VLAN-100SD *Voice Logger*

User's Manual
Second Edition

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1. HARDWARE INSTALLATION

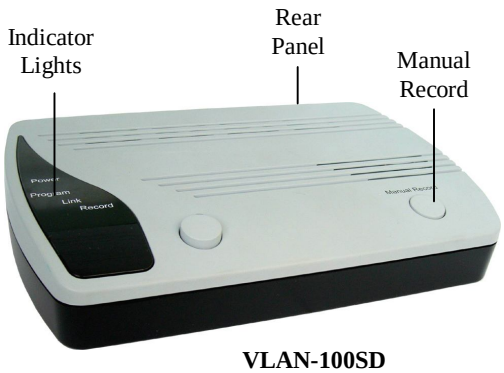
A. Package Contents

The VLAN-100SD package contains:

QUANTITY	DESCRIPTION
1	VLAN-100SD
1	RJ-11 Telephone Cord (for analog lines)
1	RJ-11 Y-splitter Connector
1	RJ-45 Network Crossover Cable
1	Power Adapter
1	Installation CD

If any item is missing or broken upon opening of the package, please contact your dealer.

B. Hardware Descriptions



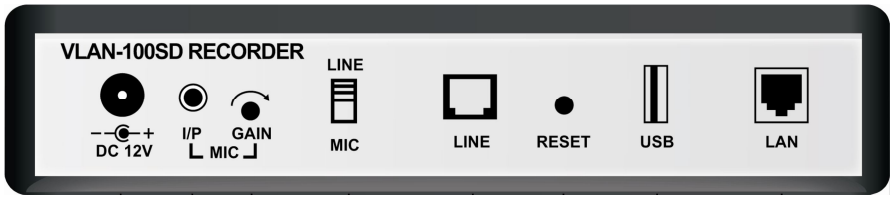
VLAN-100SD

Indicator Lights

LED	Color	Status	Meaning
Power	Green	- Solid - Off	- Power On - Power Off
Program	Red	- Solid - Flashing - Off	- System is ready - Writing data - System is not ready
Link	Green	- Solid - Flashing - Off	- Ethernet link established - Ethernet data activity - Ethernet link not established
Record	Red	- On - Off	- Channel is recording - Channel is not recording

Manual Record Button
If the start mode is set to Manual, recording will start when the button is pressed down, and stop when the button is popped up.

Rear Panel



LAN: RJ-45 Ethernet jack

USB: USB ports for connecting an external USB drive

RESET:: Use this button to reset all settings (including user name and password) to factory default. With the power turned on, press the button for at least 7 seconds.

LINE: RJ-11 phone jack

LINE/MIC: Recording source selection: LINE (telephone) or MIC (microphone)

GAIN: Microphone sensitive adjustment

I/P: 1/8" microphone jack

DC 12V: Power jack

C. Storage Considerations

The logger has a fairly large amount of internal memory for data storage. It can also be configured to use an external USB drive instead. Using an external USB drive may be quite beneficial in some cases. For example, telephone agents of different shifts may each use a different USB drive, keeping the recorded data separate and private.

In order to use an external USB drive, the system must be configured accordingly on the Storage Settings page.

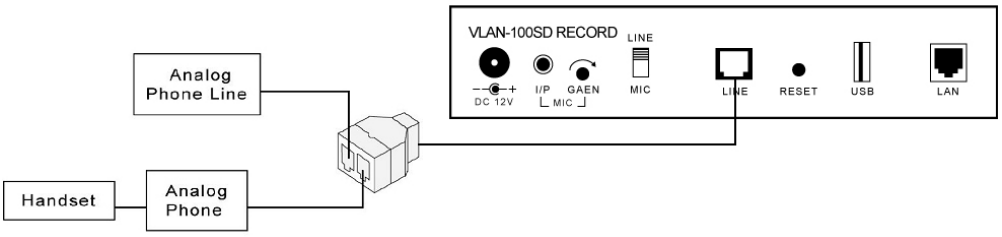
No matter how much memory there is, it will eventually be filled up with data if nothing ever gets deleted. To prevent this from happening the system automatically recycles the memory by deleting a certain amount of the oldest data when the memory is almost full. On the Storage Settings page you can set the recycle threshold and the deletion size.

Although the system allows one to copy individual records to the host computer, it does not provide any archiving functions. In many cases the system's internal memory is big enough to store several months' worth of records, therefore eliminates the need for archiving.

If needed, archiving can be achieved by configuring the system to use the external USB drive. When the USB drive is about full but before the storage recycling starts, replace it with a new one. The old USB drive now becomes an archive. To access an archive later, simply unplug the current USB drive from the logger and plug in the archive drive.

D. Telephone Connection

Connect the telephone line according to the following diagram.



Please note that the logger can record analog phone lines only. Digital lines cannot be recorded. An easy way to tell whether a line is analog or digital is to test it with a regular household telephone. If it works then the line is analog.

When a phone system is in place there are two ways to connect the logger: the trunk side (where lines come into the phone system) and the station side (where lines go out to the stations).

Trunk Side Recording

Pros
- One logger can record multiple stations
- The only option if your phone system is digital (station side recording impossible)

Cons
- Unable to record station to station calls
- Files will be associated with the trunk line instead of the station, making it hard to identify and retrieve files for particular stations

Station Side Recording

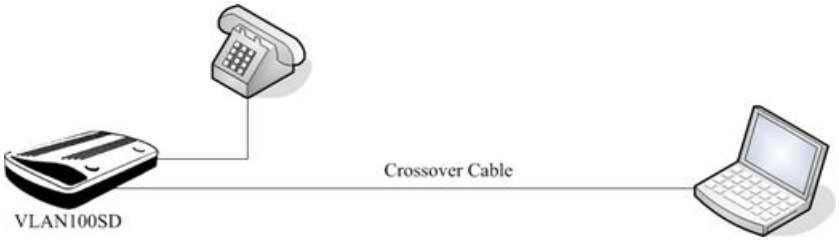
Pros
- Able to record station to station calls
- Easy to identify and retrieve files for particular stations

Cons
- One logger required for each station
- Not possible with digital phone systems

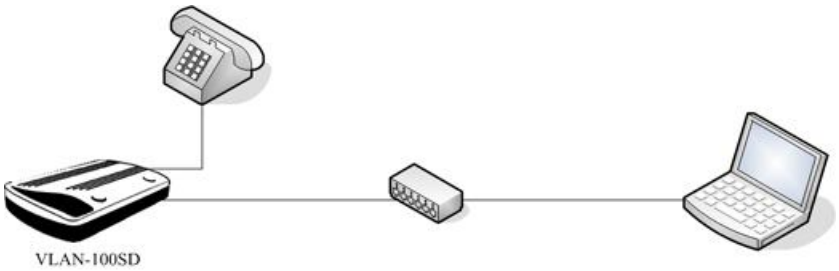
E. Host Connection

The logger can be connected to the host computer either directly or via a network.

Direct connection
Direct connection requires the use of a crossover cable (provided with the product) as illustrated below. If multiple loggers are to be connected to the same host computer, a separate Ethernet port is required for each logger.



Network connection
Network connection connects the logger with the host computer via a hub or a router using regular (straight through) cables (not provided). This allows multiple loggers to be connected to the same host computer via the same Ethernet port. The network connection is illustrated below.



F. Default Parameters

IP address: 192.168.1.100
Subnet mask: 255.255.255.0
Gateway: (no default value)
DNS Server: (no default value)
User name: vlansd
Password: 1234

2. IP ADDRESS CONFIGURATION

In order for the logger and the host computer to communicate properly, their IP addresses must be in the same subnet. If the logger's default subnet address (specified in the Default Parameters section in this manual) is not the same as the host computer's, then one of them (usually the logger's) needs to be changed.

The ETM program found on the installation CD can be used to change the logger's IP address. The logger's new IP address must be in the same subnet as the host computer, and not conflict with any other devices on the network. If the router has DHCP enabled, choose an IP address that is out of the DHCP's address range. The DHCP's address range can be found in one of the router's configuration menus.

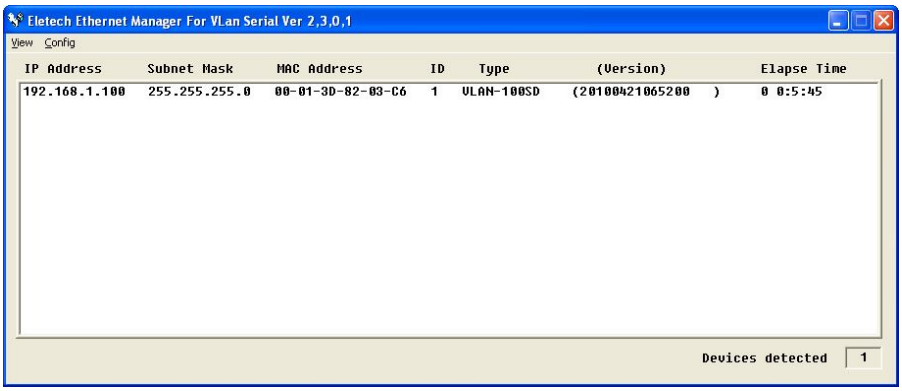
To find out the subnet address of the host computer, open the Command Prompt in Windows Accessories. Type "ipconfig" and press the Enter key. The IP address of the host computer (along with other information) will be displayed. The subnet address usually consists of the first three octets. For example, if the IP address is "192.168.0.5" then the subnet address is "192.168.0". In this case the logger could use an address like "192.168.0.88" if it's not already used by another device on the same network.

Note that the logger's new IP address must not conflict with (i.e. not to be exactly the same as) any other devices on the same network. There may be quite a few devices on the network and there is no easy way of finding out all used IP addresses, making it difficult to choose an unused address. Fortunately, Windows will complain if there is an address conflict, so the address can always be changed again if necessary.

When installing multiple loggers, do not connect all loggers to the network at once. Always add one logger to the network at a time in order to avoid address conflict, since all loggers come with the same default IP address.

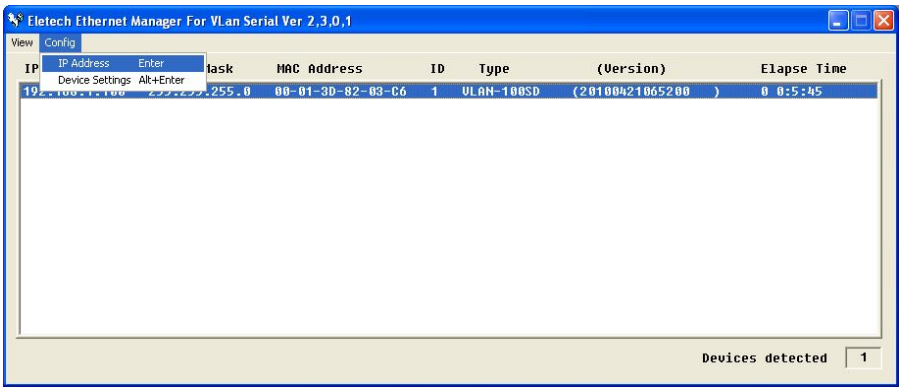
It is recommended to put a label with the IP address info on the logger for identification purposes. This is especially helpful when multiple loggers are installed on the same network.

1. Run ETM.exe directly from the installation CD. A window similar to the following will appear. Note that the display may include loggers already installed, but the new one can be easily identified by its default IP address.



Note that it may be necessary to disable the (Windows' built-in and/or any other installed) firewall in order for ETM to find the new logger. Windows' built-in firewall can be disabled by opening the Security Center in the Control Panel. To disable other installed firewall, please refer to its manual. The firewall should be re-enabled after changing the IP address.

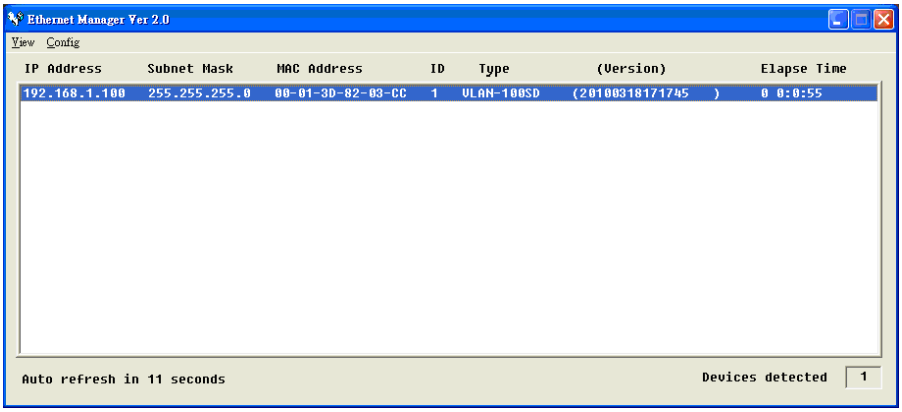
2. Double left click the target device, or highlight it and select **Config > IP Address** from the menu.



3. The following window will appear. Change the IP address, enter username and password then click OK. By default, username is "vlansd" and password is "1234". Do not use the IP address shown below – it's just an example.

Note that the IP address will fail to change if incorrect username or password is entered.

4. The new IP address should become effective in about 20 seconds as indicated by the "Auto refresh" time shown on the lower left corner of the window.



If the new address conflicts with another device on the network, Windows will display an error message. In this case, the address needs to be changed again.

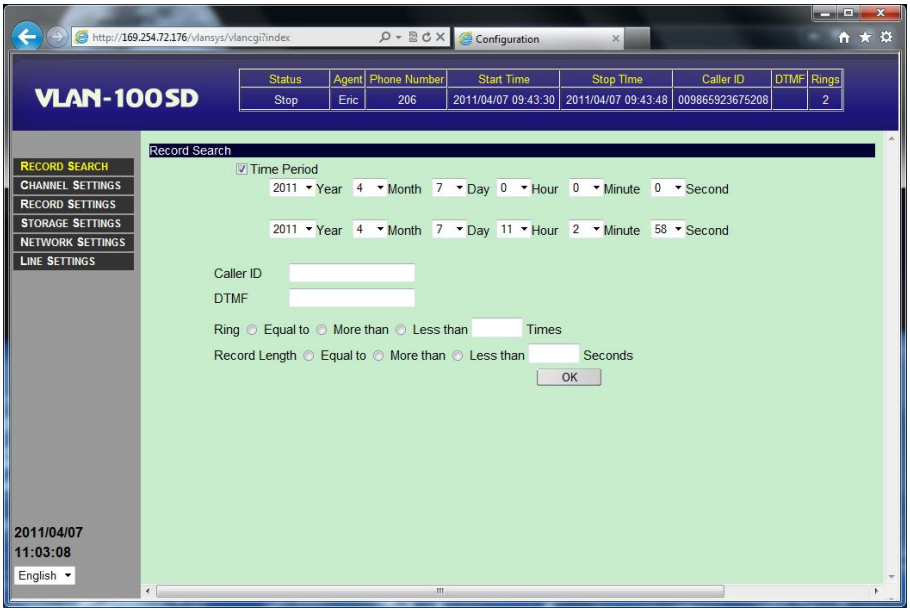
5. After the change has become effective, close ETM and re-enable the firewall(s) if applicable.

3. DEVICE LOG-IN

1. Open your web browser and enter the logger's IP in the web browser (e.g. http://169.254.72.176).

2. Enter vlansd for **Username** and 1234 for **Password,** then click **OK**.

3. The following screen will appear.



The current recording status is shown on the top.

Available commands are listed on the left pane.

Current date and time are listed on the left pane below the commands.

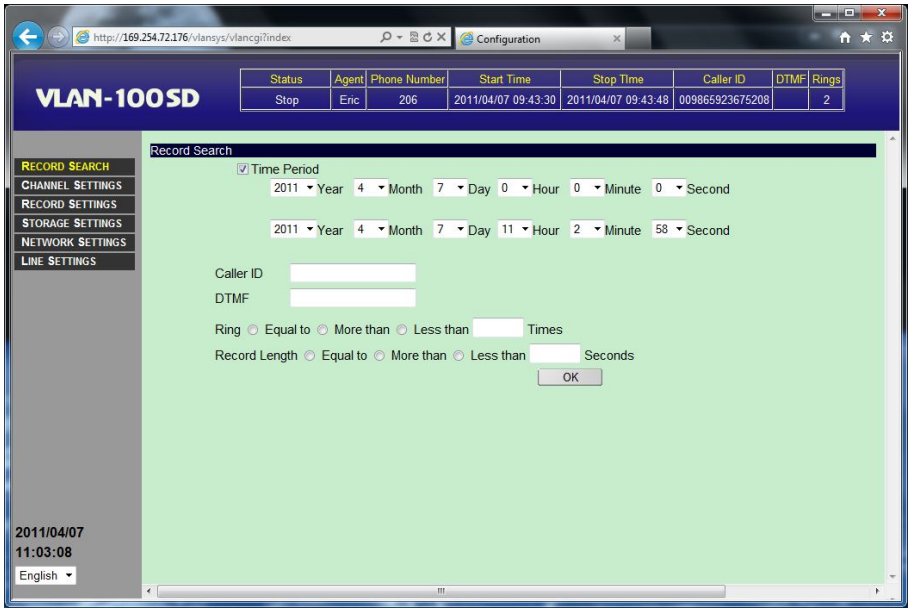
Further down is the language selection.

The Record Search screen is opened automatically by default.

4. SYSTEM COMMANDS

Click on the desired command listed on the left pane to access its page.

A. Record Search



Available search keys are described below. If more than one search keys are enabled, then a file must match all search keys in order to be found.

Time Period
Check the checkbox to enable. The search will be confined to the specified date/time period.

Caller ID
The caller ID string from an inbound call. The string may be partial.

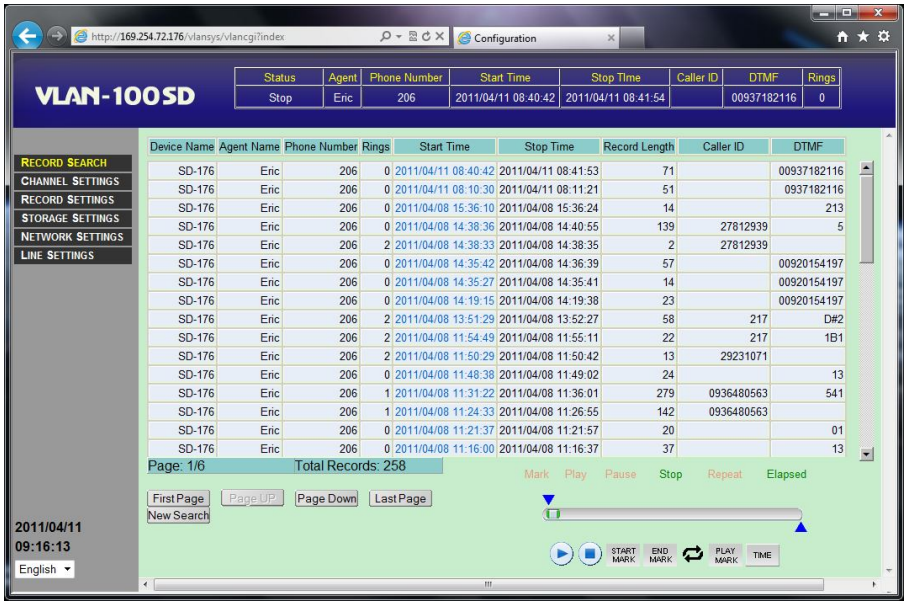
DTMF
The touch tone(s) detected during the entire recording period. The string could include but is not limited to the phone number dialed from an outbound call. The string may be partial. Touch tone detection may be disabled if desired – see the Record Settings page for details.

Rings
The number of rings before the call is answered – equal to, more than or less than. This key is meaningful only when the Start Method is set to Local Phone.

Record Length
The length of the record in seconds – equal to, more than or less than.

Click OK to start searching. If no records are found then the following dialog box will appear.

Otherwise, a screen similar to the following will appear.

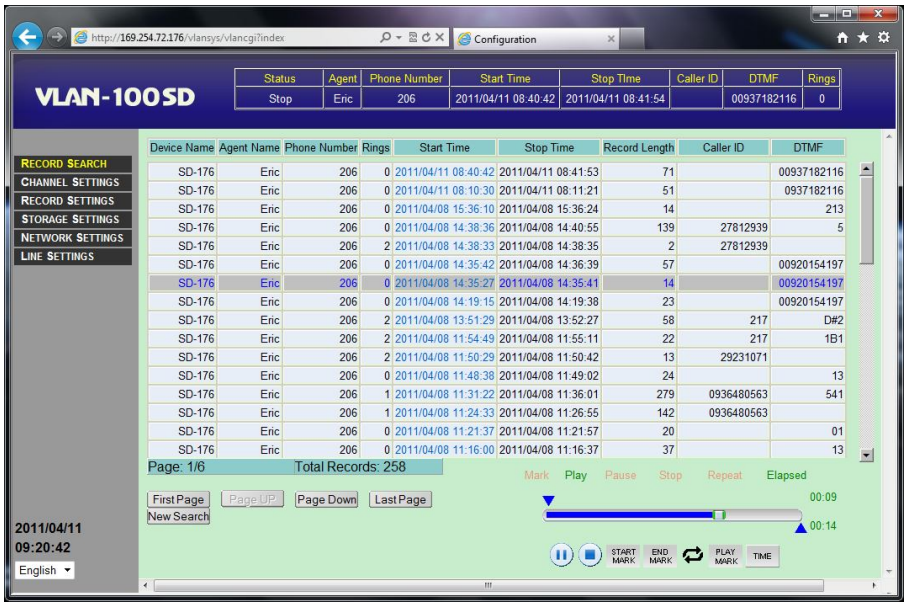


The results are listed in 'pages'. The records are listed in reverse chronological order.

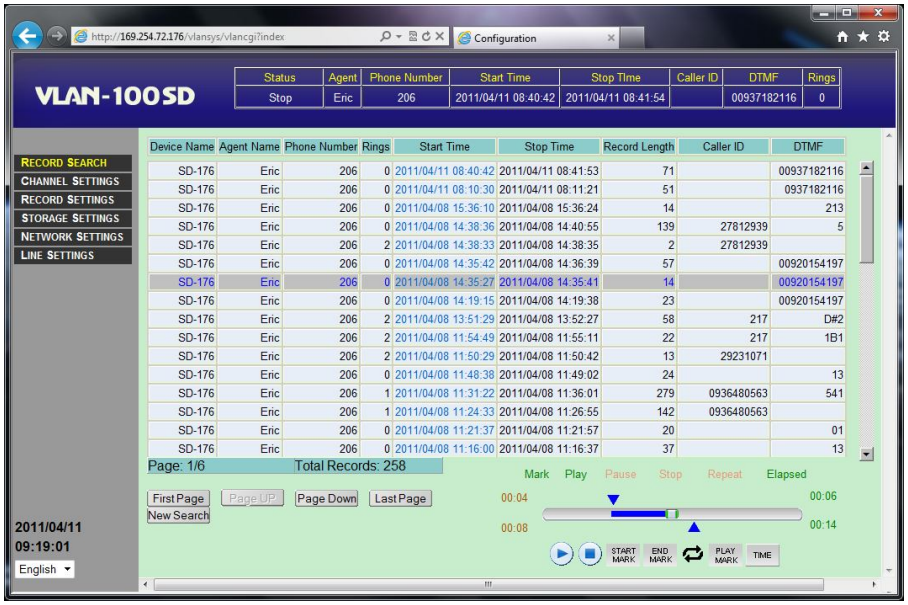
Each page contains up to 50 records by default. If there are more than 50 records, the last page will be displayed. To go to another page, click **Page Up**, **Page Down**, **First Page** or **Last Page**. To start a new search, click the **New Search** button.

To play a record, first select it by double clicking it. You may click on any part of the record except the Start Time field (which is used for saving the record as explained later). The record will be highlighted in a dark color. Now click the PLAY button to start the playback.

While the record is being played, the pointer on the playback progress bar indicates the current playback position. The PLAY button turns into the PAUSE button which can be used to pause the playback. There is also a STOP button to stop the playback.



Sometimes it is desired to play a particular section in a record. To do this you will need to play the record and mark the section by clicking “Start Mark” and “End Mark” respectively at the proper point. You may also drag the pointers to the desired locations directly. Then click “Play Mark” to play the section once, or “Rep” to play it repeatedly.



To toggle between relative and absolute time during playback, click “Time”.

Saving a Record

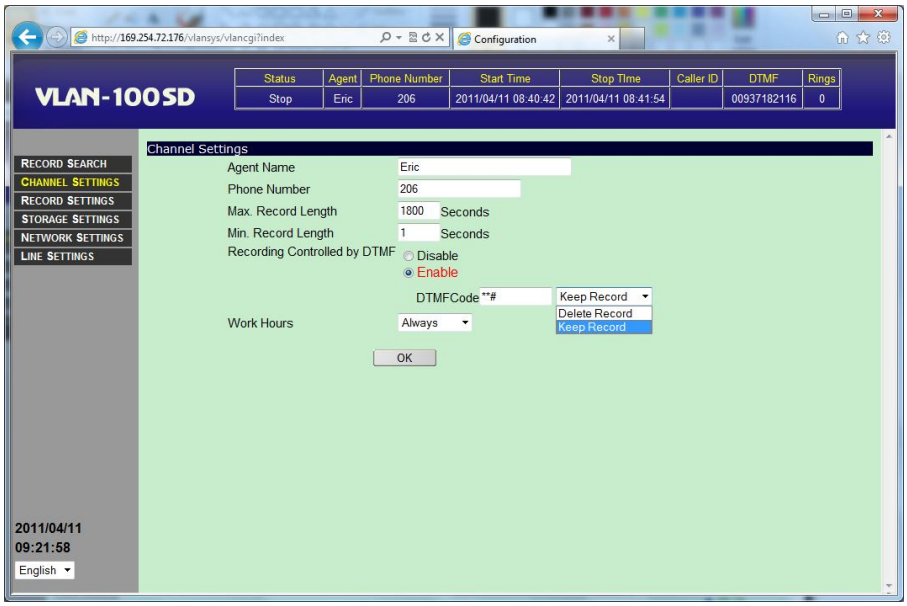
This function copies the selected record from the logger to the host computer for whatever purposes it may serve. This allows you to backup important records because they will eventually be lost due to storage recycling.

To copy a record, move the cursor over the record’s Start Time field. After the cursor changes to a “hand”, right-click and select “save as”. In the dialog box that follows, select the drive and the folder to save.

Although the system allows one to copy individual records to the host computer, it does not provide any archiving functions. In many cases the system’s internal memory is big enough to store several months’ worth of records, therefore eliminates the need for archiving.

If needed, archiving can be achieved by configuring the system to use the external USB drive. When the USB drive is about full but before the storage recycling starts, replace it with a new one. The old USB drive now becomes an archive. To access an archive later, simply unplug the current USB drive from the logger and plug in the archive.

B. Channel Settings



Agent Name
The name of the agent associated with this channel.

Phone Number
The phone number or the extension number associated with this channel.

Max. Record Length
The maximum length (in seconds) per record. If the length of the call exceeds this value, it will be broken into multiple records. The default value is 1800 seconds (30 minutes), the maximum value is 3600 seconds.

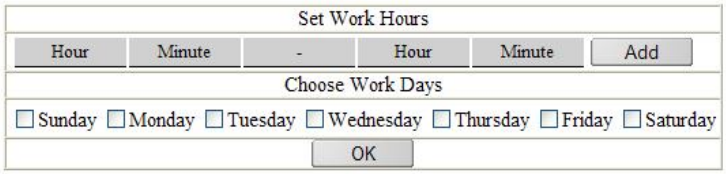
Min. Record Length
Calls shorter than this length will not be recorded. Note that if the call exceeds this length then the entire call is recorded, not just the portion of the call after this length.

Record Controlled by DTMF
If enabled, this function allows the user to control, during or at the end of the call, whether the recording should be saved or not. It is recommended that the string be selected to contain at least three touch tones for best results. if "Keep Record" is selected, the recording will not be saved unless the specific string of touch tones are pressed. If "Delete Record" is selected, the recording will be saved unless the specific string of touch tones are pressed.

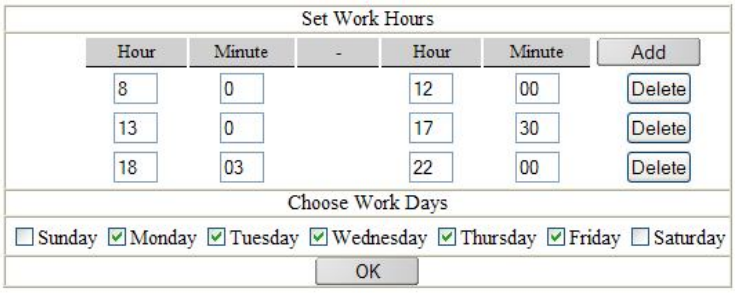
Work Hours

- Always – channel will always be enabled.
- Never – channel will always be disabled.
- Customize – Specify up to four time periods for the channel to be enabled, expressed in 24-hour time format (HH:MM:SS).

Select “Customize” and the following screen appears.

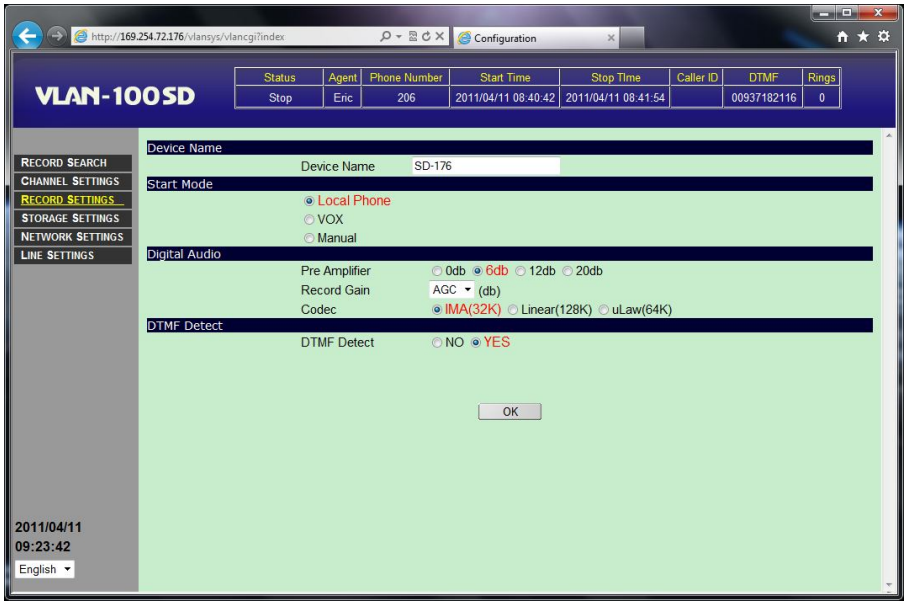


Select the work days and click “Add”. Enter the time period in the appropriate fields. Up to 4 different work periods can be added. To delete an entry, click its “Delete” button.



C. Record Settings

Record Settings is used for setting the recording level and the trigger method.

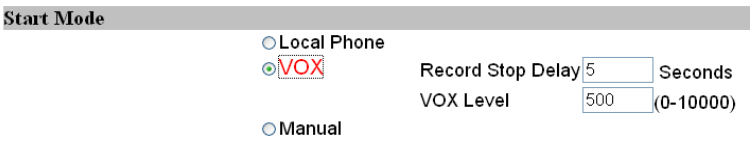


Device Name
Give a name to this logger for your own identification purposes. The name should be unique if you have several loggers connected on the same network.

Start Mode
Specifies how the recording should be triggered. The options are:

Local Phone
This method detects the status of the handset. Recording starts when the handset is lifted up (off hook) and stops when the handset is returned to the cradle (on hook). This method obviously cannot be used for microphone recording.

VOX
This recording method detects the presence and absence of sound to start or stop recording. Recording starts when the sound exceeds the threshold level (called the VOX level), and stops when the sound drops below the threshold level for longer than a certain period (called the Record Stop Delay, measured in seconds). Under this method a phone call will be recorded into several files if there are silences longer than the Stop Delay during the conversation.



- VOX Level
This setting is used when the VOX start mode is selected. Enter a value from 0 – 10000. If the VOX level is set too low, the system becomes too sensitive to line noise, resulting in bogus recordings. If the VOX level is set too high, the system is more likely to stop recording prematurely. Start with the default value and make adjustments if necessary.

- Stop Delay
This setting is used when the VOX start mode is selected. Enter a value measured in seconds. If the Stop Delay is short, phone calls are more likely to be broken into two or more records. If the

Stop Delay is long, consecutive phone calls are more likely to be saved as one record if they occur within short intervals. Typically a value between 3 to 5 seconds works the best.

Manual
This method detects the status of the unit's Record button – recording starts when the button is pressed down, and stops when the button is popped up. This method is often used for microphone recording.

Digital Audio Parameters

Pre-Amplifier
Sets the gain (in decibels) of the pre-amplifier.

Record Gain
This helps to compensate for weak signals on the line. A higher value means a stronger boost. You can also select AGC to let the system automatically adjust the gain for each call.

Codec
The type of analog to digital conversion the system uses.

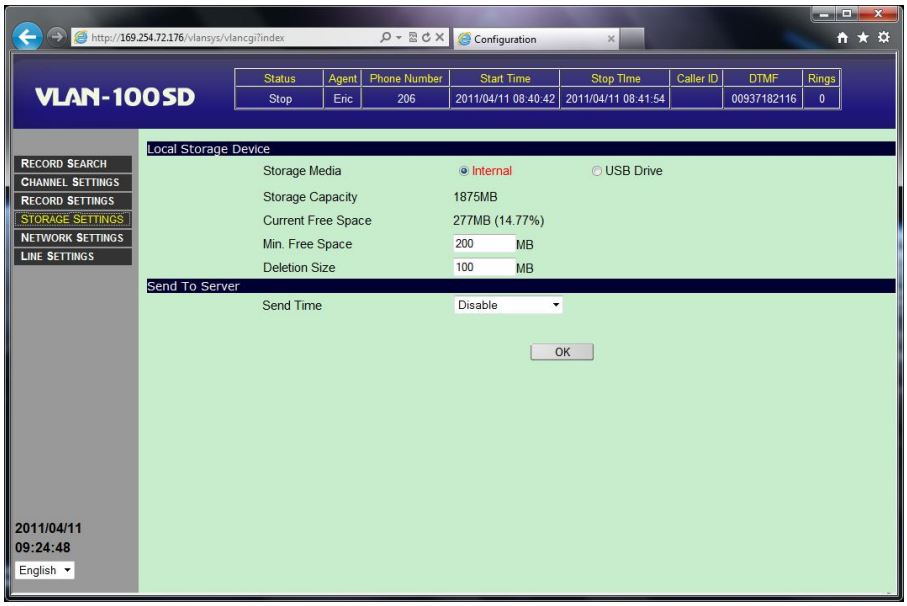
IMA (32K): lowest quality but uses the least amount of memory (4KB per second)
uLaw (64K): medium quality (8KB per second)
Linear (128K): highest quality but uses the most amount of memory (16KB per second)

The default is IMA which is adequate for most applications.

DTMF Detect
If enabled, the system will detect and record touch tones during the entire recording period of both inbound and outbound calls.

D. Storage Settings

Choose the storage media and define the rules on storage recycling. The system always deletes the oldest records when recycling storage space.



Local Storage Device

Storage Media
Choose between Internal and USB drive.

- Internal
Recordings will be stored in the internal memory.

- USB Drive
Recordings will be stored in an external USB drive. When a USB drive is used on the system for the first time, the logger needs to create an index file on it (see Appendix).

Storage Capacity
The storage capacity of the drive (Internal or USB).

Current Free Space
Amount of current free space

Min. Free Space
Storage recycling starts when the free space drops below this threshold level.

Deletion Size
The amount of data to delete per recycling. A smaller amount will cause the recycling to occur more frequently, but it will also allow the system to keep more old data.

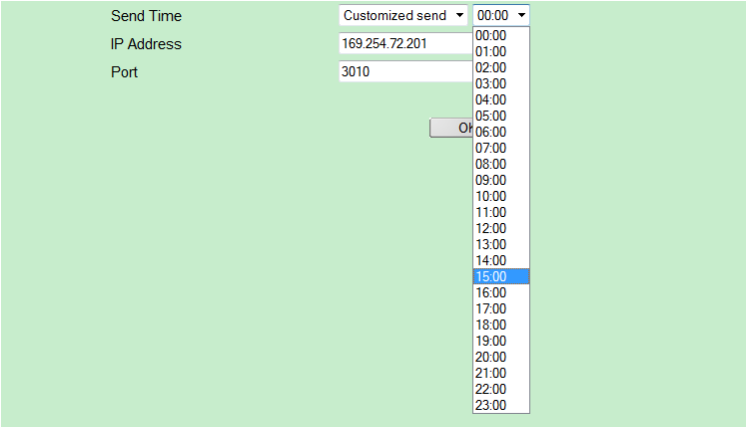
Send To Server

Send Time
When multiple VLAN-100SD loggers are deployed at different locations, it is possible to set up a storage center for archiving purposes. The record data will be stored in each logger's internal memory first, and then transferred to the storage center later according to user-defined schedules.

- Disable – Don't send.

- Send Immediately – Send immediately.
- Send Hourly – Send at the hour.
- Customized Send – Select a specific time of day.

Select “Customized Send” and the following screen appears.



Select a time from the drop down list. To avoid network congestion, select a time when the network traffic is light.

IP Address
Enter the server’s IP address.

Port
Enter the server’s port address if the server is connected behind NAT.

E. Network Settings

Network settings allows the user to set the password, IP address, time synchronization and firmware update.

Administration

User Name
The default user name is “vlansd”. Keep the user name in a safe place for future reference.

Password
The default password is “1234”. Keep the password in a safe place for future reference.

If you should lose the user name and/or the password, you can reset them to the default values by pressing the Reset button for more than 7 seconds with power turned on. Please note that all other system settings will also be reset to factory default.

LAN

Please note that Gateway and DNS Server settings are not needed if the logger is connected to the host computer directly.

DHCP Client
Enable DHCP Client if you want the router to assign an IP for the logger. It is not recommended to enable this option.

IP Address
The default IP address is “192.168.1.123”. The IP address should have been configured properly in the installation process.

Subnet Mask
The default subnet mask is “255.255.255.0” which should work well in most cases.

Gateway
The gateway address should be set to the same as the router’s.

DNS Server
Assign a known DNS server in your network (for NTP name server). If you don’t know, enter “168.95.1.1”.

PPPoE
PPPoE is a way of connecting the logger to the ADSL modem (Internet) directly without going through a router.

Connection Mode
- Disable – Disable PPPoE.
- Always On – Enable PPPoE.

DDNS (Dynamic Domain Name Server)
Unless the broadband connection has a static IP address, the logger will be assigned a dynamic IP address by the ISP after the PPPoE connection is made. This dynamic IP address will be unknown to us, so how can we connect to the logger if we don't know its IP address?

The solution is to set up a DDNS account at no-ip.com and enter the account information here. After the PPPoE connection is made the logger will automatically provide no-ip.com with its dynamic address, so that no-ip.com knows how to contact it. For us, we only need to enter the host name (e.g. http://vlan001.no-ip.com) into the browser to connect with the logger indirectly through no-ip.com.

Service Provider
- Disable – Disable this option.
- no-ip – Link to no-ip.com with the following account.

DDNS User Name
Enter the user name of your no-ip.com account.

DDNS Password
Enter the password of your no-ip.com account.

Host Name
Enter the host name of your no-ip.com account.

Internet Service

HTTP Server/Port
Web port for accessing the logger via the Internet. Contact your network administrator to get the necessary information if this port is used in your router.

Status/Port
Port for updating information such as dialed number and caller ID.

SyncTime with PC
Click the *Computer Time Sync to Device* button to synchronize the logger's internal clock with the host computer's.

NTP (Network Time Protocol)
NTP is a protocol used to synchronize clocks over the Internet. If NTP Server is enabled, the logger will automatically synchronize its clock with a NTP server once every 4 hours. Be sure to configure the DNS server if the NTP server you enter is a domain name instead of an IP address.

NTP Server
Enable and select a NTP server from the list, or you can enter the IP address or the domain name of a NTP server not on the list.

Time Zone
Select the time zone for your location.

Update Software

From time to time new software versions may become available for fixing bugs and/or adding new functions. You should enter here the server information (IP address and port number) obtained from your dealer. When it's time to update, just click the Update button.

Server
The IP address of the server where the software update is available.

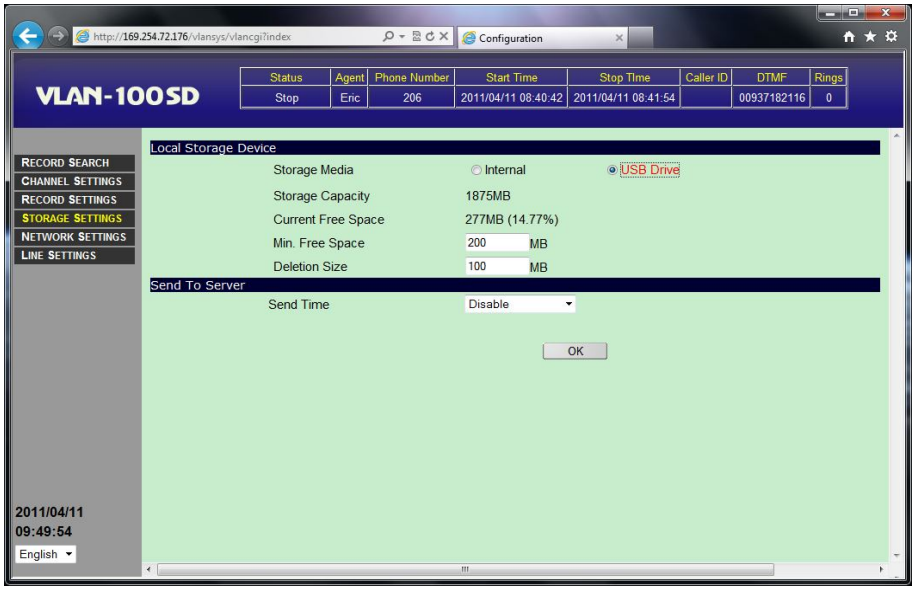
Port
The port number used by the server for updating software.

APPENDIX : CREATING AN INDEX FILE ON NEW USB DRIVES

1. Format the USB drive on a PC with FAT or FAT32 file system.

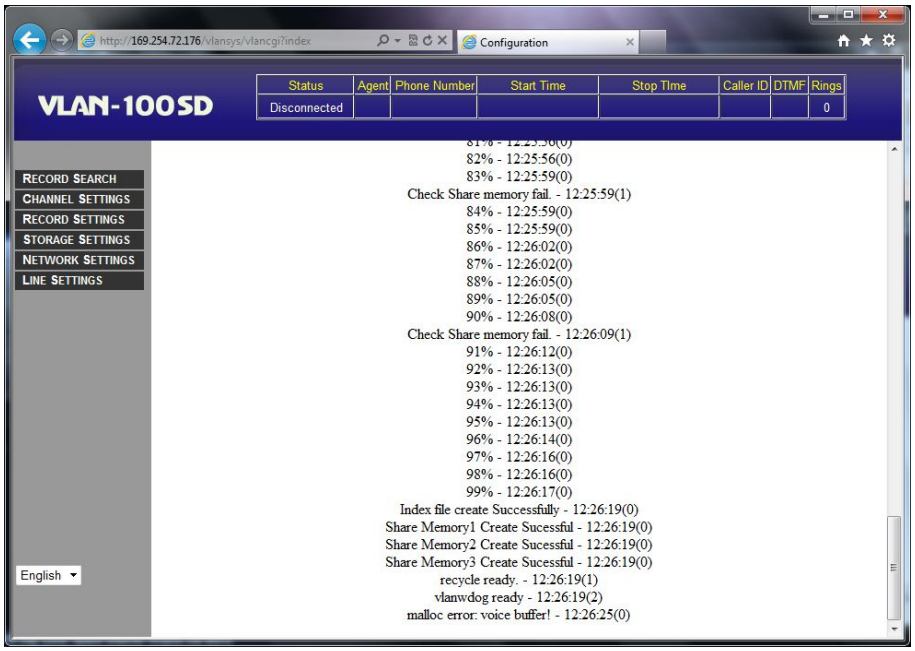
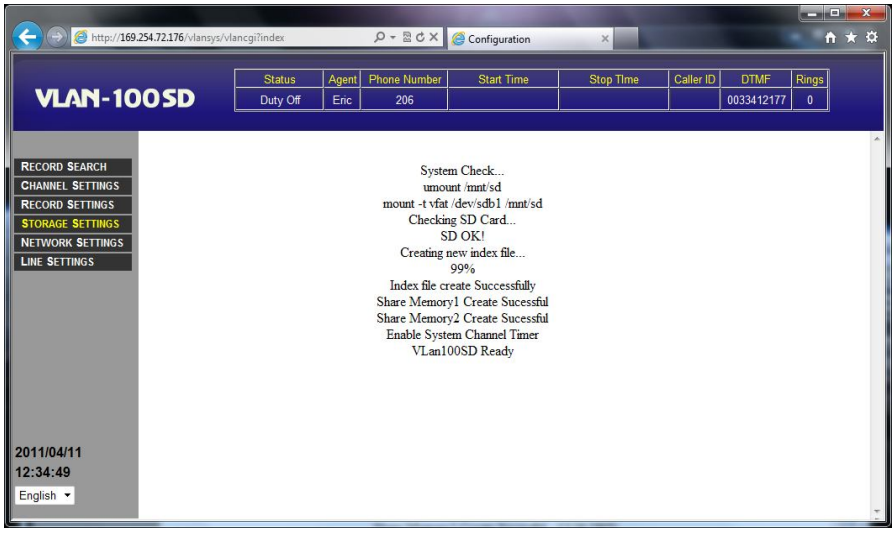
2. Power off the logger. Plug the USB drive into the logger and power on.

3. Log-in the logger, navigate to “Storage Media” and select “USB Drive”.



4. Click OK and the following reboot notice will appear.

5. After rebooting the system, the system will start create an index files.



6. When the index file is successfully created, the following window will appear and then shortly changes to the Record Search window.