

▶ **PALERT**
WEB
CONFIGURATION

sanlien
www.sanlien.com



SWISS DESIGN

USER MANUA

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DOCUMENT CONTROLS

DOCUMENT HISTORY

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|-----------|------------|----------|-----------------------|
| 0.1 | 17/11/2017 | VP/SP/BH | Merge of various docs |
| | | | |
| | | | |

REFERENCES AND SUPPORTING DOCUMENTS

| Document | Date |
|----------|------|
| | |
| | |
| | |

Document Stored as \\JENLOGIXQNAPP1\Jenlogix\Supplier Brochures and promo\San Lien\Manuals etc\Palert Advanced User Manual.docx

Last Saved at 17/11/2017 3:58 PM

DOCUMENT CONVENTIONS

INTENDED AUDIENCE AND READING SUGGESTIONS

01

PALERT SYSTEMS

The Palert product range includes a number of systems that have local processing and storage. While the original Palert required connectivity to controllers and networks, these units are designed for a variety of applications and some can be run standalone. The configuration part is all based on the same architecture and this manual is designed to provide details for these units.

The devices are :

- 1 Palert+
- 2 Palert+ DIN
- 3 Palert S3
- 4 Palert Cube
- 5 Palert PX-01 Controller
- 6 Palert netRelay
- 7 Palert netTower
- 8 Palert netSPeaker

This manual shows the configuration options for all these devices.

Refer to the individual Setup guides for hardware and other information specific to the units.

1.1 PASSWORDS

All the units have 2 different configuration components. The main access is via a web interface. This is used in the majority of situations. But there is also an underlying Linux operating system. Typically there is no need to access this, with the probable exception of password changing if required.

The systems come with 3 main passwords. 2 are for the web interface and 1 for the operating system.

To change the web interface see next section and to change the Linux password see section [Access Operating System](#)

02

WEB INTERFACE FOR SOFTWARE CONFIGURATION

All Palert units use the same basic Web interface. Where they differ, this is highlighted in RED.

2.1 CONNECTION SETTINGS

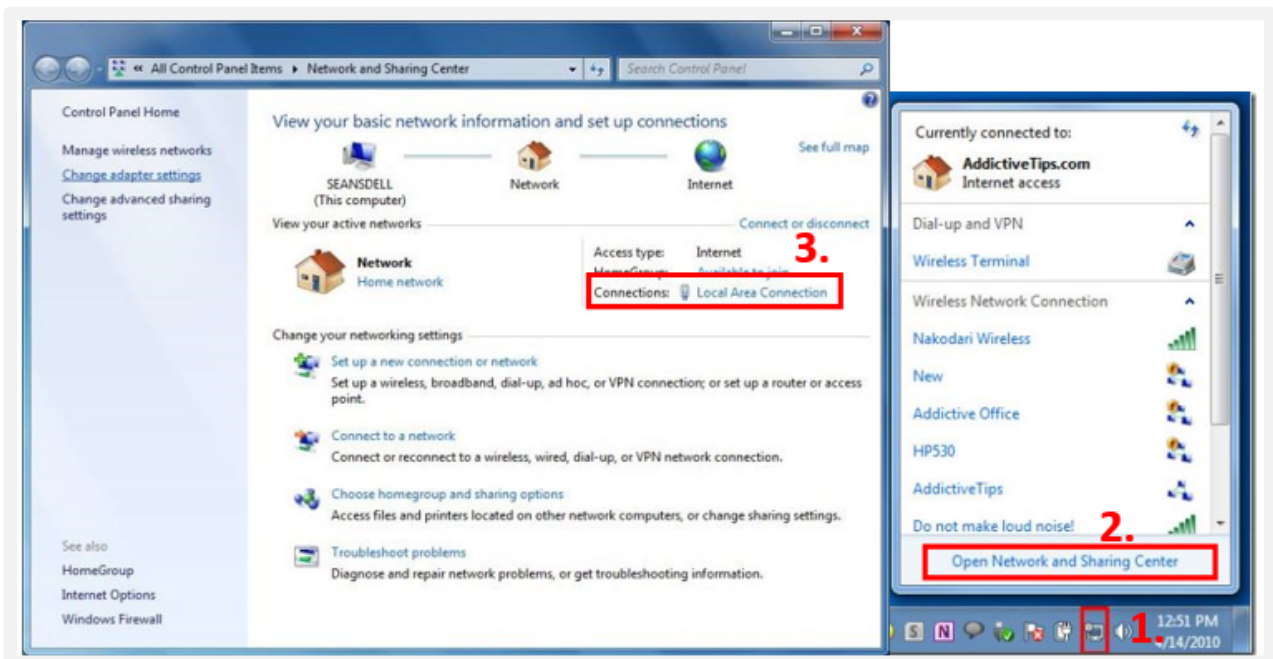
To connect to the unit from a local PC/Laptop it is necessary to change the PC network IP address to match the subnet of the unit.

To find the IP address of the unit press the internal control button – see Control Button.

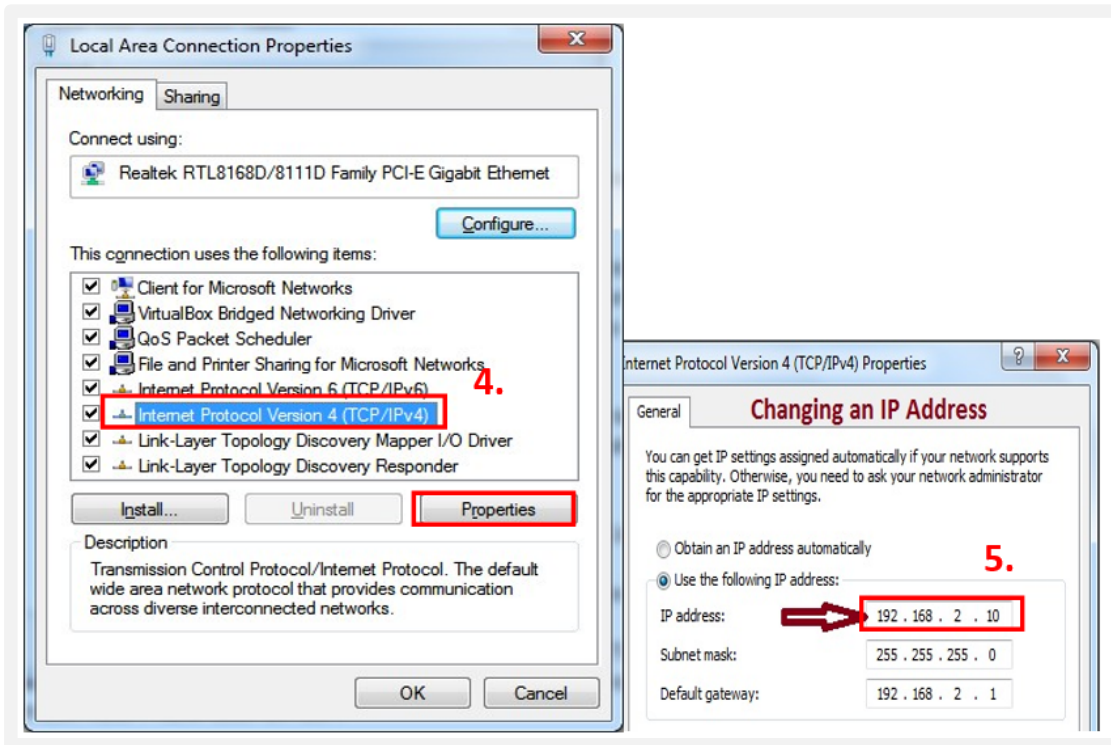
The unit IP address can then be changed using web interface below and so the PC subnet would then need to change to match the new IP to connect subsequently.

Connecting to a Palert from a local PC:

- 1 Click the network connection icon.
- 2 Open Network and Sharing Centre.



- 3 Click Local Area Connection > then Properties > IPv4
- 4 Change your computer IP subnet
E.g 192.168.255.xxx



03

WEB INTERFACE

3.1 LOGIN

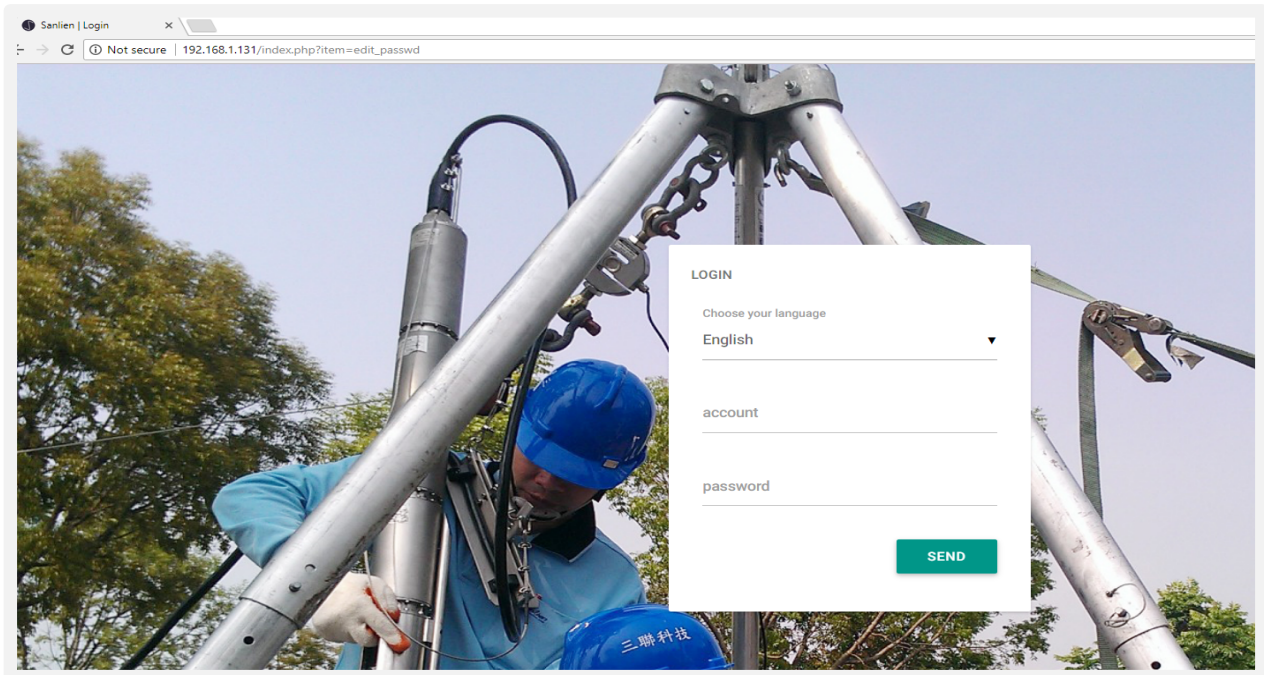
The configuration of the unit is via a web interface.

- 1 Open a web browser and enter the Unit IP on the address bar. This is found as above.
- 2 Login to pi account:

Language: Chinese or English

Default User: pi

Default Password: 1111



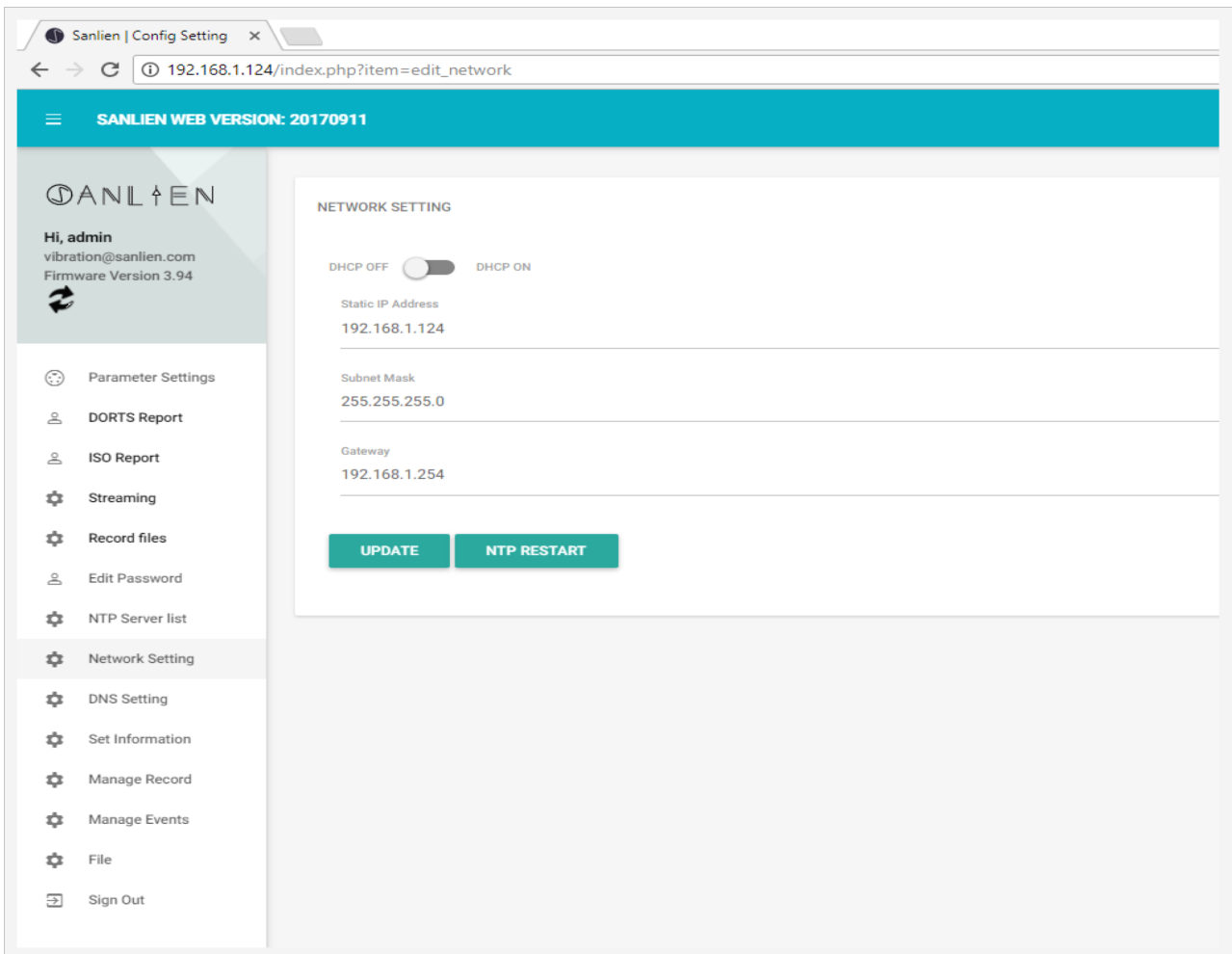
There is also an Admin user that shows the system parameters page. If the tab is not available then please login using this administration user.

User: admin

Password: 1111

3.2 NETWORK SETTINGS

IP of the unit and the gateway to enable data to be sent externally

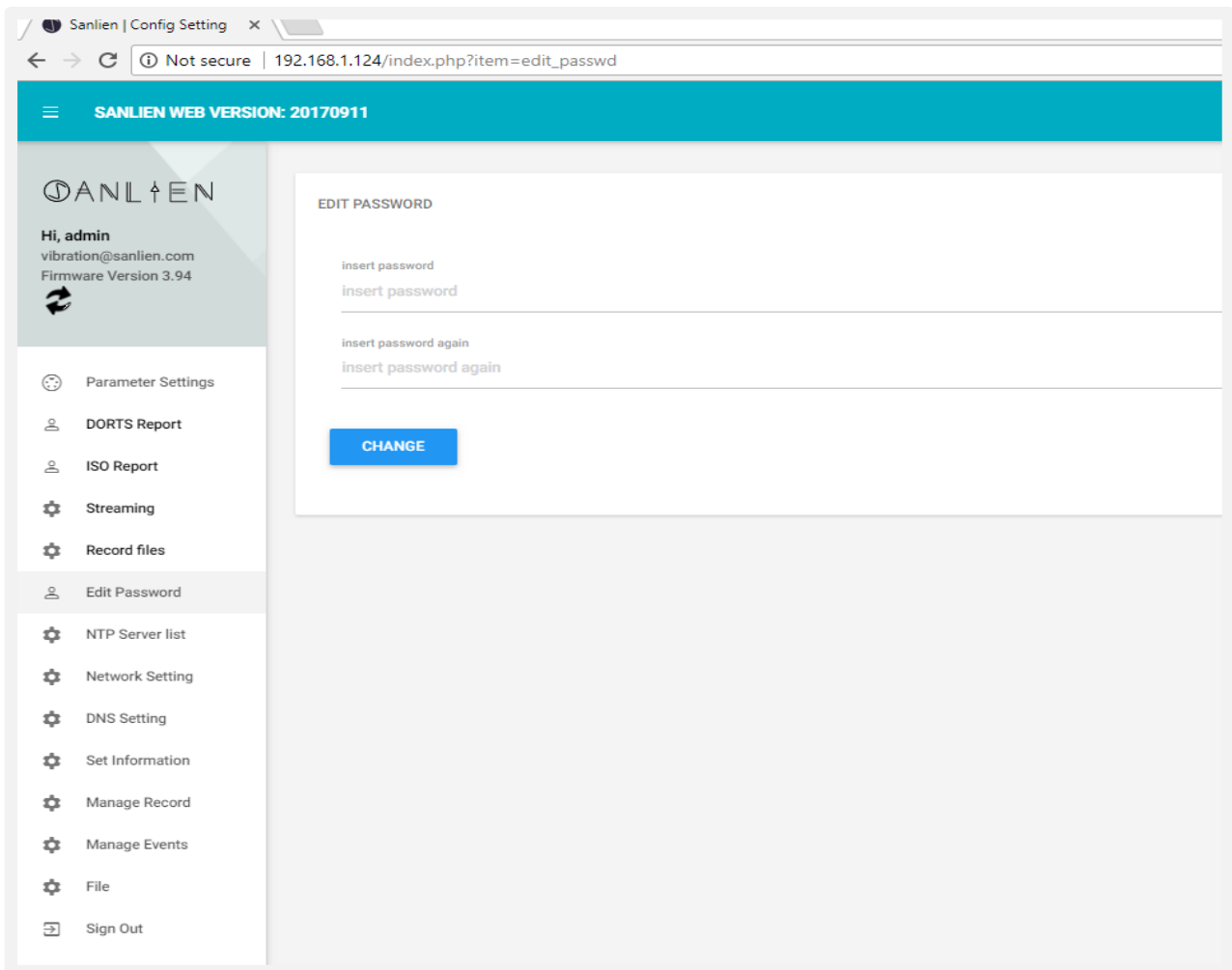


If the unit is being used as data storage, it is recommended to keep the DHCP off if possible if you wish to connect using other utilities. Otherwise the IP address will need to be found before retrieving any data and do any changes. But it is not essential to have a static IP if the unit is being used just as an Alarm system.

This screen provides the ability to change the IP address of the unit. Once changed you may need to reset the subnet of the PC connection to continue.

3.3 RESET PASSWORD:

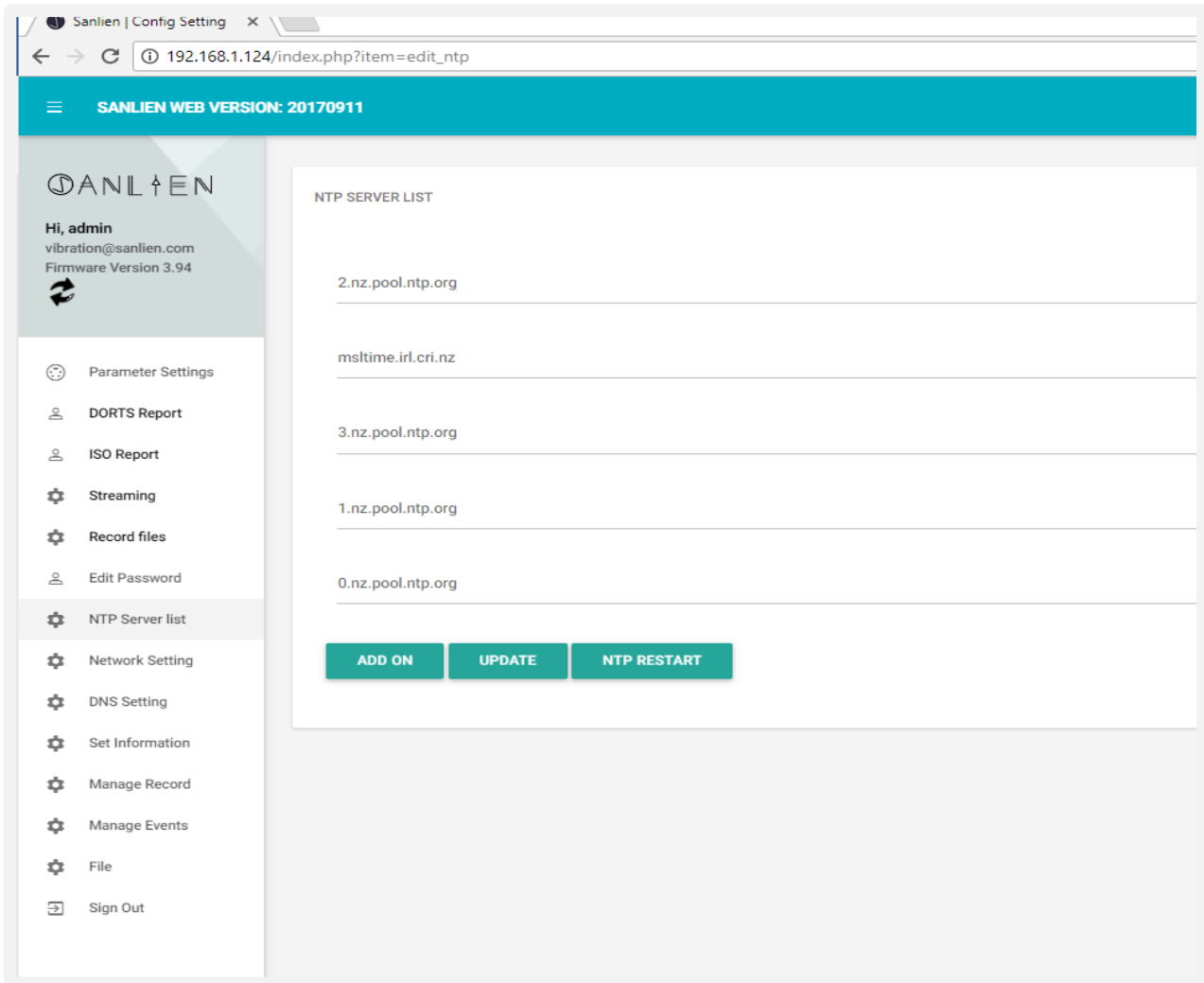
To change the web password, go to edit password tab and set as required.



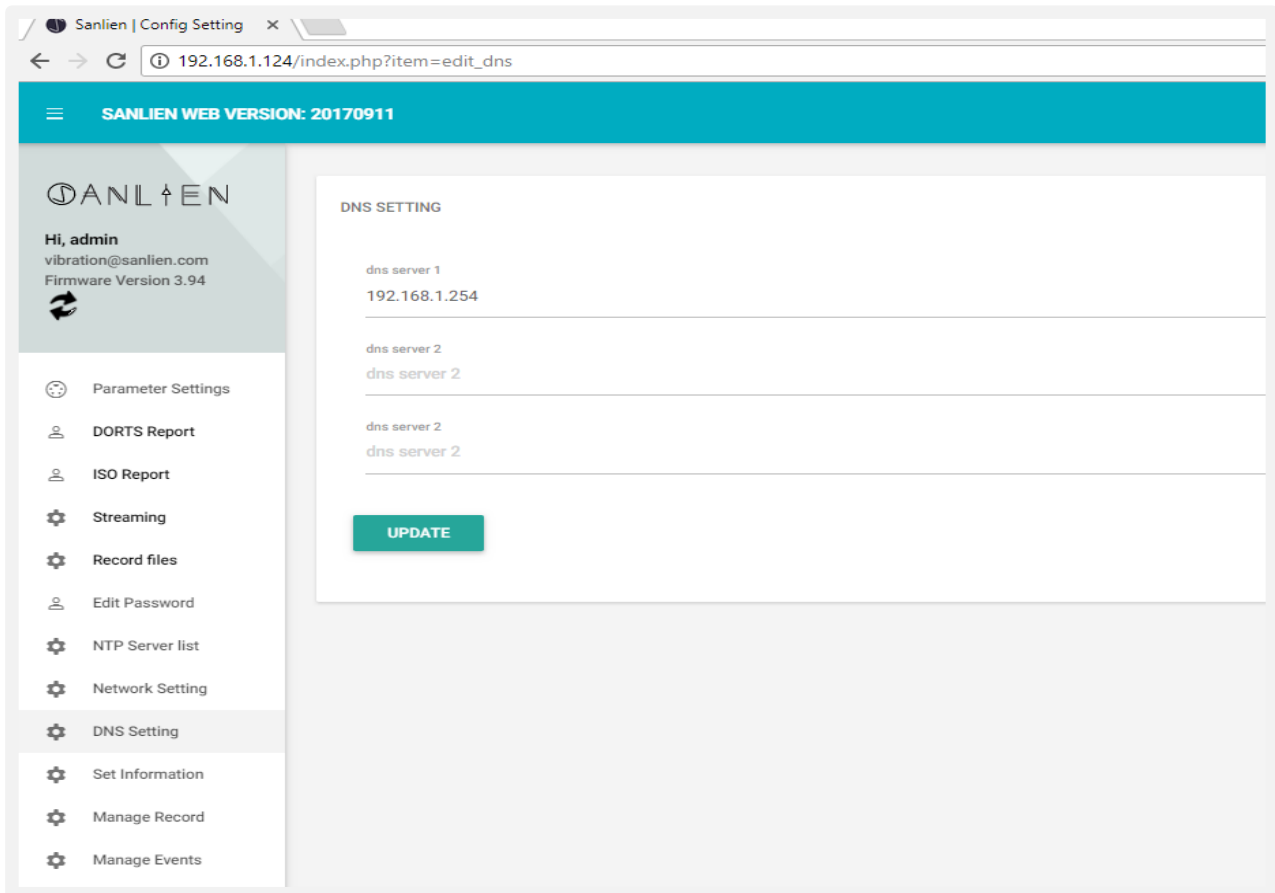
3.4 SET THE NTP SERVER:

This is required to ensure the time stamp is kept correct. If the unit cannot connect to an NTP server, i.e. is not on a network, then the timestamp of the data will be based on the internal clock.

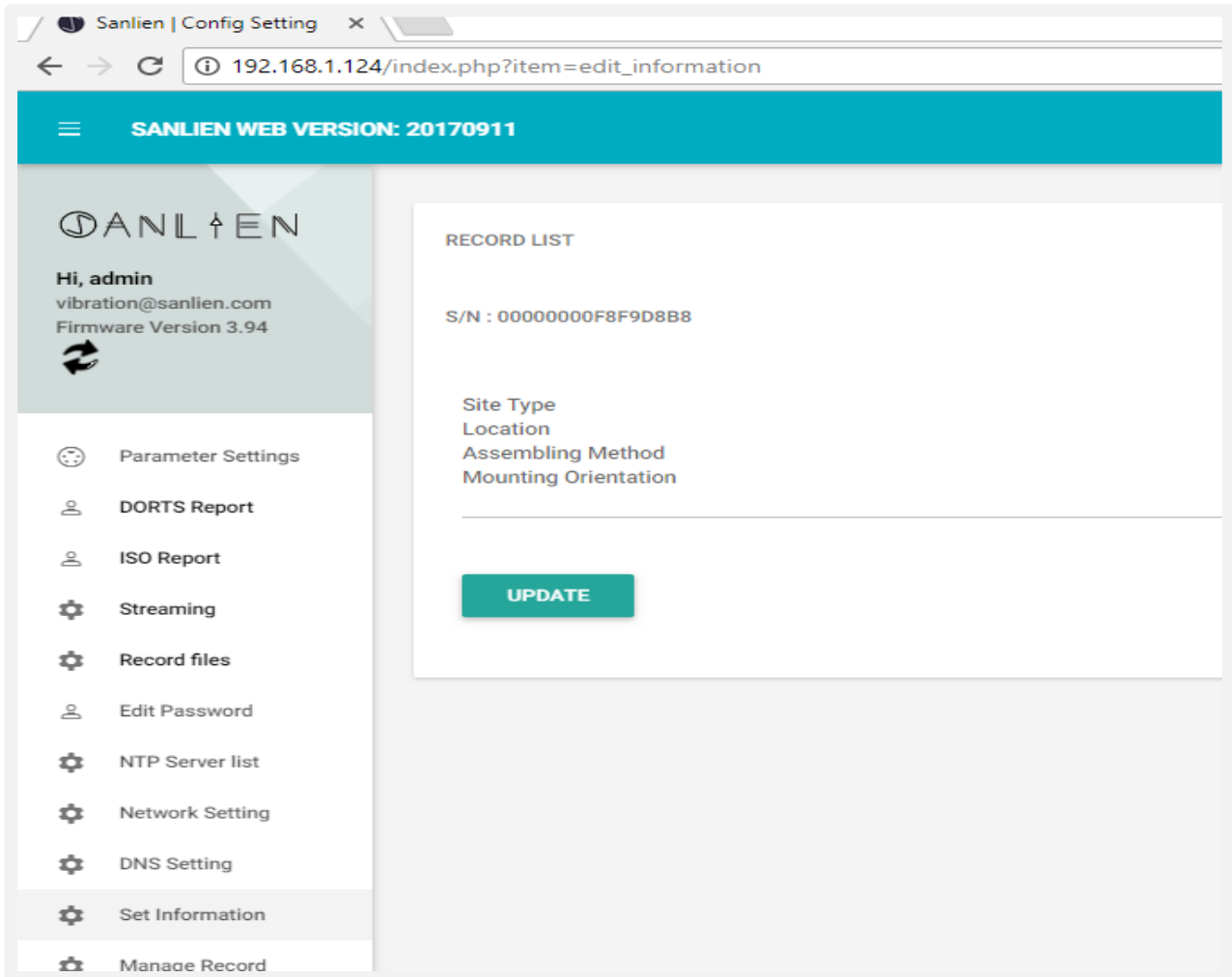
Multiple NTP servers can be configured.



DNS settings:



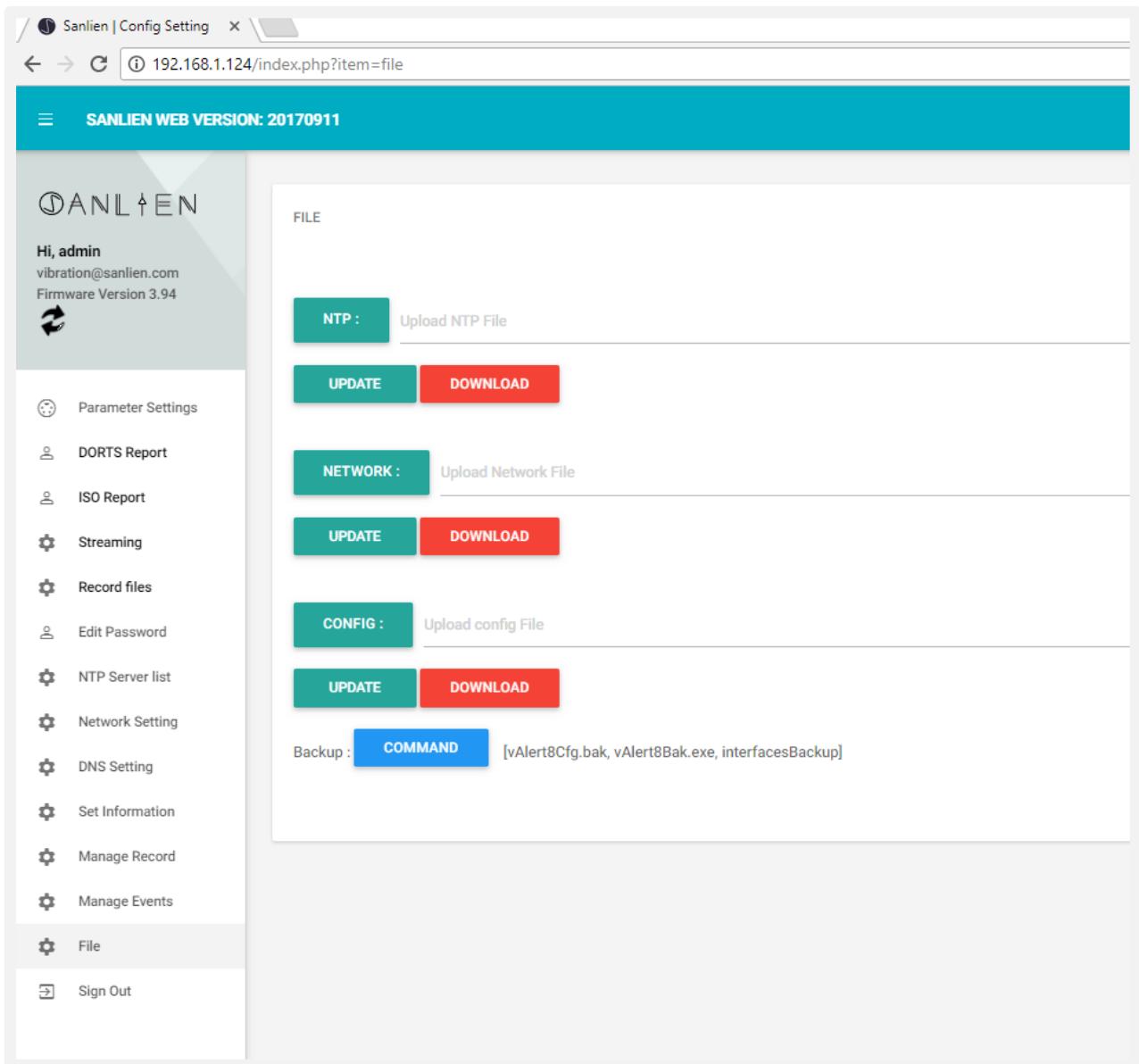
3.5 SET INFORMATION TAB:



To change S/N of Unit use this tab – this should not need to be changed unless directed.

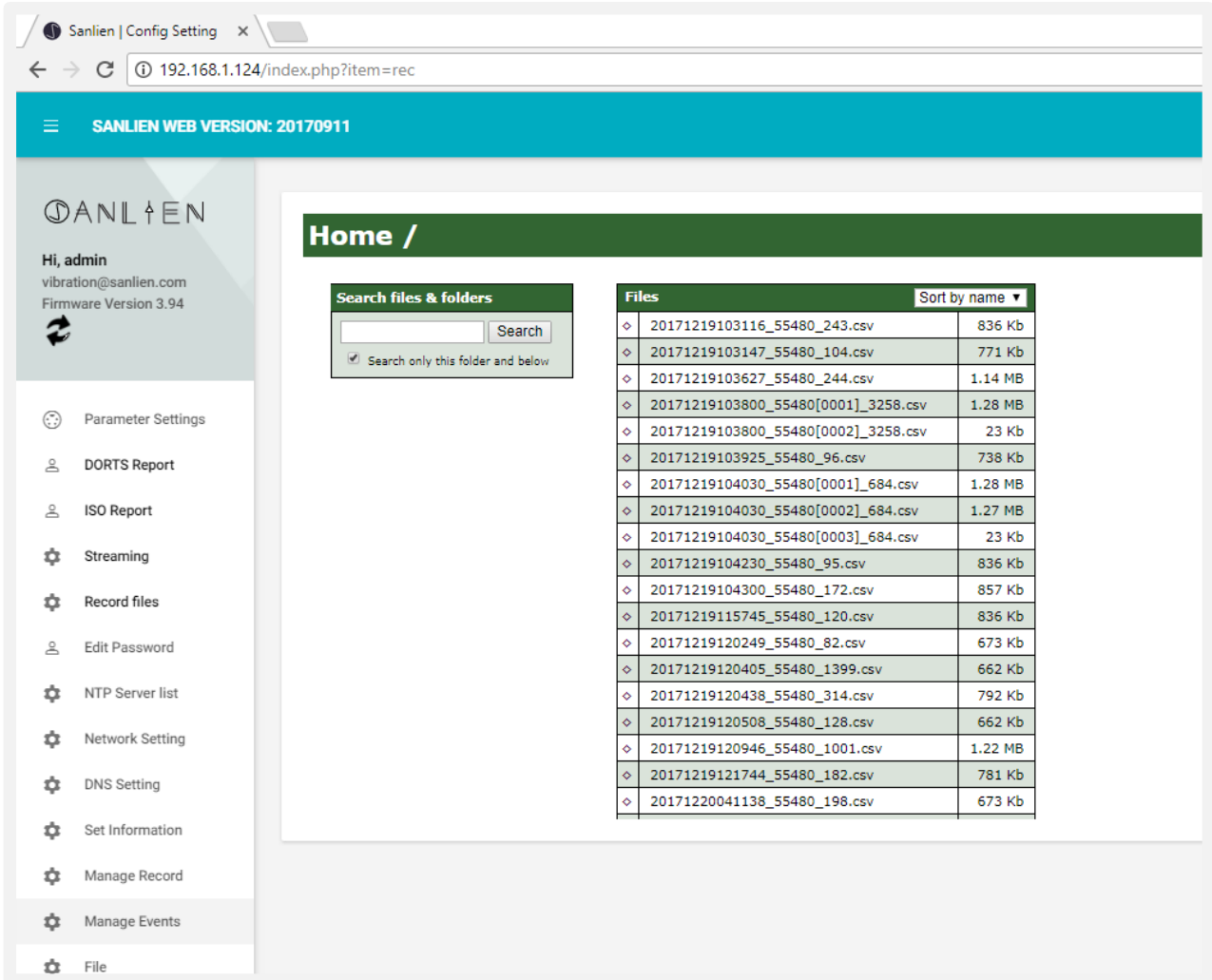
3.6 FILE TAB:

This enables file upload and download of configuration information, preloading of settings



3.7 DOWNLOADING EVENT FILES:

For any event the system will store a csv file containing details of movement in the 3 axes. To copy any file, go to Manage Events tab, then click on any event file to download.



The screenshot shows a web browser window with the URL `192.168.1.124/index.php?item=rec`. The page title is "SANLIEN WEB VERSION: 20170911". The user is logged in as "Hi, admin" with email "vibration@sanlien.com" and "Firmware Version 3.94".

The main content area is titled "Home /" and contains a "Search files & folders" box and a "Files" table. The "Search files & folders" box has a search input field, a "Search" button, and a checked checkbox for "Search only this folder and below".

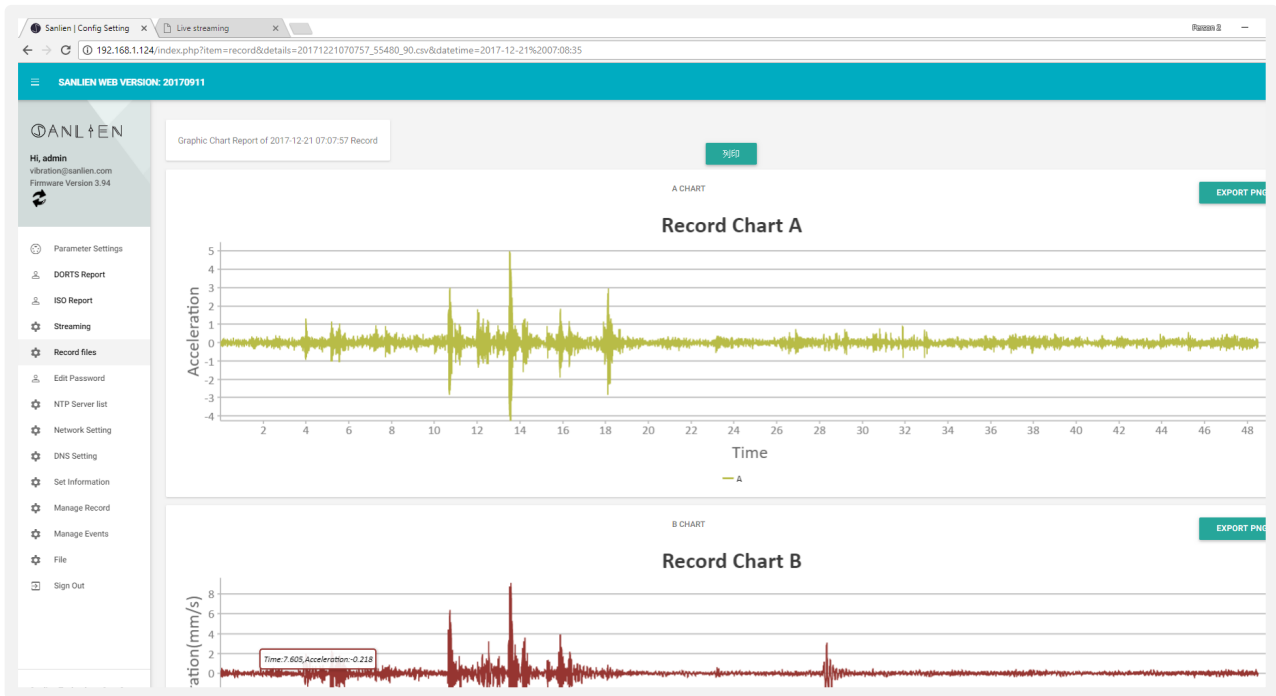
The "Files" table is sorted by name and contains the following data:

| Files | Sort by name ▼ |
|-------------------------------------|----------------|
| 20171219103116_55480_243.csv | 836 Kb |
| 20171219103147_55480_104.csv | 771 Kb |
| 20171219103627_55480_244.csv | 1.14 MB |
| 20171219103800_55480[0001]_3258.csv | 1.28 MB |
| 20171219103800_55480[0002]_3258.csv | 23 Kb |
| 20171219103925_55480_96.csv | 738 Kb |
| 20171219104030_55480[0001]_684.csv | 1.28 MB |
| 20171219104030_55480[0002]_684.csv | 1.27 MB |
| 20171219104030_55480[0003]_684.csv | 23 Kb |
| 20171219104230_55480_95.csv | 836 Kb |
| 20171219104300_55480_172.csv | 857 Kb |
| 20171219115745_55480_120.csv | 836 Kb |
| 20171219120249_55480_82.csv | 673 Kb |
| 20171219120405_55480_1399.csv | 662 Kb |
| 20171219120438_55480_314.csv | 792 Kb |
| 20171219120508_55480_128.csv | 662 Kb |
| 20171219120946_55480_1001.csv | 1.22 MB |
| 20171219121744_55480_182.csv | 781 Kb |
| 20171220041138_55480_198.csv | 673 Kb |

The left sidebar contains a menu with the following items: Parameter Settings, DORTS Report, ISO Report, Streaming, Record files, Edit Password, NTP Server list, Network Setting, DNS Setting, Set Information, Manage Record, Manage Events, and File.

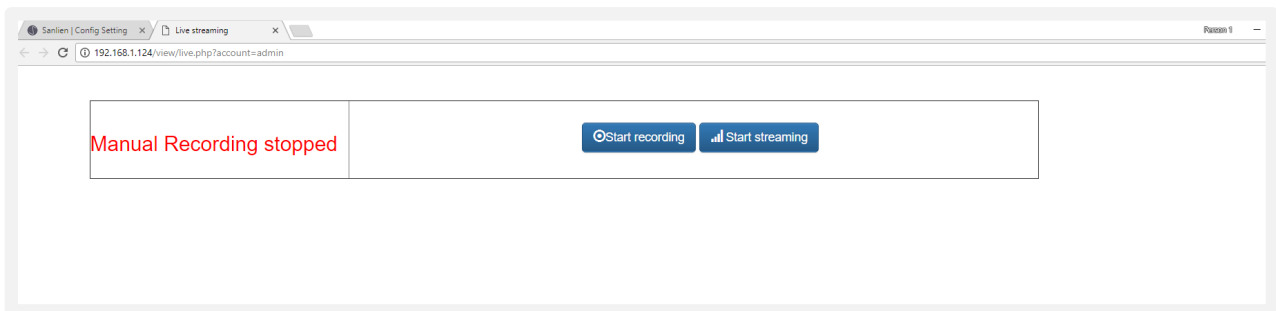
3.8 RECORD FILES:

To view event files directly from web interface:



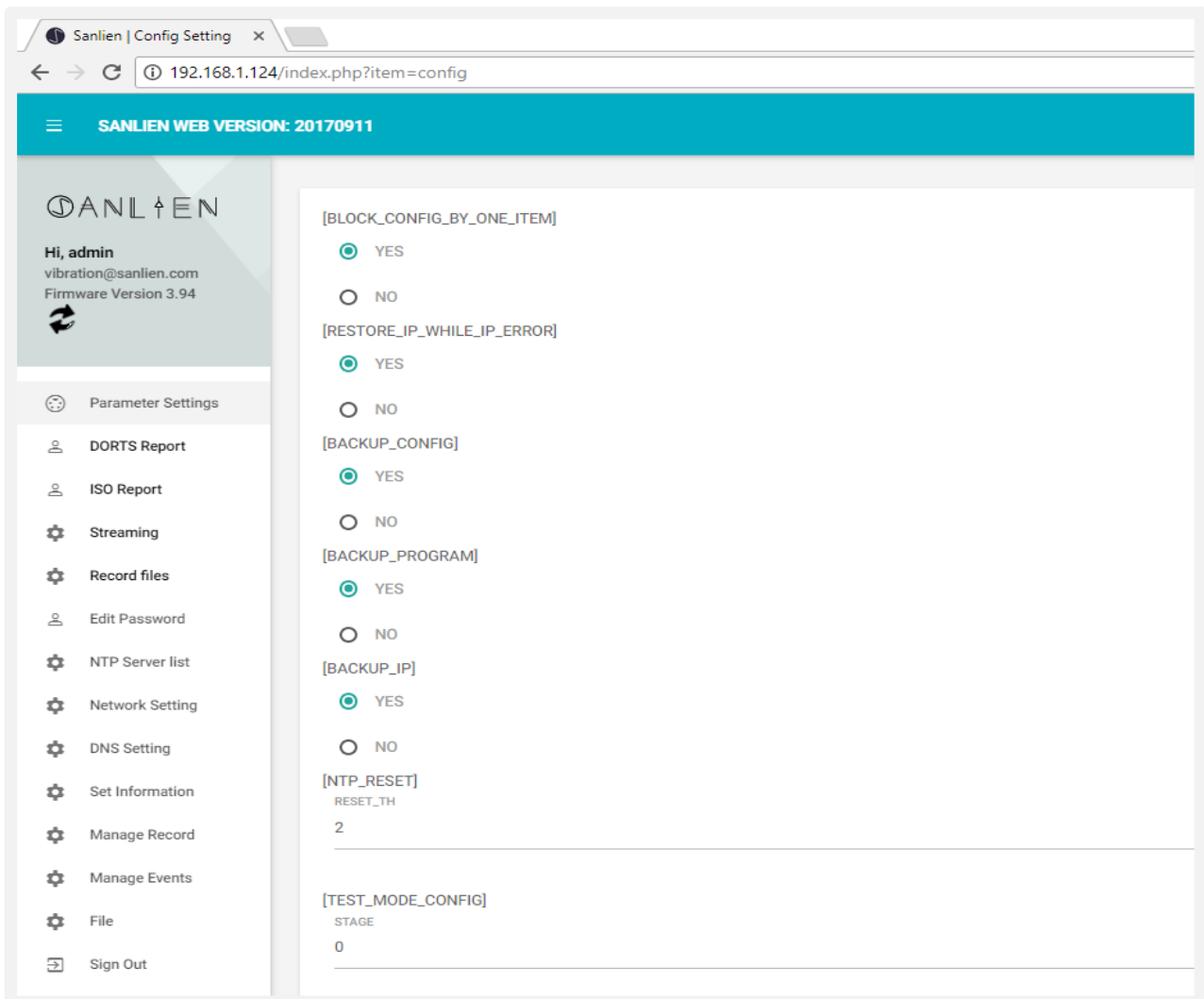
3.9 STREAMING:

To check waveforms for all three axis:



3.10 PARAMETERS SETTING TAB:

The Parameters menu option is only available to the admin user.



3.11 PARAMETERS DESCRIPTION

Parameters can be broadly classified into (A) early warning parameters, (B) regional early warning parameters, (C) parameters related to equipment and applications such as MQTT and firmware updates. Parameter settings are based on vAlert8.cfg file i.e. the main configuration file of the unit. (Engineers Only)

Please refer to Palert Manual for further information on many of these parameters.

3.11.1 EARLY WARNING PARAMETERS

[PALERT_LOCAL_MODE]

| | |
|--|--|
| SERIAL_NO | Serial number of the unit – normally should not be changed. |
| LCD_BACK_LIGHT_SECOND | 15 |
| SERVER_IP | Server IP:port. Can have up to 3 servers. |
| MOUNT_MODE (Palert+) | WALL OR NORTHWARD (<i>Normally not used</i>) OR EASTWARD |
| SERVER_STREAM_MODE_TAIWAN | 1 |
| SERVER_PASSWORD | Server authentication password for CEB mode. |
| CEB_SEND_TIMEOUT_USEC | 5000 |
| MSEEDFILE_VALID_DAY | 90 |
| MODE | The streaming packet format, TAIWAN or CHINA mode. |
| CEB_MODE | Whether to adopt the China Seismological Bureau protocol, YES / NO. |
| Station naming parameters for use with miniSeed file format especially | |

| | |
|---------------------|--|
| STATION_NET | Which network is the unit part of. E.g. NZ |
| STATION_NAME | Station name. |
| STATION_CH_NAME | Station channel name for central server, such as HL. |
| STATION_CH_GEO_NAME | Additional name to handle areas |
| STATION_LOCATION | Station location for central server, such as 01. |
| STREAM_TRIG_PACKET | Sending trigger message or not. |
| STREAMING_IN_MSEC | Millisecond stream default 1000 |
| SAMPLING_RATE | Sampling rate 50/100/200 sps. |
| VECTOR_INTENSITY | YES / NO |
| SPS_CH0 | Samples per second Channel 0 Default 50 |
| SPS_CH1 | Samples per second Channel 1 Default 100 |
| 0SPS_CH2 | Samples per second Channel 2 Default 200 |
| FIR_MODE | Minimum phase filter (Only on low-pass filter) YES / No. |
| LPF | Low pass filter 10/20/40 Hz. |
| HPF | High-pass filter 0.1 / 0.3 / 0.5 / 1 Hz. |
| WATCH_TIME | Alert duration - seconds. |
| WARNING_TIME | Warning duration - seconds. |
| PD_TRIG_ENABLE | Use Pd threshold to trigger event YES / NO. |
| PD_WATCH_THRESHOLD | P-wave Pd displacement (cm) Alert threshold Default 0.2 |

| | |
|------------------------|---|
| PD_WARNING_THRESHOLD | P-wave Pd displacement (cm) Warning threshold Default 0.35 |
| PGA_TRIG_ENABLE | Use PGA to trigger event YES / NO |
| PGA_WATCH_THRESHOLD | PGA (gal) watch threshold |
| PGA_WARNING_THRESHOLD | PGA (gal) warning threshold |
| PGA_ACTION_THRESHOLD | PGA (gal) action threshold |
| STA_LTA_TRIG_ENABLE | Use STA / LTA to trigger event YES / NO. |
| STA_WIDTH | STA Time window (seconds) |
| LTA_WIDTH | Stop threshold of STA/LTA (seconds) |
| STA_LTA_THRESHOLD | STA / LTA ration trigger threshold. |
| STA_LTA_STOP_THRESHOLD | Time window of LTA (seconds) |
| STA_LTA_EVENT_TIME | STA / LTA trigger duration (seconds) |
| STA_LTA_RELAY1 | RELAY1 Threshold unit: gal |
| STA_LTA_RELAY2 | RELAY2 Threshold unit: gal |
| STA_LTA_RELAY3 | RELAY3 Threshold unit: gal |
| S3_MODE | NO |
| AUTO_OFFSET | Use this function to move the moving average to zero or not. YES/NO |
| INSTALLATION_ANGLE | Mounting angle correction from north 0 Clockwise is positive. |
| INT_BATTERY_LOW_TH | Internal battery threshold: Default 3.5v |
| RTC_BATTERY_LOW_TH | Real Time Clock Battery threshold: Default 2.0v |
| EXT_POWER_LOW_TH | External Power threshold: Default 10 V |

| | |
|-----------------------------|--|
| LCD_BACK_LIGHT_SECOND | Length of time backlight stays on |
| POWEROFF_SECONDS_TO_CPU | Length of time power remains to CPU on power off |
| CPU_STATUS_DISPLAY_INTERVAL | Length of time between CPU status displays |
| WALL_MOUNT | Is unit Wall mounted? |
| RING_SECONDS | 30 |
| RING_CHANNELS | 3 |
| RING_FILTERED | NO |
| ![WIRELESS_LAN_ENABLE] | NO |
| [NTP_RESET] | |
| RESET_TH | 2 |
| ERR_IF_TIME_NOT_SYNC | YES |
| RTC_TO_SYSTEM_TIME | YES |
| ![GEOPHONE] | |
| COMPENSATION | YES |
| [DISK_MIN_SPACE] | 260000 |
| [BACKUP_IP] | YES |
| [RESTORE_IP_WHILE_IP_ERROR] | YES |
| [LCD_RW_PIN_ENABLE] | YES |

! Commented

DIN VERSION CONFIG ONLY:

| | |
|------------|--|
| [GEOPHONE] | |
|------------|--|

| | |
|------------------|--|
| !FREQ_START | !3 |
| !FREQ_STOP | !6 |
| !FREQ_STEP | !0.1 |
| !G_START | !28 |
| !D_START | !0.7 |
| !F_START | !4.5 |
| ! MASS_KG | 0.011 |
| | |
| [DIN_VIBRATION] | |
| FFT_SECONDS | 10 |
| STRUCTURE_TYPE | 2 |
| DISPLAY_ON_LCD | YES |
| GEO_PHONE | NO |
| RECORD | YES |
| RECORD_ALWAYS | YES |
| WARNING_DB | -6 |
| PGA_RELAY | NO |
| RELAY1_ON | NO |
| MAXIMUM_LATCH | To keep traffic light display on or auto off after 15 seconds YES/NO |
| !ADMIN_SERVER_IP | ! |

3.11.2 OTHER PARAMETERS

| | |
|------------------------|---------------------------------|
| [BACKUP_PROGRAM] | YES |
| SWITCH_UNLOCK_CODE | Key unlock code |
| ADMIN_SERVER_IP | Future use |
| MMI_INTENSITY | NO |
| BROADCAST_PORT | Future use |
| LCD_TITLE | Title on LCD |
| POWER_OFF_SWITCH_EXIST | Yes/No – future use |
| STREAM_TRIG_PACKET | Sending trigger message or not. |

3.11.3 N OUT OF M SETTING

Note: Below are settings to add other Palerts for configuring 2 out of 3 system to eliminate the possibility of false alarm (N out of M settings).

Currently N out of M is not implemented in Palert+ but only in PX-01 and Cube.

| | |
|----------------------|--|
| PALERT IP | Add 1 or multiple Palert or Palert+ IP. |
| MESSAGE PALERT | Which one will be the main Palert out of M Starting from 0 – M. |
| N WHERE N OUT OF M | N out of M Palerts, here add value for N. |
| M WHERE N OUT OF M | N out of M Palerts, here add value for M. |
| N OUT OF M IN SECOND | Acceptable time gap interval in secs, between the triggered Palerts |
| N_OUT_OF_M_BY_MIDDLE | Event trigged while the number of trigged Palert + greater than or equal to N. |

The system in addition to providing local earthquake warning functions can also provide regional earthquake early warning.

Alerts can be received using the public protocol (Common Alerting Protocol, CAP) earthquake early warning messages.

3.11.4 REGIONAL WARNING SETTING

Parameters for regional early warning, used by Earthquake Early Warning System (EEWS) and shake map central system, are as follows:

| | |
|-----------------------|--|
| LOCAL_LONGITUDE | Longitude Unit: degrees |
| LOCAL_LATITUDE | Latitude of Unit: degrees |
| HEIGHT | Elevation of Unit: degrees |
| SITE EFFECT | To handle the site/geophysics effect. This is a number that is generated from historic data and defaults to 1.931. It should not normally be changed. |
| EEWS_SERVERS_IP | EEWS Server IP address. |
| EEWS_RELAY1_INTENSITY | Relay 1 trigger intensity threshold. |
| EEWS_RELAY2_INTENSITY | Relay 2 trigger intensity threshold. |
| EEWS_RELAY3_INTENSITY | Relay 3 trigger intensity threshold. |
| EEWS_HOLD_SECONDS | Keep alarm status after countdown |

3.11.5 VOICE ALARM AND EVENT RECORD

(Voice alarm is not supported at present)

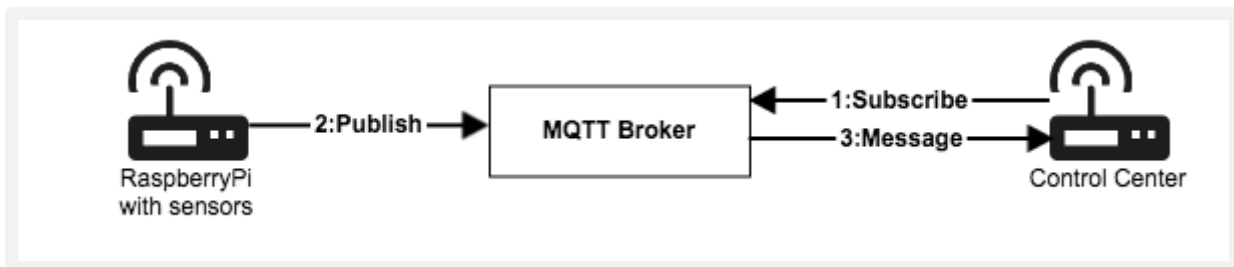
When the current threshold is met or a regional early warning is triggered, the system will start a voice alarm playback. The threshold for the event to be recorded can be adjusted. Different voice alerts will be triggered depending on the daytime / night time settings as follows.

| | |
|---------------------------------|---|
| DAY BEGIN MINUTE | Daytime start minute (420/60 = 7am). |
| DAY END MINUTE | Night starting time (1380/60 = 23 or 11pm). |
| EEWS DAY VOICE INTENSITY | Regional Day speech warning alert intensity threshold. |
| EEWS NIGHT VOICE INTENSITY | Regional warning voice alerts night intensity threshold. |
| DAY VOICEALARM-INTENSITY | Day voice alarm warning threshold intensity. |
| NIGHT VOICEALARM-INTENSITY | Night voice alarm warning threshold intensity. |
| VOICEALARM PLAY NUMBER | Number of times Voice broadcast repeats. |
| RECORD-INTENSITY | Start of recording seismic intensity threshold. |
| PRE-EVENT SECOND | The length of time before an incident that the data is stored. |
| POST-EVENT SECOND | The amount of time after the incident that the data is stored. |
| EVENT FILE MAX LENGTH IN SECOND | Longest time event is recoded. If not set, the default is 60 seconds. |

3.11.6 MQTT PARAMETERS

MQTT (formerly Message Queue Telemetry Transport) is an ISO standard (ISO/IEC PRF 20922) publish-subscribe based "light weight" messaging protocol for use on top of the TCP/IP protocol. It is designed for connections with remote locations where a "small code footprint" is required or the network bandwidth is limited.

In addition to local warnings and regional warnings, Palert + can be used as an MQTT publisher, with the earthquake warning message being shared to subscribers.



[MQTT CONFIG]

| | |
|----------|---|
| IP | MQTT broker IP You can use unit as local host 127.0.0.1. |
| PORT | MQTT Broker port. |
| USER | MQTT User Account |
| PASSWORD | MQTT User Password |
| LOCATION | MQTT location name |

3.11.7 TEST MODE

The system can be put into test mode to check correct operation. For use by installation engineers normally.

Test mode parameter (Preset modes, do not modify)

| | |
|---------------------|--|
| TEST MODE CONFIG | Start test mode parameters |
| STAGE 0 | Mode 0 |
| SWITCH_SECOND 4 | Pressing the power key for 4 Seconds enters test mode 0 |
| RELAY_HOLD_SECOND | -5570590 5570590 = 0x0055001e 55-> 85 gal, 1e-> 30 seconds |
| PLAY_FILE 2.wav | Play audio files2.wav |
| RELAY2 ON | Drive RELAY2 |
| STAGE 1 | Mode 1 |
| SWITCH_SECOND 6 | Pressing the power key for 6 Seconds enters test mode 1 |
| RELAY_HOLD_SECOND 6 | Drive RELAY for 6 seconds |
| PLAY_FILE 3.wav | Play audio files3.wav |
| RELAY1 ON | Drive RELAY1 |
| STAGE 2 | Mode 2 |
| SWITCH_SECOND 8 | Pressing the power key for 8 Seconds enters test mode 2 |
| RELAY_HOLD_SECOND 8 | Drive RELAY for 8 second |
| PLAY_FILE 4.wav | Play audio files4.wav |

| | |
|--------------------------|--|
| RELAY1 ON | Drive RELAY1 |
| STAGE 3 | Mode 3 |
| SWITCH_SECOND 3 | Pressing the power key for 3 Seconds to cancel the alarm |
| PLAY_FILE eewsCancel.wav | Plays audio files eewsCancel.wav.. |

3.11.8 FTP CONFIG

Unit firmware update function, generally do not need to modify.

| | |
|----------|--------------------------|
| IP | FTP Server IP |
| PORT | FTP Server port |
| USER | FTP Server Username |
| PASSWORD | FTP Server User Password |

3.11.9 SAVED FILE FORMAT

The default file format is csv, but it can be changed to mini seed format.

| | |
|---------------------|-------|
| [EVENT_FILE_FORMAT] | mseed |
|---------------------|-------|

3.11.10 RELAY CONTROL

(To be implemented)

| | |
|-------------------------|--|
| [RELAY_BLINK_MODE] | To switch relay status on/off every second. |
| [RELAY_CONTROL_BY_ERR] | While system detects errors, drive the relay |
| [RELAY_RESET_BY_MANUAL] | Reset relay manually |
| [SINGLE_RELAY_MODE] | Event trigger after a relay trigger. |

3.11.11 API

| | |
|------------------------|---|
| [API_CONFIG] | setup API parameter |
| EARTHQUAKE_FALLING_API | After the end of the event, driving API, Upload event with record function. |

3.11.12 UPLOAD AN EVENT RECORD

| | |
|----------------|--------------------------------------|
| [VWHUB_CONFIG] | Upload an event record set parameter |
| FTPIP | FTP server IP |
| FTPPORT | FTP server Port |
| USER | FTP server user account |
| PASSWORD | FTP server user Password |

3.11.13 UPLOAD AN EVENT RECORD

| | |
|----------------------------|--|
| [BROADCAST_PORT_INTERFACE] | If it's set, the device will be through UDP Broadcast transmission port area message, by default502. |
|----------------------------|--|

04

ACCESS OPERATING SYSTEM

To do some underlying changes to the operating system configuration requires using terminal access. This can be done with product like Putty. Instructions as below.

4.1 INSTALL PUTTY OR SIMILAR ON A LAPTOP

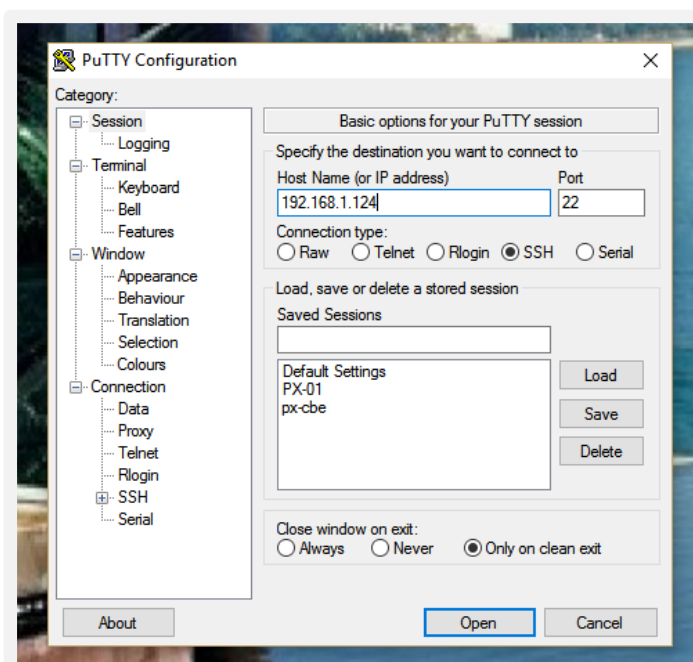
<http://www.putty.org/>

Change laptop IP to 192.168.255.xx (20 as example) as the main Ethernet port

Connect laptop to PX-01 with normal Ethernet cable

Run putty and connect using SSH to IP address of unit

Accept security warning message



4.2 PASSWORD CHANGE

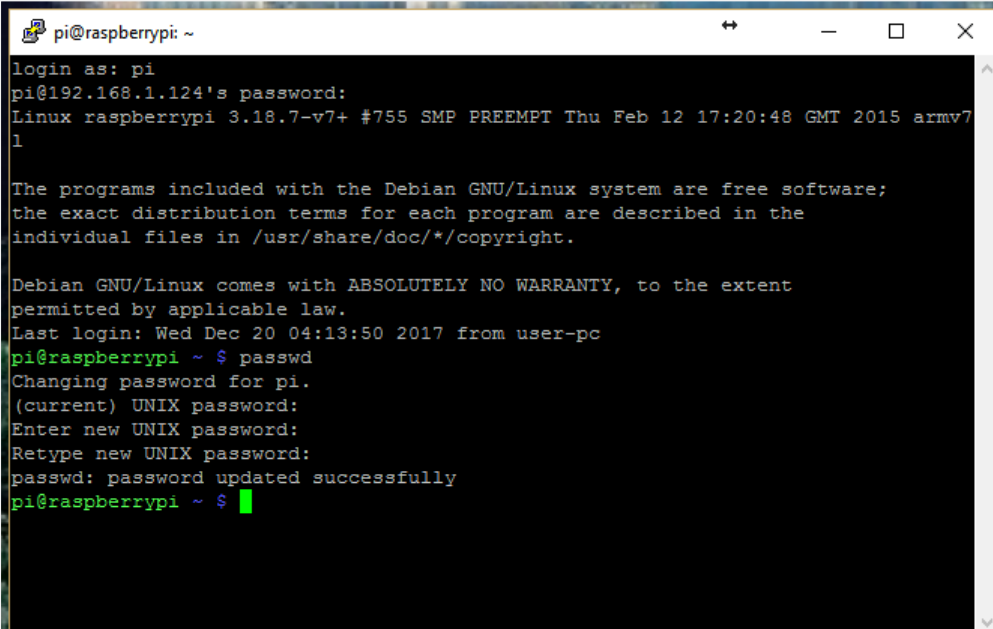
Using PUTTY login to the unit with the pi / 1111 default user and password.

At prompt type passwd

Enter existing password

Then enter new password twice. This will need to be fairly complex and not similar to previous as there are password policies embedded in the system.

Type exit to leave system



```
pi@raspberrypi: ~
login as: pi
pi@192.168.1.124's password:
Linux raspberrypi 3.18.7-v7+ #755 SMP PREEMPT Thu Feb 12 17:20:48 GMT 2015 armv7
1

The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

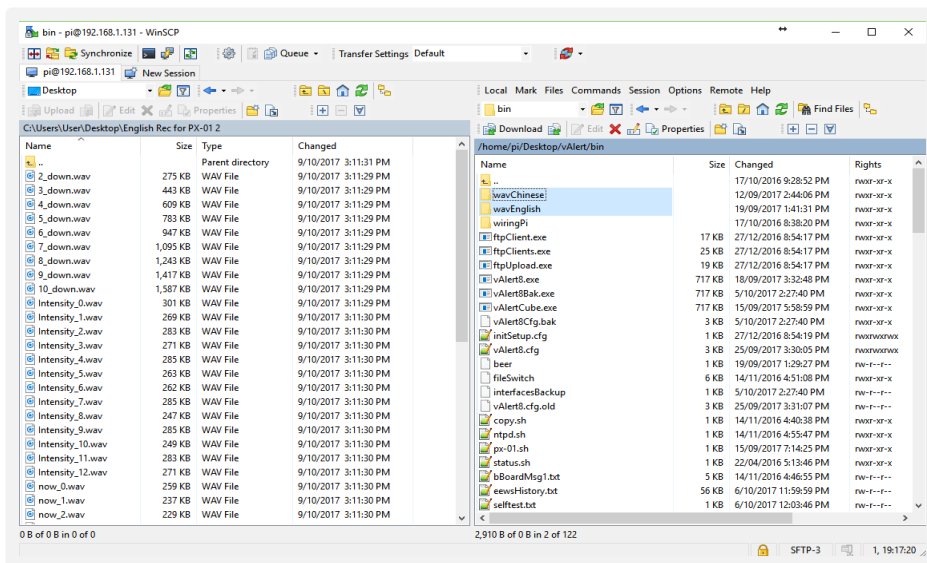
Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
Last login: Wed Dec 20 04:13:50 2017 from user-pc
pi@raspberrypi ~ $ passwd
Changing password for pi.
(current) UNIX password:
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
pi@raspberrypi ~ $ █
```


05

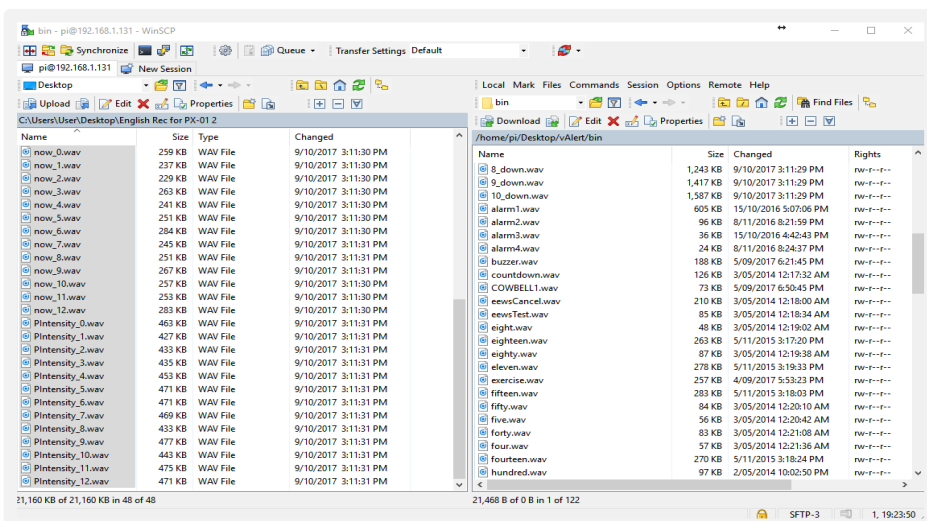
CHANGE VOICE ALARMS

On Palert PX-01 and Palert Cube it is possible to change the alarm messages. This requires using on the laptop/desktop an ftp client like Winscp (<https://winscp.net/eng/index.php>) or Filezilla. Winscp shown below.

- To change voice alarms, Connect using same user name / password as described in section 4 above with port 22. Then go to folder Desktop/vAlert8/bin.



- Voice alarms are stored in uncompressed .wav format. Optional default voices for Chinese and English are stored in the wavChinese and wavEnglish subfolders.
 - Default files can be copied from the subfolders to the bin folder replacing existing files.
 - Optionally user can record their own voice alarms to replace the existing files using same file names.
- e.g. .wav file used for Intensity now are named Intensity_x.wav where x is 1 to 12.



06

CONTROL BUTTON

The control button has several options depending how many seconds the button is pressed.

- 1 Display IP Address
- 2 Voice Test
- 3 Reset EEWS / Alarm Cancel
- 4 Reset Network / Reload by key
- 5 Test Mode Config Status
- 6 N/A
- 7 FTP update
- 8 N/A
- 9 Test Mode
- 10 N/A
- 11 N/A
- 12 Shutdown

6.1 BOOT INTERNAL DISPLAY



6.2 BOOT COMPLETE

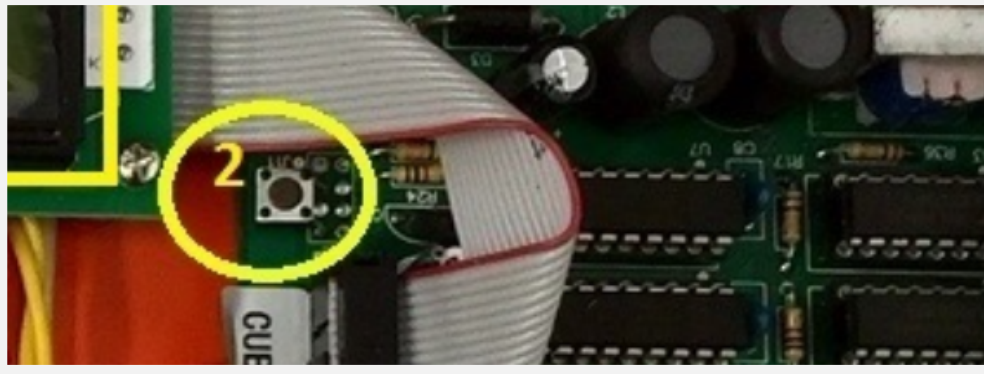
The second line of the display will cycle through various information.



6.3 OPTIONS

Press and hold the control button (2) to perform the functions below:

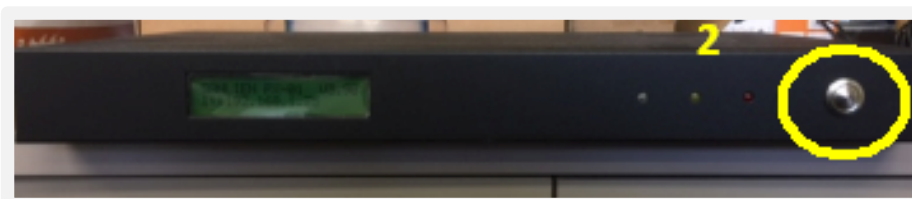
CUBE



PALERT+



PX-01



6.3.1 HOLD FOR 1 SECONDS. DISPLAY IP



6.3.2 HOLD FOR 2 SEC. RESTART NTP



6.3.3 HOLD FOR 3 SEC. RESET WARNING



6.3.4 OLD FOR 4 SEC. RELOAD CONFIGURATION PARAMETERS



6.3.5 HOLD FOR 5 SECS. TEST MODE CONFIG STATU



6.3.6 HOLD FOR 6 SECS

No function.

6.3.7 OLD FOR 7 SECS. USE FTP UPDATE



6.3.8 HOLD FOR 8 SECS.

No function.

6.3.9 HOLD FOR 9 SECS. ENTER TEST MODE

* This is for engineer usage only



Several test modes can be selected.

- Press the button for 4 seconds: test mode 0 – EEWS Test
- Press the button for 6 seconds: test mode 1 - on-site warning test level 3
- Press the button for 8 seconds: test mode 2- on-site warning test level 4
- Press the button for 3 seconds: test mode 3 – cancel
- Press 10 seconds to test all relays – intensity 1,3,5,7

6.3.10 HOLD FOR 10 SECS

No function.

6.3.11 HOLD FOR 11 SECS.

No function.

6.3.12 HOLD FOR 12 SECS TO SHUT DOWN.

* After selecting this option, the power must to be turned off to allow the system to be properly restarted later



07

MODBUS REGISTERS

These registers can be changed using a Modbus client for those that are not listed in the configuration file.

7.1 AO REGISTERS

UNIT Modbus AO Address Mapping Table (40XXX)

| Register Description | Note |
|-------------------------|--|
| 113 Data Changed | 0x0180 Reload parameters 0x0280 Clear rain gauge data |
| 114 Audio relay | |
| 100 EEWS Countdown test | |
| 101 EEWS Intensity test | |

7.2 AI REGISTERS

UNIT Modbus AI Address Mapping Table (300XXX)

| Register Description | Note |
|-------------------------------------|---|
| 100 event | |
| 101 Intensity now | 0 ~ 7 |
| 102 PGA now | 0.1gal |
| 103 Triggered Palerts | [bit map] |
| 104 Digital output status | [bit map] |
| 105 Digital input status | [bit map] |
| 106 System time in year | |
| 107 System time in month | |
| 108 System time in day | |
| 109 System time weekday | |
| 110 System time in hour | |
| 111 System time in minute | |
| 112 System time in second | |
| 113 Event time in year | |
| 114 Event time in month | |
| 115 Event time in day | |
| 116 Event time in weekday | |
| 117 Event time in hour | |
| 118 Event time in minute | |
| 119 Event time in second | |
| 120 connection status of Palert 0~4 | [bit mapping] |
| 121 connection status of fted04 0~4 | [bit mapping] |
| 122 connection status of board 0~4 | [bit mapping] |
| 123 connection status of ba host | [bit mapping] High nibble for zt2000 Low nibble for ba host |

| Register Description | Note |
|--|---|
| 124 UNIT version | |
| 125 Connection status of DL-100 | V2.06 |
| 126 DL-100 real time temperature | // DL-100 Temperature and humidity sensor |
| 127 DL-100 real time humidity | |
| 128 DL-100 average temperature | |
| 129 DL-100 average humidity | |
| 130 EEWS server connections status | [bit mapping] v2.07 |
| 131 EEWS intensity | |
| 132 EEWS count down in second | |
| 133 zt2000DoStatus0_15 | V3.03 Zigbee-based remote DO |
| 134 zt2000DoStatus16_31 | |
| 500 UNIT serial number 1/4 | // v2.07 |
| 501 UNIT serial number 2/4 | |
| 502 UNIT serial number 3/4 | |
| 503 UNIT serial number 4/4 | |
| 600 Rain fall in counts within 1 minutes | |
| 601 Rain fall in counts within 10 minutes | |
| 602 Rain fall in counts within 1 hour | |
| 603 Rain fall in counts within 12 hours | |
| 604 Rain fall in counts within 1 day | |
| 605 Rain fall in counts within 2 day | |
| 606 Rain fall in counts within 3 day | |
| 607 Rain fall in counts today | |
| 608 Rain fall in counts yesterday | |
| 1000 ~ 1100 Palert0 packet header | |
| 2000 ~ 2100 Palert1 packet header | |
| 3000 ~ 3100 Palert2 packet header | |
| 4000 ~ 4100 Palert3 packet header | |
| 5000 ~ 5100 Palert4 packet header | |
| <i>Please refer to Palert manual for contents of streaming packet</i> | |