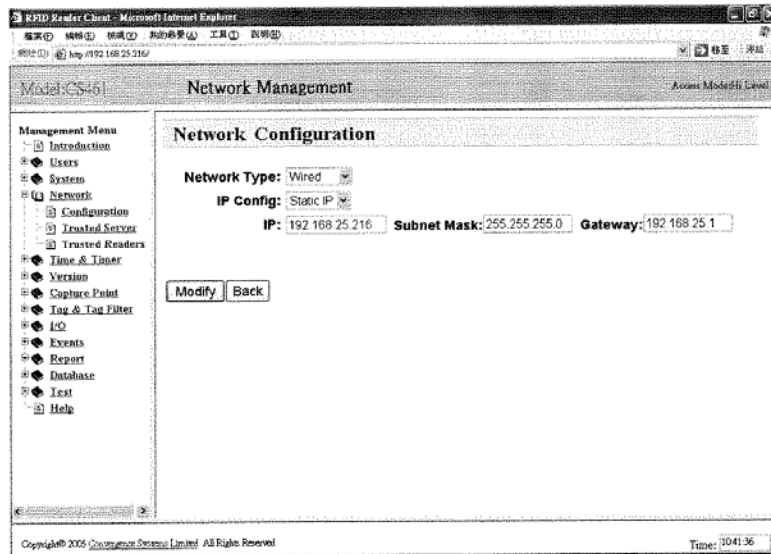


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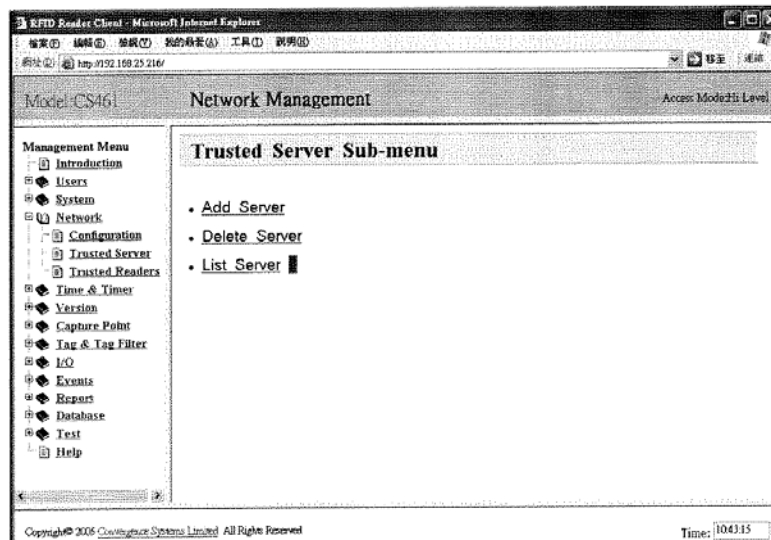
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Here is the network configuration page, it allows the user to set IP settings.



Here is the Trusted Server page that user can configure which server(s) the reader can communicate with.

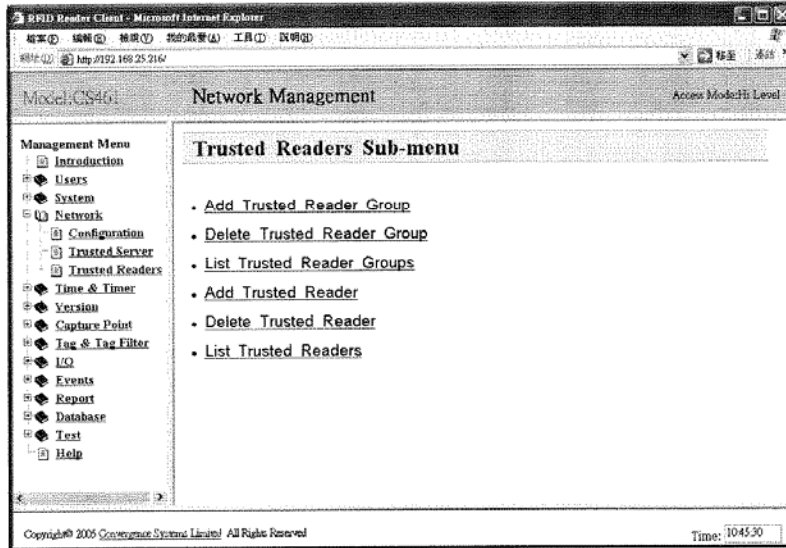


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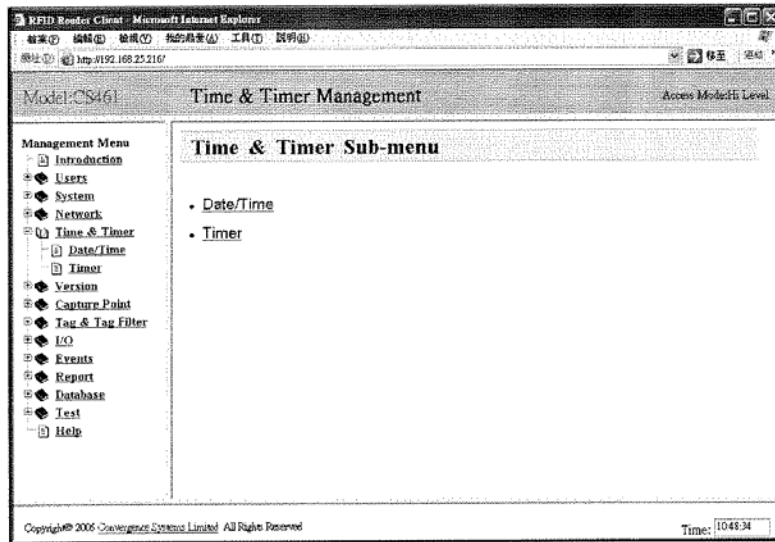
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Here is the Trusted Readers page that the user can configure which reader(s) this reader can communicate with.



7.1.5 Time & Timer Management

Time and Timer page allows the user to set the current time for the real time clock inside the reader, plus set schedules for various operations.

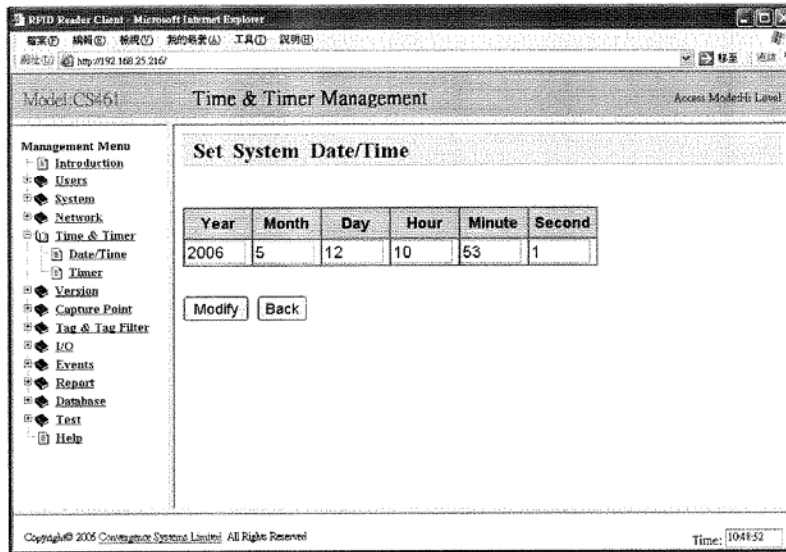


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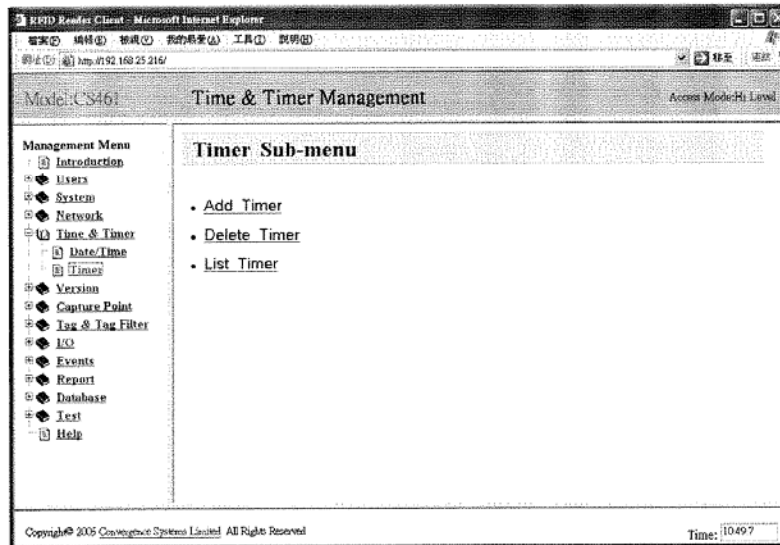
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Here is the page where the user can set the year, month, date, hour, minute and second time:



Here is the Timer sub-menu, it allows setting of time filter for event use:

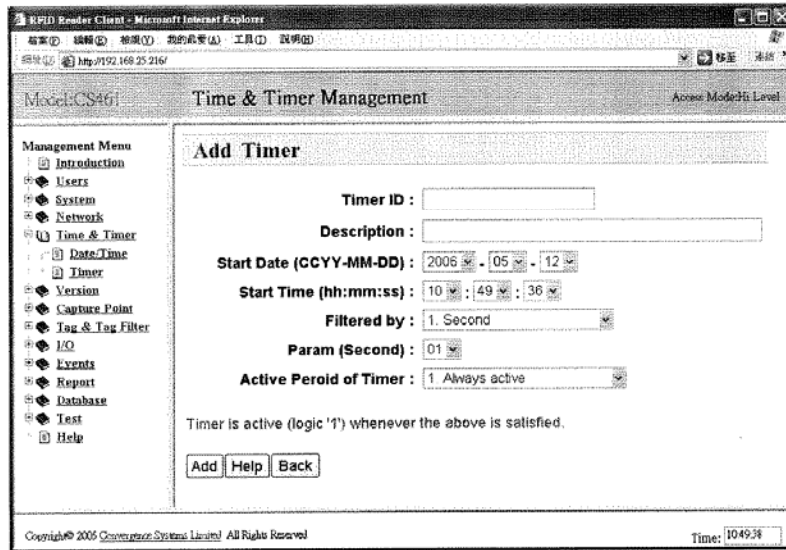


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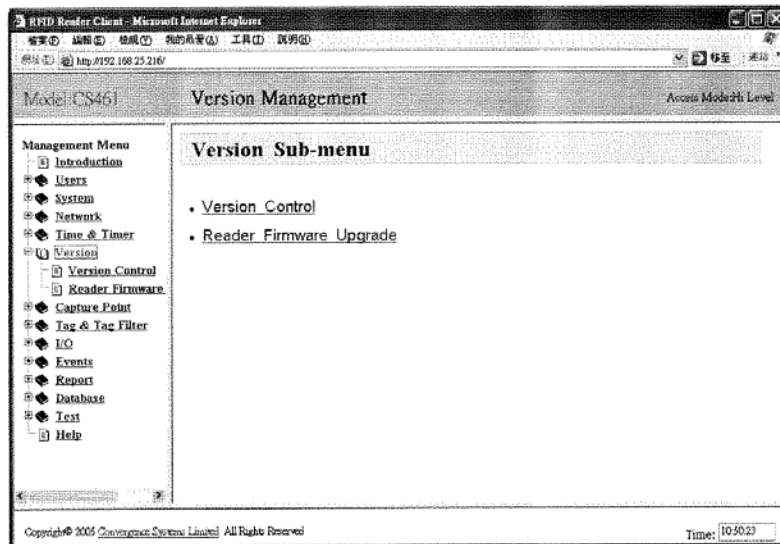
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This is the Add Timer page. It allows many different modes of time filtering.

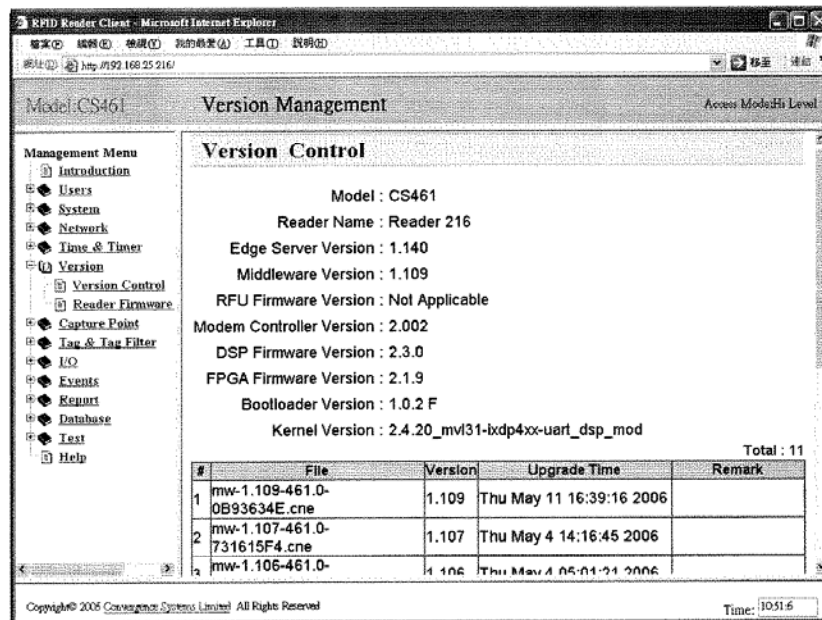


7.1.6 Version Management

Version management allows you to see the version upgrade history (in the Version Control Submenu), and to do firmware upgrade (in the Firmware Upgrade Submenu).



In the version control sub-menu page, one can see the version number of the software, which consists of the edge server, the firmware, the boot-loader, and the kernel. This is an important page to check if the versions are correct, especially after a firmware upgrade.

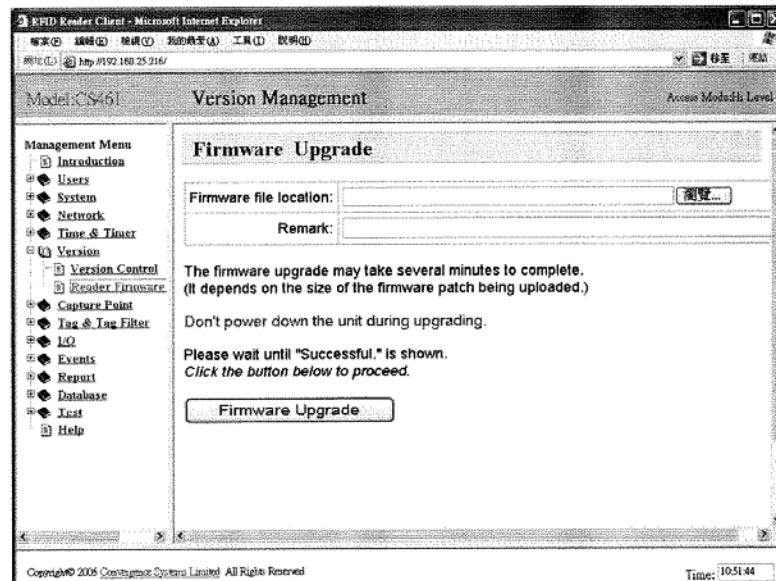


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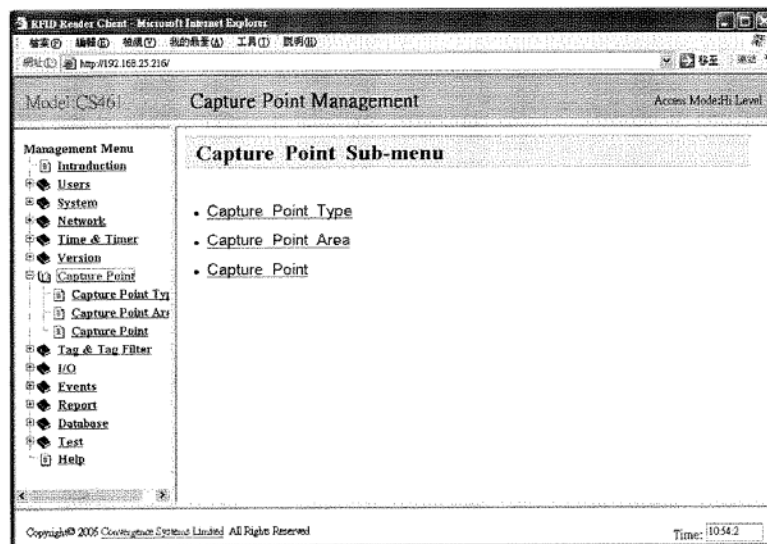
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In the firmware upgrade submenu, just press the **Browse** button and find the upgrade file (which the user has already downloaded from CSL website before). Just select the upgrade file with the .cne extension, without doing anything to it, and press open. Then press the **Firmware Upgrade** button. The upgrade takes from 3 minutes to 8 minutes, depending on the size of that particular upgrade. Please wait until you see the success message. The reader needs to be rebooted afterward, either physically unplugging the power supply, or by the web interface (Restart page in System menu).



7.1.7 Capture Point Management

Capture point management page allows the user to set the capture point according to the operation environment.

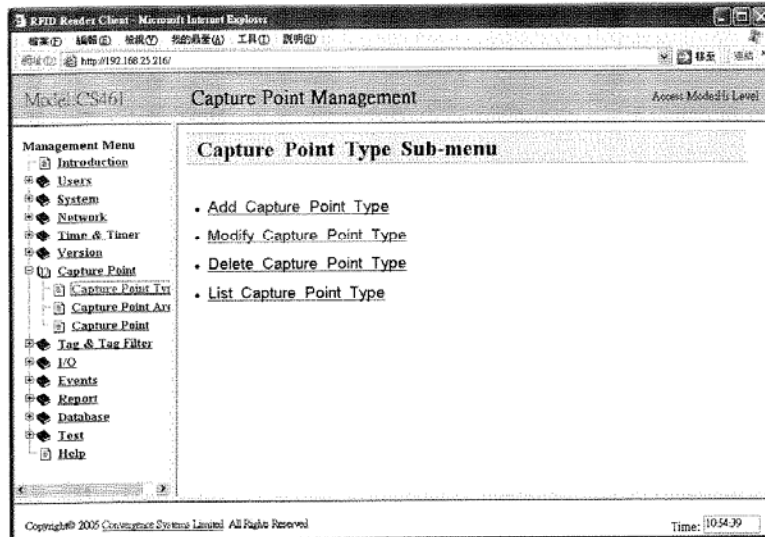


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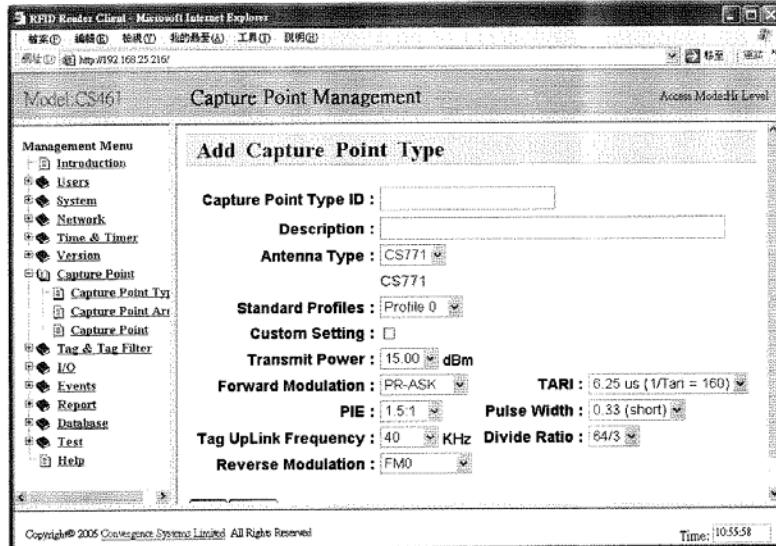
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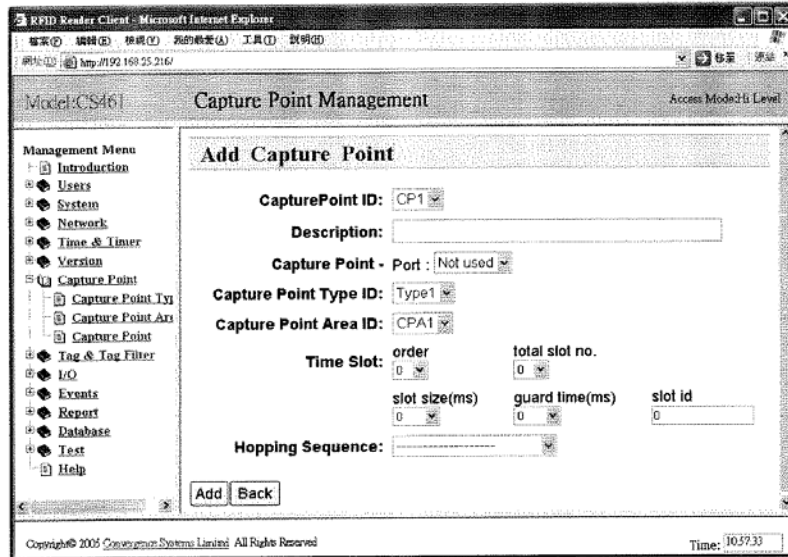
Here is the capture point type sub-menu:



In this page, each capture point type is defined:



This is the add capture point page, using a capture point ID to identify the capture point, the relevant antenna port is selected and other parameters are defined.

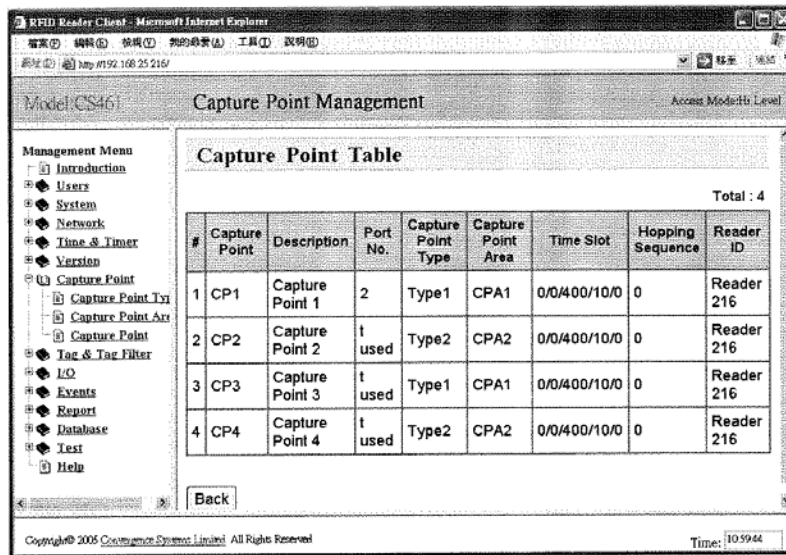


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Here is the capture point table where one can look at the capture points he has defined so far:



The screenshot shows a web browser window titled 'RFID Reader Client - Microsoft Internet Explorer'. The page is 'Capture Point Management' for 'Model CS46'. A 'Management Menu' is visible on the left. The main content is a 'Capture Point Table' with the following data:

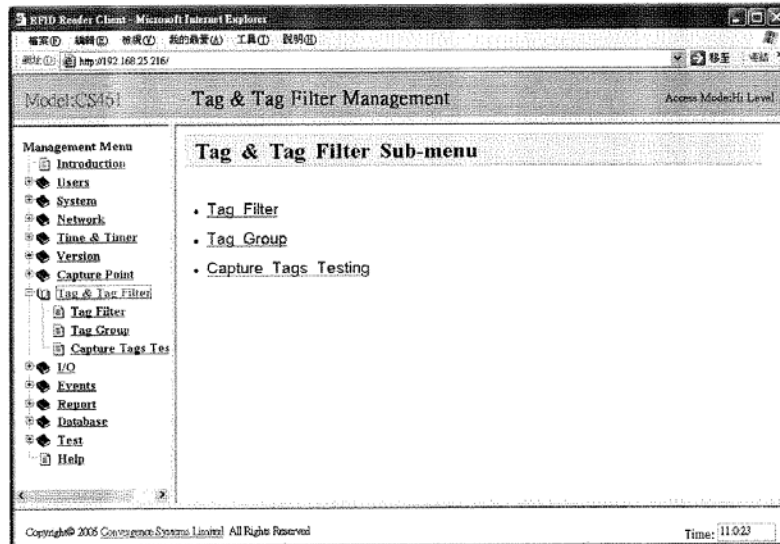
#	Capture Point	Description	Port No.	Capture Point Type	Capture Point Area	Time Slot	Hopping Sequence	Reader ID
1	CP1	Capture Point 1	2	Type1	CPA1	0/0/400/10/0	0	Reader 216
2	CP2	Capture Point 2	t used	Type2	CPA2	0/0/400/10/0	0	Reader 216
3	CP3	Capture Point 3	t used	Type1	CPA1	0/0/400/10/0	0	Reader 216
4	CP4	Capture Point 4	t used	Type2	CPA2	0/0/400/10/0	0	Reader 216

Total : 4

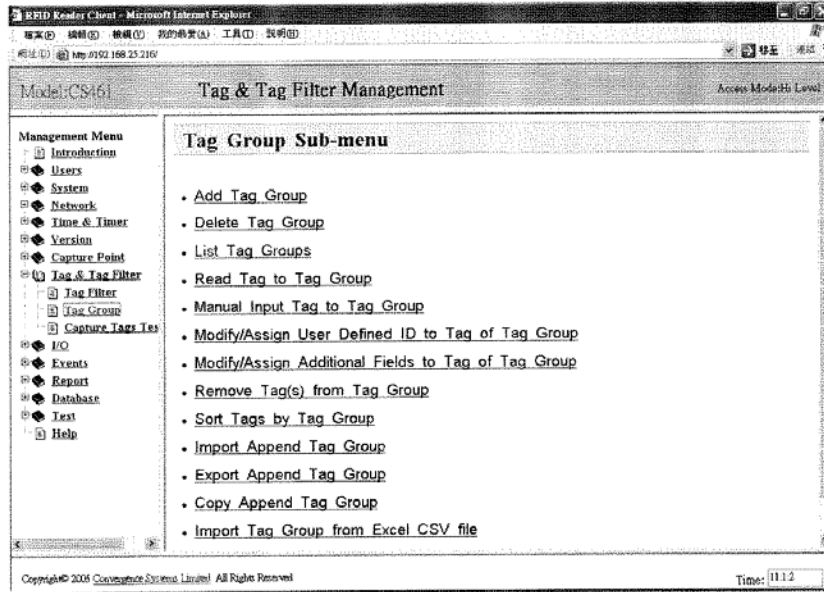
Copyright © 2005 Convergence Systems Limited. All Rights Reserved. Time: 10:59:44

7.1.8 Tag & Tag Filter Management

Tag and Tag Filter management page allows the user to set tag, add tag to tag group, query tag (look for a certain tag), set tag filter, capture tags in a defined time interval, and do all kinds of operation on tags collected.



This is tag group page, it allows input of tag ID and user ID into the system:

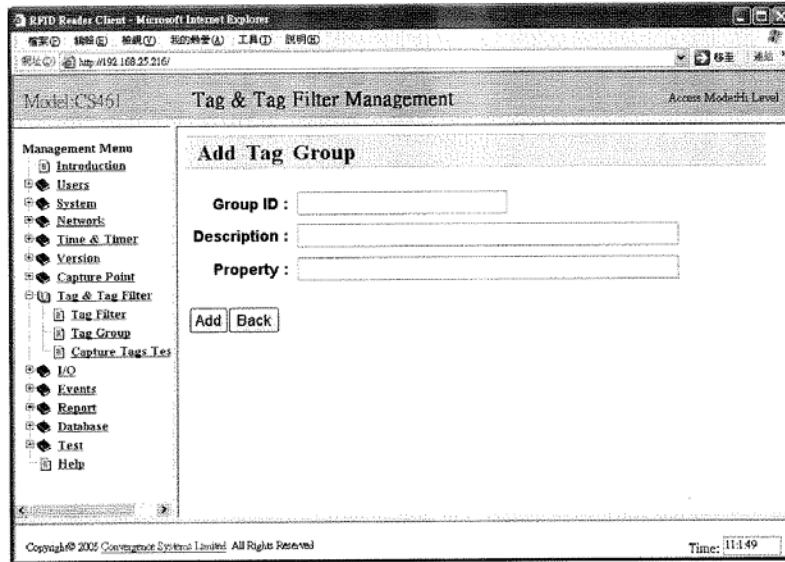


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The following is the add tag group page:

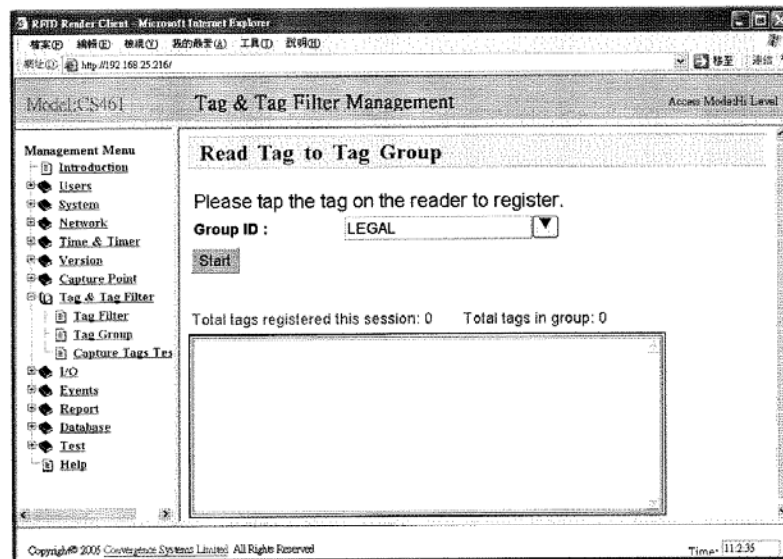


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The following is the read tag into tag group page, it allows the user to take the card to the antenna and let the reader reads it and then it is then registered into a certain group, as selected by user. Here the user should press the “Start” button and the reader will start picking up tags held to the antenna:



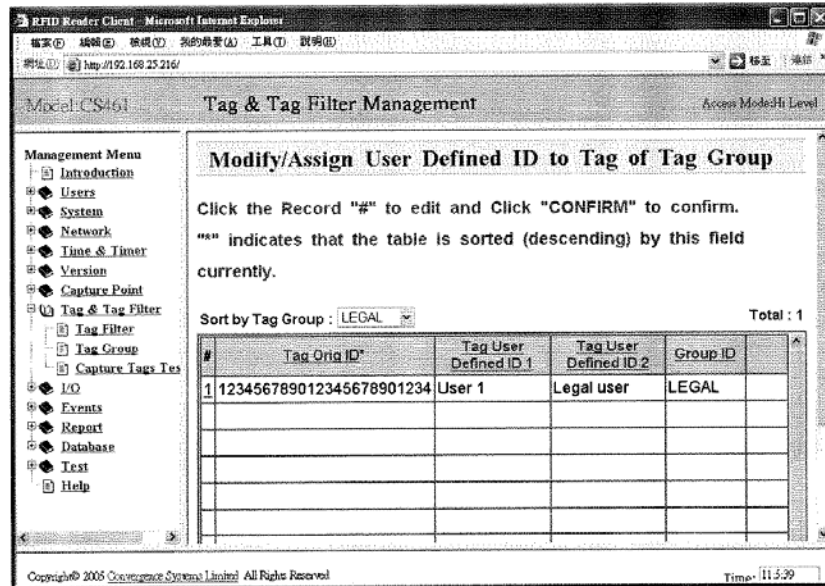
At the end of the operation, press the “stop” button to stop reading tags.

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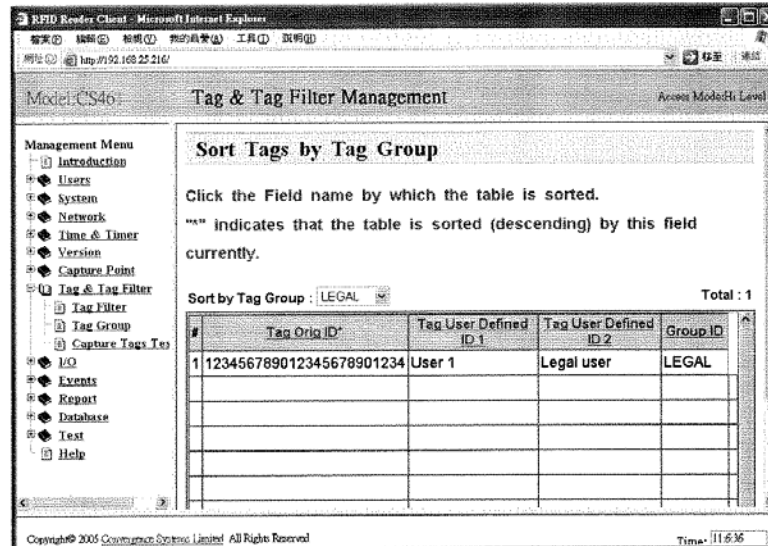
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The tag recorded can then be associated with a user defined ID (usually the actual ID holder name in a company). Press the red item number on the left, then the tag User Defined ID column will become active. Edit the name there. Then press the red “CONFIRM” key on the right to confirm:



The end result is listed in sort tag by tag group page:



Sort Tags by Tag Group

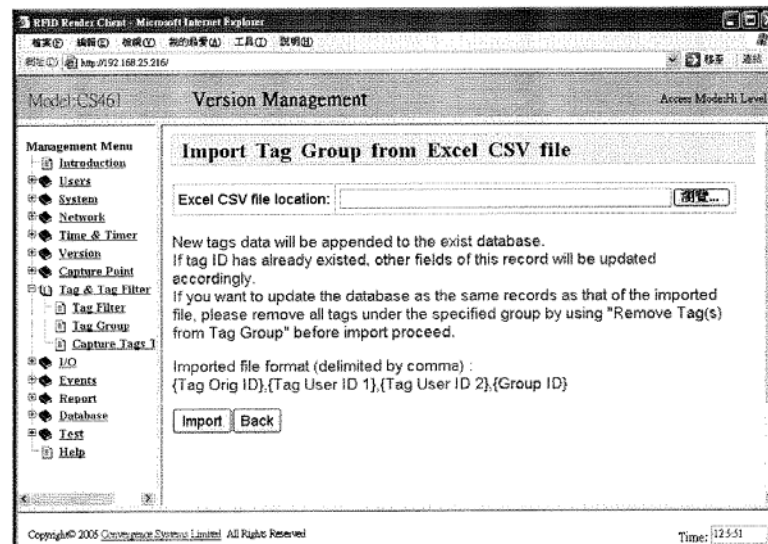
Click the Field name by which the table is sorted.
 "" indicates that the table is sorted (descending) by this field currently.

Sort by Tag Group : LEGAL Total : 1

#	Tag Orig ID*	Tag User Defined ID 1	Tag User Defined ID 2	Group ID
1	123456789012345678901234	User 1	Legal user	LEGAL

Copyright © 2005 Convergence Systems Limited All Rights Reserved Time: 11:56

User can also input the Tag information from CSV file format on the “Import Tag Group from Excel CSV file” page:



Import Tag Group from Excel CSV file

Excel CSV file location:

New tags data will be appended to the exist database.
 If tag ID has already existed, other fields of this record will be updated accordingly.
 If you want to update the database as the same records as that of the imported file, please remove all tags under the specified group by using "Remove Tag(s) from Tag Group" before import proceed.

Imported file format (delimited by comma) :
 {Tag Orig ID},{Tag User ID 1},{Tag User ID 2},{Group ID}

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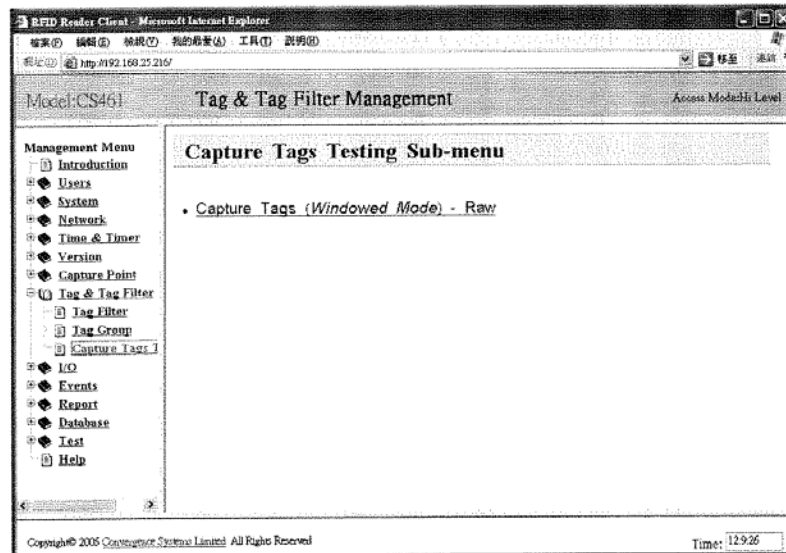
The imported file format should delimited by comma as below:
 {Tag ID},{Tag User ID1},{Tag User ID2},{Group ID}

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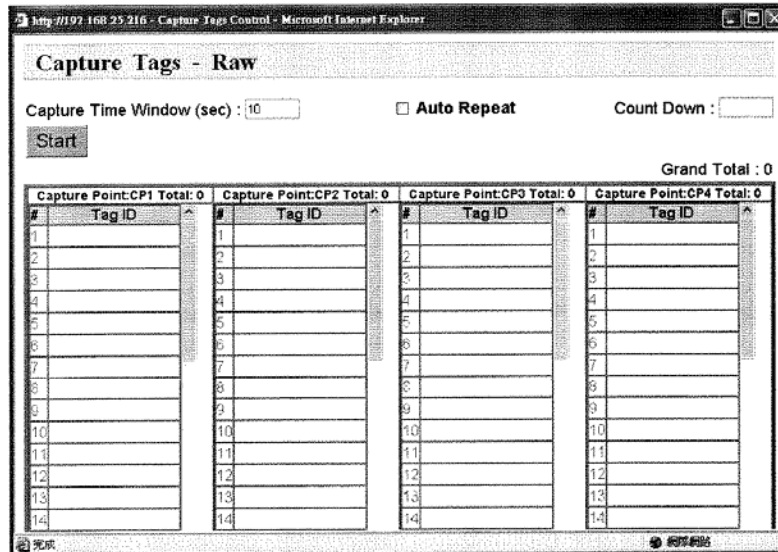
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There is a Capture Tags Testing page. This page allows user to set up tag capturing trial operations to test the capturing process and optimize the local set up (such as antenna placement, capture point arrangement, capture time, etc.) to get best performances.

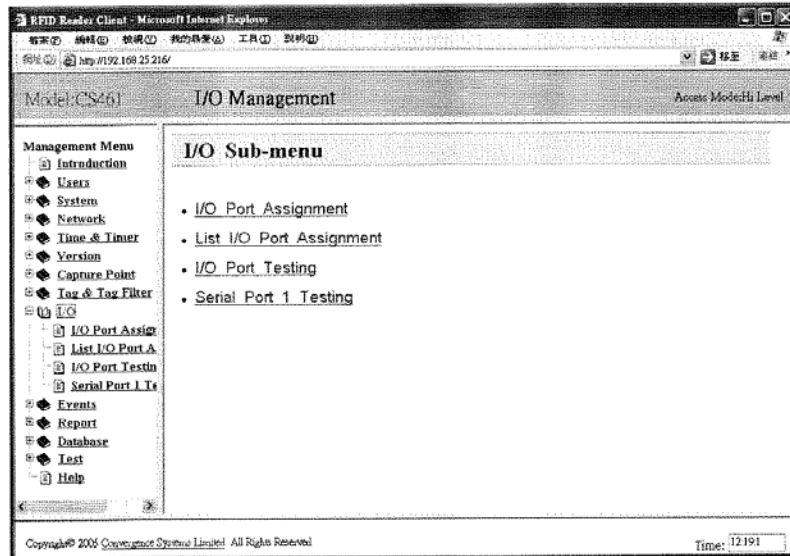


In the capture tags testing, one can select a combination of capture points and print out the tags collected from them. The capture time window (in seconds) can be set to define how long will the reader be collecting tags. The green "Start" button, once pressed, will start a new measurement. After the time defined by capture time window, the reader will collect all tag IDs and they will be listed in the box below. The "Auto Repeat" selection box allows one to continuously repeat the measurement. The total number of tags collected in each time window is shown on the right hand side in "Grand Total".



7.1.9 IO Management

IO management page allows the user to define the various ports of input and output, giving them logical name for subsequent uses in event and other management.



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Here is the port assignment listing page:

I/O Management

I/O Port Assignment List

Input Port

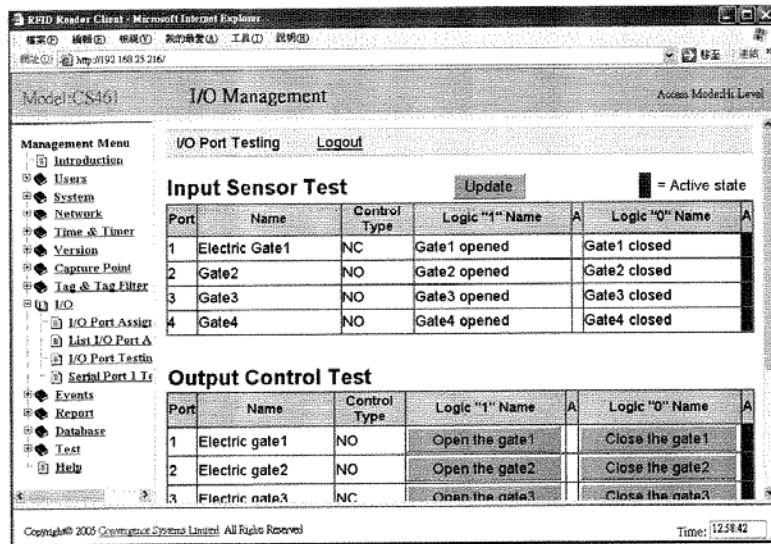
Port No.	I/O Type	Name	Control Type	Logic "1" Name	Logic "0" Name	Enable
1	Input	Electric Gate1	NC	Gate1 opened	Gate1 closed	<input checked="" type="checkbox"/>
2	Input	Gate2	NO	Gate2 opened	Gate2 closed	<input checked="" type="checkbox"/>
3	Input	Gate3	NO	Gate3 opened	Gate3 closed	<input checked="" type="checkbox"/>
4	Input	Gate4	NO	Gate4 opened	Gate4 closed	<input checked="" type="checkbox"/>

Output Port

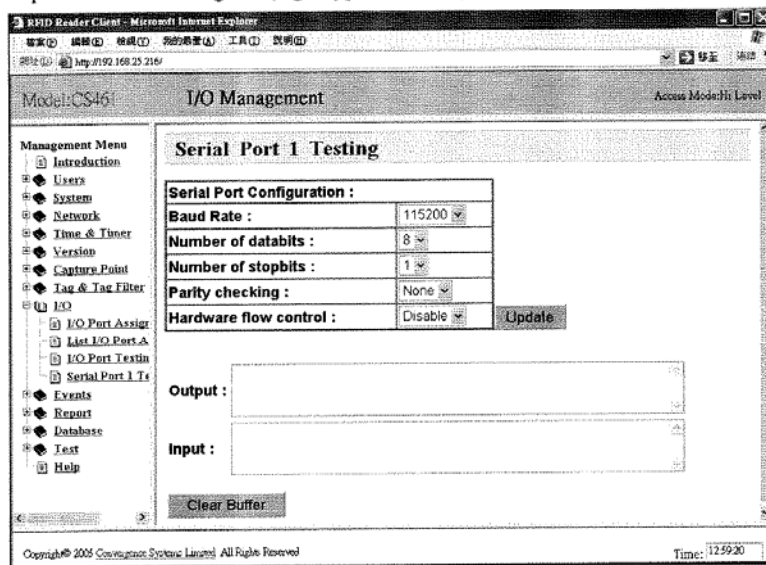
Port No.	I/O Type	Name	Control Type	Logic "1" Name	Logic "0" Name	Initial Logic	Enable
1	Output	Electric gate1	NO	Open the gate1	Close the gate1	0	<input checked="" type="checkbox"/>
2	Output	Electric gate2	NO	Open the gate2	Close the gate2	0	<input checked="" type="checkbox"/>

Copyright © 2005 Convergence Systems Limited. All Rights Reserved. Time: 12:57:43

Here is the IO port testing page, it allows one to look at sensor input (by pressing the update button), and control the outputs for system testing:



The Serial Port 1 Testing page allows the user to test the serial port communication through the I/O port. User can simply connect the I/O port to the serial port of a PC and open a Terminal Program (e.g. HyperTerminal) for communications.



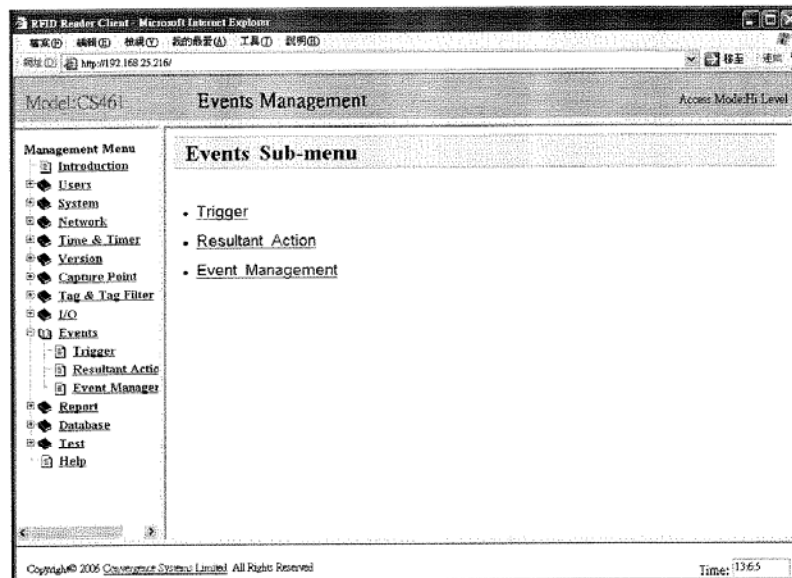
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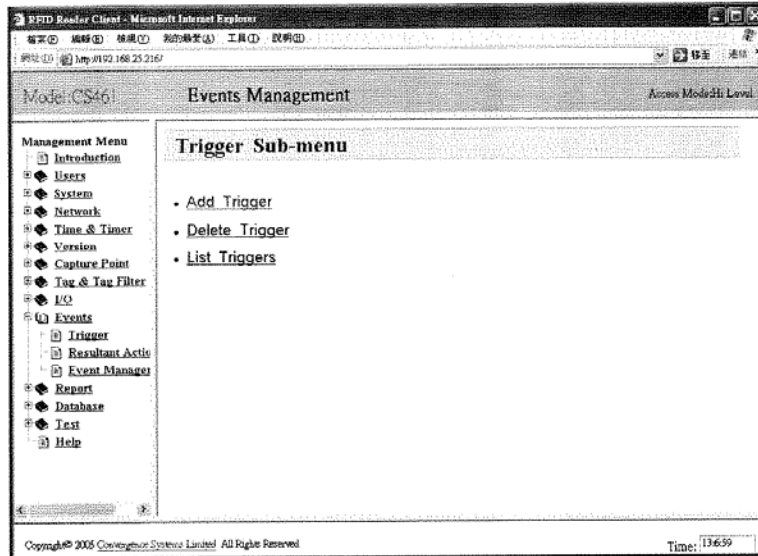
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7.1.10 Events Management

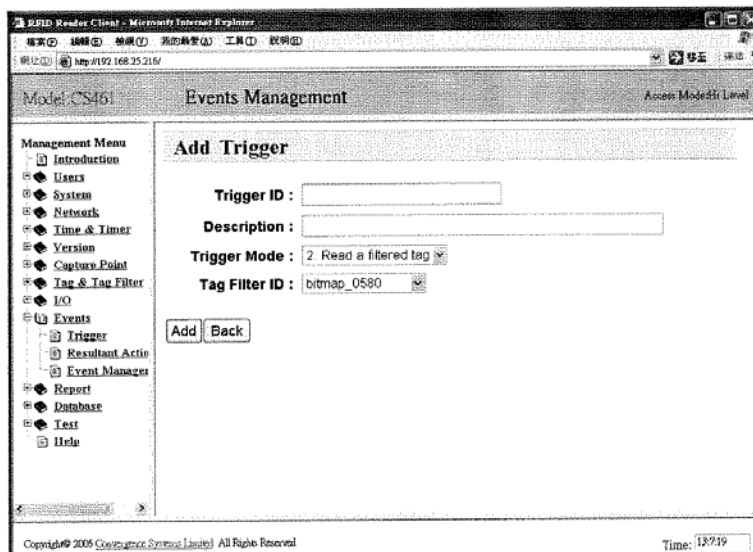
Events management page allows the user to define events, triggering logic, resultant actions, event management (sequencing), and check for events that have happened.



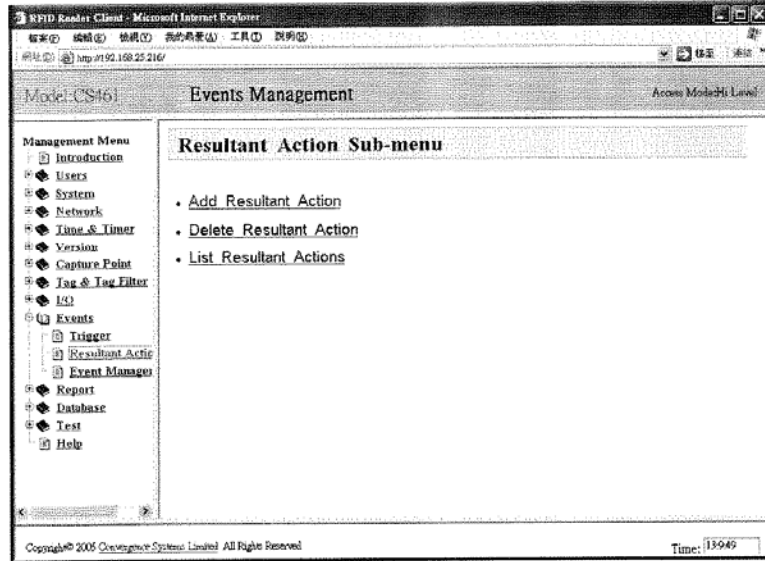
Here is the trigger logic sub-menu:



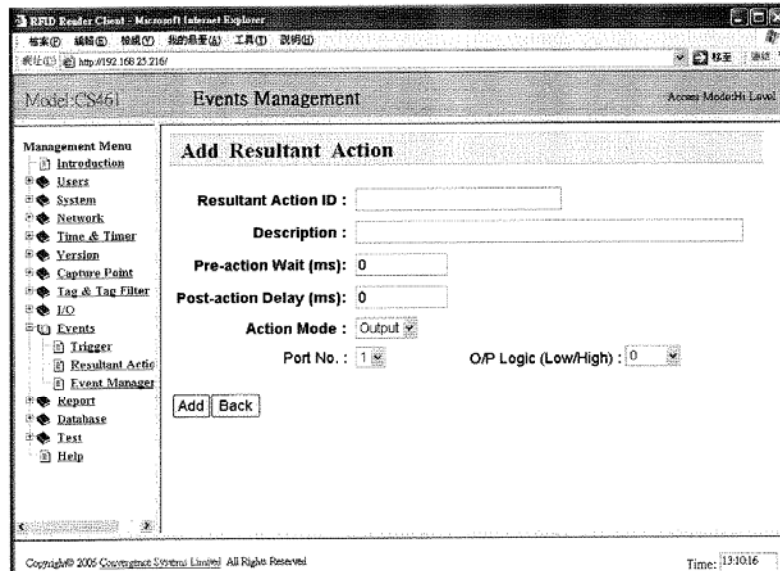
This is the triggering logic definition page:



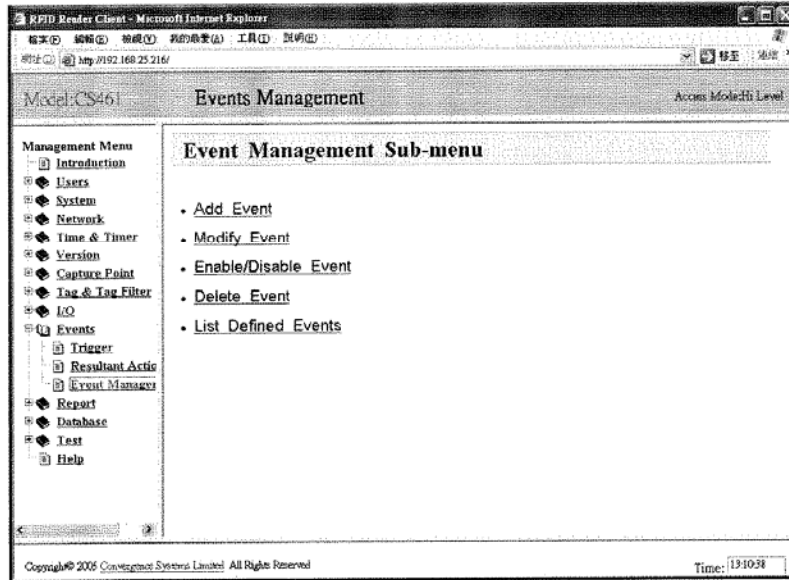
The is the resultant action sub-menu:



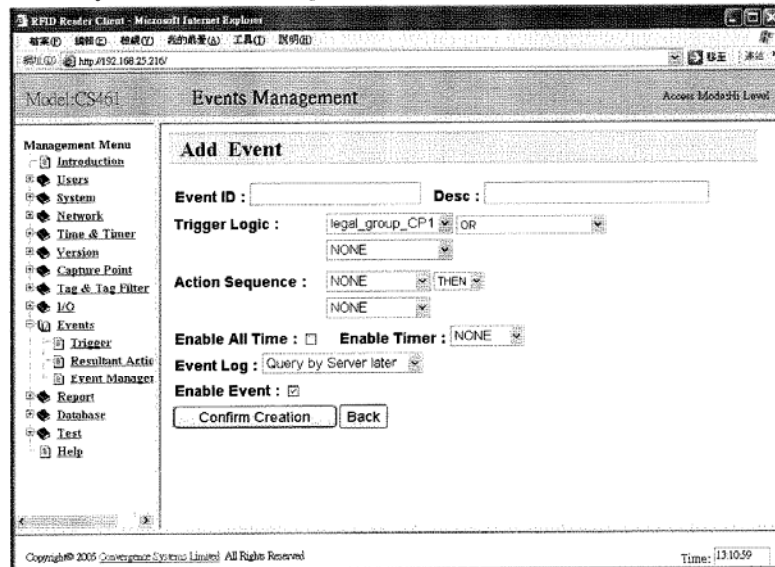
This is the resultant action definition page, note that every action can have a pre-action wait time and a post-action delay time:



This is the event management sub-menu:



This is the add event page, it allows time filter specific event sequencing (i.e. the event is only valid in certain time periods):



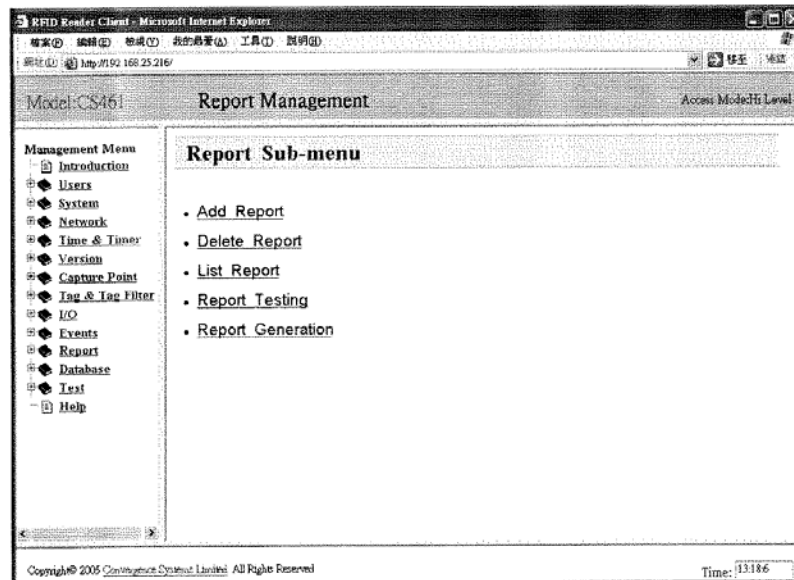
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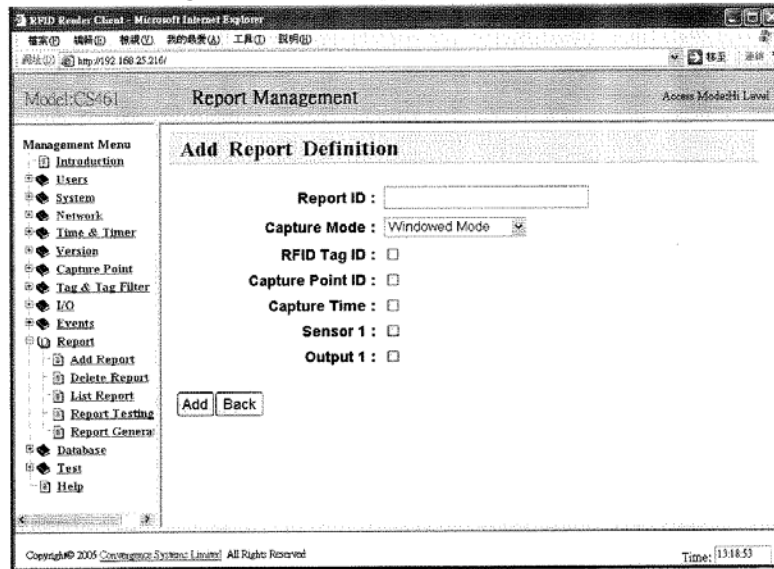
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7.1.11 Report Management

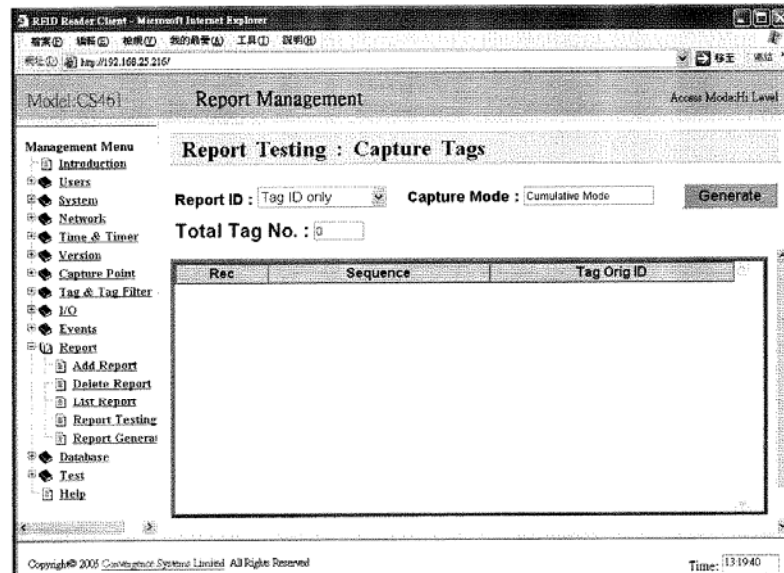
Report management page allows you to define report that can in turn be retrieved by remote users or remote programs from time to time. The report is defined in the pages, and is generated on the fly when the actual request comes. The data used in the generation of the report is the Master Database Record. This master database is stored in non-volatile memory and regularly backed up to remote server.



Here is the add report definition page. It allows the selection of a subset of the database recorded parameters onto a report:

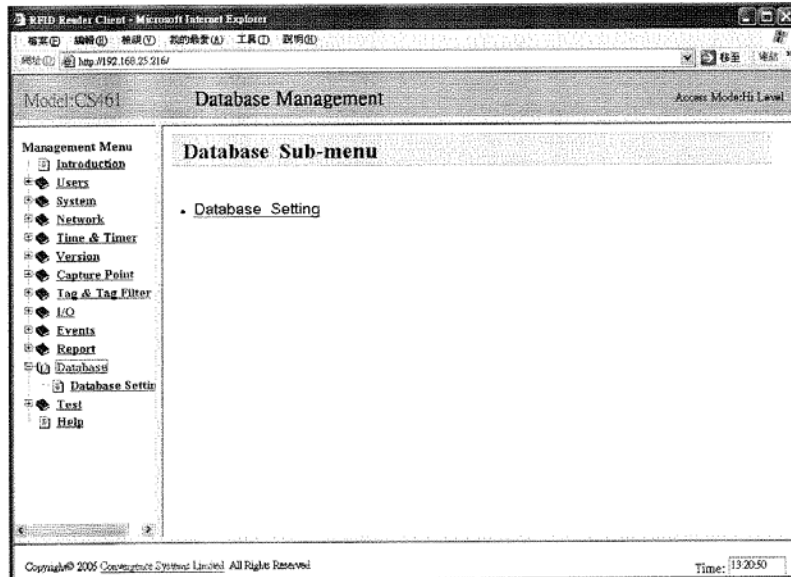


Here is a testing page to look at output from a certain report format:

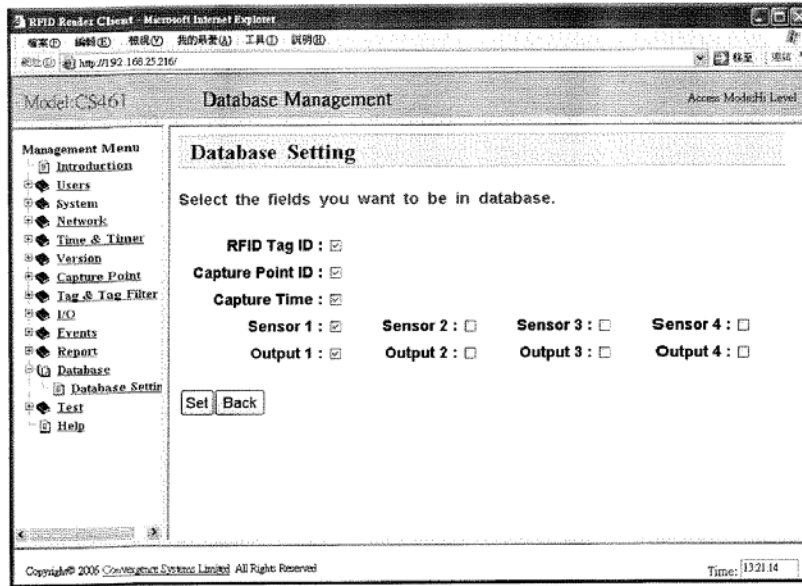


7.1.12 Database Management

Database management allows the user to manipulate the Master Database Record inside the reader. This master database resides on non-volatile memory inside the reader and is protected even in the event of power failure.

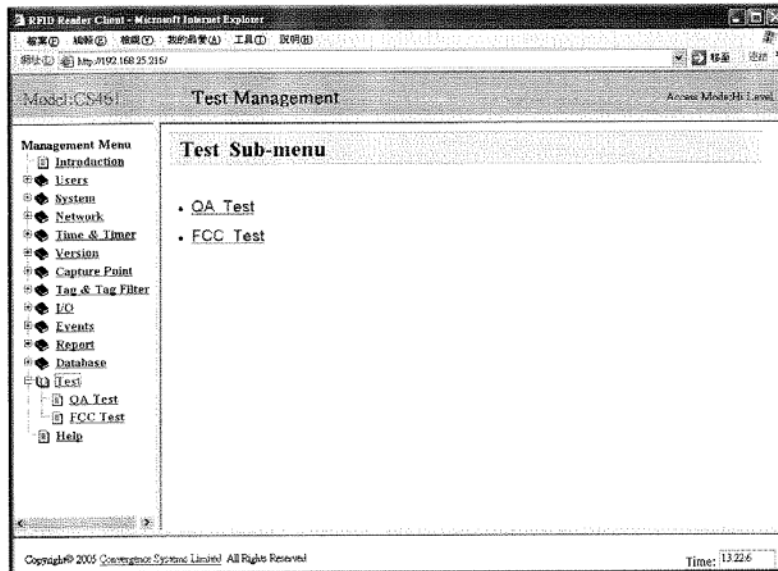


Here is the database setting page, it lists all the possible parameters for storage and allow the user to select:



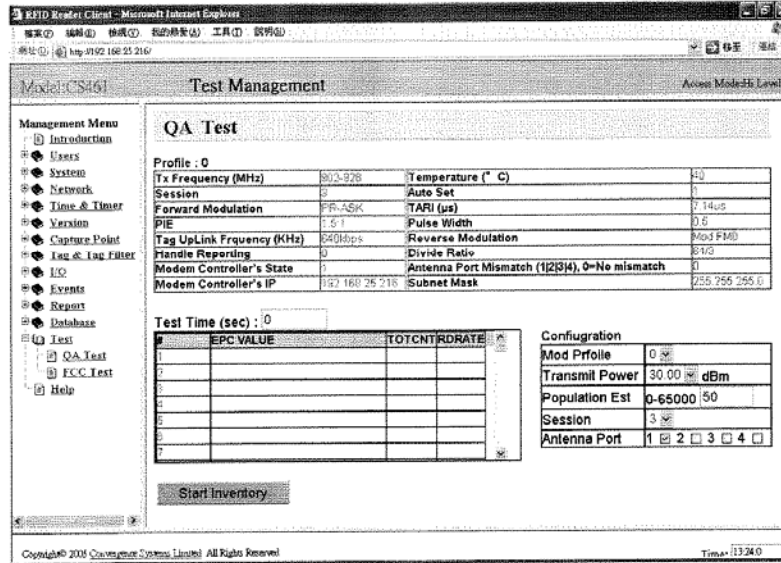
7.1.13 Test Page

Test Page allows user to perform QA test on the reader.



Note: FCC Test page is reserved for factory's use only.

The QA Test page allows users to perform testing on the reader.



User can select the profile used for configuring the reader's parameters. There are four preset profiles come with the reader:

Profiles	Reader Parameters
Profile 0: (Max Throughput)	Tari 7.14 us / PIE 1.5:1 / Fwd Modulation PR-ASK / PW 0.5 (long) / LF 640kbps / Rev Mod FM0
Profile 1:	Tari 12.5 us / PIE 1.5:1 / Fwd Modulation PR-ASK / PW 0.33 (short) / LF 160kbps / Rev Mod FM0
Profile 2: (Dense Reader)	Tari 25.0 us / PIE 2.0:1 / Fwd Modulation PR-ASK / PW 0.5 (long) / LF 256kbps / Rev Mod Miller M=4
Profile 3:	Tari 25.0 us / PIE 2.0:1 / Fwd Modulation PR-ASK / PW 0.5 (long) / LF 256kbps / Rev Mod Miller M=8

Other parameters:

Antenna	Select the antenna ports you will use by ticking the appropriate boxes.
Session	The session number that the reader connect to the control program. It must be different for different readers.
Tx Power	The transmit power on the reader (from 15dBm to 30dBm)

After configuration, click "Start Inventory" to test the read tag performance.

7.2 CSL Demo Program

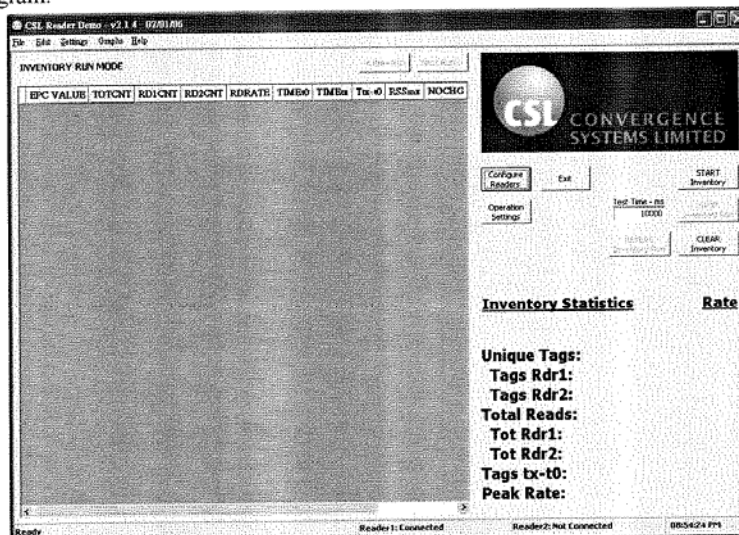
7.2.1 Installing the Demo Program

In addition to the web-based interface, a Windows-based program also comes with the reader for users' quick testing (reader must be set in "Low-level API Access Mode"). Moreover, this program allows users to control up to 2 readers simultaneously to demonstrate the Multi-Reader mode (or Dense-Reader mode). The demo program can be found in the manual CDROM disk and it should be installed onto a PC before using:

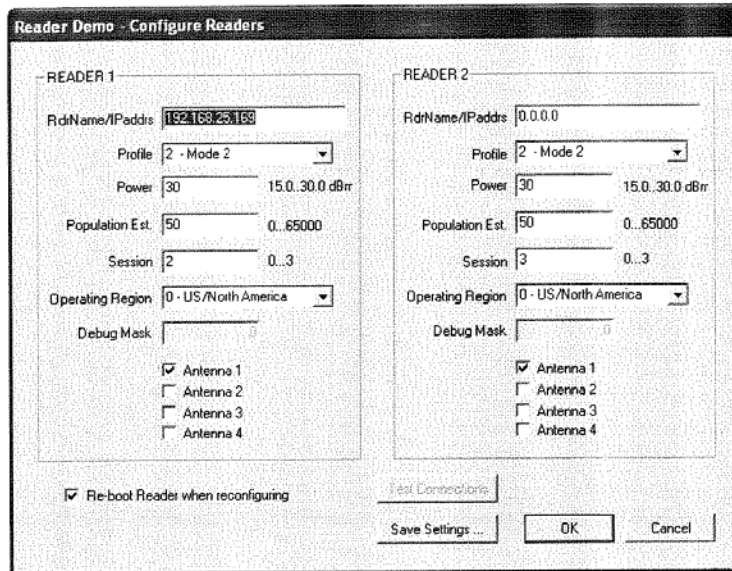
- 1) Double-click the file "CSLReaderDemo214.msi" on the manual CD.
- 2) Follow the instructions to install the program on your PC
- 3) After installation, an icon "ReaderDemo v2.1.4" appears on your PC. Double-click on it to run the demo program.

7.2.2 Using Multi-Reader Application

Click the icon "CSLReaderDemo v2.1.4" to run the program. When the program opens, the first (and if connected, a second) reader's IP address must be entered in the program.



This is done by clicking the “Configure Readers” button. The screen shown below should open. Enter the reader’s IP address in the appropriate window.



At this point, the reader operating mode can be selected. Presently, 4 modes are supported by the reader as shown in the table below.

Operating Mode	Reader Parameters
Mode 0: (Max Throughput)	Tari 7.14 us / PIE 1.5:1 / Fwd Modulation PR-ASK / PW 0.5 (long) / LF 640kbps / Rev Mod FM0
Mode 1:	Tari 12.5 us / PIE 1.5:1 / Fwd Modulation PR-ASK / PW 0.33 (short) / LF 160kbps / Rev Mod FM0
Mode 2: (Dense Reader)	Tari 25.0 us / PIE 2.0:1 / Fwd Modulation PR-ASK / PW 0.5 (long) / LF 256kbps / Rev Mod Miller M=4
Mode 3:	Tari 25.0 us / PIE 2.0:1 / Fwd Modulation PR-ASK / PW 0.5 (long) / LF 256kbps / Rev Mod Miller M=8

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Select the desired mode. For dock door applications where two readers are used, Mode 2, (Dense Reader) must be selected. **It is also very important to select, by checking the appropriate box, the antennas that are currently connected to the reader. The program will not operate if an antenna box is checked and no antenna is connected to that port. However no damage to the reader will result.**

Other reader parameters can also be selected in this window.

Power	Transmit power of the reader (from 15dBm to 30dBm)
Population Est.	The estimated maximum number of tags to be read by the reader at the same time Please input a value as accurate as possible because it can optimize the performance of tag read
Session	Session number that the program connect with the reader. It should be unique for each reader
Operating Region	The region that the application is in operation

After configuring the reader(s), press the “Save Settings ...” button and then “OK” button to close this window. It will return to the main screen and attempt to communicate with the reader and setup the selected parameters. If successful, the bottom of the screen will indicate **Reader 1: Connected.** (or “Reader 2: Connected” also if multi-reader is set).

At this point, the readers will read tags placed in the field of the reader. The figure below shows a successful read operation.