Test Program Manual

MODEL   : ECDM-200

REV.   : 1.0

DATE   : 2006. 04. 03

PULOON Technology Inc.

Revision History

Ver.	DATE	Item		Name
		Title	**Details**	
1.0	2006.04.03	Released		H. H. SO

Contents

1. Preview

The test manual describes how to test ECDM-200 using the test program supplied by the manufacturer.

2. Basic Communication Specification

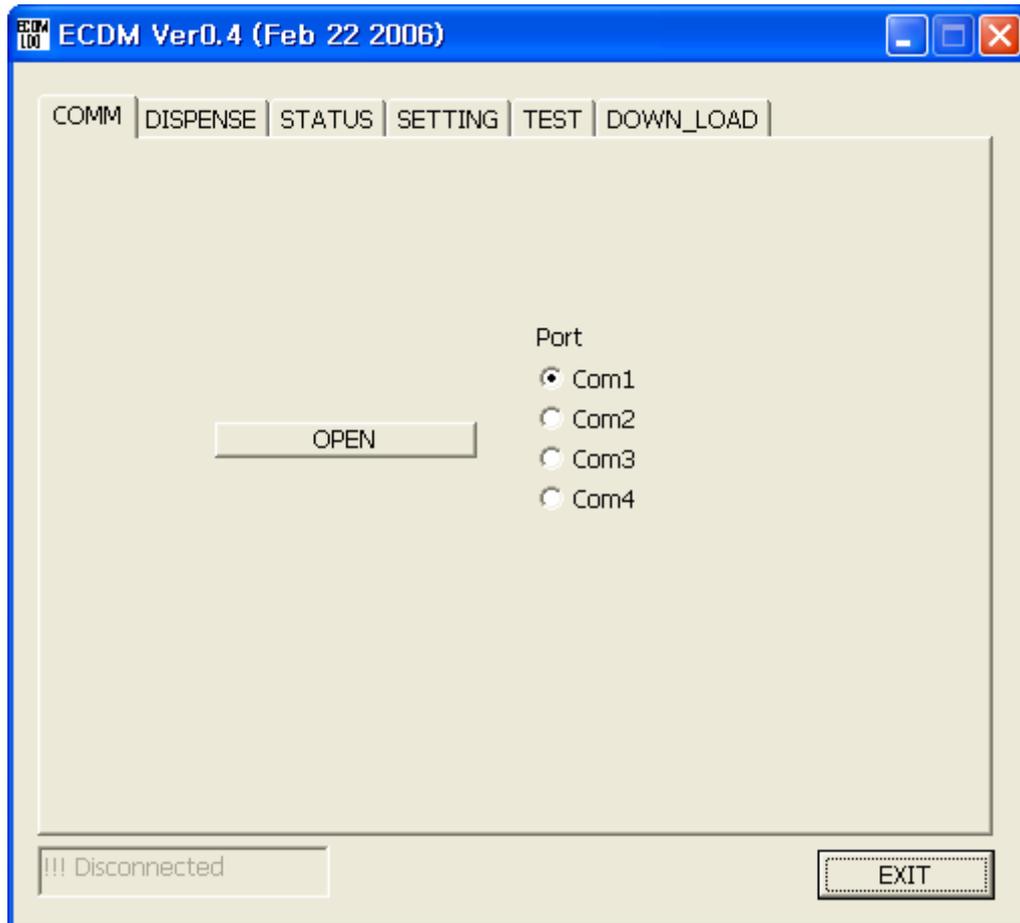1) Communication Method   : RS-232C
2) Communication Speed   : 9600 BPS
3) Data Bits   : 8 Bits
4) Parity   : Non Parity
5) Stop Bit   : 1 Bit
6) Error Inspection Method   : BCC
7) Others   : Referring to ECDM-200 Interface Spec

3. Function

The test program is executed and six tabs can be found on the test program.

3.1 COMM

1) Connect RS232 cable between PC and LCDM.
2) Then start the test program and choose the tab, COMM.
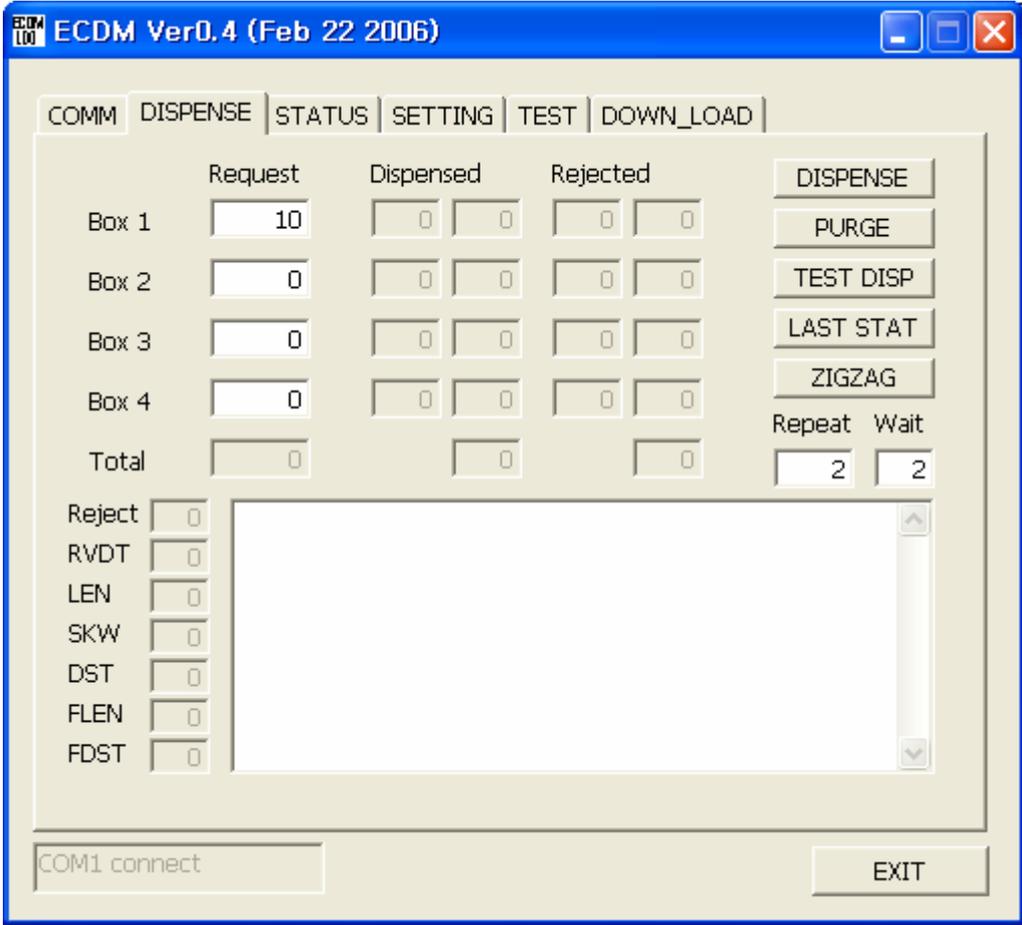3) Check the port of PC available and press the button of OPEN.

   The status of communication is displayed in the small window of the bottom of the tab. (i.g, ACT Time-Out, COMX Connect, Disconnected..)

3.2 DISPENSE

3.2.1 DISPENSE

Put the request number for dispensing onto each blank for one transaction and the number of the repetition for testing. Then, press the button of "DISPENSE". and ECDM will start to dispense as requested. Without repetition number, ECDM is operated just one time. The waiting time can be set by one second. If the error is occurred during operation, the dialog window is displayed. (Error code is referred to the interface specification.)

The following picture shows the results after DISPENSE command.

In the column under "Dispensed", the red line shows the number of the latest dispensed notes and the blue line shows the accumulated number of total dispenseed notes for all repetition.

In the column under "Rejected", the red line shows the number of the latest rejected notes and the blue line shows the accumulated number of total rejected notes for all repetition.

In the row of "Total" , the number of the dispensed and the rejected from all the cassette are shown.

3.2.2 PURGE

It causes cash dispenser to be purged.

3.2.3 TEST DISPENSE

The function of " Test Dospense" is to send the banknotes from cassettes to reject cassette in order to test the dispense function. The limit of the available number on the blank is smaller than of the number of dispensing.
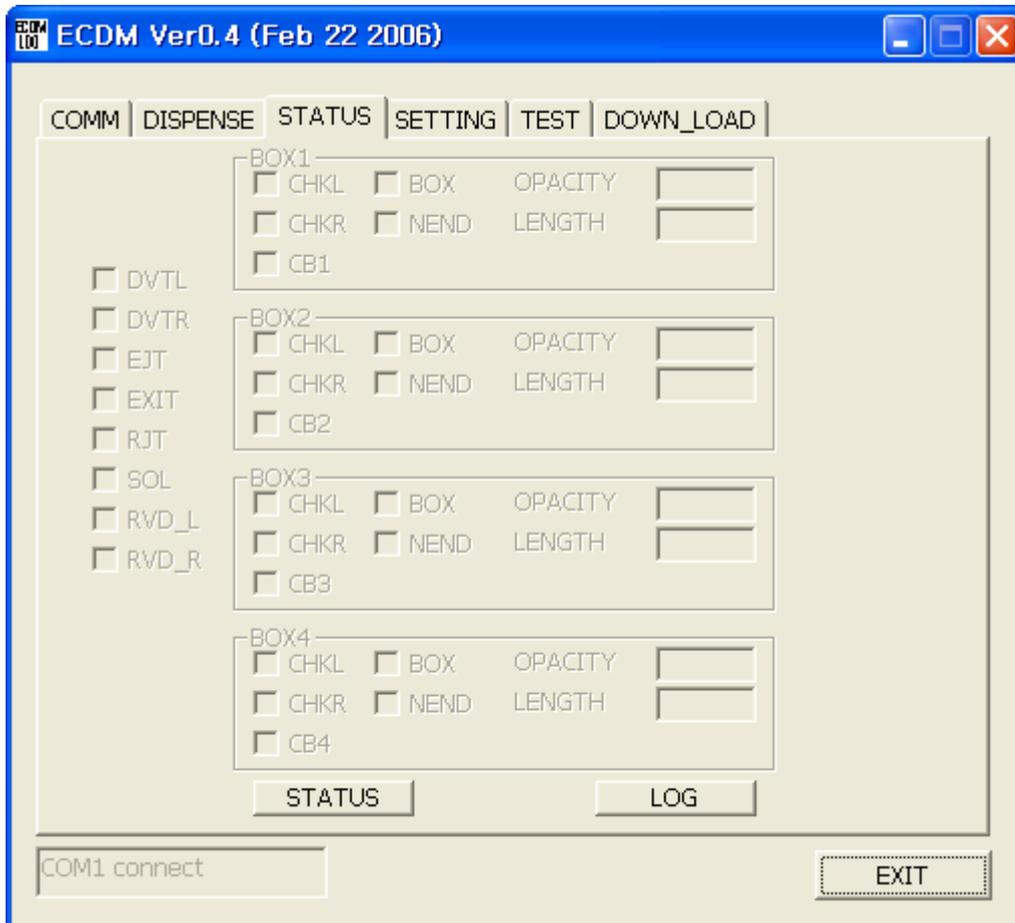
3.2.4 LAST STAT

The latest response is displayed.

3.2.5 ZIGZAG

Every note is dispensed and rejected by turns as requested in the repeatition. The maximum available number is 50.

3.3 STATUS

The STATUS shows the current status of sensors. Without loading notes into cash cassettes, the normal status of sensors are like the picture.

BOX (Box Existence) sensors and NEND (Nearend) sensors should be checked and all other sensors should not be checked without trouble. (Each sensor name and postion is attached in Chapter 5.)

"LOG" transmits the lastest debugging data to PC. The password is " xoox ".

3.4 SETTING
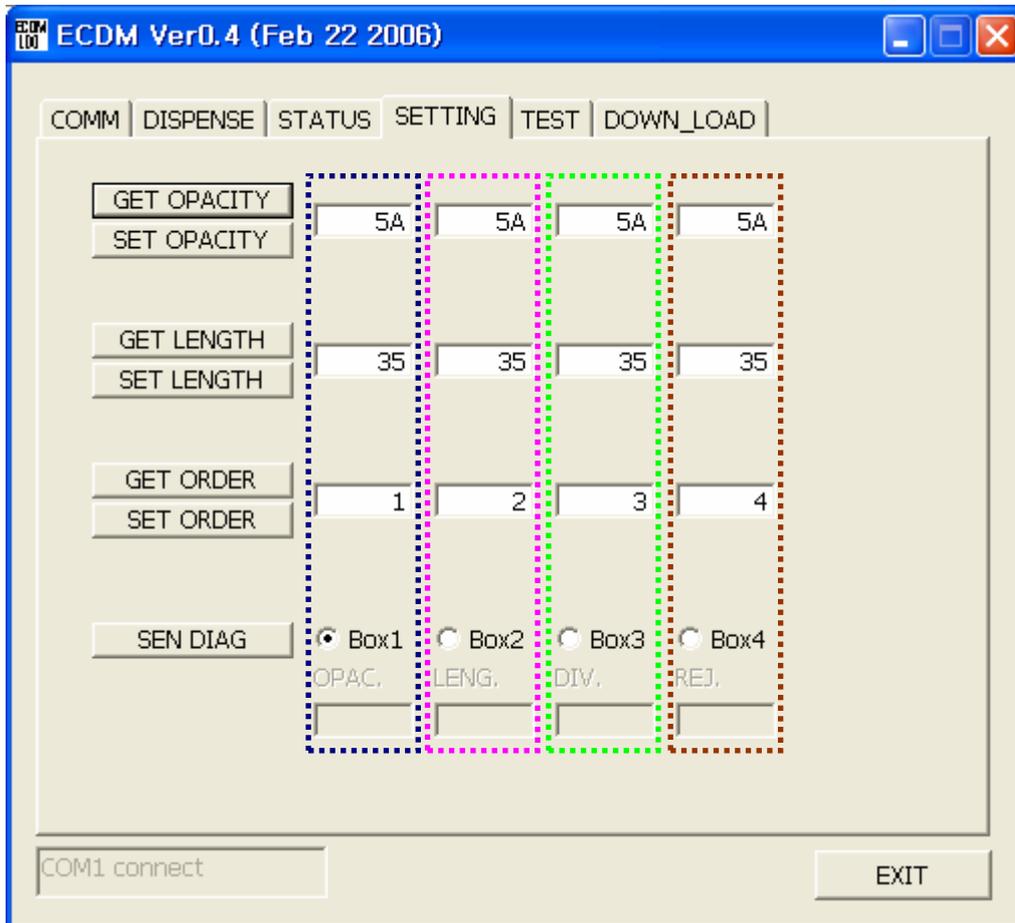
ECDM-200 is able to set main parmeters related to the characteristics of the notes. If user wants to use different thickness and size of note from each cash box, the parameters should be set to the features of the note following the next steps.
(The data of each column are showing the values related to each cassette.)

1) Load the notes for each cassettes.
2) Check the cash box to be measured among Box1, 2, 3 and 4 next to the button, SEN DIAG in the bottom.
3) Press the button of SEN DIAG and then 5 notes are dispensed from the chosen box for the measurement. The measured values for the OPAC(Thickness) and LENG(Length) of notes are displayed on the bottom of the test program.

4) Now put the measured values to the proper blank referring to the example.

    ex1) Box1 : SEN DIAG → OPAC. 50 LENG. 37

      : Put 50 into the 1st blank next to GET OPACITY and 37 into the 1st blank next to GET LENG.

    ex2) Box3 : SEN DIAG → OPAC. 52 LENG. 38

      : Put 50 into the 3rd blank next to GET OPACITY and 38 into the 3rd blank next to GET LENG.

5) Press the button of SET OPACITY and SET LENGTH. Then, all the newly set values for each box can be displayed through GET OPACITY and SET LENGTH.

6) Repeat this cycle for another boxes.

7) SET ORDER button enables to assign the priority for dispensing of the cassette. Current priority can be shown by GET ORDER.
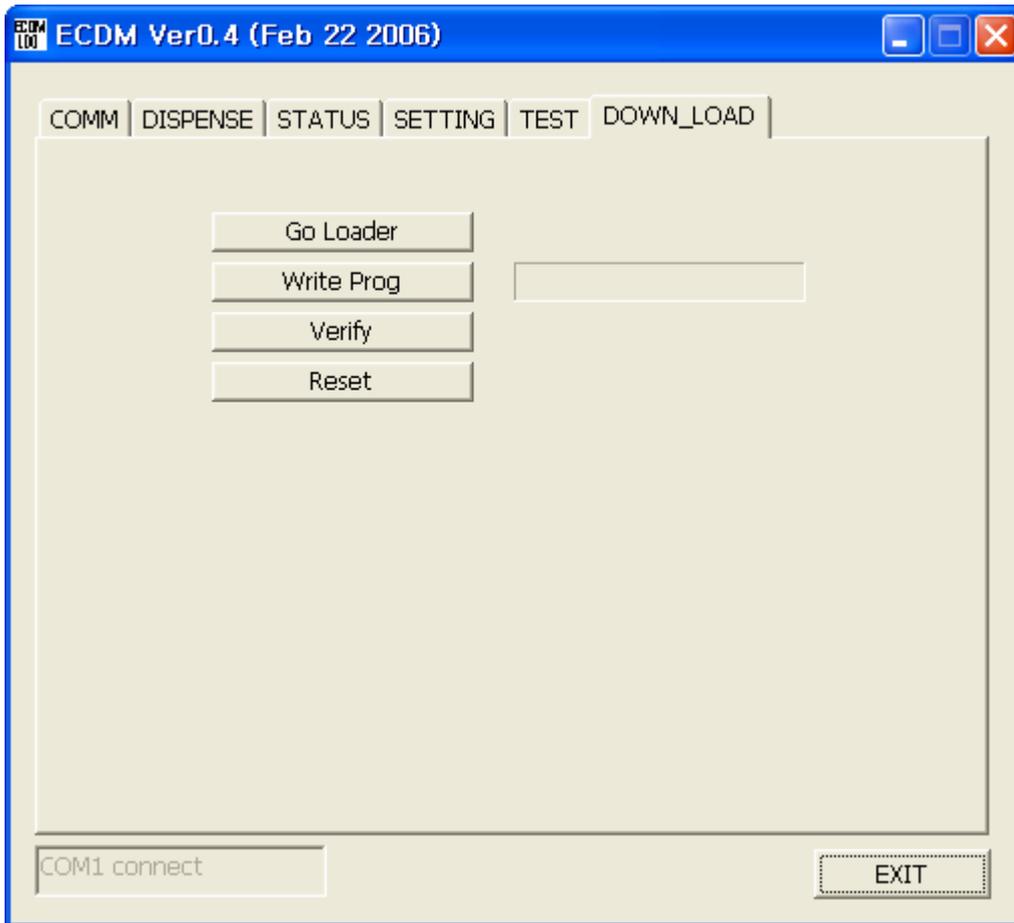
3.5 TEST
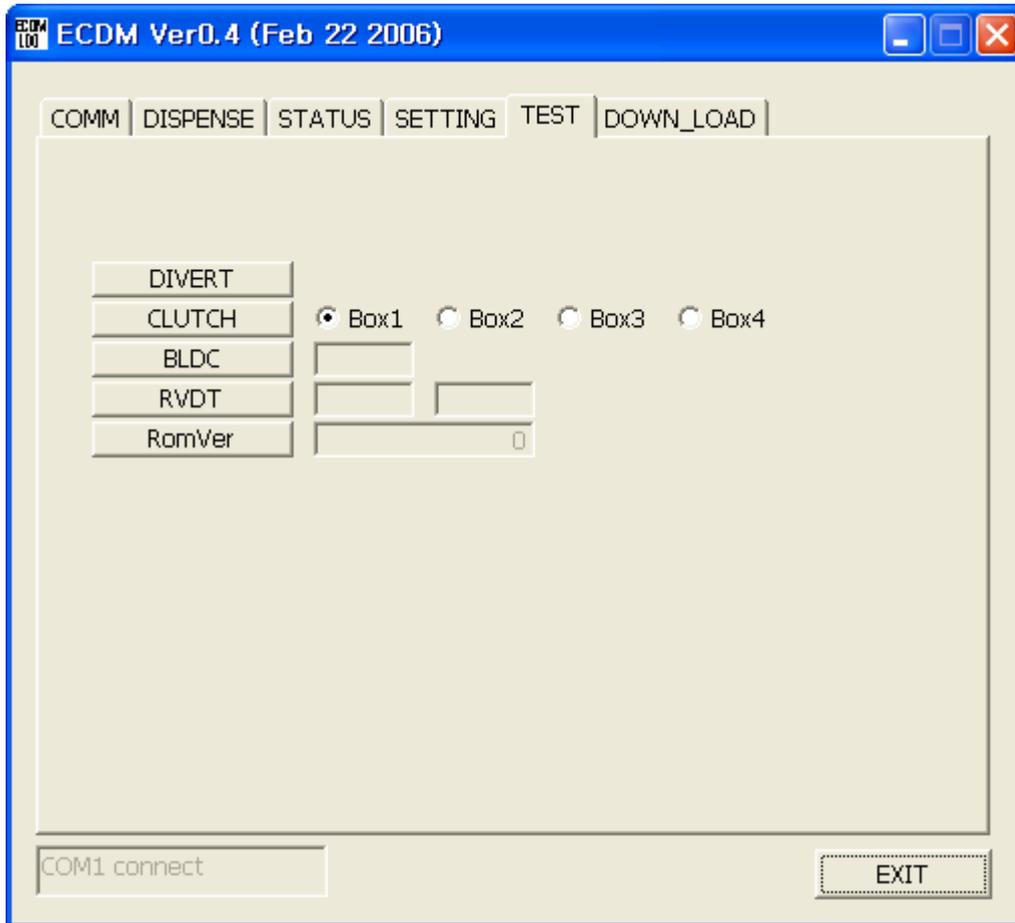
1) DIVERT : Checking the solenoid to operate the diverter
2) CLUTCH : Testing individual clutch on each box after choosing the box
3) BLDC   : Normal Speed : 8000 $\pm$ 5% 1CB6 at ROM version B10N (5038)
4) RVDT   : Measuring RVDT value
              Normal RVDT(OPAC.) value without any load : 124 ~ 130
5) RomVer : Check ROM version and CHKSUM

3.6 DOWN_LOAD
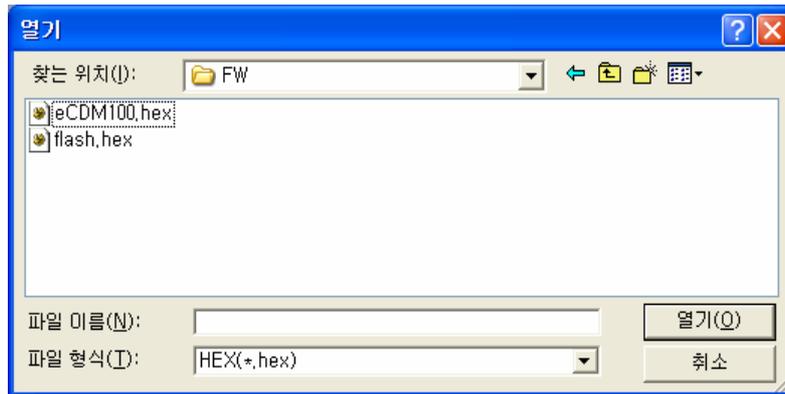
3.6.1 Go Loader

Go Loader changes the mode from operation to program mode and should be executed at first for downloading. If it is successful, the next dialog box is displayed.

3.6.2 Write Prog

Write Prgo activates the next dialog box to choose the transferred file.

The progress is shown like the next picture.
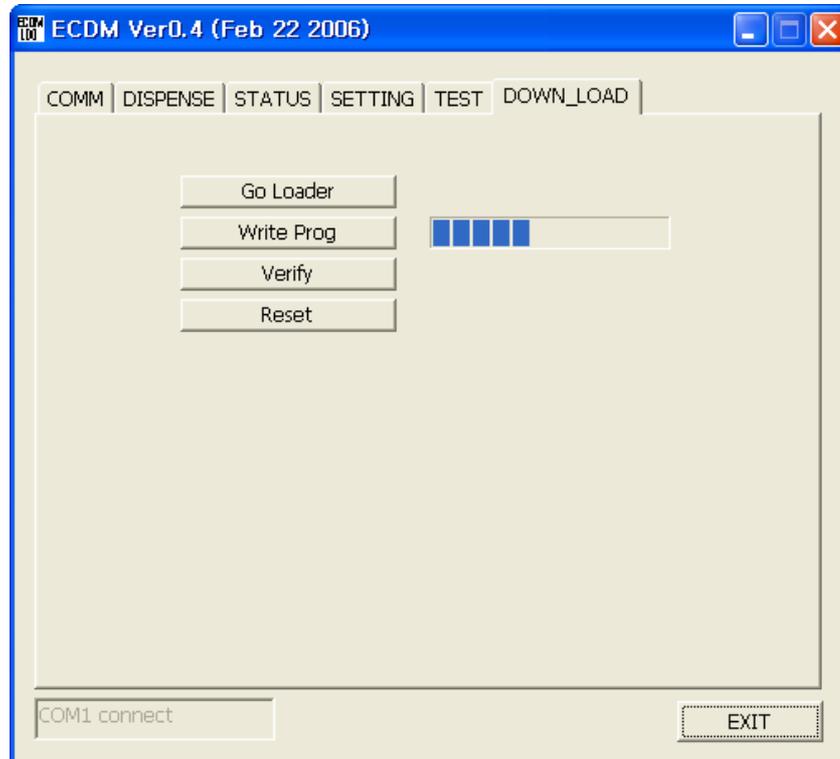
When the transfer is completed, the confirmation can be shown like the next picture.
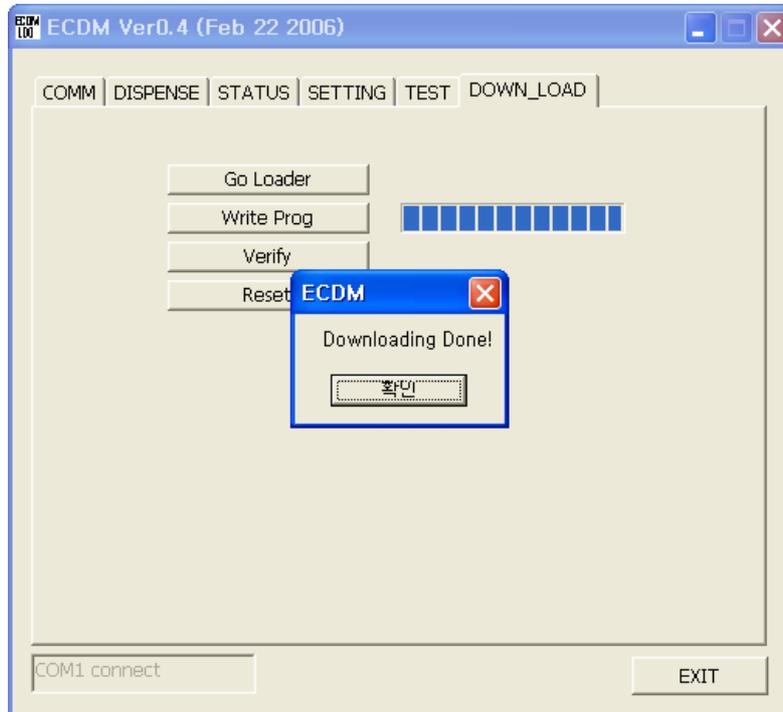
3.6.3 Verify

Verify enables to check the check sum of the downloaded file.

Unless the command is executed or the check sum is right value, the error message is shown. In such a error, Write Prog should be executed again.

3.6.4 Reset

When downloading is completed, Reset terminates the operation of download.
Unless the command is executed or the check sum is right value, Reset command will not executed. There is no response for the Reset.

4. Self Diagnostic Function (Option)

NO.	Item	Code	Details	Result
1	MOTOR TEST	10	Operate motor for 2 seconds	P.R*
2	MOTOR SPEED	11	Read the motor speed	DEC Value
3	CLUTCH TEST	20	Enables clutch in the cassette one time	P.R
4	SOLENOID TEST	30	Enables solenoid in the cassette one time	P.R
5	RVDT TEST	40	Read the measured value of RVDT after dispensing 5 notes	HEX Value
6	ROM VERSION	50	Read the version of ROM	
7	SENSOR TEST	60	Check the sensor status	Table**
8	DISPENSE TEST	70	Dispense 20 notes for testing	ERR
9	REJECT TEST	71	Reject 5 notes for testing	ERR
10	DIVERTER TEST	72	Dispense 5 notes and reject 4notes.	ERR

 * P. R : Physical Recognition

** Table for Sensor

Code	DIV-L	DIV-R	EJT	EXT	RVST-L	RVST-R	SOL	Reject Cassette
Sensor	01	02	03	04	05	06	07	08

Code	CHK0-L	CHK0-R	NEAR-END0	CB0	CASSETTE0
Sensor	0A	0B	0C	0D	0E

5. Position of Sensor

The sensors are assigned like the following drawing.
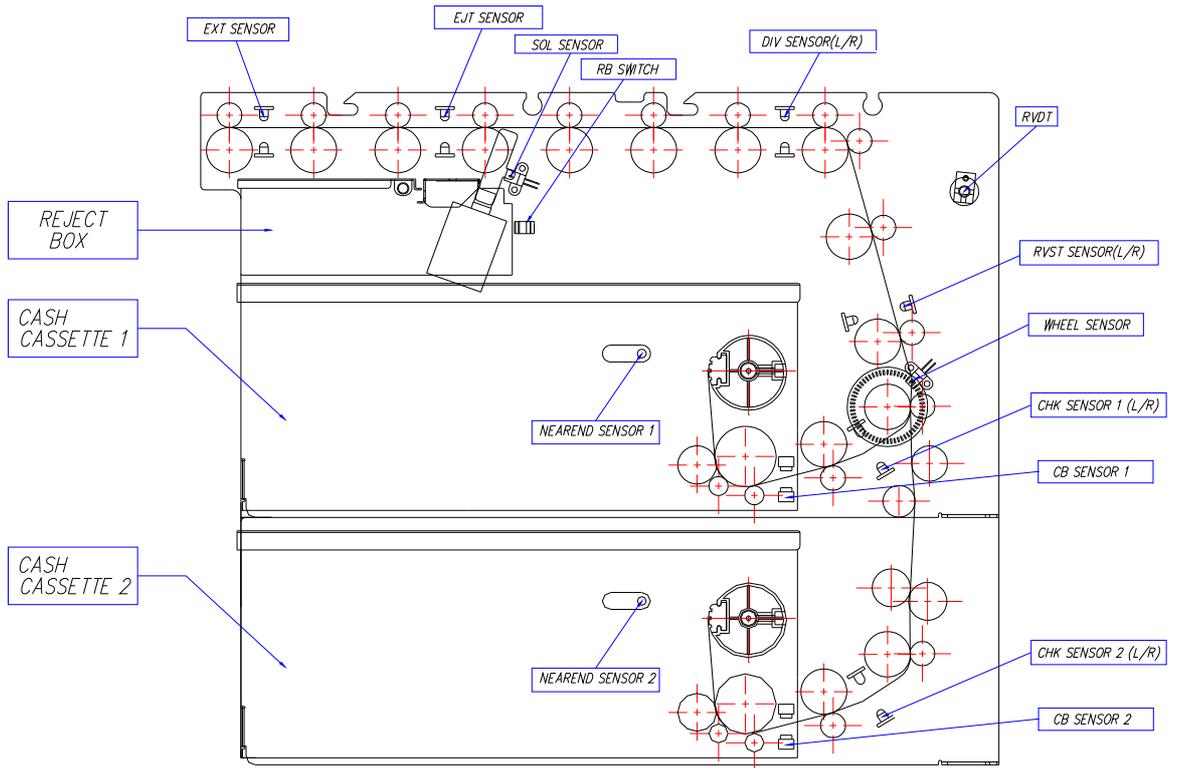
Name	Description
CB Sensor	Sensor to detect staying notes in the path of cash cassette
CHK Sensor	Sensor to measure skew, length and distance of notes
RVST Sensor	Trigerring sensor for RVDT measurement
DIV Sensor	Trigerring sensor for Diverter Solenoid
EJT Sensor	Sensor to confirm the rejected note
EXT Sensor	Sensor to confirm the dispensed note
WHEEL Sensor	Weel count sensor (Interrupt Sensor)
SOL	Sensor to check operation of Diverter Solenoid (Interrupt Sensor)
RB Switch	Sensor to detect reject cassette
NEAREND Sensor	Sensor to detect the remaining notes in the cash cassette
RVDT	Sensor to measure the thickness of notes