

# Vnetworker



## RS485 NETWORK SYSTEM

### Operation Manual

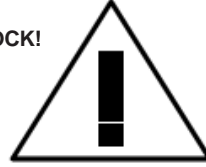
August 2011



# Vnetworker



**CAUTION!**  
**RISK OF ELECTRICAL SHOCK!**  
**DO NOT OPEN!**



**TO PREVENT ELECTRIC SHOCK, DO NOT REMOVE THE COVER. DO NOT EXPOSE THE EQUIPMENT TO RAIN OR MOISTURE. NO USER SERVICEABLE PARTS ARE INSIDE. REFER SERVICING TO QUALIFIED PERSONNEL.**

## **WARNING!**

**THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL MAY CAUSE INTERFERENCE TO RADIO COMMUNICATIONS. IT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS A COMPUTING DEVICE PURSUANT TO SUBPART J OF PART 15 OF FCC RULES, WHICH ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST SUCH INTERFERENCE WHEN OPERATED IN A COMMERCIAL ENVIRONMENT. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE INTERFERENCE IN WHICH CASE THE USER AT HIS/HER OWN EXPENSE WILL BE REQUIRED TO TAKE WHATEVER MEASURES MAY BE REQUIRED TO CORRECT THE INTERFERENCE.**

The lightning flash with the arrowhead symbol within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electrical shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

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## Introduction

The Vnetworker connects between a VSI-Pro and the Cash Register via RS-232. The Vnetworker is similar to the Networker and Regcom which take the RS-232 data and put it on a common RS-485 network and send back to a DVR or PC. This network supports up to 64 Vnetworkers. The Vnetworker is an enhanced poll/select protocol of the Networker that allows the remote master to program and control the remote VSI-Pro with Vnetworker device. Not only will this allow transaction logging but allow reading Alarm inputs, setting/reading/locking to T/D and full programming and register configuration remotely. Implementation of this protocol brings seamless POS /Cash Register /ATM interfacing to the AVE or 3rd party DVR suppliers. The VSI-Pro must be Ver. 13.00 or 13.24 and Release 12 or higher. Any VSI-Pro Ver. 13.00 or 13.24 can be upgraded with a uP software change for the hardware of the VSI-Pro remains the same.

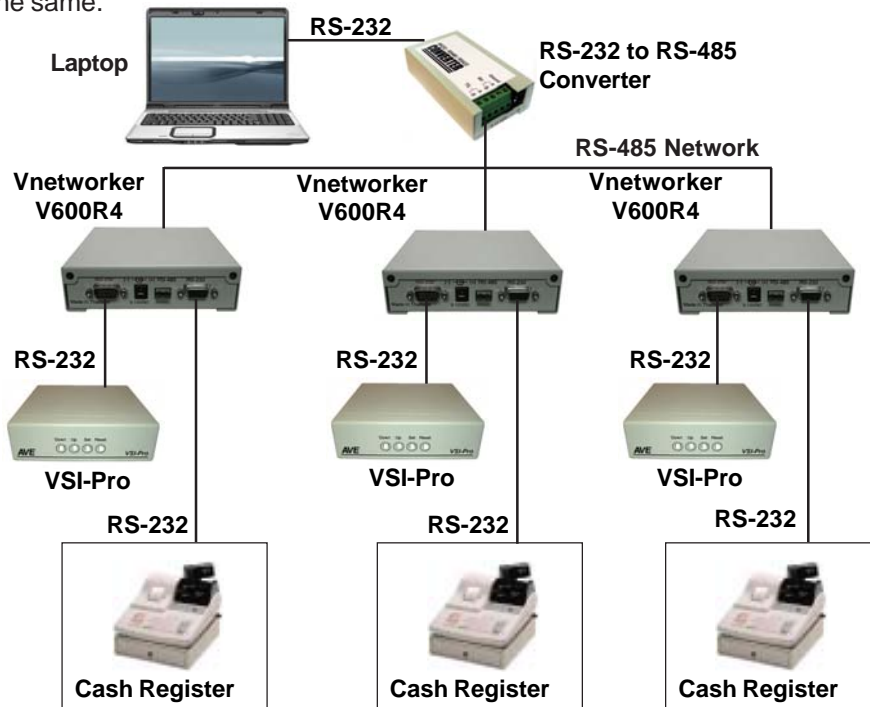


Figure 1: PC Vnetworker Diagram

## VSI / VSI+ / VSI-Pro Backward Compatibility

Since 1990 various versions of the VSI have been on the market solving cash register retail problems. Several special version are available to interface to other RS-232 devices like scales, coin counters, PLCC, gambling machines and ATMs along with countless other generic RS-232 devices. The first VSI, Version 9 had no exception processing until the release of Version 10. However these versions had the ability to output the data so are compatible with the Regcom line of networking adapters. As features increased we moved to the VSI+ Version 11, which had the first powerful set of exception processing and printing functions. This version also had hardware handshaking capability which allows it to be fully operational with the Networker and Regcom line. The introduction of the VSI-Pro Version 12 added on-screen selection of various model registers for ease of installation and supported many characters sizes for multiple units to display data on one camera view. This version also supports the Networker and Regcom products. The current VSI-Pro Version 13.XX has improved features and additional registers and the Version 13.00 supports North America cash registers and Version 13.24 supports UK and European models. All Version 13.XX VSI-Pro support the Networker and Regcom products. All Version 13.XX can be upgraded to the latest Release 12. This latest software adds PC Programming capability, Firmware update externally and Vnetworker support along with Networker, Vnetworker and Regcom compatibility.

## Vnetworker Internal Jumper Selections

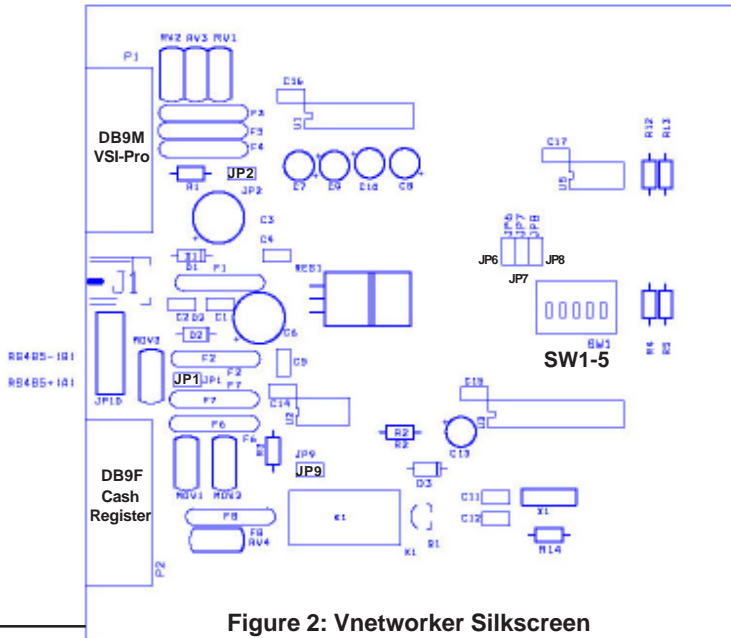


Figure 2: Vnetworker Silkscreen



RS-485 Vnetworker

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## Jumper Settings Default (in bold type)

JP1	<b>OPEN</b> / CLOSE	12VDC to DB9M Pin 9 On/Off
JP2	<b>OPEN</b> / CLOSE	DTR True to DB9M Pin 4 On/Off
JP6	<b>OPEN</b> / CLOSE	ALARM 1 Read On/Off (Unsupported)
JP7	<b>OPEN</b> / CLOSE	ALARM 2 Read On/Off (Unsupported)
JP8	<b>OPEN</b> / CLOSE	Bank Select 0/1 (See Address Setting)
JP9	<b>OPEN</b> / CLOSE	RS485 Termination On/Off with 120 Ohm
SW1-5	OPEN / CLOSE	Address Selection (See Address Setting)

## DB9F To Cash Register or RS-232 Device and/or DB9M To VSI-Pro

- 1 ---- Alarm 1
- 2 ---- DB9F RXD, DB9M RXD Looped to DB9F or TXD Controlled by Vnetworker
- 3 ---- RXD
- 4 ---- DTR
- 5 ---- GND
- 6 ---- N/C
- 7 ---- CTS Output Control
- 8 ---- N/C
- 9 ---- 12VDC IN or ALARM 2

## Cable Connection

Vnetworker (DB9F)                      VSI-Pro (DB9M)

TXD 2	-----	2	RXD
RXD 3	-----	3	TXD
GND 5	-----	5	GND
CTS 7	-----	7	RTS

Vnetworker (DB9M)                      RS-232 Device

RXD 2	-----	TXD
TXD 3	-----	RXD
GND 5	-----	GND

This connection will be the same as the VSI-Pro to the RS-232 device

## Vnetworker with MVDR5000 or compatible

The Vnetworker connects directly to the VSI-Pro and the cash register and/or optional interface adapter. The 2 conductor RS-485 network is run to each and every Vnetworker in the system and then back to the Hydra. Each Vnetworker must have a unique address set by its internal dipswitch corresponding to the register or camera number. The Hydra then translates this address and stores the data from the respective number to that camera number in the DVR. All the text received from that cash register whether being all the data or just exceptions is stored on the DVR.

The MVDR5000 is able to transaction logging, reading Alarm inputs, setting/reading/locking to T/D and full programming and register configuration remotely.

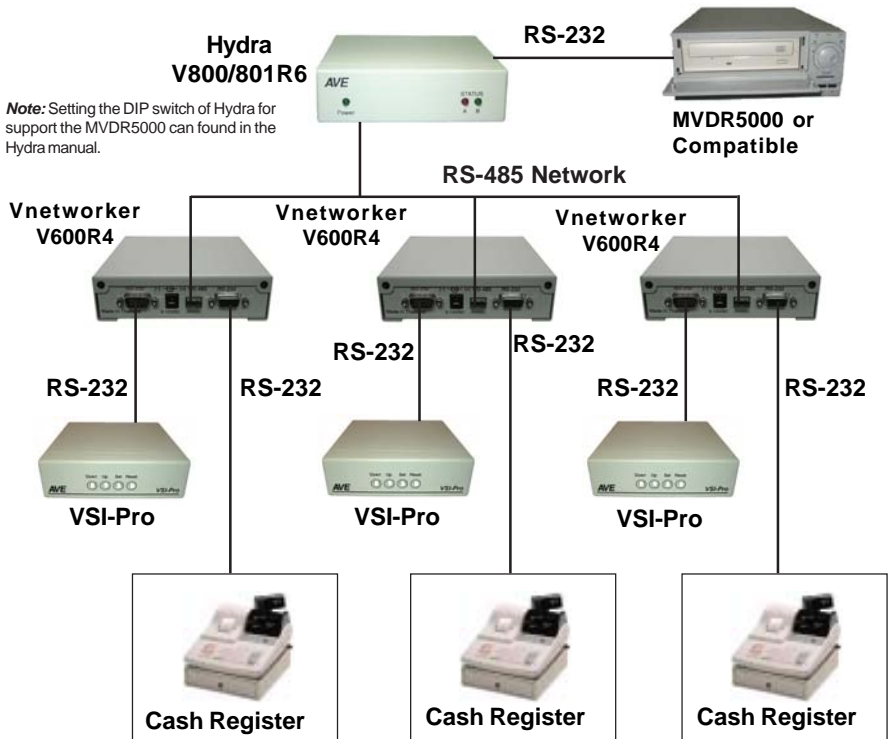


Figure 3: MVDR5000 and Vnetwork Connection Diagram

## Address Selection

Each Vnetworker unit on the RS-485 network must be set with a unique network address. The address is selected using Switches No. 1 - 5 from the bank of DIP switches inside of the unit. Changing address will be effective before power up only.

The address must correspond to the DVR channel or camera number that the text is to be associated with.

JP8=Off Address	JP8=On Address	DIPSWITCH				
		5	4	3	2	1
0	32	Off	Off	Off	Off	Off
1	33	Off	Off	Off	Off	On
2	34	Off	Off	Off	On	Off
3	35	Off	Off	Off	On	On
4	36	Off	Off	On	Off	Off
5	37	Off	Off	On	Off	On
6	38	Off	Off	On	On	Off
7	39	Off	Off	On	On	On
8	40	Off	On	Off	Off	Off
9	41	Off	On	Off	Off	On
10	42	Off	On	Off	On	Off
11	43	Off	On	Off	On	On
12	44	Off	On	On	Off	Off
13	45	Off	On	On	Off	On
14	46	Off	On	On	On	Off
15	47	Off	On	On	On	On
16	48	On	Off	Off	Off	Off
17	49	On	Off	Off	Off	On
18	50	On	Off	Off	On	Off
19	51	On	Off	Off	On	On
20	52	On	Off	On	Off	Off
21	53	On	Off	On	Off	On
22	54	On	Off	On	On	Off
23	55	On	Off	On	On	On
24	56	On	On	Off	Off	Off
25	57	On	On	Off	Off	On
26	58	On	On	Off	On	Off
27	59	On	On	Off	On	On
28	60	On	On	On	Off	Off
29	61	On	On	On	Off	On
30	62	On	On	On	On	Off
31	63	On	On	On	On	On

Table 1: Address Selection Dipswitch Setting



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## Vnetworker Software ver 2.3 Installation

Install program from the CD-ROM "X:\Software\Vnetworker Setup\Vnetworker v2.3\Setup.exe". Follow the instructions of installation from the presented dialog boxes. If additional information is needed review the Software Manual for the Vnetworker Software. When you have finished the installation of the software, then run the Vnetworker software. The Vnetworker Setting window will appear.

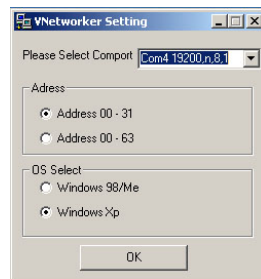
### How to use the Vnetworker Software

From this pulldown menu you can select the ComPort and baudrate. The default baudrate is 19.2K for the Vnetworker system. The ComPort is dependent on your computer.

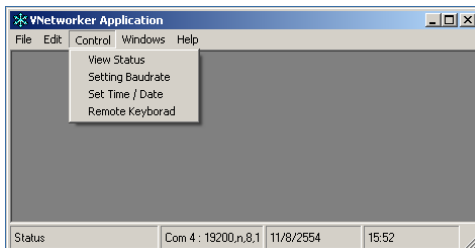
### Select Comport

Pull Down the Select Comport Menu to select ComPort and select 32 Address when using less than 32 registers and select 64 if using more than 32 registers. The Vnetworker Software will appear.

### Vnetworker Setting Window



### Vnetworker Software Windows



#### Menu File

- Open
- Print

#### Menu Edit

- Cut
- Copy
- Paste

#### Menu Control

- View Status
- Setting Baudrate
- Set the Time / Date
- Remote Keyboard

#### Menu Window

- Cascade
- Tile Horizontal
- Tile Vertical



RS-485 Vnetworker



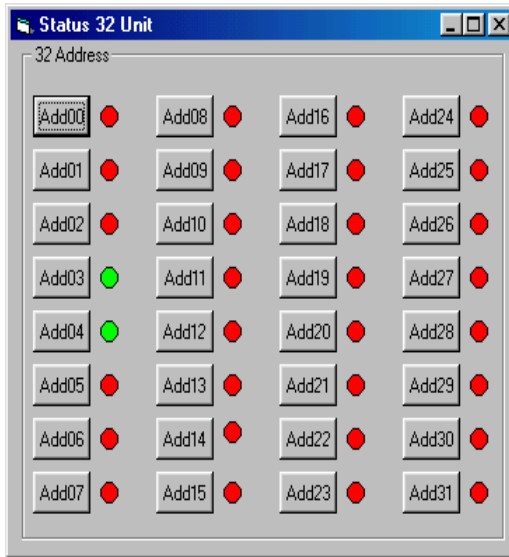
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## Control Menu

- **View Status** for view led status if you select 32 Address Status windows 32 will be show.
- **Setting Baudrate** for reselecting the Comport, the Vnetworker Setting windows will be show.
- **Set Time / Date** for Set Clock and Read Clock function.
- **Remote Keyboard** for Programming VSI-Pro.

## View Status

Select the Control Menu then select View Status drop down list. The View Status windows will appear:



The **Yellow** LED is indicated when a Networker is Detected.  
The **Red** LED is indicated when no Networker at that Address.  
The **Blue** LED is indicated when the alarm has occurred.  
The **Green** LED is indicated when receiving data.

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## Setting Time & Date

This window allows you to read or set the Time/Date of any VSI-Pro. First select the ID or address of the VSI-Pro. Click “Read Clock” for the current T/D set in that particular VSI-Pro. If you wish to change the T/D then set the T/D in the selections provided and click “Set Clock”.

The screenshot shows a window titled "Time / Date Set up". It contains two rows of date and time selection. The first row is for the date, with dropdowns for month (08), day (08), and year (11), followed by the label "Date". The second row is for the time, with dropdowns for hour (17), minute (55), and second (39), followed by the label "Time". Below these is a "Select ID" label and a dropdown menu showing "00". At the bottom are two buttons: "Set Clock" and "Read Clock".

## Remote Keyboard

Selection of the remote keyboard allows you to access any of the Vnetworkers on the network which controls the VSI-Pro into the programming mode. During programming time all data from the cash register to the VSI-Pro will be lost for disconnected from the VSI-Pro until released from programming.

The screenshot shows a window titled "Remote Keyboard". It has a large empty central area. At the bottom, there is a "Programming" button on the left. To its right is a "Select Address:" label followed by a dropdown menu showing "Address 03". Below these are two rows of control buttons. The first row contains "Up", "Down", and "Enter". The second row contains "Erase character", "Save String input", and "Reset".

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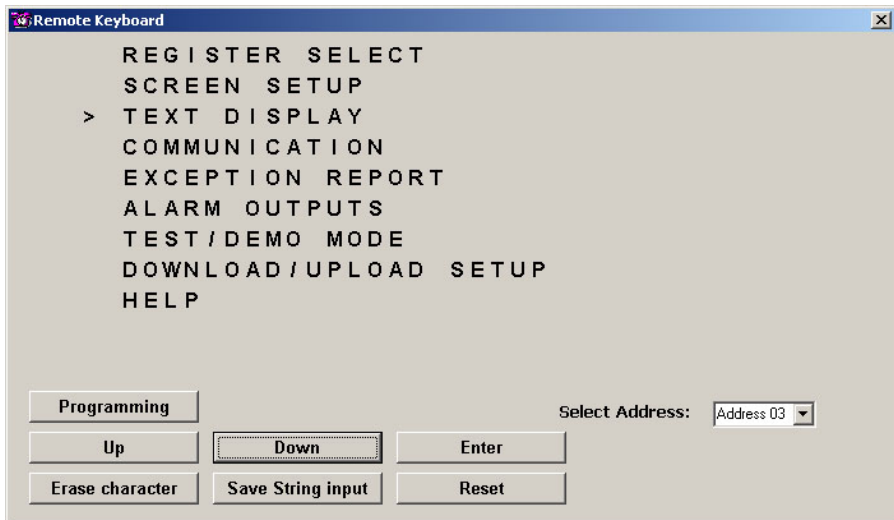
## Control Button

- Programming
- Up
- Down
- Enter
- Erase Character
- Save String Input
- Reset

## Address Select Menu

You should select the address for Programming, then press the Programming Button

Upon accessing a valid address of a Vnetworker and connected to a VSI-Pro Ver. 13.XX Rel. 12 or higher the following screen will be presented. The menu presented is identical to the local programming mode of the VSI-Pro. Clicking the Up, Down, Enter and Reset buttons on the software is exactly like pressing the front panel buttons of the VSI-Pro.



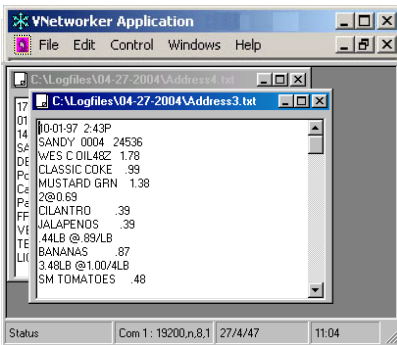
Special buttons like Erase Character and Save String Input allow for the combination buttons used in the local VSI-Pro programming mode. Programming features like OSD display position will be slightly different than the local mode since no video feedback is presented in this programming mode.

**NOTE:** When in the VSI-Pro Programming mode the Cash Register or RS-232 device is disconnected from the VSI-Pro. Therefore any data sent by the cash register while in the programming mode will be lost.

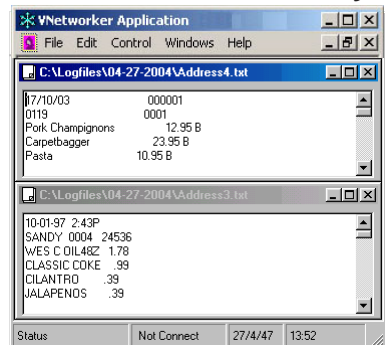
## Transaction Windows

The Vnetworker software can be configured to display in a windowing horizontal format below or tiling in a vertical format for view all the transaction data or information. All data files are stored separately as independent files on the PC and can be downloaded or searched locally or remotely to find specific transaction data or information. This can be used in conjunction with Windows-based DVR or Cash Register software and eliminates the use of an additional PC for the collection, search, or transmission.

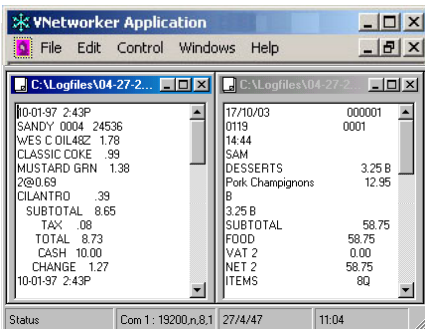
### Windows Cascade



### Windows Tile Horizontally



### Windows Tile Vertically



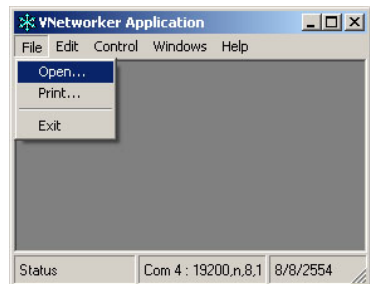
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## Files Menu

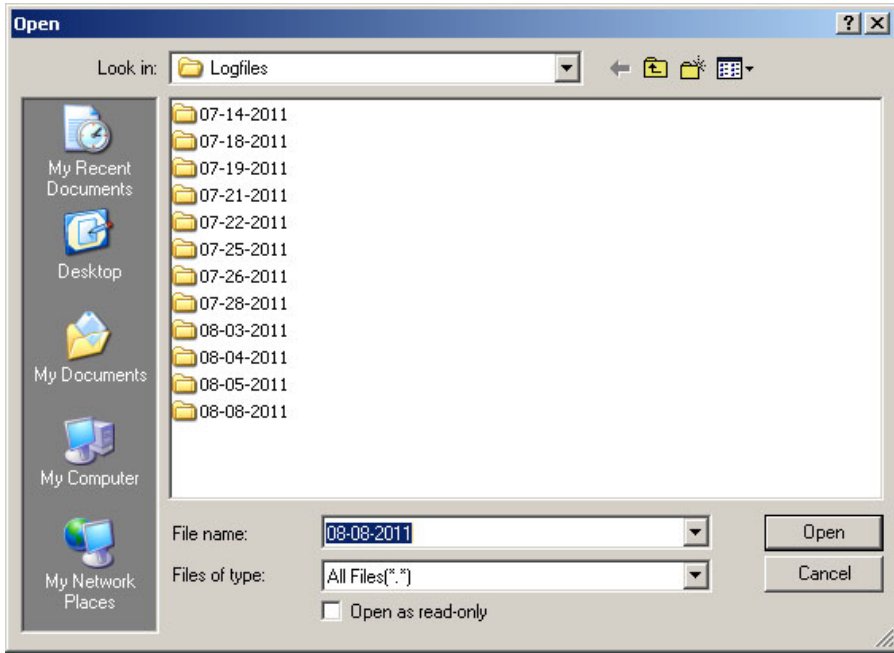
The Logfiles directory contains all the files with the name extension Address1.txt, Address2.txt, etc corresponding to the address of the Networker. These files are updated continuously. If you copy and then delete the file, a new log file will be created with the same number as new data is received. Viewing the files is updated every 2 seconds.

## Logfiles

Select the File Menu then select Open.... drop down list. The Logfiles directory will appear :



## Logfiles Directory



## **LIMITED WARRANTY** **(Terms and Conditions)**

For **2 Years** from the date of shipment, Seller warrants to Buyer that the Product is free from defects in material or workmanship **under normal use and service**. Equipment manufactured by other than Seller but furnished by Seller carries the same warranty to Buyer as Seller receives from the other manufacturer, notwithstanding any provision to the contrary. If Buyer has specified a particular manufacturer's product which is not the brand standardly supplied by Seller, Buyer shall look only to the other manufacturer's warranty and Seller shall not warrant such item.

***EXCLUSIONS. Seller's warranty does not cover the following :***

1. In-transit damage claims, improper handling by carrier or post office.  
***(Only the consignee of the shipment can file a claim with the common carrier.)***
2. Damages caused by incorrect use, modification, carelessness, improper storage, hostile operating conditions, or unauthorized service, installation or repairs without proper training from the Seller.
3. Damages caused by fire, flood, lightning, collision, acts of God or other events beyond the control of Seller.
4. Products or parts thereof that have had serial numbers removed, altered or defaced.
5. Products returned without an RMA number and sales or delivery receipt showing the date of original purchase.
6. Use of components that do not meet Seller's specifications.
7. External parts such as cabinets or keypads.
8. Periodic maintenance and adjustments resulting from normal use.

***WARRANTIES EXCLUDED, SELLER EXPRESSLY DISCLAIMS AND EXCLUDES ANY EXPRESS OR IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WHICH EXCEEDS OR IS INCONSISTENT WITH THE WARRANTY HEREIN EXPRESSLY SET FORTH.***

### **NON-WARRANTY CLAIMS**

In the event Buyer makes a warranty claim and Seller's warranty does not apply, Buyer shall reimburse Seller for all reasonable expenses incurred by Seller in diagnosing the installation/repair problem.

### **BUYER'S EXCLUSIVE REMEDIES**

If the Product supplied shall fail to conform to the contract or any applicable warranty, Buyer shall immediately notify Seller of such condition and afford Seller a reasonable opportunity to inspect said Product. Seller shall, at its option, either repair or replace such nonconforming Product. Seller shall not be responsible for labor charges for removal or installation of such equipment or material or charges for transportation, handling and shipping except as provided in Seller's written service policy. No Product shall be returned without Seller's prior written consent.

**SELLER SHALL NOT BE LIABLE FOR ANY SPECIAL, DIRECT INCIDENTAL OR CONSEQUENTIAL DAMAGES OF A COMMERCIAL NATURE ARISING OUT THE USE OF OR INABILITY TO USE SELLER'S PRODUCT BY REASON OF THE FACT THAT SUCH PRODUCT DOES NOT CONFORM TO THE CONTRACT OR TO ANY EXPRESS OR IMPLIED WARRANTY. SELLER'S MAXIMUM LIABILITY SHALL BE LIMITED TO THE COST OF REPAIR AND/OR REPLACEMENT OF THE PRODUCT CLAIMED TO BE DEFECTIVE OR NONCONFORMING, SUBJECT TO SELLER'S RIGHT OF REMOVAL AND RETURN OF PRODUCT.**

All of the foregoing constitute Buyer's sole and exclusive remedy and Seller's sole and exclusive liability for supplying nonconforming or defective Product.

### **RETURNS**

AVE products are fully inspected and carefully packed to ensure you are delivered a quality product in good condition. If you are not fully satisfied with our product, returns of standard stocking items with no restocking fee can be made within thirty (30) days of invoice to Buyer. All such returns must have prior consent of Seller by obtaining an RMA number and must include the sales or delivery receipt showing the date of original purchase and be in an unused condition contained in its original packaging. Any other returns must have prior written consent of Seller and are subject to a restocking fee of fifteen percent (15%) and freight charges.

### **RMA NUMBER**

The RMA (Return Material Authorization) number must be obtained by contacting Seller prior to the shipment of the product for return. The RMA number is valid only for 15 days from the date of issue. The RMA number must be clearly displayed on all shipping labels.



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