NET57A

USER MANUAL

TCP/IP Ethernet

RFID

Access Controller

Version 1.1

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NET57A TCP/IP Ethernet RFID Access Controller

NET57A is a TCP/IP Ethernet RFID Access Controller for 125KHz RFID cards. It can store 5,000 users and 50,000 transaction records.

It is a perfect RFID reader solution for software developer. Windows' software are provided to download the transaction records from and upload the access rights to the NET57A.

By integrating with your existing software, a complete and powerful time attendance system and access control system can easily be implemented.

1. Setup the reader

In order to work properly, NET57A must be configured correctly.

To enter configuration mode: hold the '*' key while applying the power to the reader. 'CONF' will be shown on the reader. Place an ID card over the reader will register a 'MASTER' card to configuration later without power off the reader. By presenting the 'MASTER card to the reader, it will enter the configuration mode directly.

Press '*' to cycle the parameters to be configured:

Parameter	Description	Default
IP	IP address of the reader itself	192.168.1.234
Gate	Gateway IP address	192.168.1.1
Net	Netmask	255.255.255.0
Port	TCP port number	1668

To edit the parameter, press '#' key. '.' Is entered by pressing '#' key, i.e. use enter 192.168.1.123, the key sequence is 192#168#1#123, then press '#' key to confirm entry or '*' key to cancel the operation.

2.Installation

In order to work properly, NET57A must have stable power supply, a 10-baseT Ethernet connection, an optional slave reader can be connected as well.

2.1 Power Requirements

NET57A requires 9 to 12V DC 500mA for normal operation. There are two ways to supply the power to the reader:

2.1.1 Power from Terminal Block

Apply the power to the terminal block J11, with positive terminal to VI+ and negative terminal to VI- (ground).

Insert 4 jumper caps to enable power from the ethernet cable in this case, power is output to the POWER TERMINAL.

ETHERNET CABLE

POWER TERMINAL
(TO POWER 9-12V 500mA)

GND (Power supply negative terminal)
DC IN (Power supply positive termina)

SLAVE READER

2.1.2 Power from Cat-5/e Ethernet cable

Apply the power through the Ethernet cable on the RJ45 connector. Pin 7 and 8 is connected to VI- (ground), and Pin 4 and 5 is connected to VI+. Meanwhile, jump block J3 must be shorted out by four two-pin jumper headers.

2.2 Electric Lock

An electric lock or electric strike can be controlled by the controller. The maximum ratings of the relay is 2A 24V/DC.

2.3 Slave Reader

NET57A allows a slave reader (MODEL NO: KS232S) to work together. The following is the connection diagram for the NET57A with the slave reader.

Remarks:

1. Connection to Ethernet network.
2. Connection from the slave reader to NET57A which consists of 4 wires, power '+' and '-', and data signals RD and TD.
3. Connection to power supply for NET57A and the slave reader.

3. Software

NET57A is a standalone time attendance recorder and access controller. It holds 5,000 users and 50,000 transaction records. All records are stored in flash memory, i.e. no need to replace battery.

In order to interfacing with the NET57A, Windows based software IPGetRec and IPSetAcc are bundled together with a MS Access database (logs.mdb). They are used to interfacing with the NET57A, which both files must be resided in the same directory as the software.

Solution developer only need to fill up the database with correct information, then by running the supplied software, the access control system can be done.

3.1 MS Access Database: logs.mdb

logs.mdb is a opened MS Access database. User software can access the logs.mdb to get records for further processing. It contains three tables: readers, records and access. The details will be described in the following sections.

3.1.1 Table: readers

The table 'readers' describes the characteristics and the actions to be taken on the NET57A when IPGetRec or IPSetAcc is executing.

Field Name	Description	Field Type
ipaddr	IP address of the controller.	text, 50
ipport	IP port number.	text, 10
setclk	Set real time clock. If it is true, it will set the real time clock of the controller.	Boolean
ahead	Time offset is ahead. If it is true, the time offset is added to the PC's time (local time) before sending to the controller.	Boolean
offset	Time offset. Time offset to be set to the controller.	Datetime
download	Download logs. If it is true, it will download logs from the controller.	Boolean
clrafter	Clear logs. If it is true, the transaction logs in the controller will be cleared after a successful downloading.	Boolean
locktime	Lock release time in seconds. Reserved.	long integer

3.1.2 Table: records

The table 'records' stores the time attendance records of all NET57A. After IPGetRec is executed and with downloading flag is checked, the attendance records of NET57A is retrieved and stored here.

Field Name	Description	Field Type
seqno	Sequence no, for internal use.	long integer
rectime	Date and time of the record stamped.	datetime
cardno	Card number of the record.	long integer
reader	Controller took the record.	text, 50
mode	Record type. If '1', the record is came from master controller. If '2', the record is came from the slave controller.	byte

3.1.3 Table: access

The table 'access' stores the user access rights for each reader. It will be used by the IPSetAcc. If granted is true, the 'cardno' is allowed to open door for the reader at 'ipaddr'.

Field Name	Description	Field Type
seqno	Sequence no, for internal use	long integer
cardno	Card number	long integer
ipaddr	Controller's IP address which took the record	text, 50
name	Name of the card holder	text, 50
granted	Access granted. If true, the card holder is granted access to the controller.	boolean

3.2 Windows software: IPGetRec.exe

The purpose of the software is to get the time attendance records stored inside the card reader.

By executing IPGetRec.exe under Windows, it will:

A. looking for the MS Access database logs.mdb

B. open the table, 'readers'

C. access all readers one by one according to the records field, 'ipaddr'

D. if 'setclk' flag is true,
   - the clock of the reader will be updated by the host's time.
   - the time can be adjusted by the field 'ahead' and 'offset' to take care of time zone differences.

E. if 'download' flag is true,
   - load the time attendance records from the reader
   - store the records into the table, 'records'

F. if the operation is succeed and the 'clrafter' flag is true,
   - the records inside the reader will be erased
   - it cannot be recovered.

remarks: the transaction records inside NET57A will be cleared after a successful download. If the download is not completed for any reasons, the records will not cleared.

3.3 Windows software: IPSetAcc.exe

The purpose of this software is to setup the access rights of the reader.

By executing IPSetAcc.exe under Windows, it will:

A. looking for the MS Access database 'logs.mdb'

B. open the table, 'readers'

C. open the table, 'access'

D. connect to the reader one by one

E. upload the access rights table from 'access' to the corresponding reader.