



CASE STUDY

CALL RECEPTION IN TOA SIP SPEAKERS AND HORN DEVICES

Description

This document describes how to configure a MEET intercom panel and a TOA loudspeaker or horn device using SIP protocol.

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INTRODUCTION

This case study shows how to integrate a MEET system with TOA loudspeakers and horns.

In this particular case we will use the TOA SIP horn IP-A1SC15, but it could be also applied to other TOA devices with a similar configuration process.

SIP LOUDSPEAKERS

- IP-A1SC15: https://www.toa-products.com/international/detail.php?h=IP-A1SC15&keiretsu=&alpha=&renew=&data_type=
- IP-A1PC238: https://www.toa-products.com/international/detail.php?h=IP-A1PC238&keiretsu=&alpha=&renew=&data_type=

IP INTERFACES

- IP-A1AF (to address a local PA or a non IP speaker) https://www.toa-products.com/international/detail.php?h=IP-A1AF&keiretsu=&alpha=&renew=&data_type=
- IP-A1PG (to use its conversation function and transmit voice to a defined group of speakers; it can be only use with outdoor intercom panels that have calling keypad not just one pushbutton) https://www.toa-products.com/international/detail.php?h=IP-A1PG&keiretsu=&alpha=&renew=&data_type=

Basically it will be possible to use an intercom to broadcast an emergency message or warning message. When pressing the outdoor panel pushbutton a call will be sent to the PA system or devices (no ring sound will happen). Once pressed everything that is said at the outdoor panel will be reproduced by the loudspeakers, horns or PA system.

FW VERSIONS TESTED

- TOA IP-A1SC15 version tested 1.3.0
- MEET outdoor panels version tested 3.0

PRELIMINARY REQUIREMENTS

Before proceeding to the system configuration it will be necessary to take into account the following points:

IP addressing from monitor and panel

The outdoor panel and the IP horn or PA speaker are required to have a fixed IP assigned. This IP address must be in the same network. These IP addresses cannot be assigned to any other device in the same network. It is recommended that the IP addresses are requested from the IT administrator. In this case we will use the TOA IP horn default IP address 192.168.14.1 and we will change the IP address of the MEET outdoor intercom to 192.168.14.170.

OUTDOOR PANEL CONFIGURATION

We will access to the outdoor panel web server. In the IP 1 pushbutton panel the default IP address is 10.1.1.2 (If using a multiapartment outdoor panel, with calling keypad, such as KIN, MILO or MARINE the default IP will be 10.1.0.1)

In a Google Chrome browser we will enter IP 10.1.1.2. A user ID and password will be requested to access. The default access credentials are the following **user: admin pass : 123456**

In the network tab, change the IP address to 192.168.14.170 so that it is in the same subnetwork as the TOA IP horn.



DEVICE	NETWORK SETTINGS
GENERAL	
NETWORK	
ACC	
SIP	
SIP TRUNK	
SIP CALL	
ADVANCED	
PINCODE	
LOGOUT	

IP:	192.168.14.170
MASK:	255.255.255.0
GATEWAY:	192.168.14.254
DNS:	8.8.8.8
SOFTWARE IP:	10.0.0.200
SW. PIN:

SAVE

We will change the PC adaptor IP address to the 192.168.14.x range.

In the GENERAL TAB we will configure so that the pushbutton will call an apartment (it will be a virtual apartment that does not really exist) located in block 1, apartment 101. The pushbutton is now mapped to the "virtual" apartment 101.

We will also setup the DEVICE NUMBER as 1. This means that it will be the first pushbutton panel on this project. If there are more than 1 outdoor panels we need to set a different number.

The TYPE of panel will be setup as 1 way panel "1W panel". Which means 1 pushbutton panel.



- DEVICE
- GENERAL**
- NETWORK
- ACC
- SIP
- SIP TRUNK
- SIP CALL
- ADVANCED
- PINCODE
-
- LOGOUT

GENERAL SETTINGS

BLOCK: 1

APARTMENT: 101

DEVICE NO.: 1

TYPE: 1W PANEL

LANGUAGE: ENGLISH

PANEL VOLUME: 5

VIDEO RESOLUTION: 640x480

SIP DIVERT MODE: PARALLEL CALL

DATE FORMAT: DD/MM/YYYY

DATE: 23 / 01 / 2018

TIME: 00 : 37 : 24

TIME ZONE: GMT+02:00

SAVE

To associate the pushbutton call to an IP or SIP extension, it can be done in the SIP CALL tab, where we will bind the panel pushbutton (previously assigned to apartment call 101) to an IP or SIP extension. In this example, the field APARTMENT is 101, so in the field NUMBER we will define the target IP or SIP extension to be called. In this case it will be the IP number 192.168.14.1 from the TOA horn. The syntax to be used in this field is [sip:192.168.14.1](tel:sip:192.168.14.1)



- DEVICE
- GENERAL
- NETWORK
- ACC
- SIP
- SIP TRUNK
- SIP CALL**
- ADVANCED
- PINCODE
-
- LOGOUT

SIP CALL SETTINGS

APARTMENT: 0

NUMBER:

DELETE:

SAVE

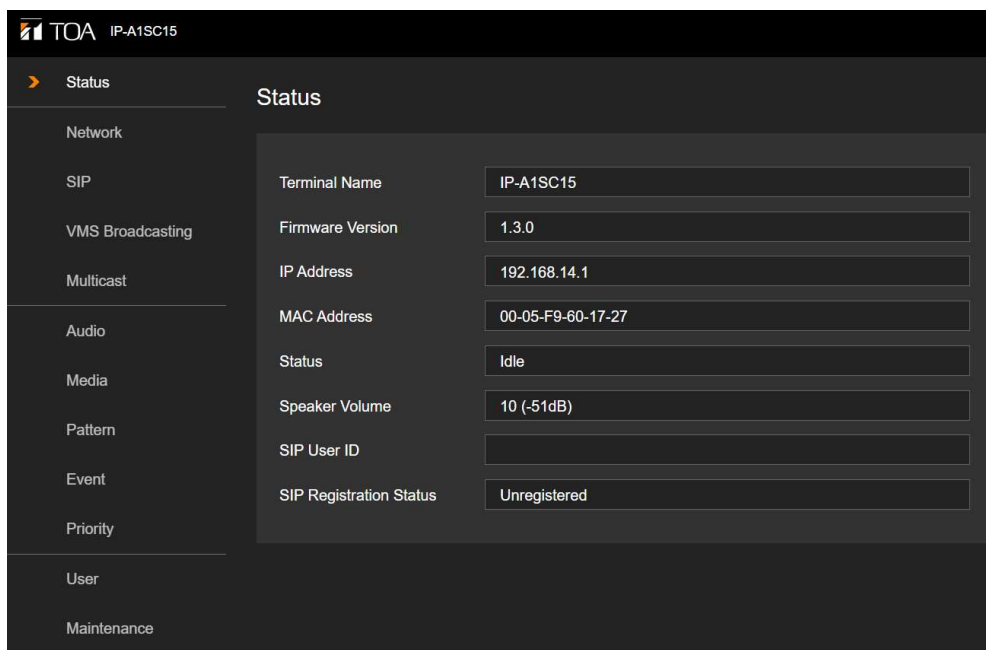
APARTMENT	NUMBER	APARTMENT	NUMBER	APARTMENT	NUMBER
101	sip:192.168.14.1				

The TOA speakers/horns have SIP compatibility, so they can be registered as a SIP extension on SIP servers. In this case, and assuming that the SIP server IP address is 192.168.14.2 and the SIP extension assigned to register the TOA horn was 1122, the call destination to be mapped would be <sip:1122@192.168.14.2>. This is matching the following sintaxis: sip:extensión@dirección_ip_del_servidor

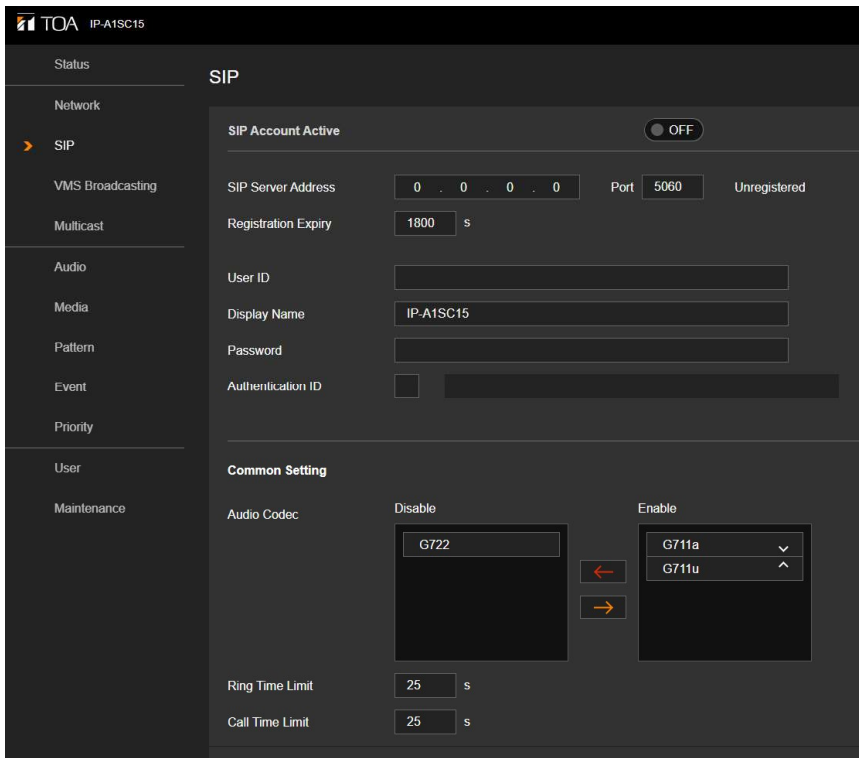
HORN/SPEAKER CONFIGURATION

The horn already has a fixed IP address 192.168.14.1. It will be possible to access its webserver using a web browser such as Google Chrome. For that we can use the default credentials

user: admin pass: guest

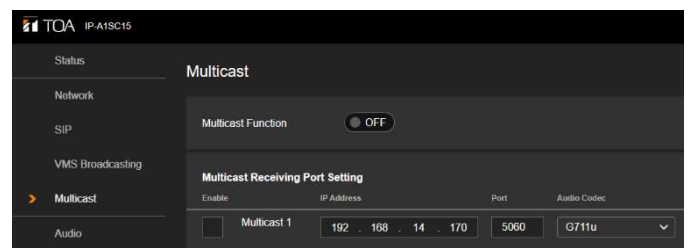
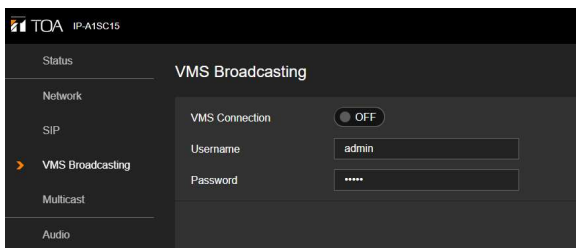


It is not required that the SIP horn is registered in a SIP server so we will make use of a SIP direct call to an IP address.



It will be required to select the MEET compatible codecs. This can be done in the SIP section. Just leave on the ENABLE column on the right side the codecs G711a y G711u.

The options VMS Broadcasting and Multicast are not required to be activated since these are functions that will not be used when the call is to one single horn/speaker.



OPERATION

CALL FROM OUTDOOR PANEL AND RECEPTION ON TOA HORN/SPEAKER

When pressing the button in the outdoor panel, the call will be answered automatically by the horn or speaker. The horn will reproduce the audio from the outdoor panel. There will be no ringing sound or calling sound to indicate that a call has been made.

If we press the calling button for the second time, before the conversation is finished, the communication will be cut.

REMARKS

In this case study a single pushbutton panel has been used.



It is possible to use digital panels with numeric calling keypad so that different destinations can be called.

To be able to call different destinations it will be necessary to map the calling code dialed on the keypad to an IP address or SIP extension. Also it will be possible to select the destinations by using an electronic directory. This configuration can be done simply, by using the outdoor panel web server.



More information available at MEET.FERMAX.COM , under the section INTEGRATION WORKS WITH.