AirTalk

Smart Datalogger for Extreme Environments

AirTalk Reference Manual

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The Axiom Suite of Manuals

Axiom (F6/H2/H1) Overview	Description, Quick Start Guide, General Operating Instructions, Specifications
Axiom Configuration Reference	Detailed description of all functions of 7 home screen icons. Brief description of Telemetry (8th icon). Covers Sensor Extensions and sensor mapping.
Axiom G6 Telemetry Reference	Detailed description of the Telemetry functions including message formatting.
Axiom User Manual	A field reference with the most common features used on site visits.
Axiom Installation and Maintenance Guide	Installation and maintenance details.
Axiom AirTalk Reference	Detailed description of configuring datalogger to interface with AirTalk.
Axiom RVT Reference	Detailed description of configuring datalogger to interface with RVT

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1.1 Introduction

1.1.1 Purpose and features

AirTalk enables a datalogger to broadcast voice messages over radio about important conditions in the datalogger. Messages can contain values measured and recorded by the datalogger. Messages can be sent either in response to radio-transmitted demands or automatically when the datalogger detects a user-defined alert condition.

AirTalk is compatible with any PTT (push-to-talk) radio, on any band.

AirTalk can be configured for multiple languages and can manage many messages and alert conditions. All messages and conditions are defined by the user.

1.1.2 "AirTalk" vs. "RVT"

AirTalk is the latest generation of FTS radio voice messaging services for the Axiom dataloggers. The first generation of this technology was known as RVT (for "Radio Voice Transmission")[1].

> If you have the first-generation RVT system, please see the RVT Reference Manual.

1.1.3 Principles of operation

The key elements in the AirTalk system are:

- **Alert**: A condition together with a message to be transmitted when the condition is detected by the datalogger.
- **Message**: A complete unit of voice transmission that can be transmitted.
- **Phrase**: Part of a message.
- **Phrasing**: Instructions for how to express a phrase in a particular language. The phrase may include data extracted from the datalogger at the moment of message transmission.
- **DTMF codes**: A touch-tone code transmitted by radio to request a message action: either speak a message or cancel one that is currently speaking. DTMF codes are specified as parts of messages.

[1] AirTalk was developed with the internal name "RVT2" (RVT version 2). A few last traces of this name remain in the product, mainly in the AirTalk audit log.

1.1.3.1 Messages

Figure 1 shows how Message, Phrase, Phrasing, and Datapoint objects fit together to define a message which can be transmitted in any of several languages. A message is made up of a sequence of phrases, which are strung together in order. Each phrase has one or more phrasings, which are pronounceable texts, possibly containing place-holders for datalogger values (datapoints) to be inserted at the time of message transmission. When a message is transmitted, the phrasings are pronounced, one after the other in order, presumably forming an intelligible message to the human listener.

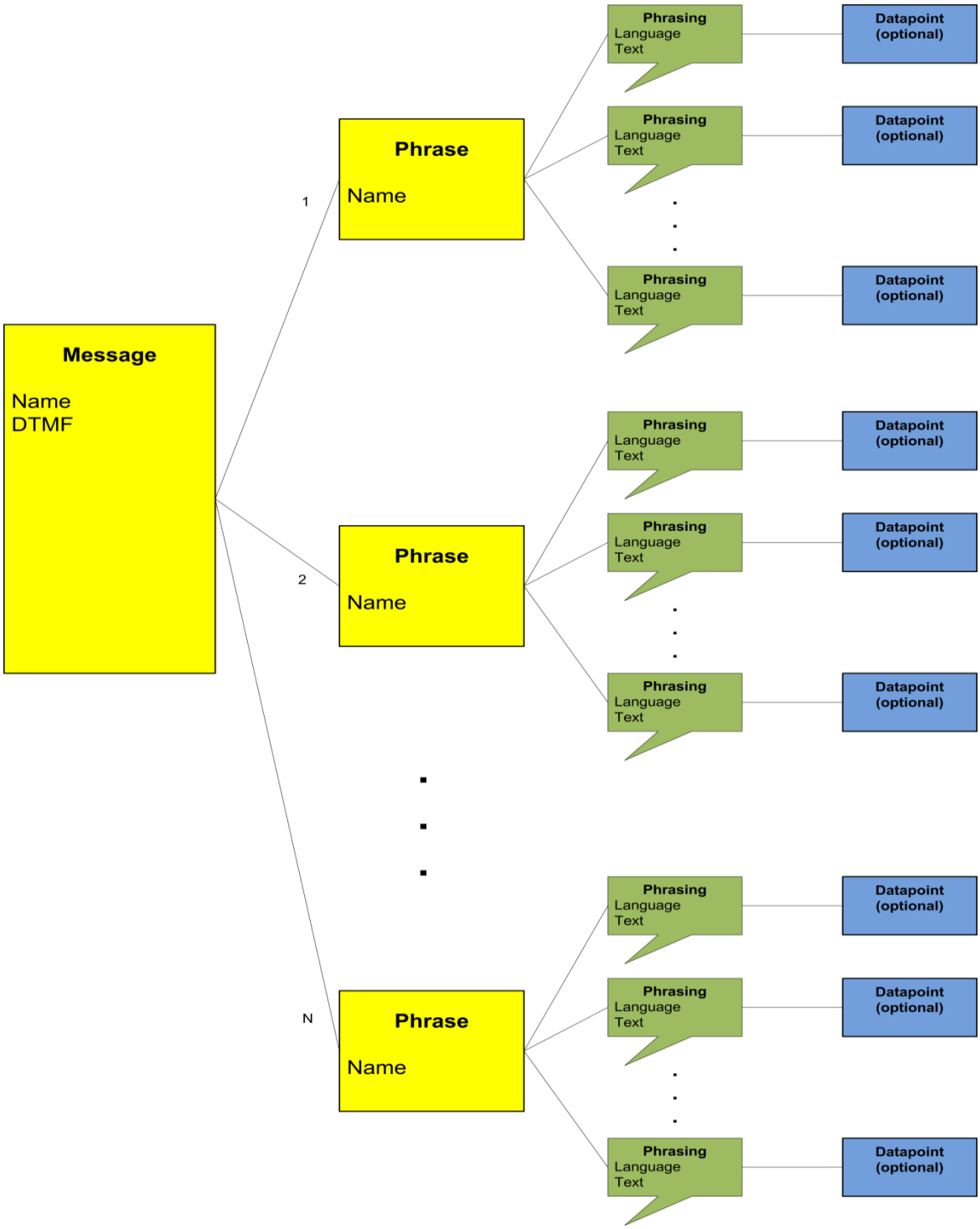


Figure 1: Generic message structure in AirTalk

Figure 2 shows how an example message for reporting current atmospheric conditions. This message can be transmitted in English, or Chinese. (Note: These languages are used for example only. Your system may have different languages installed.) The order of phrases for this message is (1) current temperature, (2) current wind speed, and (3) current wind direction.

Note that other messages in the system can also use some of the same phrase definitions. For example, a wind-only message could use just the "current ws" (wind speed) and "current wd" (wind direction) phrases. A phrase can be used in any number of messages.

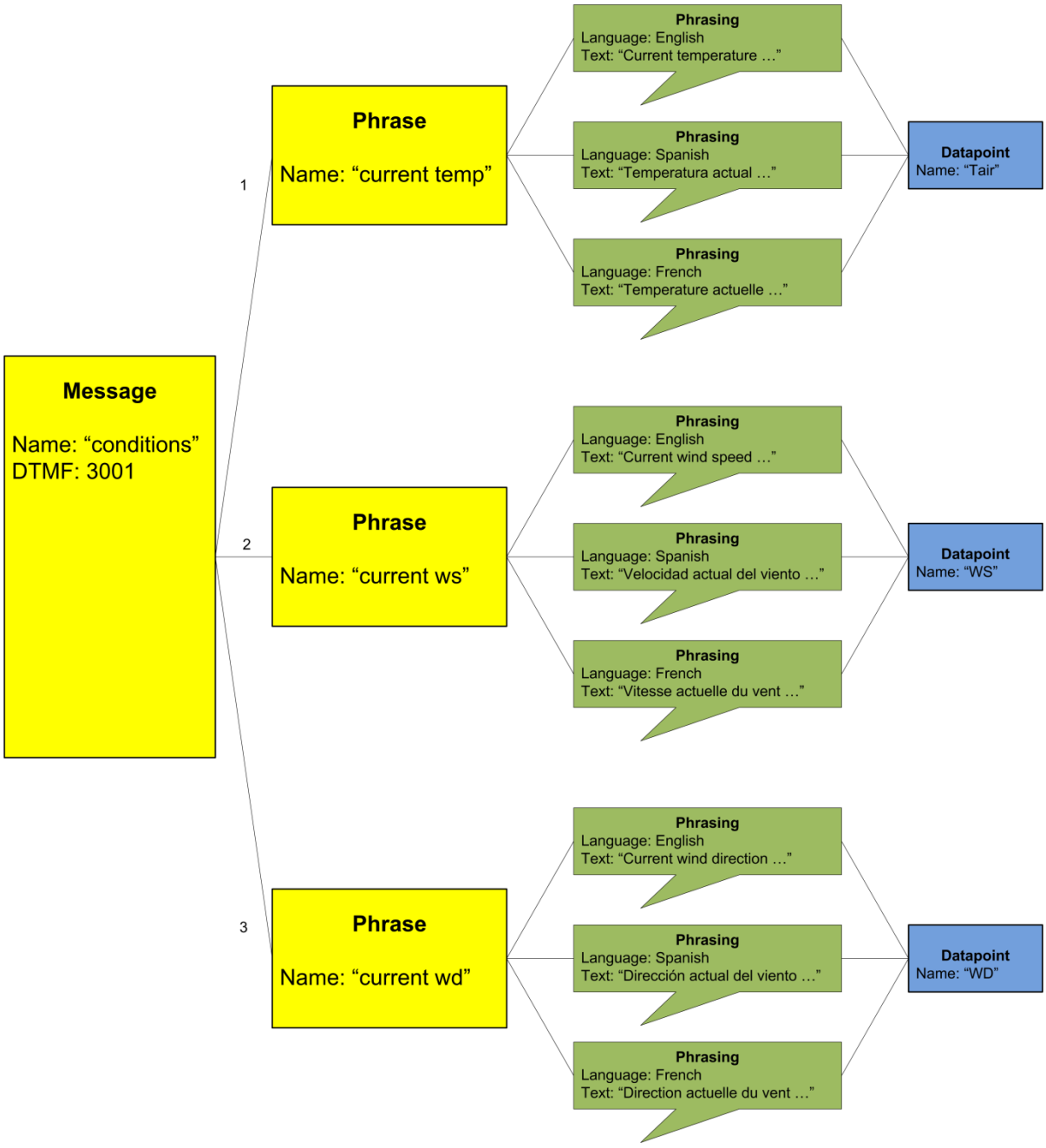


Figure 2: Message structure example

1.1.3.2 Alerts

Figure 3 shows the components of an alert. An alert consists of a condition and a message. The condition is evaluated according to the Variable, Relation, and Threshold, together with the Dead Zone and Snooze Time attributes of the Alert. The message is simply any message defined in the system, as described above. (An automatically created datapoint called a threshold tracker variable simplifies defining messages that mention the threshold value.)

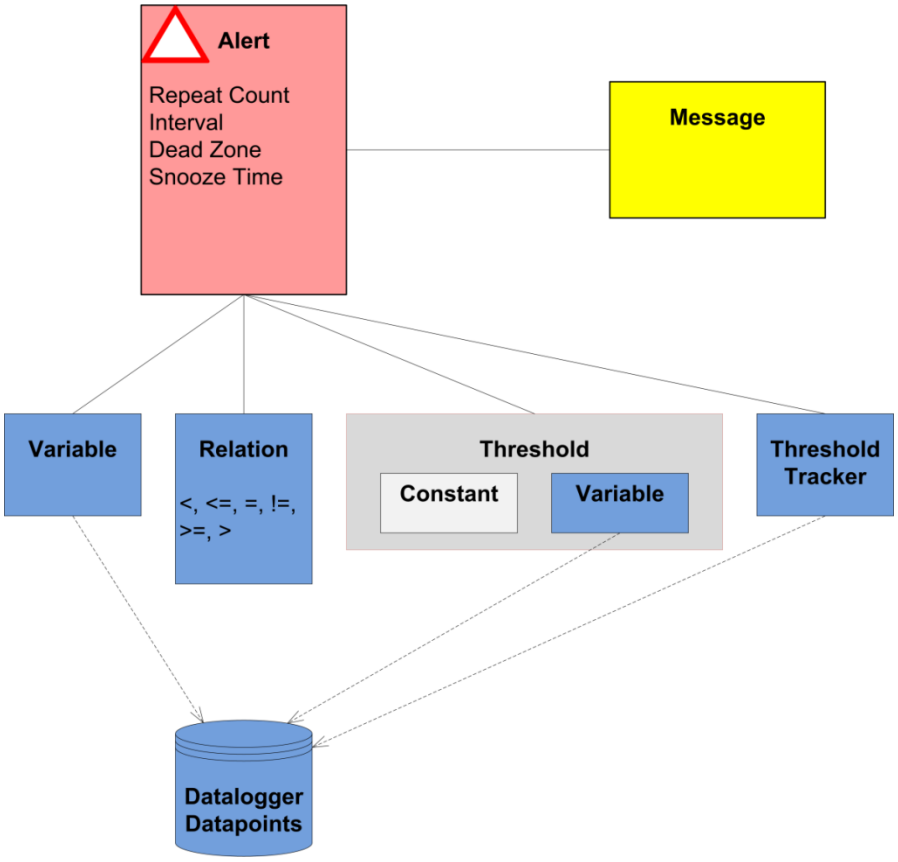


Figure 3: Generic alert in AirTalk

Figure 4 shows how an example alert would be set up. The message in this example would likely include the value of the threshold tracker variable (e.g., "Air temperature is over XX degrees.").

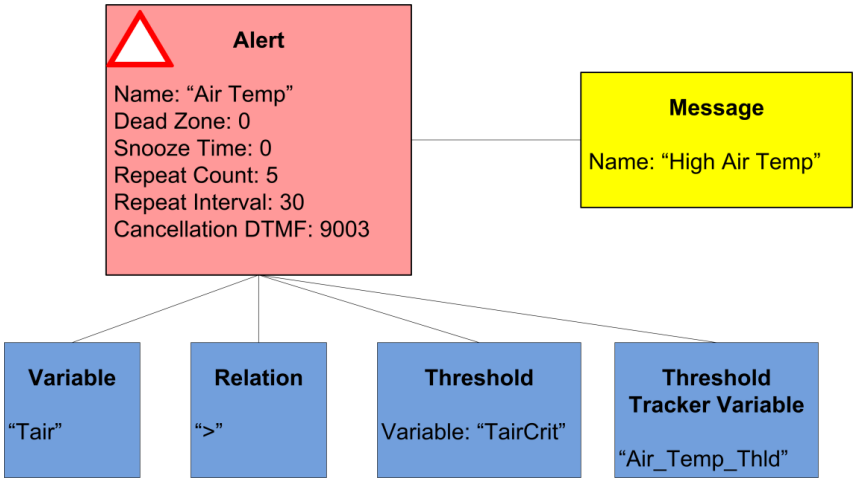


Figure 4: Alert structure example

1.1.3.3 Alert triggering

The **alert condition** is defined by a **Variable**, a **Relation** and a **Threshold**.

- **Variable** refers to a datapoint defined in the datalogger.
- **Threshold** is a value to which the Variable is compared. A Threshold may be either:
  - a fixed constant, or
  - a datapoint in the datalogger (normally a User Variable process, which makes it easy to change an alerting parameter and to share one threshold value between several related alerts).
- **Relation** is the comparison: it is one of the standard arithmetic comparisons < (less than), <= (less than or equal), = (equal), != (not equal), >= (greater than or equal), or > (greater than).

> The alert condition is evaluated using the value of Variable **rounded to the user-specified precision specified for that variable**. This is particularly important for understanding the behavior of the = (equal) and != (not equal) conditions.

The alert is **triggered** when the alert condition changes from false to true and the following additional conditions are also true:

- at least Snooze Time seconds have passed since the last time the condition changed from true to false;
- at least once during the Snooze Time, Variable took on a value at least Dead Zone away from Value (see table below; Dead Zone does not apply to operator !=)

Operator	Additional condition
<	Variable >= Value + Dead Zone
<=	Variable > Value + Dead Zone
>	Variable <= Value – Dead Zone
>=	Variable < Value – Dead Zone
=	Variable <= Value – Dead Zone OR Variable >= Value + Dead Zone
!=	n/a

When the alert is triggered, the associated message is broadcast (Repeat Count + 1) times, with an interval of Repeat Interval seconds between each re-broadcast.

If the alert condition changes from true to false before Repeat Count broadcasts of the alert message have been made, the broadcasts for that triggering of the alert are stopped immediately.

If the user sends the Cancellation DTMF code to AirTalk and the Alert is currently broadcasting, the remaining repeat count is set to zero and the Alert is in exactly the same state it would be in if all messages has been broadcast. In other words, a cancellation has no other effect than to stop the broadcasting. Condition evaluation continues as usual.

Figure 5 shows key behaviors of an alert (with operator > or >=) relative to a graph of the alert condition variable's value.

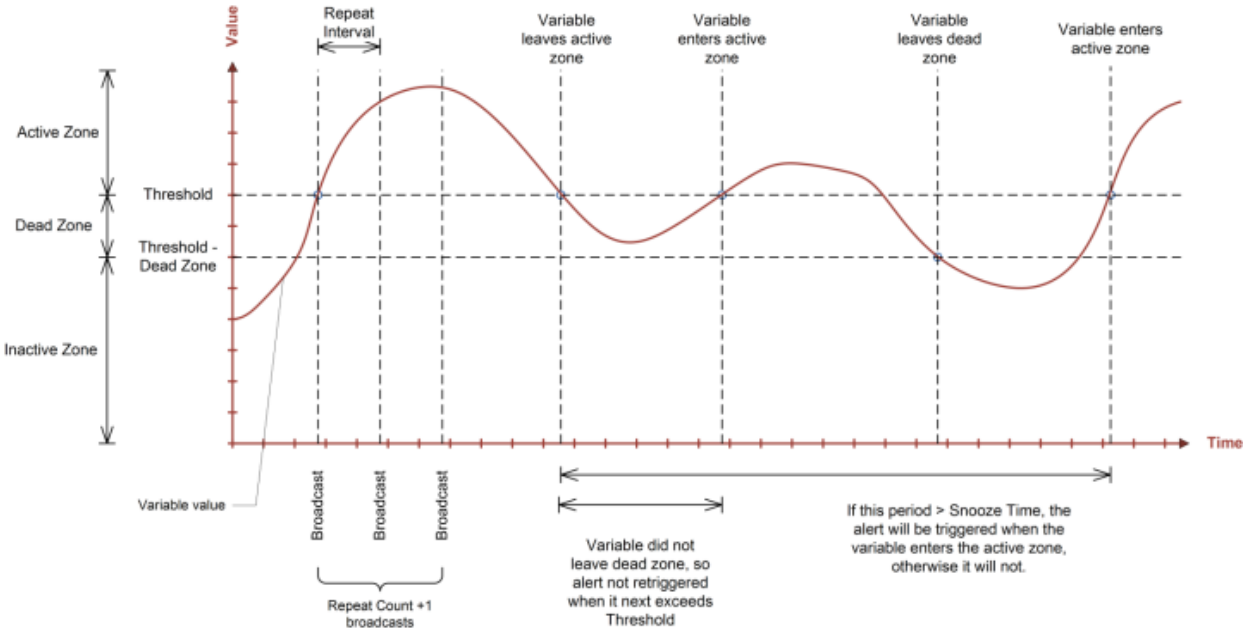


Figure 5: Alert triggering behavior on a graph of the alert condition variable value

1.1.3.4 Controlling whether alerts are transmitted

Alerts can be controlled in two ways:

- By suspending and resuming alerting (all alerts)

- By enabling and disabling individual alerts

1.1.3.4.1 Suspending and resuming alerting

Alerting as a whole can be suspended (turned off) or resumed (turned on). When alerting is suspended, no alert will send a message, and all messages queued to be sent are removed. When alerting is resumed, those alerts that are enabled (see below) can once again send their messages when they are triggered by current conditions. Messages cleared at the time of suspension are removed and are not restarted when alerting resumes.

Suspending and resuming does not affect the enabled/disabled status of any individual alert. It only prevents or allows the enabled alerts to send their messages.

To suspend alerting:

- send the DTMF code 9999 to the datalogger via radio, or
- click the **Suspend Alerting** button on the **AirTalk Configuration Editor** screen– **Alerts** tab (Telemetry > Telem port with Airtalk > Status > Setup > Alerts > Suspend Alerting)

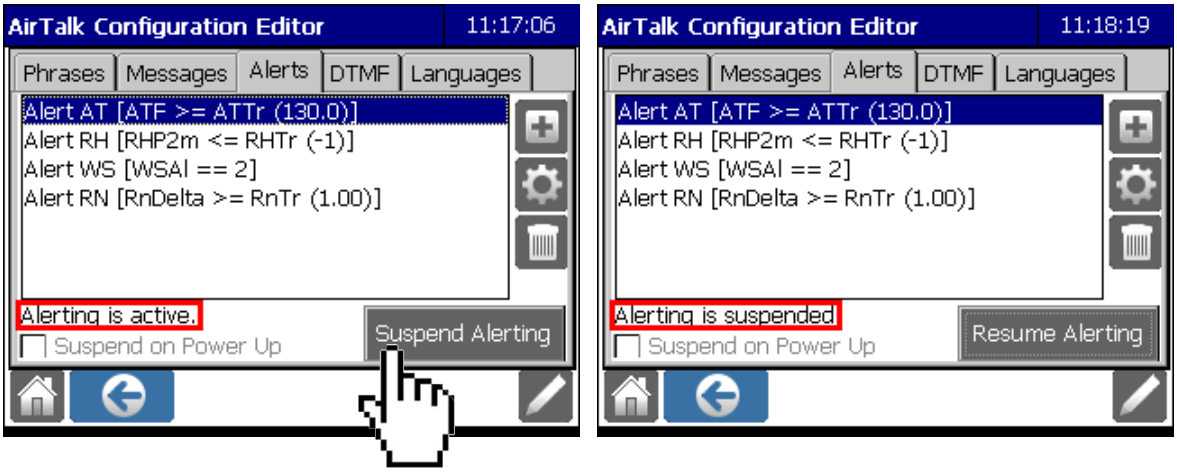


Figure 6: Suspend alerting

To resume alerting:

- send the DTMF code 8888 to the datalogger via radio, or
- click the **Resume Alerting** button on the **AirTalk Configuration Editor** screen – **Alerts** tab, or (Telemetry > Telem tab with Airtalk > Status > Setup > Alerts > Resume Alerting)

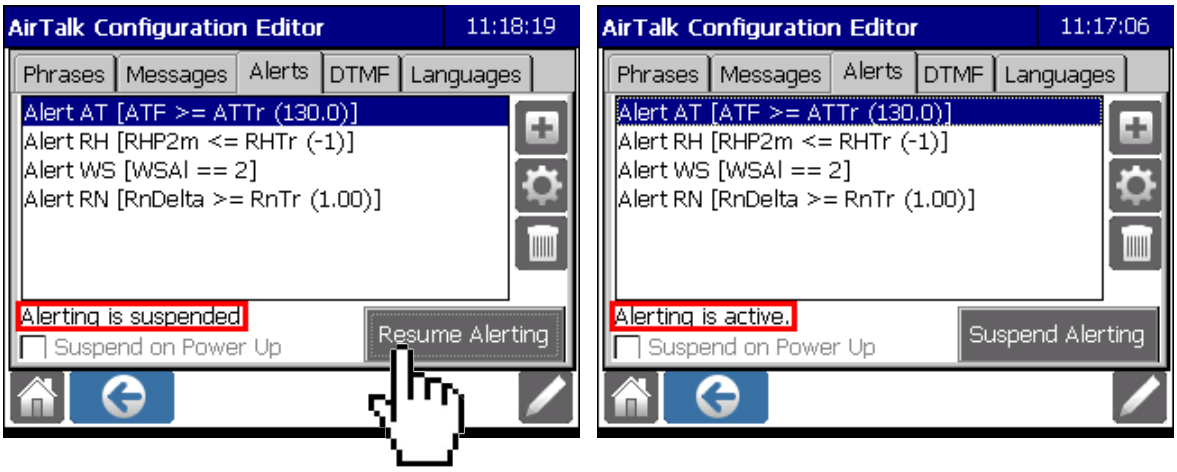


Figure 7: Resume alerting

To control the suspend/resume state that datalogger starts with after powering up:

- use the **Suspend Alerting on Power Up** control on the **AirTalk Configuration Editor** screen– **Alerts** tab (Telemetry > Telem tab with Airtalk > Status > Setup > Alerts > Edit Mode > Toggle on or off Suspend on Power Up)

(See section 1.3.11, AirTalk Configuration Editor screen – Alerts tab).

1.1.3.4.2 Enabling and disabling individual alerts

Each alert can be enabled (turned off) or disabled (turned on) independently of all other alerts. An enabled alert sends its message when its trigger conditions are satisfied and alerting is active. A disabled alert never sends a message, regardless of conditions.

Enabling and disabling individual alerts does not affect whether the alerting system as a whole is suspended or active (resumed). It only affects whether an individual alert will send messages when alerting is active.

To enable or disable an alert, modify the **Enabled/Disabled** setting on the **Alert Editor** page.

(Telemetry > Telem tab with Airtalk > Status > Setup > Alerts > Edit mode > Select individual Alert > Setup>Toggle on or off Enable/Disable)

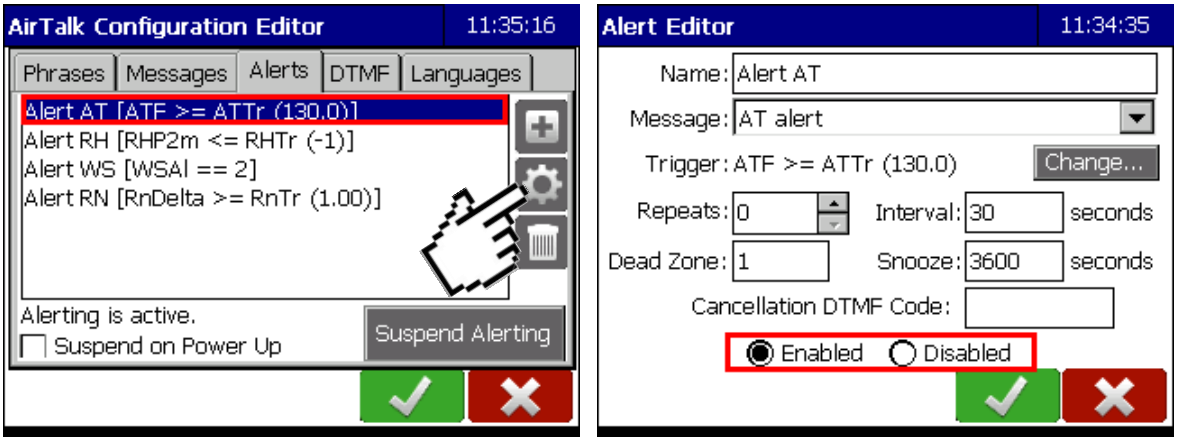


Figure 8: Enable or Disable individual alerts

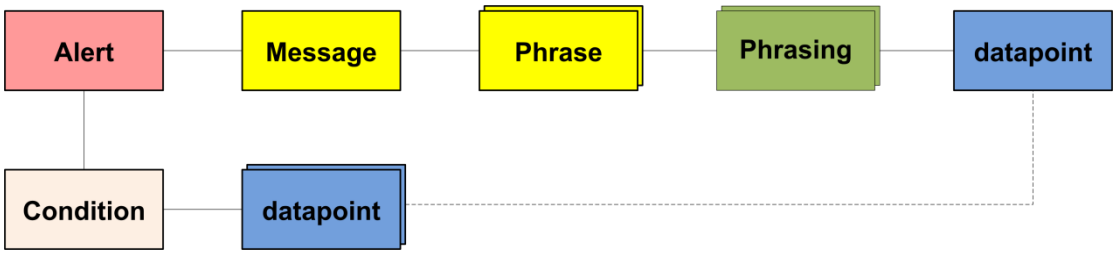
1.1.4 Practical considerations

Most users' final goal is to build an alert. To reach that goal, the message building blocks – phrasings, phrases, and messages – have to be set up, normally in that order.

Just one complication intervenes: Many alert messages need to state the value of the threshold in the condition that triggered the alert. In some cases it is necessary to define the alert before the message content (phrasings) stating the value of the threshold to be set. However, to define the alert, the message and its content must be defined. Fortunately this apparent roadblock has a straightforward solution, which is described below.

1.1.4.1 Quick review of AirTalk alert and message structure

When constructing alerts, it's helpful to keep this structure in mind. Particularly important is the fact that the phrasing datapoint and the condition threshold tracker datapoint may be the same.



In words:

- An alert is triggered by a condition, which depends on one or two datapoints (the trigger variable and the trigger threshold, which may be a variable or a constant).
- An alert, when triggered, sends a message, which is composed of one or more phrases, each of which uses one or more phrasings, each of which may include a datapoint value.
- Sometimes a phrasing includes a special datapoint created by and for the alert condition called the threshold tracker variable. See below for instructions on using it.

1.1.4.2 Using the threshold tracker variable

Whenever you define an alert, a special datapoint called a threshold tracker variable is also automatically defined in the datalogger. The threshold tracker variable mirrors (tracks) the threshold value, whether it is set by a constant or by a variable. Whenever the threshold value is changed, the value of the threshold tracker variable also changes. The threshold value can change as a result of several different actions:

- a constant threshold value is used, and someone changes the constant
- a variable threshold value is used, and someone changes which variable (datapoint) supplies the value
- a variable threshold value is used, and someone or something changes the value of the variable
- a constant threshold value is changed to a variable value, or vice versa

The threshold tracker variable is a single, reliable source for the value used in the alert trigger condition, no matter how it is defined or changed. Its utility is in constructing the phrase(s) that make up the message that the alert triggers.

Example

Suppose you are setting up a portable (Quick Deploy) station for use in controlled burn or firefighting situations. You need to define an alert condition based on air temperature. In each different deployment of the station, the threshold temperature for triggering the alert will be different. In some situations it might be 30°C, in others 33°C, in others 35°C or 40°C. Personnel will need change this threshold in the field to account for changing conditions.

Your desired alert message is: "Alert, Alert. Air temperature is over XX degrees," and XX must be whatever the current alert trigger threshold is (that is, the message must change whenever the threshold is changed). You could accomplish this by editing the phrasing(s) in the message that state the threshold (XX) every time the threshold is changed, but that is laborious and error-prone, particularly in the field. It would be easy to change the threshold but forget to change the phrasing(s), or to enter an incorrect value.

The most robust solution to this problem uses two datapoints:

1. **Threshold variable**. Define a User Var process to hold the threshold value, and define your alert trigger condition using this datapoint. This datapoint (User Var) can easily be changed in the field, and the alert triggering changes with it.
2. **Threshold tracker variable**. This variable (datapoint) is automatically defined for you when you define your alert. It reflects the value of the threshold variable, which may be changed from time to time. Use it in the phrasing(s) used in the message emitted by the alert.

The threshold tracker variable could be viewed as redundant in this example, since the threshold variable also supplies the current value of the threshold. But if the alert trigger condition was later modified to use a constant trigger value (unlikely but possible) or to use a different threshold variable (a different User Var), then the alert message would be rendered incorrect unless the tracker variable, which always reflects the threshold value no matter what its source, was used. It is this fidelity to the actual threshold value in use, regardless of source, that justifies the existence of the threshold tracker variable.

Application

Some pre-planning makes applying the example above much easier.

First, it's important to know that you cannot use a variable (datapoint) before it is defined. This applies to both the threshold variable that you define directly and the threshold tracker variable that is automatically defined when you define an alert. This fact has two implications, one simple and one more complicated:

1. Threshold variable. Define this variable (with a User Var process) before you begin defining your alert. (You can use the placeholder technique described below in this case, too, but you don't have to if you remember to define your threshold variable first.
2. Threshold tracker variable.

Problem: The threshold tracker variable is not defined until you define the alert, and the alert cannot be fully defined until you define a phrasing that uses the threshold tracker variable.

Solution: Use one of the following "placeholder" techniques:

a. Placeholder message:

   i. Initially define the alert using any message as a placeholder. If you have no messages defined yet, first define one that has no content.

   ii. Define the phrasing(s) to be used in the alert message, using the threshold tracker variable that now exists because you defined the alert.

   iii. Define the phrase(s) and finally the actual message to be used in the alert.

   iv. Go back to the alert and change the placeholder message to the actual message you just defined.

b. Placeholder threshold:

   i. Define the phrasing(s) that will be used in the alert. Initially use a temporary placeholder value for the threshold value. The placeholder value can be a constant (probably easiest) or any existing datapoint. You cannot refer to the threshold tracker datapoint yet because it is not defined until the alert is defined.

   ii. Follow the standard sequence for defining an alert: Define a phrase using the phrasing(s), a message using the phrase, and then the alert using the message.

   iii. Go back to the placeholder phrasing(s) and change them to use the threshold tracker variable that now exists because you defined the alert.

Solution (a) is usually the simpler of the two. It is the method used in the detailed instructions below.

A second consideration is to use only a User Var as a threshold variable, or if you need to be especially clever, a process output variable that derives only from User Var values.

> **WARNING:** Do not define a trigger threshold using any variable (datapoint) that changes often.
>
> AirTalk must do a lot of work to adjust to changes in the threshold value. A quickly changing threshold value would tie up system resources in constantly readjusting to the new values. The likely outcome is that the datalogger will function sluggishly or not at all.

Precision and units of the threshold tracker variable

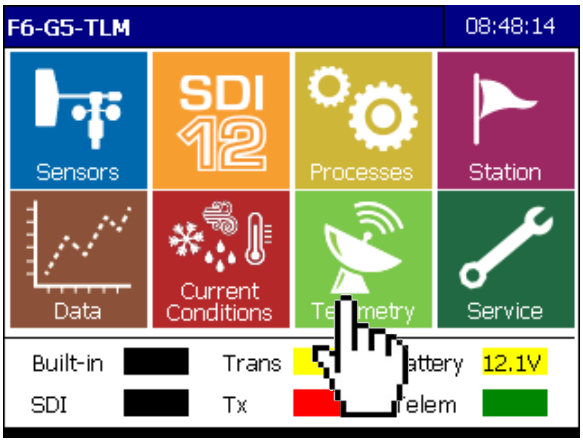
The threshold tracker variable (datapoint) is defined automatically by AirTalk. You can change its name, but AirTalk determines all its other properties, including precision and units. Precision and units are determined by the following rule:

If the threshold is a	**the Threshold Tracker Variable precision and units are the same as the**
Constant Value	Trigger Variable
Variable Value	Threshold Variable

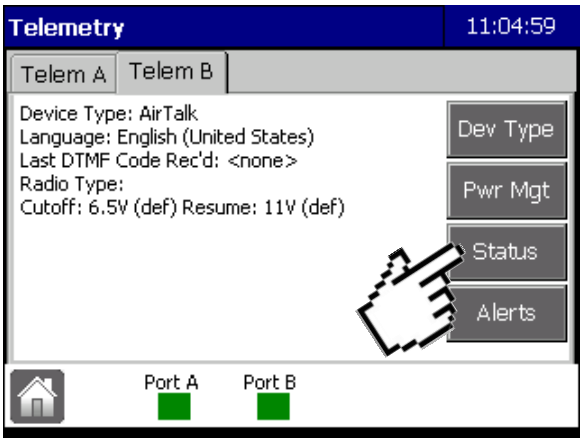
1.2 Common configuration tasks

1.2.1 Creating a new phrase and associated phrasings

1. On the **Home** screen, tap **Telemetry** and navigate to appropriate Telem tab (AirTalk is commonly on Telem port B).

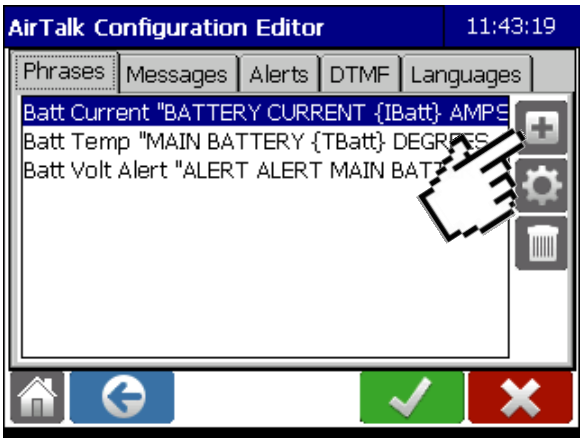


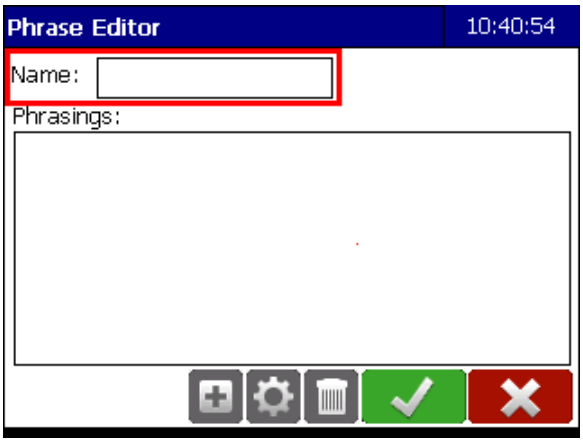
2. Tap the **Status** button next to the Radio Voice Transmitter port and then tap the **Setup** button.



3. The **Messages** tab of the **AirTalk Configuration Editor** screen appears. Tap the **Phrases** tab, and then tap Edit.

4. The **Add** button is now enabled. Tap **Add** to launch the **Phrase Editor**, and then enter a short, descriptive name for the new phrase in the **Name** field. Once you have named your phrase you can add phrasings in various languages as needed.





a. To add new phrasings tap the **Add** button.

*Note: the **Add** button is disabled if there are already phrasings for all available languages.*

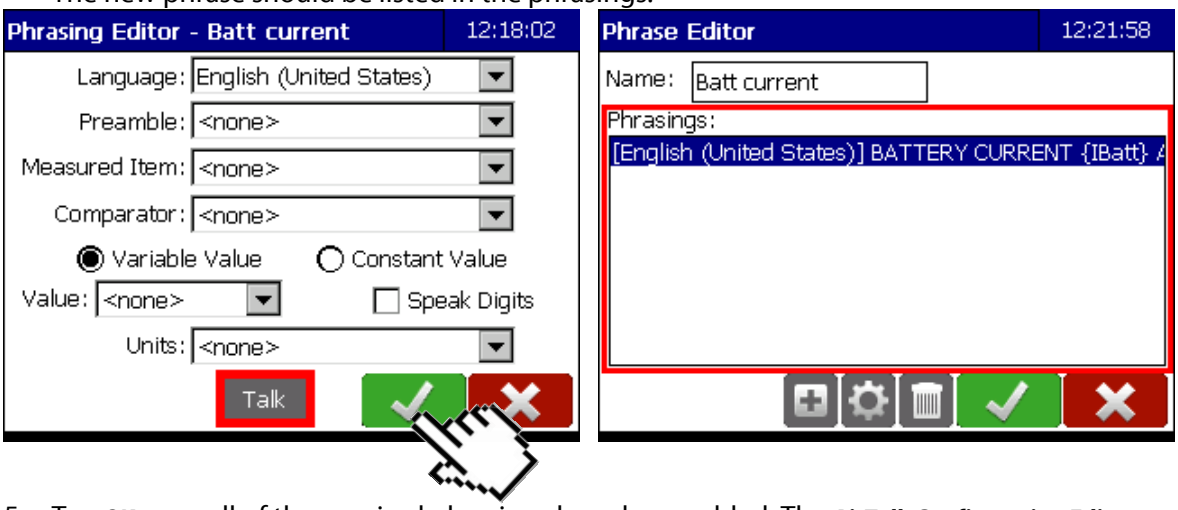
b. Select the language and elements for the phrasing. No more than one phrasing in each language can be defined for a given phrase

Note: Elements include:

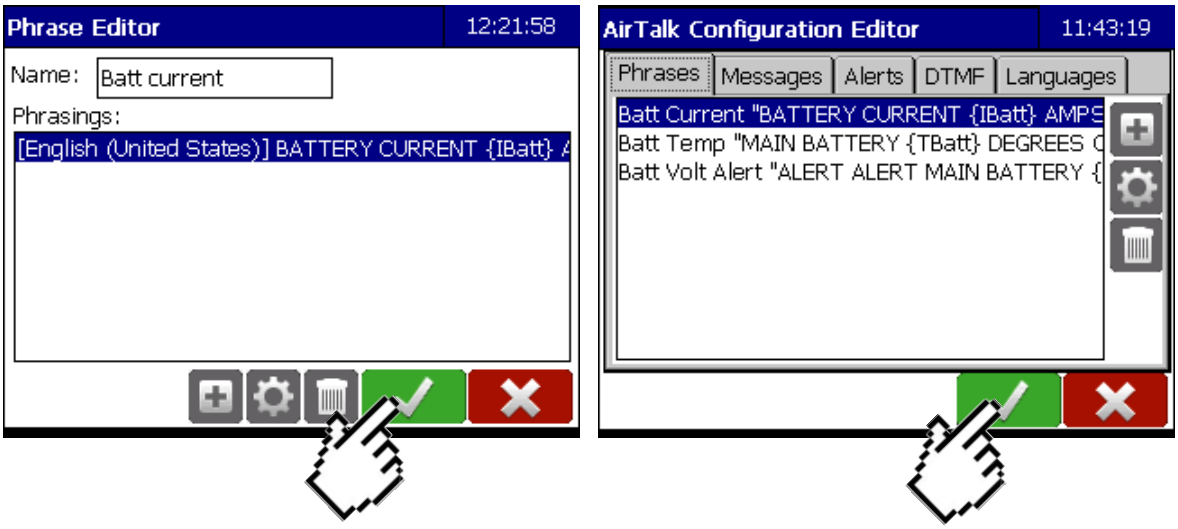
- *Preamble*
- *Measured item*
- *Comparator*
- *Value*
- *Units*

If you wish and element to be omitted from the phrasing, select <none>.

c. To test the phrasing, tap **Talk**: The phrasing is spoken on the AirTalk. Tap **OK** to save the phrase. The new phrase should be listed in the phrasings.

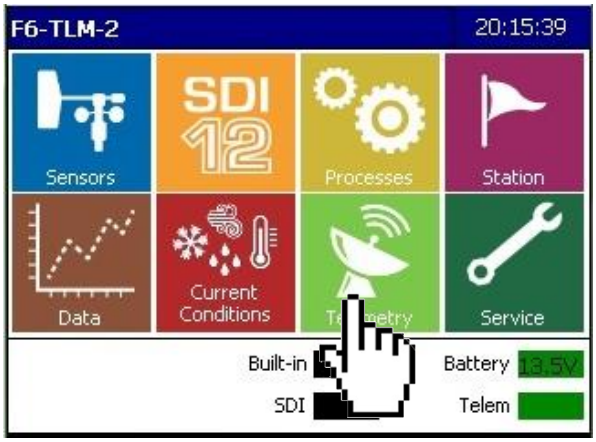


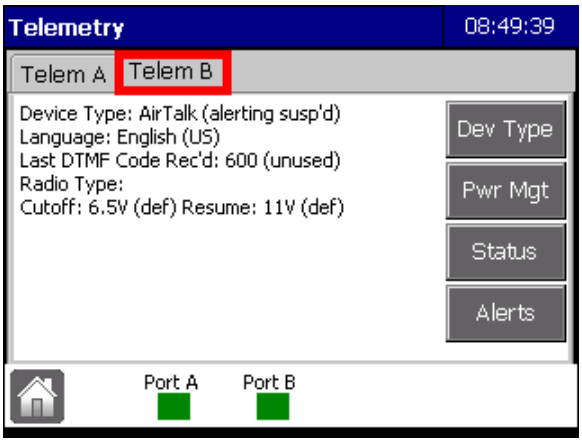
5. Tap **OK** once all of the required phrasings have been added. The **AirTalk Configuration Editor** screen appears, with the new phrase listed. Tap **OK** to exit edit mode and return to the AirTalk Status screen.



1.2.2 Creating a new message

1. On the **Home** screen, tap **Telemetry** and navigate to appropriate Telem tab (AirTalk is commonly on Telem port B).





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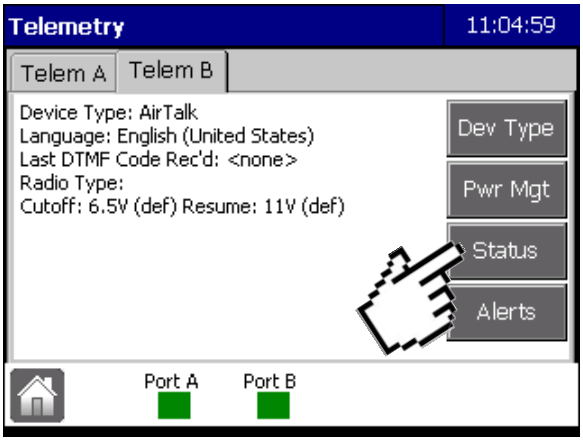
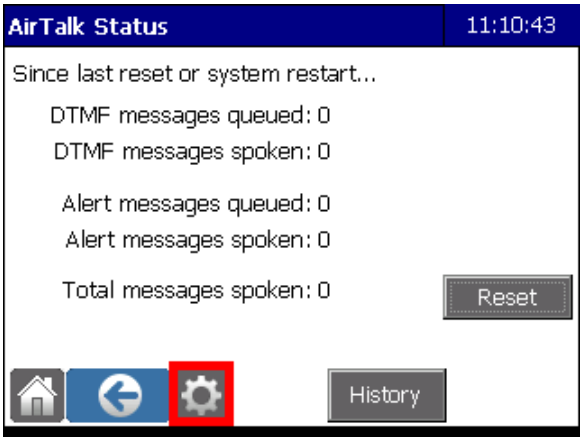
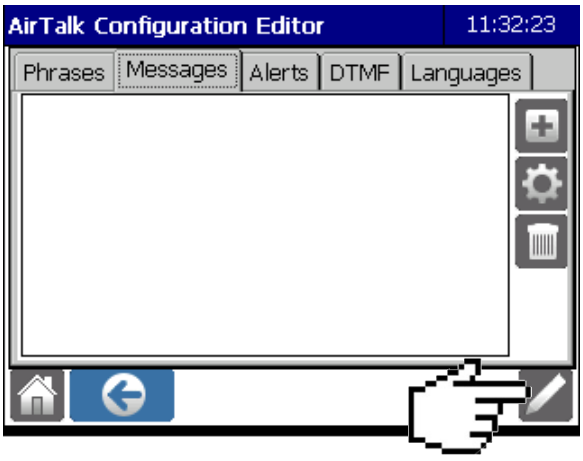
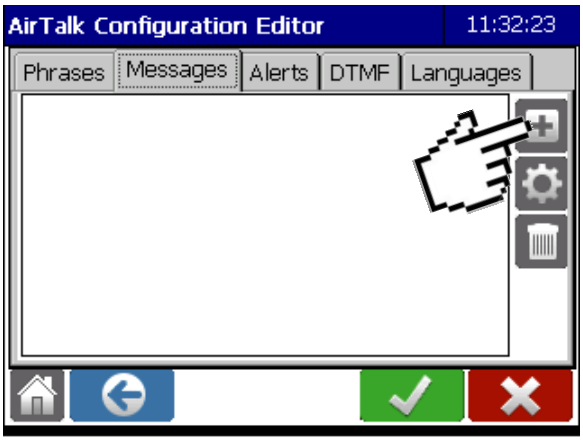


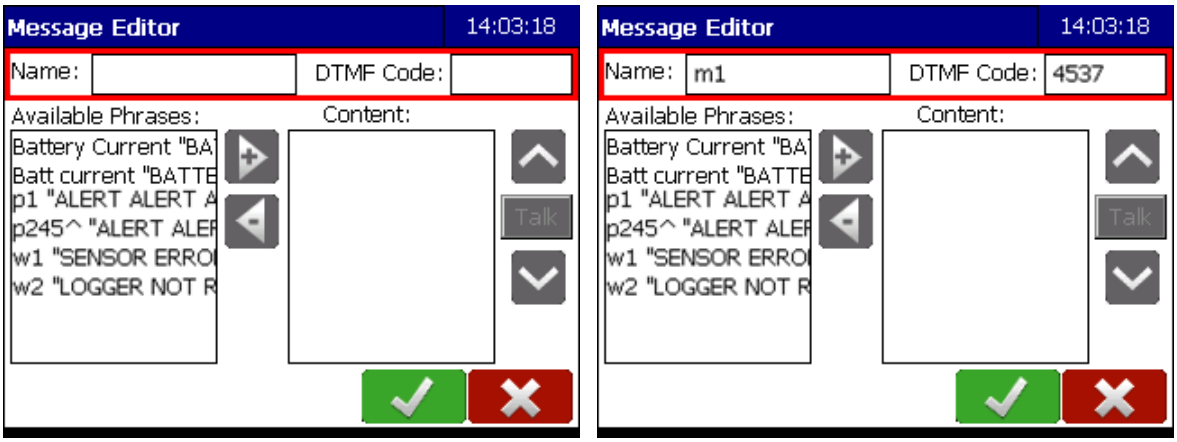


3. The **Messages** tab of the **AirTalk Configuration Editor** screen appears. Tap **Edit** to enable the **Add** button. Tap **Add** to add a new message.



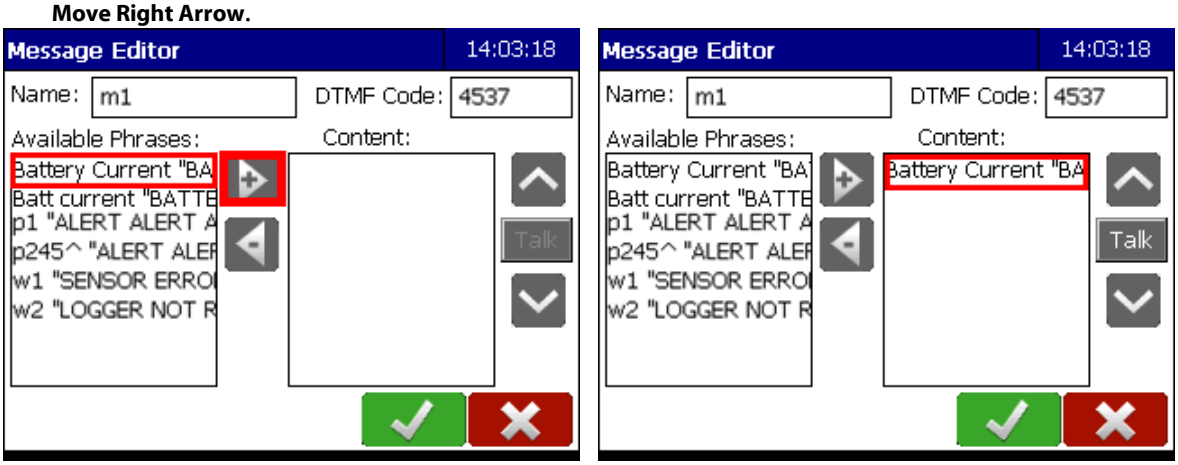


4. Enter a short, descriptive name for the message in the **Name** field. Optionally, enter a 2-, 3-, or 4-digit **DTMF Code** used to command that this message be broadcast.



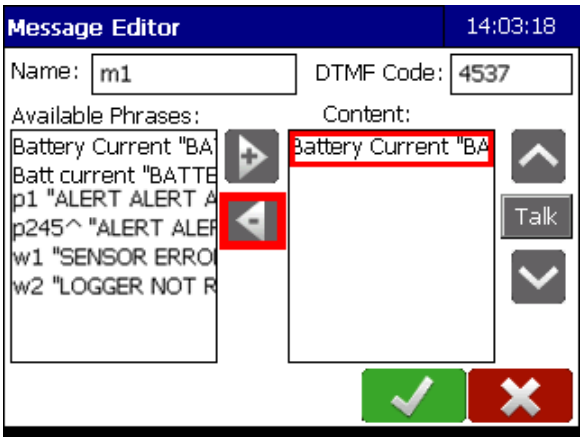
5. Add phrases to the message. Normally they are added in the order they are to be spoken in the message, but their ordering can be modified later if necessary.

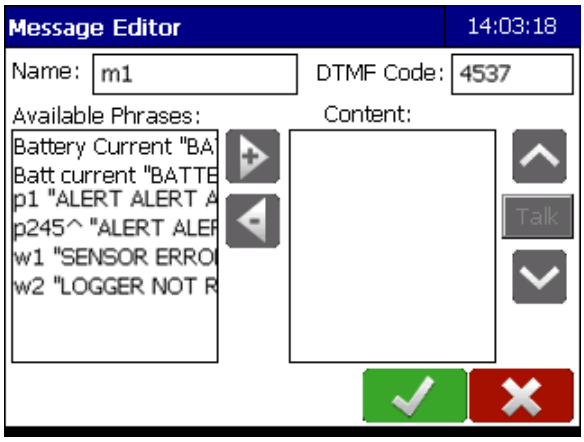
a. To add phrases to the message select a desired phrase in the **Available Phrases** list and tap the **Move Right Arrow.**



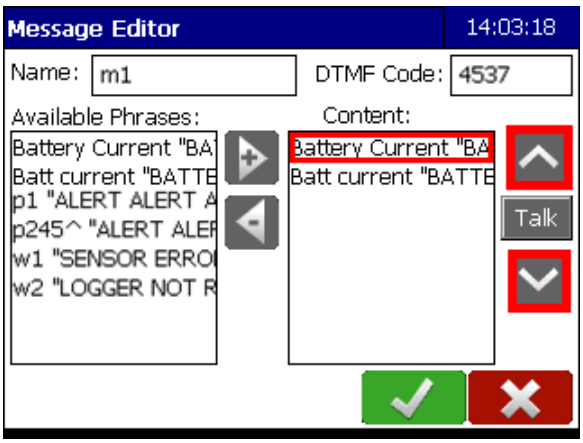
b. If no item is selected in the Content list, the phrase is added to the end of the **Content** list. If an item is selected in the **Content** list, the phrase is added before (above) it. A phrase can be added more than once to the same message. A message can have no more than 15 phrases.

c. To remove phrases from the message select a desired phrase in the **Content list** and tap the **Move Left Arrow.**

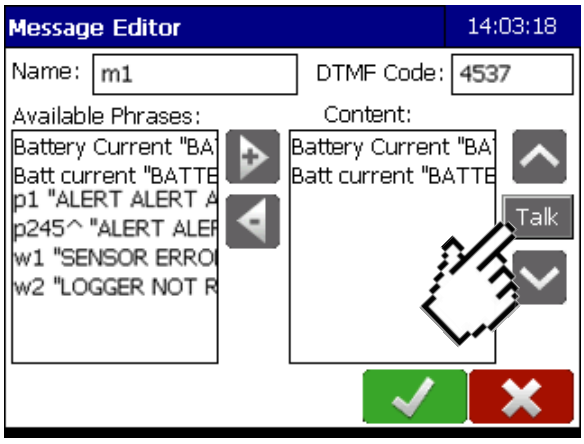


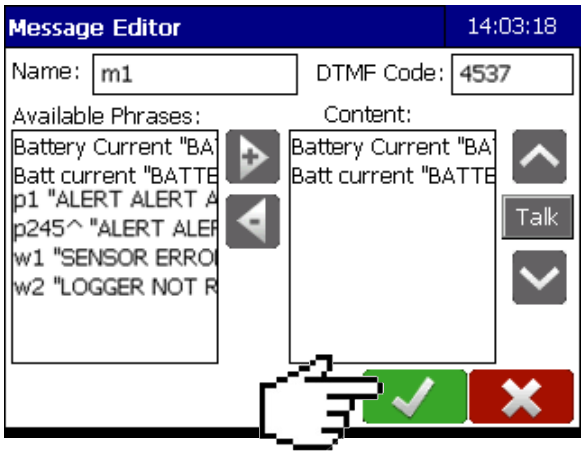


d. To change the order of phrases in the **Content list,** select the phrase and tap **up** or to **down** set the desired order.

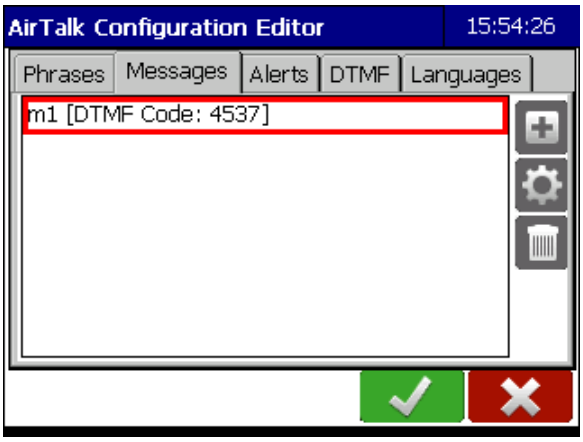


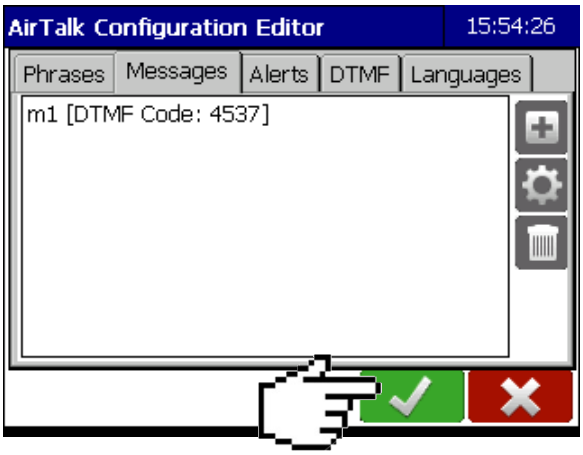
6. To test the message and hear a response on the AirTalk, tap **Talk.** If you are satisfied with the message tap **OK** to accept.





7. The new message is now listed on the **AirTalk Configuration Editor** screen. Tap **OK** to exit edit mode and return to the **AirTalk Status** screen.


AirTalk Configuration Editor
15:54:26
Phrases
Messages
Alerts
DTMF
Languages
m1 [DTMF Code: 4537]

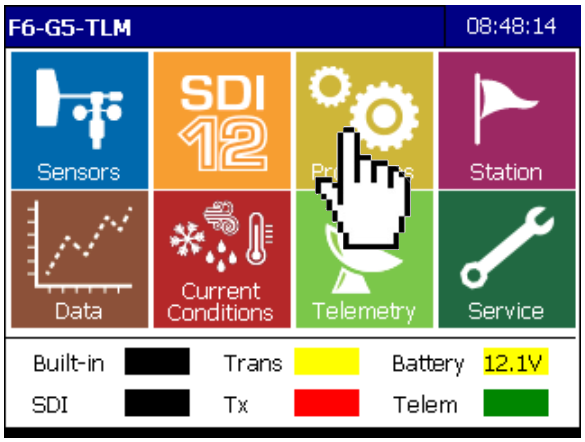

AirTalk Configuration Editor
15:54:26
Phrases
Messages
Alerts
DTMF
Languages
m1 [DTMF Code: 4537]

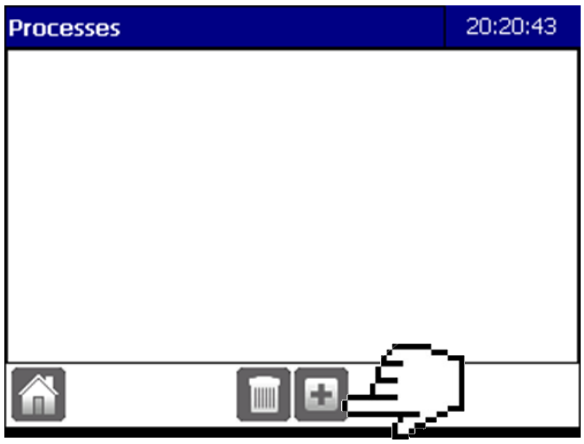
1.2.3 Creating a new alert

The following instructions shows creating a new alert with a variable threshold value in the trigger, but the variable has not yet been defined.

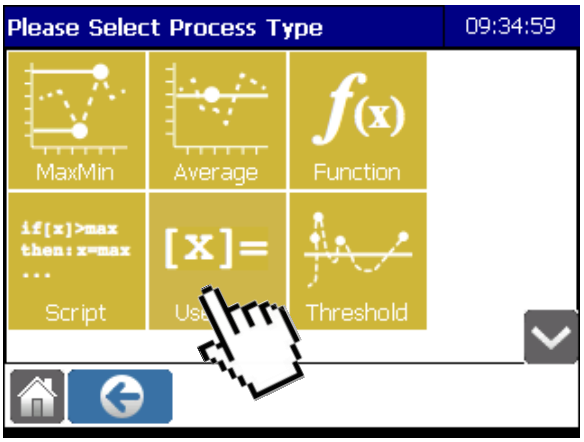
PART 1 – If the desired trigger variable does not exist then create the variable via the processes screen.

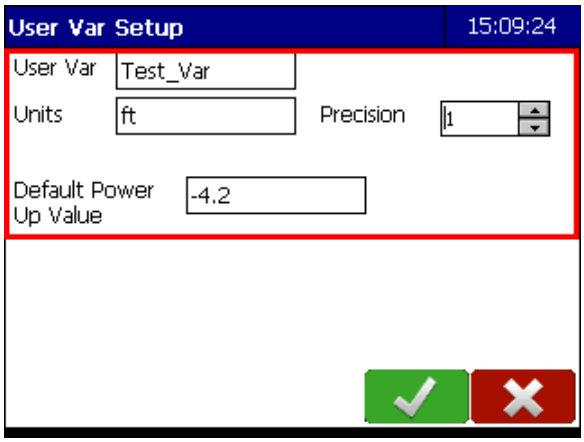
1. On the **Home** screen, tap **Processes** and then tap **Add** to add a new process



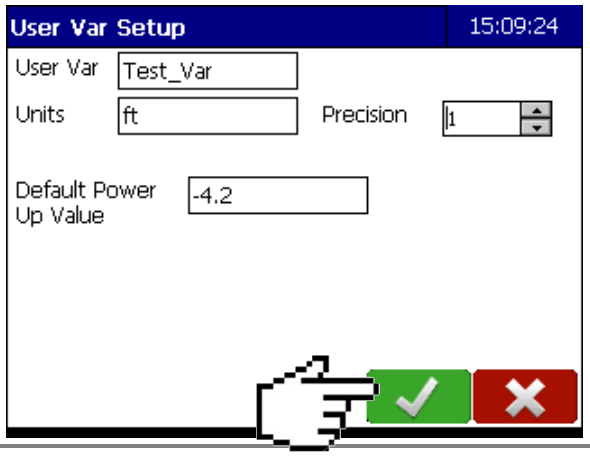


2. Select the process type (in this example **User Var** is selected) and then enter the necessary parameters (name, units, precision, and a default value(applied on power-up and when you click OK on this screen) for the User Var.



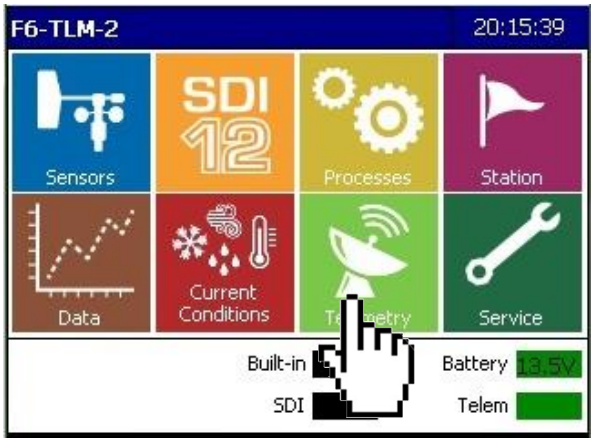


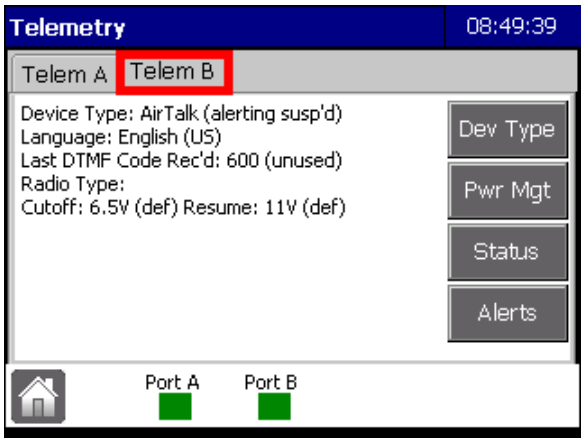
3. Tap **OK** to return to the processes screen and then tap **Home.**



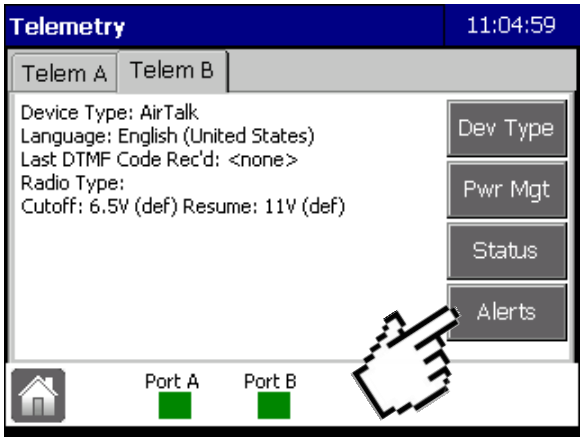
PART 2 – Creating a new alert.

1. On the **Home** screen, tap **Telemetry** and navigate to appropriate Telem tab (AirTalk is commonly on Telem port B).





2. Tap the **Alerts** button next to the Radio Voice Transmitter port.

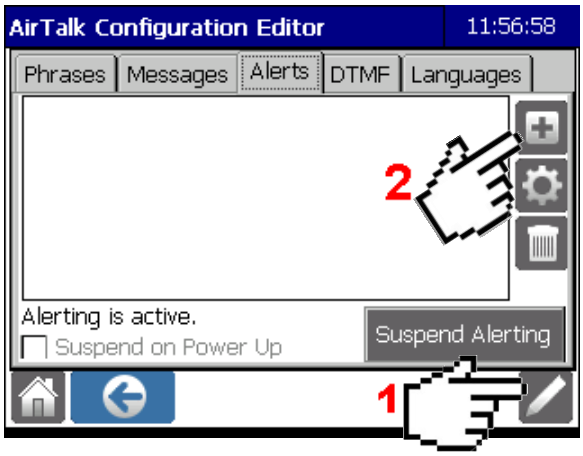


NOTE:

Alternately to selecting Alerts you can select:

Status > Setup > Alerts Tab

3. Tap **Edit** to enable the **Add** button. Tap **Add** to add a new message.



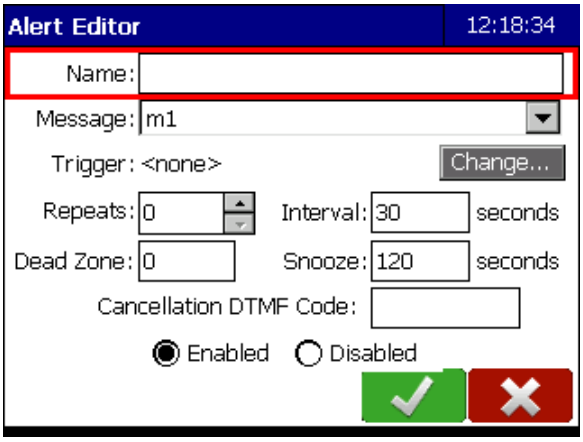
NOTE:

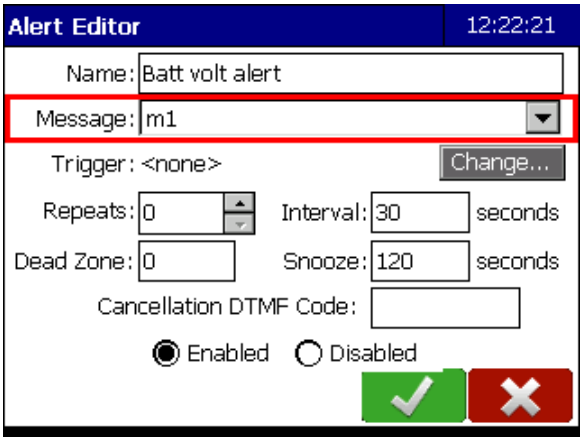
If no messages have yet been defined, a placeholder message must be created. Switch to the messages tab to create the placeholder message (message with no content).

For instructions on how to create a new message see Section 1.2.2.

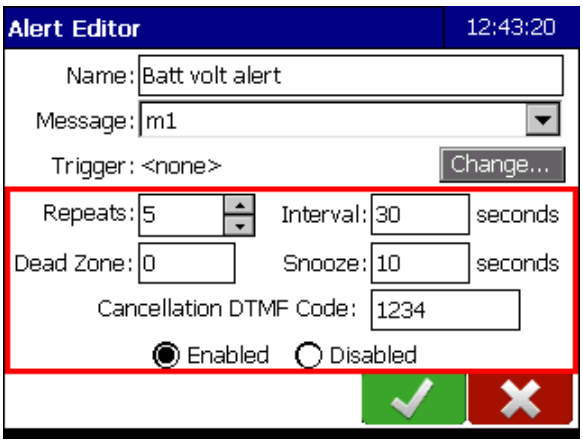
For further description on why a placeholder message is required see Section 1.1.4.2.

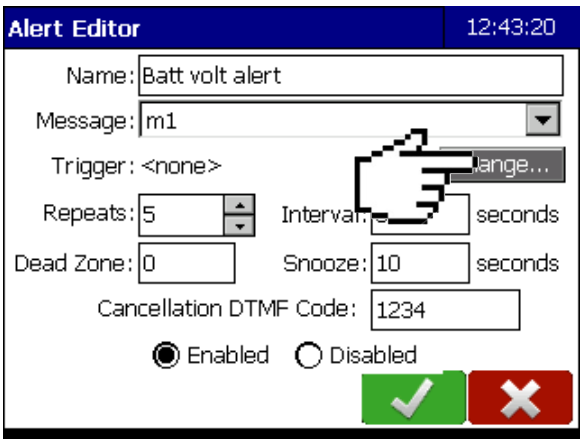
4. Enter a short, descriptive **Name** for the alert and select the message that this alert should send when triggered.



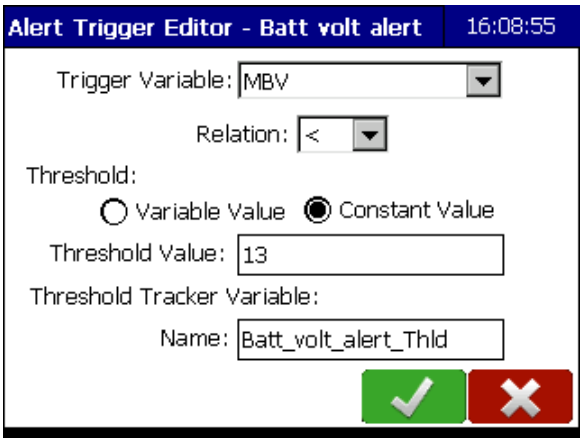


5. Enter the number of message **Repeats** (repeat count), the repeat **Interval,** the **Dead Zone** (if relevant for the chosen comparison operator - a dead zone of 0 is permitted), the **Snooze Time,** and if desired 2-, 3-, or 4-digit **Cancellation DTMF Code**. Click **Change…** to define the trigger condition





6. Select the **Trigger Variable** and **Relation** then select the **Threshold** type.



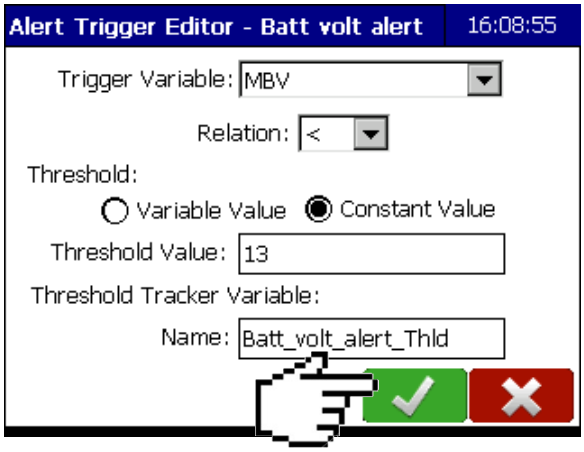
NOTE:

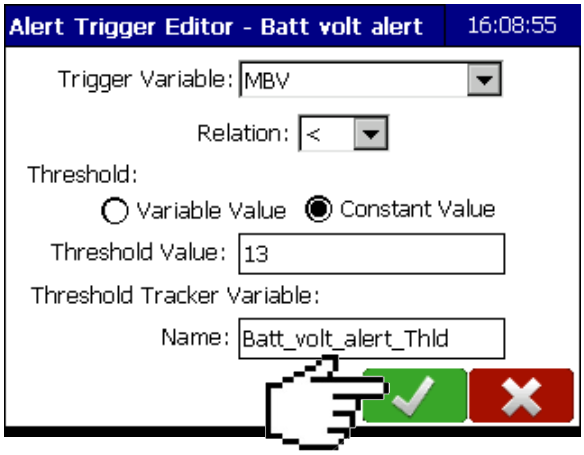
*If you select a **Constant Value Threshold** (the default), enter a **Threshold Value**. A constant value can only be changed from this screen.*

*If you select a **Variable Value Threshold**, select a **Threshold Variable** to supply that value.*

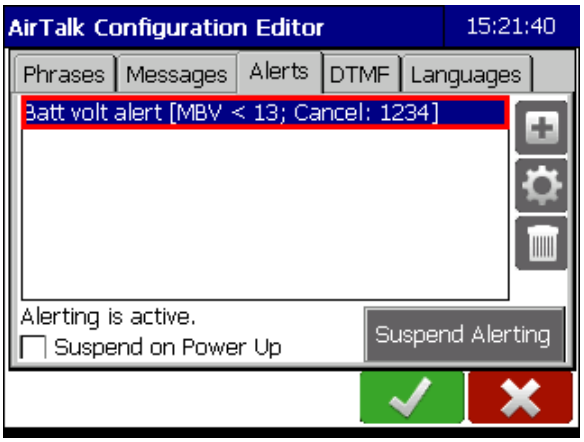
*The **Threshold Tracker Variable** name is initially set to the name of the alert followed by _Thld. Edit this value if you wish to use a different tracking variable name. (Only the name changes; the variable itself is the same.)*

7. Tap **OK** to accept the **Alert Trigger** settings then tap **OK** to accept the **Alert** settings.



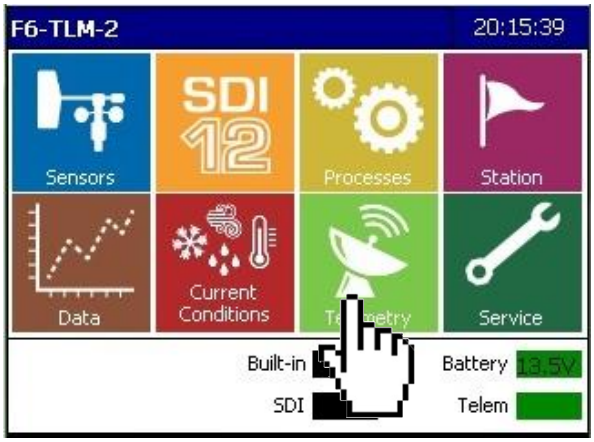


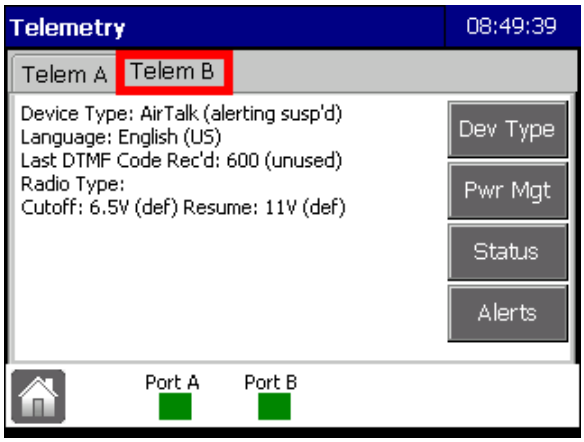
8. The **AirTalk Configuration Editor** screen appears, with the new alert listed. Tap **OK** and then **Home** to return to the home screen.



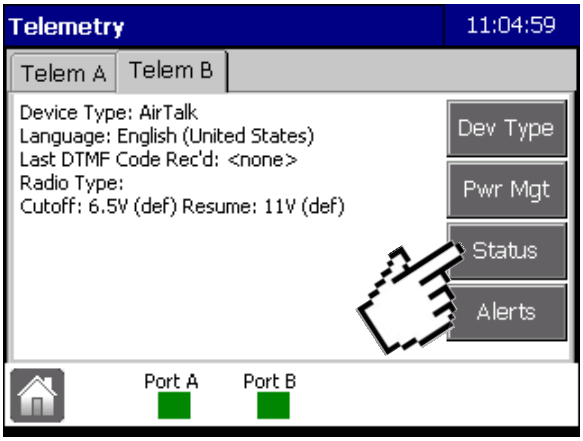
1.2.4 Modifying or deleting an existing phrase or phrasing

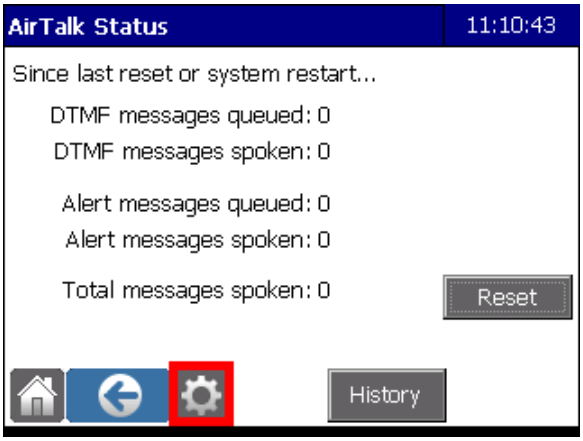
1. On the **Home** screen, tap **Telemetry** and navigate to appropriate Telem tab (AirTalk is commonly on Telem port B).



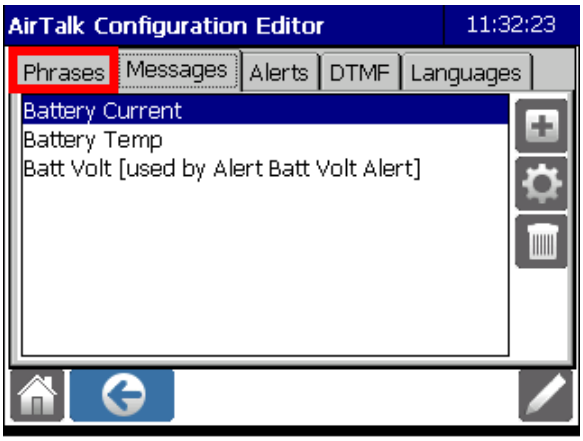


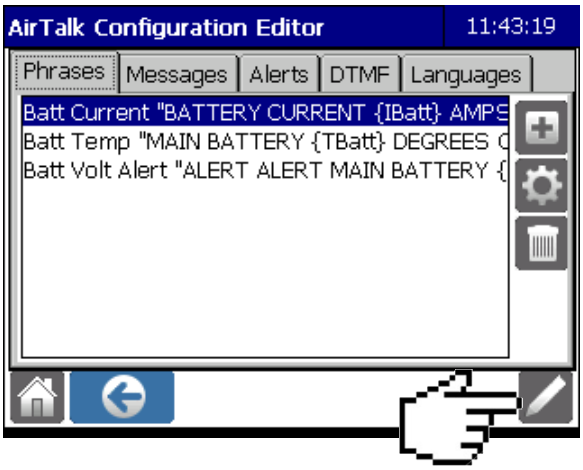
2. Tap the **Status** button next to the Radio Voice Transmitter port and then tap the **Setup** button.



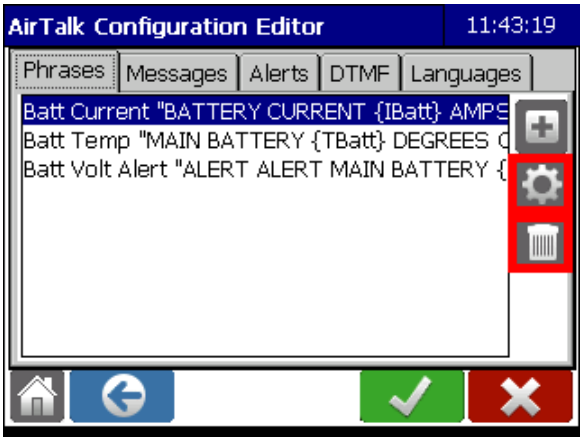


3. The **Messages** tab of the **AirTalk Configuration Editor** screen appears. Tap the **Phrases** tab, and then tap Edit.





4. The **Setup (modify)** and **Delete** buttons are now enabled. Select a phrase in the list and choose **Setup/Modify** or **Delete** as desired.



NOTE: the following instructions will be broken into 3 different options/parts, each of which take place following Step 4

***PART 1** – Delete a Phrase*

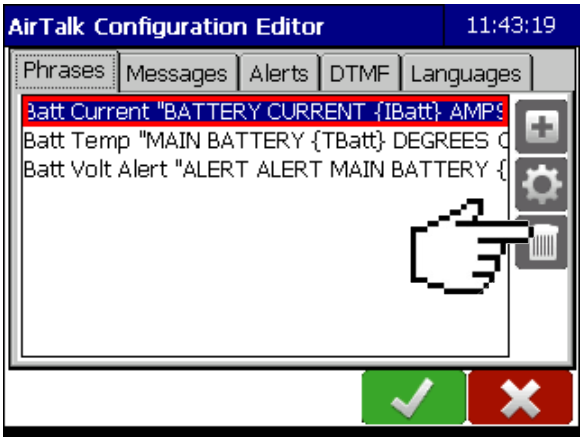
***PART 2** – Modify a Phrase and Phrasing*

***PART 3** – Modify a Phrase and Delete a Phrasing*

PART 1 – Delete a Phrase

WARNING: When you delete a phrase, it is deleted **permanently** from the datalogger.

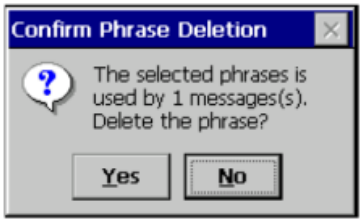
Select the phrase you wish to delete and then tap **Delete.** The phrase is permanently deleted and removed from the list.



NOTE:

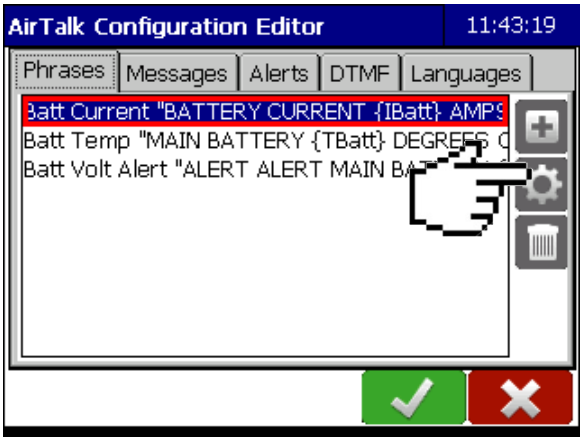
If the phrase is not used in any messages, no confirmation is required.

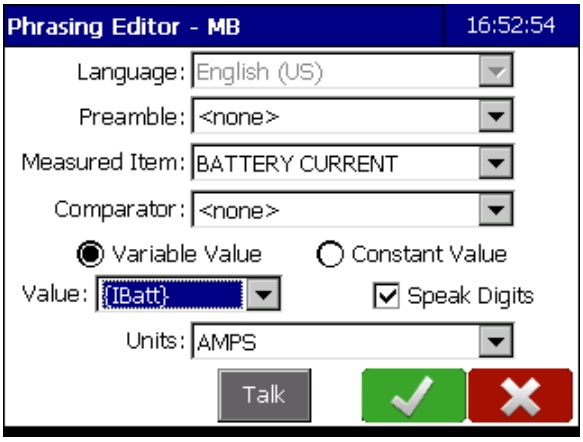
If the phrase is used in one or more messages, a confirmation dialog appears.



PART 2 – Modify a Phrase and Phrasing

To modify the phrase/phrasings select the phrase you wish to modify and then tap **Setup**. The **Phrasing Editor** appears allowing you to change any of the phrasing parameters. Tap **OK** to accept changes or **Cancel** to abort.

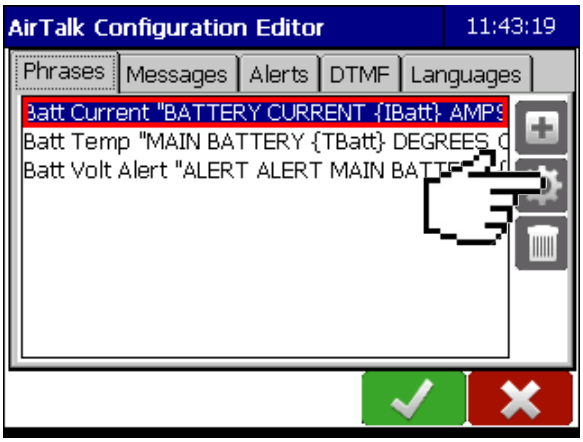




PART 3 – Modify a Phrase and Delete a Phrasing

> **WARNING:** When you delete a phrasing, it is deleted **permanently** from the datalogger.

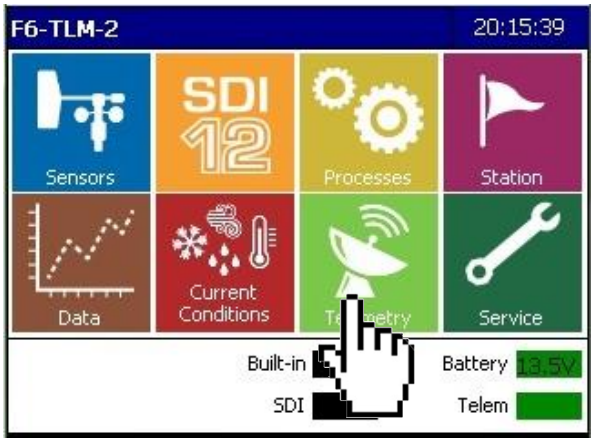
To modify the phrase/delete phrasings select the phrase you wish to modify and then tap **Setup**. Select the phrasing in the list you wish to delete and then tap **Delete.** The phrasing is removed from the list immediately. Tap **OK** to accept changes or **Cancel** to abort.

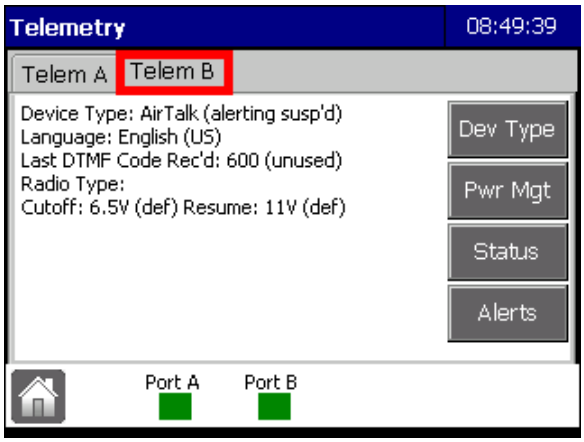


5. Tap **OK** from the Phrases tab to exit and return to the AirTalk Status screen.

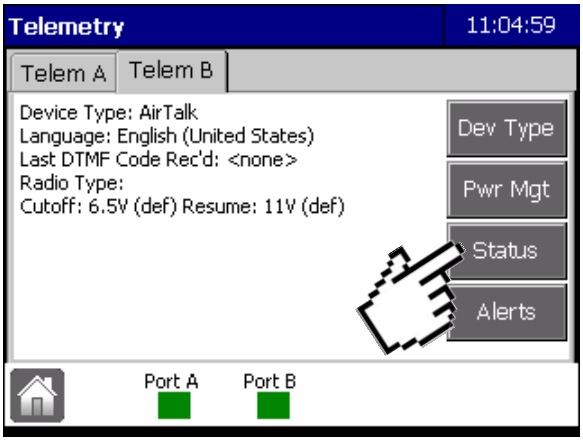
1.2.5 Modifying or deleting an existing message

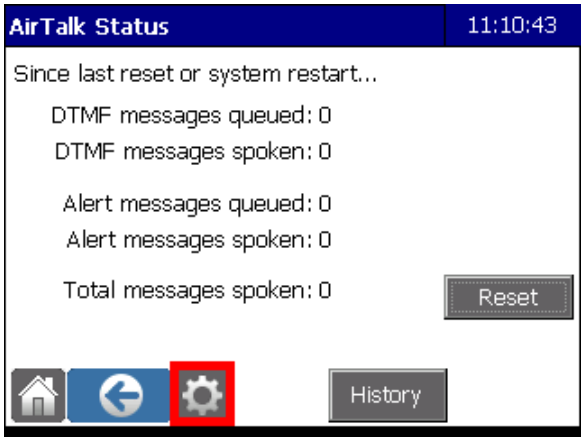
1. On the **Home** screen, tap **Telemetry** and navigate to appropriate Telem tab (AirTalk is commonly on Telem port B).



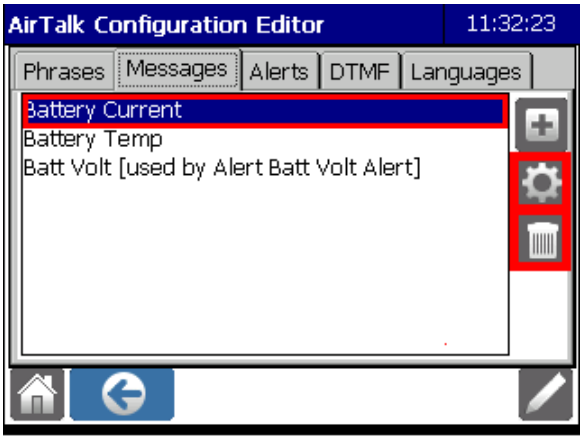


2. Tap the **Status** button next to the Radio Voice Transmitter port and then tap the **Setup** button.





3. The **Messages** tab of the **AirTalk Configuration Editor** screen appears. Tap **Edit** to enable the **Setup (modify)** button and **Delete** button. Select a phrase in the list and choose **Setup/Modify** or **Delete** as desired.



NOTE: the following instructions will be broken into 2 different options/parts, each of which take place following Step 3

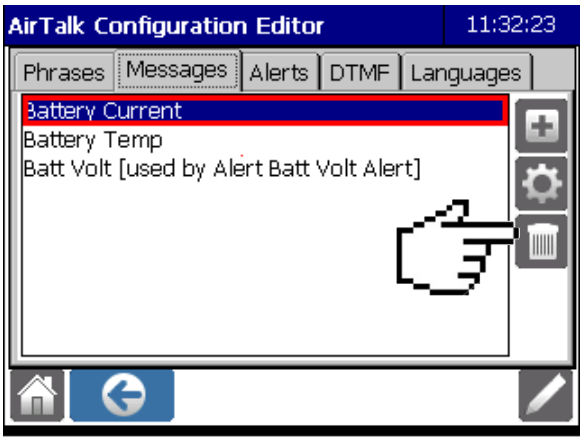
***PART 1** – Delete a message*

***PART 2** – Modify a mesasge*

PART 1 – Delete a Message

> **WARNING:** When you delete a message, it is deleted **permanently** from the datalogger.

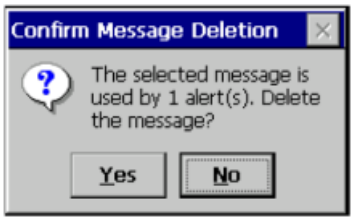
Select the message you wish to delete and then tap **Delete.** The message is permanently deleted and removed from the list.



NOTE:

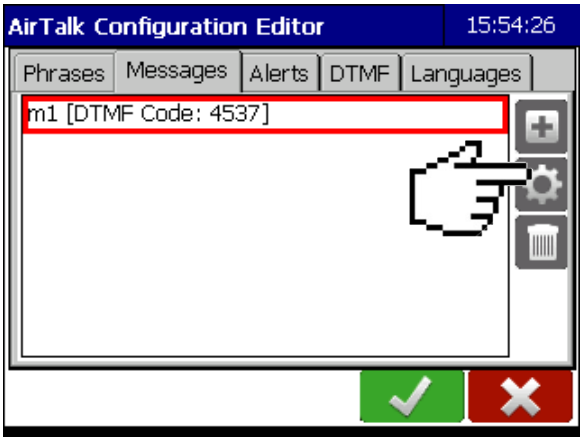
If the message is not used in any alerts, no confirmation is required.

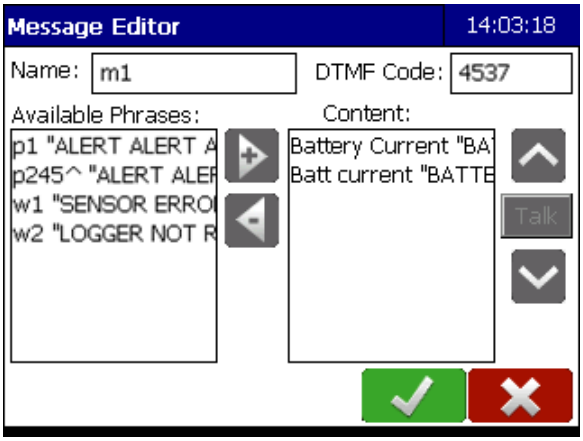
If the message is used in one or more alerts, a confirmation dialog appears.



PART 2 – Modify a Message

To modify a message select the message you wish to modify and then tap **Setup**. The **Message Editor** appears allowing you to change any of the phrasing parameters. Tap **OK** to accept changes or **Cancel** to abort.

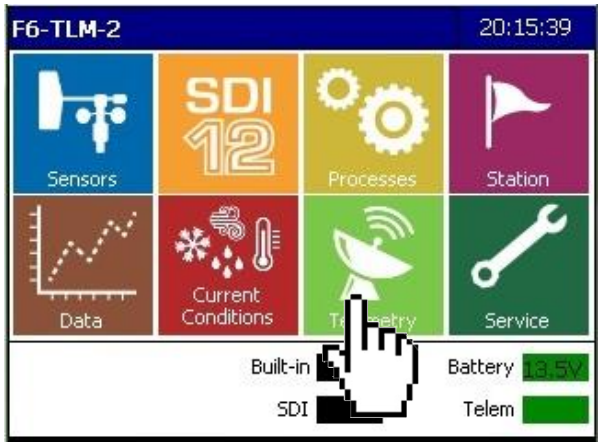


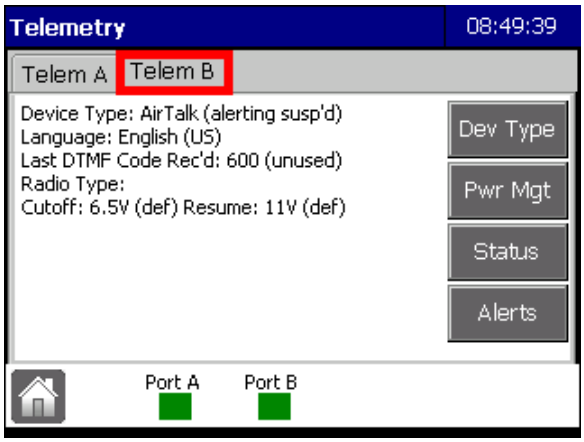


4. Tap **OK** from the Messages tab to exit and return to the AirTalk Status screen.

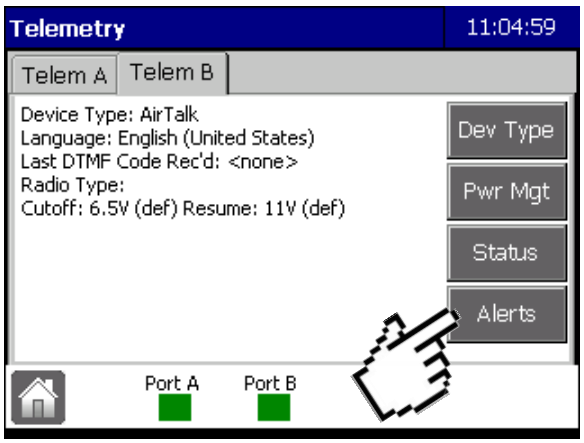
1.2.6 Modifying or deleting an existing alert

1. On the **Home** screen, tap **Telemetry** and navigate to appropriate Telem tab (AirTalk is commonly on Telem port B).





2. Tap the **Alerts** button next to the Radio Voice Transmitter port.

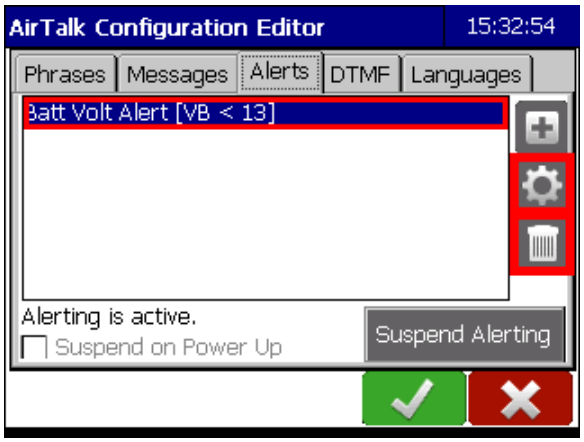


NOTE:

Alternately to selecting Alerts you can select:

Status > Setup > Alerts Tab

3. Tap **Edit** to enable the **Setup (modify)** button and **Delete** button. Select a phrase in the list and choose **Setup(Modify)** or **Delete** as desired.



NOTE: the following instructions will be broken into 2 different options/parts, each of which take place following Step 3

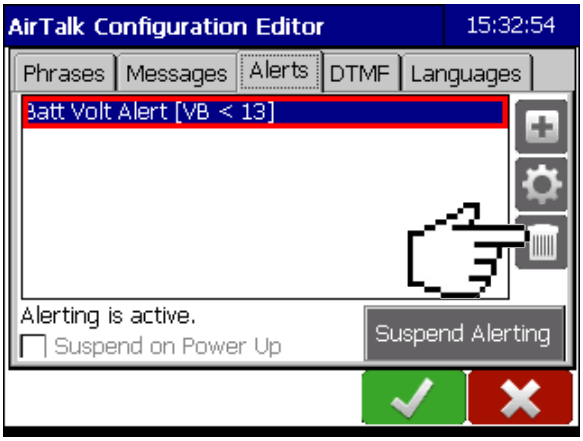
***PART 1** – Delete a alert*

***PART 2** –- Modify a alert*

PART 1 – Delete an Alert

> **WARNING:** When you delete an alert, it is deleted **immediately and permanently** from the datalogger.

Select the alert you wish to delete and then tap **Delete.** The alert is permanently deleted and removed from the list.

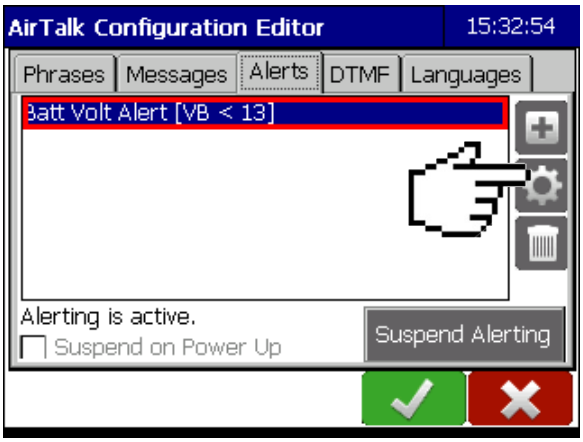


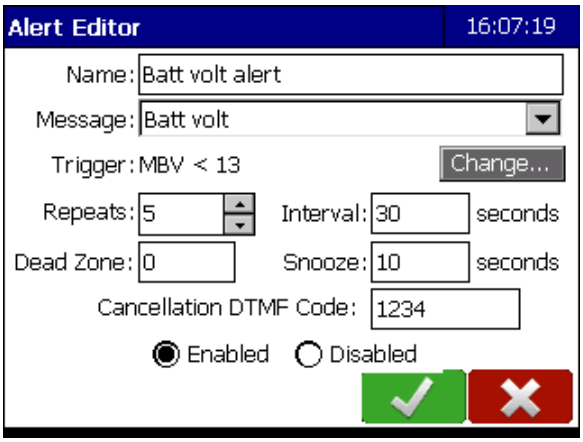
NOTE:

The alert is deleted immediately, without any intervening confirmation step.

PART 2 – Modify an Alert

To modify an alert select the alert you wish to modify and then tap **Setup.** The **Alert Editor** appears allowing you to change any of the alert parameters. Tap **OK** to accept changes or **Cancel** to abort.

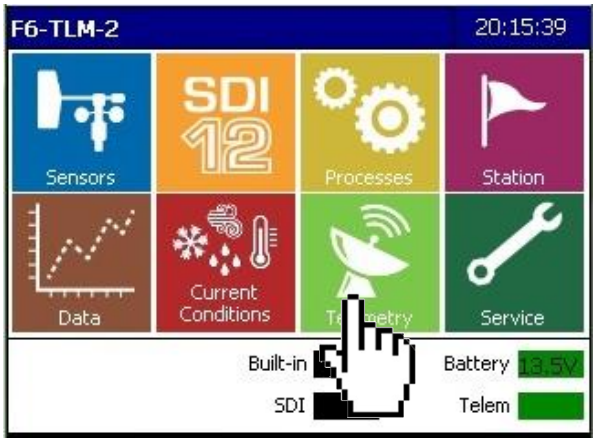


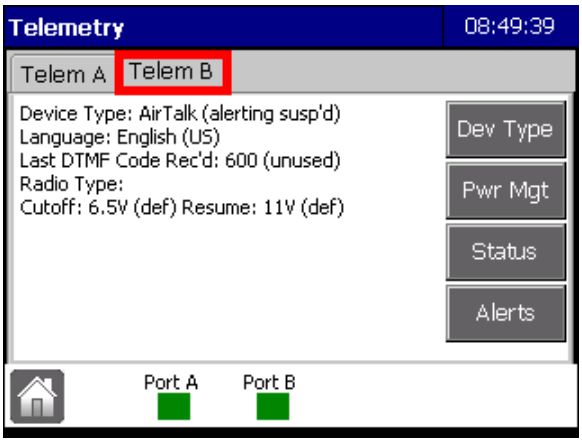


5. Tap **OK** from the Alerts tab to exit and return to the AirTalk Status screen.

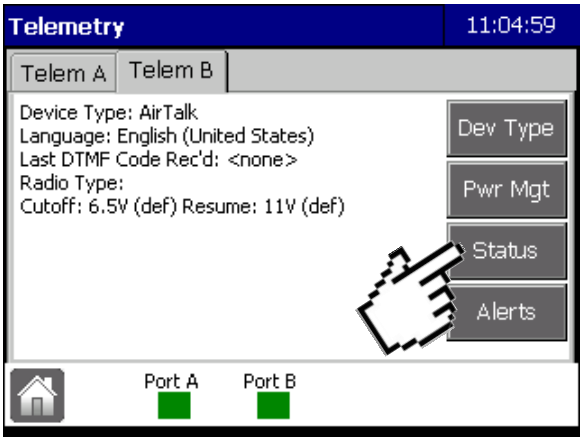
1.2.7 Selecting the current language

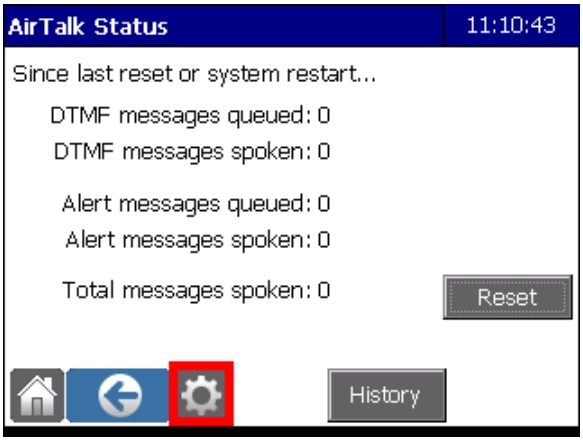
1. On the **Home** screen, tap **Telemetry** and navigate to appropriate Telem tab (AirTalk is commonly on Telem port B).



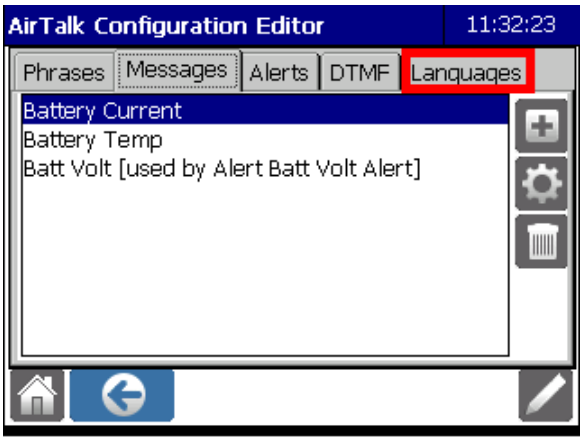


2. Tap the **Status** button next to the Radio Voice Transmitter port and then tap the **Setup** button.

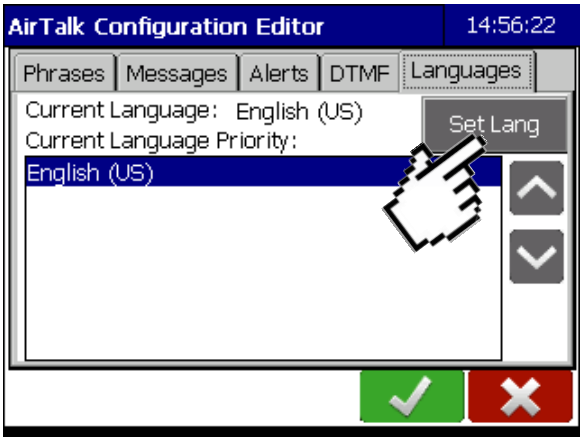


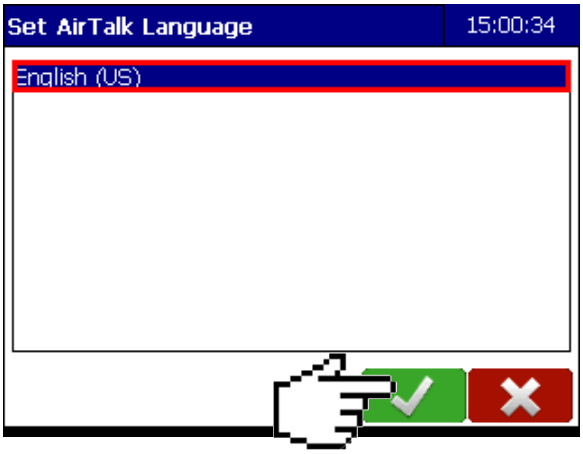


3. The **Messages** tab of the **AirTalk Configuration Editor** screen appears. Tap the **Languages** tab, and then tap **Edit**.

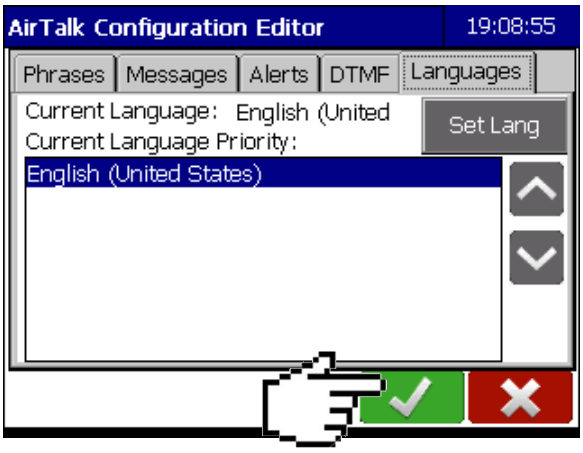


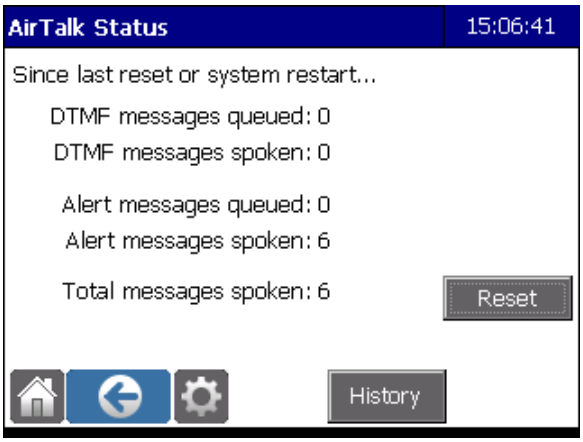
4. Tap **Set Lang** to launch the Set AirTalk Language screen. Select the desired language and then tap **OK.**





5. Tap **OK** exit edit mode and return to the **AirTalk Status** screen.





1.3 Configuration reference

1.3.1 Home screen (parts related to AirTalk)

Access: **Home**

Note: The Home screen has many functions. This section discusses only functions related to AirTalk.

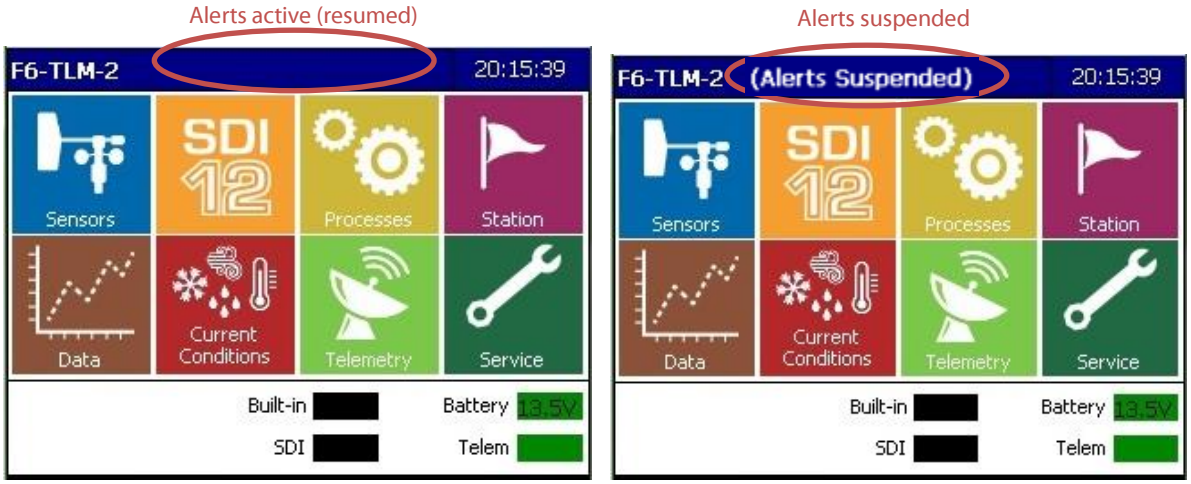


Figure 9: Home Screen with AirTalk Status

1.3.1.1 Indicators and controls

Alert suspend status

Displays text in screen title. Visible when alerts are suspended (see section 1.1.3.4.1).

Telem

Status indicator Telem . Always visible. Displays power information for the telemetry devices.

When the AirTalk extension is installed, the right half of this indicator shows power status for the AirTalk hardware (on the right, since AirTalk is always attached to Telemetry Port B).

Colour	Meaning
Green	Datalogger is supplying power to the AirTalk port
Red	Port power is turned off
Black	Port power is disabled

1.3.2 Telemetry Screen

Access: **Home ▶ Telemetry**

The **Telemetry** screen shows a summary of the telemetry devices connected to the datalogger in a tabbed format.

When the AirTalk extension is installed the applicable tab (usually Port B) displays a brief summary of AirTalk status, as shown in the figure below.

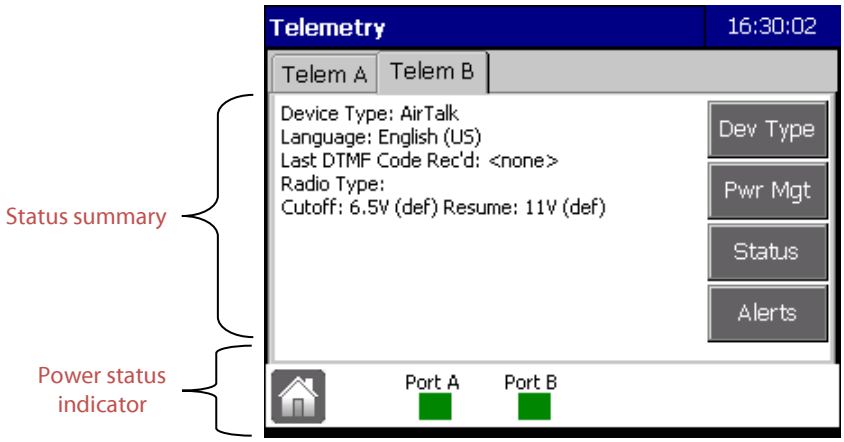


Figure 10: Telemetry screen - Port B with Air Talk installed

1.3.2.1 Indicators and controls

Power status indicator

Coloured display box (Port B). Always visible.

Colours are the same as for **Telem** status indicator on **Home** screen (see section 1.3.1.1).

Status summary

Display text. Always visible.

Summarizes configuration and current or recent events on AirTalk:

- **Device Type**: indicates an AirTalk device is connected to this port, followed optionally by a word describing its current state (initializing, stopped) if different than running normally.
- **Language**: Currently selected language (see section**Error! Reference source not found.**).
- **Last DTMF Code rec'd**: Displays the last DTMF code received via radio. If the DTMF code is not used (unassigned) in the current AirTalk configuration, the annotation "none" appears in parentheses following the code.
- **Radio Type**: Displays the type of radio connected to the AirTalk hardware (set in the **Factory Settings** screen, not normally modified by the user).
- **Cutoff**: Telemetry port power supply voltage cutoff value (Pwr Mgt setting at which the telemetry port power is turned off).
- **Resume**: Telemetry port power supply voltage resume value (Pwr Mgt setting at which the telemetry port power is turned back on – if it was previously in a low power mode from being below the cutoff value).

Dev Type

Button. Always enabled (visible for external telem types only).

Opens the **Telemetry Port Type** window for the telemetry port device type selection.

Pwr Mgt

Button. Always enabled.

Opens the **Power Management** screen for the telemetry port.

Status

Button. Always enabled.

Opens the **AirTalk Status** screen.

Alerts

Button. Always enabled.

Opens the **AirTalk Configuration Editor** screen – **Alerts** tab, for quick access to the Alerts Editor.

1.3.3 AirTalk Status screen

Access: **Home ▶ Telemetry ▶ Status**

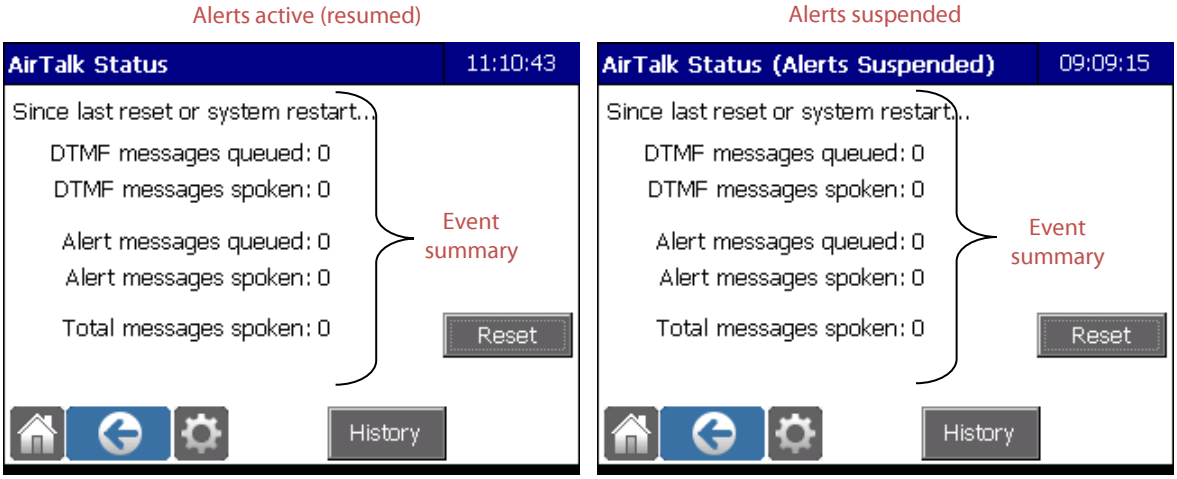


Figure 11: AirTalk Status screen

1.3.3.1 Indicators and Controls

Alert suspend status

Display text in screen title. Visible when alerts are suspended (see section 1.1.3.4.1).

Event summary

Display text.

Displays statistics on message events that have occurred on AirTalk since the last time the system was reset or the last time the **Reset** button was pressed. If a message is currently being spoken by AirTalk, further message requests are queued. Messages are spoken in the order they are queued. When the queue is empty, AirTalk stops transmitting.

Reset

Button. Always enabled.

Resets the "messages spoken" counts.

Back

Button. Always enabled.

Returns to the **Telemetry** screen.

Setup

Button. Always enabled.

Opens the **AirTalk Configuration Editor** screen.

History

Button. Always enabled.

Opens the **AirTalk History** screen.

Home

Button. Always enabled.

Returns to the **Home** screen.

1.3.4 AirTalk History screen

Access: **Home ▶ Telemetry ▶ Status ▶ History**

This screen displays a log of AirTalk activity.

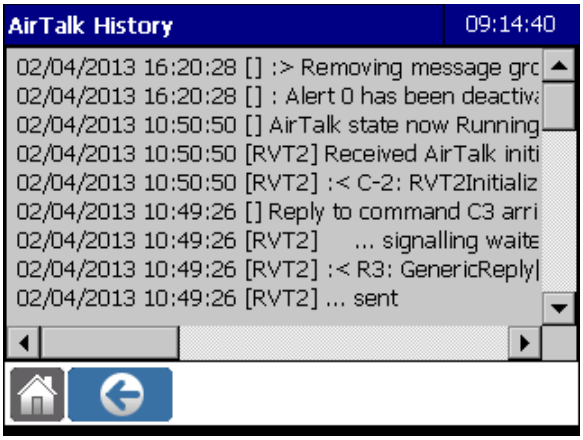


Figure 12: AirTalk History log

1.3.4.1 Indicators and controls

Back

Button. Always enabled.

Returns to the **AirTalk Status** screen.

Home

Button. Always enabled.

Returns to the **Home** screen.

1.3.5 AirTalk Configuration Editor screen – common elements

Access: **Home ► Telemetry ► Status ► Setup**

The **AirTalk Configuration Editor** screen consists of a set of tabs and a set of common controls. This section describes the common controls and features.

All **AirTalk Configuration Editor** screens (tabs) are either in **view mode** or **edit mode**. When a screen is in view mode, the user can see information but not modify it. When in edit mode, the user can modify it.

Figure 13: AirTalk Configuration Editor - common elements

1.3.5.1 Indicators and controls

Tabs

Opens the selected tab.

Back

Button. Always enabled.

Returns to the **AirTalk Status** screen.

Edit

Button. Enabled when the user has edit permission.

Places the screen (including tab contents) in edit mode.

Home

Button. Always enabled.

Returns to the **Home** screen.

1.3.6 AirTalk Configuration Editor screen – Phrases tab

Access: **Home ▶ Telemetry ▶ Status ▶ Setup ▶ Phrases**

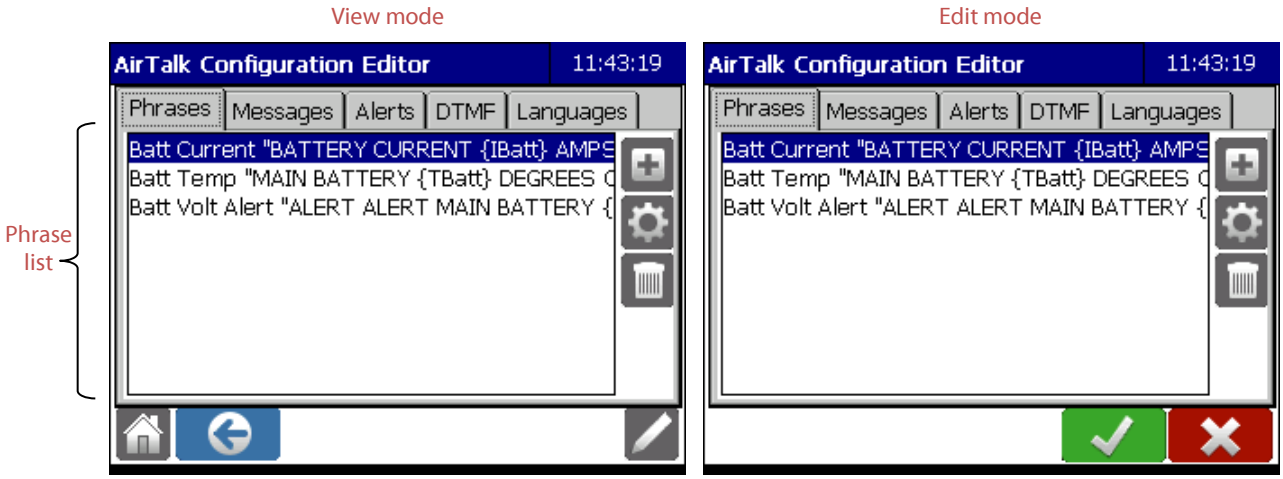


Figure 14: AirTalk Configuration Editor - Phrases tab

1.3.6.1 Indicators and controls

Phrase list

Single-select list. Always enabled.

Lists all phrases defined in the datalogger. For each phrase, the phrase's name and its (possibly abbreviated) content (in the AirTalk's current language) are displayed.

Add

Enabled in edit mode.

Opens the **Phrase Editor** screen in edit mode, with blank fields.

Setup

Visible in view mode. Enabled when a phrase is selected in the list.

Opens the **Phrase Editor** screen in current mode (view or edit), loaded with the selected phrase.

Delete

Enabled when in edit mode and a phrase is selected in the list.

Deletes the selected phrase. If the phrase is associated with one or more messages, a **Confirm Delete** dialog intervenes. If not, the phrase is deleted immediately.

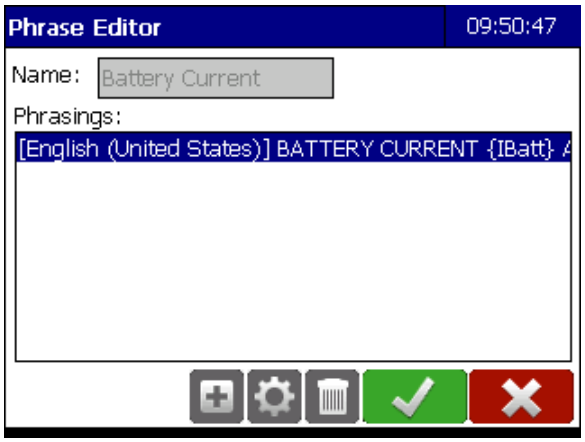
Deletion is permanent (not undoable).

1.3.7 Phrase Editor screen

Access:

Home ▶ Telemetry ▶ Status ▶ Setup ▶ Phrases ▶ Setup (view or edit mode)

View mode



Edit mode

Figure 15: Phrase Editor screen

1.3.7.1 Indicators and controls

Name

Textbox.

Displays/edits the name for the phrase. Name must be unique amongst all phrases.

Phrasings

Single-select list. Always enabled.

Lists the names of all currently defined phrasings for the phrase. The language of each phrasing is shown as well as its (possibly abbreviated) content.

Add

Enabled in edit mode.

Opens the **Phrasing Editor** screen in edit mode, with blank fields.

Setup

Enabled when a phrasing is selected in the list.

Opens the **Phrasing Editor** screen in current mode (view or edit), loaded with the selected phrasing.

Delete

Enabled when in edit mode and a phrasing is selected in the list.

Deletes the selected phrasing immediately (no confirmation dialog).

Deletion is permanent (not undoable).

OK

Button. Always enabled.

Commits changes made in this dialog by adding, changing or deleting phrasings, and returns to the **AirTalk Configuration Editor – Phrases** screen. Changes are not committed until this button is pressed.

Cancel

Button. Always enabled.

Cancels all changes made in this dialog and returns to the **AirTalk Configuration Editor – Phrases** screen.

1.3.8 Phrasing Editor screen

Access:

Home ▶ Telemetry ▶ Status ▶ Setup ▶ Phrases ▶ Setup ▶ Setup (view or edit mode)

Each of **Preamble**, **Measured Item**, **Comparator**, **Value**, and **Units** corresponds to one "part" of the vocabulary. Each of these controls is initialized to contain its part of the vocabulary, along with the additional entry "<none>". If the phrasing contains an item of that part, that item is selected in the combo box. Otherwise "<none>" is selected.

In English, a phrasing defined on this screen is spoken in the following form:

<Preamble>. <Measured Item> <Comparator> <Value> <Units>.

Example:

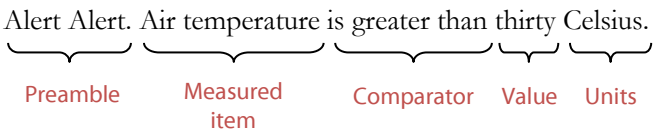


Figure 16: Example phrasing

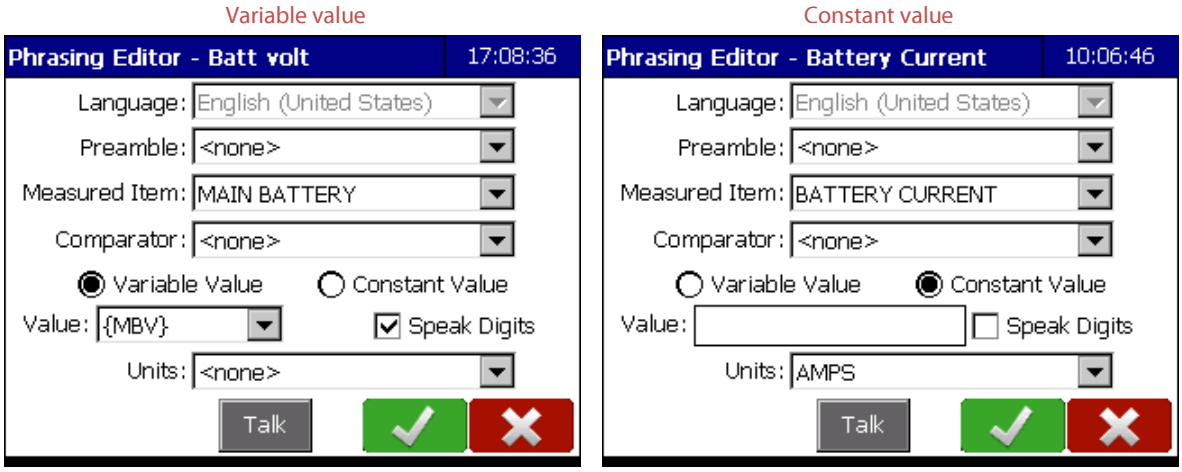


Figure 17: Phrasing Editor screen

1.3.8.1 Indicators and controls

Language

Drop-down selector. Enabled when and only when creating a new phrasing.

Displays/edits the language for this phrasing. When editing (creating a new phrasing), the selections are limited to those languages for which a phrasing does not already exist for the parent phrase.

When the user changes this value, **Preamble**, **Measured Item**, **Comparator**, **Value**, and **Units** are set to **<none>**.

Preamble

Drop-down selector. Enabled when in edit mode.

Measured Item

Drop-down selector. Enabled when in edit mode.

This item should correspond to **Value** on this screen (e.g. AIR TEMPERATURE and AirTemp). This condition cannot be checked automatically, so the user must ensure **Measured Item** and **Value** are consistent with each other.

Comparator

Drop-down selector. Enabled when in edit mode.

Variable Value / Constant Value

Radio buttons. Enabled when in edit mode.

Selects the type of **Value**, and the control for it.

Variable Value causes **Value** to be retrieved from a datapoint in the datalogger memory, selected by the **Value** control.

Constant Value causes **Value** to be determined by a fixed sequence of numbers or phonetic alphabet letters ("Alpha," "Bravo," "Charlie," etc.), entered in the **Value** control.

Value

Enabled when in edit mode. Drop-down selector when **Data Point Value** selected. Text box when **Constant Value** selected.

When **Constant Value** is selected, the user must enter a space-separated sequence of one or more numbers or words. See notes below for details.

Speak Digits

Checkbox. Enabled when in edit mode.

When selected, numeric values are spoken as separate digits. Example: 137 is spoken as "one three seven."

When unselected, numeric values are spoken as compound words. Example: 137 is spoken as "one hundred thirty-seven."

Units

Drop-down selector. Enabled when in edit mode.

OK

Button. Always enabled.

Accepts but does not commit changes made in this dialog and returns to the **Phrase Editor** screen. Changes are not committed until the **OK** button in the **Phrase Editor** screen is pressed.

Talk

Button. Always enabled.

If the phrasing is valid, sends the Phrasing to the AirTalk hardware, on which it is spoken. If the phrasing is invalid, the user is informed and the Phrasing is not spoken.

Cancel

Button. Always enabled.

Cancels all changes made in this dialog and returns to the **Phrase Editor** screen.

1.3.8.2 Validity conditions

A Phrasing must have at least either a **Preamble** part or both a **Measured Item** part and a **Value** part. It may have anything in addition to these minimums.

1.3.8.3 Constant values

A constant value is a sequence of one or more numbers or words separated by spaces.

A number is any decimal number possibly prefixed by a minus sign. (Plus signs are allowed but not spoken.) Numbers are spoken just as they are spoken as data values (including the effect of the "Check Digits" box.)

A word is a sequence of one or more letters and/or digits, without spaces. It must contain at least one letter (or else it's considered a number.) If the word happens to be a NATO phonetic alphabet member (e.g. “bravo”; see below) that word is spoken. Otherwise, the individual letters are spoken as phonetic alphabet letters. Digits are spoken individually (even if there's a sequence of them.)

Examples

alfa 23.25 hotel	alfa twenty-three point two five hotel (if **Speak Digits** is not checked)
alfa 23.25 hotel	alfa two three point two five hotel (if **Speak Digits** is checked)
fts	foxtrot tango sierra
fts23	foxtrot tango sierra two three (regardless of the setting of **Speak Digits**)
1635 maple	one six three five mike alfa papa lima echo (if **Speak Digits** is checked)

NATO phonetic letters:

A — Alfa
B — Bravo
C — Charlie
D — Delta
E — Echo
F — Foxtrot
G — Golf
H — Hotel
I — India
J — Juliet
K — Kilo
L — Lima
M — Mike
N — November
O — Oscar
P — Papa
Q — Quebec
R — Romeo
S — Sierra
T — Tango
U — Uniform
V — Victor
W — Whiskey
X — Xray
Y — Yankee
Z — Zulu

1.3.9 AirTalk Configuration Editor scr – Messages tab

Access: **Home ▶ Telemetry ▶ Status ▶ Setup ▶ Messages**

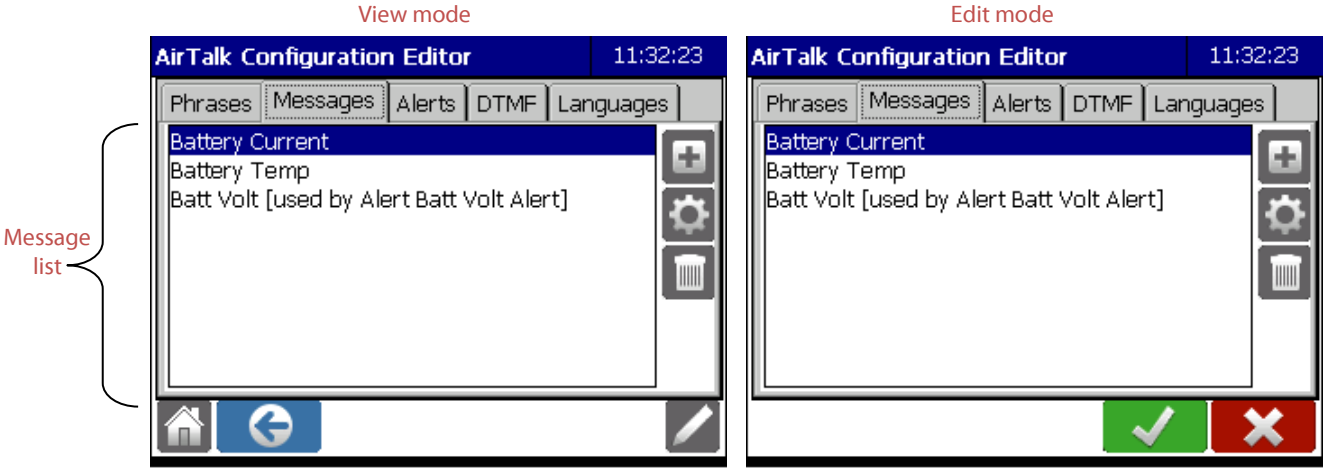


Figure 18: AirTalk Configuration Editor screen - Messages tab

1.3.9.1 Indicators and controls

Message list

Single-select list. Always enabled.

Lists all messages defined in the datalogger. For each message, displays its name, DTMF code (if any), and the alerts that use it (the name of the alert if just one; the number of alerts if more than one).

Add

Enabled in edit mode.

Opens the **Message Editor** screen in edit mode, with blank fields.

Setup

Always visible. Enabled when a message is selected in the list.

Opens the **Message Editor** screen in current mode (view or edit), loaded with the selected message.

Delete

Enabled when in edit mode and a message is selected in the list.

Deletes the selected message. If the message is associated with one or more alerts, a **Confirm Delete** dialog intervenes. If not, the message is deleted immediately.

Deletion is permanent (not undoable).

1.3.10 Message Editor screen

Access:
Home ► Telemetry ► Status ► Setup ► Messages ► Setup (view or edit mode)

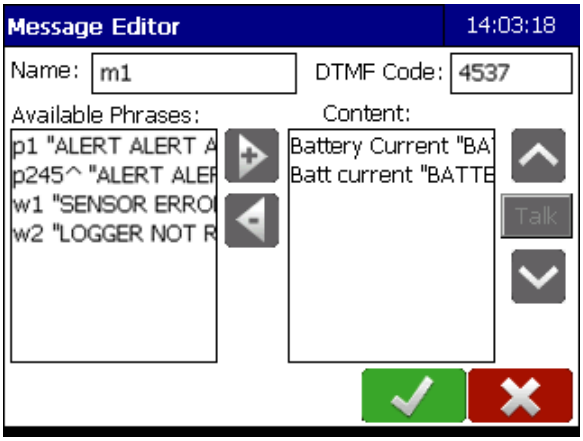


Figure 19: Message Editor screen

1.3.10.1 Indicators and controls

Name

Textbox.

Displays/edits the name for the message. Name must be unique amongst all messages.

DTMF Code

Textbox. Enabled in edit mode.

DTMF codes can be 2 to 4 digits long.

Content

Single-select list. Enabled (selection) in edit mode.

Lists the names of all phrases in the message, in order of speaking.

A message can have no more than 15 phrases.

Up

Button. Enabled when in edit mode and a phrase not at the top of the list is selected.

Moves the current selection in the **Content** list up one line.

Down

Button. Enabled when in edit mode and a phrase not at the bottom of the list is selected.

Moves the current selection in the **Content** list down one line.

Available Phrases

Single-select list. Enabled (selection) in edit mode.

Lists all phrases available for use in messages. For each phrase, the phrase name and a possibly abbreviated text string representing the message in the current language are listed.

Move Right Arrow

Button. Enabled when in edit mode and a phrase is selected in **Available Phrases**.

Adds the current selection in **Available Phrases** to **Content**. If no item is selected in **Content**, the phrase is added to the end of **Content**. If an item is selected in **Content**, the phrase is added before (above) it. **Available Phrases** remains unchanged. A phrase can be added more than once to the same message.

Move Left Arrow

Button. Enabled when in edit mode and a phrase is selected in **Content**.

Removes the selected item from **Content**. **Available Phrases** remains unchanged.

1.3.11 AirTalk Configuration Editor screen – Alerts tab

Access: **Home ▶ Telemetry ▶ Status ▶ Setup ▶ Alerts**

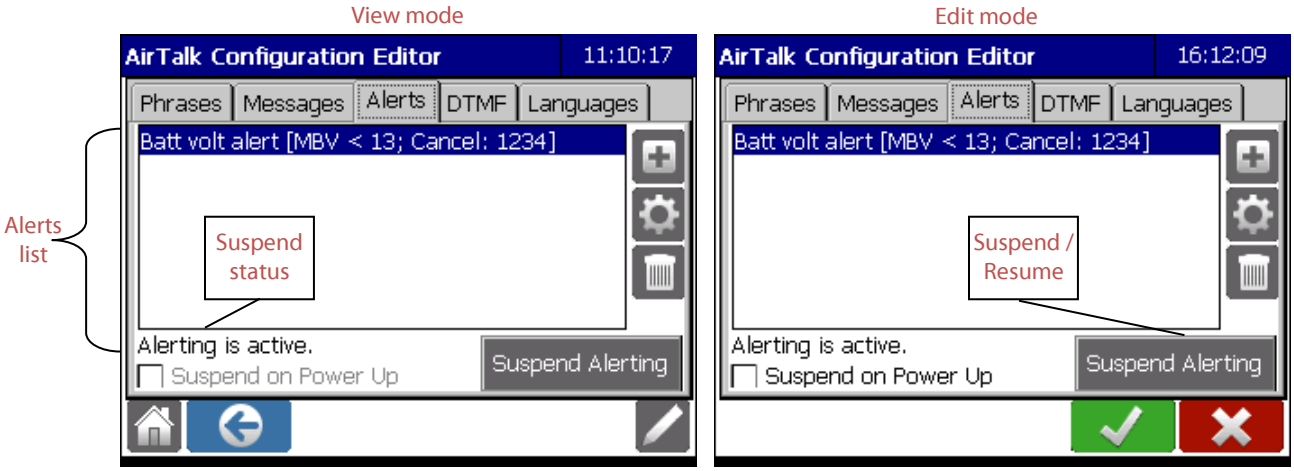


Figure 20: AirTalk Configuration Editor screen - Alerts tab

1.3.11.1 Indicators and controls

Alerts list

Single-select list. Always enabled.

Lists all alerts defined in the datalogger. For each alert, the alert's name and its trigger condition are displayed.

Suspend Alerting

Button. Visible when alerting is active.

Suspends alerting and is replaced by Resume Alerting button.

Resume Alerting

Button. Visible when alerting is suspended.

Resumes (activates) alerting and is replaced by Suspend Alerting button.

Suspend Alerting on Power Up

Checkbox. Enabled in edit mode.

Sets the initial behaviour for alerting (active or suspended) when the datalogger powers up.

Add

Button. Enabled in edit mode.

Opens the **Alert Editor** screen in edit mode, loaded with default values.

Setup

Button. Always visible. Enabled when an alert is selected in the list.

Opens the **Alert Editor** screen in current mode (view or edit), loaded with the selected alert.

Delete

Button. Enabled when in edit mode and an alert is selected in the list.

Deletes the selected alert immediately (no **Confirm Delete** dialog intervenes).

Deletion is permanent (not undoable).

1.3.12 Alert Editor screen

Access:

Home ▶ Telemetry ▶ Status ▶ Setup ▶ Alerts ▶ Setup (view or edit mode)

For an explanation of the meanings of **Trigger Condition**, **Repeats**, **Interval**, **Dead Zone**, and **Snooze Time**, see section 1.1.3.2 Alerts.

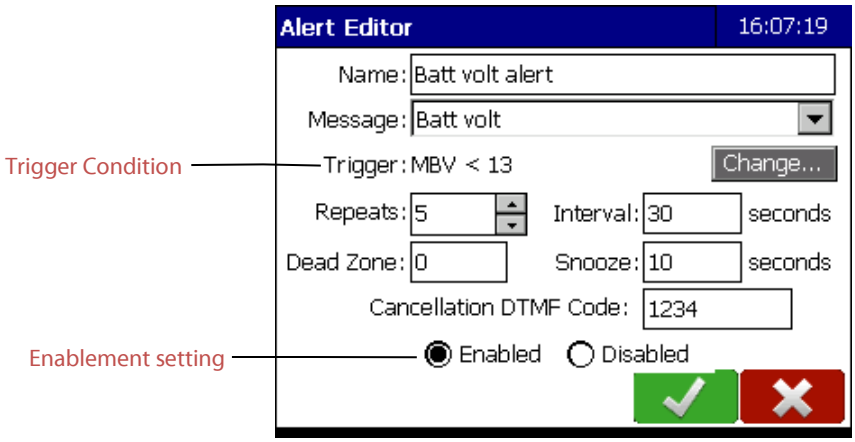


Figure 21: Alert Editor screen

1.3.12.1 Indicators and controls

Name

Textbox.

Displays/edits the name for the alert. Name must be unique amongst all alerts.

Message

Drop-down selector. Enabled when in edit mode.

Lists all defined messages in the datalogger.

Trigger Condition

Display. Always visible.

Displays the current trigger condition. (To modify, click **Change…**).

Change…

Button. Always enabled.

Opens the **Alert Trigger Editor** screen.

Repeats

Textbox with spinners. Enabled when in edit mode.

Displays/edits number of times to repeat transmission of the message when the alert is triggered.

Interval

Textbox. Enabled when in edit mode.

Displays/edits the time interval (in seconds) between repeat transmissions of the message when the alert is triggered.

Dead Zone

Textbox. Enabled when in edit mode.

Displays/edits dead zone value (floating point number) for alert triggering evaluation.

Snooze Time

Textbox. Enabled when in edit mode.

Displays/edits snooze time (seconds) for alert triggering evaluation.

Cancellation DTMF Code

Textbox. Enabled when in edit mode.

Displays/edits DTMF code used to cancel alert message repeat transmissions.

DTMF codes must be 2 to 4 digits long. Alerts can share a common cancellation code. However a cancellation code cannot be the same as a message transmission code.

Enabled / Disabled

Radio button group. Always enabled.

Enablement setting for the alert.

Enabled: The alert is enabled.

Disabled: The alert is disabled.

For information about enabling and disabling alerts, see section 1.1.3.4 **Error! Reference source ot found.**, Controlling whether alerts are transmitted.

OK

Button. Always enabled.

Commits changes made in this dialog and returns to the **AirTalk Configuration Editor – Alerts** screen, providing the defined alert is valid (see below). Changes are not committed until this button is pressed.

Cancel

Button. Always enabled.

Cancels all changes made in this dialog and returns to the **AirTalk Configuration Editor – Alerts** screen.

1.3.12.2 Validity Conditions

Name must not be the name of any other defined alert.

Selections must be made in **Message**, **Trigger Condition**.

Snooze Time must be either empty or an integer at least 0 (seconds).

Interval must be integer at least 20 (seconds); if **Repeat Count** is zero, then **Interval** may be blank.

Dead Zone must be either empty or a floating point number at least 0.

Cancellation DTMF Code must be either empty or between two and four digits.

1.3.13 Alert Trigger Editor screen

Access: **Home ▶ Telemetry ▶ Status ▶ Setup ▶ Alerts ▶ Edit ▶ Select Alert ▶ Setup ▶ Alert Editor ▶ Change…**

For an explanation of the meanings of **Trigger Variable**, **Relation**, and **Threshold**, see section 1.1.3.2 Alerts.

Briefly, this screen defines the condition on which an alert may be triggered (depending also on additional conditions; see section 1.1.3.2**Error! Reference source not found.**). The condition has the orm of an arithmetic comparison (less, greater, equals, etc.):

Variable Relation Threshold is satisfied when the value of *Variable* satisfies the specified relation to *Threshold*.

Example: VB *(Variable)* < *(Relation)* 13 *(Threshold)* (shown below in constant threshold screen shot).

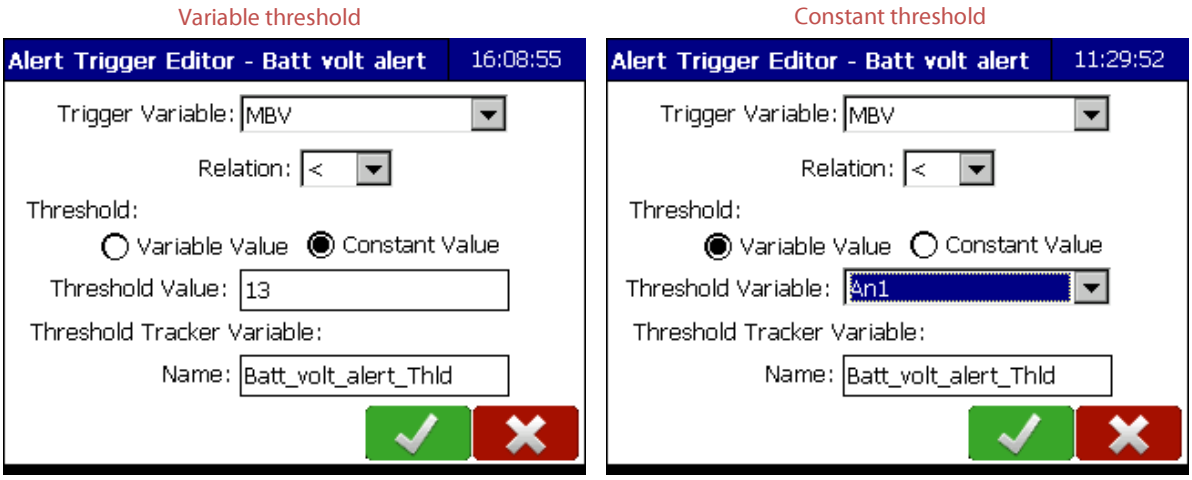


Figure 22: Alert Trigger Editor – Change screen

1.3.13.1 Indicators and controls

Trigger Variable

Drop-down list. Enabled in edit mode. Lists all defined datapoints (variables) in the datalogger.

Determines the variable in the trigger condition.

Relation

Drop-down list. Enabled in edit mode. Lists all arithmetic relations (less, greater, equal and their negations).

Determines the relation in the trigger condition.

Threshold

Radio button set.

Variable Value displays the controls for selecting a variable defined in the datalogger as the threshold in the trigger condition.

Constant Value displays the controls for setting a constant value as the threshold in the trigger condition.

Threshold Variable

Drop-down list. Enabled in edit mode. Visible when **Threshold** is set to **Variable Value**.

Lists all defined datapoints (variables) in the datalogger. Determines the datapoint whose value is used as the threshold in the trigger condition.

Threshold Value

Textbox. Enabled in edit mode. Visible when **Threshold** is set to **Constant Value**.

Determines the fixed constant value used as the threshold in the trigger condition.

Threshold Tracker Variable

Textbox. Enabled in edit mode.

Sets the name of the datapoint that tracks (duplicates) the value of the threshold setting (whether set by a variable or constant) used in the trigger condition.

1.3.14 AirTalk Configuration Editor screen – DTMF tab

Access: **Home ► Telemetry ► Status ► Setup ► DTMF**

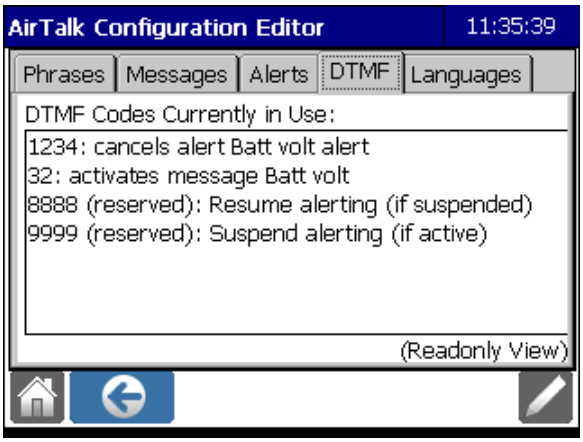


Figure 23: AirTalk Configuration Editor screen - DTMF tab

1.3.14.1 Indicators and controls

DTMF Codes Currently in Use

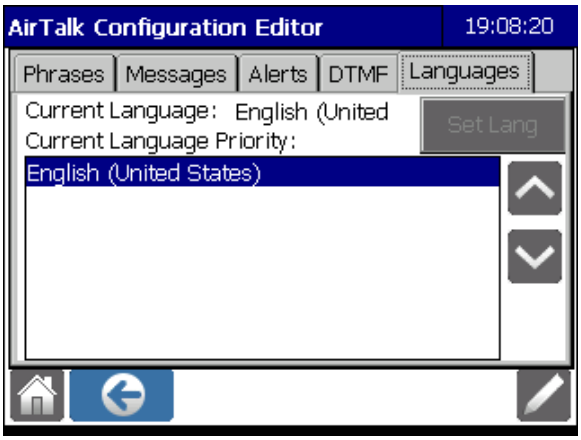
Lists all DTMF codes that are currently in use by the AirTalk configuration. The list includes DTMF codes that

- trigger messages
- cancel alerts
- resume alerting (reserved code 8888)
- suspend alerting (reserved code 9999)

1.3.15 AirTalk Configuration Editor screen – Languages tab

Access: **Home ▶ Telemetry ▶ Status ▶ Setup ▶ Languages**

View mode



Edit mode

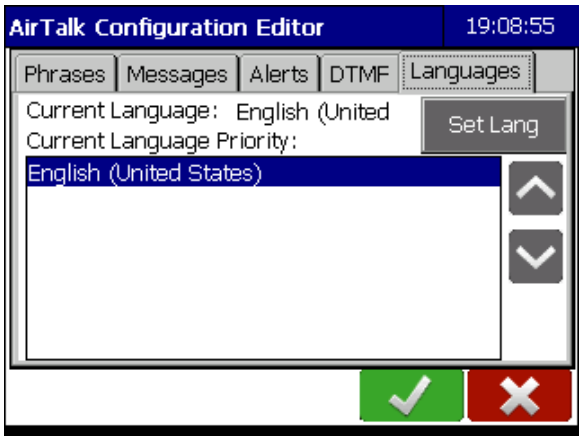


Figure 24: AirTalk Configuration Editor screen - Languages tab

1.3.15.1 Indicators and controls

Current Language

Display text.

Displays the currently selected language for AirTalk transmissions.

Set Lang

Button. Enabled in edit mode.

Opens the **Set AirTalk Language** dialog.

Current Language Priority

Enabled (selection) in edit mode.

A single-select list showing all supported languages in priority order.

Up

Button. Enabled when in edit mode and a language not at the top of the list is selected.

Moves the current selection in the **Current Language Priority** list up one line.

Down

Button. Enabled when in edit mode and a language not at the bottom of the list is selected.

Moves the current selection in the **Current Language Priority** list down one line.

1.3.16 Set AirTalk Language screen

Access: **Home ▶ Telemetry ▶ Status ▶ Setup ▶ Edit ▶ Languages ▶ Set Lang**

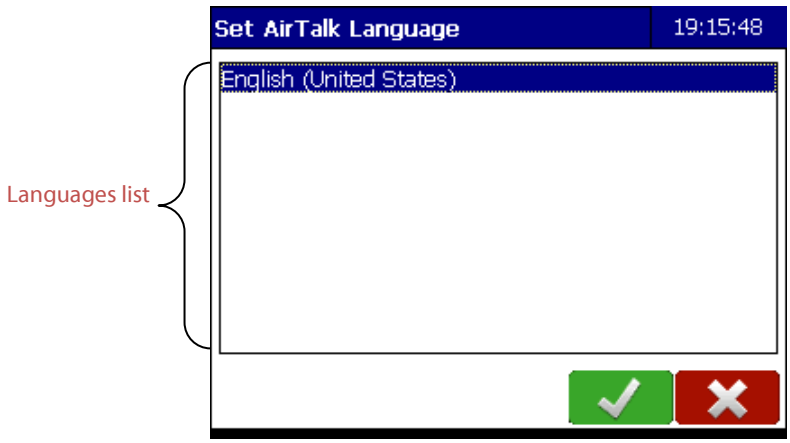


Figure 25: Set AirTalk Language screen

1.3.16.1 Indicators and controls

Languages list

Single-select list. Always enabled.

Displays/selects the current language for AirTalk messages.

OK

Button. Always enabled.

Commits changes made in this dialog and returns to the **AirTalk Configuration Editor – Languages** screen. Changes are not committed until this button is pressed.

Commit includes sending the necessary language sound files to the AirTalk hardware if they are not already loaded.

If the commit fails (AirTalk hardware returns a failure code), some indication of this is presented to the user and the dialog is not dismissed. The user may retry with **OK** or tap **Cancel** to abandon.

Cancel

Button. Always enabled.

Cancels all changes made in this dialog and returns to the **AirTalk Configuration Editor – Languages** screen.

1.3.17 Visit Report

AirTalk maintains a history log (viewable via **Home ▶ Telemetry ▶ Status ▶ History**). This log is downloaded from the AirTalk hardware and included in the Visit Report when a Visit Report is requested by a user.

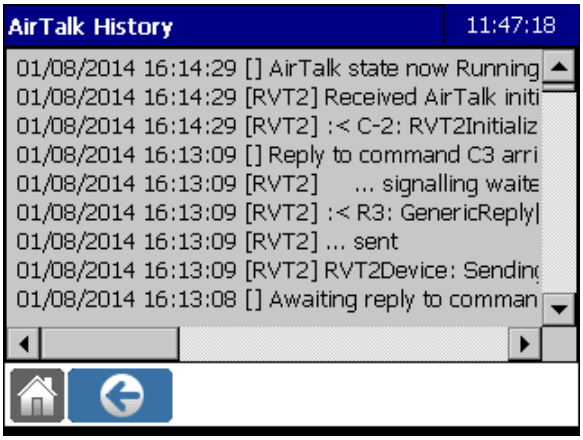


Figure 26: AirTalk History screen

1.4 Operational notes

1.4.1 DTMF Codes

1.4.1.1 Description

DTMF (*dual-tone, multi-frequency*) is the name for the tone coding used on telephone touch-tone keypads, including the keypads on the two-way radios used with AirTalk.

AirTalk can be configured to respond to DTMF codes sent from users' radios. A DTMF code can serve one of the following functions:

- request a message to be spoken, or
- request a currently repeating message to stop repeating (be cancelled)
- request alerting to be suspended (reserved code 9999)
- request alerting to be resumed (reserved code 8888)

(For details on configuring DTMF codes in AirTalk, see section 1.2.2, Creating a new message.)

1.4.1.2 Sending DTMF codes from a radio

No other traffic

A DTMF code can only be sent when there is no other traffic on the channel.

If AirTalk (or another person) is transmitting on the frequency, then you must wait until the transmission completes before sending a DTMF code. In particular, a currently transmitting message cannot be cancelled until its current repeat has finished being spoken. Because AirTalk has a non-receptive "blank period" of about 1 second after each transmission, cancelling may be difficult if the repeat interval (time between repeats) is short, and impossible if the repeat interval is very short.

Do not send a DTMF code if you can hear another person sending one at the same time.

Speed of keying

When you send a DTMF code, you must key it in reasonably quickly.

Approximately stated (details below), the digits in a code must be pressed no more than one second apart. Having a time limit enables the system to determine if you are sending a 2-, 3-, or 4-digit code. (AirTalk can have 2-digit or 3-digit codes that are the same as the beginning of one or more longer codes. Therefore the datalogger has to wait to see which one you meant.) Having the time limit set at one second allows the system to decide what is happening and respond to it reasonably quickly.

A more precise description of the one-second keying constraint needs a little more explanation:

- When you press a button on the keypad, the tone begins sending as soon as the button contact is closed. The tone continues until you release the button and the button contact opens. So each tone has a beginning and an end.
- The exact requirements on speed of DTMF keying are this: You must *begin* sending the next DTMF digit no more than one second after the *beginning* of the previous one (not after the end, which would be a looser condition).

1.4.1.3 How AirTalk processes DTMF codes

If you key in a single digit and no further digit within one second, AirTalk ignores the digit.

If you key in two or three digits with no more than one second between digit starts, and no further digit within one second after the last one, AirTalk sends the two- or three-digit code to the datalogger for processing.

If you key in four digits within four seconds, AirTalk sends the four-digit code immediately to the datalogger for processing.

If you continue keying digits after keying in four digits within four seconds:

- AirTalk dispatches the first four digits to the datalogger for processing.
- AirTalk continues storing any following digits it receives until the datalogger tells AirTalk to transmit a message and AirTalk actually begins transmitting. (While AirTalk is transmitting, it cannot receive any digits.)
- The additional digits stored are subject to the processing rules above (one-second rule, etc.). They are treated as another DTMF code, and may therefore cause the system to respond.
- The number of digits stored depends on how fast you key them in and how soon AirTalk begins transmitting the message. Therefore the number of digits stored is unpredictable, and so entering more than four digits in succession could result in unexpected behaviour.

> FTS recommends that you key in only one DTMF code at a time, and that you wait for the response to a code before keying in another code.

1.4.1.4 How the system responds to DTMF codes

When the datalogger receives a code, it compares it to all configured DTMF codes (transmit codes, cancel codes, and suspend/resume codes).

- Updates the **Last Received** display on the **Telemetry Status** screen with this code.
- If it finds a match, the datalogger takes the appropriate action (triggers or cancels a message transmission, or suspends or resumes alerting).
- If the code received does not match any configured code, the datalogger does nothing except to indicate on the **Telemetry Status** screen that the last received code was unused (not defined in AirTalk).

Appendix A – AirTalk Vocabulary

Air Talk Vocabulary – English

A	FIFTEEN	INFORMATION BRAVO
ABOVE	FIFTY	IS
AIR TEMPERATURE	FIFTY EIGHT	IS ABOVE
ALERT	FIFTY FIVE	IS BELOW
ALERT ALERT	FIFTY FOUR	IS EQUAL TO
ALERT ALERT ALERT	FIFTY NINE	IS GREATER THAN
ALFA	FIFTY ONE	IS GREATER THAN OR
AMPS	FIFTY SEVEN	EQUAL TO
B	FIFTY SIX	IS LESS THAN
BAROMETRIC PRESSURE	FIFTY THREE	IS LESS THAN OR EQUAL TO
BATTERY CURRENT	FIFTY TWO	IS NOT EQUAL TO
BELOW	FIVE	J
BOTTLE	FIVE HUNDRED	JULIET
BOTTLES	FIVE THOUSAND	K
BRAVO	FLUID OUNCE	KILO
C	FLUID OUNCES	KILOMETER
CELCIUS	FORTY	KILOMETER PER HOUR
CENTIMETER	FORTY EIGHT	KILOMETERS
CENTIMETERS	FORTY FIVE	KILOMETERS PER HOUR
CHARLIE	FORTY FOUR	KILOPASCAL
CUBIC METER	FORTY NINE	KILOPASCALS
CUBIC METERS	FORTY ONE	KNOT
D	FORTY SEVEN	KNOTS
DEGREE	FORTY SIX	L
DEGREES	FORTY THREE	LIMA
DEGREES CELSIUS	FORTY TWO	LITER
DEGREES FAHRENHEIT	FOUR	LITER PER SECOND
DELTA	FOUR HUNDRED	LITERS
DIRECTION	FOUR THOUSAND	LITERS PER SECOND
E	FOURTEEN	LOGGER NOT RESPONDING
ECHO	FOXTROT	M
EIGHT	FUEL MOISTURE	MAIN BATTERY
EIGHT HUNDRED	FUEL TEMPERATURE	METER
EIGHT THOUSAND	G	METERS
EIGHTEEN	GALLON	METERS PER SECOND
EIGHTY	GALLON PER SECOND	MICROSIEMEN
EIGHTY EIGHT	GALLONS	MICROSIEMENS
EIGHTY FIVE	GALLONs PER SECOND	MIKE
EIGHTY FOUR	GOLF	MILE
EIGHTY NINE	H	MILE PER HOUR
EIGHTY ONE	HOTEL	MILES
EIGHTY SEVEN	HUMIDITY	MILES PER HOUR
EIGHTY SIX	HUNDRED THOUSAND	MILLIBAR
EIGHTY THREE	I	MILLIBARS
EIGHTY TWO	INCH	MILLIGRAM
ELEVEN	INCHE OF MERCURY	MILLIGRAMS

EQUALS	INCHES	MILLILITER
F	INCHES OF MERCURY	MILLILITERS
FAHRENHEIT	INDIA	MILLIMETER

MILLIMETERS	PEAK WIND DIRECTION	SIXTY THREE
MINUS	PEAK WIND SPEED	SIXTY TWO
N	PERCENT	SOIL MOISTURE
NINE	PERCENT FULL	SOIL TEMPERATURE
NINE HUNDRED	PINT	SOLAR CURRENT
NINE THOUSAND	PINTS	SOLAR PANEL CURRENT
NINETEEN	PLUS	SOLAR PANEL VOLTAGE
NINETY	POINT	SOLAR RADIATION
NINETY EIGHT	POINTS	SOLAR VOLTAGE
NINETY FIVE	**Q**	SPEED
NINETY FOUR	QUART	STATION
NINETY NINE	QUARTS	STATION ID
NINETY ONE	QUEBEC	STATION NUMBER
NINETY SEVEN	**R**	**T**
NINETY SIX	RAIN	TANGO
NINETY THREE	RAIN GAUGE BUCKET	TEN
NINETY TWO	RAIN GAUGE BUCKETS	THIRTEEN
NOVEMBER	RAIN GAUGE TIPS	THIRTY
NTU	RAIN LIMIT	THIRTY EIGHT
O	RAIN LIMIT OVER	THIRTY FIVE
OFF	RELAY	THIRTY FOUR
ON	ROMEO	THIRTY NINE
ONE	**S**	THIRTY ONE
ONE DEGREE CELSIUS	SENSOR ERROR	THIRTY SEVEN
ONE DEGREE FAHRENHEIT	SEVEN	THIRTY SIX
ONE DEGREE	SEVEN HUNDRED	THIRTY THREE
ONE HUNDRED	SEVEN THOUSAND	THIRTY TWO
ONE INCH	SEVENTEEN	THOUSAND
ONE KILOMETER PER HOUR	SEVENTY	THREE
ONE KNOT	SEVENTY EIGHT	THREE HUNDRED
ONE MILE PER HOUR	SEVENTY FIVE	THREE THOUSAND
ONE MILLIMETER	SEVENTY FOUR	THREE_FIVE_ZERO
ONE THOUSAND	SEVENTY NINE	THREE_FOUR_ZERO
ONE VOLT	SEVENTY ONE	THREE_ONE_ZERO
ONE_EIGHT_ZERO	SEVENTY SEVEN	THREE_SIX_ZERO
ONE_FIVE_ZERO	SEVENTY SIX	THREE_THREE_ZERO
ONE_FOUR_ZERO	SEVENTY THREE	THREE_TWO_ZERO
ONE_NINER_ZERO	SEVENTY TWO	THREE_ZERO_ZERO
ONE_ONE_ZERO	SIERRA	TURBIDITY
ONE_SEVEN_ZERO	SIX	TWELVE
ONE_SIX_ZERO	SIX HUNDRED	TWENTY
ONE_THREE_ZERO	SIX THOUSAND	TWENTY EIGHT
ONE_TWO_ZERO	SIXTEEN	TWENTY FIVE
ONE_ZERO_ZERO	SIXTY	TWENTY FOUR
OSCAR	SIXTY EIGHT	TWENTY NINE

OVER	SIXTY FIVE	TWENTY ONE
P	SIXTY FOUR	TWENTY SEVEN
PAPA	SIXTY NINE	TWENTY SIX
PEAK DIRECTION	SIXTY ONE	TWENTY THREE
PEAK SPEED	SIXTY SEVEN	TWENTY TWO
PEAK WIND	SIXTY SIX	TWO

TWO HUNDRED	5
TWO THOUSAND	6
TWO_EIGHT_ZERO	7
TWO_FIVE_ZERO	8
TWO_FOUR_ZERO	9
TWO_NINER_ZERO	0
TWO_ONE_ZERO	-1
TWO_SEVEN_ZERO	-2
TWO_SIX_ZERO	-3
TWO_THREE_ZERO	-4
TWO_TWO_ZERO	-5
TWO_ZERO_ZERO	-6
U	-7
UNDER	-8
UNIFORM	-9
V	-0
VICTOR	.1
VOLT	.2
VOLT S	.3
W	.4
WATER LEVEL	.5
WATER TEMPERATURE	.6
WATT	.7
WATT PER SQUARE METER	.8
WATTS	.9
WATTS PER SQUARE METER	.0
WHISKEY	
WIND DIRECTION	
WIND SPEED	
X	
XRAY	
Y	
YANKEE	
Z	
ZERO	
ZERO_EIGHT_ZERO	
ZERO_FIVE_ZERO	
ZERO_FOUR_ZERO	
ZERO_NINER_ZERO	
ZERO_ONE_ZERO	
ZERO_SEVEN_ZERO	

ZERO_SIX_ZERO
ZERO_THREE_ZERO
ZERO_TWO_ZERO
ZULU
#
1
2
3
4

Air Talk Vocabulary – Chinese

BATTERY CURRENT 电源电流	PERCENT FULL 百分之满	SOUTHEAST 东南
DIRECTION 方向	PERCENT 百分之	EAST 东
WIND FORCE 风力	RAIN GAUGE TIPS 雨量计翻斗次数	FORCE 2 二级
WIND SPEED 风速	DEGREES 度	OFF 关
WIND DIRECTION 风向	VOLTS 伏	MODERATE BREEZE **和**风
PEAK DIRECTION 峰值方向	KILOMETERS PER HOUR 公里每小时	MODERATE GALE **疾**风
PEAK SPEED 峰值速度	KILOMETERS 公里	STRONG BREEZE 强风
WIND 风	MILLIBARS 毫巴	CALM **静**风
STATION 号站	MILLIGRAMS 毫克	FORCE 9 九级
RELAY 继电器	MILLIMETERS 毫米	HURRICANE 飓风
RATINGS 级	MILLILITERS 毫升	ON 开
RAIN LIMIT 降雨限量	FAHRENHEIT 华氏	WHOLE GALE **狂**风
RAIN 降雨	DEGREES FAHRENHEIT 华氏度	STRONG GALE **烈**风
FUEL MOISTURE **可燃物湿**度	GALLONS PER SECOND 加仑**每**秒	FORCE 0 零级

FUEL TEMPERATURE KĚ RÁN WÙ WÊNDÙ **可燃物温**度	GALLONS JIÂ LÚN 加仑	FORCE 6 六级
AIR TEMPERATURE QÌWÊN 气温	KNOTS JIÉ 节	SOUTH SOUTHEAST **南**东南
BAROMETRIC PRESSURE 气压	QUARTS 夸脱	SOUTH SOUTHWEST **南西南**
HUMIDITY 湿度	CUBIC METERS 立方米	SOUTH **南**
WATER TEMPERATURE 水温	CENTIMETERS 厘米	FORCE 7 **七**级
WATER LEVEL 水位	METERS PER SECOND 米每秒	LIGHT BREEZE 轻风
SPEED 速度	METERS 米	FRESH BREEZE **清**劲风
SOLAR RADIATION 太阳辐射	NTU 浊度单位	LIGHT AIR 软风
SOLAR PANEL CURRENT 太阳板电流	PINTS 品脱	FORCE 3 三级
SOLAR PANEL VOLTAGE 太阳能板电压	BOTTLES 瓶子	FORCE 18 十八级
SOLAR CURRENT 太阳能电池电流	KILOPASCALS 千帕	FORCE 10 十级
SOLAR VOLTAGE 太阳能电池电压	CELSIUS 摄氏	FORCE 17 十七级
SOIL MOISTURE 土壤水分	LITERS PER SECOND 升每秒	FORCE 12 十二级
SOIL TEMPERATURE 土壤温度	LITERS 升	FORCE 16 十六级
MAIN BATTERY 主电源	DEGREES CELSIUS 摄氏度	FORCE 13 十三级
TURBIDITY 浊度	WATTS PER SQUARE METER 瓦每平方米	FORCE 14 十四级
PEAK WIND SPEED 最大风速	WATTS 瓦	FORCE 15 十五级
PEAK WIND DIRECTION 最大风向	MICROSIEMENS 微西门子	FORCE 11 十一级
SENSOR ERROR	FLUID OUNCES	FORCE 4

传感器故障	液体盎司	四级
LOGGER NOT RESPONDING 记录器无响应	INCHES OF MERCURY 英寸汞柱	GENTLE BREEZE **微**风
ALERT ALERT ALERT 警报 警报 警报	INCHES 英寸	FORCE 5 **五**级
IS NOT EQUAL TO 不等于	MILES PER HOUR 英里每小时	NORTHWEST **西北**
OVER 超过	MILES 英里	SOUTHWEST **西南**
IS GREATER THAN OR EQUAL TO 大于或等于	FORCE 8 八级	WEST NORTHWEST **西西北**
IS GREATER THAN 大于	STORM **暴**风	WEST SOUTHWEST **西西**南
EQUALS 等于	NORTH NORTHEAST **北**东北	WEST **西**
IS BELOW 低于	NORTH NORTHWEST **北西北**	FORCE 1 一级
IS ABOVE 高于	NORTH **北**	1
UNDER 少于	FRESH GALE **大**风	2
IS LESS THAN OR EQUAL TO 小于或等于	NORTHEAST 东北	3
IS LESS THAN 小于	EAST NORTHEAST 东东北	4
AMPS 安培	EAST SOUTHEAST 东东南	5
6	-5	.4
7	-6	.5
8	-7	.6
9	-8	.7
0	-9	.8
-1	-0	.9
-2	.1	.0
-3	.2	
-4	.3	

Revision History

Revision	Date	Description
1	2014-Feb-28	Original release
2	2014-Oct-30	Axiom Suite added
3	2015 Jun 15	Home Screen shots updated with G6