

Bill to Bill Troubleshooting

Error Codes and Suggested Remedial Actions



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## Revision History.

Revision	Date	Author	Description
1.0.0	2007-11-02	Ronald DSouza	Initial release
1.0.1	2008-05-15	Ronald DSouza	Section 2.8 code F4 information in column 'Action' corrected.
1.0.2	2009-04-06	Ronald DSouza	Section 2.5 code CA deleted. Section 2.8 code FE 'Description' and 'Action' changed. Section 2.10 code 21 and code 22 'Action' changed. Section 2.10 code 30 added.

## ***1. Overall Aspects***

**Bill-To-Bill unit errors are divided into the following groups:**

- Central processor errors;
- Cassette 1 errors;
- Cassette 2 errors;
- Cassette 3 errors;
- Dispenser errors;
- Transport mechanism errors;
- Validator Head Link errors with central processor;
- Validator Head Link errors with devices Loading Program.
- Extended errors are grouped into kernel errors and generic extended errors.

**An error state could be a result of multiple conditions. It is suggested to perform the described actions one step at a time and verify if the error state persists.**

## 2. Description of Errors

### 2.1. Central processor errors

Code	Description	Display	Action
81	Error on the link with the external EEPROM – wire SDA.	ERROR -> LINK2	1) Replace chassis
82	Error on the link with the external EEPROM – wire SCL.	ERROR -> LINK2	
83	Error on the link with the Cassette#1.	ERROR -> LINK2	1) Ensure reliable connection between cassette and chassis. 2) Replace cassette 3) Replace chassis
84	Error on the link with the Cassette#2.	ERROR -> LINK2	
85	Error on the link with the Cassette#3.	ERROR -> LINK2	
86	Error on the link with the Dispenser.	ERROR -> LINK2	1) Ensure reliable connection between dispenser and chassis. 2) Replace dispenser 3) Replace chassis
87	Error on the link with the Cassette#1.	ERROR -> LINK2	1) Ensure reliable connection between cassette and chassis. 2) Replace cassette 3) Replace chassis
88	Error on the link with the Cassette#2.	ERROR -> LINK2	
89	Error on the link with the Cassette#3.	ERROR -> LINK2	
8A	Error on the link with the Dispenser.	ERROR -> LINK2	1) Ensure reliable connection between dispenser and chassis. 2) Replace dispenser 3) Replace chassis
8B		Reserved.	
8C		Reserved.	
8D	Incorrect CRC of the main program.	ERROR -> LINK2	1) Replace chassis
8E	ACK signal is absent during exchange with RTC	ERROR -> LINK2	
8F	EEPROM exchange error	ERROR -> LINK2	
90	Clock battery discharged	ERROR -> TRANSPORT	
91	Transport motor obturator failed	ERROR -> TRANSPORT	
92	It is impossible to support transport motor speed 300mm/Sec.	ERROR -> TRANSPORT	1) Check for obstructions in the lower tract area (transport and gears) 2) Inspect sensors in the lower tract area for dust or dirt 3) Replace chassis

## Central processor errors contd...

Code	Description	Display	Action
93	One or some sensors of chassis upper tract overlapped	ERROR -> TRANSPORT	1) Check the sensor and light guides in the upper tract area 2) Replace chassis
94	One or some sensor of chassis lower tract overlapped	ERROR -> TRANSPORT	1) Check the sensor and light guides in the lower tract area 2) Replace chassis
95	All cassettes are absent	ERROR -> TRANSPORT	1) Ensure reliable connection between cassettes and chassis 2) Replace chassis
96	Dispenser is absent	ERROR -> TRANSPORT	1) Ensure reliable connection between dispenser and chassis. 2) Replace dispenser 3) Replace chassis
97	Switch initialization error – step counter signal is absent	ERROR -> SWITCH	1) Check for dust or dirt in the switch sensor area 2) Replace chassis
98	Switch initialization error – initial marker sensor signal is absent	ERROR -> SWITCH	
99	Switch setting error – step counter signal is absent	ERROR -> SWITCH	

## 2.2. Cassette#1 errors

Code	Description	Display	Action
A1	Entry sensor failed	ERROR -> CASSETTE1	1) Check for dust, dirt in the entry sensor area. 2) Replace cassette
A2	Overflow sensor failed	ERROR -> CASSETTE1	1) Check for dust, dirt in the overflow sensor area. 2) Replace cassette
A3	Tape begin/end sensor failed	ERROR -> CASSETTE1	1) Replace cassette
A4	Tape obturator failed	ERROR -> CASSETTE1	1) Check for obstructions in the cassette or in the bill path 2) Replace cassette
A5	It is impossible to support speed 300mm/Sec.	ERROR -> CASSETTE1	
A6	Bill jam sensor failed	ERROR -> CASSETTE1	
A7	EEPROM failed	ERROR -> CASSETTE1	1) Replace cassette
A8	Time out of bill entrance to entry sensor is exceeded.	ERROR -> CASSETTE1	1) Check for obstructions in the cassette or in the bill path 2) Replace cassette
A9	Time out of bill exit from entry sensor is exceeded.	ERROR -> CASSETTE1	
AA	Time out of successful completion bill accepting is exceeded	ERROR -> CASSETTE1	
AB	Time out of successful completion bill giving out is exceeded	ERROR -> CASSETTE1	
AC	Bill jam sensor is cut in.	ERROR -> CASSETTE1	
AD	Requested number of bills is not given out.	ERROR -> CASSETTE1	

### 2.3. Cassette#2 errors

Code	Description	Display	Action
AE	Entry sensor failed	ERROR -> CASSETTE1	1) Check for dust, dirt in the entry sensor area. 2) Replace cassette
AF	Overflow sensor failed	ERROR -> CASSETTE1	1) Check for dust, dirt in the overflow sensor area. 2) Replace cassette
B0	Tape begin/end sensor failed	ERROR -> CASSETTE1	2) Replace cassette
B1	Tape obturator failed	ERROR -> CASSETTE1	1) Check for obstructions in the cassette or in the bill path 2) Replace cassette
B2	It is impossible to support speed 300mm/Sec.	ERROR -> CASSETTE1	
B3	Bill jam sensor failed	ERROR -> CASSETTE1	
B4	EEPROM failed	ERROR -> CASSETTE1	2) Replace cassette
B5	Time out of bill entrance to entry sensor is exceeded.	ERROR -> CASSETTE1	1) Check for obstructions in the cassette or in the bill path 2) Replace cassette
B6	Time out of bill exit from entry sensor is exceeded.	ERROR -> CASSETTE1	
B7	Time out of successful completion bill accepting is exceeded	ERROR -> CASSETTE1	
B8	Time out of successful completion bill giving out is exceeded	ERROR -> CASSETTE1	
B9	Bill jam sensor is cut in.	ERROR -> CASSETTE1	
BA	Requested number of bills is not given out.	ERROR -> CASSETTE1	2) Alert manager on duty

## 2.4. Cassette#3 errors

Code	Description	Display	Action
BB	Entry sensor failed	ERROR -> CASSETTE1	1) Check for dust, dirt in the entry sensor area. 2) Replace cassette
BC	Overflow sensor failed	ERROR -> CASSETTE1	1) Check for dust, dirt in the overflow sensor area. 2) Replace cassette
BD	Tape begin/end sensor failed	ERROR -> CASSETTE1	1) Replace cassette
BE	Tape obturator failed	ERROR -> CASSETTE1	1) Check for obstructions in the cassette or in the bill path 2) Replace cassette
BF	It is impossible to support speed 300mm/Sec.	ERROR -> CASSETTE1	
C0	Bill jam sensor failed	ERROR -> CASSETTE1	
C1	EEPROM failed	ERROR -> CASSETTE1	1) Replace cassette
C2	Time out of bill entrance to entry sensor is exceeded.	ERROR -> CASSETTE1	1) Check for obstructions in the cassette or in the bill path 2) Replace cassette
C3	Time out of bill exit from entry sensor is exceeded.	ERROR -> CASSETTE1	
C4	Time out of successful completion bill accepting is exceeded	ERROR -> CASSETTE1	
C5	Time out of successful completion bill giving out is exceeded	ERROR -> CASSETTE1	
C6	Bill jam sensor is cut in.	ERROR -> CASSETTE1	
C7	Requested number of bills is not given out.	ERROR -> CASSETTE1	1) Alert manager on duty



## 2.5. Dispenser errors

Code	Description	Display	Action
C8	Entry sensor failed	ERROR -> DISPENSER	1) Check for dust or dirt in the entry sensor area. 2) Replace dispenser
C9	Drum Initial location failed	ERROR -> DISPENSER	1) Check for dust or dirt in the initial marker sensor area. 2) Check for free movement of the drum 3) Replace dispenser
CB	Lower sensor failed	ERROR -> DISPENSER	1) Check for dust or dirt in the sensor area. 2) Check for free movement of the drum 3) Replace dispenser
CE	Exit sensor failed	ERROR -> DISPENSER	
CF	Drum motor obturator failed	ERROR -> DISPENSER	1) Check for obstructions in the drum area 2) Check for free movement of the drum 3) Replace dispenser
D0	Shutter sensor failed	ERROR -> DISPENSER	1) Check for obstructions in the shutter area 2) Check for free movement of the shutter 3) Replace dispenser
D1	Shutter motor obturator failed	ERROR -> DISPENSER	
D2	Keyboard failed	ERROR -> DISPENSER	1) Replace dispenser
D3	It is impossible to support drum speed 300mm/Sec.	ERROR -> DISPENSER	1) Check for obstructions in the drum area 2) Check for free movement of the drum 3) Replace dispenser
D4	Time out of bill entrance to entry sensor is exceeded	ERROR -> DISPENSER	1) Check for obstructions in the bill entry area 2) Replace dispenser
D5	Time out occurred with bills waiting for removal by customers.	ERROR -> DISPENSER	1) Alert manager on duty

## Dispenser errors contd...

Code	Description	Display	Action
D6	Time out of bill entrance to lower sensor is exceeded	ERROR -> DISPENSER	1) Check for jammed bills 2) Replace dispenser
D7	Time out of bill entrance to exit sensor is exceeded	ERROR -> DISPENSER	
D8	Time out of bill exit from lower sensor is exceeded	ERROR -> DISPENSER	
D9	Time out of successful bill accepting is exceeded	ERROR -> DISPENSER	
DA	Time out of bill exit from entry sensor is exceeded	ERROR -> DISPENSER	

## 2.6. Transport mechanism errors

Code	Description	Display	Action
DB	Time out of bill entrance to upper chassis tract lower sensor is exceeded	JAM -> TRANSPORT	1) Check for obstructions in the upper tract area 2) Inspect sensors in the upper tract area for dust or dirt 3) Replace chassis
DC	Time out of bill exit from upper chassis tract lower sensor is exceeded	JAM -> TRANSPORT	
DD	Time out of bill entrance to upper chassis tract middle sensor is exceeded	JAM -> TRANSPORT	
DE	Time out of bill exit from upper chassis tract middle sensor is exceeded	JAM -> TRANSPORT	
DF	Time out of bill entrance to upper chassis tract upper sensor is exceeded	JAM -> TRANSPORT	
E0	Time out of bill exit from upper chassis tract upper sensor is exceeded	JAM -> TRANSPORT	
E1	Time out of bill entrance to lower chassis tract lower sensor is exceeded	JAM -> TRANSPORT	1) Check for obstructions in the lower tract area 2) Inspect sensors in the lower tract area for dust or dirt 3) Replace chassis
E2	Time out of bill exit from lower chassis tract lower sensor is exceeded	JAM -> TRANSPORT	
E3	Time out of bill entrance to lower chassis tract middle sensor is exceeded	JAM -> TRANSPORT	
E4	Time out of bill exit from lower chassis tract middle sensor is exceeded	JAM -> TRANSPORT	
E5	Time out of bill entrance to lower chassis tract upper sensor is exceeded	JAM -> TRANSPORT	
E6	Time out of bill exit from lower chassis tract upper sensor is exceeded	JAM -> TRANSPORT	

## 2.7. Validator Head Link errors with central processor

Code	Description	Display	Action
E7	I2C-bus error – start condition	ERROR -> LINK1	1) Check if chassis is installed properly to the frame 2) Check if validator head is seated properly to the frame 3) Replace validator head 4) Replace chassis
E8	I2C-bus error – writing initialization	ERROR -> LINK1	
E9	I2C-bus error – reading initialization	ERROR -> LINK1	
EA	I2C-bus error – byte writing	ERROR -> LINK1	
EB	I2C-bus error – byte reading	ERROR -> LINK1	
EC	CRC error	ERROR -> LINK1	
ED	I2C-bus error – time out of packet reading or Chassis is removed	ERROR -> LINK1 or Chassis is removed	

## 2.8. Validator Head Operational errors

Code	Description	Display	Action
F0	Error of the bill stacking.	ERROR -> HV	1) Check for jammed bill 2) Replace validator head
F1	Optical sensors don't work.	ERROR -> HV	
F2	Magnetic sensors don't work.	ERROR -> HV	
F3	Capacitive sensors don't work.	ERROR -> HV	
F4	Stacker motor doesn't work.	ERROR -> HV	1) Check for jammed bill in the drop cassette. 2) Replace power interface FLP-xxxx
F5	Interlink with sensor boxes don't work.	ERROR -> HV	1) Check for jammed bill 2) Replace validator head
F6	Jam in the Validator Head.	ERROR -> HV	
F7	Transport motor doesn't work.	ERROR -> HV	
F8	Alignment motor doesn't work.	ERROR -> HV	
F9	Unsupported version of the chassis firmware or boot-program of the chassis doesn't work.	ERROR -> HV	1) Update head firmware 2) Update chassis firmware 3) Replace chassis

FA	Boot-program of the dispenser doesn't work.	ERROR -> HV	Replace dispenser
FB	Boot-program of the 1st cassette doesn't work.	ERROR -> HV	Replace cassette #1
FC	Boot-program of the 2nd cassette doesn't work.	ERROR -> HV	Replace cassette #2
FD	Boot-program of the 3rd cassette doesn't work.	ERROR -> HV	Replace cassette #3
FE	Channel lid open ** (Loader)		1) Ensure both channel lids are securely closed. 2) Replace loader head.

\*\* used only for loader head

## 2.9. Kernel errors (Loader)

Code	Description	Display	Action
10	Unable to create a kernel object		1) Reset device 2) Replace loader head
11	Timeout of a kernel object		
12	Error while accessing a kernel object		
13	Error while accessing a timer		
14	Unable to access a task		
15	Out of memory		

## 2.10. Other extended errors (Loader)

Code	Description	Display	Action
20	Note recycler busy		1) Reset device 2) Replace loader head
21	Unable to recover from power interruption		1) Ensure bill path is clear 2) Reset device 3) Replace loader head
22	Validation software data is corrupt		1) Repeat firmware update 2) Reset device 3) Replace loader head
23	Calibration failure		1) Reset device 2) Replace loader head
30	Update policy violation		1) Install correct NDEG stick 2) Ensure firmware license matches with NDEG stick

