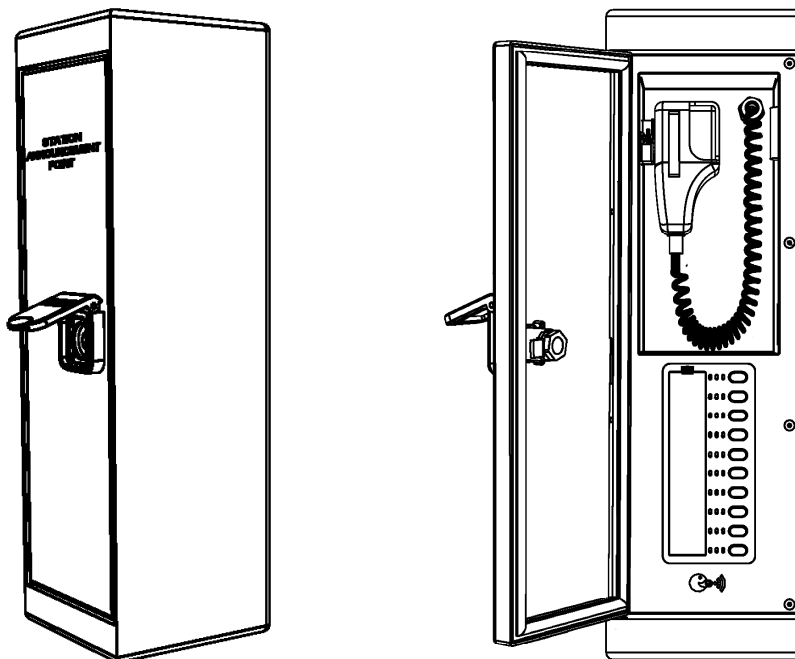# SAP03

Station Announcement Point

Software V1.7.63 – ASL Serial Protocol

User's Manual (for VIPEDIA-12)

Safety Information

| ⚠ | 1) | Observe all safety information on the product labels. |
| | 2) | With the door opened the apparatus should not be exposed to dripping or splashing nor have objects filled with liquids such as vases placed upon it. |

ESD Precautions

This product contains static-sensitive devices. Observe ESD precautions when handling the front panel assembly.

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Information contained in this document is believed to be accurate. However, no representation or warranty is given and Application Solutions (Safety and Security) Limited assumes no liability with respect to the accuracy of such information.

Contents

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1   Introduction

This User's Manual provides general guidance for the operation, configuration, maintenance, and fault finding of the SAP03 Station Announcement Point.

Note that the operation and configuration described in this document are for microphones connected to a VIPEDIA-12 using the ASL Serial Protocol.

2   Controls and Indicators
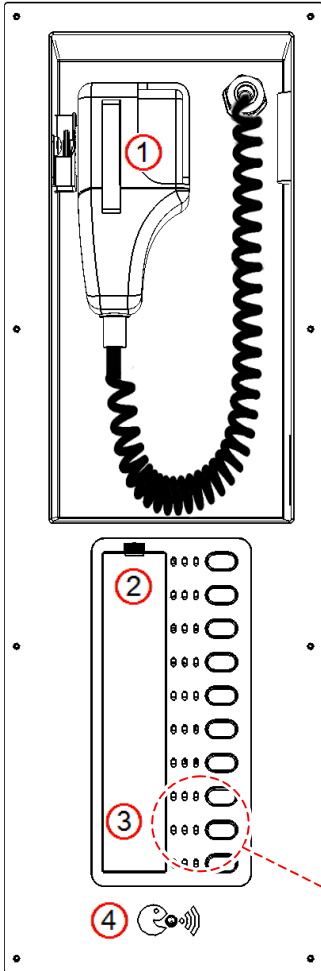
① **Microphone:** fist microphone with integral Push To Talk (PTT) button

② **Function Button Identification Label** (under plastic cover)

③ **Indicators:** indication mode is configured on the host
Standard busy mode:
- Red LED = Busy
- Yellow LED = not used
- Green LED = Select

EN 54-16 mode:
- Red LED = Voice Alarm
- Yellow LED = Fault
- Green LED = Select/Busy

Function Buttons:
- Zone Select: selects a zone, or group of zones, which will receive the paging announcement from this SAP03. If pressed a second time, the zone will be de-selected
- Routing: routes message(s) and/or any other audio input of the ASL PA/VA System to a configured zone or group of zones
- Play DVA: routes a message stored in the ASL PA/VA System to a selected zone or group of zones
- All Call: selects all zones, i.e. the button press has the same effect as if all zone selection buttons on the microphone have been pressed

The available indication and functions depend on the PA/VA system that hosts the microphone

④ **SPEAK NOW indication (blue):** when the Push To Talk button is pressed, and the chime (if programmed at the Router) has finished, the SPEAK NOW indication illuminates to indicate that the announcement can be made.

Standard busy mode:
Busy (red)   not used (yellow)   Select (green)
FUNCTION BUTTON
LEDs
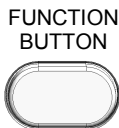
or

EN54-16 mode:
Voice Alarm (red)   Fault (yellow)   Select/Busy (green)
FUNCTION BUTTON
LEDs

3 Microphone Functions

3.1 Zone Status Indication

The behaviour of the LEDs of zone select buttons can be configured on the VIPEDIA-12 to provide standard busy indication or EN 54-16 indication.

- Standard busy indication:

  – Red LED (Busy): illuminates to indicate that the zone (or one or more of the group of zones) addressed by the microphone is already in use by another input. If any of the selected zones is busy, you can still go ahead with the broadcast. It is possible that the other audio source is of lower priority, and, therefore, will be overridden by the live announcement

  – Yellow LED: not used

  – Green LED (Select): flashes when the zone select button is pressed and illuminates steadily to indicate that the route has been granted following zone selection and PTT press

- EN 54-16 indication:

  – Red LED (Voice Alarm): illuminates steadily to indicate that a Voice Alarm condition is present in the zone (or a zone of the group of zones) controlled by the zone select button

  – Yellow LED (Fault yellow): illuminates steadily to indicate that a fault is present in the zone (or a zone in the group of zones) controlled by the zone select button

  – Green LED (Select/Busy): flashes when the zone select button is pressed and illuminates steadily to indicate that the route has been granted following zone selection and PTT press.

    Also illuminates to indicate that the zone (or group of zones) controlled by the button is busy. If any of the selected zones is busy, you can still go ahead with the broadcast. It is possible that the other audio source is of lower priority, and, therefore, will be overridden by the live announcement.

3.2 Microphone Button Functions

The function that can be configured for a microphone button depends on the capabilities of the PA/VA system that hosts the microphone. Table 1 (page 8) summarizes the button types available on the VIPEDIA-12 at the time of publication of this document.

Table 1   Microphone button types – VIPEDIA-12

Button Type	Description
ZONE SELECT	The button function is an output zone selection, i.e. the button is pressed to select an output or group of outputs to which audio from the microphone (or other audio input) is to be routed.
ALL CALL	The button function is "select all zones". When the button is pressed, all outputs that have been configured as being affected by any zone selection buttons on the microphone are selected for broadcast from the microphone (i.e. the button press has the same effect as if all zone selection buttons on the microphone have been pressed). Pressing a ZONE SELECT button will remove the zones associated to this button from the selection.
FIXED ROUTING	The button function is a complex routing control that enables a route to be made that connects any desired combination of audio inputs to any combination of outputs. Audio inputs are typically DVA messages, however, other types of inputs such as microphone and background music can also be routed. Note that DVA messages can be configured to play a required number of times or until the route is manually cleared. Fixed routes can be configured to be manually terminated by: • pressing the FIXED ROUTING button a second time; • pressing a RESET button.
DYNAMIC ROUTING	The button function is "play an audio input to selected outputs". When the button is pressed, a route is made connecting an audio input to outputs which have been pre-selected using ZONE SELECT buttons. An audio input is typically a DVA message, however, other types of inputs such as microphone and background music can also be dynamically routed.
RESET	When the button is pressed, the associated routes will be cancelled. A RESET button can be used to cancel any fixed route that is activated by a microphone button or a contact.

4   Operation

The operation described here is for microphones connected to a VIPEDIA-12 using the ASL Serial Protocol and is correct for the current software versions at the time of the publication of this document:

- SAP03: V1.7.63

- VIPEDIA-12: Host CP V1.8.0010

If the SAP03 and/or VIPEDIA-12 in your system has a later (or earlier) version of software, then it may mean that some aspects of the operation are subtly different from the operation described in this document, or that enhanced features have been added.

If any difficulties are encountered, contact ASL or an appointed ASL distributor, quoting the Build Standard and software versions of your microphone and VIPEDIA-12 unit; see Section "7.1 Build Standard Version" (page 26).
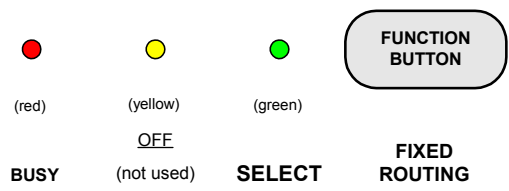
⚠	To operate the SAP03 microphone:
	1) Open the door with the key provided.
	2) Operate the microphone as required.
	3) Once completed, close and lock the door(s).

4.1 Standard Busy Mode
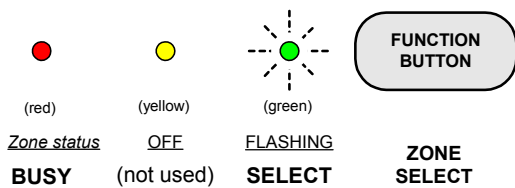
4.1.1 Making Live Announcements

Zone Select Button LED Indication	
Standard Busy Indication 🔴 🟡 🟢 FUNCTION BUTTON (red) (yellow) (green) OFF FIXED ROUTING **BUSY** (not used) **SELECT**	Red LED = **BUY** LED • <u>OFF</u>: a Voice Alarm condition is not present in the zone (or a zone of the group of zones) controlled by this button • <u>ON</u>: a Voice Alarm condition is present in the zone (or a zone of the group of zones) controlled by this button
	• Yellow LED = not used
	Green LED = **SELECT** LED • <u>OFF</u>: the zone (or group of zones) controlled by this button is not selected • <u>FLASHING</u>: the zone select button has been pressed • <u>ON</u>: the route has been granted following zone selection and PTT press

Notes:

a. The PTT button is located on the side of the fist microphone, and care should be taken whilst removing the microphone from its mounting clip to avoid accidentally pressing the PTT switch prematurely.

b. Note that PTT button may have been configured so that if it is pressed WITHOUT selecting any zone, the microphone will broadcast to all zones available from this microphone.

🔴   🟡   🔆🟢🔆   FUNCTION BUTTON

(red)   (yellow)   (green)

Zone status   OFF   FLASHING   ZONE SELECT

BUSY   (not used)   **SELECT**

<u>To make a live announcement:</u>

1. Press the appropriate ZONE SELECT buttons to select the required zone(s).

> The appropriate green **SELECT** LED will flash, indicating that each zone has been successfully selected.

2. To deselect a selected zone, press the button again.

3. Zones may be added or removed as required by pressing the ZONE SELECT buttons in turn.

4. If configured, you can press the ALL CALL button to select all configured zones.

5. Press and hold the PTT button to initiate the announcement.

6. If any of the selected zones is busy, you can still go ahead with the broadcast. It is possible that the other audio source is of lower priority, and, therefore, will be overridden by the live announcement.

(red)   (yellow)   (green)   **FUNCTION BUTTON**

Zone status   OFF   ON

BUSY   (not used)   **SELECT**   **ZONE SELECT**
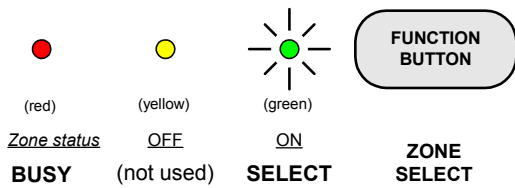
7. The appropriate green **SELECT** LED(s) will illuminate steadily, indicating that the route has been granted.

CHIME PLAYING

8. The pre-announcement chime will play to the selected zones (if programmed).

9. When the chime has finished playing, the Speak Now indicator will illuminate, indicating that you can speak.

10. Make your announcement.

Recommendations for optimum results

Speak slowly and clearly at a normal conversational level with the mouth directly adjacent to the fist microphone capsule (mouth approximately 1 – 2 cm from the microphone capsule).

The speech level meter indicates the sound pressure being received at the microphone and is annotated to indicate the correct speaking level.

Note:

If a higher priority input selects a zone during a live announcement from the microphone, then the zone will be deselected from the microphone announcement. The announcement will continue to any other zones if the microphone addresses a group of zones.

11. Release the PTT button when finished

4.1.2 Activating/Deactivating DVA Messages or Other Audio Source to Configured Zones

Fixed Message Routing Button LED Indication	Zone Select Button LED Indication
	Standard Busy Indication
Red LED = Not used	Red LED = **BUY** LED • OFF: a Voice Alarm condition is not present in the zone (or a zone of the group of zones) controlled by this button • ON: a Voice Alarm condition is present in the zone (or a zone of the group of zones) controlled by this button
Yellow LED = Not used	• Yellow LED = not used
Green LED = **SELECT** LED • OFF: the fixed route has not been activated • ON: the fixed route has been activated	Green LED = **SELECT** LED • OFF: the zone (or group of zones) controlled by this button is not selected • FLASHING: the zone select button has been pressed • ON: the route has been granted following zone selection and PTT press

If the green **SELECT** LED against a FIXED ROUTING button is unlit, it indicates that the fixed route has not been activated.

If the green **SELECT** LED against a FIXED ROUTING button is illuminated, it indicates that the fixed route has been activated and the message (or other source) is already playing to the zone(s) associated with the button.

To activate/deactivate a fixed route:

1. To activate a message to a configured zone(s), press the required FIXED ROUTING button.

    The green **SELECT** LED of the corresponding zone select buttons will be illuminated to indicate that the zone is busy.

2. To deactivate a message:

    a. press the required FIXED ROUTING button, or

    b. press the associated RESET button, or

    c. wait for the message broadcast to automatically stop after playing the configured number of cycles.

4.1.3 Activating/Deactivating DVA Messages or Other Audio Source to Selected Zones

Message Button LED Indication

(red)   (yellow)   (green)   **FUNCTION BUTTON**

OFF   OFF   OFF   **DYNAMIC ROUTING**

(not used)   (not used)   **SELECT**

Red LED = Not used

Yellow LED = Not used

Green LED = **SELECT** LED
- OFF: the DVA message (or other audio source) has not been activated in selected zone(s)
- ON: the DVA message (or other audio source) has been activated in selected zone(s)

Zone Select Button LED Indication

Standard Busy Indication

(red)   (yellow)   (green)   **FUNCTION BUTTON**

   OFF

BUSY   (not used)   **SELECT**   **FIXED ROUTING**

Red LED = **BUY** LED
- OFF: a Voice Alarm condition is not present in the zone (or a zone of the group of zones) controlled by this button
- ON: a Voice Alarm condition is present in the zone (or a zone of the group of zones) controlled by this button

---

- Yellow LED = not used

Green LED = **SELECT** LED
- OFF: the zone (or group of zones) controlled by this button is not selected
- FLASHING: the zone select button has been pressed
- ON: the route has been granted following zone selection and PTT press

(red)   (yellow)   (green)   **FUNCTION BUTTON**

OFF   OFF   OFF   **DYNAMIC ROUTING**

(not used)   (not used)   **SELECT**

If the green **SELECT** LED against a DYNAMIC ROUTING button is unlit, it indicates that the message has not been activated from this microphone button.

If the green **SELECT** LED against a DYNAMIC ROUTING button is illuminated, it indicates that the message has been activated from this microphone button and is already playing to selected zone(s).

To select zones:

Note: Note that PTT button may have been configured so that if it is pressed WITHOUT selecting any zone, the microphone will broadcast to all zones available from this microphone.

(red)   (yellow)   (green)   **FUNCTION BUTTON**

VA status   *Fault status*   FLASHING   **ZONE SELECT**

VA   **FAULT**   **SELECT**

a. Press the appropriate ZONE SELECT buttons to select the required zone(s).

The appropriate green **SELECT** LED will flash, indicating that each zone has been successfully selected.

b. To deselect a selected zone, press the button again.

c. Zones may be added or removed as required by pressing the ZONE SELECT buttons in turn.

d. If configured, you can press the ALL CALL button to select all configured zones.

e. If any of the selected zones is busy, you can still go ahead with the broadcast. It is possible that the other audio source is of lower priority, and, therefore, will be overridden by the DVA message.

To activate a DVA message (or other audio source) to selected zones:

1. Select the required zones as described above.

2. Press the required DYNAMIC ROUTING button.

   For 5 seconds, all green **SELECT** LEDs of zone select buttons will reflect the status of the zones just selected. After this period, all LEDs will reflect the current routing status.

3. The selected message will play to the selected zones (if the zone is not busy with a higher priority source).

   The green **SELECT** LED of the corresponding zone select buttons will be illuminated to indicate that the zone is busy.

To deactivate a DVA message (or other audio source) activated by a DYNAMIC ROUTING button:

1. Press the required active DYNAMIC ROUTING button without selecting any zones.

2. The message will be terminated immediately or after completing the configured number of cycles.

To deactivate all DVA messages (or other audio sources) activated by a DYNAMIC ROUTING button:

1. Press the MESSAGE RESET button (if available).

2. All messages activated by a DYNAMIC ROUTING button located on this microphone will be terminated.

To change an active DVA message (or other audio source) activated by a DYNAMIC ROUTING button to a different type:

1. Select the required zone(s) as described above.

2. Press the new MESSAGE button.

   For 5 seconds, all green **SELECT** LEDs of zone select buttons will reflect the status of the zones just selected. After this period, all LEDs will reflect the current routing status.

3. The existing message will be terminated and the new message will play to the selected zone(s) (if the zone is not busy with a higher priority source).

   The green **SELECT** LED of the corresponding zone select buttons will be illuminated to indicate that the zone is busy.

To re-route an active DVA message (or other audio source) activated by a DYNAMIC ROUTING button to another group of zones:

1. Select the required zone(s) as described above.

2. Press the required active DYNAMIC ROUTING button.

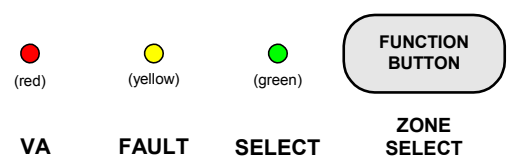   For 5 seconds, all green **SELECT** LEDs of zone select buttons will reflect the status of the zones just selected. After this period, all LEDs will reflect the current routing status.

3. The selected message will play to the selected zones (if the zone is not busy with a higher priority source).

   The green **SELECT** LED of the corresponding zone select buttons will be illuminated to indicate that the zone is busy.

4.2 EN 54-16 Indication Mode

4.2.1 Making Live Announcements

Zone Select Button LED Indication	
EN 54-16 Indication ● (red) ○ (yellow) ● (green) — FUNCTION BUTTON VA FAULT SELECT — ZONE SELECT	Red LED = **VA** LED • <u>OFF</u>: a Voice Alarm condition is not present in the zone (or a zone of the group of zones) controlled by this button • <u>ON</u>: a Voice Alarm condition is present in the zone (or a zone of the group of zones) controlled by this button
	Yellow LED = **FAULT** LED • <u>OFF</u>: no faults are present in the zone (or any zone in the group of zones) controlled by this button • <u>ON</u>: a fault is present in the zone (or a zone in the group of zones) controlled by this button
	Green LED = **SELECT** LED • <u>OFF</u>: the zone (or group of zones) controlled by this button is not selected or "busied" • <u>FLASHING</u>: the zone select button has been pressed • <u>ON</u>: the route has been granted following zone selection and PTT press or the zone (or group of zones) controlled by this button is "busied"

Notes:

c. The PTT button is located on the side of the fist microphone, and care should be taken whilst removing the microphone from its mounting clip to avoid accidentally pressing the PTT switch prematurely.

d. Note that PTT button may have been configured so that if it is pressed WITHOUT selecting any zone, the microphone will broadcast to all zones available from this microphone.

<u>**To make a live announcement:**</u>

12. Press the appropriate ZONE SELECT buttons to select the required zone(s).

The appropriate green **SELECT** LED will flash, indicating that each zone has been successfully selected.

13. To deselect a selected zone, press the button again.

14. Zones may be added or removed as required by pressing the ZONE SELECT buttons in turn.

15. If configured, you can press the ALL CALL button to select all configured zones.
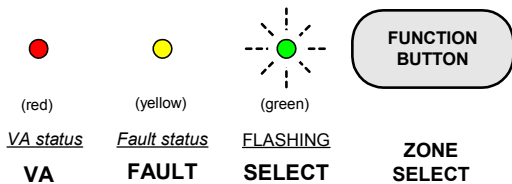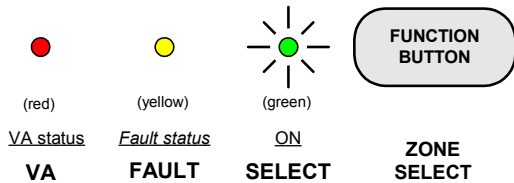
16. Press and hold the PTT button to initiate the announcement.

17. If any of the selected zones is busy, you can still go ahead with the broadcast. It is possible that the other audio source is of lower priority, and, therefore, will be overridden by the live announcement.

(red)	(yellow)	(green)	FUNCTION BUTTON
VA status	*Fault status*	ON	ZONE
VA	**FAULT**	**SELECT**	**SELECT**

18. The appropriate green **SELECT** LED(s) will illuminate steadily, indicating that the route has been granted.

CHIME PLAYING

19. The pre-announcement chime will play to the selected zones (if programmed).

20. When the chime has finished playing, the Speak Now indicator will illuminate, indicating that you can speak.

21. Make your announcement.

Recommendations for optimum results

Speak slowly and clearly at a normal conversational level with the mouth directly adjacent to the fist microphone capsule (mouth approximately 1 – 2 cm from the microphone capsule).

The speech level meter indicates the sound pressure being received at the microphone and is annotated to indicate the correct speaking level.

Note:

If a higher priority input selects a zone during a live announcement from the microphone, then the zone will be deselected from the microphone announcement. The announcement will continue to any other zones if the microphone addresses a group of zones.

22. Release the PTT button when finished

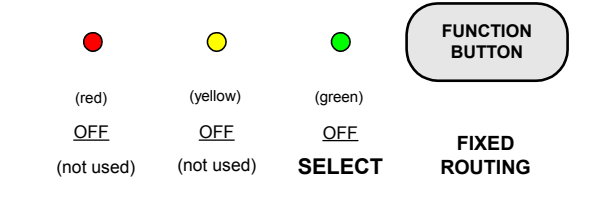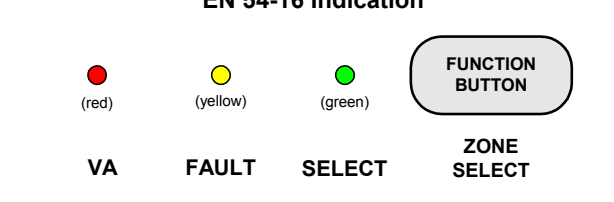## 4.2.2 Activating/Deactivating DVA Messages or Other Audio Source to Configured Zones

Fixed Message Routing Button LED Indication	Zone Select Button LED Indication
(red) OFF (not used) — (yellow) OFF (not used) — (green) OFF **SELECT** — **FIXED ROUTING** / **FUNCTION BUTTON**	**EN 54-16 Indication** (red) — (yellow) — (green) **VA** **FAULT** **SELECT** / **FUNCTION BUTTON** **ZONE SELECT**
Red LED = Not used	Red LED = **VA** LED • OFF: a Voice Alarm condition is not present in the zone (or a zone of the group of zones) controlled by this button • ON: a Voice Alarm condition is present in the zone (or a zone of the group of zones) controlled by this button
Yellow LED = Not used	Yellow LED = **FAULT** LED • OFF: no faults are present in the zone (or any zone in the group of zones) controlled by this button • ON: a fault is present in the zone (or a zone in the group of zones) controlled by this button
Green LED = **SELECT** LED • OFF: the fixed route has not been activated • ON: the fixed route has been activated	Green LED = **SELECT** LED • OFF: the zone (or group of zones) controlled by this button is not selected or "busied" • FLASHING: the zone select button has been pressed • ON: the route has been granted following zone selection and PTT press or the zone (or group of zones) controlled by this button is "busied"

(red) OFF (not used)   (yellow) OFF (not used)   (green) OFF **SELECT**   **FUNCTION BUTTON** / **FIXED ROUTING**

If the green **SELECT** LED against a FIXED ROUTING button is unlit, it indicates that the fixed route has not been activated.

If the green **SELECT** LED against a FIXED ROUTING button is illuminated, it indicates that the fixed route has been activated and the message (or other source) is already playing to the zone(s) associated with the button.

To activate/deactivate a fixed route:

1. To activate a message to a configured zone(s), press the required FIXED ROUTING button.

   The green **SELECT** LED of the corresponding zone select buttons will be illuminated to indicate that the zone is busy.

2. To deactivate a message:

   a. press the required FIXED ROUTING button, or

   b. press the associated RESET button, or

   c. wait for the message broadcast to automatically stop after playing the configured number of cycles.

4.2.3 Activating/Deactivating DVA Messages or Other Audio Source to Selected Zones

Message Button LED Indication	Zone Select Button LED Indication
	EN 54-16 Indication
Red LED = Not used	Red LED = **VA** LED • OFF: a Voice Alarm condition is not present in the zone (or a zone of the group of zones) controlled by this button • ON: a Voice Alarm condition is present in the zone (or a zone of the group of zones) controlled by this button
Yellow LED = Not used	Yellow LED = **FAULT** LED • OFF: no faults are present in the zone (or any zone in the group of zones) controlled by this button • ON: a fault is present in the zone (or a zone in the group of zones) controlled by this button
Green LED = **SELECT** LED • OFF: the DVA message (or other audio source) has not been activated in selected zone(s) • ON: the DVA message (or other audio source) has been activated in selected zone(s)	Green LED = **SELECT** LED • OFF: the zone (or group of zones) controlled by this button is not selected or "busied" • FLASHING: the zone select button has been pressed • ON: the route has been granted following zone selection and PTT press or the zone (or group of zones) controlled by this button is "busied"

If the green **SELECT** LED against a DYNAMIC ROUTING button is unlit, it indicates that the message has not been activated from this microphone button.

If the green **SELECT** LED against a DYNAMIC ROUTING button is illuminated, it indicates that the message has been activated from this microphone button and is already playing to selected zone(s).

To select zones:

Note: Note that PTT button may have been configured so that if it is pressed WITHOUT selecting any zone, the microphone will broadcast to all zones available from this microphone.

a. Press the appropriate ZONE SELECT buttons to select the required zone(s).

The appropriate green **SELECT** LED will flash, indicating that each zone has been successfully selected.

b. To deselect a selected zone, press the button again.

c. Zones may be added or removed as required by pressing the ZONE SELECT buttons in turn.

    d. If configured, you can press the ALL CALL button to select all configured zones.

    e. If any of the selected zones is busy, you can still go ahead with the broadcast. It is possible that the other audio source is of lower priority, and, therefore, will be overridden by the DVA message.

To activate a DVA message (or other audio source) to selected zones:

1. Select the required zones as described above.

2. Press the required DYNAMIC ROUTING button.

For 5 seconds, all green **SELECT** LEDs of zone select buttons will reflect the status of the zones just selected. After this period, all LEDs will reflect the current routing status.

3. The selected message will play to the selected zones (if the zone is not busy with a higher priority source).

The green **SELECT** LED of the corresponding zone select buttons will be illuminated to indicate that the zone is busy.

To deactivate a DVA message (or other audio source) activated by a DYNAMIC ROUTING button:

1. Press the required active DYNAMIC ROUTING button without selecting any zones.

2. The message will be terminated immediately or after completing the configured number of cycles.

To deactivate all DVA messages (or other audio sources) activated by a DYNAMIC ROUTING button:

1. Press the MESSAGE RESET button (if available).

2. All messages activated by a DYNAMIC ROUTING button located on this microphone will be terminated.

To change an active DVA message (or other audio source) activated by a DYNAMIC ROUTING button to a different type:

1. Select the required zone(s) as described above.

2. Press the new MESSAGE button.

For 5 seconds, all green **SELECT** LEDs of zone select buttons will reflect the status of the zones just selected. After this period, all LEDs will reflect the current routing status.

3. The existing message will be terminated and the new message will play to the selected zone(s) (if the zone is not busy with a higher priority source).

The green **SELECT** LED of the corresponding zone select buttons will be illuminated to indicate that the zone is busy.

To re-route an active DVA message (or other audio source) activated by a DYNAMIC ROUTING button to another group of zones:

1. Select the required zone(s) as described above.

2. Press the required active DYNAMIC ROUTING button.

For 5 seconds, all green **SELECT** LEDs of zone select buttons will reflect the status of the zones just selected. After this period, all LEDs will reflect the current routing status.

3. The selected message will play to the selected zones (if the zone is not busy with a higher priority source).

The green **SELECT** LED of the corresponding zone select buttons will be illuminated to indicate that the zone is busy.

5   Microphone Configuration on VIPEDIA-12

The VIPEDIA-12 configuration is stored in a XML file. The XML configuration file is uploaded into the VIPEDIA-12 using the VIPEDIA-12 Commissioning GUI. The VIPEDIA-12 Commissioning GUI is also used for commissioning the audio settings.

This section only describes the microphone XML configuration. Please refer to "ASL - Vipedia Static Configuration XML Schema" specification (Table 4 - [4] on page 37) for further details of the XML configuration.

The following details are correct for the VIPEDIA-12 software package version at the time of publication (Host CP V1.8.0010).

If any difficulties are encountered, contact ASL or an appointed ASL distributor, quoting the Build Standard and software versions of your microphone and VIPEDIA-12 unit; see Section "7.1 Build Standard Version" (page 26).

For details of the VIPEDIA-12 Commissioning GUI, refer to the VIPEDIA-12's user documentation (Table 4 - [3] on page 37).

Figure 1 (page 21) shows an example of configuration for the SAP03. The settings are described in Table 2 (page 22).

Figure 1   VIPEDIA-12 – SAP03 XML configuration (XML schema V2.04.00)

```xml
<mic-unit id="3" name="SAP03" configured="true">
  <common-info>
  <connection address="0" serial-port="mic-1" input-socket="3" protocol="pro" comms-method="serial" ip-address=
  "172.16.3.139" port="15010" unit-id="16" pmc-channel="3" pmc-channel-bgm="4" />
      <audio-source>
          <audiodef-formatted unit="1" type="analogue" id="3" />
      </audio-source>
      <route-info allow-partial-grant="true" use-reserve-protocol="false" route-behaviour="lose-routes"
      route-with-no-zones="false" non-busy="false" ans-enabled="true" ans-tolerant="false" emergency-class=
      "non-emergency" chime-type="chime-3" dva-play-count="0" dva-stop-at-end="false" dva-allow-cancellation=
      "false" dva-interval="2" allow-mic-adjustment="false" mvc-gain="none" silence-enabled="false" priority="20"
       />
      <options ptt-all-call="false" max-ptt-mins="2" restore-selects="false" fire-mic="false" suppress-buzzer=
      "false" en54-fire-mic="false" operation-type="paging" va-indication="true" emergency-priority="20" />
  </common-info>

  <button-info total="10" >
      <button id="1" name="ZONE 1" type="zone-select" mps-info="0">
          <system-outputs total="1">
              <vipedia id="1" analogue="b0000000000000001" />
          </system-outputs>
      </button>
      <button id="2" name="ZONE 2" type="zone-select" mps-info="0">
          <system-outputs total="1">
              <vipedia id="1" analogue="b0000000000000010" />
          </system-outputs>
      </button>
      <button id="3" name="ZONE 3" type="zone-select" mps-info="0">
          <system-outputs total="1">
              <vipedia id="1" analogue="b0000000000000100" />
          </system-outputs>
      </button>
      <button id="4" name="ZONE 4" type="zone-select" mps-info="0">
      <button id="5" name="ZONE 5" type="zone-select" mps-info="0">
      <button id="6" name="UNUSED" type="none" mps-info="0"/>
      <button id="7" name="UNUSED" type="none" mps-info="0"/>
      <button id="8" name="MUSIC" type="event-level" mps-info="0"/>
      <button id="9" name="DVA 10" type="play-dva" mps-info="0">
      <audio-source>
          <audiodef-formatted unit="1" type="dva" id="9" />
      </audio-source>
      <route-info allow-partial-grant="true" use-reserve-protocol="false" route-behaviour="restore-audio"
      route-with-no-zones="true" non-busy="false" ans-enabled="false" ans-tolerant="false" emergency-class=
      "non-emergency" chime-type="none" dva-play-count="0" dva-stop-at-end="false" dva-allow-cancellation="false"
       dva-interval="2" allow-mic-adjustment="false" mvc-gain="none" silence-enabled="false" priority="30" />
      </button>
          <button id="10" name="ALL CALL" type="all-call" mps-info="0"/>
      </button-info>
</mic-unit>
```

Table 2 VIPEDIA-12 – SAP03 attribute values (XML schema V2.04.00)

Node	Attribute	Value
<mic-unit>	id	equal to input-socket
<mic-unit><common-info> <connection>	name	any text
	configured	"true"
	address	"0"
	serial-port	"mic-1"
	input-socket	{ 1 <= input-socket <= 12 } Vipedia input used by the microphone
	protocol	"pro"
<mic-unit><common-info> <audio-source> <audiodef-formatted>	unit	{ 1 <= unit <= 32 } Vipedia's unit id
	type	"analogue"
	id	equal to input-socket
<mic-unit><common-info> <route-info>	allow-partial-grant	{ "false" | "true" } • "true": live announcement route will be made to available zones • "false": live announcement route will not be made if any of the selected zones is not available Typically set to "true".
	use-reserve-protocol	"false"
	route-behaviour	{ "lose-routes | "keep-busy" | "restore-audio" } • "lose-routes": overridden routes will be lost • "keep-busy": overridden routes will be kept busy after override is removed but audio will not be restored • "restore-audio": audio will be restored when override is removed Typically set to "lose-routes"
	route-with-no-zones	"false"
	non-busy	"false"
	ans-enabled	{ "false" | "true" } • "true": microphone audio is subject to ANS compensation • "false": microphone audio is not subject to ANS compensation Typically set to "true". Not that if set to "true", ans-tolerant must be set to "false".
	ans-tolerant	{ "false" | "true" } • "true": the ANS compensation continues while the microphone audio is routed • "false": the ANS compensation stops while the microphone audio is routed Typically set to "false"
	emergency-class	"non-emergency"

Node	Attribute	Value
	chime-type	{ "none" | "chime-1" | "chime-2" | "chime-3" } • "none": no pre-announcement chime • "chime-1": single note chime • "chime-2": two-note descending overlapping pattern chime • "chime-3": three-note descending overlapping pattern chime
	dva-play-count	{ 0 <= dva-play-count <= 15 } Not used. However, it is good practice to set default value "0"
	dva-stop-at-end	{ "false" | "true" } Not used. However, it is good practice to set default value "false"
	dva-allow-cancellation	{ "false" | "true" } Not used. However, it is good practice to set default value "false"
	dva-interval	{ 0 <= dva-interval <= 15 } "Not used. However, it is good practice to set default value "0"
	allow-mic-adjustment	{ "false" | "true" } • "true": the volume of the microphone announcement can be adjusted from volume control buttons on a microphone • "false": the volume of the microphone announcement cannot be adjusted from volume control buttons on a microphone
	mvc-gain	{ "none" | "type-1" | "type-2 | "type-3" | "type-4" | "type-5" | "type-6" | "type-7" | "type-8" } • "none": output relative gains is set to 0 dB for all outputs • "type-1" to "type-8": output relative gains is configurable (-30 dB to 10 dB) for each of the output
	silence-enabled	"false"
	priority	{ 0<= priority <= 63 , where 0 is the highest priority} Ensure that Emergency Microphones and DVA messages have higher priority than other inputs including. This is to ensure that the emergency broadcast can always override non-emergency inputs.
<mic-unit><common-info> <options>	ptt-all-call	{ "false" | "true" } • "true": enables All-Call selection on the PTT button when it is pressed with no prior zone selection • "false": disables the All-Call selection on the PTT button
	max-ptt-mins	{ 3 <= max-ptt-mins <= 15 } If the PTT is pressed for longer than the configured timeout, the route will be cleared as if the PTT button had been released.

Node	Attribute	Value
	restore-selects	{ "false" | "true" } • "true": PTT button stores the last zones selected for paging, and pages the same zones when pressed with no prior zone selection • "false": PTT button does not store the last zones selected for paging
	fire-mic	• "false"
	suppress-buzzer	{ "false" | "true" } • "true": disables the Vipedia's alarm sounder during announcement from the microphone. Use this setting if there is a possibility that the Vipedia's alarm sounder might interfere with the microphone announcement • "false": Vipedia's alarm sounder is not disabled during announcement from the microphone. Use this setting if the Vipedia's sounder will not interfere with the microphone announcement
	en54-fire-mic	"false"
	operation-type	"paging"
	va-indication	{ "false" | "true" } • "true": LEDs of zone select buttons provide EN 54-16 indication Red LED = Voice Alarm Yellow LED = Fault Green LED = Select/Busy • "false": LEDs of zone select buttons provide standard busy indication Red LED = Busy Yellow LED = not used Green LED = Select
	emergency-priority	{ 0<= priority <= 63 , where 0 is the highest priority} Not used. However, it is good practice to set it equal to <mic-unit><common-info><route-info><priority>.
<mic-unit><button-info>	as required by the system design	

6 Fault Finding

Table 3 Faults reported at the VIPEDIA-12 for SAP03 microphones

Operational Fault Symptom	Fault Description	Fault Code(s) Reported and Logged at VIPEDIA-12	Suggested Action
Total loss of functionality on all microphone buttons of a single microphone	Mic comms fault	MICXX COMMS XX=01 to 20	• Check data cabling or power supply cabling between microphone and Vipedia • Replace microphone console
Total loss of live audio announcement from a single microphone, though the microphone still appears to be functional	Input audio surveillance fault	IPXX AUDIO INPUT XX=01 to 12	• Check audio and power cabling between microphone and Vipedia • Replace microphone console
Total loss of live audio announcement from a single microphone, though the microphone still appears to be functional	Microphone capsule fault	MICXX CAPSULE XX=01 to 12	• Check continuity of microphone capsule or any associated wiring • Replace gooseneck (or fist) microphone • Replace microphone console
Artefacts on live audio announcement from a single microphone, though the microphone still appears to be functional Total loss of live audio announcement from a single microphone, though the microphone still appears to be functional	Short-circuit between the audio and data wiring(s)	IPXX AUDIO INPUT S/C XX=01 to 12	• Check audio and data cabling between microphone and Vipedia • Replace microphone console
Total loss of all functionality on a single microphone	Mic memory fault	MICXX SYSTEM XX=01 to 12	• A one-off occurrence may be experienced due to EMI or transients • Repeated occurrences indicate faulty microphone electronics, so replace microphone console
Partial or total loss of functionality on one or more microphone button	System fault	MICXX SYSTEM XX=01 to 12	Replace microphone console
No operational failure on initial fault reports Total loss of all functionality on a single microphone on repeated occurrences	Mic CPU reset	MICXX RESET XX=01 to 12	• A one-off occurrence may be experienced due to EMI or transients • Repeated occurrences indicate faulty microphone electronics, so replace microphone console
No operational failure	Power supply fault	MICXX POWER XX=01 to 12	• Check power supply cabling between the microphone and system rack and Vipedia • Check DIN rail power supply terminals on the microphone back box • Replace microphone console
No operational failure	General fault	MICXX GENERAL XX=01 to 12	• Check for stuck microphone buttons • Repeated occurrences indicate faulty microphone electronics, so replace microphone console

7 Maintenance

The SAP03 should be tested with the PA/VA system for correct operation, at maximum intervals of three months, as part of the system maintenance schedule.

There are no routine maintenance tasks for the SAP03 microphone except for operational testing.

The following sections describe maintenance tasks, which can be carried out when required.

ⓘ The SAP03's preferred Line Replaceable Unit (LRU) is the whole front panel and the electronics assembly.

⚠ **Safety information:**

1) Observe all safety information on the product labels.

2) This product contains static-sensitive devices. Observe ESD precautions when handling the front panel assembly.

7.1 Build Standard Version

It is important to know the Build Standard of your equipment for maintenance purposes, and to ensure that the unit has the correct functions. The Build Standard version of the SAP03 and the PA/VA system should be quoted in all enquiries regarding the SAP03.

The Build Standard version is available on the unit's barcode label; see example in Figure 2 (page 26).

Figure 2   Barcode label example

The last section of the barcode after the second forward slash (/) indicates the Build Standard (BS) version.
Example: 1302/006878/02B → BS Version = 02B

SAP03's Barcode Label:

The SAP03's barcode label is located inside the microphone compartment.

Rack Mount Unit's Barcode Label:

The barcode of rack-mount units, such as the VIPEDIA-12, is located on the rear or side of the unit.

7.2 Removing/Installing the SAP03 Front Panel/Electronics Assembly

For maintenance purposes the SAP03's preferred Line Replaceable Unit (LRU) is the whole front panel and the electronics assembly. The following procedure describes how to remove and install the SAP03 Front Panel/Electronics Assembly.

The following tools are required to remove and install the Front Panel/Electronics Assembly:

- A small flat bladed screwdriver
- A 2.5 mm Allen key or driver

To remove the Front Panel/Electronics Assembly:

1. Ensure that the power supply from the central equipment rack is switched off.

2. Open the SAP03 door using the key provided.

3. Remove the SAP03 door by compressing the hinge pin; see Figure 3 (page 27).

Figure 3   SAP03 door and front panel fixing
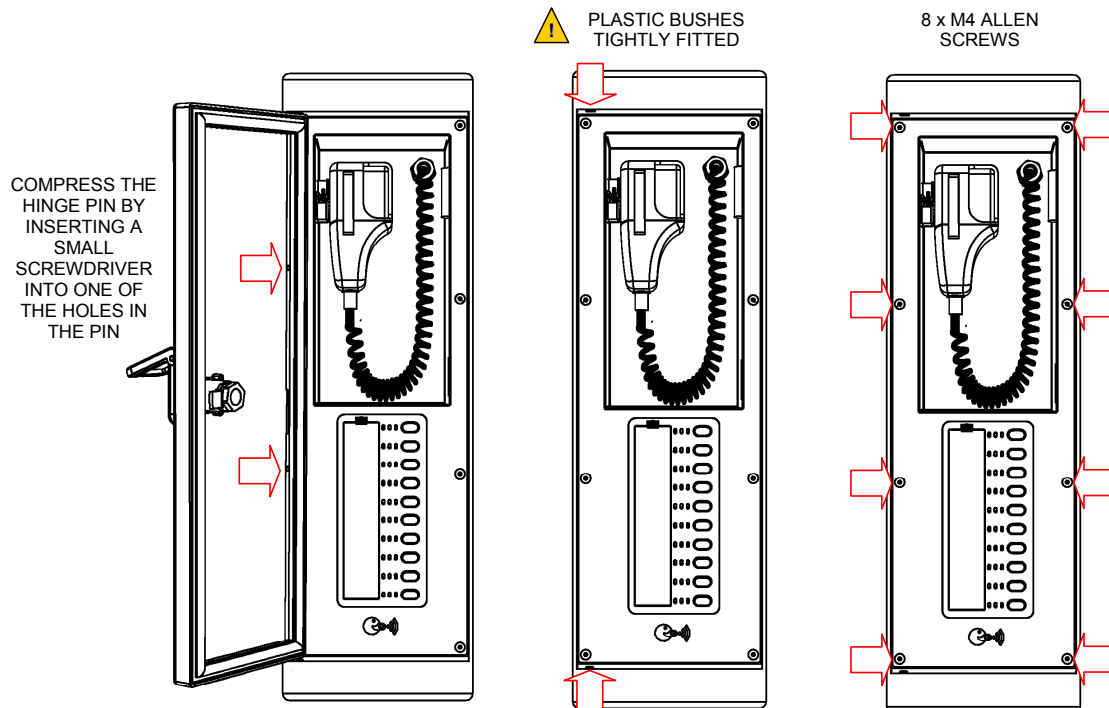
4. Remove the SAP03 front panel assembly; see Figure 4 (page 28).

Figure 4   Front Panel/Electronics Assembly connection points

BACK BOX

(RJ45 PATCH LEADS)

BOA
(BREAK-OUT ADAPTOR)

**FRONT PANEL
ASSEMBLY**

   a.   Remove the SAP03 front panel assembly by removing the 8 x M4 Allen screws.

   b.   Disconnect the SAP03 front panel assembly by unplugging the patch lead from the RJ45 connector on the Break-Out Adaptor (BOA).

5. Store the front panel assembly, door and fixing screws safely.

To install the Front Panel/Electronics Assembly:

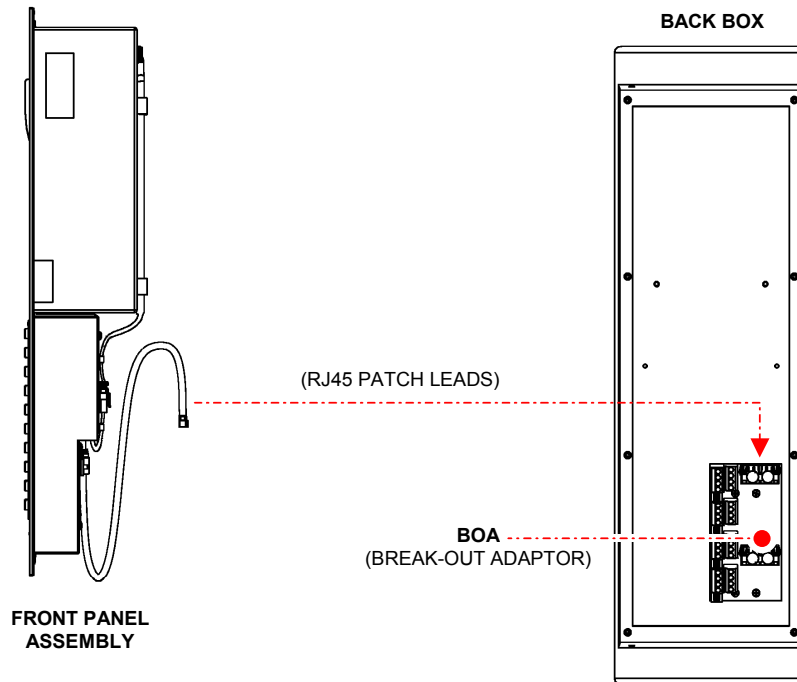**1.** Ensure that the power supply from the central equipment rack is switched off.

2. Install the SAP03 front panel assembly as follows:

   a.   Plug the patch leads to the appropriate RJ45 connector on the Break-Out Adaptor (BOA); see Figure 4 (page 28).

      The patch leads and RJ45 connectors are colour-coded for easy installation.

   b.   Fix the SAP03 front panel assembly using 8 x M4 Allen screws ensuring that no leads are trapped between the front panel and the back box; Figure 3 (page 27).

3. Re-fit the door; see Figure 3 (page 27).

⚠	Make sure that BOTH plastic bushes are tightly fitted to the door fixing holes in order to preserve the unit's IP 65 rating.

4. Power the unit on from the central equipment rack.

5. Clear any existing faults by pressing the FAULT CLEAR button on the system front panel.

6. Ensure no faults are reported for the SAP03.

7. When finished, close and lock the door using the key provided.

7.3 Microphone Software Update

You will need:

1) The new software binary file (e.g. ASL-DESK-MIC_V1_7_58.bin)

2) The Ethernet Updater (MB_ethernet_bootloader.exe) and script file (download_ethernet.cmd)

3) The Finder tool (finder.exe)

4) RJ45 to RJ45 (female to female) adapter

The new software and application files are available from ASL or ASL appointed distributor.

7.3.1 Updating the Microphone Software

Note that Ethernet connection to the target SAP03 is required in order to update the microphone software; see Installation Guide for connection details (Table 4 on page 37).

To update the software:

1. Remove the SAP03 front panel assembly following the procedure described in Section "7.2 Removing/Installing the SAP03 Front Panel/Electronics Assembly" (page 27), but do not disconnect the red and blue patch cables.

   Use an RJ45 to RJ45 adapter and connect an extension RJ45 patch cable to the BLACK patch cable (Ethernet port) coming out of the SAP03 front panel assembly.

2. Connect the extension patch cable to an Ethernet port on the host PC.

3. Ensure the SAP03 is powered from the central rack.

4. Ensure the host PC meets the following requirements:

   a. The host PC must have an IP address in the same subnet as the target SAP03 unit.

      The factory default IP address of the SAP03 is 172.16.3.35.

   b. Disable all wireless connection on the host PC.

   c. If the host PC has multiple network interfaces, ensure the network interface used by the application has the highest priority by changing the binding order and metrics; see Section "7.3.2 Changing the Network Connections of the Host PC" (page 32).

      Alternatively, the other network interfaces can be temporarily disabled.

5. Ensure new software binary file (e.g. ASL-DESK-MIC_V1_7_58.bin), the Ethernet Bootloader and the script files are available in one folder.

6. In Windows Explorer, double-click "finder.exe" to run the Finder tool.

7. The Finder tool will detect the microphone and display its details; see example below.

   Click the "Refresh" button to update the microphone list.

<u>Example</u>: Microphone displayed by the Finder tool

8.   Open the **download_ethernet.cmd** script file with a text editor.

9.   Copy the IP and MAC addresses of the microphone from the Finder into the "download_ethernet.cmd" script file as shown below.

10. Copy the new software binary filename into the **download-ethernet.cmd** script file as shown below.

<u>Example</u>: **download-ethernet.cmd** script file

```
:
: Usage: download [COMx]
:
:
: Notes:
: 1) The microphone IP and MAC addresses are obtained using the Finder tool.
: 2) The binary file (main board application) and the bootloader must be in one folder.
:
: -i -> ip address of the target microphone (factory default IP address = 172.16.3.35)
: -mac -> mac address of the target microphone
:
: E.g.:

@echo off

MB_ethernet_bootloader -i 172.16.3.35 --mac=c0.ba.e6.00.10.55 ASL-DESK_MIC_V1_7_58.bin
```

⇑   ⇑   ⇑   ⇑
<Bootloader filename>   <Mic IP address>   <Mic MAC address>   < app binary filename>

11. In Windows Explorer, double-click the **download_ethernet.cmd** file to run the script.

12. You may get a security alert the first your run the application (Windows Vista or later).

Make sure all check boxes are checked and then click on **Allow Access**; see example on the right. Otherwise, you may have to disable the firewall.
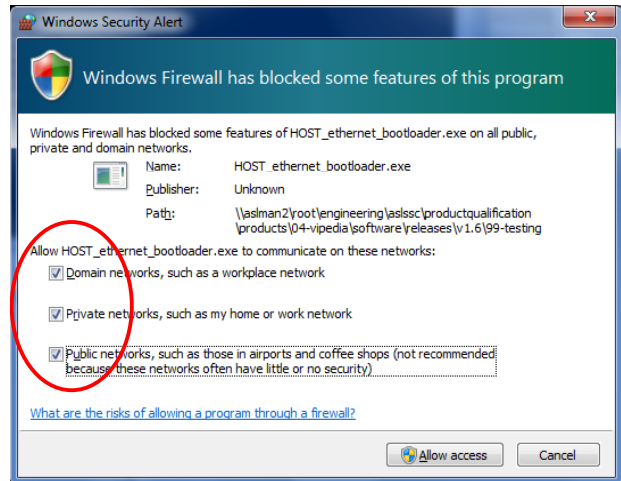
13. The command prompt will display the download progress.

The "Complete" percentage should start updating instantly; see example below.

Example: Firmware download progress

```
Starting BOOTP/TFTP Server ...
% Complete:   45%
```

If "Complete" is not updated, then the download has not been successful:

a) Reboot the microphone.

b) If the microphone application starts:

- Double-check the IP and MAC addresses.

- Check the network interface priority.

- Check the network connections.

- Disable the PC security features, as antivirus and other security features may stop the Ethernet Updater.

- Repeat the firmware update process.

c) If the microphone fails to start, or ASL appointed distributor.

14. The Ethernet Bootloader will automatically close once the download is complete.

15. The microphone will automatically reboot and load the new firmware.

16. Disconnect the extension RJ45 patch cable from the SAP03 front panel assembly.

17. Re-fit the SAP03 front panel assembly following the procedure described in Section "7.2 Removing/Installing the SAP03 Front Panel/Electronics Assembly" (page 27).

7.3.2 Changing the Network Connections of the Host PC

To change the Binding Order:

1. Run "ncpa.cpl" using the Run command on Start menu of Windows XP or Search on Start menu of Windows 7.

   The **Network Connections** window will be displayed.

2. For Windows 7, press the ALT key on the keyboard to enable the top-level menu.

3. Select **Advanced>Advanced Settings** from the top-level menu.

   The **Advanced Settings** window will be displayed; see example on the right.

4. Select the **Adapters and Bindings** tab.

5. In the **Connections** section, select the connection used by the application and move it to the top of the list.

6. Click on **OK** to apply the changes.
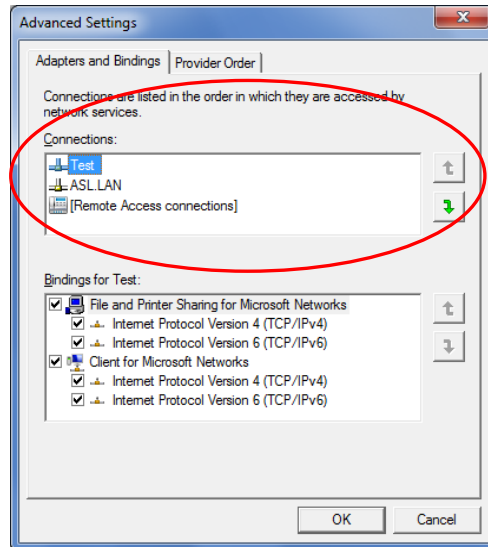
(Refer to the Windows documentation for details)

To change the Interface Metrics:

1. In the **Network Connections** window, right-click the network interface used by the application, and then select **Properties** from the popup menu.

   The **Properties** window for the interface card will be displayed.

2. On Windows XP, select the **General** tab and then select **Internet Protocol (TCP/IP)**.

3. On Windows 7, select the **Networking** tab and then select **Internet Protocol Version 4 (TCP/IPv4)**.

4. Click on **Properties**.

   The **TCP/IP Properties** window will be displayed.

5. Click on **Advanced**.

   The **Advanced TCP/IP Settings** window will be displayed; see example on the right.

6. Select the **IP Settings** tab.

7. If checked, uncheck the **Automatic metric** check box.

8. Set the **Interface metric** to "1".

9. Click **OK** to apply the changes.

10. Repeat this procedure for other network interfaces, but setting lower priority to the **Interface metric**.
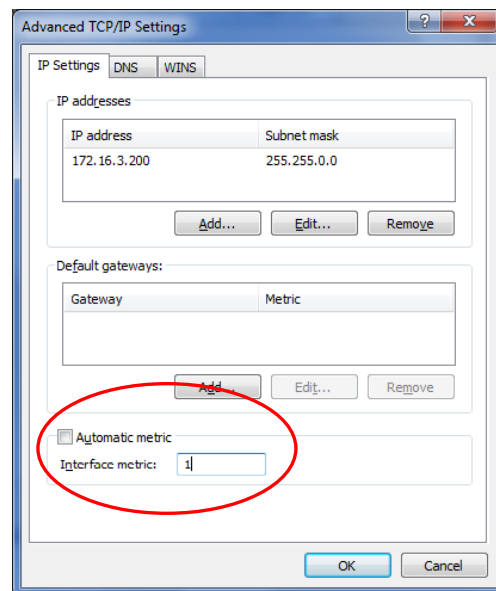
(Refer to the Windows documentation for details)

7.4 Packing for Return for Repair

All electronics assemblies must be properly packed in ESD protective packing for transport, to prevent physical and ESD damage.

The filler material used for packing for return for repair must be antistatic or static dissipative, as this may come into contact with exposed connectors, wiring, or PCB assemblies. The use of non-conductive filler material may cause damage to the electronic assemblies reducing their operational life, or even destroying them.

Advice on packing the product for return can be provided by ASL.

8   Spare Parts

Item	Description/Name		ASL PN	Details
①	SAP03 front panel assembly		A0664252	1 x whole front panel and the electronics assembly
②	Key		210264	1 x KABA key for front door (KABA P/N FA161217)
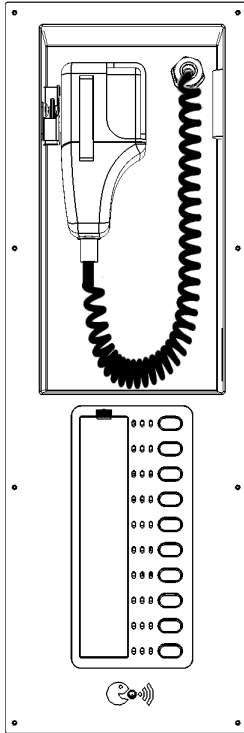
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9   Abbreviations

ASL	Application Solutions (Safety and Security) Limited
BOA	Break-Out Adaptor (ASL)
BS	Build Standard
	British Standard
DVA	Digital Voice Announcer
EN	European Standards
ESD	Electrostatic Discharge
LED	Light Emitting Diode
LRU	Line Replaceable Unit
MAC	Media Access Control (Address)
PA/VA	Public Address/Voice Alarm
PC	Personal Computer
PCB	Printed Circuit Board
PN	Part Number
PTT	Push To Talk
SAP03	Station Announcement Point (ASL)
VIPEDIA-12	Professional Sound Life-Safety Digital Audio System (ASL)
XML	Extensible Markup Language

10   Reference Documentation

Table 4   Reference documents

Ref. No	Title	Filename Ref	Origin
[1]	SAP03 Installation Guide	U-0664-0590	ASL
[2]	VIPEDIA-12 Installation Guide	U-0641-0344	ASL
[3]	VIPEDIA-12 User's Manual	U-0641-1605	ASL
[4]	Vipedia Static Configuration XML Schema V2.3	T-0641-1916	ASL
ⓘ	Additional reference information is available from ASL's website: www.asl-control.co.uk		

ASL
safety, security & control