AAU

Analogue Lift Emergency Telephone
AC-PNB10-120-A-0L-A00

Product Guide
V2.0

AVIRE

Contents

AVIRE

1 Before You Start

1.1 Glossary

PSTN **-** Public switched telephone network.

PABX - Private automatic branch exchange.

DTMF - Dual-tone multi-frequency signalling is used for telecommunication signalling over analogue telephone lines in the voice-frequency band.

1.2 Included in the Box

- AAU Emergency Phone
- Connectors Kit
- Pictogram Cable

- Adaptor Bracket Fixing Kit
- Installation Guide

1.3 Additional Items Required for Installation

- 2 x M3 Stud on COP panel
  (see page 5 for detail)
- 2 x M3 locking nut

- 10-30VDC or 9-20VAC Power Supply
- Phone line

1.4 System Overview

Avire's Analogue Audio Unit (AAU) is an emergency lift telephone that connects entrapped passengers to rescue centres for assistance.

The PSTN auto-dialler enables reliable hands-free, 2-way emergency communication. Installation is quick, and safety assured with a system capable of remote diagnostics, monitoring and alerts.

Flexible installation options

AAU installs easily on the back of COP and is compatible with many existing alarm panel designs for seamless aesthetics:

- Share a PSTN line with up to 8 other AAUs
- Compact, back of COP mounting
- Easy replacement of legacy telephones
- Output for 12 or 24 volt pictogram light (yellow/green)
- Optional external speaker & microphone

Easy and quick to program

Get your lift into service faster with onboard keypad programming and remote setup capability. AAU's default settings are code compliant, and for quick installation, only the following information needs to be programmed:

- Telephone numbers or PABX extension
- Location identification message
- Communication Protocol (Guided/Unguided Voice or P100)
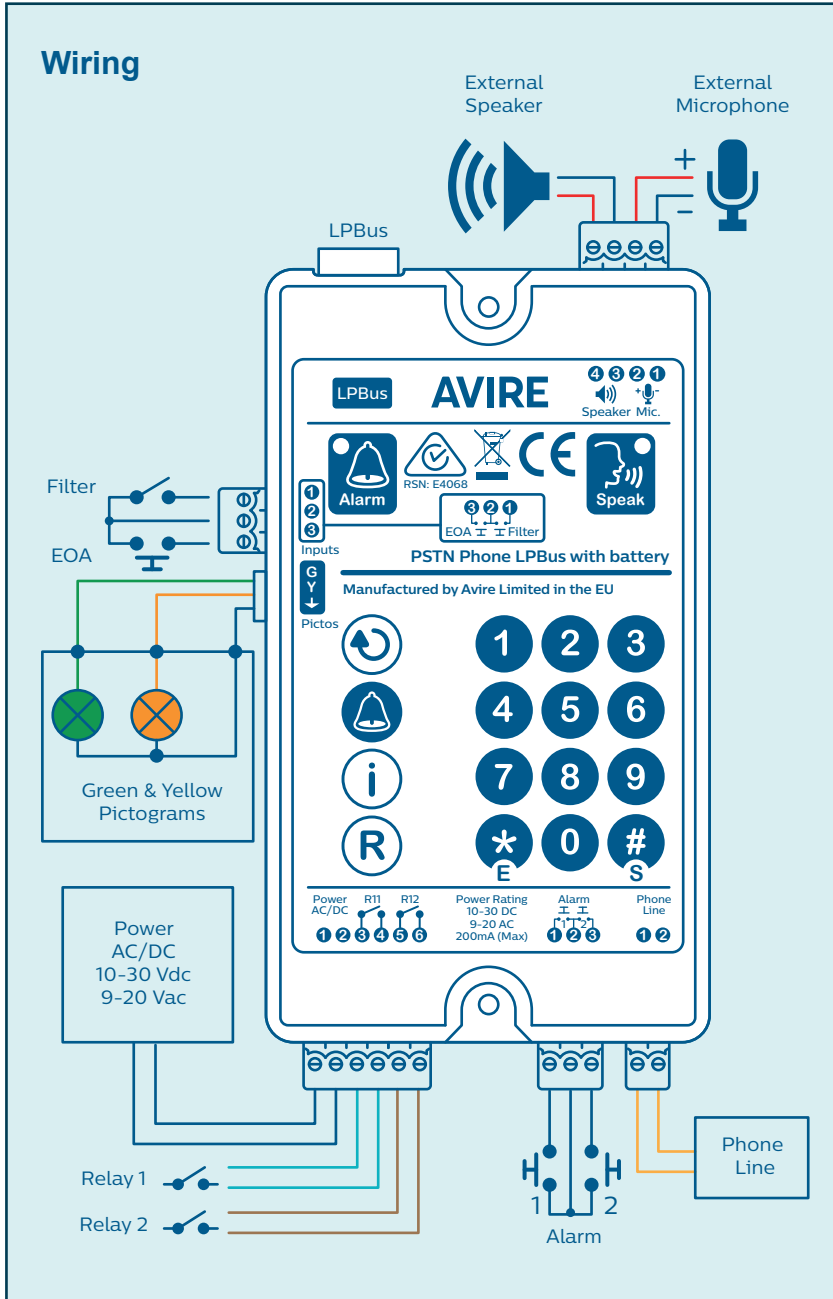
Integrates with related lift

safety appliances via LPBus

Smart monitoring and full compliance

2 Quick Start Guide

2.1 Wiring Diagram

Wiring

External Speaker

External Microphone

LPBus

Filter

EOA

Green & Yellow Pictograms

Power AC/DC 10–30 Vdc 9–20 Vac

Relay 1

Relay 2

Alarm

Phone Line

Power supply

The AAU power supply must be connected before powering the device on.

The AAU supports both:

- 10-30 Volts DC
- 9-20 Volts AC

Direct functions

Reset (Power cycle)

Place alarm call

Read out alarm numbers

Send Status Report

Status

Alarm activated

2-Way Communication active

(flashing) Test Error

(flashing) Powering On

Avire DCP Set up for AAU

Follow the below steps to configure the Avire DCP for best performance when connected to the AAU:
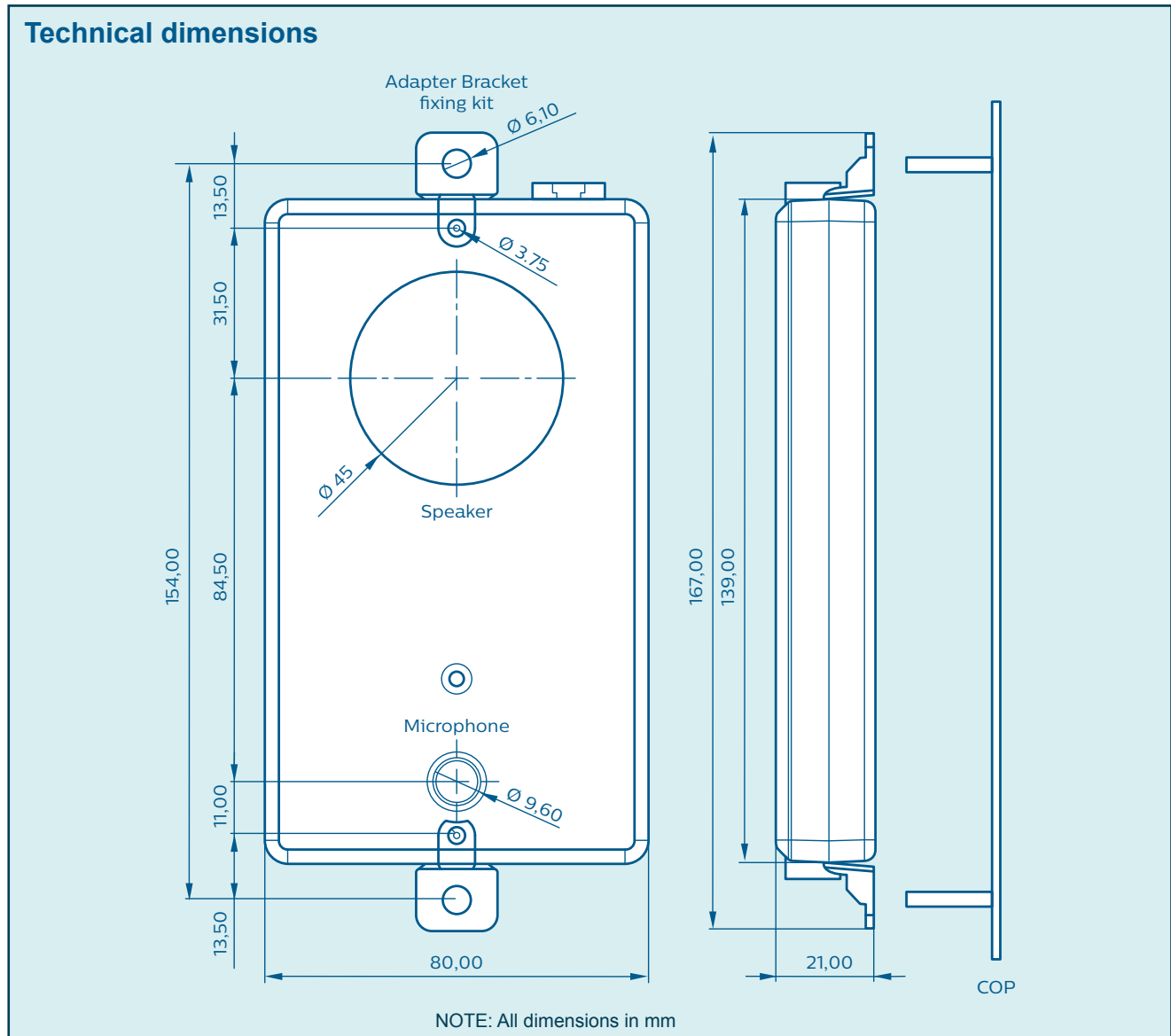
+ Update the DCP to latest firmware version by sending the following SMS to the device:

Pin1234,P0805,P0876369,p0500,firm.avire-global.com/assets/firm/mk775/mk07758x_last.bin

+ Alternatively scan the QR code to the right and send to the device phone number:

2.2 Mechanical Installation

Technical dimensions

Adapter Bracket fixing kit
Ø 6,10
13,50
31,50
Ø 3.75
Ø 45
Speaker
154,00
84,50
167,00
139,00
Microphone
Ø 9,60
11,00
13,50
80,00
21,00
COP

NOTE: All dimensions in mm

1. Select between normal size install and adaptor clips shown below.

2. Using M3 stud fixings already available on COP panel, position device for installation. **Note**: allow for 20mm clearance on all sides for cable routing.

3. Secure device onto COP stud fixings using fastening M3 locking nut onto mounting studs.

4. Connect phone line and power cables to the device.

5. Connect any additional auxiliary / accessory connections to the device.

6. The device is now ready to begin programming.

Installation best practice

• When routing all cables to the AAU, high voltage cables and equipment should be avoided; taking special care with the phone line, as this is the most sensitive to electrical noise.

• The AAU should be positioned as far from noisy electric equipment as reasonably possible. The recommended separation from any GSM devices or antennas is 1.5m.

2.3 Quick Start Programming

Classic Installation

1. Changing the default programming PIN:
   Press: `#   OLD PIN   #   3   NEW PIN   *`
   (Default PIN is 123 - NEW PIN must be 3 digits)

2. Programming a Single Alarm Number:
   Press: `#   P   I   N   #   0   ALARMNUMBER   *`
   ▶Sequence accepted (ALARM NUMBER = Max of 16 digits)

Phone Group 1		Phone Group 2	
Number 1	#PIN#0ALARM*	Number 1	#PIN2#0ALARM*
Number 2	#PIN#1ALARM*	Number 2	#PIN2#1ALARM*
Number 3	#PIN#2ALARM*	Number 3	#PIN2#2ALARM*

3. To verify the alarm numbers programmed, press:
   Or alternatively press: `*   0`
   ▶ 0 = 1st number, 1 = 2nd number, 2 = 3rd number

4. Recording the guidance & location Message (optional)
   Press: `#   P   I   N   #   9   SPEAK MESSAGE   0`
   - To play back recorded message: `*   9`
   - To restore Factory Default Message: `#   5   5   *`

P100 Monitoring

1. To configure P100 Identifier:
   Press: `#   P   I   N   6   3   #   8 DIGIT P100 ID   *`
   ▶ Each devices P100 ID must be unique

   To verify Identifier value:
   Press: `#   P   I   N   6   3   *`
   ▶ 1st number, 2nd number,….. last number

2. Programming phone number for technical/background P100 calls:
   Press: `#   P   I   N   3   5   #   P100 MONITORING NO   *`
   ▶ Sequence accepted (Defalt value & Avire Hub value: 0281034462)
   Note: P100 MONITORING NO has maximum length of 16 digits)

   To verify technical/background phone number:
   Press: `#   P   I   N   3   5   *`
   ▶ 1st number, 2nd number,….. last number.

2.4 Testing

2.4.1 Alarm Call

To test the device, an alarm call should be simulated. If there are multiple alarm activation points, then the alarm should be simulated using all the emergency contact points.

To activate an alarm call from the device itself, press the built in alarm button:

Wait for the responder to answer and confirm the audio quality is acceptable. The recipient will need to press "0" to acknowledge the call has been received, then hang up. If the call is not placed, revisit the AAU Alarm number programming to ensure it is correct.

2.4.2 Monitoring

If the device is being monitored, then this functionality should also be tested before leaving site. A simple test can be made to validate the monitoring functionality. With the installation complete, alarm call tested and the device in standby, simply turn off or disconnect the power supply to the device. After waiting 20 minutes to verify the fault the device will then place a technical call to the monitoring service. The monitoring service need to verify this notification therefore proving the functionality is working. Restore the power supply to the device to complete the testing process.

If the Technical fault does not reach the monitoring service, revisit the AAU programming to ensure the correct monitoring phone number and protocol has been entered.

3 Programming Guide

Once the quick start installation process is complete, the Avire AAU is fully configurable remotely on the Avire Hub cloud platform. Alternatively, the built-in keypad can be used to configure all aspects of the device, in addition to this the device can be accessed remotely by dialling in. Regardless of the programming method, the customisable settings are the same. This section provides a description of what each setting/feature does and how it can be configured.

3.1 Changing the programming PIN

The default programming PIN code is **123**. This numeric sequence is required to make any programming changes and must be 3 digits in length. To change the programming PIN on the device, enter the following sequence:

<div>#   PIN   #   3   NEW PIN   *</div>

3.2 Phone Number Settings

3.2.1 Phone Number Restrictions

- Programmed phone numbers cannot exceed 16 digits.
- Any '#' values in the phone number will be replaced with a 3 second pause when dialling. This becomes a useful entry when dialling out on a PABX system, giving the system time to establish an external line before dialling the telephone number.
- The unit will not dial 000 emergency services.

3.2.2 Programming a Single Alarm Number

The AAU has the capability to store up to 6 Alarm phone numbers, split into 2 contact groups. To program the same value into all three numbers of the first contact group, enter the following command:

<div>#   PIN   9   #   0   ALARM NUMBER   *</div>

3.2.3 Programming Multiple Alarm Numbers

To set different alarm numbers into each memory locations enter the following commands:

Contact Group 1		Contact Group 2	
Location 1	#PIN#0ALARM*	Location 1	#PIN2#0ALARM*
Location 2	#PIN#1ALARM*	Location 2	#PIN2#1ALARM*
Location 3	#PIN#2ALARM*	Location 3	#PIN2#2ALARM*

To hear an audible playback of each programmed alarm number, press the **"i"** button. Or alternatively, enter the following commands:

Contact Group 1		Contact Group 2	
Location 1	* 0	Location 1	* # 0
Location 2	* 1	Location 2	* # 1
Location 3	* 2	Location 3	* # 2

3.2.4 Configure the number of alarm number dial attempts

If an alarm number is not successfully answered, the call can be reattempted a configurable number of times. To set this value enter the following sequence (default is 3 attempts):

> #   PIN   56   #   A   *

A = 1-9 : Alarm Number Dial Attempts

3.2.5 Set Alarm Call Protocol

To configure the Alarm Call Protocol follow the below sequence (default = 1: Voice Protocol).

> #   PIN   66   #   A   *

A = 0 : P100 Protocol / A = 1: Voice Protocol

3.2.6 Programming Technical & Background Test Call Phone numbers

To configure the Technical & Background Test Call Phone numbers enter the following commands. The second number will be contacted if the first number fails (default no. 1 = 0061281034462):

Technical No. 1	# PIN 35 # TECH NUMBER *
Technical No. 2	# PIN 36 # TECH NUMBER *

3.2.7 Configure the number of technical number dial attempts

If a technical call is not successfully answered, the call can be reattempted to the same destination a configurable number of times. To set this value enter the following sequence (default is 3 attempts):

> #   PIN   57   #   A   *

A = 1-9 : Technical Number Dial Attempts

3.2.8 Programming for PABX Connection

When connecting to a PABX system and the number the unit is required to dial is not an extension within the PABX system, but an external number on the PSTN network, then a PABX access code will need to be entered to access an outside line.

To program the same PABX system number into all three numbers of the first contact group, enter the following command:

3 seconds pause

PABX code 1 digit or 3 digits

> #   PIN   9   #   0   PABX CODE   #   TELEPHONE NUMBER   *

Any alarm numbers entered into contact group 2 numbers will need to be entered individually as per any normal alarm number, including the PABX access code and a '#' before the telephone number.

3.2.9 Programming for HOTLINE Operation

A HOTLINE, or pre-programmed self-dialling telephone line, is a telephone line which will automatically connect to a single predetermined number when the phone goes off-hook. This feature is controlled by the service provider.

When connecting to a HOTLINE, disable the unit from dialling a number when an alarm call is raised by entering the following sequence:

> #   PIN   9   #   0   *

3.3 Programming Guidance Message

A built-in voice message is played upon answering of the emergency call. The unit comes with a factory default message although this message will need to be re-recorded to identify the calling location of the unit installed. The message will act as an aid to those with communication difficulties when an alarm call is raised.

3.3.1 Recording the Voice Identification Message

Recording can be achieved by using either a remote telephone handset by dialling into the Avire AAU or by using the membrane keypad onboard via its local microphone.

- Ensure that there is minimal background noise.
- Speak approximately 2-6 inches from the microphone.

Note: The maximum message length is 16 seconds. If the message is shorter than 16 seconds, press the '0' digit to end the recording process, otherwise the unit will play 4 audible beeps when the 16 second time elapses.

1. Enter the following sequence, wait until 2 audible beeps are played then begin recording:

    #　PIN　#　9

2. To stop the recording process, enter '**0**'.
3. Once the voice message has been recorded it can be played back at anytime by entering the following sequence:

    __*　9__

If a voice identification message is not required, refer to section 3.6.3 to disable this feature.

3.3.2 Restoring the Factory Default Message

To restore the factory default voice identification message to its original message enter the following sequence:

#　55　*

3.4 AS 1735.19-2019 Settings

These settings relate to compliance to latest AS 1735.19-2019 Code:

3.4.1 Alarm Filter Enable (A)

This setting can be used to enable and disable the alarm filter function. With this enabled and a closed contact on the Alarm Filter connection, the alarm button will not activate the alarm unless overridden by holding the button for the configured length of time (default 10 seconds).

#　PIN　42　#　A　*

A = 0 : Disable Alarm Filter　　　　　　A = 1: Enable Alarm Filter

3.4.2 Alarm Filter Override Length (A)

This setting adjusts the time that the button is required to be held to activate the alarm filter override (default 10 seconds). The value can be adjusted from 0-6.

#　PIN　46　#　A　*

A = Length of time required to override alarm filter in seconds x 5

3.4.3 Battery Check Enable (A)

This setting can be used to enable and disable the battery check function. With this enabled, the device will

monitor the internal backup battery, and will automatically raise a technical fault if the battery deteriorates or is unable to meet the backup requirements for any reason (enabled by default).

`#  PIN   51  #   A   *`

A = 0 : Disable Battery Check   A = 1: Enable Battery Check

3.4.4 Privacy Mode Enable (A)

This setting when enabled, will disable the in car microphone for any incoming calls, unless the passenger presses the alarm button (disabled by default).

`#  PIN   55  #   A   *`

A = 0 : Disable Privacy Mode   A = 1: Enable Privacy Mode

3.4.5 Separate EOA Signal Required (A)

With this setting disabled, pressing the 0 (zero) key during an alarm call will acknowledge the alarm call and also send an EOA (End of Alarm) signal to the device. This will then deactivate the Yellow Alarm pictogram and restore the device to normal functionality. With the feature enabled, separate EOA signal is required on site, usually triggered by the lift engineer, to reset the alarm (disabled by default).

`#  PIN   58  #   A   *`

A = 0 : Disable Separate EOA   A = 1: Enable Separate EOA

3.4.6 EOA Button Configuration (A)

The EOA button can be configured as a normally open (N.O.) or normally closed (N.C.) circuit. (N.O. by default)

`#  PIN   65  #   A   *`

A = 0 : N.O. EOA Button   A = 1: N.C. EOA Button

3.5 Input / Output Settings

Alarm button contacts can be configured to perform different functions depending on the installation requirements. These programmable settings are defined below:

3.5.1 Alarm Button Mode (A)

The alarm button mode defines how the alarm button contacts will operate. There are four options to choose from as detailed below.

The Alarm button contacts can be configured to perform different functions depending on the installation requirements. These programmable settings are defined below:

Alternate Number dialling (0)
In this mode Alarm Button 1 is used to make an alarm call. Alarm Button 2 will enable switching between the two groups of numbers. When Alarm Button 2 is 'OFF' Alarm Button 1 will dial the first group of numbers. When Alarm Button 2 is 'ON' Alarm Button 1 will dial the second group of numbers.

Individual Alarm Calls (1)
In this mode Alarm Button 1 will dial the first group of number's whilst Alarm Button 2 will dial the second group of numbers.

Maintenance Number Dialling (2)
In this mode Alarm Button 1 will dial the first group of numbers, once a call is complete it will then proceed to dial the second group of numbers. Alarm button 2 is disabled in this mode.

Breakdown Alarm Call (3)

In this mode Alarm Button 1 will dial the first group of numbers. Alarm Button 2 will dial the second group of numbers, when a call is answered the unit will play the voice identification message, if enabled (please refer to section 3.6.3), it will then proceed to play the breakdown message 'failed'.

3.5.2 Alarm Button Contacts (B)

The alarm button contacts can be set to be normally open or normally closed contacts.

3.5.3 Programming the Alarm Button Settings

To program the alarm button settings, once values are defined, enter the following complete sequence:

```
#  PIN   2   #   3   A   B   *
```

	Setting	Formula	Min	Max	Default
A	Alarm Button Mode	Alternate Number Dialling = 0 Individual Alarms Calls = 1 Maintenance Number Dialling = 2 Breakdown Alarm = 3	0	3	1
B	Alarm Button Contacts	Normally Open = 0 Normally Closed = 1	0	1	0

To hear an audible playback of the alarm button settings, enter the following sequence:

```
*   #   3
```

3.5.4 External Pictogram Output

To enable and configure the External Pictogram output voltage, enter the following sequence:

```
#  PIN   72  #   A   *
```

A = 0 : Output Disable   A = 1 : 12V Output   A = 2 : 24V Output

3.6 Advanced Settings

3.6.1 Advanced Call Settings

The advance call settings string can be used to configure many of the advance call features on the device. (description of each variable below):

`#  PIN  #  5  A  B  C  D  E  F  G  H  *`

	Setting	Formula	Min	Max	Default
A	Dial Time	A x 5 seconds	1	9	5
B	Talk Time	B x 2 minutes	1	9	2
C	Silence Time	C x 5 seconds 0 = Disabled	0	9	4
D	Alarm Button Timer	D x 1 second	0	9	3
E	Auto-Answer Ring Count	E x 2 rings	1	9	2
F	Auto-Answer	Disabled = 0 Enabled = 1	0	1	1
G	Ringer Control	Silent = 0 Audible = 1	0	1	1
H	PABX Continuous Tone Detector	Disabled = 0 Enabled = 1	0	1	1

Dial Time (A)

The time the unit will dial an alarm number before it proceeds to the next alarm number.

Talk Time (B)

The maximum length of conversation time during a call.

Silence Time (C)

The unit will end a call when there is no conversation detected for the duration of the silence time.

Alarm Button Timer (D)

The period the alarm button will need to be pressed and held before a call is initiated.

Auto-Answer Ring Count (E)

When dialling in remotely to the unit, and if the auto-answer feature has been enabled, the ring count will determine how many rings the unit will detect before picking up the call.

Auto-Answer (F)

The unit will auto-answer a call if this feature is enabled. If disabled it will not pick up a call. This feature should be disabled when multiple units are sharing the same telephone line.

Ringer Control (G)

The audible onboard ringer played when a call is made to the unit can be enabled or disabled.

PABX Continuous Tone Detector (H)

Certain PABX systems send a continuous tone as opposed to a busy tone when a call ends, the unit can sample this tone and disconnect the call when enabled.

To Verify the Advanced Call Settings

To hear an audible playback of the advanced system settings, enter the following sequence:

```
*   5
```

3.6.2 External Audio Settings

The unit is provided with a built-in internal speaker and microphone.

If the installation requires an external speaker and microphone, a speaker and microphone kit EMSPK/MIC can be connected externally to the unit. The unit will automatically detect whether an external speaker and microphone has been connected, hence disabling the internal speaker and microphone.

Overriding the auto detect feature can be set manually as detailed below.

Speaker Type (A)
Internal or external speaker type connected to the unit.

Microphone Type (B)
Internal or external microphone type connected to the unit.

Programming the Audio Device Settings

To program the audio device settings, once values are defined, enter the following complete sequence:

```
#   PIN   #   6   A   B   C   *
```

	Setting	Formula	Min	Max	Default
A	Speaker Type	Auto Detect = 0 Internal Speaker= 1 External Speaker = 2 Both Channels = 3	0	3	0
B	Microphone Type	Auto Detect = 0 Internal Microphone= 1 External Microphone = 2	0	2	0
C	N/A		1	1	1

To hear an audible playback of the audio device settings, enter the following sequence:

```
*   6
```

3.6.3 Audio & Relay Settings

Voice Identification Message (A)

The built-in digital voice message can be disabled or set to play automatically when a call is answered or by a remote DTMF sequence of '*9'.

Line Volume (B)

The Line Volume adjusts the sound level of the incoming signal. Adjust this level at single increments until the best result is achieved.

Microphone Level (C)

The microphone level adjusts the sensitivity of the microphone when in conversation.

Relay 1 and Relay 2 Options (D and E)

The relay options can be set to energise the specific relay at a different state of operation. There are 3 options to choose from.

Relay ON Time (F)

The relay 'ON' time is configurable, this sets the duration of which the relay will remain energised.

Programming the Audio Level & Relay Settings

To program the audio level control & relay settings, once values are defined, enter the following complete sequence:

```
#   PIN   #   7   A   B   C   D   E   F   *
```

	Setting	Formula	Min	Max	Default
A	Voice Identification Message	Disabled = 0 Play when alarm call is answered = 1 Play when (*9) is entered =2	0	2	1
B	Line Volume	0 = Lowest / 9 = Highest	0	9	6
C	Microphone Level	0 = Lowest / 9 = Highest	0	9	5
D	Relay 1 Options	ON when unit is on = 0 ON when call is answered = 1 ON when DTMF code (#81) is sent = 2	0	2	2
E	Relay 2 Options	ON when unit is on = 0 ON when call is answered = 1 ON when DTMF code (#82)is sent = 2	0	2	0
F	Relay ON Time	D x 2 seconds	1	9	2

To hear an audible playback of the audio level control & relay settings, enter the following sequence:

```
*   7
```

3.7 Multi-Car Line Sharing

You can connect up to 8 AAUs on a single telephone line. To do this, each AAU must be programmed with a unique cabin number from 1-8 along with whether it is a Master (1) or Slave (0). One of the AAUs on the telephone line must be set as a Master and the remaining must be set as Slaves.

To disable this feature, program the Cabin number to 0 and Master/Slave to 0. In this configuration the call will be automatically hooked with the cabin.

PIN   3   #   A   B   *

	Setting	Min	Max	Default
A	Cabin Number	0	8	0
B	0: Slave / 1: Master	0	1	0

To hear an audible playback of the cabin number Settings, enter the following sequence:

3   3   *

3.8 Remote Monitoring Settings

3.8.1 Device Events

The AAU is designed with Remote Monitoring built in. The device is capable of sending the following types of remote status updates:

• Battery failure

• Mic/Speaker failure

• Maintenance info

• Mains power failure

• Stuck emergency button

3.8.2 Remote Monitoring

By default, Remote Monitoring is enabled. To disable the feature enter the following sequence:

```
#  PIN  9  #  7  A  *
```

	Setting	Formula		Min	Max	Default
A	Remote Monitoring Enable	0	= Disable	0	1	1
		1	= Enable			

To hear an audible playback of the Remote Monitoring status, enter the following sequence:

```
*  #  7
```

3.8.3 Background Test Call Frequency

If enabled, the AAU will place an automated background test call to the chosen monitoring platform. The frequency of which the unit will perform a background test call is configured in the following way:

```
#  PIN  2  #  7  N  N  *
```

	Setting	Min	Max	Default
NN	Background test call frequency (days)	01	30	03

To hear an audible playback of the Background test call frequency, enter the following sequence:

```
*  0  7  *
```

3.9 Scream Detection Settings

Scream detection is a feature that when enabled will automatically raise an alarm call when and if it detects a scream of a person who is in distress.

Scream Detection Enable (A)

By default the scream detection feature is disabled. To enable the feature select either '1' or '2' for this setting. By choosing '2' you are only allowing the feature to function when the unit has an external power supply present, and will not function when the power has failed and is in battery backup mode.

Duration (B)

The duration sets the minimum time required for the unit to detect a scream.

Level Threshold (C)

The level threshold sets the minimum level (dB) required for the unit to detect a scream.

Programming the Scream Detection Settings

To program the scream detection settings, once values are defined, enter the following complete sequence:

```
#  PIN  5  #  0  A  B  C  *
```

	Setting	Formula	Min	Max	Default
A	Scream Detection Enable	Disable = 0 Enable = 1 Enable only if power supply present = 2	0	2	0
B	Duration	1 second = 1, increments by 250ms per step, where 9 = 3 seconds	1	9	9
C	Level Threshold	80dB = 1, increments by 2 dB per step, where 9 = 96dB.	1	9	9

To hear an audible playback of the scream detection settings, enter the following sequence:

```
#  50  *
```

3.10 Reset to Factory Default

To reset all of the AAU's settings to the factory default, enter the sequence below:

```
#  PIN  0  #  999  *
```

Note: This will not reset the guidance message recording.

4 Operation

4.1 Membrane Keypad Buttons

Key	Name	Description
	ON/OFF	Switch between standby mode and unit ON mode
	Alarm Button	Activate an Alarm Call
	Information	Plays an audio message with the programmed alarm numbers
	Manual Report	REMOTE MONITORING Local device status / P100 report (If enabled, refer to section 3.8.2 RPMS Enable / Disable feature)
	# / S	Commence programming sequence when in standby mode. Including other operations.
	* / E	End programming sequence when the unit is in standby mode. Including other operations.

4.2 Raising an Alarm Call

To make a call press the 'Alarm' button on the unit's onboard keypad or close the alarm button dry contacts connected to the units Alarm button 1 input. The unit will dial the first programmed alarm number.

4.3 Calling a Shared Line

When you dial into a telephone line, after auto-answer, simply press the digit of the
lift that you wish to connect to within 15 seconds. Even if you want to speak to the Master cabin.

Note: You may only connect to one AAU per phone call.

5 LED Indicator Functions

The on-board LEDs will illuminate to indicate state of events as detailed below:

LED	Name	'ON' State
Alarm	(LED Solid) Alarm Activated	When an alarm button call has been acknowledged and unit starts to dial out.
Speak	(LED Solid) Speak	When an alarm call has been answered and is ready for communication.
None	Standby	If the device is receiving power but with no LED's active, this means the device is in its low power standby state
Alarm	(LED Blinking Slowly) Powering On	Device is in its boot-up sequence.
Alarm	(LED Blinking Quickly) Misc. Error	Miscellaneous Device Error. Contact Avire Technical Support for troubleshooting.
Speak	(LED Blinking Quickly) Battery test failure	Battery either disconnected or not providing acceptable voltage level for code compliance. Check connection or replace battery
Alarm + Speak	(LED's alternating) Background test failure	The devices scheduled background test for compliance has failed. Check programming, and phone line connection
Alarm + Speak	(LED's both blinking slowly) Keypad Programming	Device is in a programming state.
Alarm + Speak	(LED's both blinking quickly) Programming Verification	Device is verifying the programming commands

6 Automated Self Diagnosis

The Avire AAU performs self-diagnostic checks. If the unit detects a problem, an audible message will play through the speaker to alert passengers of the problem.

6.1 Power Supply Check

The unit will continuously check the power supply input voltage. If the power drops out then the unit will remain powered from the internal backup battery. The following audible message will play every 20 minutes to alert of a power failure:

"Power supply test failed. Please report this failure to building management immediately".

6.2 Telephone Line Check

The unit will continuously check the telephone line voltage. If the telephone line voltage drops then the following audible message will play every 20 minutes to alert of a telephone line failure:

"Telephone line test failed. Please report this failure to building management immediately".

6.3 Battery Check

When there is no power, the unit will monitor the battery voltage. If the battery voltage reaches 4.2V the unit will report the power failure every twenty minutes.

7 Unit Testing Procedure

7.1 Test the Programmed Alarm Number

1. Press the ALARM button on the unit's onboard keypad.
2. The telephone line will turn ON and the CALLING LED will illuminate.
3. The unit will dial the first alarm number.
4. If the call is not answered, the unit will dial the second then third alarm numbers until the call is answered.
5. Once the call has been established the SPEAK LED will illuminate and you can begin communication.
6. To end the call, press the ON/OFF button.

7.2 Audio Level Performance

The device is equipped with pre-calibrated audio levels for an optimal cabin setup.

After completing the installation and placing a call, the user should check the audio performance.

To adjust audio levels, the user can modify three parameters:

 # PIN 19 # A *

	Setting	Description	Min	Max	Default
A	Speaker Volume	Controls the audio level through the device **speaker**	1	9	6

 # PIN 20 # A *

	Setting	Description	Min	Max	Default
A	Microphone Volume	Controls the audio level through the device **microphone**	1	9	6

 # PIN 52 # A *

	Setting	Description	Min	Max	Default
A	GSM Signal Received Level	Controls the overall audio level that comes from the **telephone line**	1	9	3

Troubleshooting:

- When audio performance is low due to low level on the speaker, it is best to increase the value of P52 (GSM Level) rather than P19 (Speaker Volume).

- If the Call Centre detects excessive noise from motors, ventilation or external sources, it is recommended to reduce the P20 (Microphone Volume) value

- Always adjust parameters in small increments for better control

8 Reference

8.1 Technical Specifications

Part Number	Description
Operating voltage	10-30V (DC), 9-20V (AC)
Standby current	45 mA
Operating current	55 mA (with no external pictograms or accessories)
Dialing method	DTMF
Relay contact rating	30 V
Battery backup system	NiMH 3.6v 650 mAh
Battery operating time[1]	Up to 7 hours with pictograms Up to 12 hours without pictograms
Speaker volume	User configurable
Speaker	8 ohms 0.25W
Microphone	2.2 K ohms (freq. 100 – 16KHz)
Alarm button	Dry contacts
Operating temperature	0°C – 45°C
Dimensions	139mm x 80mm x 21mm
Manufactured	Barcelona, Spain

Note 1: Battery discharge is in 15 minute loops. The unit plays in a loop synthesis to simulate a conversation for 5 minutes, then sits idle for 10 minutes

9 Maintenance

9.1 Replacement Parts

If the product is out of warranty, replacement parts can be purchased to allow for sub assembly replacements.

The table below details the items that can be purchased for this product:

Part Number	Description
AC-SPV10-030-0-00-000	Replacement for the built-in back up battery

10 Safety And Disposal Information

INSTALLATION CONDITIONS

This device is designed to be used indoors (0℃ to 45℃ with relative humidity between 20% to 80% not condensing). Sudden changes of temperature and humidity should be avoided.

CLEANING AND MAINTENANCE

Use a soft dry cloth. Do not use solvent or abrasive products.

SAFETY

Please read these safety instructions before starting the device.

- Do not expose this device to liquids or excessive humidity. The AAU is an indoor device and is not waterproof
- Do not expose the device to fire
- Do not try to modify the device
- Do not use the device in potentially hazardous areas or where there is risk of explosion

BATTERY

The AAU has a NiMH 3.6 V/650 mAh battery that allows it to keep functioning in the event of a mains power failure. This battery should be replaced every 2 years. Replacing the battery involves removing the lid of the device, disconnecting the existing battery and replacing it with the new battery (the part number is on the battery label). Please read the following battery warnings:

- There is a risk of explosion if the battery is replaced with an incorrect type.
- Disposal of a battery into a fire or hot oven, or crushing or cutting the battery can result in an explosion.
- Leaving the battery in an extremely high temperature surrounding environment can result in an explosion
- A battery subjected to extremely low air pressure may result in an explosion.
- This battery should be properly recycled and not disposed of with unsorted household waste.

DISPOSAL

The device complies with regulations 2002/95/CE and 2003/108/CE regarding the use and disposal of hazardous substances in electric appliances.

Do not dispose of this device with unsorted household waste. Disposing of the device in an unauthorised way could result in a fine in line with local regulations.

ENVIRONMENTAL REGULATIONS

RoHS - Avire certifies that its production process complies with the 2011/65/EU European Directive of 3 January 2013 regarding the restriction of use of hazardous substances in electric and electronic appliances.

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