TRAF-SYS

PEOPLE COUNTING SYSTEMS

MIU-1500 / CompuCount

Revised: 10/31/2016

Contents

Introduction

The new MIU-1500 is available with either an internal 418 MHz receiver for smaller areas or an internal 900. MHz receiver which will allow for greater distances. Additionally, the all new MIU-1500 unit also includes an external RS232 serial port to add an optional external receiver. The MIU-1500 Count Manager is designed to collect data from wireless counter sensors and display that data through reports that can be viewed with an ordinary Web browser application. The MIU-1500 gives reports of counts by half hour, hour, day, week and month. The MIU-1500 also makes this same data available as text files downloadable using an FTP client program. The MIU-1500 can manage up to 16 sensors. It can hold data for those 16 sensors for 3 months at 30minute intervals, and for 1.5 years at day intervals.

Models

The new MIU-1500 is designed to work in conjunction with the following Traf-Sys Wireless counters:

- Traf-Sys Omni Counter 418MHz.
- Traf-Sys Omni Counter 900MHz.
- Traf-Sys Pulse Transmitters used with Thermal Sensors.

Requirements

- The MIU-1500 with at least one counting sensor.
- A computer with an Ethernet card or network connection for TCP/IP communications.
- A Web browser application, such as Internet Explorer.

Apply Power

Plug the power supply into the MIU-1500 and make sure it is connected to a working outlet. The red power light will come on when the MIU is plugged in. The red light indicates that the MIU-1500 is functioning. The MIU-1500 also uses the red light to indicate reception of a packet from a transmitter. The MIU-1500 will blink the red light momentarily indicating a packet has been

received and processed.

Connecting to PC

A crossover cable is required for plugging the device directly to a computer. Plug the crossover cable into the Ethernet port on the back of your computer and plug the other end into the Ethernet port on the MIU-1500. The Ethernet Link light (green light) will turn on indicating a valid Ethernet physical connection.

Connecting to LAN

Alternatively you can connect the Manager to your Local Area Network. Your network administrator can help you decide which IP address to assign to the Manager.

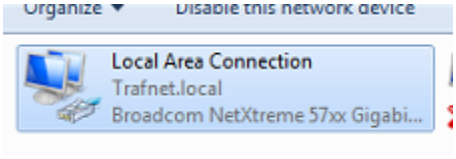
Testing the Connection

To check to see if you have made a connection, open your browser and type in http://192.168.1.55. The browser should display the MIU-1500 count screen. The screen will not show sensors until they are configured.

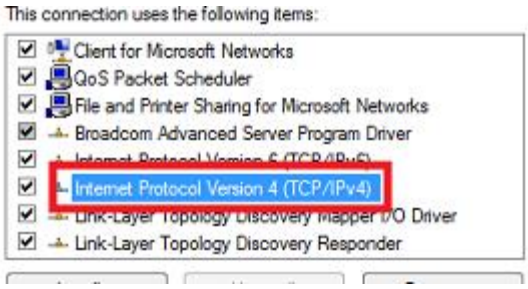
Changing Your PC's Default IP Address

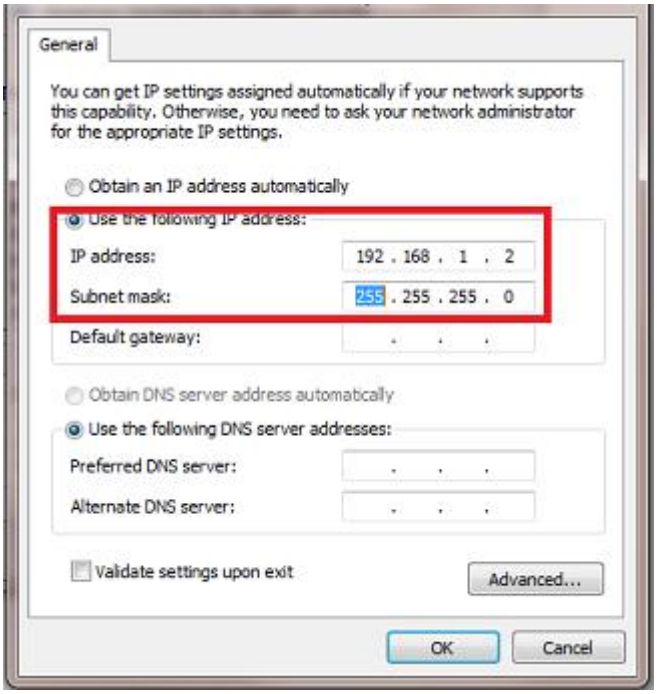
If you have been unable to see the Manager's web page when connecting directly to your PC, you may need to make changes to your computer's IP configuration. First, connect the MIU directly to the Ethernet port on the back of your computer. Next, change the IP settings on your computer.

Windows: (there will be slight variations across different Windows OS**)**

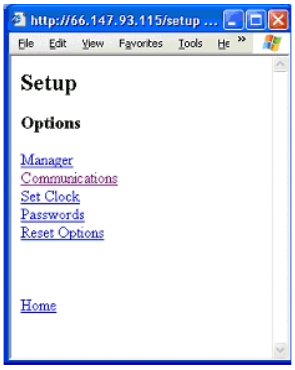


- Start Menu
- **Type:** (in menu search) run
- **Type:** ncpa.cpl
- Right click on Local Area Connection and select properties
- Right click on Internet protocol version 4 and select properties
- Enter new IP address



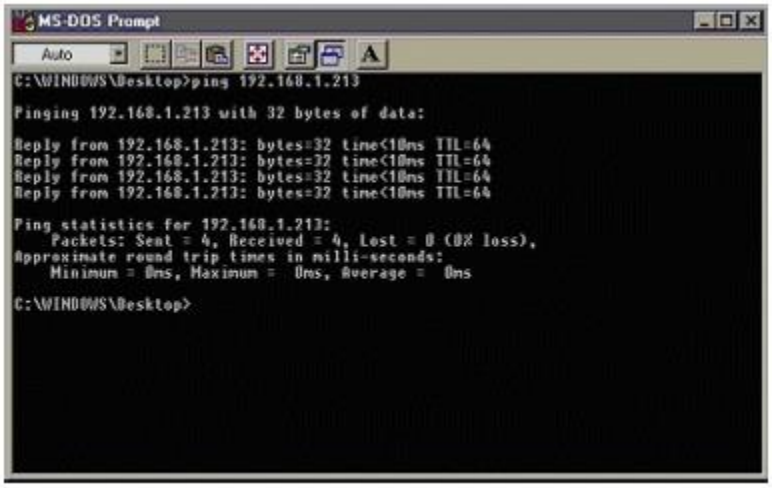


Changing the Manager's Default IP Address



In order for the MIU-1500 to communicate TCP/IP, it needs an IP address, network mask, and possibly a gateway address. If you are connecting the Manager to your LAN, you should change the MIU-1500's defaults:

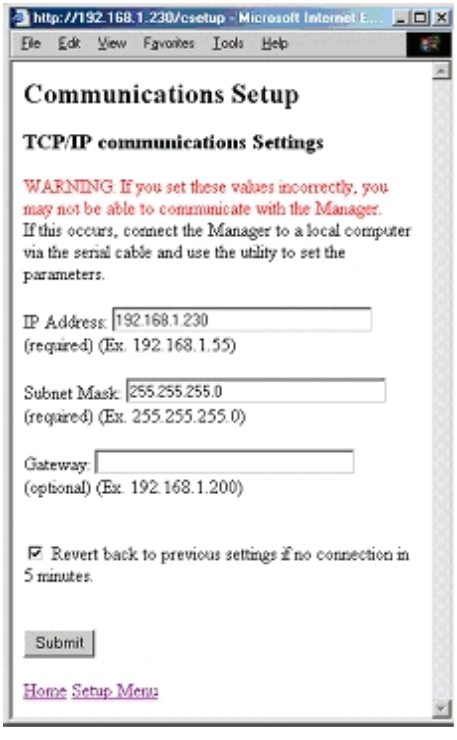
- IP Address: 192.168.1.55
- Network Mask: 255.255.255.0
- No gateway address
- Port 1000.



To change the IP address on the MIU-1500 go to the "Setup" link and then click on **"Communications"**. There you can enter a new IP address for the MIU-1500. Before you change the IP address you should ping the new IP address to make sure that no computers on your network have the IP address already.

To ping:

- Go to the PC's "Start" menu.
- Choose "Run" and in the "Open:" box type "Command".
- An MS-DOS window will appear.
- Type "Ping" and the IP address you are trying to ping.



If you want to change your Manager's IP address to 192.168.1.213 you would type "Ping 192.168.1.213" and wait for a response. If the result of the ping is "Request timed out" then there is no other device on that IP address and you can safely change the IP address of the MIU-1500. Once you know the IP address you want, enter it into the "IP Address" box on the Communications Setup screen.

Enter the subnet mask also. You may need to ask your network administrator for a subnet mask. When you are ready, click the "Submit" button at the bottom of the page. The program will attempt to change the IP Address of the

MIU-1500. If successful, the browser will redirect to the new IP address and at the bottom of the screen, in green letters, it will say, "Submission accepted. Parameters updated!"

Changing the MIU's Name

Click on the **"Manager"** link of the setup menu.

From this page you can enter a name for the MIU-1500 Count Manager. You can set the maximum amount of time that may pass between sensor transmissions before the sensor is declared offline. You may set the **"Auto Add"** mode for the MIU-1500.

- The default **"Auto Add**" mode is **"Service Mode".**
- **Service Mode -** the MIU-1500 will only add sensors to its list if it receives a service packet from an Omni Counter by depressing the IR Receiver Configuration Button once quickly or holding the magnet at top right facing corner of the unit (Pulse Transmitter).
- **All -** that the MIU-1500 will add a new sensor any time it receives a transmission from a sensor that is not already in its list.
- **Off -** that the MIU-1500 will never add new sensors to its sensor table.

Adding Sensors

The MIU-1500 Count Manager by default adds sensors to its configuration list when it receives a packet that has been transmitted in "Service Mode." You can send a transmission in service mode by pressing the IR Receiver Configuration Button from an Omni Counter (the unit with the LCD display) or holding the magnetic wand at top right facing corner of the unit (Pulse Transmitter).

CAUTION: If you are adding a sensor to an existing counter setup, this will erase all counts. We strongly recommend exporting the data prior to adding a new sensor to avoid loss of data.

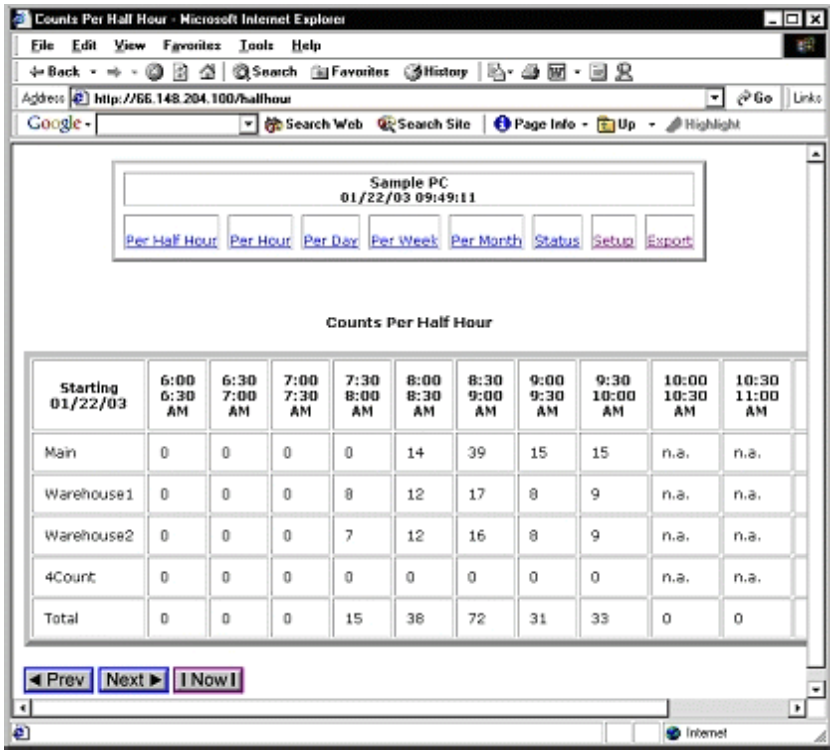
The MIU-1500 will add counters to its configuration and you may view their data from the main browser screen. You may need to refresh the screen a couple of times before the counter shows up. Once you are finished adding counters, return to the Manager's Setup screen and turn the 'Automatically add sensors' selection to "Off."

Viewing Counts

To view the current sensors and their data, start your browser and enter the Manager's IP address in the "Address:" box.

The user can view the count total at different time granularities. The user can view counts summed per Half Hour, per Hour, per Day, per Week, or Per Month.

Clicking on the links at the top of the screen will change the time granularity. The user can also navigate through count history by using the **"Prev"** and **"Next"** buttons at the bottom of the screen. Clicking the **"Now"** button will take you to the current date and time. If counts have been recorded for the current view, they will be displayed. Otherwise (for example, if the requested view is in the future, or a time earlier than the first sensor transmission) the cell for that time period will display **"n.a."** (for "not applicable").

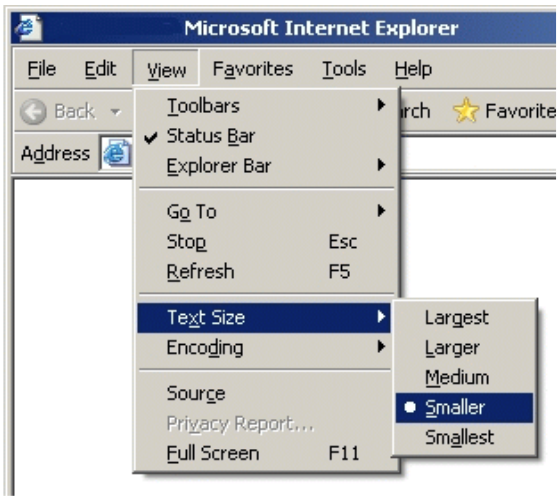


Each configured sensor has a row in the table. Directional counters show counts on two lines for Count A and Count B. The total of all counts for all sensors for that time period will be displayed on the bottom row of the table and the right hand column.

For all time intervals greater than Half Hour, the top row of the table contains links to focus in on a smaller time interval. For example from the "Per Month" view:

- You can click on a specific month, like January, in order to see the weekly breakdown of counts for January.
- To get the latest data, click the "Now" button or click the "Refresh" button on the browser.

- The date and time on the display show the time the report was generated.
- You can make the table appear smaller if you want it to fit on the screen better by (in Internet Explorer) going to: View | Text Size | Smaller.



MIU Setup Options

The Status Screen

The status screen shows detailed information about the sensors currently being monitored. To view the status screen click on the "Status" link from the main screen. The table shows for each the sensors the following information:

- **Sensor –** the serial number of the sensor.
- **ID -** the number of the seconds elapsed since the last transmission.
- **Age -** Whether the last transmission was sent in the service mode or not.
- **Srv –** the data value of the last reading.
- **Last Reading –** The last reading is the accumulated count of the sensor since the sensor started or the last reset.

If the transmission was sent in service mode, there will be an "X" in the "Srv" column. When the MIU-1500 receives a transmission from a new sensor it assigns it a default label which is "\" the sensor position plus the sensor type ("1Count"). You can change the label assigned to the sensor by clicking on the label name in the "Sensor" column.

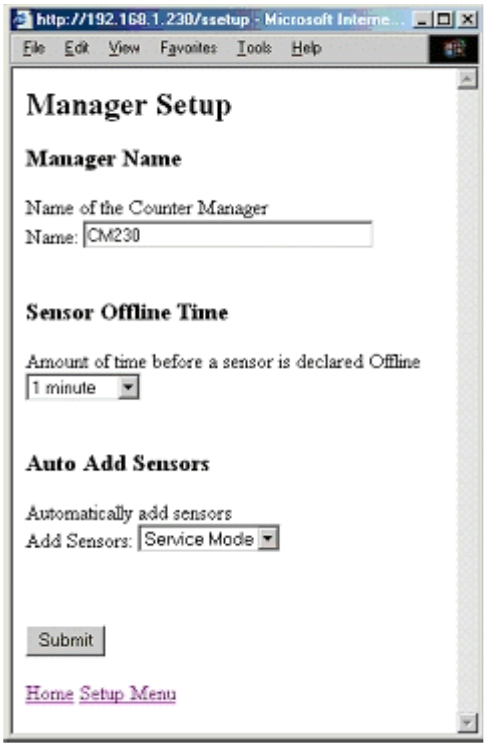
The status table will highlight in yellow a row in the table if the sensor is in an error state. The browser will show an error message when the mouse pointer is moved over top of the graphic symbol. The following table shows the possible error states:

Error Message	Description
Offline	The MIU hasn't received a transmission from this sensor within the timeout interval, which is set in the "Manager Setup" screen under "Sensor Offline Time."
Beam Blocked	The sensor beam seems to be blocked by some obstruction
Check Battery	The battery voltage is low or the battery is not present
No Line Power	Line power has been removed or is too low.

Sensor Setup

- **Reverse A and B**
  MIU-1500 presents the "Reverse A and B" checkbox if the counter is a Directional Counter. If checked, the MIU-1500 will switch the "A" and "B" counts of the Directional Counter allowing the user to assign A and B to incoming and outgoing traffic as desired.
- **Changing the Sensor's Name**
  Type a new name in the "Sensor Name" box.
- **Deleting a Sensor**
  The very last sensor in the table on the status screen can be deleted. Click the "Delete Sensor" box and hit the "Submit" button.
- **Replacing a Sensor**
  If you want to swap out a sensor but keep the new sensor in the same position as the old one, simply go to the sensor setup screen for the sensor you want to replace and type in the new sensor's serial number in the **"Serial No."** box. Hit the **"Submit"** button and the MIU-1500 will update its configuration with the new sensor information. As always, enter the serial number with care!

The MIU Setup Screen



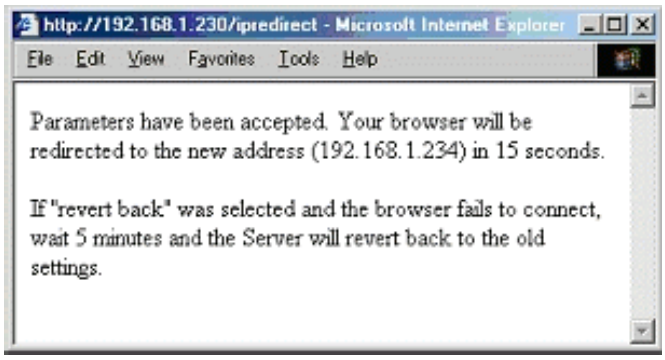
The setup screen allows you to set some parameters for the MIU-1500. You can change the name of the MIU-1500.

Note: The Manager Name is also used as the Login User Name when passwords have been set up.

Sensor Offline Time - allows you can set the amount of time that can elapse between transmissions from one sensor before the sensor is declared offline.

Auto Add - mode tells the Manager what to do when it receives a transmission from a sensor that is not already in the Manager's sensor table. If **"Auto Add"** is **"Off"** then the Manager will ignore all transmissions from sensors that are not in the table already. If "Auto Add" is "All", the Manager will add a new sensor to the sensor table each time it receives a transmission from a

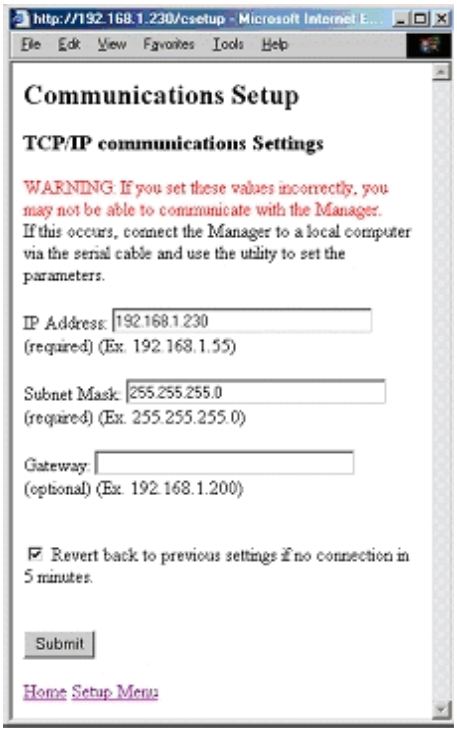
new sensor. If **"Auto Add"** is **"Service Mode"** then the Manager will only add a new sensor to the table if the transmission is received in service mode.



Note: Auto Add should be left off once sensors are installed! Leaving it on can cause issues!

When you are ready to make changes, press the "Submit" button. Click the "Home" link to see the table of counts and click the "Setup Menu" to go back to the setup menu.

The Communications Setup Screen



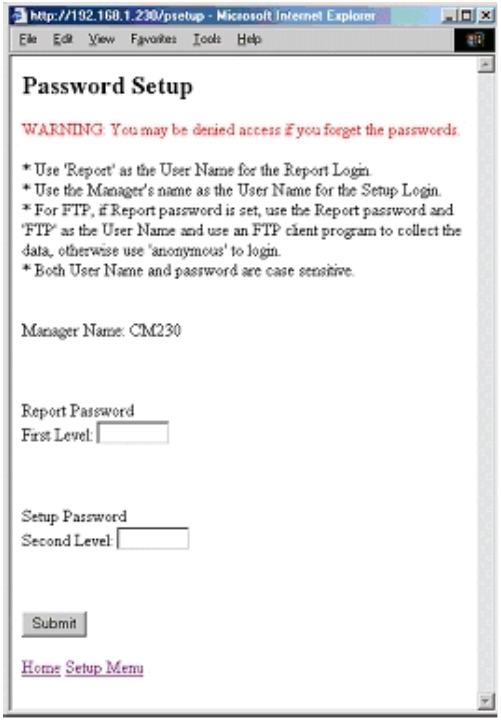
The communications setup screen allows you to change the MIU-1500's IP address, subnet mask, and gateway. Enter these parameters as necessary and click "Submit." The new parameters are sent to the MIU-1500 and an intermediate screen displays.

If the IP address is changed successfully, the browser will redirect itself to the new IP address and there will be a message on the screen saying, "Submission accepted! Parameters updated."

If the change of IP address was not successful, you will see a browser error page telling you that the file cannot be found.

If you check the box that says, "Revert back to previous settings if no connection in 5 minutes" then the program will try to update the Manager's IP address. If it cannot make a connection within 5 minutes thereafter, it will reset the IP address to the previous settings.

Set Count Manager's Clock



You will need to make sure the Manager's clock is set correctly so that it can display the counts and totals correctly. Choose "Set Clock" from the Setup menu, enter the correct values, and click "Submit" to set the MIU-1500's clock.

If you set the clock back more than 30 minutes the Manager will require you to reset the counts before updating the clock. If you set the clock ahead more than 30 minutes the Manager will pad the log with zeroes (0) for the counts for those times.

Passwords

- Count Manager controls access to the different resources of the MIU-1500 through passwords. There are two levels of Login access for the MIU-1500 Report and Setup:
- Through the Report Login, the MIU-1500 allows access to the data portions of the MIU-1500 like the HTML reports and FTP download files.
- Through the Setup Login, the user can make changes to the MIU-1500 setup. With the Setup Login, the user has all the rights of the Report Login as well. If the Login password has been configured and the user has not logged in yet, the MIU-1500 will respond with an error message to commands.

Note: If you set up a password to restrict viewing **"Report Password"** then changing the setup will be restricted also. If you set up a password for setup **"Setup Password"** without setting the "Report Password" then viewing of reports is not restricted.

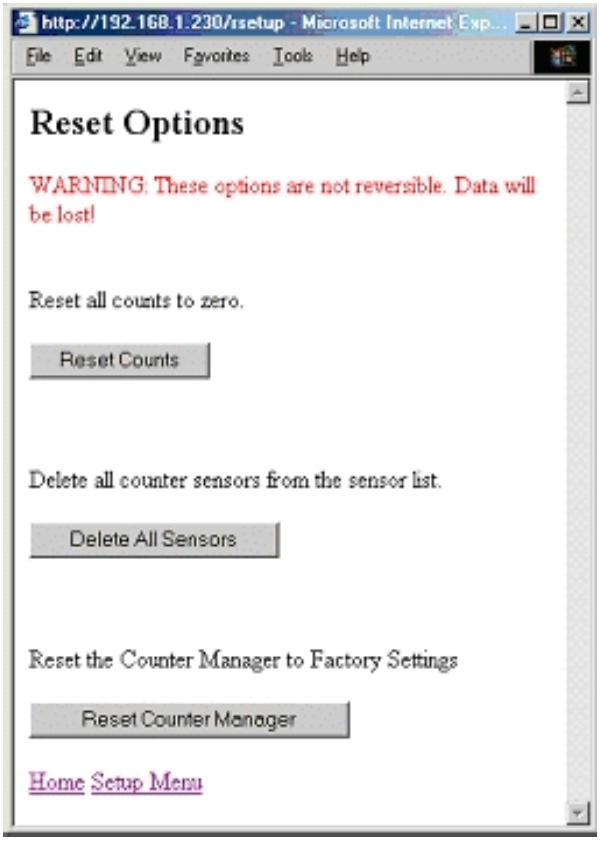
When you enter a password, the characters will be masked with asterisks. You type "cat" and the box will show "***". **It is very important that you remember your password.**

Click "Submit" to establish password protection in theMIU-1500.

After passwords are established, you will encounter a screen requesting a password when attempting to perform an action that is password protected. The screen will ask for a user name.

- **Note:** For access to the reports (HTML and FTP) the user name is **"Report"**.
- **Note:** For access to the setup, the user name is the name of the MIU-1500.
- **Note:** For FTP, if a Report password is set, use the Report password and 'FTP' as the User Name and use an FTP client program to collect the data, otherwise use "anonymous" to login.

WARNING: User Name and Password are case sensitive. Do not use special characters like spaces in the password. Please use caution when entering a new password. If you forget your password, you WILL need to clear the memory on the unit.



Reset Options

Note: Be careful when you reset values. There is no way to undo these changes.

On the reset screen:

- You may select to reset the sensor counts to zero **"Reset Counts"**
- Delete all the sensors from MIU-1500's setup table **"Delete All Sensors"**
- Reset the People MIU-1500 to factory settings

Reset MIU-1500

Resetting the MIU-1500 to factory settings will reset the IP address back to the default 192.168.1.55. The browser will not redirect itself and you will need to re-enter the IP address into the "Address" bar.

Export Options

Viewing

From the main screen click on the **"Export"** link. You will be brought to the reports section. From here you can view and save data in text format. You may also right-click with your mouse on the link. A menu will pop up. If you choose "Save Target As…" you can use the resulting save dialog box to save the counts report to a text file on your computer. You can view these files with any text editor.

You also view a directory of the available files using the Manager's IP address in the URL. Example: ftp://192.168.1.55

There are two file formats:

- **Standard Format -** is more compact and provides counts for all sensors for the period on each line.
- **Alternate Format -** provides a count per line, per sensor, per period.

The files have a title based on the time span of the report plus a timestamp. An example title is this: "CNT24-012003103434.txt".

This is the count file for the last 24 hours and the report was generated on 01/20/03at 10:34:34 a.m. The following is table of the available files:

Standard Format		
Counts for the last full day until the present time (counter per 30 minutes)	CNTDAY-timestamp.txt	CNTDAY.txt
Counts for the last 7 full days until the present time (counter per 30 minutes)	CNT7DAYS-timestamp.txt	CNT7DAYS.txt
Counts for the last 31 full days until the present time (counter per 30 minutes)	CNT31DAYS-timestamp.txt	CNT31DAYS.txt
All Counts for the day Log (counts per day)	CNTPERALL-timestamp.txt	CNTPERALL.txt
Alternate Format		
Counts for the last full day until the present time (counter per 30 minutes)	REC24-timestamp.txt	REC24.txt
Counts for the last 7 full days until the present time (counter per 30 minutes)	REC7-timestamp.txt	REC7.txt
Counts for the last 31 full days until the present time (counter per 30 minutes)	REC31-timestamp.txt	REC31.txt
All Counts for the day Log (counts per day)	RECPERALL-timestamp.txt	RECPERALL.txt
Status		
Status of sensors	STATUS-timestamp.txt	STATUS.txt

The short file name can be used to get the most current file. If no Report Password is set, you can use an FTP client program or Windows Internet Explorer to obtain the data. Use "anonymous" for the user name.

Note: If the Report Password has been set, you will need to use an FTP client program to download the reports.

You will not be able to use Windows Internet Explorer to obtain this data. There is an interaction problem between the MIU-1500 and Windows Internet Explorer using FTP when passwords are set. The user name is the name of the Manager and the password is the report level password.

Standard Format

There are eight different kinds of record types. Each record starts with a number that tells what kind of record it is.

Manager Counter Information

0, date, time, Manager Name, mac, number of sensors, setup timestamp, report start, report finish.

Where:

- **Date** – date that the report was generated.
- **Time** – time that the report was generated.
- **Manager Name** – name of the MIU-1500.
- **MAC** – MAC address of the Manager.
- **Number of sensors** – the number of sensors currently being monitored.
- **Setup Timestamp** – the time stamp of the last setup change.
- **Report Start** – the time and date of when the report starts.
- **Report Finish** – the time and date of when the report finishes.

Sample record: 0, 01/20/03, 14:36:02, Sample PC, 00:90:C2:C1:0F:D9, 2, 01/20/03 13:10:17, 01/17/03 00:00:00, 01/20/03 14:36:01

Sensor Names

1. date, time, sensor name1,…sensor namen

- **Date** – date that the report was generated.
- **Time** – time that the report was generated.
- **Sensor Name** – name of the sensor
- N – number of sensors

Sample record: 1 ,01/20/03, 14:36:02, Main, Warehouse1

2, date, time, serial number1,…serial numbern

- **Date** – date that the report was generated
- **Time** – time that the report was generated.
- **Serial Number** – serial number of the sensor.
- **N** – number of sensors

Sample record: 2, 01/20/03, 14:36:02, 0000000000608220, 000000001C110321

Sensor Types

***3, date, time, sensor type1, …sensor typen**

- **Date** – date that the report was generated.
- **Time** – time that the report was generated.
- **Sensor Type** – type of sensor: 1 – Traf-Sys Peoplecounter; 2 – Mighty-Might or Directional counter
- N – number of sensors

Sensor Period A Counts

7, date, time, countA1, …countAn

- **Date** – date of the period.
- **Time** – time of the period.
- **CountA** – count for the period for the first set of counts for the sensor. The period is either 30 Minutes or 1 day
- **N** – number of sensors

Sample record: 7, 01/17/03, 00:00:00, 127, 115

Sensor Current Interval A Counts

8, date, time, countA1, …countAn

- **Date** – date of the current interval. This is a partial total for the interval, as the current interval has not been completed yet.
- **Time** – time of the current interval. This is a partial total for the interval, as the current interval has not been completed yet
- **CountA** – count for the current interval for the first set of counts for the sensor.
- **N** – number of sensors

Sample record: 8, 01/20/03, 00:00:00, 176, 147, 142, 1, 3, 353

Sensor Period B Counts

***9, date, time, countB1, …countBn**

- **Date** – date of the period.
- **Time** – time of the period.
- **CountB** – count for the period for the second set of counts for the sensor. The period is either 30 minutes or 1 day.
- N – number of sensors

Sensor Current Interval B Counts

***10, date, time, countB1, …countBn**

- **Date** – date of the current interval. This is a partial total for the interval, as the current interval has not been completed yet.
- **Time** – time of the current interval. This is a partial total for the interval, as the current interval has not been completed yet.
- **CountB** – count for the current interval for the second set of counts for the sensor.
- **N** – number of sensors

Note: These records are only included if a Directional Counter is in the sensor list.

Alternate Format

Header Record

The first record of every file is a header that has titles for every column. The following is an example:

- "Type"
- "Manager Name"
- "MAC"
- "Sensor Name"
- "Serial No"
- "Sensor Type"
- "Start Time"
- "End Time"
- "Count A"
- "Count B"

Data Record

Type – type of record: 1 – record contains counts for the full period; 5 – record contains counts for a partial period (the current period which is incomplete).

- **Sever Name** – name given to the Manager
- **MAC** – serial number of the Manager (the ethernet MAC address)
- **Sensor Name** – name given to the sensor
- **Serial No** – 16 character serial number of the sensor
- **Sensor Type** – **1** – Traf-Sys People counter; **2** – Mighty-Might or Directional Counter
- **Start Time** – starting date and time of the period
- **End Time** – ending date and time of the period. For record type 5 this time will be less than the full period.
- **Count A** – count for the period
- **Count B** – count for the period. Will always be 0 for Sensor Type 1.

Status of Sensors

Header Record

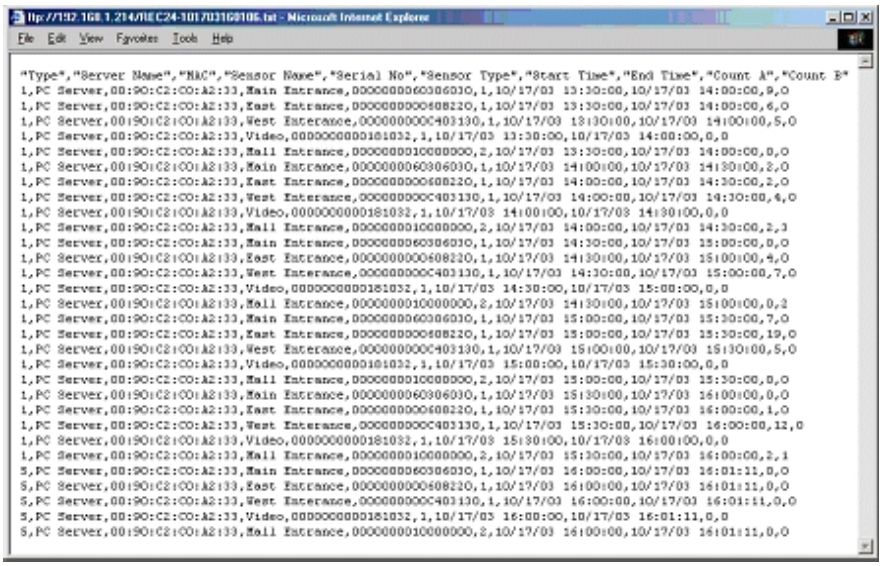
The first record of the file is a header that has titles for every column. The following is an example:

Data Record

- **Manager Name** – name given to the MIU-1500
- **MAC** – serial number of the Manager (the Ethernet MAC address)
- **Serial No** – 16 character serial number of the sensor
- **Sensor Type** – 1 – Traf-Sys People counter; 2 – Directional Counter
- **Sensor Type** – 1 – Traf-Sys People counter; 2 – Directional Counter
- **Time** – time when the report was generated.
- **Count A** – accumulated count since the counter started or was reset
- **Count B** – accumulated count since the counter started or was reset. Will always be 0 for Sensor

FTP Scripts

You may need to create scripts in Windows to automatically download files from the MIU-1500. The following is an example of an ftp script and batch file that you can use for this purpose:



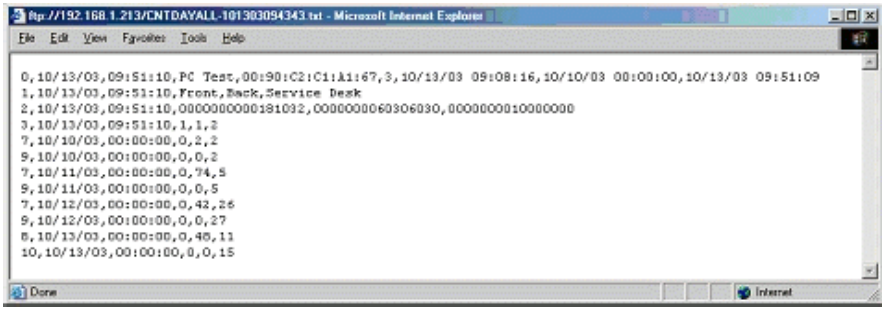
You will need two files to automatically download from the MIU-1500. The first is a batch file and the second is an ftp script file that will be run by the batch file.

Batch File

The example below shows the command you would use to create a batch file. This command will run an ftp script file named **download30MinFile.scr** and connect to a MIU-1500 device at 192.168.1.55. Create a new text file with the contents below and save it as download.bat.

FTP –s:download30MinFile.scr 192.168.1.55

FTP Script File



The example below shows the commands you would use to create an ftp script file. This script will login to the ftp interface of the MIU-1500 and download the RECPERALL.txt file to the current directory. Make sure you specify the ftp user name and password in the script to connect successfully. To use this with the batch file, make sure you name the file **download30MinFile.scr.**

ftpUser

ftpPassword

get RECPERALL.txt

bye

Running the Batch

You should now have two files, download.bat and download30MinFile.scr. In windows, run the download.bat file. This will connect to the MIU-1500 and run the ftp script which will download the RECPERALL.txt file. If you need to schedule this batch, you can do so using Windows Task Scheduler.

Common Software Tools

The interface to the MIU-1500 was designed to meet common standards and be easy to use. You can use common software that either comes with your operating system or can be purchased to diagnose common problems and to communicate with the MIU-1500.

The primary means of obtaining the MIU-1500 reports is use a Web Browser and you download report files using an FTP client.

The MIU-1500 has a command / response protocol that can be used with serial, radio and TCP/IP Medias. For TCP/IP you send simple text commands via port 1000 (default) and receive responses. The commands are used to set up the MIU-1500 and to diagnose problems. You can use a communication program that has terminal emulation to get familiar with the MIU-1500 commands and communications. Once you are familiar with the commands, you can automate the communications using common development programming languages.

Here are some examples of common software:

Microsoft Windows

- **Internet Explorer –** used to view the reports and set up the MIU-1500.
- **FTP –** command line utility that allows you download the report files.
- **Third party FTP Clients –** commercial and shareware FTP client programs used to download the report files.
- **Ping –** simple program to test the TCP/IP connection.
- **Telnet –** simple program to send commands and see responses via TCP/IP. Note: MIU-1500 uses port 1000 as default.
- **Winipcfg –** utility that shows the computer's IP address.
- **Ipconfig –** utility that shows the computer's IP address (DOS program).
- **HyperTerminal –** provides terminal emulation program to communicate via TCP/IP, and serial port.

  Note: HyperTerminal can answer calls via TCP/IP but does not work very well with the MIU-1500 in this mode because HyperTerminal echoes characters it receives.

- **Procomm**(third party program from Symantec) **–** provides terminal emulation to communicate via TCP/IPand serial port.

Other Operating Systems

- **Web Browser –** used to view the reports and set up the MIU-1500.
- **FTP –** command line utility that allows you download the report files.
- **Third party FTP Clients –** commercial and shareware FTP client programs used to download the report files.
- **Ping –** simple program to test the TCP/IP connection.
- **Telnet –** simple program to send commands and see responses via TCP/IP. Note: MIU-1500 uses port 1000 as default.

Specifications

Parameters	Value
Power Supply Voltage	6 to 12 volts
Power Supply Current	250 milliamps
Receiver Frequency	418, 422 or 900 MHz or 2.4 GHz
Ethernet	10BaseT (10 MHz / 1.2 MHz effective rate)
Serial Port	19200 baud, no parity, 8 data bits, 1 stop bit
Battery	3 Volt Lithium CR2032 Backup of the SRAM & real time clock: 6 years without power
30 Minute Log	3 months
Day Log	1 year, 7 months
Number of Sensors	16

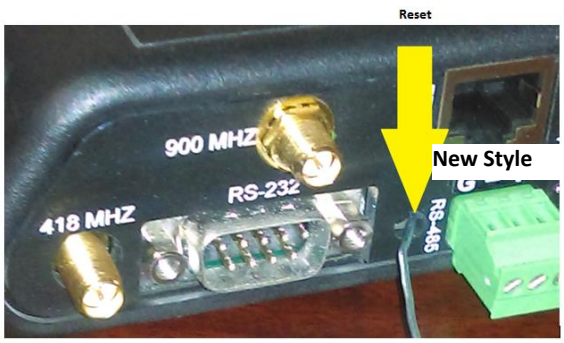
Resetting the MIU-1500 to Factory Defaults

Warning: This procedure will clear any data stored on the MIU-1500.

On each MIU-1500, there is a reset button you can use to reset the memory back to the factory defaults. You should use a paperclip to reach the reset button from the outside of the case.

The reset switch will be a small hole just large enough for a paperclip located near the antenna. Here is an example:

Insert the paperclip into the reset switch access. You should be able to depress a button under the access hole.



With the paperclip inserted, you should be able to depress a button inside the case. Hold the button down with the paperclip, while plugging in the power adapter to the MIU-1500. When you plug in the power adapter, the red Power indicator should flash on and off. If the power indicator does not flash on and off, remove the power adapter and make sure you are depressing the reset button.

Release the button and the red power indicator should turn off for a few seconds, and then appear on. The MIU-1500 is now set to the factory default settings and should have the following network settings:

- **IP Address-** 192.168.1.55
- **Subnet Mask-** 255.255.255.0
- **Auto Add Mode-** When in this mode, the MIU-1500 receives sensor information from a sensor and then automatically appends the sensor to the sensor table with default setup information.
- **CRC-16 Error-Checking-** An algorithm designed to check for errors in a data stream.
- **Ethernet-** The physical and electrical interface for connecting computers together on a network.
- **FTP-** TCP/IP protocol design to transfer files.
- **HTML** (HyperText Markup Language) **-** fundamental language used in creating web pages.
- **Inactivity Timeout -** The amount of time the MIU-1500 will wait for a command before terminating the connection. Inactivity Timeout applies to Ethernet connections. For the local serial port, MIU-1500 will automatically log out a user if a command is not received within this time.
- **IP Address -** 32 bit address usually represented as a series of 4 numbers that uniquely identifies a device that is using the TCP/IP protocol.
- **ISP -** Internet Service Provider - provides the means to interfacing to the Internet.
- **MAC -** The MAC address is permanently part of the MIU-1500 cannot be changed and is unique for all Ethernet interfaces.

- **Ping** - TCP/IP diagnostic utility used to determine if connection with another TCP/IP host is possible.
- **RS232** - Standard electrical interface used for serial ports.
- **Sensor** - wireless transmitter.
- **Sensor Age** - The amount of time since the MIU-1500 has received a data packet from the sensor.
- **Sensor Table** - Each row in the sensor table contains a sensor's current readings, event states and setup information. Commands either read or set information to and from the sensor table.
- **Service** - Transmitters have a Service button that when pressed forces the sensor to transmit its readings.
- **Service** - Transmitters have a Service button that when pressed forces the sensor to transmit its readings.
- **TCP/IP** - Main protocol used to transport data across the Ethernet and Internet.

Contact Information

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