STENTOFON Pulse System
Getting Started

1 Introduction

This document describes how to set up the Pulse System using:

- STENTOFON IP intercom stations
- STENTOFON IP speakers
- 3rd party IP telephones
- IP telephone gateways
- STENTOFON IP DECT 300

1.1 System Overview

STENTOFON Pulse is an IP-based intercom system for upto 16 intercom stations. The system works with all STENTOFON IP intercom stations. In addition, it is possible to extend the system with 3rd party SIP terminals and gateways.

In a Pulse installation, one of the STENTOFON IP intercom station is designated as the **System Master**. The System Master acts as a SIP server, managing how calls are set up and routed. In addition, the System Master provides a single point for configuration of all intercom stations in the system. Any STENTOFON IP station can be the System Master.

ⓘ *All IP intercom stations in a Pulse installation must be located on the same LAN (IP subnet).*

2 Getting Started

The setup procedure for the Pulse system is as follows:

1. Plan the installation
2. Connect and set up System Master
3. Connect other intercom stations
4. Configure directory (phonebook)
5. Configure call and audio settings
6. Configure call buttons and DAKs
7. Verify system setup

In addition to the above, you may optionally:

- Add SIP accounts for 3rd party IP telephone and IP DECT
- Add SIP accounts for telephone gateways
- Modify Pulse service profiles

2.1 Plan the Installation

When planning a Pulse system, you have to:

- Decide on the type of IP intercom for each location
- Select which intercom station should be the System Master (usually a master station)
- Assign directory (phone) number and name to intercom stations
- Assign IP addresses and settings

The installation plan may typically be as shown in the figure below:
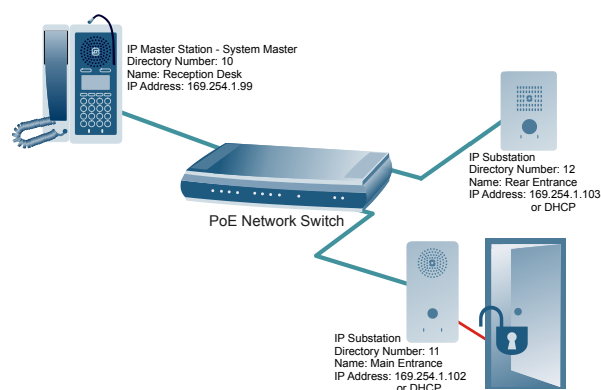
Directory Number & Name

Directory Number is the number used to dial to the intercom station. It is recommended to use a two-digit number. **Name** is a logical name you can assign to the station.

IP Addresses & configuration

The **System Master station must have a static IP address**. Other IP intercom stations may use static addresses or an automatic (DHCP) IP address assignment.

IP addresses must be unique in your network. These addresses are normally managed by the IT department. Hence, you should consult your IT department on the IP addresses to use in the network.

2.2 Connect and Set Up System Master

2.2.1 Connecting System Master to Network

Use a PoE Ethernet switch to connect the IP intercom station to the network.

STENTOFON IP intercom stations have two RJ45 network ports:

- LAN port is for connecting to the network
- AUX port is for connecting to auxiliary equipment such as a PC.

The IP stations support Power over Ethernet (PoE, IEEE 802.3 a-f) where power can be drawn from either the spare line or signal line.

AUX LAN
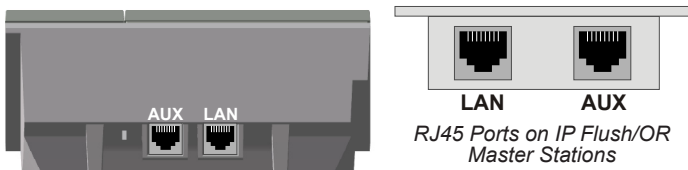
RJ45 Ports on IP Desktop Master

LAN AUX

RJ45 Ports on IP Flush/OR Master Stations

LAN AUX
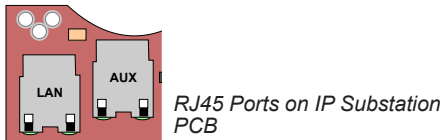
RJ45 Ports on IP Substation PCB

ⓘ *If you decide not to use a PoE switch, the IP station can use a 24 VDC power supply. See the STENTOFON IP Station Manual for information on connecting local power supply.*

2.2.2   Logging on to the System Master

Access the **System Master** station by logging into the web interface using a standard web browser:

1. Open a web browser
2. In the browser's address bar, type **169.254.1.100** and press the ENTER key
    - 169.254.1.100 is the default IP address of the IP station
    - The station Login page is displayed.

To log into the station:

1. Click **Login**
2. Enter the default User name: **admin**
3. Enter the default password: **alphaadmin**
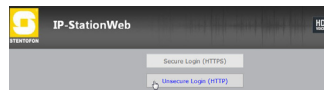
The **Station Information** page will now be displayed, showing the default IP master station configuration.

ⓘ *In order for your PC to communicate with the station it is necessary to change its Internet Protocol Properties to use an IP address that is in the same range as 169.254.1.100, e.g. 169.254.1.1 with subnet mask 255.255.255.0*

2.2.3   Setting up System Master

● Under the **Station Main** tab, click **Main Settings** to configure station mode and IP parameters.
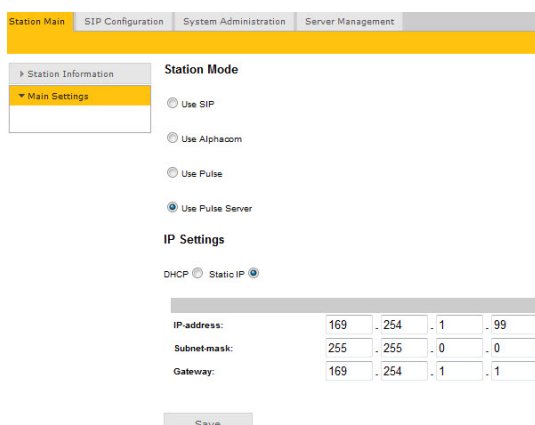
Station Mode

Since this is the System Master station, it will function as the server or exchange:

● Select the **Use Pulse Server** radio-button

IP Settings

● Select the **Static IP** radio-button
● Enter values for the **IP address** (e.g. 169.254.1.99), **Subnet mask**, and **Gateway**
● Click **Save** followed by **Apply** to restart the System Master station.

2.3 Connect other Intercom Stations

Connect all other IP intercom stations to the network. Note that all other IP intercom stations have to be on the same LAN (IP subnet) as the System Master.

Wait for the stations to boot up (approximately 60 seconds) before proceeding to the next step.

2.4 Configure Directory (Phonebook)

Log into the System Master station with the new IP address (e.g. 169.254.1.99) that you have just set under **Station Main** > **Main Settings**. After login, you will find a new **Server Management** tab

● Under the **Server Management** tab, select **Server Configuration** > **Directory Settings**

The **System Master station will auto-discover all the other stations** in the LAN.

To identify the individual stations in the LAN:

● Click Play
- You should now hear a tone from the station you selected.
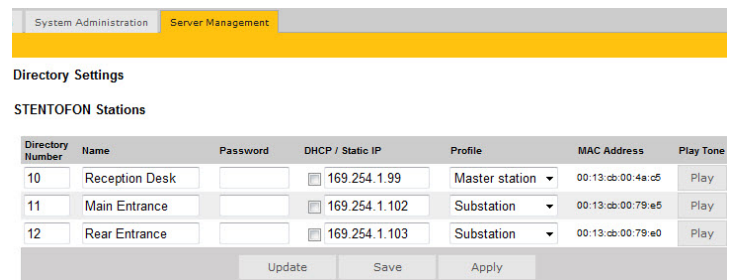
You can now set **directory numbers**, **names**, **IP addresses**, **profiles**, etc. for all the stations in the network. In our example, the System Master station is designated as *Reception Desk* with directory number 10 while the two substations are the *Main Entrance* and *Rear Entrance* with directory numbers 11 and 12 respectively.

● Click **Save** followed by **Apply**
- When you click **Apply**, the System Master will download the directory settings to all the STENTOFON IP intercom stations and do a system reboot.

ⓘ **Password** *is an optional field you can set to increase the security level. The password is used by other intercom stations to register with the System Master.*

2.5 Configure Call and Audio Settings

It is optional to configure the call and audio settings. Default settings will be used if they are not configured.

- Select **Server Management** > **Server Configuration** > **Call and Audio Settings**

Call and Audio Settings

Directory Number	Name	Autoanswer	Disconnect By Button	Activate Relay On Event	Relay duration	Speaker Volume	Noise Reduction
10	Reception Desk	☐ 0	Enabled ▼	DTMF 6 ▼	3 seconds ▼	5 ▼	0 ▼
11	Main Entrance	☑ 1	Disabled ▼	DTMF 6 ▼	3 seconds ▼	5 ▼	0 ▼
12	Rear Entrance	☑ 0	Disabled ▼	DTMF 6 ▼	3 seconds ▼	7 ▼	4 ▼

The call and **Call and Audio Settings** menu include the following parameters:

Autoanswer

Auto-answer is typically enabled for substations and not for master stations.

Disconnect By Button

When disabled, the user cannot disconnect the call from this station. It is typically disabled on substations and enabled on master stations.

Activate Relay On Event

Most STENTOFON IP stations have a relay. Here, you can select the events that activate the relay. The available events are:

- DTMF <#> - Reception of a DTMF (keypad) digit from a remote station during the call
- Ringing
- In call

Relay duration

When the relay is activated, this parameter determines how long the relay should stay ON.

Speaker Volume

This parameter sets the speaker volume for the station.

Noise Reduction

This parameter enables active noise cancellation. For stations that are located in noisy environments, it is recommended that the noise cancellation level be set to 4.

2.6 Configure Call Buttons & DAKs

- Select **Server Management** > **Server Configuration** > **Direct Access Key Settings** and select the station to set single-touch access to your most frequently used directory numbers and functions.

| System Administration | Server Management |

Configuring station 10 with name Reception Desk from server 169.254.1.99

Back

Direct Access Key Settings

	Function (idle)	Value	Option
Input Button 1	Call To	9	Ringlist 1 ▼
Input Button 2	Call To		Ringlist 2 ▼
Input Button 3	Call To		Ringlist 3 ▼
Direct Access Key 1	Call To ▼	11	Unused ▼
Direct Access Key 2	Call To ▼	12	Unused ▼
Direct Access Key 3	Select Line ▼		
Direct Access Key 4	Select Line ▼		
		Save	

The Direct Access Key Settings menu includes parameters to program **Input Buttons** (RCI) and **Direct Access Keys (**DAK).

Input Buttons

Input Buttons are the buttons on IP substations. Input Buttons can also be used as external call buttons connected to the RCI input on the IP substation and master station PCB.

- Under **Value** you can enter the directory number to call to when the button is pressed.

Direct Access Keys

DAKs are function keys on the IP master station. On some IP stations, there is a red and green LED associated with the DAK.

A DAK supports the following functions:

- Call To
- Select Line

The **Call To** parameter sets the directory number to call to when the key is pressed.

The **Select Line** parameter assigns the key to a line. You can have multiple lines on an IP master station. The active line is indicated by a green LED. You can change the line by pressing the associated DAK. Lines that have an active call are indicated by a red LED.

2.7 Verify System Setup

To verify that your system is up and running:

Select **Server Management** > **Server Monitoring**

| System Administration | Server Management |

Station Directory

Directory Number	Name	Status	IP Address	Profile	Terminal Type
10	Reception Desk	Registered	169.254.1.99	Master station	STENTOFON Station
11	Main Entrance	Registered	169.254.1.102	Substation	STENTOFON Station
12	Rear Entrance	Registered	169.254.1.103	Substation	STENTOFON Station

All stations that have been configured should be displayed in the table. Stations that are up and running will have the status **Registered**.

3 Optional Configuration

3.1 Add SIP Accounts for 3rd Party IP Telephone and IP DECT

Install license

Before adding SIP accounts to your system, you need to obtain the **Pulse 3rd Party SIP Terminals** license key.

To install a license:

- Under the **System Administration** tab, select **Licensing**

- Enter the license key in the **New License** field and click **Insert License**

The license table should now show all the licenses that are available.

Create SIP station account

- Under the **Server Management** tab, select **Server Configuration** > **Directory Settings**

- Under **Third Party SIP Terminals** enter the **Directory Number**, **Name**, and **Profile** for the IP telephone.
- Click **Add** followed by **Save**

Configure IP telephone

You now have to log into the 3rd party IP telephone to configure it for communicating with the Pulse Server station through SIP.

3.2 Add SIP Accounts for Telephone Gateways

Install license

Before adding SIP accounts to your system, you need to obtain the **Pulse Gateways** license key and install it under **System Administration** > **Licensing**.

Create SIP gateway account

- Under the **Server Management** tab, select **Server Configuration** > **Directory Settings**

- Under **Gateways** set the following values:
  - **Directory Number**: **0**
  - **Name**: <name of your choice>
  - **Profile**: **Gateway**
- Click **Add** followed by **Save**

Configure telephone gateway

You now have to log into the telephone gateway to configure it for communicating with the Pulse Server station through SIP.

3.3 Modify Pulse Service Profiles

Service Profile defines a set of service features and parameters that are available for a group of stations.

The Pulse system can have five service profiles. The default service profiles are:

- Profile 1 - Default
- Profile 2 - Substation
- Profile 3 - Master station
- Profile 4 - Unused
- Profile 5 - Gateway

The following service features and parameters are included in the service profile:

- Door opening including remote I/O
- Outgoing call restriction

To modify service profiles:

Select **Server Management** > **Profiles**