Test Program Manual

MODEL : UCDM

REV. : 1.0

DATE : 2011. 12. 19

PULOON Technology Inc.

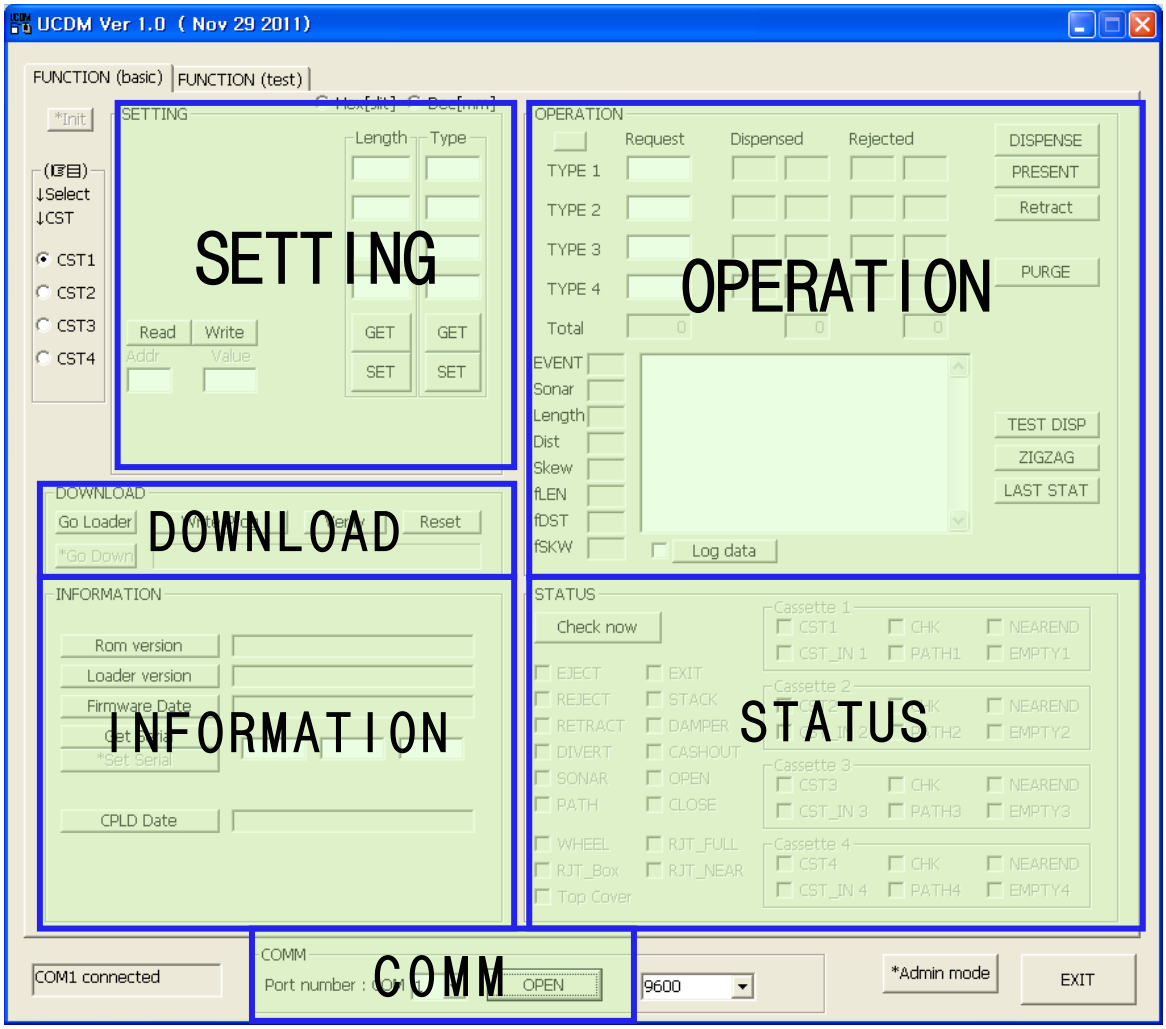
Revision History

Ver.	Date	Item		Name
		Title	Title	
1.0	2011.12.19	First Released		Y.H.KIM

Contents

1 PREFACE

The document include full instructions on how to use UCDM Test Program.

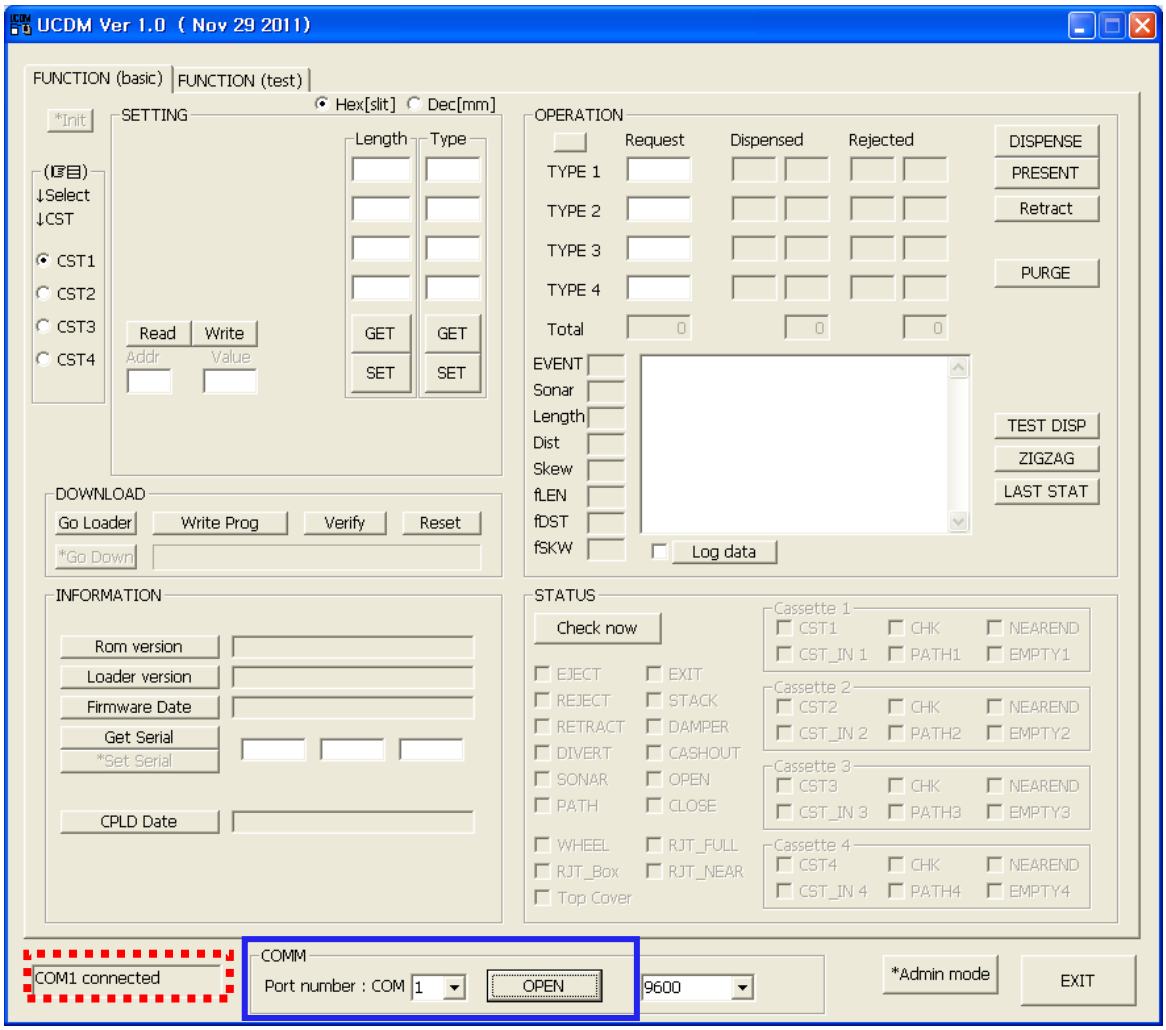


2 TRANSMISSION CHARACTERISTICS

1) Interface : RS-232C
2) Transmission Rate : 9600 BPS
3) Data Bit : 8-Bit
4) Parity Bits : Even Parity
5) Stop bits : 1-Bit
6) Flow Control : None

3 Function(basic)

3.1 COMM



Input the port number and click the OPEN button to connect device.

Without communication success, No function can work.

The editbox in dotted line box display communication Status.

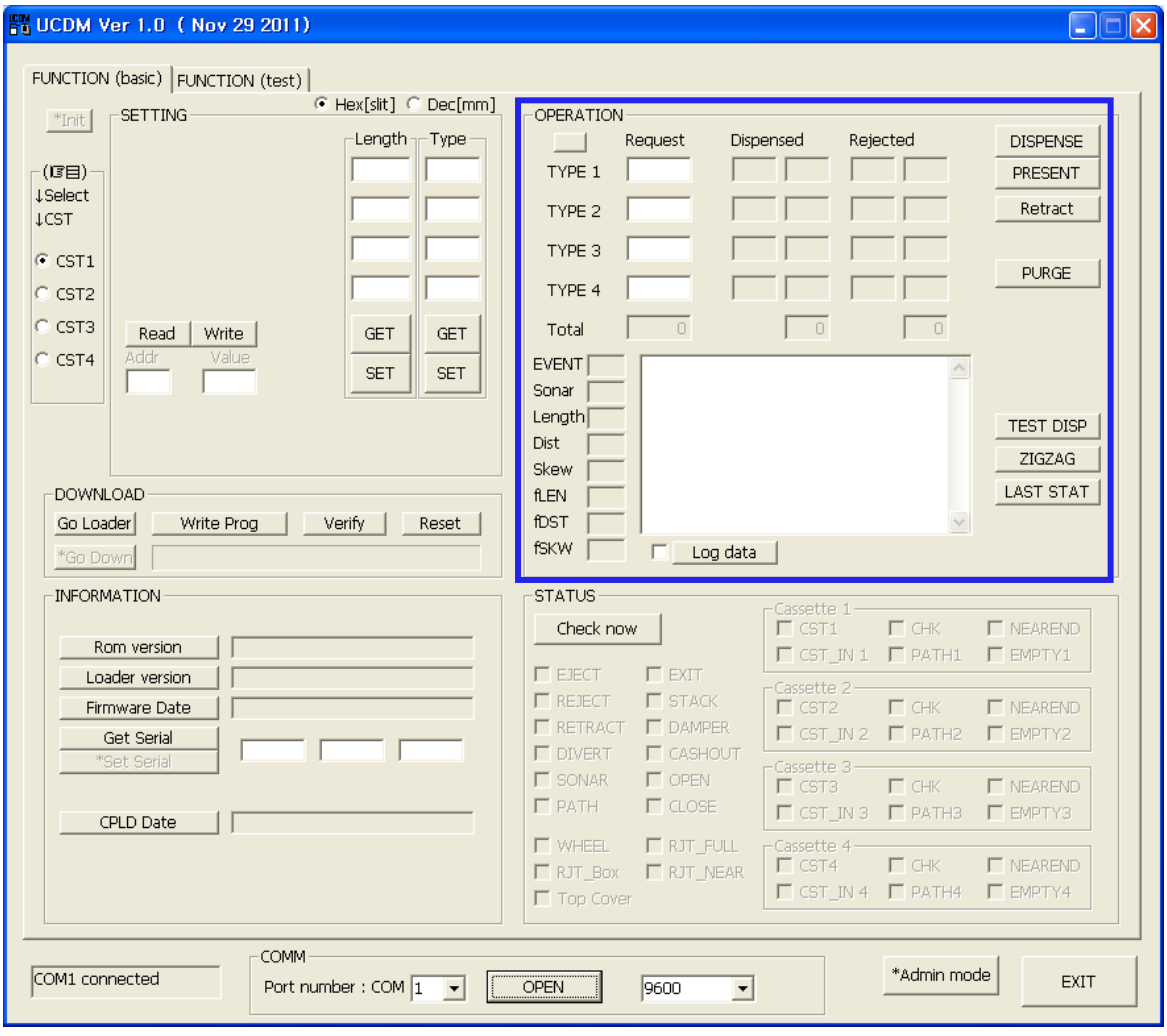
(ex) Disconnected, ACK Time-Out …

3.2 OPERATION

3.2.1 DISPENSE

Input amount to be dispensed in Request Type.
Dispense operation will start with DISPENSE button.

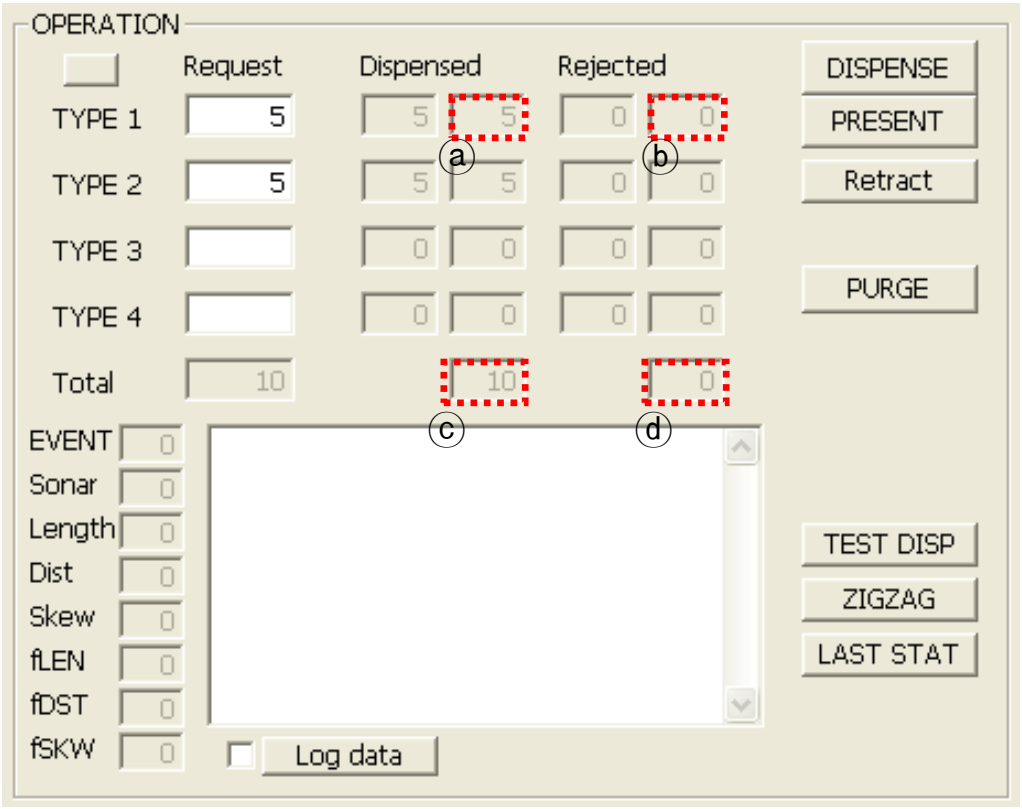
If error occurred, the operation will stop and errorcode window will pop up.
(Interface specification include explanation for errorcode)



Below picture is dispense operation result.

ⓐ : recent number of note to be dispensed.
ⓑ : recent number of reject event.

ⓒ : All CST's cumulative number of note to be dispensed.
ⓓ : All CST's cumulative number of reject event.



3.2.2 PURGE

This command move all note on path to the reject box and initialize Cash Dispenser.
Purge operation is used to Initialize operation.

3.2.3 TEST DISPENSE

This operation is similar to dispense, but all notes are move to the reject box.

3.2.4 LAST STAT

Last Status show the lastest error message.

3.2.5 ZIGZAG

This command is used to check diverting operation.
(Dispense 1 note) → (Reject 1 note) → (Dispense 1 note) → (Reject 1 note) …
Abnormal note will be rejected without zigzag sequence.

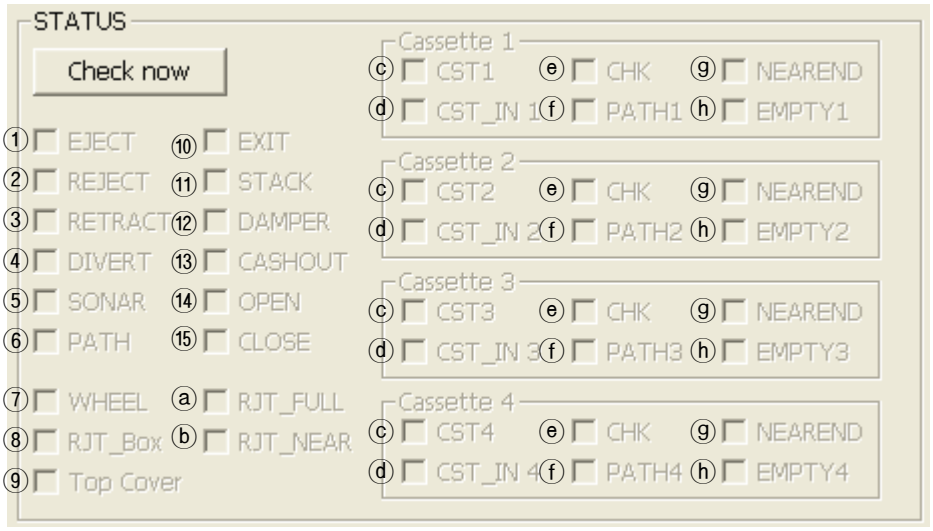
3.2.6 Log data

This command will write Log data file at folder that have Test Program.
File name is date and time ex) (11-01-10)(18h 56m 27s) .txt
(If the checkbox is checked, Log data would be written automatically with every errors.)

3.3 STATUS

3.3.1 Check now

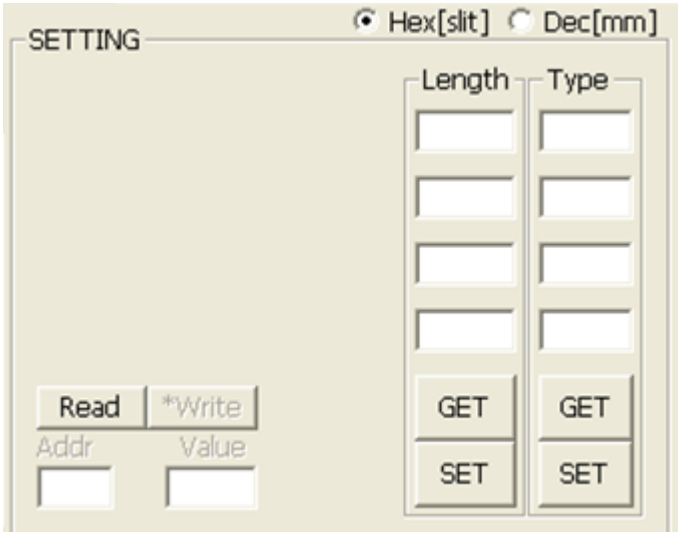
Check status of sensors and cassettes.



	Number	Name	Function	☑	☐
COMMON	①	EJECT	Keep watch on Eject path.	covered	-
	②	REJECT	Keep watch on Reject path.	covered	-
	③	RETRACT	Keep watch on Retract path.	covered	-
	④	DIVERT	Keep watch on Divert path.	covered	-
	⑤	SONAR	Keep watch on Sonar path.	covered	-
	⑥	PATH	Keep watch on 1st path.	covered	-
	⑦	WHELL	Keep watch on Wheel	covered	-
	⑧	REJECT TRAY	Confirm whether Reject Box is installed.	installed	Not
	⑨	Top Cover	Confirm whether Top Cover is installed.	installed	Not
	⑩	EXIT	Keep watch on Exit path.	covered	-
	⑪	STACK	Keep watch on Stack part	covered	
	⑫	DAMPER	Keep watch on Damper part	covered	-
	⑬	CASH-OUT	Keep watch on Cash out part	covered	-
	⑭	OPEN	Keep watch on Open part of	covered	-

			External Shutter Module		
	⑮	CLOSE	Keep watch on Close part of External Shutter Module	covered	-
	ⓐ	RJT_FULL	Alarm when Reject Box is Full	Full	Not
	ⓑ	RJT_NEAR	Alarm when Reject Box is Near-Full	Near Full	Not
C S T	ⓒ	CST	Confirm whether Cash Cassette is installed.	installed	Not
	ⓓ	CST_IN	Keep watch on Each Cassette Box In path	covered	-
	ⓔ	CHK	Keep watch on Each Cassette Check path	covered	-
	ⓕ	PATH	Keep watch on Each Cassette path.	covered	-
	ⓖ	NEAREND	Alarm when low-note of Cassette	Near End	Not
	ⓗ	EMPTY	Alarm when Empty Cassette.	Empty	Not

3.4 SETTING



Input information about banknote to dispense.

1) Read

Read device setting values.

2) Length GET/SET

Input each cassette's length values.

3) Type GET/SET

Read/Write Cassette Note Type values.

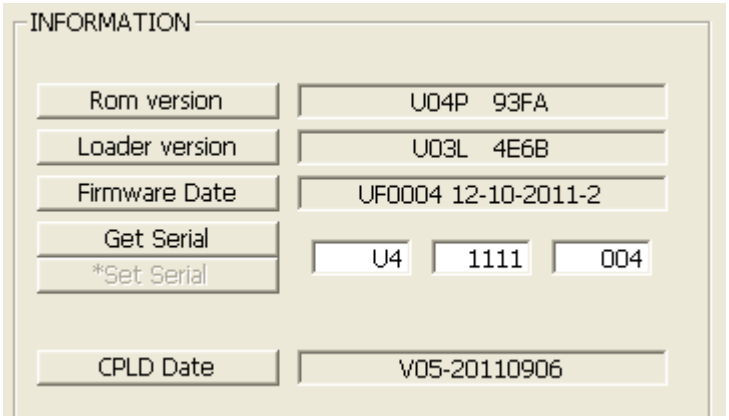
4) HEX[slit]

: input/output values in hexdecimal number with slits in length

DEC[mm]

: input/output values in decimal number with millimeters in length

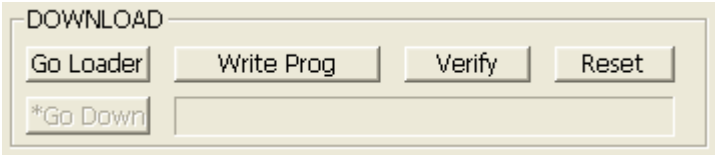
3.5 INFORMATION



Check the F/W version, Loader version and Product's Serial number.

3.6 DOWNLOAD

3.6.1 Go Loader

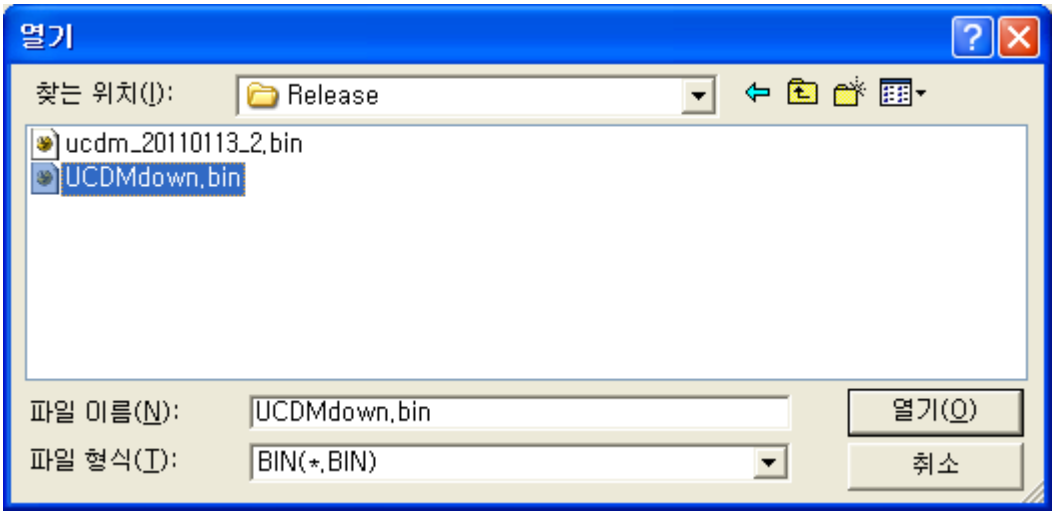


Go to loader for downloading

3.6.2 Write Prog

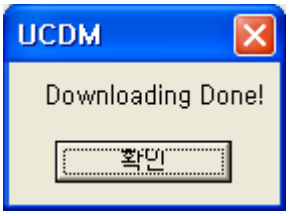
Select F/W file on dialog and begin download.

F/W file extension is BIN.



The picture say that downloading is proceeding.

This dialog say download is finished.



3.6.3 Verify

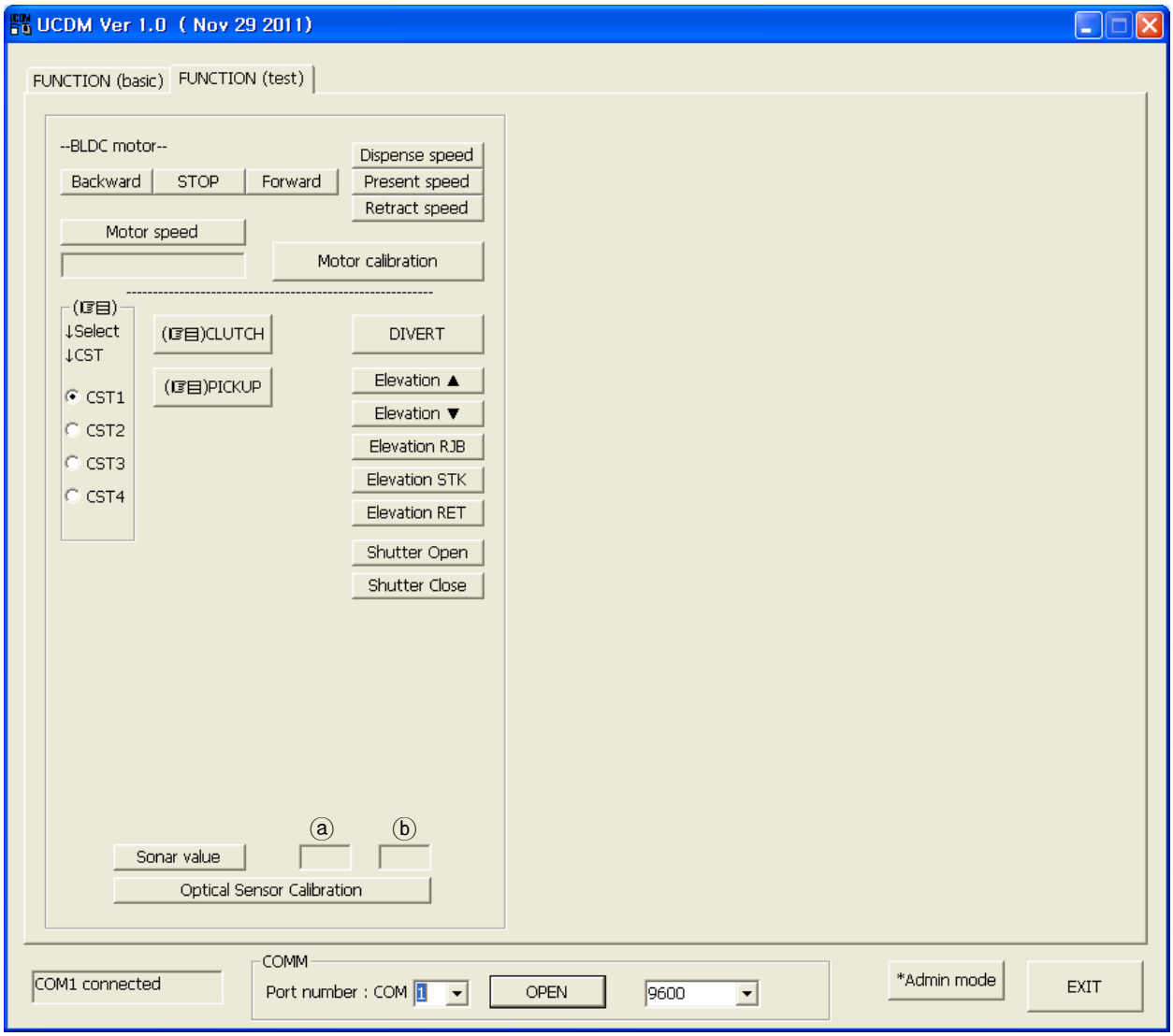
Check whether the downloaded program is normal.

If the message is not OK, you must download F/W again.

3.6.4 Reset

Reset the CDM to run new F/W

4 Detailed TEST



Backwark – STOP – Forward : BLDC Motor run

Dispense /Present/Retract Speed : Set BLDC motor speed in test

Motor speed : Check BLDC motor speed

(unit : slits/10sec , 1 slit = 1.256mm)

Motor calibration : Adjust BLDC motor to normal speed

CLUTCH : Check CLUTCH operation

PICKUP : Check Pickup motor operation

DIVERT : Check Diverter operation

Elevation : Check Elevation operation with each position

Sonar Value

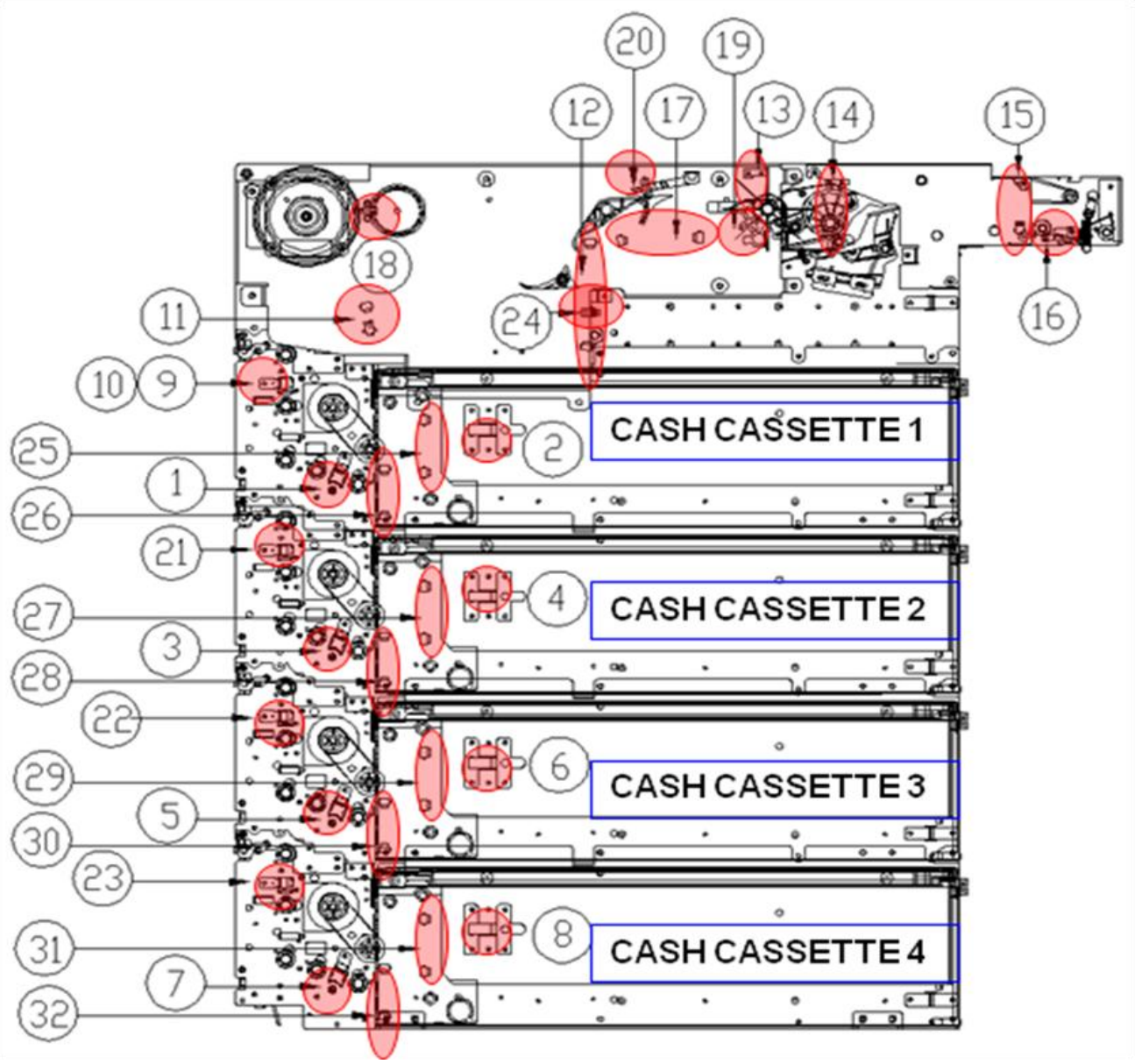
: Check ultrasonic sensor value ⓐ : when the sensor is off.

ⓑ : when the sensor is on.

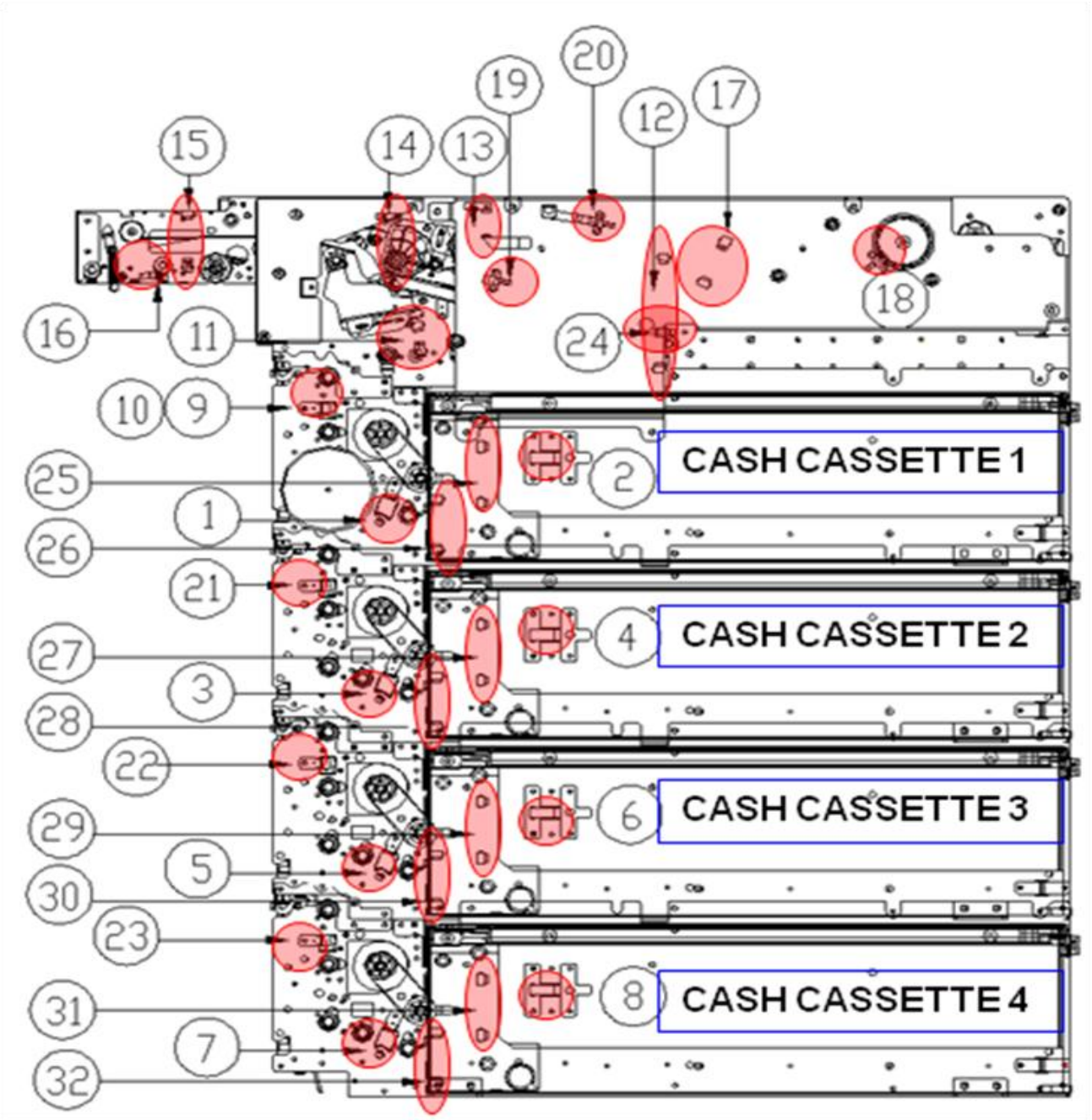
Optical Sensor Calibration.

: Calibrate All optical sensors except ‘NearEnd sensor’.

5 Sensor layout



[Sensor Layout – UCDM FRONT TYPE]



[Sensor Layout – UCDM REAR TYPE]

- UCDM-400 (4 CASSETTES)

NO	NAME	DESCRIPTION	TYPE
1	CHECK 1 SENSOR	Sensor to detect the length of the banknote picked from the Top Cassette from Top and to measure distance between bankotes	Optical
2	NEAREND 1 SENSOR	Sensor to check the remaining banknote on the path of the Top Cassette from Top	Optical
3	CHECK 2 SENSOR	Sensor to detect the length of the banknote picked from the 2nd Cassette from Top and to measure distance between bankotes	Optical
4	NEAREND 2 SENSOR	Sensor to check the remaining banknote on the path of the 2nd Cassette from Top	Optical
5	CHECK 3 SENSOR	Sensor to detect the length of the banknote picked from the 3rd Cassette from Top and to measure distance between bankotes	Optical
6	NEAREND 3 SENSOR	Sensor to check the remaining banknote on the path of the 3rd Cassette from Top	Optical
7	CHECK 4 SENSOR	Sensor to detect the length of the banknote picked from 4th Cassette and to measure distance between bankotes	Optical
8	NEAREND 4 SENSOR	Sensor to check the remaining banknote on the path of 4th Cassette	Optical
9	SONAR SENSOR	Ultransonic Sensor for doubled notes	Ultransonic
10	SONAR IN SENSOR & PATH SENSOR	Sensor of Two Pairs to detect start of sampling of Ultransonic Sensor & measure skew of banknote.	Optical
11	DIVERT SENSOR	Swing Selector Control Sensor for Diverter Operation	Optical
12	REJECT SENSOR	Sensor to detect rejected banknotes	Optical
13	EJECT SENSOR	Sensor to detect ejected banknotes	Optical
14	STACK SENSOR	Sensor to detect stacked banknotes & detect remained banknotes at retract process	Optical
15	EXIT SENSOR	Sensor to detect banknotes on Exit path	Optical
16	CASHOUT SENSOR	Detect the remained banknotes on End of roller	Interrupt
17	RETRACT SENSOR	Sensor to detect retracted banknotes	Optical
18	WHEEL SENSOR	Wheel Count Sensor	Interrupt
19	PLATE SENSOR	Stack elevation and damper position check Sesnor	Interrupt
20	TOP LOCK SENSOR	Sensor to detect opened Top Guide	Interrupt
21	PATH2 SENSOR	Sensor to detect opened Path 2 Guide	Optical
22	PATH3 SENSOR	Sensor to detect opened Path 3 Guide	Optical
23	PATH4 SENSOR	Sensor to detect opened Path 4 Guide	Optical
24	LIMIT S/W	Sensor to check existence of Reject Box	Limit S/W
25	EMPTY1 SENSOR	Sensor to check the empty of banknote in the Top Cassette from Top	Optical
26	CST_IN1 SENSOR	Sensor to detect the banknote in the exit path of Top Cassette from top	Optical
27	EMPTY2 SENSOR	Sensor to check the empty of banknote in the	Optical

		2nd Cassette from Top	
28	CST_IN2 SENSOR	Sensor to detect the banknote in the exit path of 2nd Cassette from top	Optical
29	EMPTY3 SENSOR	Sensor to check the empty of banknote in the 3rd Cassette from Top	Optical
30	CST_IN3 SENSOR	Sensor to detect the banknote in the exit path of 3rd Cassette from top	Optical
31	EMPTY4 SENSOR	Sensor to check the empty of banknote in the 4th Cassette	Optical
32	CST_IN4 SENSOR	Sensor to detect the banknote in the exit path of 4th Cassette	Optical