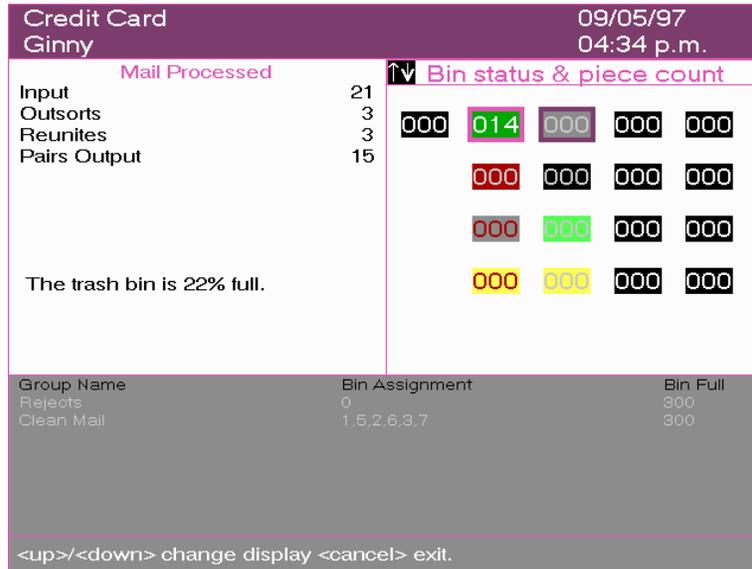


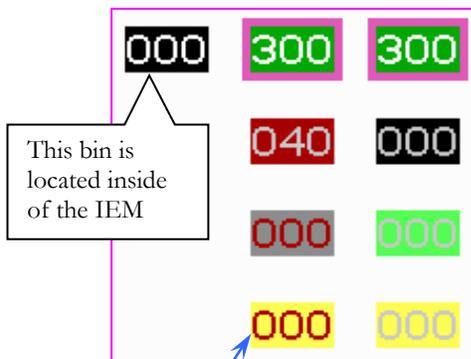
Figure 2.7
System 150

As the job is being run, cumulative job data is displayed on the System 150 screen. Additional data may be viewed on the active portion of the screen by scrolling up or down with the control keys.

Change trash bin percentage while machine is still running. Activate bin left screen with left control key, use up or down key to change percent.

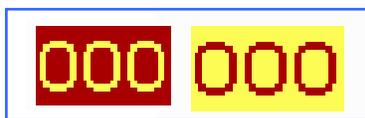


COLOR KEY— SYSTEM 150 IEM BIN STATUS

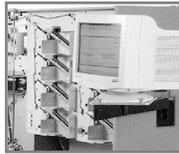


The status of the output bins is conveyed to the operator by means of color-coding. The eight bins located in the stacker and the single reject bin located in the IEM module are represented by the box location as shown to the left.

- Black-White:** Bin active; accepting pieces.
- Black-Gray:** Bin active; waiting for batch ticket.
- Green-White:** Bin is full.
- Green-Gray:** Batch is transferring to network.
- Yellow-Gray:** Batch is terminating; paper removed unexpectedly.
- Red-Gray:** in override button pressed; cannot receive paper.
- Gray-Red:** Inactive; paper present from previous run.
- Yellow-Red/Red-Yellow alternating:** Odd count where pairs are expected. Single piece needs to be removed from bin.
- Gray-Gray:** Bin disabled (machine parameter) See Figure 2.7
- CYAN Border:** Indicates bin is 1st Pass enabled. Collar is dark when no paper is present, bright when paper is present.



System 150 · IEM: IEM Operator Interface



The IEM operator interface is mounted on a swing arm attached to the output stacker bin section of the System 150 IEM. The IEM computer monitor is controlled by an internal PC running the Windows NT™ operating system. The IEM PC interacts with the System 150 PC to maintain control of a continuous flow of documents and checks delivered by the System 150 extractor.

The IEM PC Operator Interface serves several purposes:

6. Periodic display of documents for image quality monitoring.
7. Display MICR/OCR data for batch being run.
8. Display status of output bins: batch number and number of documents in bin (not including the batch ticket.)
9. Direct operator in IEM jam clear procedure to maintain batch integrity.
10. Warn operator if OCR or MICR read rates fall below preset levels.
11. Allow operator to view batches.

IEM Controls

In addition to the System 150 Secondary Panel Control Keys—On, Off, and Start—the IEM has three control keys of its own:

Enter Key

The IEM operator interface is Menu driven. The Enter Key is the primary control for moving between screens and making choices.

Up Key

Allows the operator to make selections within a given menu.

Down Key

Allows the operator to make selections within a given menu.



IEM: Run Screen

Main Run Screen

Toggle up or down control keys to alternately display either checks or documents in the blue field on this screen.

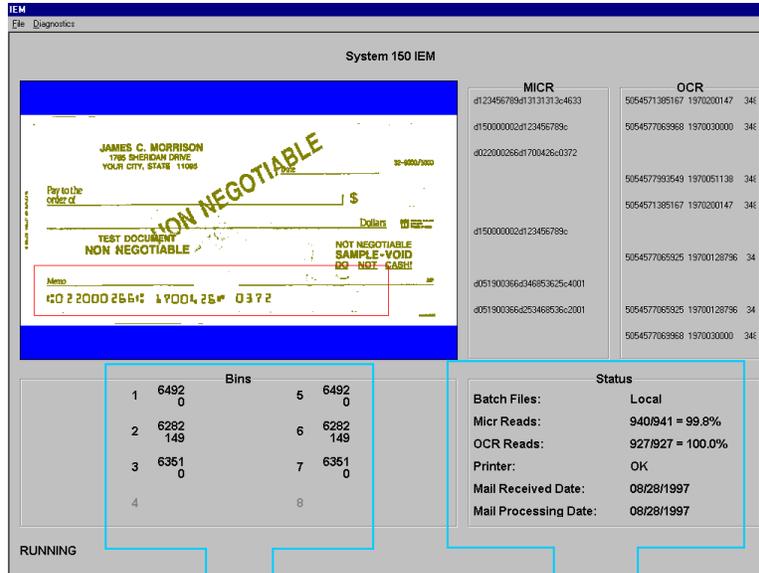


Figure 2.8
IEM

The Run Screen is displayed during the operation of the System 150 IEM. The IEM Run Screen displays information about the batch being run, along with documents from that batch for quality purposes.

Bins			
1	6492 0	5	6492 0
2	6282 149	6	6282 149
3	6351 0	7	6351 0
4		8	

Status	
Batch Files:	Local
Micr Reads:	940/941 = 99.8%
OCR Reads:	927/927 = 100.0%
Printer:	OK
Mail Received Date:	08/28/1997
Mail Processing Date:	08/28/1997

Displays Batch Number and document count for each bin.

Where Batch Number is the same for two bins, pairs are being run., with one bin accepting coupons and the other accepting checks.

Micr Reads:	941/957 = 98.3%
OCR Reads:	923/924 = 99.8%

When read-rates fall below preset (and programmable) limits, **MICR** and **OCR** data are displayed in red to warn the operator.

If a preset (and job programmable) number of consecutive errors are detected, these fields will display the message **Excessive Errors**.

IEM: Main Menu

Main Menu

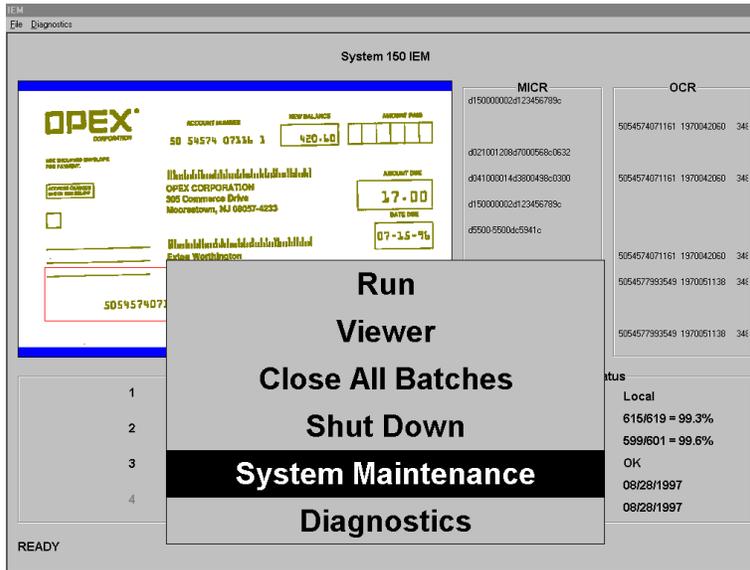


Figure 2.9
IEM

Press **Enter** at any point to see the main menu.

All operators will see the top four selections. Only supervisor level and above will access Sys. Maintenance. Only the OPEX technician will have access to Diagnostics.

- ▮ **Run:** Select to view Run Screen. See Figure 2.8
- ▮ **Viewer:** Select to view batch data.
- ▮ **Close All Batches:** Select prior to shut down if necessary.
- ▮ **Shut Down:** Select when work is complete.
- ▮ **System Maintenance:** Select to add or modify jobs or perform backup.
- ▮ **Diagnostics:** Available only to OPEX technician.

Note regarding current batch

The IEM Operator Interface screen displays information regarding the current batch being run. Batches remain active according to preset parameters, and are unaffected by stoppages and jams on the System 150 extractor. A batch will only be terminated by the operator. The only exception to this would be a power outage, in which case the IEM UPS would power down the IEM in an orderly manner and terminate all batches.

IEM: Batch Viewer Procedure

BATCH TERMINOLOGY

Active Batch
A batch is active when the assigned bin is still receiving documents.

Completed Batches
A batch is completed when the assigned bin is full. Data has not been transferred to the RP server.

Terminated Batch
A batch is automatically terminated and its data transferred to the RP server when the bin is emptied.



Viewer Screen—Active Batch

Batch: 6454
Bins: 1 & 5
Trans: 214
Seq: 428 & 429

Active Batch

Seq 428 Trans: 214 Bin: 1 OCR: 5054574071161 1970042060 348001700

Seq 429 Trans: 214 Bin: 5 MICR: d1200001d3400580d0619

Figure 2.10
IEM

Viewer selection allows the operator to:

- ♦ view the active batch, as at left
- ♦ view a completed batch, or
- ♦ select a batch from the list of terminated batches that are stored on disk.

To View Batch...

Figure 2.11 IEM

Choose Viewer.

Choose Select Batch. Batches may be selected and viewed one batch at a time.

Use the up and down arrows to move the cursor, then press Enter.

Figure 2.12 IEM

Batches are saved to disk upon batch termination. The Viewer displays batches in a window, as at left. Terminated batches are controlled by the RP server.

Select batch using mouse.
Double click to open the batch.

IEM: Exit Batch Viewer

Viewer Screen—Exit Menu

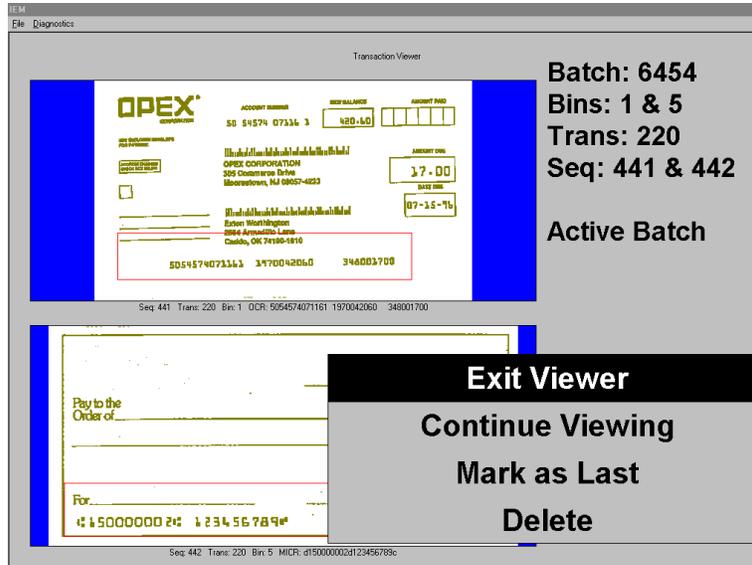


Figure 2.13 IEM

Press Enter to bring up the menu.

Select Exit Viewer and press Enter to exit the transaction viewer.

Main Menu

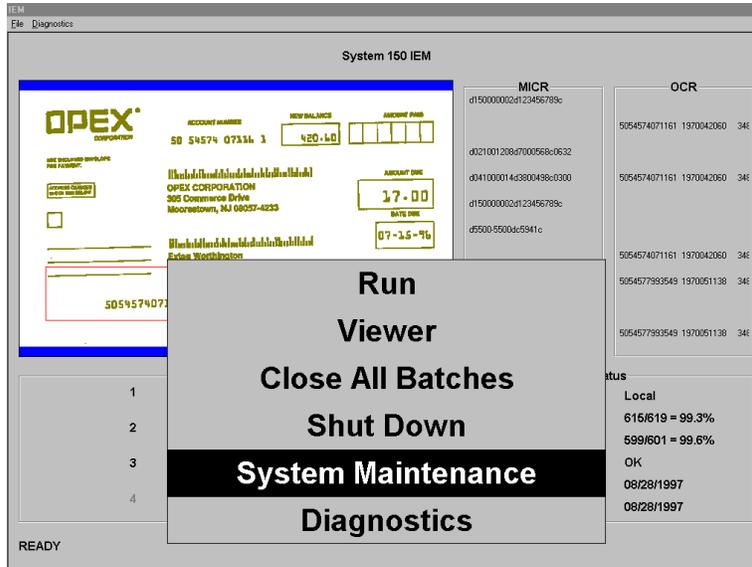
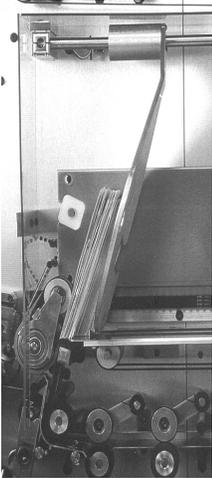


Figure 2.14 IEM

You will return to the Main Run Screen.

Press Enter to bring up the Main Menu to make another choice.



IEM Re - Feeder

The **IEM Re-Feeder** is designed to provide the option of imaging documents, checks, and batch tickets which are already out of the envelope. This feature can be run as a separate operation not dependant on the System 150 as an extractor. The IEM Re-Feeder provides a valuable imaging back-up for those times when other imaging equipment is not on line. As with other IEM jobs the Re-Feeder interacts with the System 150 PC to maintain control of a continuous flow of documents .

The IEM Re-Feeder can be utilized to:

1. Imaging **Clean Pairs** already extracted on other devices
2. Imaging **Multiples**:
3. Imaging **Checks Only** :
4. Imaging **Documents Only**:

Re - Feeder Screens

Re-feeder Run Screen

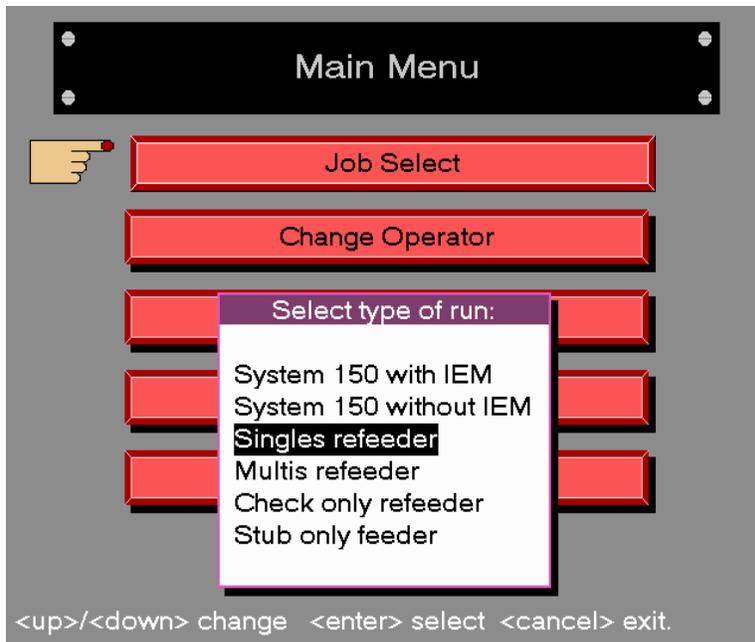


Figure 2.15

After choosing the job, operators must choose the specific type of media being run.

- Multiples
- Checks Only
- Stubs Only

Batch Preparation

In Re-feeder mode it is the **operators** responsibility to prepare the stubs and checks in their proper sequence.

IEM Re-feeder should be loaded Batch ticket first facing away from the pusher with he stubs and checks following. The bottom of the stub and the check will be facing away from the operator.

The operator start from the IEM Interface **Remote Keypad** on the stacker.

The IEM will display messages as in other IEM modes. There are some unique re-feeder screens that may be displayed when in Re-feeder mode.

Re-feeder Screens

IEM Screen : Document displayed

System 150 IEM Active Floating Pieces: 0

MICR **OCR**

0072411740d333333333c1372c 5054577069968 1970030000 346

0066000109d5353151c1101 5054577069968 1970030000 346

0062000019d12345678c0101 5054577069968 19700128796 34

0444444444c008590c 5054577069968 19700128796 34

0062000019d12345678c0101 5054574071161 1970042060 346

5054574071161 1970042060 346

d113000023d350130c2841 5054574071161 1970042060 346

0081000045d3301802c1796 5054574071161 1970042060 346

5054577069968 1970030000 346

Status

Batch Files: Local

Micr Reads: 130/136 = 95.6%

OCR Reads: 119/127 = 93.7%

Printer: Not Present

Mail Received Date: 03/05/1998

Mail Processing Date: 03/05/1998

Bins			
1	008550 0	5	9 13
2		6	10 14
3		7	11 15
4		8	12 16

EXPECTING STUB AT DROP SLOT

Expecting Stub

The IEM Re-Feeder carefully monitors the sequencing of the transactions. When prompted the operator locates the missing piece and drops it in the drop slot

Jam Control

Jam Screen: Document displayed

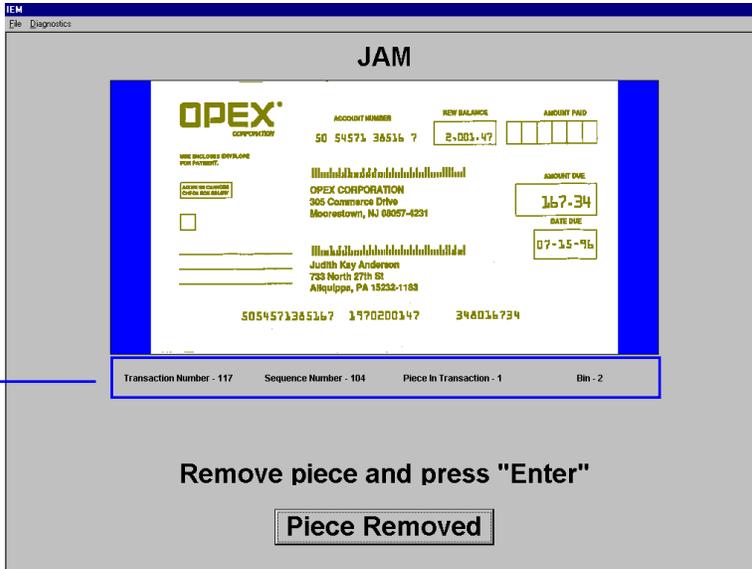


Figure 3.8
IEM

When a jam occurs in the IEM:

Find the document displayed. It belongs to the first transaction that was not accepted into the batch.

Press Enter.

Jam Screen: Check displayed

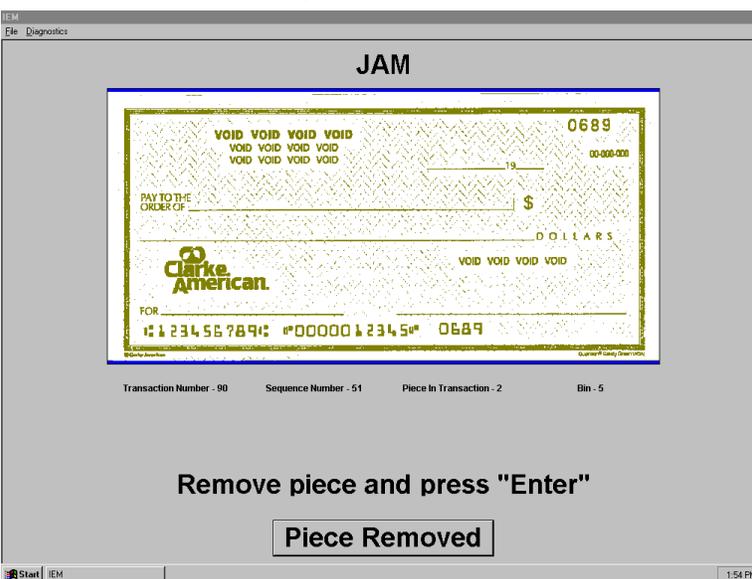


Figure 3.9
IEM

The check that belongs to the document will be displayed.

If the check is in the IEM paper path, you must remove it. If you do not it may result in some items being delivered to the stacker which have not been imaged.

Warning!
Batch will terminate if you remove all paper from a bin, since the bin

Transaction Number - 117 Sequence Number - 104 Piece In Transaction - 1 Bin - 2

Jam Messages

When a jam or other stoppage occurs in the IEM, a message will be displayed on the System 150 operator interface screen. These messages are informational in nature, e.g. **IEM not responding**.

Other messages report unexpected events, e.g. **Unexpected piece at bin 1 sensor**, or notify the operator that something needs attention, e.g. **IEM feeder starving or jammed**.

The following table is designed to help the operator understand the message and take appropriate action.

Jam ID	Jam Message	Condition	Action Required
133	IEM feeder compensate sensor is blocked	Sensor is blocked on startup	Clear piece at sensor.
134	IEM feeder sensor is blocked	Sensor is blocked on startup	Clear piece at sensor.
135	IEM system entry sensor is blocked	Sensor is blocked on startup	Clear piece at sensor.
136	IEM entry sensor is blocked	Sensor is blocked on startup	Clear piece at sensor.
137	IEM justifier sensor is blocked	Sensor is blocked on startup	Clear piece at sensor.
138	IEM MICR sensor is blocked	Sensor is blocked on startup	Clear piece at sensor.
139	Right IEM image sensor is blocked	Sensor is blocked on startup	Clear piece at sensor.
140	Left IEM image sensor is blocked	Sensor is blocked on startup	Clear piece at sensor.
141	IEM ink jet sensor is blocked	Sensor is blocked on startup	Clear piece at sensor.
142	IEM image processing is blocked	Sensor is blocked on startup	Clear piece at sensor.
143	Bin 0 gate sensor is blocked	Sensor is blocked on startup	Clear piece at sensor.
144	IEM exit sensor is blocked	Sensor is blocked on startup	Clear piece at sensor.
145	Bin 0 entry sensor is blocked	Sensor is blocked on startup	Clear piece at sensor.
146	Missing piece at the IEM feeder compensate sensor	Piece did not arrive at sensor on time.	Clear jam if necessary.

147	Missing piece at the IEM feeder staging sensor	Piece did not arrive at sensor on time.	Clear jam if necessary.
148	Missing piece at the IEM system entry sensor	Piece did not arrive at sensor on time.	Clear jam if necessary.
149	Missing piece at the IEM entry sensor	Piece did not arrive at sensor on time.	Clear jam if necessary.
150	Missing piece at the IEM justifier sensor	Piece did not arrive at sensor on time.	Clear jam if necessary.
151	Missing piece at the IEM MICR sensor	Piece did not arrive at sensor on time.	Clear jam if necessary.
152	Missing piece at the right IEM image sensor	Piece did not arrive at sensor on time.	Clear jam if necessary.
153	Missing piece at the left IEM image sensor	Piece did not arrive at sensor on time.	Clear jam if necessary.
154	Missing piece at the IEM ink jet sensor	Piece did not arrive at sensor on time.	Clear jam if necessary.
155	Missing piece at the IEM image processing sensor	Piece did not arrive at sensor on time.	Clear jam if necessary.
156	Missing piece at the bin 0 gate sensor	Piece did not arrive at sensor on time.	Clear jam if necessary.
157	Missing piece at the IEM exit sensor	Piece did not arrive at sensor on time.	Clear jam if necessary.
158	Missing piece at the bin 0 entry sensor	Piece did not arrive at sensor on time.	Clear jam if necessary.
159	Unexpected piece at the bin 1 entry sensor	Sensor detected paper when none was expected.	Clear paper, follow IEM PC instructions.
160	Unexpected piece at the bin 2 entry sensor	Sensor detected paper when none was expected.	Clear paper, follow IEM PC instructions.
161	Unexpected piece at the bin 3 entry sensor	Sensor detected paper when none was expected.	Clear paper, follow IEM PC instructions.
162	Unexpected piece at the bin 4 entry sensor	Sensor detected paper when none was expected.	Clear paper, follow IEM PC instructions.

163	Unexpected piece at the bin 5 entry sensor	Sensor detected paper when none was expected.	Clear paper, follow IEM PC instructions.
164	Unexpected piece at the bin 6 entry sensor	Sensor detected paper when none was expected.	Clear paper, follow IEM PC instructions.
165	Unexpected piece at the bin 7 entry sensor	Sensor detected paper when none was expected.	Clear paper, follow IEM PC instructions.
166	Unexpected piece at the bin 8 entry sensor	Sensor detected paper when none was expected.	Clear paper, follow IEM PC instructions.
167	Unexpected piece at the bin 9 entry sensor	Sensor detected paper when none was expected.	Clear paper, follow IEM PC instructions.
168	Unexpected piece at the bin 10 entry sensor	Sensor detected paper when none was expected.	Clear paper, follow IEM PC instructions.
169	Unexpected piece at the bin 11 entry sensor	Sensor detected paper when none was expected.	Clear paper, follow IEM PC instructions.
170	Unexpected piece at the bin 12 entry sensor	Sensor detected paper when none was expected.	Clear paper, follow IEM PC instructions.
171	Unexpected piece at the bin 13 entry sensor	Sensor detected paper when none was expected.	Clear paper, follow IEM PC instructions.
172	Unexpected piece at the bin 14 entry sensor	Sensor detected paper when none was expected.	Clear paper, follow IEM PC instructions.
173	Unexpected piece at the bin 15 entry sensor	Sensor detected paper when none was expected.	Clear paper, follow IEM PC instructions.
174	Unexpected piece at the bin 16 entry sensor	Sensor detected paper when none was expected.	Clear paper, follow IEM PC instructions.
188	Missing IEM destination reached action response	Confirming message from IEM PC was not received.	Clear paper , follow IEM PC instructions.
189	Missing IEM bin complete action response	Confirming message from IEM PC was not received.	Clear paper , follow IEM PC instructions.
190	Missing IEM bin terminate action response	Confirming message from IEM PC was not received.	Clear paper , follow IEM PC instructions.
191	Invalid IEM MICR action response	Message from IEM PC contained invalid information.	Clear paper past Bin 0 gate. Notify service technician.

192	Invalid right IEM image action response	Message from IEM PC contained invalid information.	Clear paper past Bin 0 gate. Notify service technician.
193	Invalid left IEM image action response	Message from IEM PC contained invalid information.	Clear paper past Bin 0 gate. Notify service technician.
194	Invalid IEM destination determined action response	Message from IEM PC contained invalid information.	Clear paper past Bin 0 gate. Notify service technician.
195	Invalid IEM destination reached action response	Message from IEM PC contained invalid information.	Clear paper past Bin 0 gate. Notify service technician.
196	Invalid IEM bin complete action response	Message from IEM PC contained invalid information.	Clear paper past Bin 0 gate. Notify service technician.
197	Invalid IEM bin terminate action response	Message from IEM PC contained invalid information.	Clear paper past Bin 0 gate. Notify service technician.
199	IEM feeder LVDT null below minimums	Thickness detector reading is below minimum.	Have technician verify LVDT settings.
200	IEM feeder LVDT null above maximum	Thickness detector reading is above maximum.	Check LVDT for tape, stuck piece.
201	IEM feeder LVDT runout problem	Thickness detector is "not round."	Check LVDT for tape, stuck piece.
208	IEM feeder starving or jammed	Nothing is coming into the IEM feeder.	Check for jam or mis-justified pieces.
209	IEM feeder empty stoppage	Feeder is empty.	Load feeder.
216	Document too short at IEM MICR	Piece is shorter than expected.	Press Enter and keep going.
217	Document too long at IEM MICR	Piece is longer than expected.	Press Enter and keep going.
218	Personal check too short at IEM MICR	Piece is shorter than expected.	Press Enter and keep going.

SYSTEM 150 IEM OPERATOR'S MANUAL

219	Personal check too long at IEM MICR	Piece is longer than expected.	Press Enter and keep going.
220	Business check too short at IEM MICR	Piece is shorter than expected.	Press Enter and keep going.
221	Business check too long at IEM MICR	Piece is longer than expected.	Press Enter and keep going.
222	IEM is not ready	IEM PC is not in "Run" mode.	Check IEM PC; verify "Run" mode.
223	IEM is not responding	IEM PC is not in "Run" mode.	Check IEM PC; verify "Run" mode.
225	IEM has an internal error	IEM PC has a problem.	Clear paper path, follow IEM PC instructions. Notify Service Tech.
226	IEM detected a file write error	IEM PC has a problem.	Clear paper path, follow IEM PC instructions. Notify Service Tech.
227	IEM has an invalid configuration	IEM PC has a setup problem.	Clear paper path, close all batches. Close System 150 job. Notify Service Tech.
228	IEM detected no control document in batch	IEM PC detected possible problem.	Clear bin. Press Enter and keep going.
229	IEM could not create a batch	IEM PC has a problem.	Call Service Tech.
231	IEM detected open batch	IEM PC detected possible problem.	Clear paper path, close all batches. Close System 150 job. Restart new job.
232	IEM detected a duplicate batch	IEM PC detected possible problem.	Check bin for duplicate batch ticket.
233	IEM has no disk space	Disk has no more room.	See administrator regarding disk space problem. Notify Service Technician.

