

TOSHIBA

TOSHIBA Bar Code Printer

B-SX Series

B-SX RFID Analyze Tool Operation Specification

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TOSHIBA TEC CORPORATION

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1. SCOPE

This document describes the operational specifications of the B-SX RFID Analyze Tool (hereinafter referred to as "Analyze Tool") which analyzes the location of RFID tags to be used by the B-SX series bar code printers (hereinafter referred to as "B-SX printer") equipped with either of the following optional RFID kit:

B-9704-RFID-HI-QM,
B-9704-RFID-U1-US, or
B-9704-RFID-U1-EU.

2. GENERAL

Printers, which are equipped with an RFID kit, can print data on the surface of RFID labels as well as encode data of RFID tags.

When encoding data, a front feed or back feed is required depending on the positional relationship between an antenna of a printer and an RFID tag embedded in an RFID label.

The B-SX printer can set a front/back feed amount using the RFID Tag Position Adjustment Command ([ESC]@003). An optimal value of the front/back feed amount differs depending on the type of RFID tag, the shape of RFID tag antenna, the location of RFID tag embedded in RFID label, variation among modules, and other factors. It is recommended to obtain the optimal front/back feed amount under actual usage conditions.

The Analyze Tool is used for determining the optimal feed amount.

3. SYSTEM CONFIGURATION

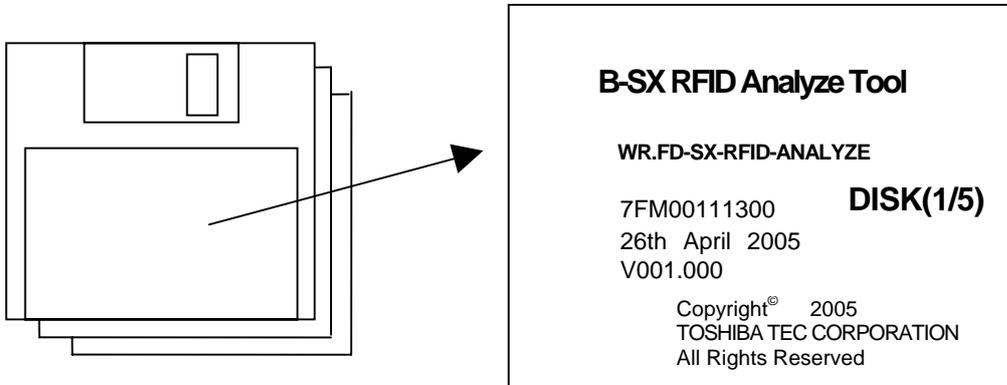
- System
DOS/V computer, Windows2000 or WindowsXP
(Performance is not guaranteed under an operation system other than the above.)
- Interface
Serial port between personal computer and printer
- Memory capacity
16 MB or more (32 MB or more is recommended)
- Free space of hard disk
10 MB or more

<p>* Windows is a registered trademark of Microsoft Corporation in the United States and other countries.</p>

4. SOFTWARE INSTALLATION

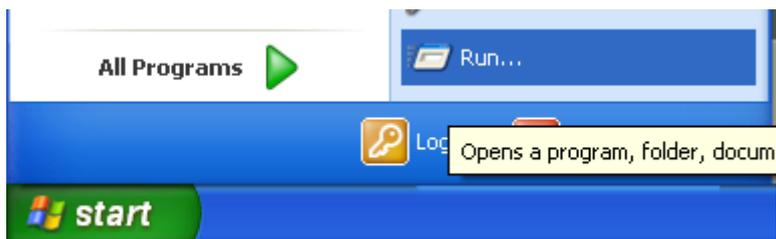
[Setup Disk]

The Installation Setup Disk consists of five floppy disks.

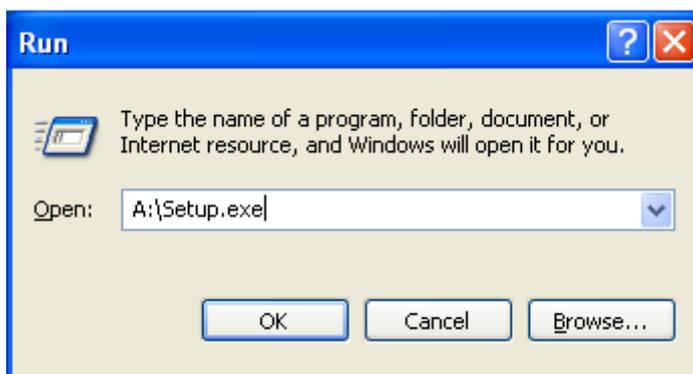


[Installation Procedure]

1. Start Windows and insert DISK (1/5).
2. Click “Start”, then choose “Run”.



3. When the “Run” screen appears, enter “A:\Setup.exe” in the “Open” entry field, then click “OK”.



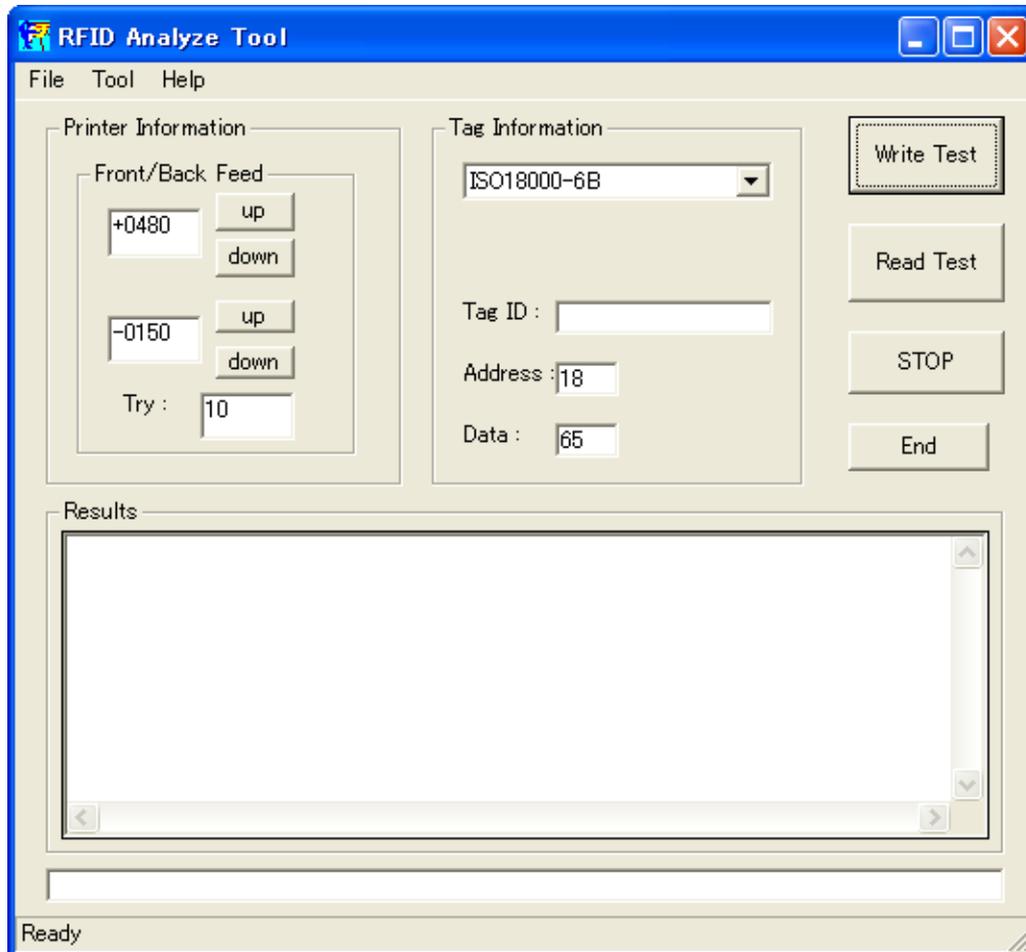
4. For the subsequent procedures, follow the instructions on the screens to complete the installation.
5. When the installation completes successfully, the screen, which notifies the completion of the installation of the “B-SX RFID Analyze Tool” software, appears.

5. OPERATIONAL PROCEDURES

Connect the B-SX printer and a personal computer using a serial port.

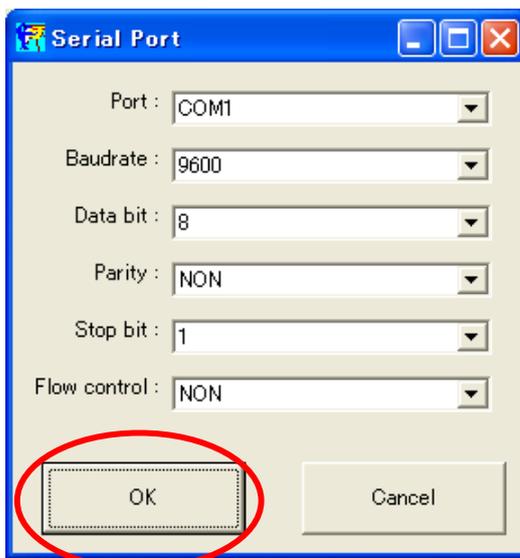
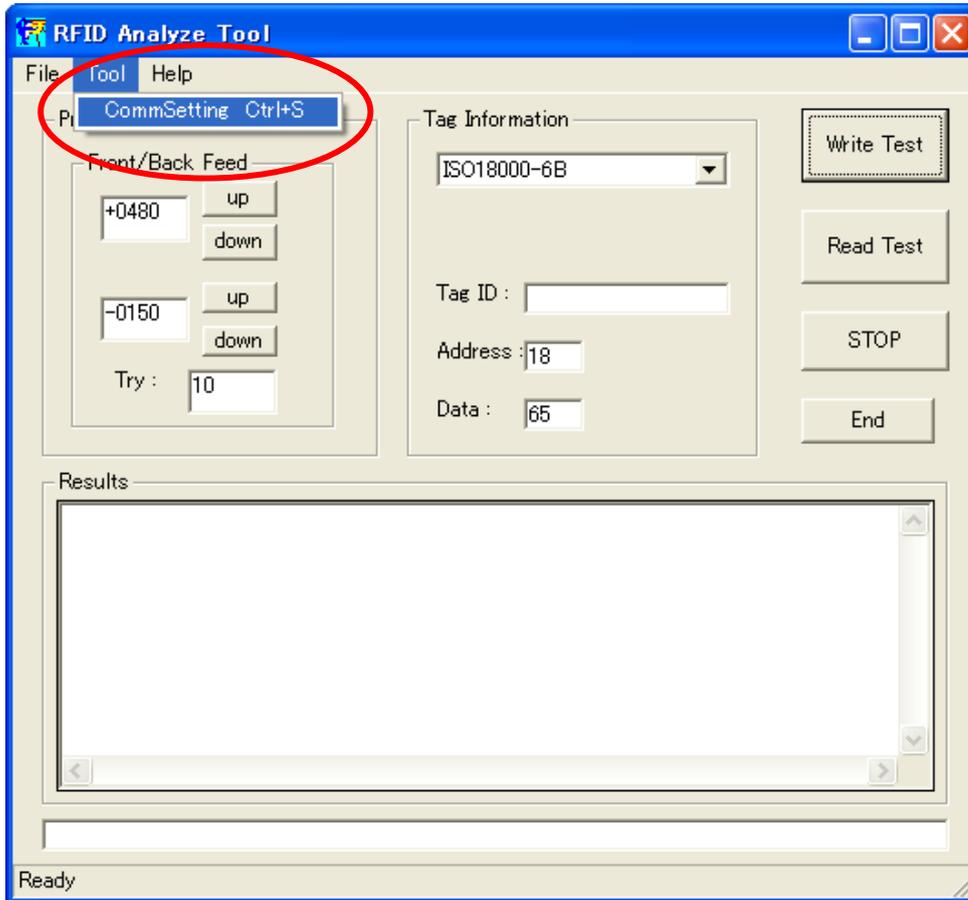
(1) Start-up of application

Start the “B-SX RFID Analyze Tool” application.



(2) Setting of serial port

Perform a serial port setting in accordance with the setting of the B-SX printer.



* The data bit for the Analyze Tool is **fixed to 8**. Make sure the data length for the B-SX printer is set to **8 bits**.

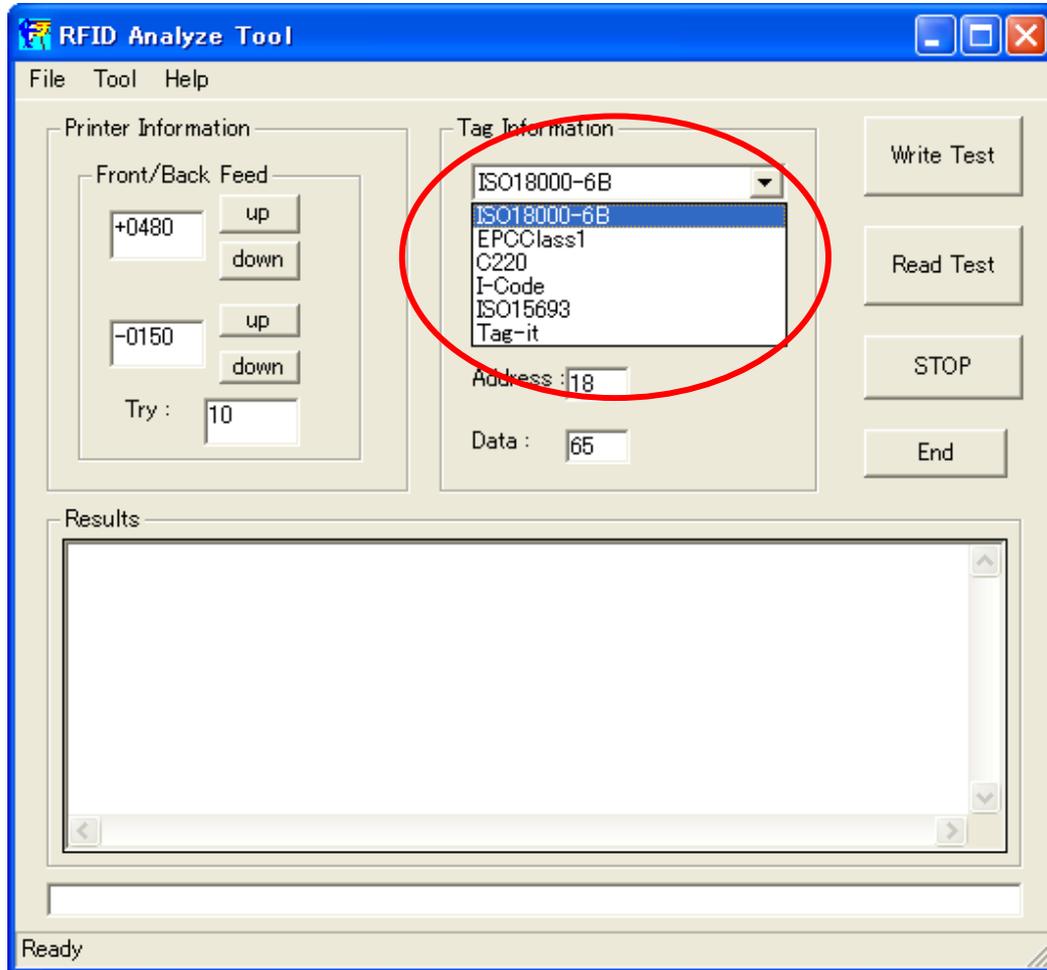
* The command frame for the Analyze Tool is "{ | }". Make sure the control code for the B-SX printer is set to "**AUTO**" or "{ | }".

(3) Selection of tag

Select the type of tag to be analyzed:

For B-9740-RFID-H1-QM, from C220, I-Code, ISO15693 or Tag-it.

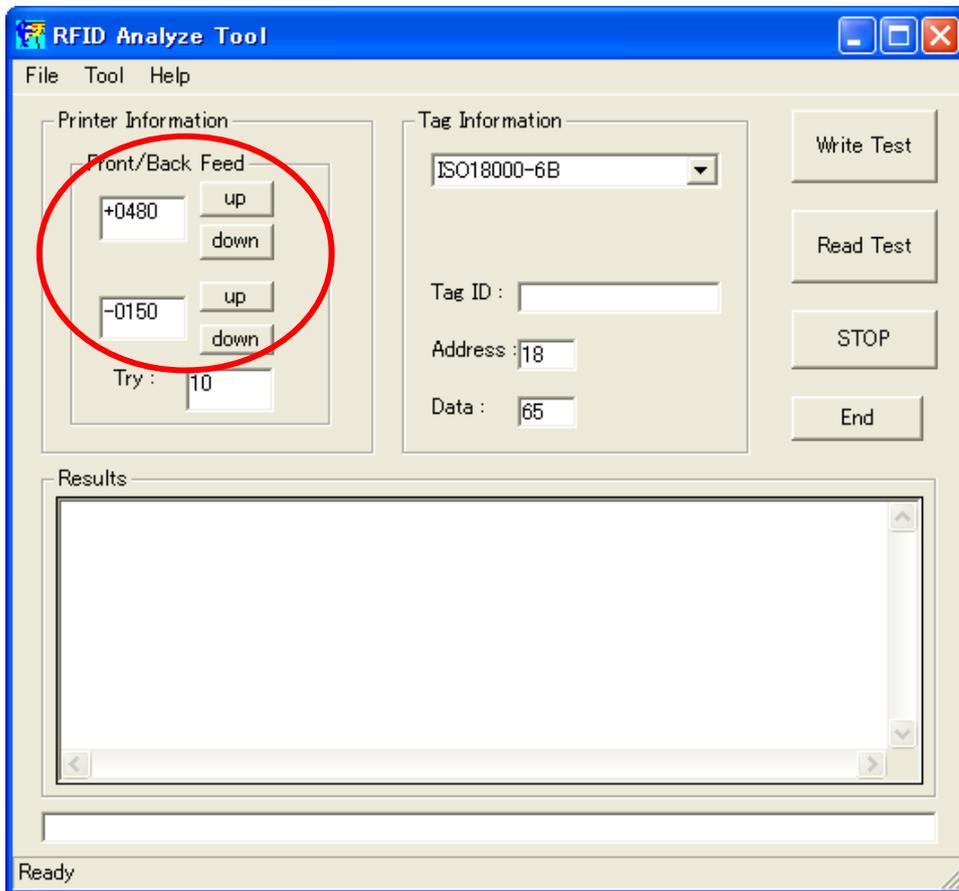
For B-9740-RFID-U1-US/EU, from ISO18000-6B or EPCClass1.



(4) Setting of feed amount range

Press the up/down button to set the upper and lower limit values for the feed amount (in 0.1 mm units).

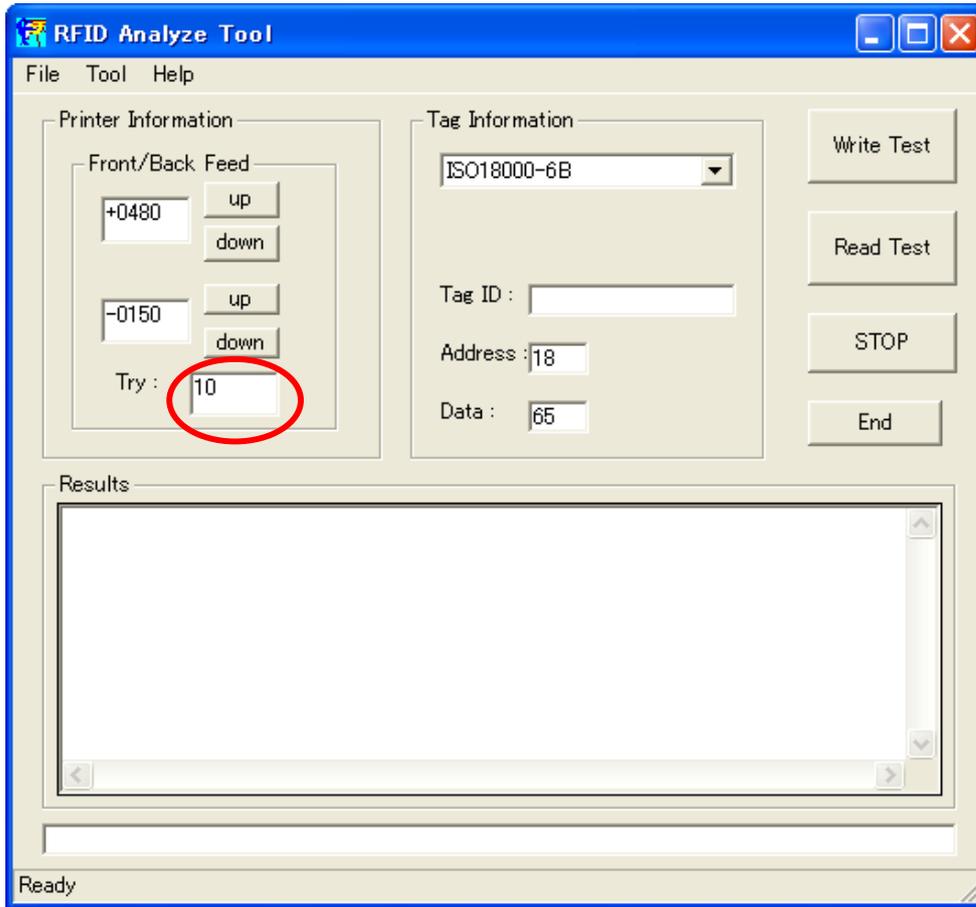
The Analyze Tool can analyze read/write performance by feeding a label 3 mm at each time within the range between the upper and lower limit values.



- * The Analyze Tool does not perform the **head-up (ribbon saving)** function even when the function is enabled.
- * As for "Front/Back Feed" setting, "**+**" values performs a **back feed**, and "**-**" values performs a **front feed**.

(5) Setting of number of read/write times

Specify the number of read/write times to be performed at each feeding position.

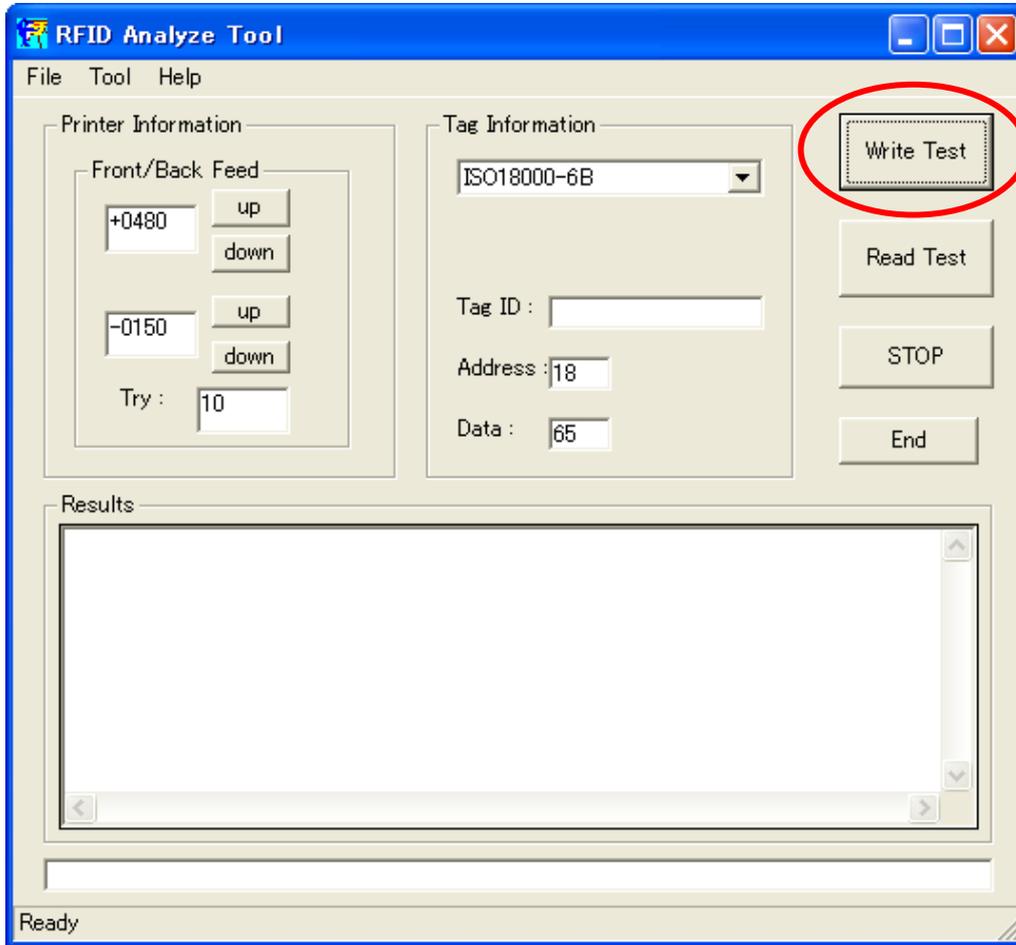


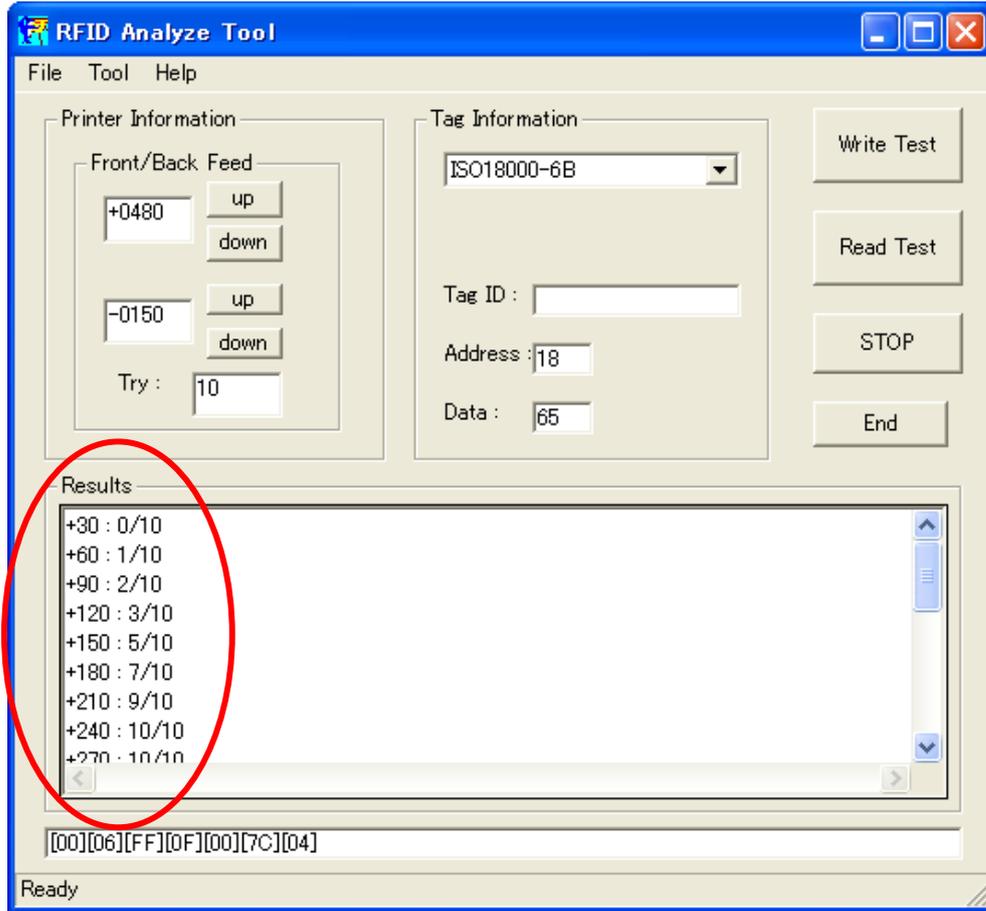
(6) Start-up of write test

Click the "Write Test" button to start a write test.

During the write test, total number of write succeeded/total number of write performed is shown in the task bar, and status data from the module is shown in a text box above the task bar.

When the test is completed, test result is shown in the "Results" box.



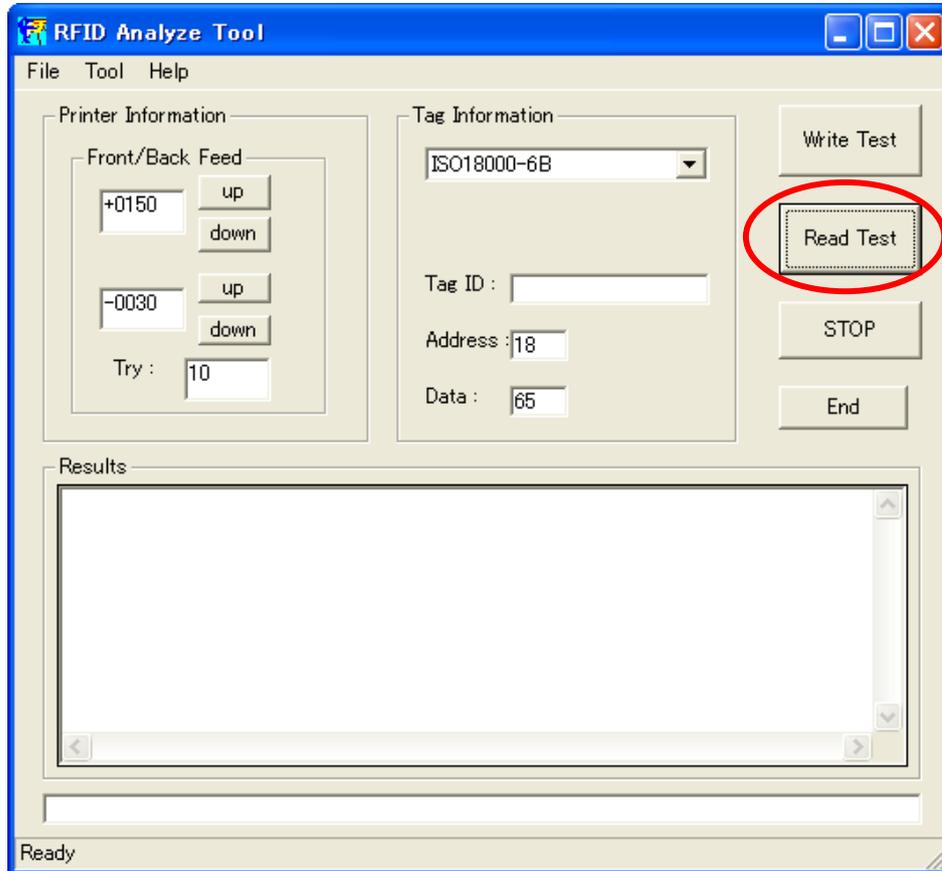


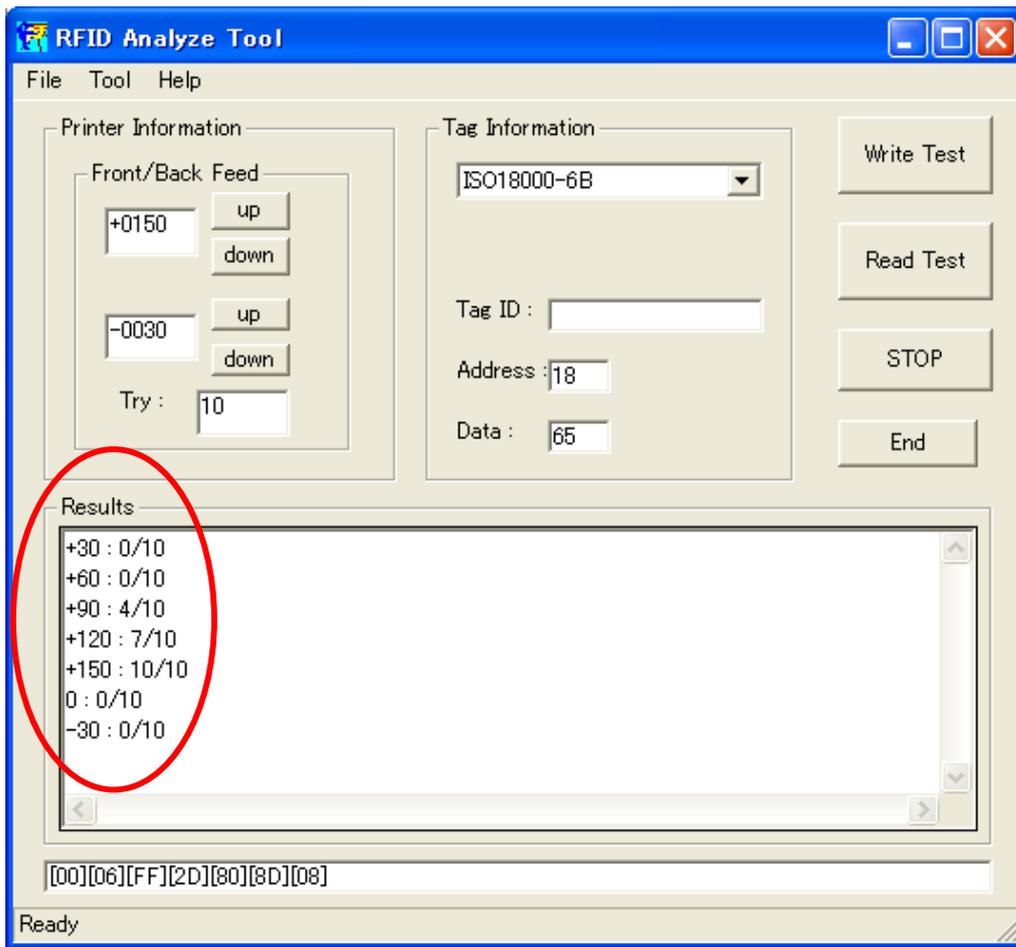
(7) Start-up of read test

Click the “Read Test” button to start a read test.

During the read test, total number of read succeeded/total number of read performed is shown in the task bar, and status data from the module is shown in a text box above the task bar.

When the test is completed, test result is shown in the “Results” box.





(8) Result of analysis

It is recommended to perform a write test, not a read test because the printer's basic operation is to write data on RFID tags.

It is also recommended to obtain a center value of the upper and lower limit values in the range where read/write was successfully performed.

For example, when read/write performance was good in the range from +90 to -30, the value to be selected would be +30.

For some types of tags, read/write can be performed but success rate is not high (i.e., success rate: 8/10, 80/100, not reaching 100%). In such cases, try to improve success rate of read/write by increasing the maximum number of read/write retries and read/write retry time-out in the B-SX printer setting. Using the adjustment for retry feature can further improve success rate of write.

For details of this setting, refer to the "B-SX External Equipment Interface Specification".