LogMaster-800

8-Channel Stand Alone Voice Logger

User's Manual
First Edition
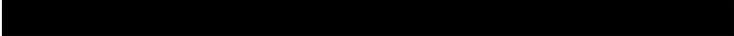
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1. Introduction

The LogMaster-800 is a state-of-the-art 8-channel voice logger built upon a Linux based embedded hardware platform. It is capable of recording phone calls and storing them internally without the need for a host computer.

The record data stored inside the LogMaster-800 can be searched and reviewed from a remote PC via the network, using just a web browser such as Internet Explorer, Chrome or Firefox. System configuration and management are also done in the same manner, requiring no proprietary software.

In addition to web based remote access, the record data can also be accessed via the built-in LCD touch screen. This feature makes the logger ideal for locations where network connection is either unavailable or undesirable (due to cost, security or other reasons).
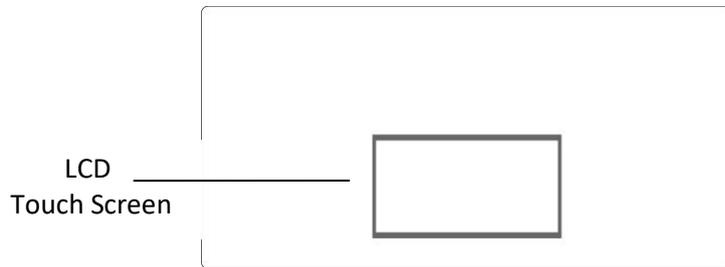
2. Package Contents

QUANTITY	ITEM DESCRIPTION
1	LOGMASTER-800
8	RJ-11 Telephone Cord
4	RJ-11 Y-splitter Connector
1	RJ-45 Network Cable
1	Power Adapter
1	External Start (Manual Start) Cable
1	Installation CD

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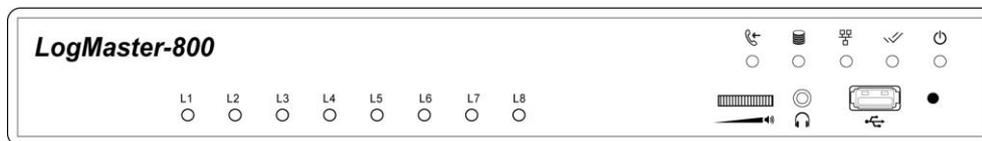
3. Panel Descriptions

Top Panel

Logmaster-800 has a built-in LCD touch screen. Most operations, such as system setting, password changing, live monitoring, and record searching/playing can be done on the touch screen without needing a computer.

Front Panel

| LED Indicators	Color	Status	Indicating
⏻	Green	- Solid - Off	- Power On - Power Off
✓✓	Green	- Solid - Off	- System Ready - System Not Ready
品	Orange	- Flashing - Off	- Network Activity - No Network Activity
🗄	Orange	- Flashing - Off	- Writing Data - Not Writing Data
☎	Green	- Solid - Off	- Phone Access In Use - Phone Access Not In Use
L1 ~ L8	Red	- Solid - Off	- Channel Recording - Channel Not Recording

Volume: Volume dial for the internal speaker.

Earphone: 1/8" mono phone jack for private listening.

**USB**: Record data can be selectively saved to a USB drive connected to this port.

RESET: Use the reset button to reset all configuration settings (including IP address, user name, password and etc.) to factory default, in case the user name and/or password are lost.

Rear Panel
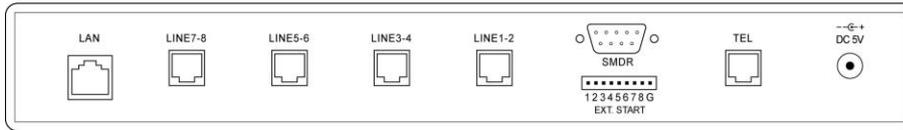
LAN: RJ-45 Ethernet jack for network connection.

LINE1~LINE8: Each modular phone jack has connections for two analog phone lines or other analog audio sources. Use the included Y splitter to connect the lines.
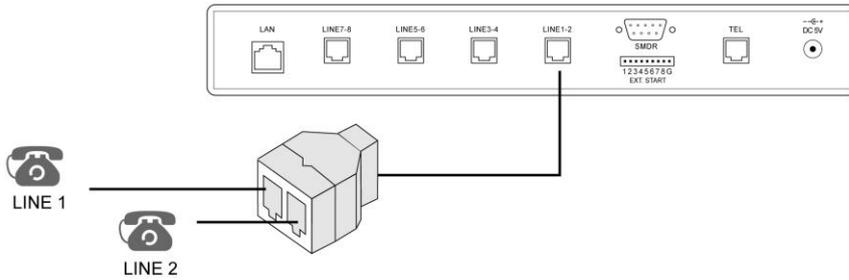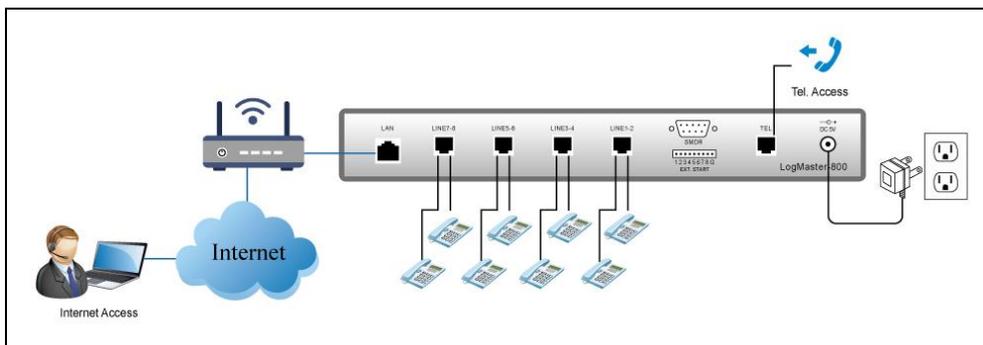

EXT. START: Connection for an optional external trigger button.

SMDR: Reserved for future use.

TEL: Connection for an optional analog line used for phone access.

**DC 5V**: Connection for the power adaptor.

4. Typical Connection

3. Touch Panel

A menu similar to the following will appear in about one minute after the system powers up. It offers functions such as system setting, live monitoring and record search/playback. The menu structure is several layers deep. When there is no user activity for 30 seconds the system automatically moves to the menu one layer up.
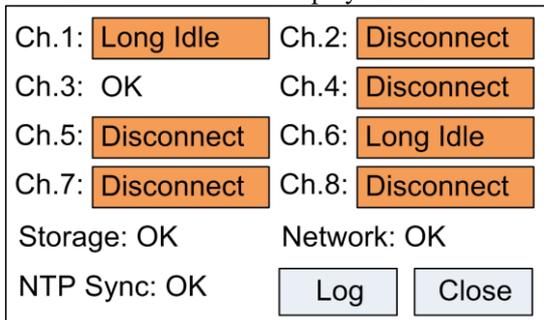
Main Menu
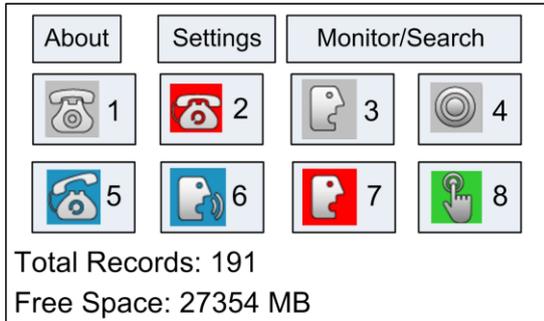
About : Get system information such as device name , IP address, firmware version, system status and time.
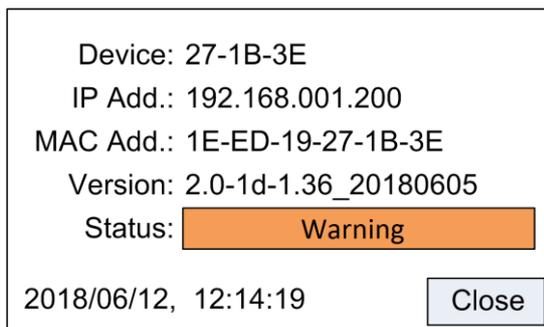
Use the **Status** button to display channels status.

- **Long Idle**: The channel has not recorded anything for longer than the Long Idle time (default: 1440 minutes).
- **OK**: The channel is working properly.
- **Disconnect**: No phone line is connected to this channel.
- **Storage**: Storage status
- **Network**: Network status
- **NTP Sync**: Network time synchronization status

Log : Get the operation log.

Settings : Configure system settings. This menu is password protected and the default password is 999.

Record	Alarm
Network	Password
Reboot	Shutdown
Date & Time	Close
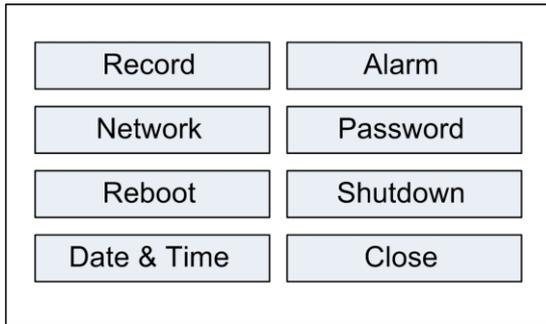
Record: Set the record mode. Tap the target channel to cycle through Local Phone, VOX and Manual.

Record Settings

☎ 1	☎ 2	🗣 3	◎ 4
☎ 5	◎ 6	☎ 7	🗣 8

| Close | | OK |
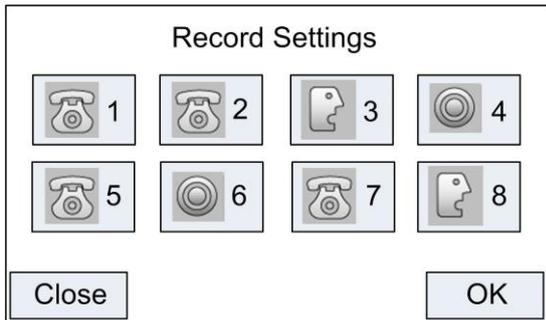
☎ Local Phone

🗣 VOX

◎ Manual

Alarm: Set the Long Idle time and the Long Recording time.

Long Idle		1	2	3
1440 Minute		4	5	6
Long Recording:		7	8	9
30 Minute		Quit	0	OK

Long Idle: When a channel has not recorded anything for longer than this setting, its icon on the main menu will turn red indicating potential hardware issues.

Long Recording: When a channel has made recording(s) longer than this setting, its icon on the main menu will turn red indicating potential hardware issues.

Network: Set IP address, Subnet Mask, Gateway and DNS server.

| IP Address:
192.168.001.200
Subnet Mask:
255.255.255.000
Gateway:
192.168.001.001
DNS Server:
168.95.001.001 | 1 | 2 | 3 |
	4	5	6
	7	8	9
	Quit	0	OK

Password: The default password for the Settings menu is 999. If a new password is set and later lost, use the reset button to restore the default password.

New Password:	1	2	3
	4	5	6
Confirm:	7	8	9
	Quit	0	OK

Reboot: Reboot the system.

Reboot?

No   Yes
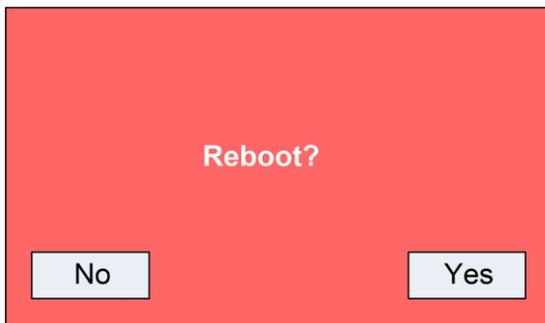
Shutdown: Shut down the system.
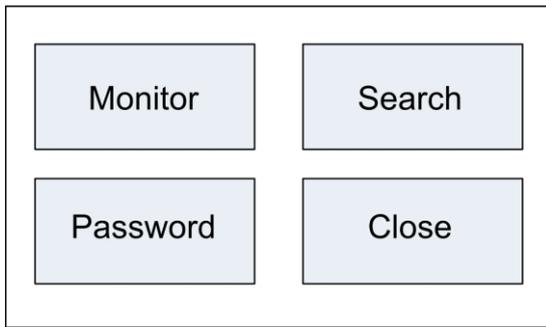
Shutdown?

No   Yes
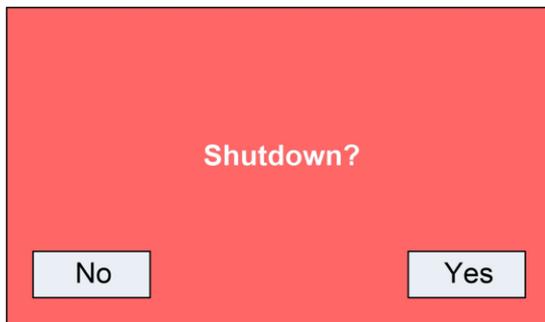
Date & Time: Set system clock, NTP server IP and synchronization interval.

Date & Time: 18/ 06/ 12 16: 45: 51 NTP Server: 192.168.001.099 Interval: 60	1	2	3
	4	5	6
	7	8	9
	Quit	0	OK

Close: Quit and return to the Main menu.

Monitor/Search : This menu is password protected and the default password is 123.

```
┌─────────────────────────────────────────┐
│   ┌──────────────┐    ┌──────────────┐   │
│   │              │    │              │   │
│   │   Monitor    │    │    Search    │   │
│   │              │    │              │   │
│   └──────────────┘    └──────────────┘   │
│   ┌──────────────┐    ┌──────────────┐   │
│   │              │    │              │   │
│   │   Password   │    │    Close     │   │
│   │              │    │              │   │
│   └──────────────┘    └──────────────┘   │
│                                          │
└─────────────────────────────────────────┘
```
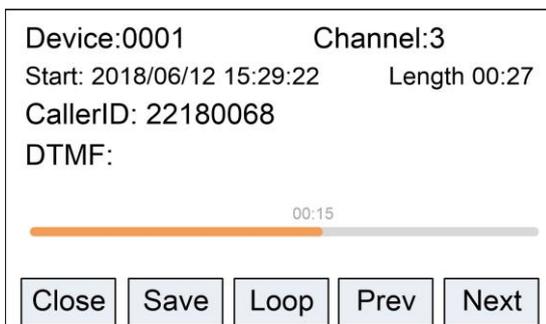
Monitor: Tap on the target channel (which must be active - blue color) to monitor the call in real time. Only one channel can be monitored at one time.

```
┌─────────────────────────────────────┐
│          Realtime Monitor           │
│  ┌───┐    ┌───┐    ┌───┐    ┌───┐    │
│  │ ☎ │1   │ ☎ │2   │ 🗣 │3   │ ◎ │4   │
│  └───┘    └───┘    └───┘    └───┘    │
│  ┌───┐    ┌───┐    ┌───┐    ┌───┐    │
│  │ ☎ │5   │ ☎ │6   │ ☎ │7   │ 🗣 │8   │
│  └───┘    └───┘    └───┘    └───┘    │
│  ┌───────┐                           │
│  │ Close │                           │
│  └───────┘                           │
└─────────────────────────────────────┘
```
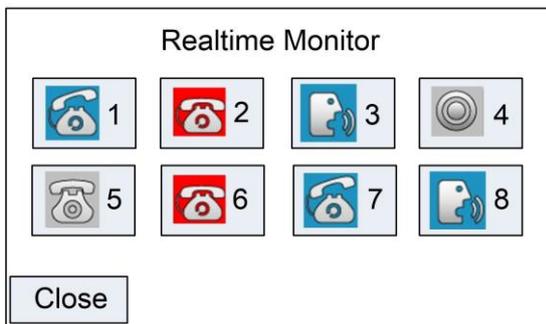
Search: Select the target channel and enter the search date/time. Tap OK to retrieve the search result.

```
┌──────────────────┬───────────────────┐
│                  │  1  │  2  │   3   │
│   ┌─────────┐    ├─────┼─────┼───────┤
│   │    1    │    │  4  │  5  │   6   │
│   └─────────┘    ├─────┼─────┼───────┤
│  Date & Time:    │  7  │  8  │   9   │
│  18/  06/  12    ├─────┼─────┼───────┤
│  16:  45:  51    │ Quit│  0  │  OK   │
└──────────────────┴─────┴─────┴───────┘
```
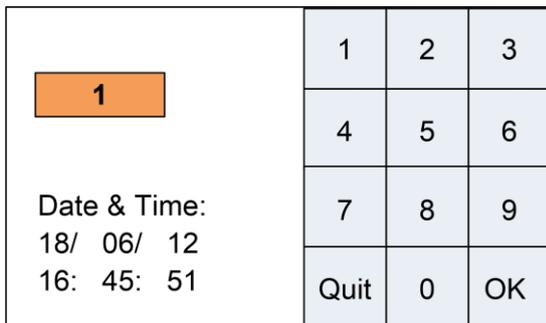
The logger will search and play the file closest to the search date/time.

```
┌─────────────────────────────────────────┐
│ Device:0001          Channel:3          │
│ Start: 2018/06/12 15:29:22   Length 00:27│
│ CallerID: 22180068                      │
│ DTMF:                                   │
│                       00:15             │
│ ████████████████████────────────────── │
│ ┌─────┐┌─────┐┌─────┐┌─────┐┌─────┐    │
│ │Close││Save ││Loop ││Prev ││Next │    │
│ └─────┘└─────┘└─────┘└─────┘└─────┘    │
└─────────────────────────────────────────┘
```

Save: Save the file to an external USB drive
Loop: Loop play the file
Prev: Move to the previous file
Next: Move to the next file

Password**:** The default password for the Monitor/Search menu is 123. . If a new password is set and later lost, use the reset button to restore the default password.
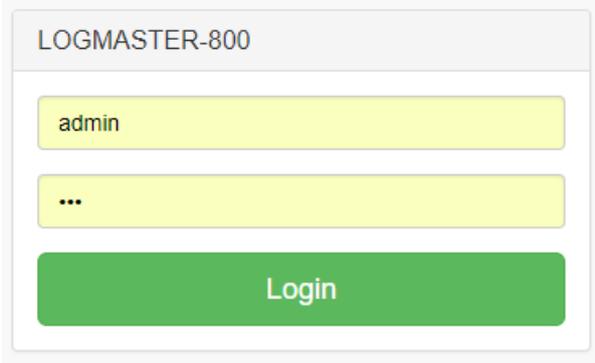
New Password:	1	2	3
▭	4	5	6
Confirm:	7	8	9
▭	Quit	0	OK

Close: Quit and return to the Main menu

4. Web Access

Device Login

Open the web browser and go to the logger's IP address (e.g. http://192.168.1.100). Enter the user name (default = admin) and the password (default = 123). Then click the Login button.

LOGMASTER-800

admin

...

Login

A screen similar to the following will appear.

Record Data Search

Search, Play and Download Record Data

Device Monitoring

Channel Information, Status and Alarm

Channel Settings

Channel Name, Channel Number and Record Settings

Device Settings

Software Version, Device Storage, NTP Server, Recycle Settings.

Account Management

Change Password.

System Management

Change system language, Reboot Device, Update to latest firmware - administrator account is required

Record Data Search:

Click it to enter the Record Data Search window.
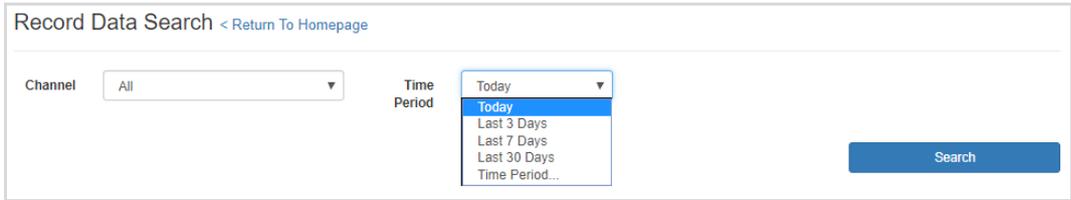
Channel: Select the target channel or choose All to search all channels.
Time Period: Select today, last 3/7/30 days or specify a time period.
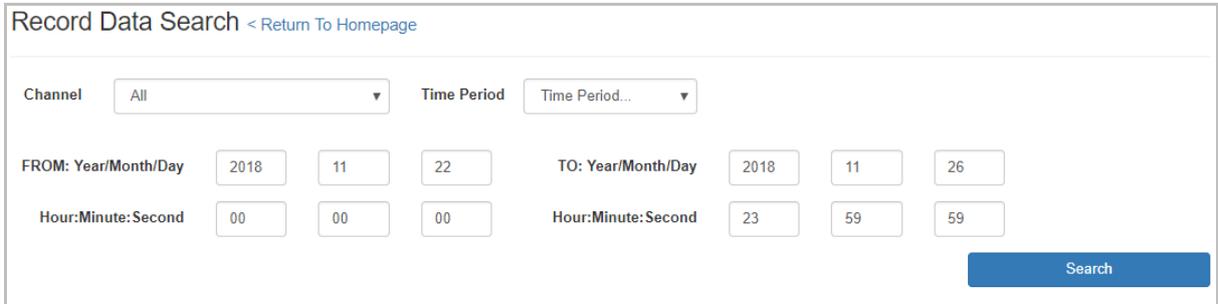
Click **Search** to start searching.

ID	Channel Number	Start Time	Length	Call Direction	Number	Playback/Download
12	3	2018-11-28 10:58:40	2	Call Out		🔊
11	3	2018-11-28 10:35:45	12	Call In	11281035	🔊
10	3	2018-11-27 16:41:29	20	Call In	200	🔊
9	3	2018-11-27 16:39:19	113	Call In	200	🔊
8	3	2018-11-27 16:13:14	22	Call Out		🔊
7	3	2018-11-26 10:26:39	1	Call In	203	🔊
6	3	2018-11-22 14:29:21	10	Call In	200	🔊
5	3	2018-11-22 11:52:28	2	Call In	26560123	🔊
4	3	2018-11-21 16:10:17	24	Call Out	0168	🔊
3	5	2018-11-21 16:03:32	1	Call Out		🔊
2	5	2018-11-21 16:02:44	16	Call Out	104	🔊
1	5	2018-11-21 16:02:36	7	Call Out	02	🔊

Click the speaker icon 🔊 to play the corresponding record
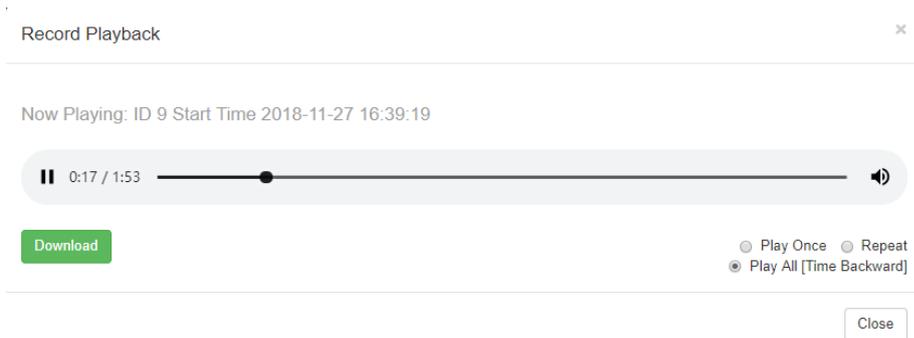
Play Once: Play the target record one time then stop

Repeat: Play the target record repeatedly

Play All [Time Backward]: Play the entire list from the last file to the first file.

Play All [Time Forward]: Play the entire list from the first file to the last file.

Download: Click to download this record

Device Monitoring:

Device Monitoring

Channel Information, Status and Alarm
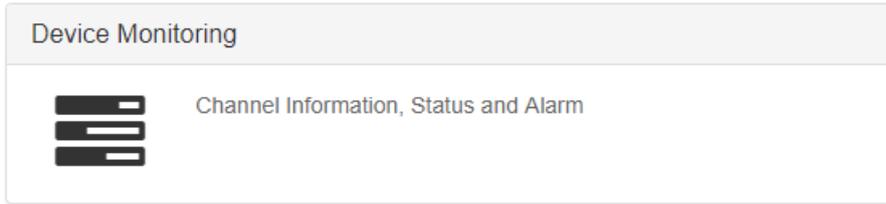
Click it to enter the Device Monitoring window.

Device Status <Return To Homepage

Storage	✔ OK	NTP Sync	✔ OK

Channel	Channel Name	Channel Number	Record Status	Line Status
1	user1		○ Idle	✔ OK
2	user2		○ Idle	✖ Disconnect
3	user3		○ Idle	✖ Disconnect
4	user4		○ Idle	✖ Disconnect
5	user5		○ Idle	✖ Disconnect
6	user6		○ Idle	✖ Disconnect
7	user7		○ Idle	✖ Disconnect
8	user8		○ Idle	✖ Disconnect

Error Logs

2018-10-22 10:45:42,334 Channel7:Disconnect
2018-10-22 10:45:42,331 Channel6:Disconnect
2018-10-22 10:45:42,328 Channel5:Disconnect
2018-10-22 10:45:42,326 Channel4:Disconnect
2018-10-22 10:45:42,324 Channel3:Disconnect
2018-10-22 10:45:42,315 Channel2:Disconnect

The window shows storage, NTP synchronization and line status. System errors are listed in the error log.

Channel Settings:
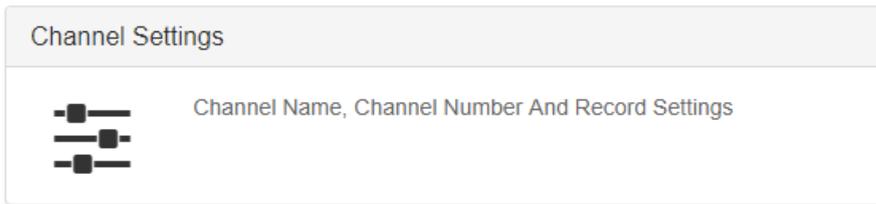
Click it to enter the Channel Settings window.

Each channel must be configured separately.

Agent Name: Enter the name to be associated with this channel.

Phone Number: Enter the phone/station number to be associated with this channel.

Record Mode: Set the record mode: Local Phone, Vox or Manual.

Max. Record Length: Enter the maximum length 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), and the maximum value is 3600 seconds (one hour).

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

AGC: Check the box to enable AGC (Automatic Gain Control), which is default and recommended. When the AGC is enabled, the Record Gain setting has no effect.

DTMF Detection: Check the box to enable DTMF detection such as the phone number of an outbound call. The detection may be partial in some cases.

Click **Save** to save the changes.
Click **More Settings** for advance settings.

Channel	Agent Name	Phone Number	Record Mode	Max Record Length(Sec.)	Record Gain:	AGC	DTMF Detection
1	user1		Manual ▼	1800	50	✔	✔
	Format MP3 16kbps ▼	VOX Level 6 ▼	Stop Delay(ms) 3000	Voltage Threshold 21 V ▼	Ring Interval(ms) 3000		
	Record Function Enable ▼	Work Days XXXXXXX	Work Hours				
2	user2		Local Phone ▼	1800	50	✔	✔
	Format MP3 16kbps ▼	VOX Level 6 ▼	Stop Delay(ms) 3000	Voltage Threshold 21 V ▼	Ring Interval(ms) 3000		
	Record Function Enable ▼	Work Days XXXXXXX	Work Hours				
3	user3		Local Phone ▼	1800	50	✔	✔
	Format MP3 16kbps ▼	VOX Level 6 ▼	Stop Delay(ms) 3000	Voltage Threshold 21 V ▼	Ring Interval(ms) 3000		
	Record Function Enable ▼	Work Days XXXXXXX	Work Hours				
4	user4		Local Phone ▼	1800	50	✔	✔
	Format MP3 16kbps ▼	VOX Level 6 ▼	Stop Delay(ms) 3000	Voltage Threshold 21 V ▼	Ring Interval(ms) 3000		
	Record Function Enable ▼	Work Days XXXXXXX	Work Hours				

Format: The file format of recordings. Currently only MP3 16kbps is available.

VOX Level: This setting applies only when the VOX record mode is enabled. Enter a value from 0 – 9. 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 when necessary.

Stop Delay (ms): This setting applies only when the VOX record mode is enabled. The Stop Delay specifies when the recording should stop after losing audio signal. Enter a value measured in milliseconds. If the Stop Delay is too short, phone calls are more likely to be broken into two or more records. If the Stop Delay is too long, consecutive phone calls are more likely to be saved as one record if they occur within short intervals. Typically a value between 3000 to 5000 milliseconds works the best.

Voltage Threshold: This setting applies only when the Local Phone record mode is enabled. When the line voltage drops below this value, the channel starts recording. When the line voltage rises above this value, the recording stops. The default value is 21V.

Ring Interval: Do not make any changes as these settings are for factory use only.

Record Function: Disable this function if for some reason you don't want the channel to record at all.

Work Days: One character for each day from Sunday to Saturday: "X" = on duty, "−" = off duty.

Work Hours: Configure up to 5 periods of work hours, for example: 09:00-12:00, 13:30-18:00.

Device Settings:

Click it to enter the Device Settings window.

Keep Records For (Days): This function is currently not implemented.

Recycle When Less Than: Storage recycling starts when the free space drops below this threshold level. The system deletes the oldest records in order to make room for new records. Default is 20%.

Device Name: Enter a unique name for your own reference. This name can be used to identify the unit in a system with multiple loggers.

NTP Settings: NTP is used to synchronize the device time with a public time server in order to keep the device time accurate. Enter NTP server IP, port, sync interval and time zone. The logger will automatically synchronize its time with the NTP server.

Alert Settings:
Line Idle Alert Time: When a channel has not recorded anything for longer than this setting, the logger will generate a warning indicating potential hardware issues.

Long Recording Alert Time: When a channel keeps recording for longer than this setting, the logger will generate a warning indicating potential hardware issues.
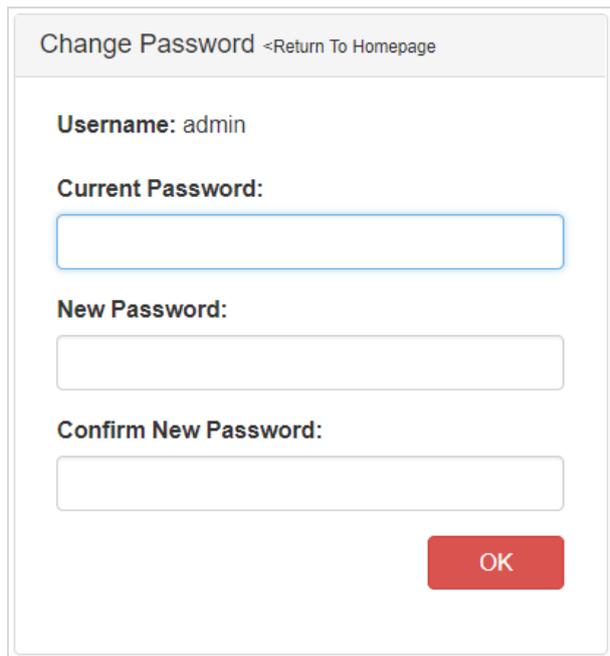
Call In Settings
Do not make any changes as these settings are for factory use only.

Account Management:
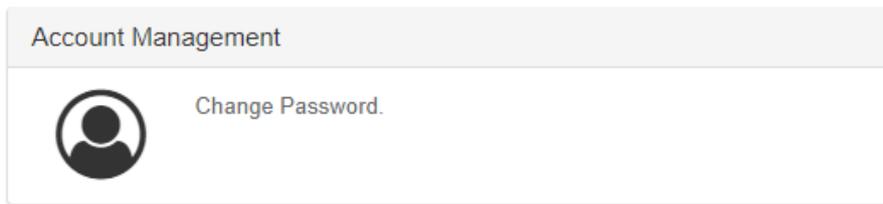
For changing the password. Click it to enter the Account Management window.

Changing the password from default is highly recommended. If the new password should be lost, use the device's hardware reset button to restore the default password.

System Update:

For firmware update.
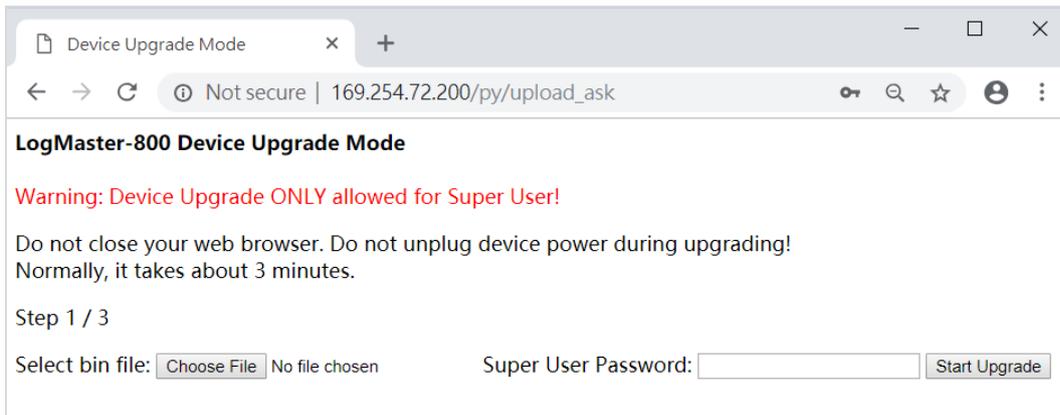
Click "Choose File" and select the target firmware (.bin) file on your local hard disk

Enter Super User Password: 999 (this password can be changed via the logger) then click "Start Upgrade". A window similar to the following will appear:

Select "English Language" for English version.

Click "Device Reboot" to confirm the firmware upgrade.

The upgrade will be done in about 1 minute.
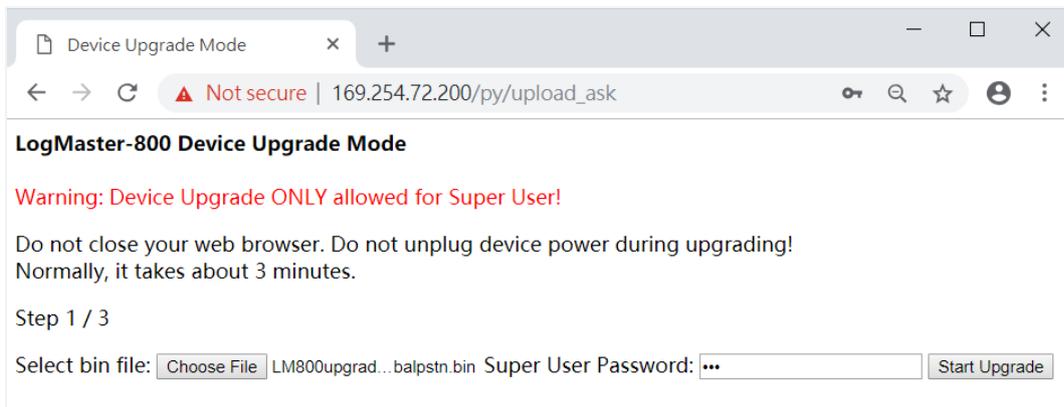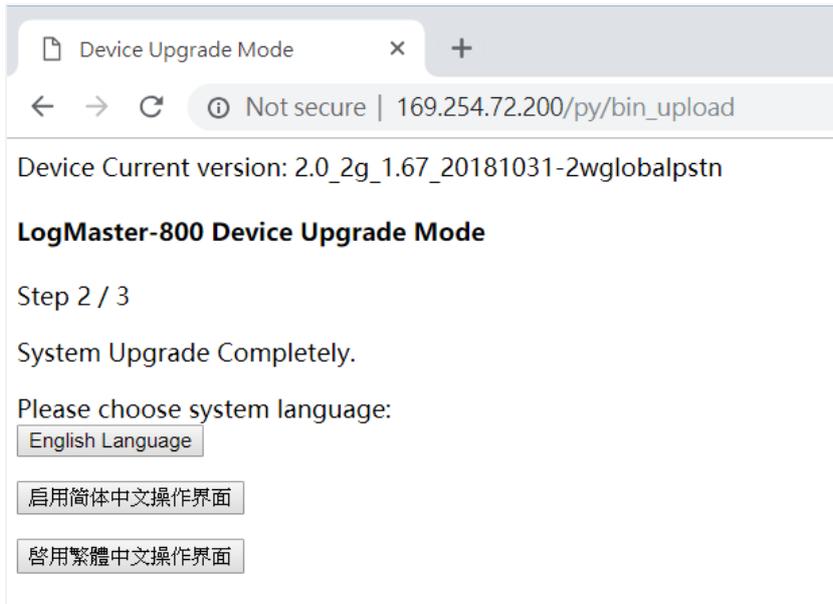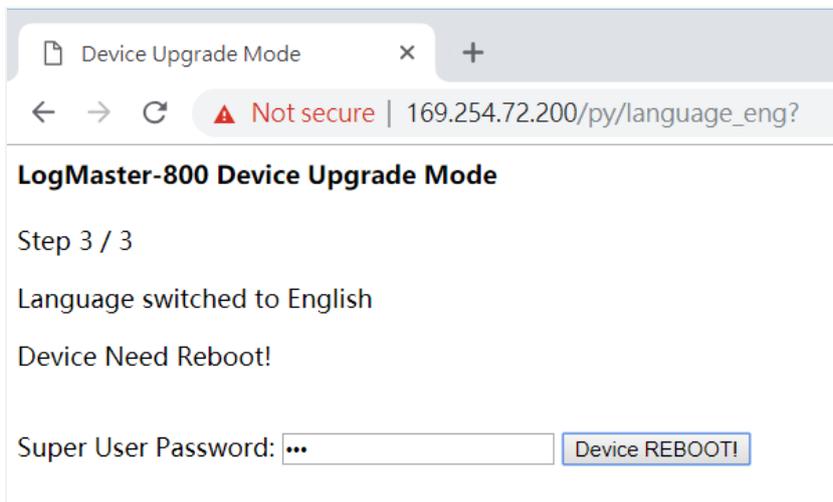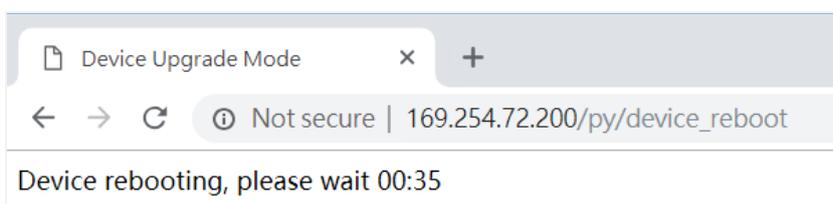
5. Telephone Access Flowchart

Welcome to the Logmaster system. Please enter the passcode (123) follow by the # key.

To search recordings, press 1.
To check system time, press 2.
To quit, press 0.

The passcode is invalid, please try again.

The maximum number of tries has been exceeded. Please hang up and try again.

Press 1

Press 2

Press 0

Please enter the channel number. For example, press 1 for channel 1. Then press the # key to confirm, or the * key to cancel.

The current system time is (2018-11-18 09:20:50).

Hang up

The maximum number of tries has been exceeded. Please hang up and try again.

Please enter the date and time. Then press the # key to confirm, or the * key to cancel.

The entry is invalid, please try again.

The maximum number of tries has been exceeded. Please hang up and try again

Enter 10 digits of date & time, example: 18 09 26 1400.

The following recording is found (plays date time & length of the recording....)

To play the recording, press #7.
To stop playing, press # 9.
To cancel, press *.
To play the previous recording, press #4.
To play the next recording, press #6.

Playback

Stop

Press #7

Press #9

Press #4 or #6

Press *

6. System Specifications

CPU	i.MX 6Dual processors of the ARM®Cortex®-A9 core；1 GHz
RAM	4GB (1 GB DDR3-1066 SDRAM × 4)
Sound File Format	MP3
Ethernet	10/100/1000 Mbps；RJ-45×1
RS-232	SMDR Protocol
Storage	SD, SSD or hard disk; File System: FAT32 or NTFS
Lines per Unit	8 (RJ-11×4)
Telephone Interface	Analog
Input Impedance	＞20 KΩ
Audio Level	－40 dbm to ＋9 dbm, AGC >40 dB
S/N Ratio	＞45 dB
Caller ID	DTMF、FSK
Record Mode	Loop Voltage, Voice (VOX) and manual control
Recording Time	4160 hours (32GB SDHC card)
USB	Up to 64GB (for data exporting)
LCD Touch screen	5" TFT Resolution: 480×272
Warnings	Screen Display (line disconnect, idle too long and record too long)
Live Monitoring	On device only, one channel at a time
Search & Play	On device, via telephone line and Internet
Power Supply	Input: AC 100V～240V, Output: DC 5V/2A
Frequency Response	300 ~ 3400 Hz
Working Environment	Temperature：0℃ ~ 60℃；Humidity：85% max
Dimensions	W305 × D235 × H50 (mm)