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# **USER GUIDE**

## **RedHand Access IP**



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## INTRODUCTION - Concepts

RedHand AccessIP consists of Door Card readers, which are assigned an IP Address. There are I/O pins on the readers to actuate a door magnet and release the door. The software talks directly to these readers. It will read in a card, log the event, check that the card is able to access this door at this time and on this day, and will instruct the readers to open the door. An optional camera may be fitted directly to the network, and pictures of the event recorded. A database is maintained and a search on a particular event can be made, and the associated pictures replayed.

AccessIP registers the embedded Card Number (assigned during manufacturer) and the system then assigns the card a number from 1 to n. A card is assigned to a person, and is also assigned to a door with configurable access times.

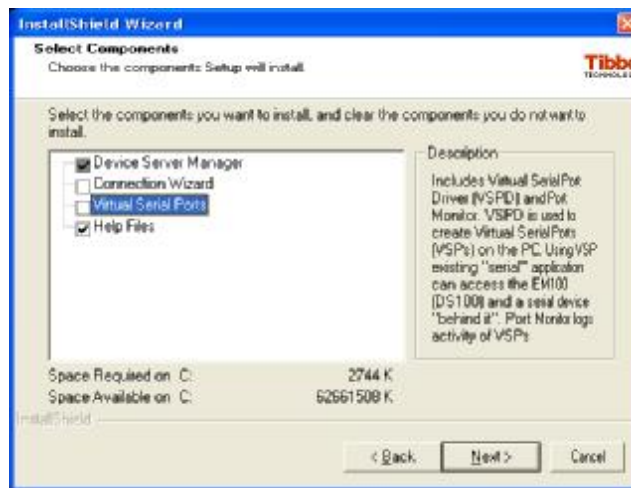
There are two software components, the Data Logger and the Card Manager. The Logger talks to the readers and maintains the TCPIP connectivity. It is responsible for reading the cards and updating the database. The Card Manager merely manipulates the details about people, doors and cards and any assignments in the database, on which the Logger will act. The Logger can be installed on more than one PC for redundancy and backup purposes.

AccessIP uses a Master Reader, which is used to swipe cards when they are first read into the system. Ideally, this will be a separate reader convenient to the Security Manager/HR, but can also be an actual reader fitted to a door.

AccessIP uses a Master Camera, which is used for taking pictures of people as they are entered into the system. Ideally this will be a separate camera convenient to the Security Manager/HR, but can also be an actual camera fitted to a door. The use of cameras is optional.

## Getting you started

1. Install the Logger software, but don't run it yet.
2. To set up the IP Address of the Card Readers, you will need the DS-Manager from [www.tibbo.com](http://www.tibbo.com). The File TDST\_3-56.zip has been included on the distribution CD, but check for an update to this release. It is also available on [www.netconuk.com/AccessIP](http://www.netconuk.com/AccessIP). When installing this component, there is no need to install the connection wizard or the virtual serial ports:



3. Windows XP SP2 includes Microsoft .NET framework. If the installation requires you to install it, the file dotnetfx.exe can be obtained from Microsoft. V1.1 has been included on the Installation CD and is also available at [www.netconuk.com/AccessIP](http://www.netconuk.com/AccessIP)
4. The Installation requires Data Access Components MDAC\_TYP2.8.EXE. Check for a latest release from Microsoft, but this file is included on the Distribution CD and is available at [www.netconuk.com/AccessIP](http://www.netconuk.com/AccessIP)
5. Install the Manager Software and run it. The first time it is run, it will ask you for a licence key (obtainable from RedHand) and the location of the database file. The Manager can manage several different databases, which can be on different PC's. This might be desirable for zoning purposes. The default database will be in  

C:\Program Files\Redhand\AccessIP\AccessIP.MDB
6. You will need to adopt an IP addressing scheme. Each reader needs a static IP Address and each camera (if you are using cameras) also needs one. Each door that you configure will have a reader and optionally a camera. Both the readers and the cameras will need to be assigned an IP Address and this is achieved as follows:
  - a. **Readers:** From the main menu select Tools/Manage Readers.

- i. The utility will discover all the readers available on the network. It is worth mentioning MAC addresses here. The module inside the reader is from Tibbo ([www.tibbo.com](http://www.tibbo.com)); they do not necessarily follow the rules of unique MAC addresses. See <http://www.tibbo.com/viewarticle.php?id=40> for more details. Therefore it is possible for two modules with the same MAC address to appear on the network. The user has the facility to assign MAC addresses if this happens.
      - ii. There is a file called EM100 Setup.ds in the VisionIP Application Directory. This contains the basic VisionIP set-up parameters for the Tibbo module. To see this file, double click one of the readers that are displayed. Click the 'Load' button and browse for this file.
      - iii. Note that the device is set to communicate on port 1001. This can be changed to support local network configurations.
      - iv. When loaded, you will need to change the Location and the IP Address. Also check that the MAC address is unique.
    - b. Cameras: From the main menu, select Tools/Manage Cameras. The Camera IP Installer program will be launched.
      - i. Select Tool/Search Network Device. A list of cameras on the network will be displayed.
      - ii. Double click on a camera. Fill in the IP Address and Subnet mask.
      - iii. Click the Synchronize Button. The camera will then reboot.
      - iv. As an aside, the camera is web enabled and can be managed by selecting the IP Address in the URL bar of a web Browser. For the VisionIP, this is not required.
  7. Exit from the Camera Set-up Application (No need to save changes) and select the Global Page tab.
  8. Enter the IP Address of the Master Reader (see description above). Enter the port number. This will default to 1001 and must be the same as the one that the reader is using (see 3.a.1)
  9. Fill in the IP Address of the Master Camera, if you are using the Camera Facility.
  10. If you are using the Camera Facility, select the folder where the master photos are to be stored. This folder will contain the pictures of each member of staff to be identified to the system.

### Doors:

11. You can now start entering details about Doors (and readers). Select the Doors Page.
12. If you press the 'List Doors' button, you will see one entry already. This is a dummy entry and can be changed. Click on the entry and edit the details:
  - a. Location: this is a name by which you will know the door.

- b. Camera IP/Port: Enter the IP Address of the camera that is by the door (if you are using the camera facility). The port number is used if there are routers, so set this to 80 if on a flat LAN.
  - c. Reader IP/Port: Enter the IP Address of the reader that is by the door. The port number is used if there are routers, so set this to 1001 if on a flat LAN.
  - d. Enter the Event Life. This is the number of days for which the database records will be kept.
  - e. Enter Camera Hold Time. This is the time in seconds for which the camera will be taking pictures of the event.
  - f. Enter the Door Release Hold Time. This is the length of time for which the door magnet/catch will be in the released state.
  - g. Enter the Picture Path is where the pictures for this door will be kept.
13. Additional doors are added by clicking the Add New button.

### People:

14. Select the People Page. Click 'List People'. A dummy name is given which can be amended. It can't be removed. Enter the First Name and the Second Name. The Field 1 – Field 4 fields can be changed to suite local requirements. This could be internal telephone, department etc. To do this, double click on the field name and simply edit it.
15. If there is a Master Camera configured in the Global Page, then clicking the 'Take Photograph' button will enable a picture from that camera to be seen. Alternatively, you can import a JPG picture of the person.

### Cards:

16. Select the Cards Tab. Because this is the first time you will have entered this screen, it will ask for the total number of cards on the system. Enter a realistic number. So if you have 80 staff, enter 100. You can always change this figure at any time. After saving this figure and confirm that you do wish to use this figure, click on 'List Cards'. You should see the entire list of cards appear.

### Logger Program

The Logger program can now be launched. This will read the database and communicate with the readers. If a database has not been defined then you can browse for the location of it.

The Logger program has no user interface. It does not need to be run on the same PC as the Card Manager. It simply needs to have read and write access to the database.

It is advisable to install the Data logger onto two PC's (see 'Buddy PC' later on). This allows communication between the PCs to enquire on the health of the other and if all is not well, for it to assume responsibility 'over reader' communication. This will provide resilience against a single point failure with a single PC.



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## Program Operation

The above procedure is only performed once. Cards, People and Doors are now loaded into the database and we can look at the normal management operations. This involves assigning a real Card to an internal Card Number, assigning that to a person, assigning doors to people with access times, looking at events etc.

### Assigning 'real' Cards

Cards have a very long embedded number built into them. It is impractical to use that number, so we have the facility to assign an internal number to the card.

17. Select the Card Page.
18. Click the List Card button.
19. Click on a Card.
20. Click the "Swipe New Card onto Card xxxxx" button. The application will try to connect to the Master Reader (As defined in the Global Page). *If you are using a Master Reader to be the same as one of the Door Readers, then the logger application must be stopped as the manager will not be able to log into the reader.*
21. Connection will take a few seconds, after which a button will be visible saying "Swipe Card Now. Press to Cancel"
22. Swipe the new card on the Master Reader and the card's internal number should appear.

### Assigning Card to a Person

23. Select the People Page.
24. Select the person you are assigning the card to. There are several search options available:
  - a. You can simply click 'List People' and everyone will be listed in Second Name order.
  - b. If you type in 'Rich' into the Partial Name box, it will list everyone whose name has Rich in either the first name or second name (i.e. Richard Smith, Geoffrey Richardson etc)
  - c. If you type in R S it will then list everyone who has an R in their First name and an S in their second name. So you could select Richard Smith very easily by typing 'R Sm' or 'Rich S' etc.
  - d. You can qualify the person to be in a selected group. See a full discussion on groups later.
25. Either Right Click on the person and select "Assign Card to Selected Person", or simply double click the person's name. A list of Unassigned Cards will slide out.
26. Assign a card by clicking on a card and hitting the Assign Button, or by double clicking the card.



### Assigning Doors to a Card

- 27. The card will now be highlighted and a List of Doors will be visible. Put a check against all the doors to which you want this person to have access. You will notice that the Access Times Sliders are visible.
- 28. The Access Times Sliders add a virtually unlimited number of different access times for each day. To remove the last slider, right click in the access times panel and select 'Remove Last Access Time'. To add a new slider, right click and select 'Add new access time'. You can copy the current day's setting to the clipboard by right clicking and selecting 'Copy Times to Clipboard'. You can then move to the next day and paste those times by right clicking and selecting 'Paste Times from Clipboard'. You can also set the access times and set as default, so that when you add a new user they will receive those times. To do this, right click and select 'Set current as new default'

### Groups:

There are two sets of groups – People and Doors. From the Global Page, you can define both types of groups.

#### People Groups:

Assigning people into groups makes it easier to view and list people on the People Page. So you might decide to group people into Engineering, Accounts, Management etc. People can be members of more than one group.

#### Door Groups

Assigning doors into groups makes it easier to view and list on the Doors Page. So you might decide to group doors into buildings - Admin Block, West Wing, Workshop etc.

### Events

Whenever a card is presented to a reader, an event is generated. This event will contain the Door Name, the Card number, the person who owns the card and the time it was accessed. Events are generated for all presentations – irrespective of whether the card can access the door at that time, or even if the card is recognised by the system. Event messages are predefined in the database as follows:

Message
Access OK
Card is not assigned to anyone
Card not allowed to access this Door
Access allowed, but not at this time.
No record of Card.
This Card is not assigned to this Door

When an event is triggered, a series of pictures is taken if a camera has been included (the number of pictures is determined by the 'Camera Hold Time' parameter). This series of pictures is saved as part of the event and can be played back when the event database is queried.



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The event database can be queried by any of the ‘objects’ – People, Doors or Cards. Typical examples are:

- List all the doors that John Smith walked through today
- List everyone who walked through the Reception Door on Monday afternoon
- List all the doors that Card 02345 accessed this morning.

This can be done by right clicking the listing of People, Cards and Doors on any of the pages and selecting ‘View Events’. A list of events will be displayed.

When you click on an event, you will be taken to the Pictures Page if the camera option has been configured. On the left is the Master Picture taken of the Cardholder. On the right is the first picture of the event, with a scroll bar. By sliding the scroll bar left and right, you can view the sequence of pictures taken of the event. You can also enjoy a hands free experience by selecting ‘Auto Play’. Whenever you click on an event, it will automatically play the picture sequence. You can change the playback speed, by clicking the ‘Speed’ control.

## Tips and tricks

### Doors Page

- List Doors and click on a door. You can see what group the door is in, what cards are assigned to this door, and what people have access
- Click on a listed card and you will see who is assigned to that card. Click on the door again to revert back.
- Select and right click on a card and you can select ‘Card Details’. This will take you to the Cards Page
- Select and Right Click on a card and you can select “View Events”. This will list all events associated with this card.
- Select and Right Click on a person and select “View details”. This will take you to the People Page.
- Clicking ‘View Live Picture’ will allow you to view live images from the camera associated with the door.
- Clicking the ‘Open Door’ button will release the door magnet, which will remain released for the duration as specified in the ‘Door Release Hold Time’ parameter. Because the manager doesn’t communicate directly with the readers, a Open Door request is placed in the database, which is then picked up by the Logger program, which obviously has to be running for this to work.

### Cards Page

- Clicking on a card will show who is the Card Owner, and also which doors this card can access. By right clicking on the Owner, you can select ‘View Details’ which will display the People Page and list the selected person.
- By right clicking on a door, you can select ‘View Details’ which will display the Door Page and list the selected door.



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## Buddy PC

In order to improve on resilience and data backup, VisionIP operates on a Buddy-PC basis. The idea is that the Data Logger software is installed on two PCs that decide between them which is the master and which is the backup. It operates in the following fashion (assume there are two PCs called 'A' and 'B'):

1. Manager and Logger are installed on PC-A.
2. Another copy of the logger is installed on PC-B (Manager could also be installed on PC-B as well). PC-B can be anywhere on the LAN.
3. The Buddy Database is defined in PC-A as being PC-B.
4. The Buddy Database is defined in PC-B as being PC-A.
5. The logger is started up on PC-A. It will connect to the readers and service their needs. The data from the readers is interpreted by PC-A and acted upon. Photos are taken and will be stored on PC-A.
6. The Logger is started on PC-B. However, it gets a message from PC-A to say that it is healthy, so PC-B will be in a standby mode.
7. Every minute, the database is copied from PC-A to PC-B. Also any picture files that are not on PC-B will be copied as well. PC-A communicates a healthy message to PC-B.
8. If the operator stops the logger on PC-A, it relinquishes its connections on the readers and it tells PC-B. PC-B then immediately takes over, connects to the readers and carries on.
9. If, for some reason PC-A should fail, hang, freeze or its network should go down, PC-B will not receive a healthy status report. PC-B then assumes responsibility and tries to connect to the readers. However at this point, the readers don't know that PC-A is failing and so there is a wait period of 1 minute after which the connection to PC-A will be relinquished. PC-B now connects and starts servicing the readers. Therefore the worst-case scenario is that readers will not be serviced for a period of one minute after the collapse of the master PC.
10. Every minute, PC-B will attempt to copy the database and picture files to PC-A and will keep trying until PC-A comes on line again.
11. PC-B will carry on acting as Master until its logger is closed down, or it fails, at which point control is swapped back to PC-A as above.