



Avaya Solution & Interoperability Test Lab

Application Notes for Configuring Algo 8128 SIP LED Strobe Version 2.3 with Avaya IP Office Server Edition Solution Release 9.1.4 - Issue 1.0

Abstract

These Application Notes describe the configuration steps required for Algo 8128 SIP LED Strobe to interoperate with Avaya IP Office Server Edition Solution. The Algo 8128 SIP LED Strobe is a SIP compliant Power over Ethernet high intensity strobe light for alerting and notification of telephone, emergency, safety, and security events.

Readers should pay attention to **Section 2**, in particular the scope of testing as outlined in **Section 2.1** as well as the observations noted in **Section 2.2**, to ensure that their own use cases are adequately covered by this scope and results.

Information in these Application Notes has been obtained through DevConnect compliance testing and additional technical discussions. Testing was conducted via the DevConnect Program at the Avaya Solution and Interoperability Test Lab.

1. Introduction

These Application Notes describe the configuration steps required for Algo 8128 SIP LED Strobe to interoperate with Avaya IP Office Server Edition Solution. Algo 8128 SIP LED Strobe is a SIP-based device that can register with Avaya IP Office as SIP endpoint.

The 8128 SIP LED Strobe is a SIP compliant Power over Ethernet (PoE) high intensity strobe light for alerting and notification of telephone, emergency, safety, and security events.

The IP Office Solution that consists of a primary Server Edition in Virtual Environment and an expansion 500V2. Algo 8128 was registered as SIP users to both the primary Server Edition and the expansion 500V2.

2. General Test Approach and Test Results

The feature test cases were performed manually. The focus of this interoperability compliance testing was to verify if Algo 8128 can register as a SIP endpoint on IP Office and to verify proper operation of the Algo 8128 when integrated with Avaya IP Office.

DevConnect Compliance Testing is conducted jointly by Avaya and DevConnect members. The jointly-defined test plan focuses on exercising APIs and/or standards-based interfaces pertinent to the interoperability of the tested products and their functionalities. DevConnect Compliance Testing is not intended to substitute full product performance or feature testing performed by DevConnect members, nor is it to be construed as an endorsement by Avaya of the suitability or completeness of a DevConnect member's solution.

2.1. Interoperability Compliance Testing

Compliance testing verified that the 8128 was able to interoperate with the telephones residing on IP Office system. The following interoperability areas were covered:

- The 8128 can register to IP Office as a SIP endpoint.
- SIP Ring – The 8128 will flash/alert when the twinning extension is called.
- SIP Monitor – The 8128 can monitor a telephone on IP Office when this telephone is called (Ring and In-Use) the 8128 will flash/alert.

The serviceability testing focused on verifying the ability of Algo 8128 SIP LED Strobe to recover from adverse conditions, such as disconnecting/reconnecting the Ethernet cable to the device.

2.2. Test Results

The objectives outlined in **Section 2.1** were verified. All test cases passed.

2.3. Support

Technical support on Algo 8128 SIP LED Strobe can be obtained through the following:

- Phone: + 1 604 454 3792
- Web: <http://www.algosolutions.com/support>
- Email: support@algosolutions.com

3. Reference Configuration

Figure 1 illustrates the test configuration used during the compliance testing between the Avaya IP Office and Algo 8128 SIP LED Strobe. The 8128 SIP LED Strobe communicated with IP Office through Avaya switch with Power over Ethernet (PoE) and registered with Avaya IP Office as SIP endpoint. The IP Office Server Edition Solution that consists of a primary Server Edition in Virtual Environment and an expansion 500V2. The PRI T1 trunk was also configured to connect from IP Office 500V2 expansion to PSTN for test cases off-net via PRI T1 trunk.

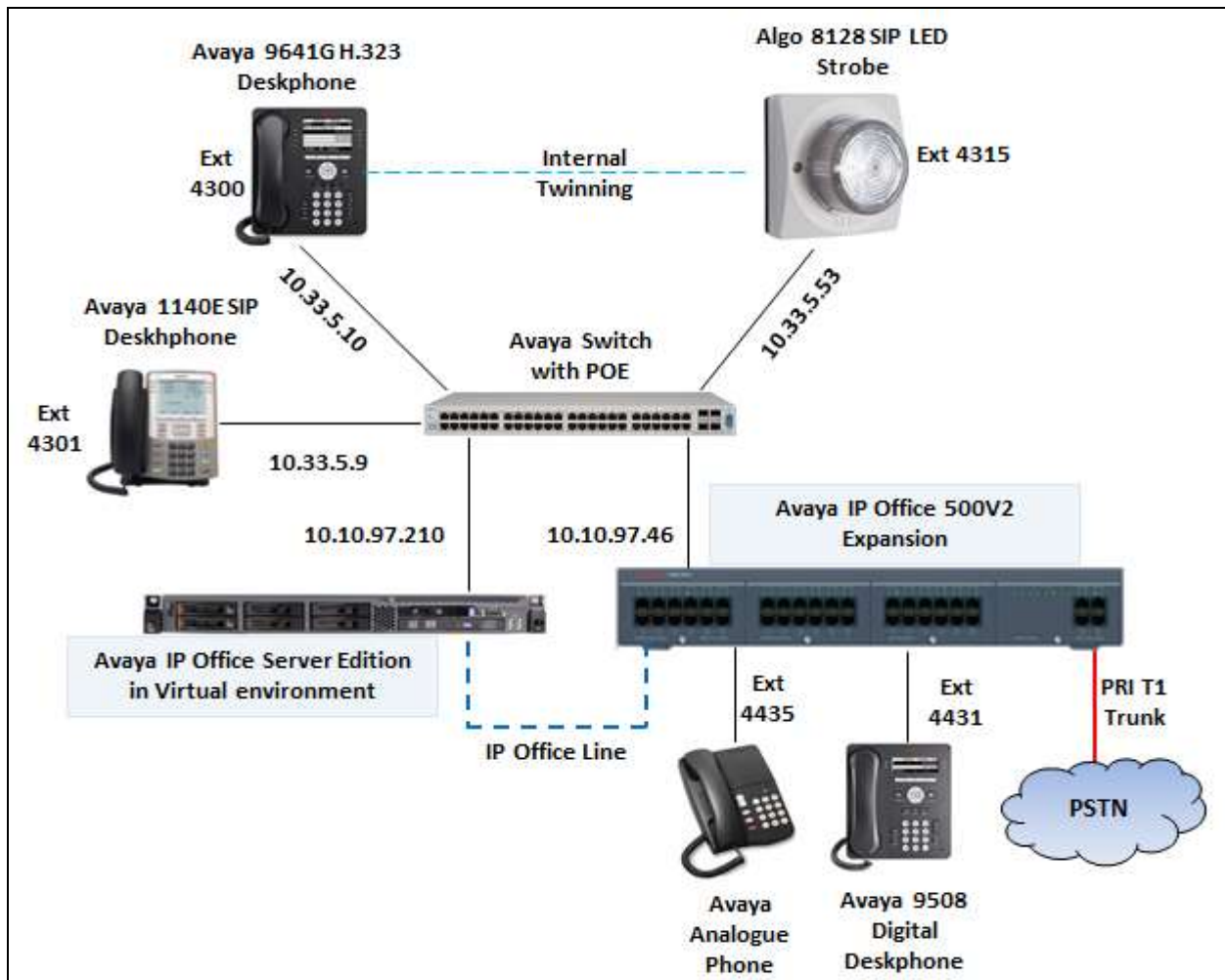


Figure 1: Test Configuration Diagram

4. Equipment and Software Validated

The following equipment and software were used for the sample configuration provided:

| Equipment | Software |
|---|-----------------|
| Avaya IP Office Server Edition in Virtual Environment | 9.1.4 Build 137 |
| Avaya IP Office 500V2 Expansion | 9.1.4 Build 137 |
| Avaya H.323 9641G IP Deskphone | 6.6029 |
| Avaya H.323 1608 IP Deskphone | 1.380B |
| Avaya 1140E SIP Phone | 4.4.23 |
| Avaya 9508 Digital Phone | 0.55 |
| Avaya Analog Phone | - |
| Algo 8128 SIP LED Strobe Firmware | 2.3 |
| Kernel Version | r5 |
| LED Controller Version | 12 |

5. Configure Avaya IP Office

This section provides the procedures for configuring Avaya IP Office. The procedures include the following areas:

- Verify IP Office license.
- Obtain LAN IP address.
- Administer SIP registrar.
- Administer SIP extensions.
- Administer SIP users.
- Administer Internal Twinning.

5.1. Verify IP Office License

From a PC running the Avaya IP Office Manager application, select **Start → Programs → IP Office → Manager** to launch the Manager application. Select the proper IP Office system, and log in using the appropriate credentials.

The **Avaya IP Office Manager** screen is displayed. From the configuration tree in the left pane, select **License**, the list of license displayed in the right panel. Verify that the **3rd Party IP Endpoints** status is **“Valid”**.

The screenshot shows the Avaya IP Office Manager application window. The left pane displays a configuration tree with the following items: BOOTP (16), Operator (3), Solution, User (31), Group (0), Short Code (45), Directory (0), Time Profile (0), Account Code (0), User Rights (9), Location (0), IPOSE VML, System (1), Line (3), Control Unit (8), Extension (17), User (16), Group (0), Short Code (9), Service (0), Incoming Call Route, IP Route (1), License (27), ARS (1), Location (0), and Authorization Code (0). The 'License (27)' item is selected.

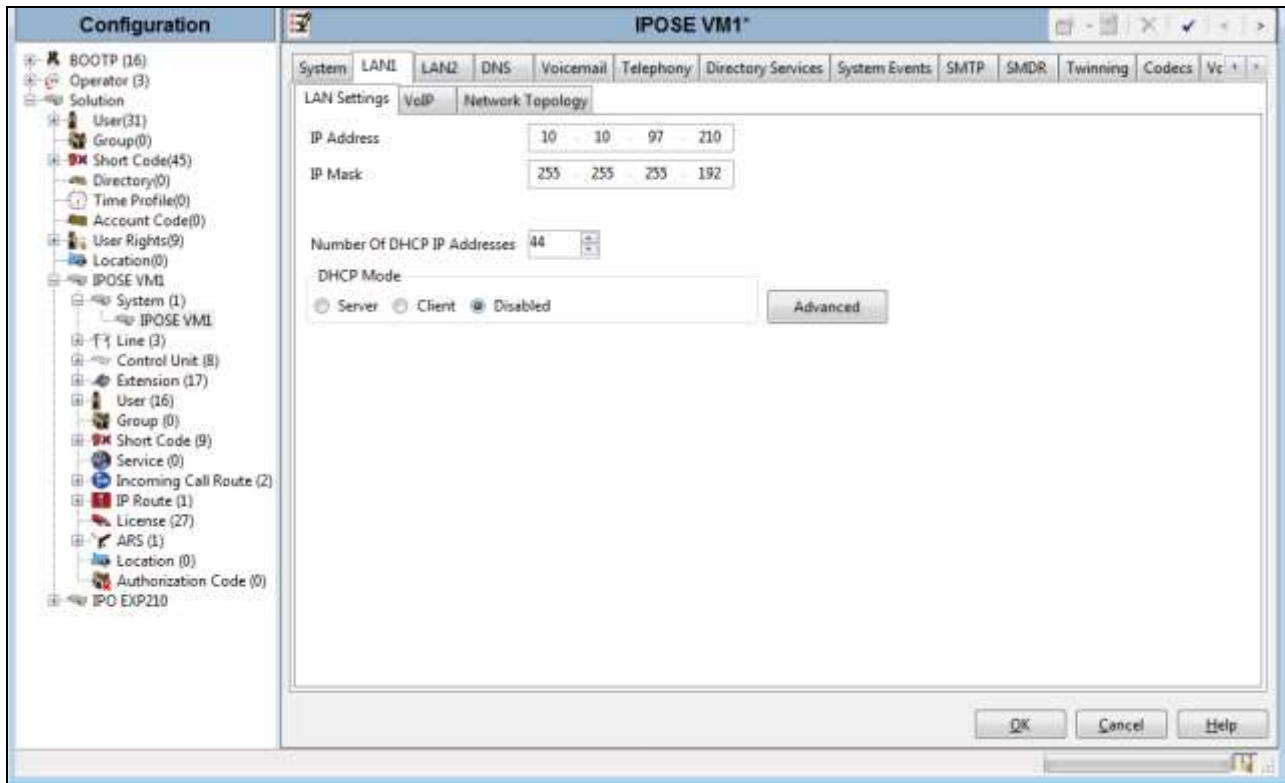
The right pane shows the 'License' configuration for the 'Remote Server'. The 'Licensed Version' is 9.1. The 'System ID (ADI)' is 69643e6a3711a282e1b2o6de45c79477b8228770. The 'PLDS Host ID' is 663017273556. The 'PLDS File Status' is 'Not Present / Invalid'.

The license table is as follows:

| Feature | License Key | Instances | Status | Expiry Da |
|---------------------------------------|-------------|-----------|----------|-----------|
| VMPro Networked Messaging | ti | W 255 | Obsolete | Never |
| VMPro TTS (Scansoft) | G | 2e 255 | Obsolete | Never |
| VMPro TTS (Generic) | V | LB 255 | Obsolete | Never |
| Software Upgrade 255 | Z | 1 | Obsolete | Never |
| Avaya Softphone License | 0 | OC 255 | Obsolete | Never |
| CTI Link Pro | Y | 255 | Valid | Never |
| Wave User | D | cB 255 | Valid | Never |
| Receptionist | A | 255 | Valid | Never |
| Preferred Edition Additional Voice... | q | ULB 255 | Valid | Never |
| 3rd Party IP Endpoints | A | 255 | Valid | Never |
| VMPro Networked Messaging | s | A 255 | Obsolete | Never |
| VMPro Recordings Administrators | q | c 255 | Valid | Never |
| VMPro TTS (Scansoft) | v | DMFe 255 | Obsolete | Never |
| VMPro TTS (Generic) | 2 | 255 | Obsolete | Never |
| SIP Trunk Channels | a | m 255 | Valid | Never |
| Avaya IP endpoints | h | 255 | Valid | Never |

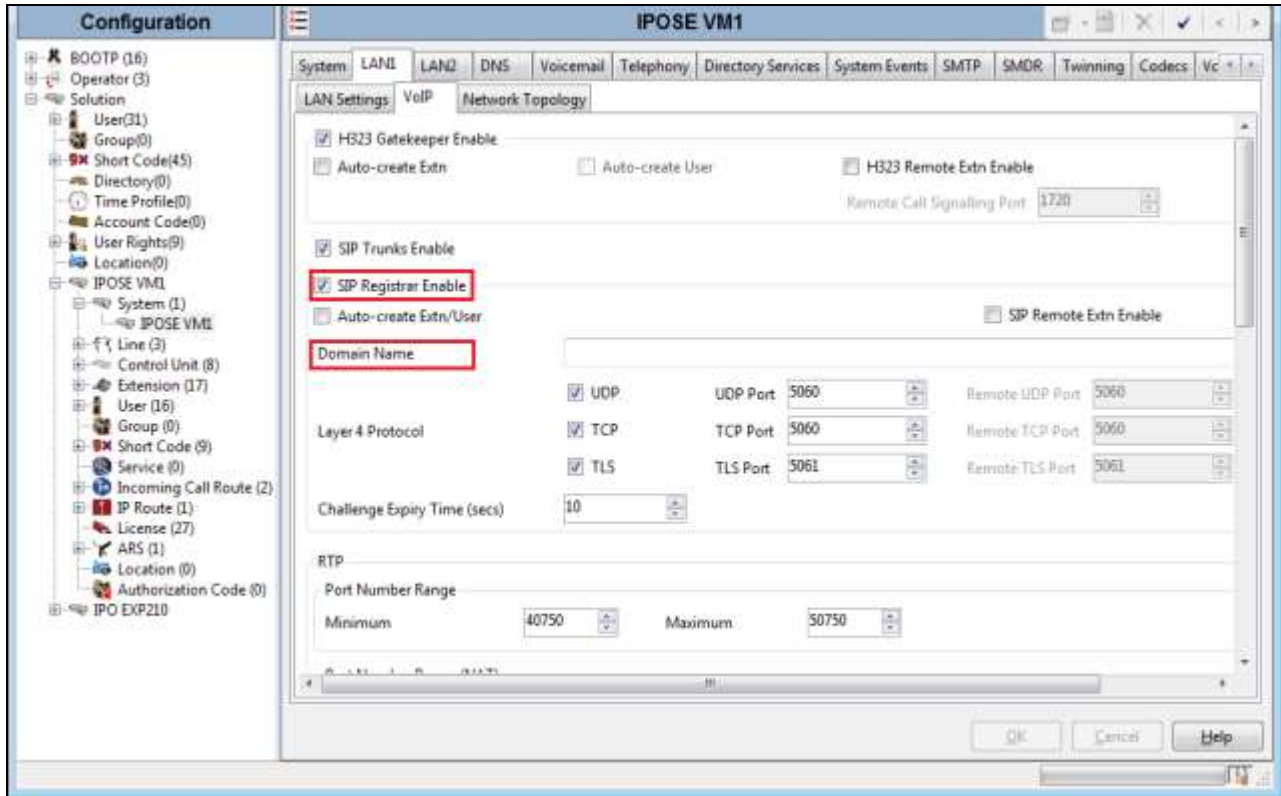
5.2. Obtain LAN IP Address

From the configuration tree in the left pane, select **System** to display the **IPOSE VM1** screen in the right pane. Select the **LAN1** tab, followed by the **LAN Settings** sub-tab in the right pane. Make a note of the **IP Address**, which will be used later to configure Algo 8128. Note that IP Office can support SIP extensions on the **LAN1** and/or **LAN2** interfaces, and the compliance testing used the **LAN1** interface.



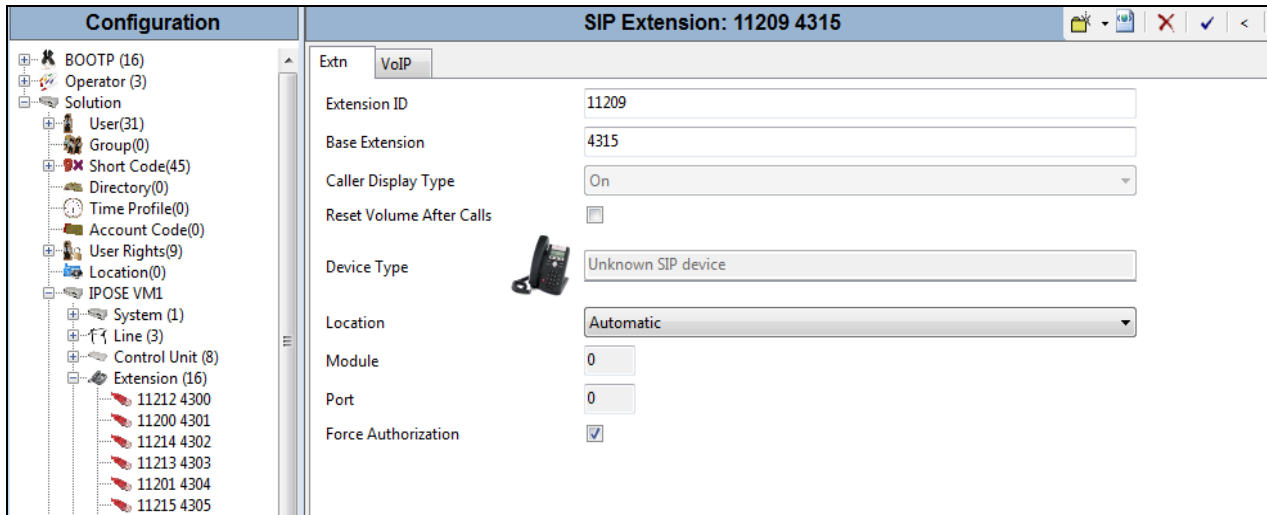
5.3. Administer SIP Registrar

Continuing from Section 5.2, select the **VoIP** sub-tab. Make certain that **SIP Registrar Enable** is checked, as shown below. Enter a valid **Domain Name** for SIP endpoints to use for registration with IP Office. In the compliance testing, the **Domain Name** was left blank, so the SIP endpoints used the LAN IP address for registration.

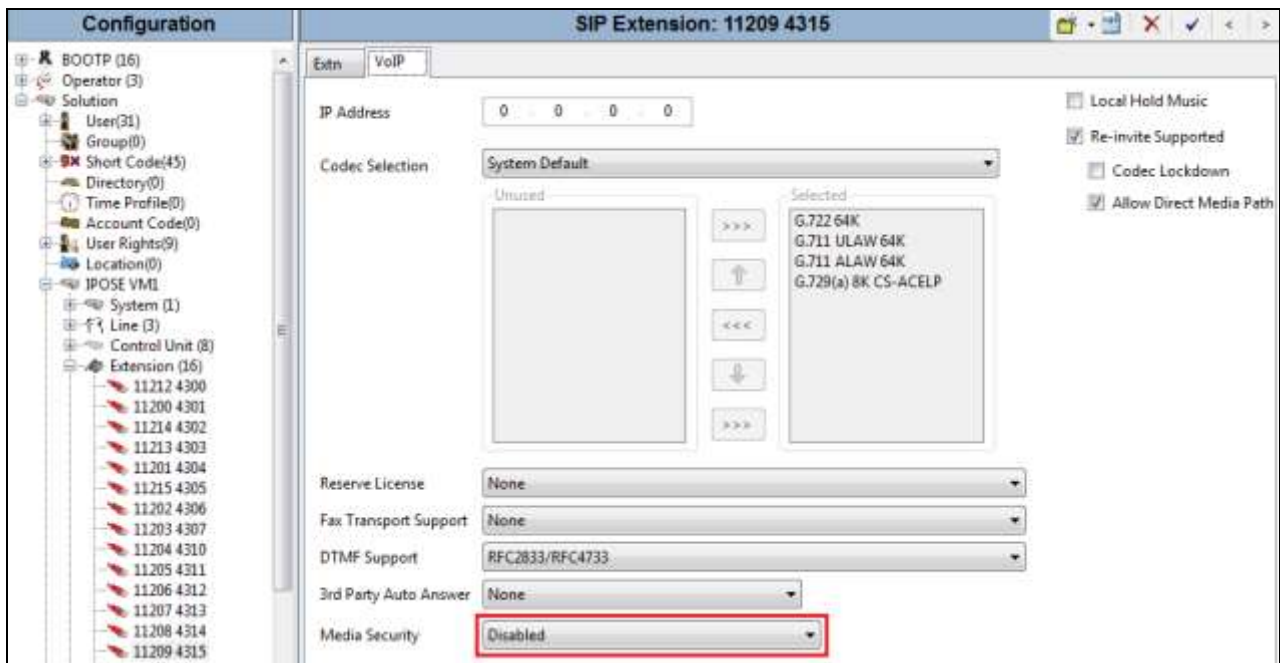


5.4. Administer SIP Extensions

From the configuration tree in the left pane, right-click on **Extension**, and select **New** → **SIP Extension** (not shown) from the pop-up list to add a new SIP extension. For **Base Extension**, enter the SIP strobe light extension “**4315**”. Retain the default values in the remaining fields.

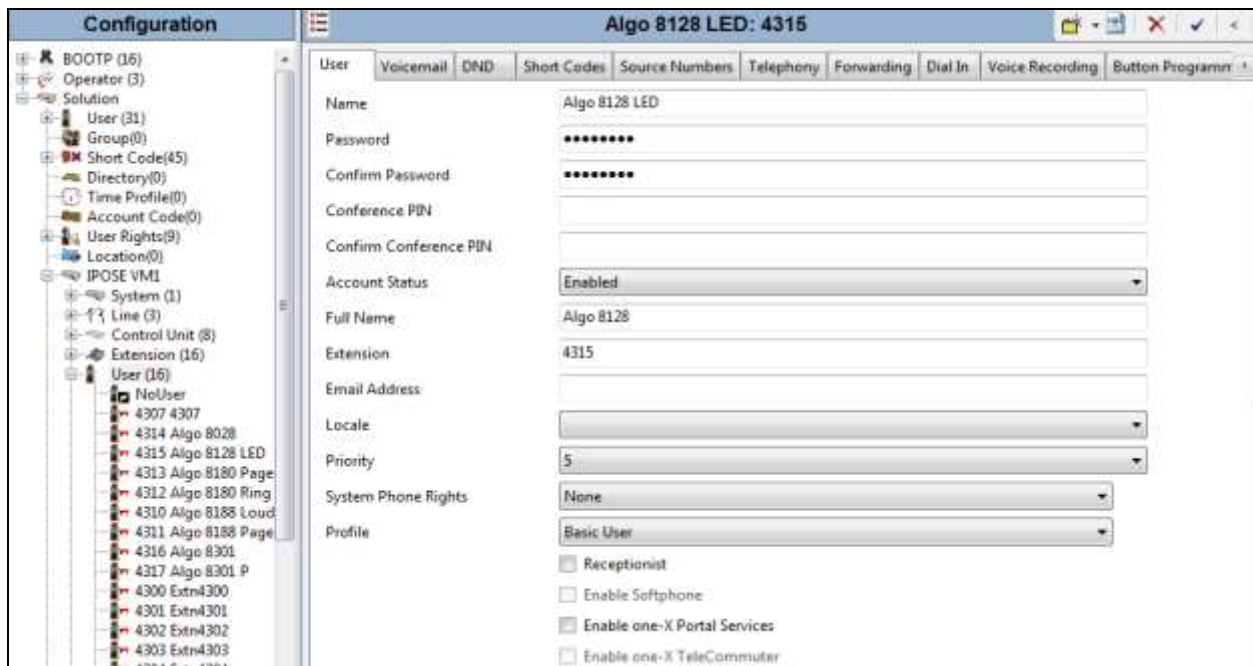


Select the **VoIP** tab, select **Disable** in the **Media Security** dropdown menu and retain the default values in all fields. Note that Media Security for all Algo SIP extensions needs to be set as “Disabled” to avoid the audio issue.



5.5. Administer SIP User

From the configuration tree in the left pane; right-click on **User** tab and select **New** (not shown) from the pop-up list. Enter desired values for **Name**. For **Extension**, enter the Algo extension from **Section 5.4**. Remember these values as they will be needed to register Algo to IP Office. Enter desired values for **Password**, this password is used when user want to login IP Office Softphone.

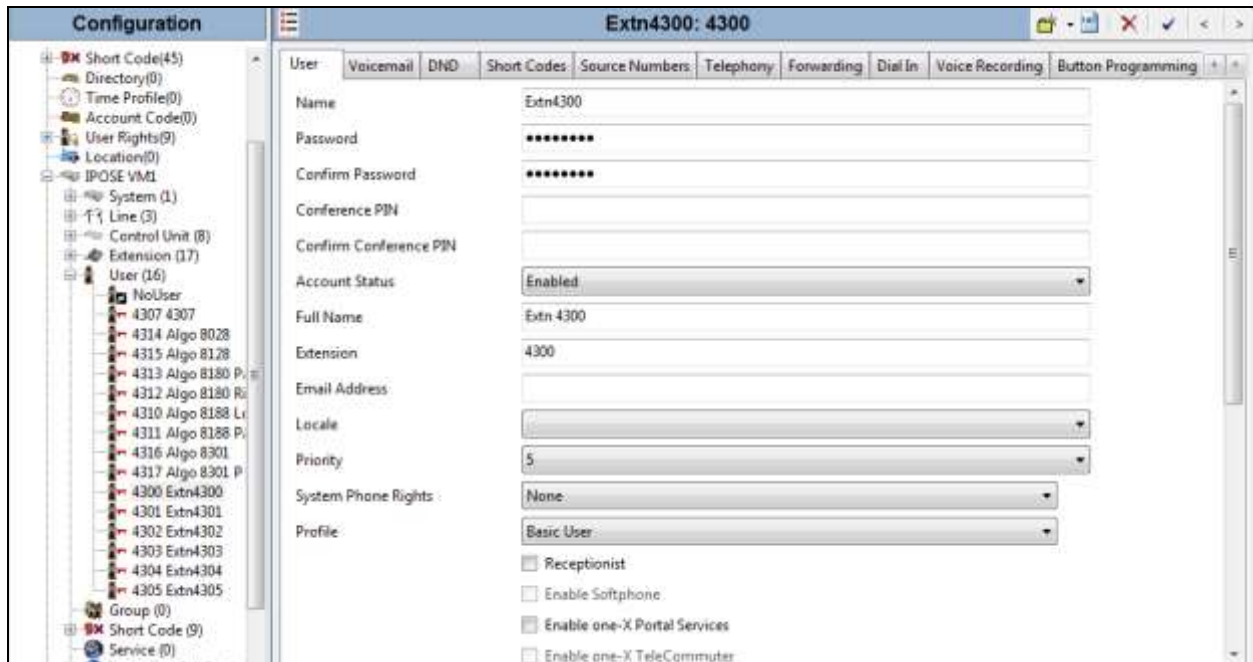


Select the **Telephony** tab, followed by the **Supervisor Settings** sub-tab, and enter a desired **Login Code**. This **Login Code** is needed to register Algo 8128 to IP Office.



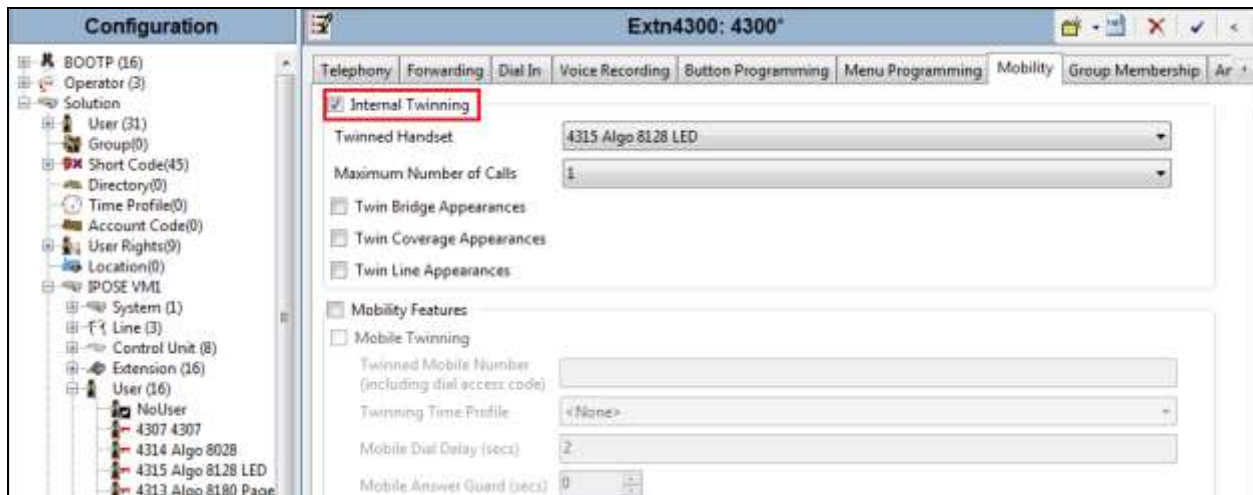
5.6. Administer Internal Twinning

From the configuration tree in the left pane, select the desk phone user that will be associated with the SIP strobe user. In this case, desk phone user “**Extn4300**”.



Select the **Mobility** tab, and check **Internal Twinning**. In the **Twinned Handset** field, select the Algo 8128 LED user from **Section 5.5**. Retain the default values in the remaining fields.

Note that with the **Internal Twinning** configuration, the Algo extension 4310 will be acting like secondary extension of the extension 4300 which is configured as primary and direct call to the secondary will always get busy. This is design intend of Internal Twining feature in IPO. In order to place direct call to Algo loud extension, do not configure it twinned with a deskphone.



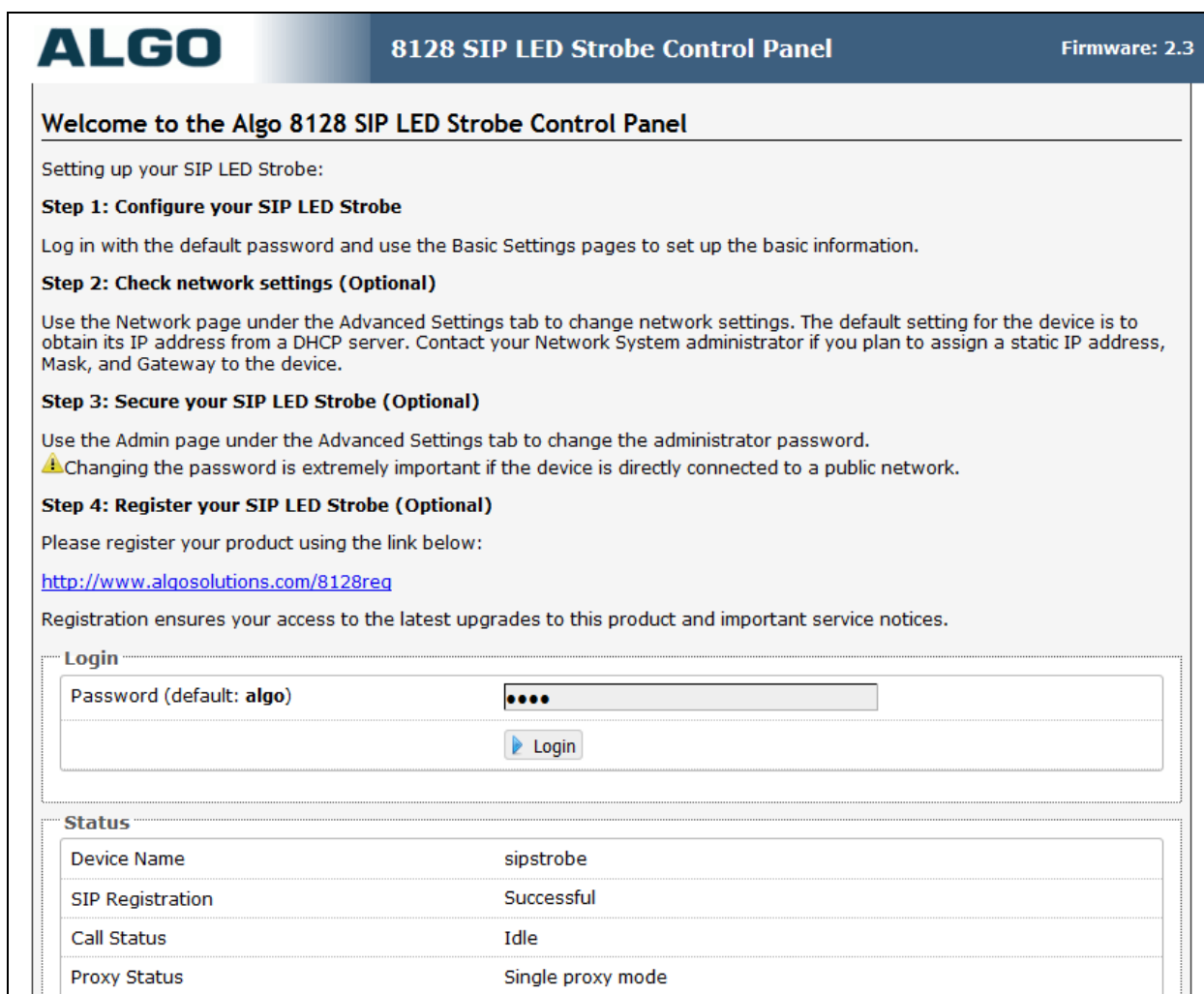
6. Configure Algo 8128 SIP Strobe Light

This section provides the procedures for configuring Algo 8128 SIP Strobe Light. The procedures include the following areas:

- Launch web interface
- Administer configuration

6.1. Launch Web Interface

Access the 8128 SIP Strobe Light web-based interface by using the URL “http://ip-address” in an Internet browser window, where “ip-address” is the IP address of the Algo 8128 SIP Strobe Light. This IP address can obtain from the Algo locator tool. The **Welcome to the Algo 8128 SIP LED Strobe Control Panel** screen is displayed, as shown below. Log in using the appropriate credentials.



ALGO 8128 SIP LED Strobe Control Panel Firmware: 2.3

Welcome to the Algo 8128 SIP LED Strobe Control Panel

Setting up your SIP LED Strobe:

Step 1: Configure your SIP LED Strobe

Log in with the default password and use the Basic Settings pages to set up the basic information.

Step 2: Check network settings (Optional)

Use the Network page under the Advanced Settings tab to change network settings. The default setting for the device is to obtain its IP address from a DHCP server. Contact your Network System administrator if you plan to assign a static IP address, Mask, and Gateway to the device.

Step 3: Secure your SIP LED Strobe (Optional)

Use the Admin page under the Advanced Settings tab to change the administrator password.
⚠ Changing the password is extremely important if the device is directly connected to a public network.

Step 4: Register your SIP LED Strobe (Optional)

Please register your product using the link below:
<http://www.algosolutions.com/8128reg>

Registration ensures your access to the latest upgrades to this product and important service notices.

Login

Password (default: algo)

Status

| | |
|------------------|-------------------|
| Device Name | sipstrobe |
| SIP Registration | Successful |
| Call Status | Idle |
| Proxy Status | Single proxy mode |

6.2. Administer Algo 8128

Select **Basic Settings** → **SIP** from the top menu, to display the screen below. Configure the **SIP Settings** section toward the bottom of the screen as desired to match the configuration. Enter the following values for the specified fields, and retain the default values in the remaining fields.

- **SIP Domain (Proxy Server):** The LAN IP address from **Section 5.2**.
- **Extension:** The SIP base extension from **Section 5.4**.
- **Authentication ID:** The SIP user name from **Section 5.5**.
- **Authentication password:** The SIP user login code from **Section 5.5**.
- **Monitor Mode:** There are three options for this field and during the certificate test the **Monitor** and Use “**Subscribe/Notify**” modes were verified.
 - Select **Monitor “Ring” event of the SIP registered extension** option. When this mode is used the 8128 will flash when called directly, or if the 8128 is twinned with another extension, it will also flash when the twinned extension is called.

The screenshot displays the ALGO 8128 SIP LED Strobe Control Panel web interface. The top navigation bar includes the ALGO logo, the title "8128 SIP LED Strobe Control Panel", and the firmware version "Firmware: 2.3". Below the navigation bar, there are tabs for "Status", "Basic Settings", "Advanced Settings", "System", and "Logout". The "Basic Settings" tab is active, and the "SIP" sub-tab is selected. The main content area is titled "SIP Settings" and contains the following configuration fields:

- SIP Domain (Proxy Server):** Input field with the value "10.10.97.210". A help icon and text below the field state: "Default port is 5060. To specify a different port, enter PROXY:PORT, e.g. my_proxy.com:5070, or 192.168.1.10:5080."
- SIP Extension:** Input field with the value "4315".
- Authentication ID:** Input field with the value "4315".
- Authentication Password:** Input field with masked characters "•••••". A help icon is present to the right of the field.
- Monitoring Mode:** Radio button options:
 - Monitor "Ring" event on registered SIP extension
 - Use "Subscribe/Notify" dialog event (RFC 4235) to monitor event on different extension (if supported by your SIP server)
 - Monitor "Message Waiting" event (RFC 3842) on registered SIP extension

A "Save" button with a green checkmark is located at the bottom right of the configuration area. The footer of the page reads "© Copyright 2014 Algo Communication Products Ltd."

- Select **Use “Subscriber/Notify” dialog event** option this will extend two sub fields below. This mode on the 8128 was used to monitor an extension on IPO.
 - **Monitor Extension:** Enter an extension on IPO that the 8128 will monitor.
 - **Monitor Call Events:** Select an event that triggers the monitor from the 8128.

ALGO
8128 SIP LED Strobe Control Panel
Firmware: 2.3

Status
Basic Settings
Advanced Settings
System
Logout

SIP
Features
Multicast

SIP Settings

Here you can configure the basic SIP settings.

SIP

SIP Domain (Proxy Server)

Default port is 5060. To specify a different port, enter PROXY:PORT, e.g. my_proxy.com:5070, or 192.168.1.10:5080.

SIP Extension

Authentication ID

Authentication Password

Monitoring Mode

Monitor "Ring" event on registered SIP extension
 Use "Subscribe/Notify" dialog event (RFC 4235) to monitor event on different extension (if supported by your SIP server)
 Monitor "Message Waiting" event (RFC 3842) on registered SIP extension

Monitored Extension

Monitored Call Events

Ring

Ring

In-Use

Both Ring & In-Use

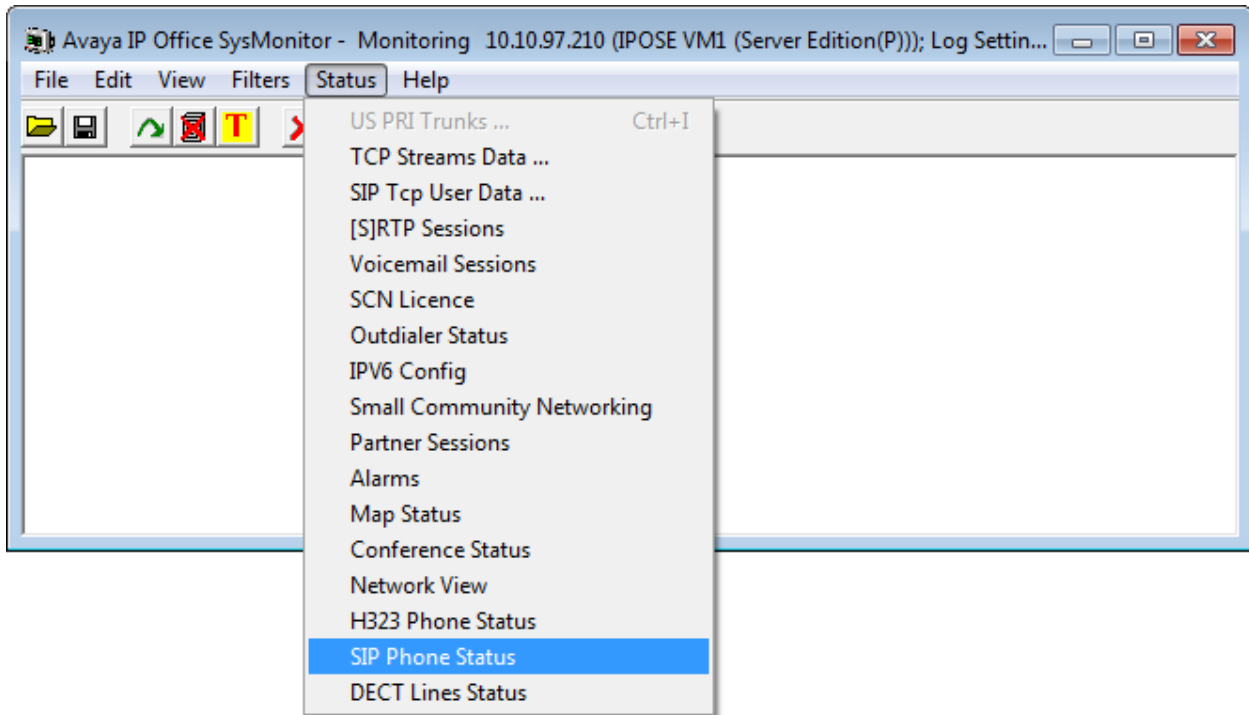
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7. Verification Steps

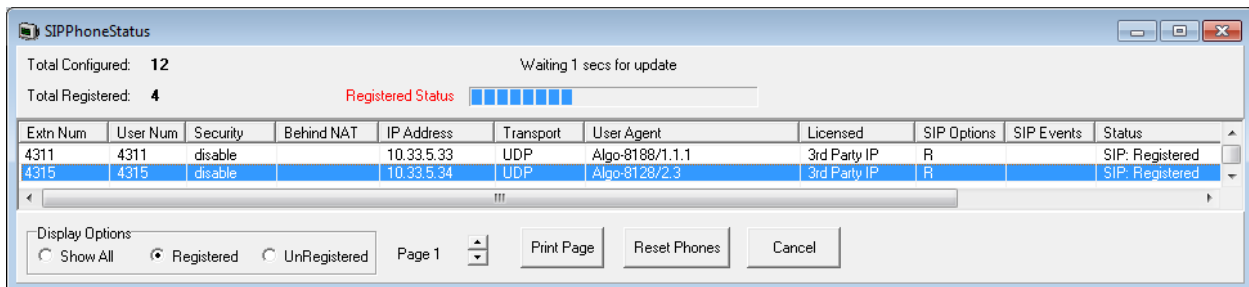
This section provides the tests that can be performed to verify proper configuration of Avaya IP Office and Algo 8128 SIP Strobe Light.

7.1. Verify Avaya IP Office

From a PC running the Avaya IP Office Monitor application, select **Start → Programs → IP Office → System Monitor** to launch the application. The **Avaya IP Office SysMonitor** screen is displayed, as shown below. Select **Status → SIP Phone Status** from the top menu.



The **SIPPhoneStatus** screen is displayed. Verify that there is an entry for each SIP extension from **Section 5.4**, that the **User Agent** is “Algo-8128/2.3”, and that the **Status** is “SIP: Registered”, as shown below.



7.2. Verify Algo 8128 SIP LED Strobe

From the Algo 8128 SIP Strobe Light web-based interface, select **Status** from the top menu. Verify that **SIP Registration** displays “Successful” in the **SIP Registration** as shown below.

The screenshot shows the web-based interface for the Algo 8128 SIP LED Strobe. The top navigation bar includes the 'ALGO' logo, the title '8128 SIP LED Strobe Control Panel', and the firmware version 'Firmware: 2.3'. Below the navigation bar are tabs for 'Status', 'Basic Settings', 'Advanced Settings', 'System', and 'Logout'. The main content area is titled 'Welcome to the Algo 8128 SIP LED Strobe Control Panel' and contains instructions for setting up the device. It lists four steps: 1. Configure your SIP LED Strobe, 2. Check network settings (Optional), 3. Secure your SIP LED Strobe (Optional), and 4. Register your SIP LED Strobe (Optional). A registration link is provided: <http://www.algosolutions.com/8128reg>. Below the instructions is a 'Status' section containing a table with the following data:

| Status | |
|---------------------|-------------------|
| Device Name | sipstrobe |
| SIP Registration | Successful |
| Call Status | Idle |
| Proxy Status | Single proxy mode |
| Provisioning Status | None Found |
| MAC | 00:22:EE:06:04:9D |
| IP | 10.33.5.34 |
| Netmask | 255.255.255.0 |

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The following tests were conducted to verify the solution between the Algo 8128 and Avaya IPO.

- Verify that the 8128 flashes when placing a call to the 8128 Strobe and it stops flashing when the caller hangs up the call.
- Verify that the 8128 flashes in the event of Ring or In-Use of monitored extension on IPO and it stop flashing when the event ends.

8. Conclusion

These Application Notes describe the configuration steps required to integrate the Algo 8128 SIP LED Strobe with Avaya IP Office Server Edition Solution. All of the executed test cases have passed and met the objectives outlined in **Section 2.1**.

9. Additional References

Product documentation for the Avaya IP Office may be found at:

<https://support.avaya.com/css/Products/>

Avaya IP Office Documents:

[1] Administering Avaya IP Office™ Platform with Manager, Issue 9.1, Issue 10.33, December 2015.

[2] Deploying Avaya IP Office™ Platform Servers as Virtual Machines, Release 9.1, Issue 03i, November 2015.

[3] IP Office™ Platform 9.1 Using IP Office System Monitor, Issue 06e, May 2015.

Product documentation for the Algo 8128 SIP Strobe Light products may be found at:

<http://www.algosolutions.com/8128>

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