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Welcome

Voxtec’s SQU.ID SQ.410 is a wearable or handheld, mobile and rugged, machine-based language translation device combining modern industrial design techniques with advanced software engineering and custom components to form a complete system. While the SQ.410 represents the state of the art for speech-to-speech machine-based language translation system technology it is not intended to be a replacement for fluent foreign language speakers or interpreters. The SQ.410 enhances the work fluent foreign language speakers and interpreters carry out, by freeing them up to focus on those situations where body language and cultural sensitivity are of paramount importance.

The SQ.410 should be widely employed as a necessary tool that can bridge the communication gap between individuals who do not share a common language, resulting in stronger mutual trust and understanding. This user manual was designed to help you gain an appreciation for what the SQ.410 can do to support your foreign language translation needs, with a particular emphasis on the one-way, phrase-based translation software. An addendum to this manual is included for Voxtec’s optional free-speech, two-way translation software. Acquiring a strong understanding of the SQ.410 and how to integrate its capabilities into your mission and activities will increase your overall success.
### Navigating the SQ.410

The SQ.410’s overall dimensions are: 5.2” (L) x 3.2” (W) x 1.5” (H)

#### SQ.410 (Front View)

1. Speaker. Powerful Mylar, weather resistant, hi-fidelity speaker.
2. POWER button. Turn the SQ.410 on, off or put into standby mode.
3. PUSH TO TALK button. This is the primary English PUSH TO TALK button on the SQ.410.

#### SQ.410 (Back View)

NOTE: The SQ.410’s back plate five-button keypad allows you to manually navigate software application and system settings, play translations and more.

1. Liquid Crystal Display (LCD). 2-inch, 176 x 220 RGB TFT LCD that displays the SQ.410 software application and module content, including settings, system information and operational menus.
2. UP button. Move up menu and list options; raise system settings and increase speaker or headset earpiece volume.
3. DOWN button. Move down menu and list options; lower system settings and decrease speaker or headset earpiece volume.
4. RIGHT button. Press right to make menu selections. After a phrase has played you can press and release the right button and you will see a pop up window for the current phrase enabling you to add the current phrase to your My Favorites folder, log the current phrase, set the current phrase as Quick Play A, B, or C, delete all quick play buttons, or loop all phrases in your My Favorites folder.
5. LEFT button. Press left to move back to a previous menu selection.
6. CENTER button. Press and release the center button to play a translation, make menu selections and accept settings. Quickly double click the center button to loop the current phrase.
7. Serial Number Display. Your SQ.410’s serial number is displayed in both bar code and numeric format for ready reference and inventory control.
1. **ODU® Advanced Military Connector (AMC).** Primary microphone or headset connector.
2. **Audio Input / Microphone Jack.** Secondary microphone 3.5mm audio input jack.
3. **Audio Output Jack.** 3.5mm audio output jack.

### SQ.410 (Bottom View)

1. **Battery Compartment.** Insert two CR123A batteries into the battery compartment.
2. **Micro-SD Card.** Micro-SD card slot for inserting and removing the provided micro-SD card, which stores the SQ.410 modules, recordings and more.
3. **USB Port.** For connecting a mini-USB cable (for future software update capability).

### SQ.410 (Right Side View)

A. **A button.** This is the secondary English PUSH TO TALK button, which also acts as the Quick Play A button when pressed twice.

B. **B button.** This is the primary foreign language recording PUSH TO TALK button, which also acts as the Quick Play B button when pressed twice.

C. **C button.** The C button can be used for three purposes. If pressed and held, the C button is a passive “Talk Through” button to by-pass the translation software and pass audio to an external speaker system. If pressed and released once, the C button will log a phrase. If pressed and released twice, it acts as the Quick Play C button.
Preparation of the SQ.410

Primary Headset Connection

The TACK-1 Headset (optional, but highly recommended) is connected via an ODU® Advanced Military Connector (AMC). The AMC combines two components. The upper component terminates at the base of the headset audio line and the lower component is secured into the top of the SQ.410. In the software application, the headset connected to the AMC is referred to as the “Primary Microphone.” The initial setup of the device and after any resetting of the system to default values returns the headset connection as the default for all speech input.

**CAUTION:** Do not twist or bend the AMC components when disconnecting from or connecting to the SQ.410.

To connect the AMC:

1. Line up the red dots painted on the upper and lower components.
2. Firmly press straight together until you hear a “click.”

To disconnect the AMC:

1. Firmly squeeze and pull straight UP on the connector with the fingers of one hand, while tightly holding the SQ.410 steady in the other hand to disconnect it from the lower component.
Secondary Microphone Connection

The top of the device has a 3.5mm stereo audio connector for connecting a microphone. In the software application any microphone connected to the 3.5mm microphone input jack connector is referred to as the “Secondary Microphone.” To connect to the secondary microphone adapter:

1. Open the audio input / microphone jack flap door (microphone icon) on top of the SQ.410 to gain access to the secondary microphone 3.5mm audio input jack.
2. Insert the microphone 3.5mm stereo connector tip straight into the secondary microphone audio input jack until it is seated in place.

A recommended near field noise cancelling microphone inserted into the secondary microphone audio input jack is pictured below:

External Speaker Connection

The top of the device also has a 3.5mm stereo audio connector for connecting an external speaker. If an external speaker is being used, insert the 3.5mm connector tip from the cable to a speaker into the audio out jack (speaker icon) until it is seated in place.
Batteries
The SQ.410 operates on two CR123A lithium batteries that slide into the battery tube. Unscrew the cap and insert the batteries negative side first, with the last battery’s positive terminal touching the inside of the battery cap. If you insert the batteries incorrectly, the unit will not power on. If you notice the unit not working, troubleshoot by inspecting that the batteries are installed correctly.

Micro-SD Card Removal and Replacement
Translation software for the SQ.410 is stored on a removable micro-SD card found under a secured flapper door on the bottom of the unit. Note that the SQ.410 ships with a 32 GB micro-SD card already installed.

CAUTION: DO NOT REMOVE THE MICRO-SD CARD WHILE THE UNIT IS TURNED ON. DOING SO MAY DAMAGE THE MICRO-SD CARD OR CORRUPT THE TRANSLATION SOFTWARE RENDERING IT UNUSABLE.

To remove the micro-SD card:
1. Ensure that the unit is fully powered down.
2. Use a small Philips screwdriver to remove the screw securing the bottom flapper door.
3. Use gentle pressure with a fingernail or solid pointed object to push the card in slightly until the internal cradle spring releases and pushes the card part way out of the unit.
4. After the cradle spring has pushed the card part of the way out, grab the card and fully remove it from the unit.

To replace the micro-SD card:
1. Ensure that the unit is fully powered down.
2. Insert the thinner, notched end of the card first into the unit, ensuring that the top of the card (logo bearing side) is facing the same direction as the front of the unit.
3. Push the card gently into the slot until it clicks into place.
4. Use a small Philips screwdriver to replace the screw securing the bottom flapper door until it is just finger tight. DO NOT OVERTIGHTEN THE SCREW OR IT MAY DAMAGE THE FLAPPER DOOR.

**Powering On**

During initial startup or anytime the SQ.410 is coming out of off mode, it will take approximately 45-60 seconds to completely load the Android™-based operating system (OS) and software application.

**Note:** Prior to powering on the SQ.410 ensure the micro-SD card is properly installed in the device. If the micro-SD card is not installed during the initial loading cycle, the system must be rebooted after installation in order for the software to load properly.

**CAUTION:** DO NOT REMOVE THE BATTERIES WHILE THE DEVICE DISPLAYS THE VOXTEC 📅 LOGO DURING THE INITIAL BOOT SEQUENCE. DOING SO MAY CORRUPT THE INTERNAL SYSTEM MEMORY. IN THE EVENT SYSTEM MEMORY IS CORRUPTED, THE DEVICE WILL AUTOMATICALLY REPAIR THE INTERNAL MEMORY THE NEXT TIME THE SYSTEM IS POWERED ON, BUT BOOT TIME MAY BE SIGNIFICANTLY INCREASED.

**To power on the SQ.410:**

1. Press and release the POWER button located on the front of the device.
2. The LCD will light up indicating power is on. During the boot cycle the Voxtec “V” logo 📅 will appear on the LCD until the OS and software application are completely loaded.
3. Once the OS and software application are loaded the LCD will display the Select Module screen.
Selecting a Module

Using the five-button keypad you can scroll up and down the Select Module screen reviewing the available modules. To select and load a module, scroll to it, this will highlight it, then press and release the CENTER or RIGHT button. Depending on the size of the module, it may take several seconds to fully load. Before selecting a module, it is important to consider your foreign language and use case requirements.

- Phrase based one-way modules are displayed on the Select Module screen with the words “Phrase Based” in the title, for example if included on your micro-SD card you could see: “Force Protection Phrase Based.” Phrase based modules are one-way modules consisting of predefined sets of English words, phrases, and questions that have been pre-established by subject matter experts within a particular domain or functional area. These predefined English phrase sets have been pre-translated and vetted for accuracy by fluent foreign language speakers and interpreters. You speak one of the predefined English phrases into the SQ.410’s microphone and the SQ.410’s software application utilizes ASR to match your spoken phrase with its foreign language equivalent and broadcast the result through the SQ.410’s speaker or, if connected, an external speaker. Phrase based modules cannot translate back from the foreign language to English, but have the benefit of containing many foreign languages in the topic area.
• **Optional Phrase Reference Booklets** are available for certain Phrase Based modules and are designed to fit inside an optional wearable wrist booklet holder. A phrase reference booklet contains a categorized listing of all the available English words and phrases that make up the given phrase based module. The user inserts the booklet into the wrist holder, slides the holder over his or her wrist and then has easy access to all possible English words and phrases for that given module.

**Overview of SQ.410 Features**

Once you have selected and loaded a module you can configure the SQ.410 using the five-button keypad. When configuring the SQ.410 it is important to consider the environment you will be using it in. Will you be operating indoors or outdoors, in daytime or nighttime? Do you anticipate significant background noise? Will you be using the headset, microphone setup, or both? What type of module did you select and load and what is your use case? The answers to these questions will impact how you configure the SQ.410 to accomplish your goals.

The Settings on the SQ.410 are separated into five main sections for your convenience: My Favorites, System, Application, and About.

**My Favorites:**

• You can store and organize words, phrases and questions in the My Favorites folder that are tailored to your specific foreign language needs and use case requirements. Sequence these favorite phrases in a logical order and loop them to communicate instructions or warnings to large crowds.

**System (Settings):**

• **Secondary Audio and Speaker Volume:** adjust the volume of the built-in speaker and the Audio Output jack

• **Primary Headset Volume:** adjust the headset earpiece volume up or down to hear English verifications
• Controls: adjust device specific controls on the SQ.410 including:
  o Brightness: adjust the LCD brightness depending on day or night visibility.
  o Timeout to Standby: manage the SQ.410’s battery life by controlling the time to standby.
  o Set Time: change the device’s internal clock.
  o Set Date: adjust day, month and year of the device.

• Advanced Features: tailor advanced features on the SQ.410 to your specific use case
  o English Verification: The various options allow for different instances when the device will first play English before playing the foreign language. The possible selections are “None”, “Speech Selections Only”, “Button Selections Only”, and “Both”.
  o English Verification to Speaker: turn on or off English verification broadcast through the speaker.
  o Primary Mic Automatic Gain: turn on or off the primary microphone automatic gain feature.
  o Primary Mic Manual Gain: manually adjust the microphone gain of the headset or microphone attached to the SQ.410’s primary AMC.
  o Secondary Mic Automatic Gain: turn on or off the secondary microphone automatic gain feature.
  o Secondary Mic Manual Gain: manually adjust the microphone gain of the microphone attached to the SQ.410’s secondary audio input jack.
  o Select Connected Microphone: choose the connected microphone(s) – primary only, secondary only, or both. When “both” is selected the primary headset is for English speech recognition and recording and the secondary microphone is for foreign language recording.
Enable Built-in Speaker: The built-in speaker can be disabled separately from the 3.5mm Audio Output jack.

Reset to Defaults: you have the option to reset all the system settings to factory default values. A full explanation of those default settings is provided in detail on page 15.

Application (Settings):
- Select Language: Select or change the language you wish to translate using the phrase based module.
- Change Module: this will take you to the Select Module screen where you can select and load a different module from the available modules included on your micro-SD card to meet your needs.
- Added Phrases: add any phrase directly onto the SQ.410 through the use of an on screen keyboard that you control via the five-button keypad. Adding phrases that specifically address your location and the people you are working amongst can greatly increase the SQ.410’s effectiveness. Using the RIGHT navigation button brings up the menu for adding, deleting and editing user added phrases.
- Logged Phrases: the logged phrases folder acts as a repository for any word or phrase you have logged using the C button log feature.
- Create Recordings: create and store custom audio recordings within the selected module. Using the RIGHT navigation button brings up the menu for renaming or deleting recordings.
- Set Constant Logging: turn on or off the SQ.410 constant logging feature. The constant logging feature enables the SQ.410 to be used as a “data collection” tool. If turned on, the SQ.410 will constantly log both the English and foreign language word or phrase spoken into the device, including the ASR audio and text. Words or phrases that have been collected using the constant logging feature are stored on the micro-SD card and cannot be accessed or viewed directly on device. The micro-SD card must be removed and the logged file folders viewed with a computer.
• **Storage Capacity:** displays the total and available amount of removable micro-SD card space on your SQ.410. Also displays total number of logged audio files for the current module that is loaded.

**About (Settings):**

• Look up the application version, platform OS version, and complete product version running on your SQ.410.

• Read through summary of intellectual property and licensing information.

**Talk Through Feature (Bypass Translation Software):**

• You can bypass the translation software and use the SQ.410 to broadcast speech using any external speaker connected through the audio out jack (speaker icon) located on top of the device. To use this feature press and hold the C button while speaking into either the headset or the secondary microphone (as applicable).

• **Note:** Be certain to have the headset or microphone of the SQ.410 well behind the external speaker, otherwise loud audio feedback noises will be created by the speaker.

• Voxtec recommends the use of a TACK-1 headset when using very high powered external speakers to minimize the risk of dangerous audio feedback noise levels.

**Translating with the SQ.410**

The SQ.410 provides three convenient ways to translate:

• **Eyes Free mode:** In Eyes Free mode you are wearing the SQ.410 typically in your upper left chest area or along your waist line with the speaker facing out and the LCD concealed against the custom holster secured to your equipment. To begin translating from English to a foreign language, you will press and hold either the PUSH TO TALK button or the A (English) button, say the word or phrase you wish to translate, then release the button.
• **Handheld mode:** In Handheld mode you have removed the SQ.410 from the custom holster and hold it in your hand with the speaker facing out and the LCD facing you. To begin translating from English to a foreign language, you will press and hold either the PUSH TO TALK button or the A button, say the word or phrase you wish to translate, then release the button.

• **Manual mode:** In Manual mode you have removed the SQ.410 from the custom holster and hold it in your hand. You will use the five-button keypad to locate words and phrases. You can broadcast one of these phrases by highlighting it, then pressing and releasing the CENTER button.

**Translating a phrase based one-way module in Eyes Free or Handheld mode:**

1. Press and hold either the PUSH TO TALK or A button. You will hear a single audible “ping” in your headset earpiece or through the SQ.410’s speaker if you are using a secondary microphone for English input or you have elected to turn on English verification to the speaker. This ping indicates that the SQ.410 is waiting for you to say an English word or phrase to be translated.

2. Say the English word or phrase that you wish to translate into the headset microphone or secondary microphone, as applicable based on how the device was configured.

3. Release the PUSH TO TALK or A button after you have finished saying the phrase. You will hear an audible two beat “ping, PING” after you release the button and the LCD will display a thinking window.

4. For English verification, you can choose to have the English word or phrase played through the headset earpiece or speaker before the foreign language translation broadcasts.

5. The corresponding foreign language translation of the English word or phrase will then be broadcast through the SQ.410 speaker.

6. The LCD will highlight the selected phrase in the phrase list.
NOTE: In some cases, instead of hearing the correct English verification in your headset earpiece (or speaker), you may hear the no-recognition tone. In other cases, you may simply hear the wrong phrase verified back in your headset earpiece (or speaker). To interrupt the SQ.410 from playing the incorrectly identified phrase, tap the PUSH TO TALK or A button. Then, press and hold the PUSH TO TALK or A button and say the English word or phrase again. If you continue to have recognition issues, see the Troubleshooting section of this Manual.

Expanded Feature Descriptions

Secondary Audio and Speaker Volume

The speaker volume controls the volume of the built-in speaker on the device as well as the volume of whatever external speaker is connected to the 3.5mm Audio Output jack.

Primary Headset Volume

Adjusts the headset earpiece volume up or down to hear English Verification.

Controls

- **Brightness:** Adjust the LCD brightness depending on day or night visibility. Pushing the UP button raises the brightness; pushing the DOWN button lowers the brightness. Push the CENTER or RIGHT button to accept a setting or LEFT button to cancel the change.

- **Timeout to Standby:** Manage the SQ.410’s battery life by controlling the time to standby. Use the UP and DOWN buttons to select from 1 minute to standby all the way to never. Push the CENTER or RIGHT button to accept a setting or LEFT button to cancel the change. Standby mode conserves battery life by suspending many device operations, such as turning off the LCD. Once in standby mode pressing and holding the Push to Talk or A buttons will immediately wake up the unit and the unit will begin listening for speech input. Quickly pressing and
releasing the power button will simply wake up the unit without taking further action. Pressing any other button will wake up the unit as well, but will also complete any action normally performed by the button based on what the application was doing before the unit went into standby (e.g., if the last action performed was playing a phrase in the module, pressing the center button will play the highlighted phrase).

- **Set Time:** The device’s internal clock may be adjusted to reflect local time. Time is set in 24-hour format. To adjust time: (1) use the UP and DOWN buttons to increase or decrease the hour, then press the CENTER button when the correct hour is shown; (2) use the UP and DOWN buttons to increase or decrease the minute, then press the CENTER button when the correct minute is shown; and (3) press the RIGHT button to accept the changes. Note that pressing the LEFT button will cancel the changes.

- **Set Date:** Similar to setting time, the internal clock may be adjusted to reflect a new day, month and year. Although the device’s date is set at the factory and should not vary even after repeated battery changes and power cycles, this functionality is provided in the event of discrepancies that might arise in adjusting the time to a local time zone. To adjust the date: (1) use the UP and DOWN buttons to increase or decrease the month, then press the CENTER button when the correct month is shown; (2) use the UP and DOWN buttons to increase or decrease the day, then press the CENTER button when the correct day is shown; (3) use the UP and DOWN buttons to increase or decrease the Year, then press the CENTER button when the correct year is shown; and (4) press the RIGHT button to accept the changes. Note that pressing the LEFT button will cancel the changes.

**Advanced Features**

- **English Verification:** The selections are “None”, “Speech Selections Only”, “Button Selections Only”, and “Both”. When “Speech Selections Only” is selected using the ASR to select a phrase will first play English then the foreign language.
Pressing the button will not play English. If “Button Selections Only” or “Both” is selected then when the button pad is used to play a phrase the English is played first then the foreign audio. Any form of “Looping” is treated as a button selection.

- **English Verification to Speaker**: turn on or off English verification broadcast through the speaker. English verification as selected in the previous setting will always play through the primary headset speaker. This feature allows the user additionally to play the English verification through the built-in speaker and external speaker. In a crowd control type of situation where the external audio is connected to a loudspeaker, it can be convenient to turn this feature on so that people in the immediate area who only speak English can understand what is being broadcast.

- **Primary Mic Automatic Gain**: turn on or off the primary microphone automatic gain feature. If using the TCI® TACK-1 headset in a moderate noise environment it is best to leave this turned on. This allows the microphone gain to be adjusted to match the volume of the speaker.

- **Primary Mic Manual Gain**: manually adjust the microphone gain of the headset or microphone attached to the SQ.410’s primary ODU® Advanced Military Connector (AMC). Enabling Manual Gain will turn off Primary Mic Automatic Gain. This is best done when in a high noise environment or when using a low impedance microphone such as a Peltor headset. Adjust the gain so your speaking voice moves the volume meter into the green zone. When setting the gain try to speak at the level that will be used in the operational environment. If the operational environment has a very loud background noise level you may need to speak louder into the SQ.410 and therefore set the manual gain lower.

- **Secondary Mic Automatic Gain**: turn on or off the secondary microphone automatic gain feature. If using the noise cancelling microphone in a moderate noise environment it is best to leave this feature turned on.

- **Secondary Mic Manual Gain**: manually adjust the microphone
gain of the microphone attached to the SQ.410’s secondary audio input jack. This is generally not recommended, because it requires the user to keep a very consistent distance between the secondary microphone and the foreign language speaker for each phrase. In a high noise environment it may be necessary to use manual gain. This is recommended if a headset is connected to the Secondary Microphone input. Adjust the gain so the speaking voice moves the volume meter into the green zone. When setting the gain try to speak at the level that will be used in the operational environment. If the operational environment has a very loud background noise level you may need to tell the foreign speaker to talk louder into the SQ.410 and therefore set the manual gain lower.

- **Select Connected Microphone:** choose the connected microphone(s) – primary only, secondary only, or both. When Both microphones are selected all English input as initiated with the A button is received from the Primary Headset connector and all Foreign language audio recording input as initiated with the B button is received from the Secondary Headset Connector. When Primary only is selected then all audio inputs come through the Primary Headset connector. Likewise when Secondary Only is selected all audio inputs come through the Secondary connector.

- **Enable Built-in Speaker:** The built in speaker can be disabled separately from the 3.5mm Audio Output Jack. This can be useful if the situation requires that only the Audio Output be used and no audio is projected locally through the built in speaker.

- **Reset to Defaults:** you have the option to reset all the system settings to factory default values. Those values are as follows:
  - Secondary Audio and Speaker Volume: Level Bar 5
  - Primary Headset Volume: Level Bar 5
  - Screen Brightness: Level Bar 7
Programming Hot Buttons for Quick Play mode

The SQ.410 has three “hot buttons” featured on the side of the device that are labeled A, B and C. These buttons can be programmed to accommodate Quick Play mode, which enables you to broadcast one of three preselected phrases quickly without having to say the phrase into the SQ.410 in English first.

To program a Hot Button for Quick Play mode:

1. Be sure the word or phrase you would like to store as a quick play was just broadcast and remains displayed on the main screen. In the example below, you want to store the Arabic translation for the question: “Do You Speak English?” so that when you hit the quick play button it will immediately play the Arabic translation for this question out of the SQ.410’s speaker.
2. Press the RIGHT button to bring up the Current Phrase menu. Then scroll down and select “Set as Quick Play…” (A, B or C) and then press the CENTER select button to set the phrase to a specific button. If you have “English Verification” for “Buttons Selections Only” or “Both” turned on you will hear an audio acknowledgment that the quick play button has been programmed through the main speaker.

![Current Phrase Menu, Set as Quick Play A]

To play a programmed Quick Play button:
1. Quickly double tap and release the hot button (A, B or C) that you set as quick play.
2. To loop a programmed Quick Play button, quickly triple tap and release the hot button (A, B or C) that you set as quick play. To stop the phrase from audibly looping, simply press and release the PUSH TO TALK button or one of the hot buttons (A, B or C).

To remove hot button translations:
1. Highlight any phrase on the screen and press and release the RIGHT button.
2. A “Current Phrase” pop up window will appear displaying various options, scroll down until you come to the option “Clear All Quick Play Buttons.”
3. Select “Clear All Quick Play Buttons” (see screenshot below) which will remove all programmed Quick Play buttons at once.
Note: It is recommended that you remove translations from being programmed as hot buttons unless they are being used regularly.

My Favorites

You can add phrases into the My Favorites folder by ensuring the phrase you want to add is displayed on the main screen, then after pressing and releasing the RIGHT button a “Current Phrase” pop up window will appear displaying the current phrase options. The first option is “Add to My Favorites,” which you can highlight and accept using the five-button keypad. Once you accept a phrase to be added, you will see a confirmation pop up window that audibly announces (if Audio Verification is turned on) and reads: “Phrase added to My Favorites.”
in the option “All Phrases”) and viewing phrases, then you access the Settings page by pressing and releasing the LEFT button twice (once changes to the “Categories” page and the second press and release takes you to the Settings page). To enter the My Favorites folder press and release the CENTER or RIGHT button. Once in the My Favorites folder you will see all the phrases you have added. Using the UP or DOWN button you can select a phrase.

Once you have selected a phrase, if you press and release the RIGHT button a pop up window will appear titled “Selected Phrase,” that offers you the ability to: Loop Phrase, Loop all Phrases, Reorder Phrase, Record New Translation (only applicable if the phrase is one you added to the module because pre-recorded phrases may not be modified) or Remove from My Favorites. Select any option by scrolling to that option such that it is highlighted, then press and release the CENTER button.
Loop Phrase: enables the selected phrase to be broadcast continually through the SQ.410’s main speaker until you press and release the LEFT, CENTER, RIGHT, A, B, C, or PUSH TO TALK button on the device to stop the broadcast. In order to loop phrases first in English and then in the translated language you go to the “English Verification” setting and select either “Button Selection Only” or “Both,” because either will activate English first in the looped phrases.

Loop all Phrases: enables you to loop the entire sequence of phrases that you have added to My Favorites. In order to first hear the English of each phrase and then in the translated language, go to the “English Verification” setting and select either “Button Selection Only” or “Both,” because either option will activate English first in the looped phrases.

Reorder Phrase: enables you to build a custom sequence of phrases by reordering how they appear. After you select Reorder Phrase the pop up window will disappear and the selected phrase will be highlighted in blue. You can now use the UP or DOWN buttons to place the selected phrase in the order you would like it. Once you have the highlighted phrase in the position you want it simply press the LEFT button to set it in place.

Record New Translation: enables you to quickly record a new foreign audio recording for the selected phrase. Only new phrases that have been added can be modified. Selecting this option takes you immediately to the Added phrases window with the corresponding phrase selected.

Remove from My Favorites: enables you to remove a selected phrase from the My Favorites folder. When you select Remove from My Favorites, a pop up window will appear asking you to confirm that you want to remove the phrase from My Favorites, simply press and release the CENTER button to accept the confirmation.

Within the My Favorites folder, if you select a phrase, you can manually play it by pressing and releasing the CENTER button. You can stop the broadcast of any My Favorites phrase while
it is being played by pressing and releasing the A or B buttons. Pressing A or B button will then take you back to the main category screen immediately upon pressing and releasing.

**Select Language**

In Phrase-Based modules there is the option to change the outputted foreign language.

To activate a different language, go to Select Language from the Application Settings menu. There is a list of languages available in the current module. Change to the highlighted one by pressing and releasing either the CENTER or RIGHT button. The currently loaded language has a filled dot next to it.

**Changing a Module**

1. Select Change Module from the Application settings screen. All the modules available on your removable micro-SD card will be listed. A module is defined primarily by the base domain or topic area that is covered. Phrase based modules cannot translate back from the foreign language to English, but have the benefit of containing many foreign languages in the topic area. The currently loaded module has a filled dot next to it.

2. Select the desired module by scrolling up/down and pressing either the CENTER or RIGHT navigation button to load the highlighted module.

3. Selecting a new module will unload the currently loaded module.
Add Phrases

It is possible to add new phrases directly onto the SQ.410. Adding phrases that specifically address your location and the people you are working amongst can greatly increase the SQ.410’s effectiveness.

To add a phrase, select “Added Phrases” under the Application menu. Press and release either the CENTER or RIGHT button to get the “Selected Phrase” menu. Select the first item in the list “Add New Phrase.” Using the five way key pad, navigate the on-screen keyboard to type in the phrase as it is normally written in English. Select the phrase area itself to move the cursor in the phrase. When finished writing the phrase select the check mark ("✓") in the lower right corner.

**Note:** How the phrase is written in this window will match how it must be spoken to trigger the recorded translation. It is not necessary that the written English matches the meaning of the foreign translation exactly. It is more useful that the written English be easy to remember and something that is well recognized by the ASR. It is recommended that the new English phrase consist of at least four syllables with several distinct consonant sounds to ensure proper ASR recognition (e.g., the word “blue” alone makes a very poor choice for an added phrase, while “blue ink must be used” would be a suitable added phrase).
On the next screen press and hold down the “B” hot button, while the foreign language speaker says the new translation. The Phrase will be added to the Added Phrases list and automatically to My Favorites (not the main list of phrases).

**Note:** It is highly recommended a quiet location with no background noise be used when recording foreign translations on device. It is also recommended that the microphone gain setting be changed from automatic to manual and adjusted to an appropriate setting given the recording environment to ensure the best possible audio recording quality.

**Note:** Modified translations have a red icon associated with them in the My Favorites folder rather than the typical green icon.

**Note:** A red icon means a recording exists for this phrase. A gray icon with a diagonal line through it means there is no recording for this phrase yet in the current language selected.

After translating press the CENTER button to play the new phrase. Press the RIGHT button to change the Translation using “Record New Translation”, edit the English phrase using “Edit Phrase” (if deleted from My Favorites), add back the new phrase to Favorites by selecting “Add to Favorites”, or delete the phrase by selecting “Delete Translation”.
Logged Phrases

The logged phrases folder acts as a repository for any word or phrase you have logged using the C button log feature.

To log a phrase on the Main Window quickly press and release the C button such that the message “Phrase saved in log” appears.

Using the C button log feature with official module phrases stores the matched ASR result in English (showing the English text on screen) and displays the phrase text matched by the software to that ASR result. When the C button log feature is used with user-added phrases, the logging feature stores original audio as sent to the ASR (showing both the written text associated with that phrase and playing an audio clip of what was sent to the ASR) as well as the audio associated with that phrase in the foreign language.

It may be advisable to log a phrase for various reasons: For example, the user may suspect that a given translation from English to the Foreign Language may be incorrect and the user wants to remember for verification at a later time. Another example is when the user wants to make a record of a sequence of phrases being used as part of a set of operational procedures.

To view logged phrases, select Logged Phrases from the Application menu.

- Select any of the logged phrases and press the CENTER button to view and, if applicable, hear certain information about
the logged phrase. If the phrase logged was triggered by voice, you will hear the audio passed by the ASR to the system. If the phrase was logged after selecting the phrase with the UP or DOWN buttons, you will not hear any audio. With all logged phrases you will see the phrase text in English.

- Press and release the RIGHT button and select Play Foreign Audio to hear the foreign language translation associated with that phrase.
- Logged phrases can be deleted from the RIGHT button menu.

**Note:** The audio recordings and text of all the logged phrases are stored on the removable micro-SD Card in a standard format that can be accessed on a PC if need be.

**Note:** The phrases logged by the Constant Log feature are not listed on this screen, but are stored in a standard format on the removable micro-SD card that can be accessed on a PC if need be.

### Create Recordings

You can use the SQ.410 as a digital recorder and create new recordings directly on device.

The easiest way to create an audio recording is to simply press and hold the B BUTTON. A message will pop up saying “Recording <foreign language>”. To listen to the foreign speech recording, go into the Application menu and select the “Create Recordings” options. Then highlight the recording you want to listen to and press the CENTER button to play the recording.

Alternatively, if you want to use the PUSH TO TALK BUTTON (English), A button (English) or B button (foreign):

1. Select Create Recordings under Application settings menu.
2. While pressing down and holding either the PUSH TO TALK or A button you can speak into the microphone the English phrase you wish to record. Release the PUSH TO TALK or A button when you have finished speaking. Use the A button
or PUSH TO TALK button to record from the microphone set up to record English. Use the B button to record from the microphone set up to record the foreign language. Refer to “Select Connected Microphone” in the advanced features menu to setup which microphone is recording.

3. Recorded phrases are listed numerically in order of recording unless the recording has been manually renamed.

4. Scroll through the list to highlight individual recordings using the UP/DOWN buttons. You can play the highlighted recording by pressing the CENTER button.

5. To rename or delete a recording, press and release the RIGHT button. You will see a “Selected Recording” pop up window appear.

6. When you highlight and accept the Rename Recording option an Edit Filename a screen will appear with an alphabetical keyboard and text input screen. Use the five button keypad to navigate to the Edit Filename screen to select the letters for your new filename – select check mark (“✓”) when you are finished. You will be taken back to the Create Recordings screen where you will see the newly renamed recording listed in alphabetical order.

7. When you highlight the Delete Recording option, simply press and release the CENTER button to accept the deletion. You will see a pop up window asking you if you are sure you want to delete the recording. Press and release the CENTER button to accept the deletion. You will be taken back to the Create Recordings screen where you will see that the recording has been deleted from the list.

Note: Users have found great utility in the ability to digitally record custom English or foreign phrases directly on the SQ.410. Additionally, for human intelligence gathering and basic interview type scenarios, the ability to record a statement or testimony in either English or a foreign language (for later translation) has proven very valuable.
Power Management

The SQ.410 operates on two CR123A lithium batteries. In most typical use scenarios the unit should last at least 8 hours on one set of batteries. Standard disposable CR123A batteries are recommended. Although rechargeable CR123A batteries exist in the market, Voxtec does not recommend their use because the unit may behave erratically, even if useable the device will probably have significantly less than 8 hours of use, and the battery meter displayed on the SQ.410’s screen will not be accurate.

Checking Battery Status

The battery meter located at the top right of the SQ.410 software application screen shows the current battery status. Example battery meter progression (from left to right) during use:

It is time to swap fresh batteries when the unit displays the single red bar warning.

Note: If your SQ.410 loses power during use, you will not lose the software application, modules, or audio recordings you have created, which are all stored on the internal storage and the removable card.
Power Modes

The SQ.410 has three power modes:

- On
- Standby
- Off

<table>
<thead>
<tr>
<th>On</th>
<th>Standby</th>
<th>Off</th>
</tr>
</thead>
<tbody>
<tr>
<td>To turn the SQ.410 on, firmly press and release the POWER button.</td>
<td>If the SQ.410 is on and you wish to put it into standby, firmly press and release the POWER button.</td>
<td>To turn the SQ.410 off, firmly press and hold the POWER button down for 3 seconds and then release. Note: Ensure the “Powering Down” sequence is displayed on the screen prior to releasing the POWER button.</td>
</tr>
<tr>
<td>When the SQ.410 is on, the batteries are being drained and will eventually need to be replaced.</td>
<td>When the SQ.410 is put in standby mode, your settings and last screen viewed will be preserved, meaning pressing any button will take you directly to the screen from which you exited.</td>
<td>When the SQ.410 is off, and the batteries remain inside the SQ.410 there will be only minimal battery drain. Turn your SQ.410 off when you will not be using it for a while.</td>
</tr>
</tbody>
</table>

**TIP:** You can set the SQ.410 to automatically go into standby mode after a certain amount of time. Under Settings go to System then to Controls where you will see “Timeout to Standby”. When you select Timeout to Standby you will notice you can set the time to standby to occur in: 1, 5, or 20 minutes, 1 hour, or Never.

**Note:** In order to ensure the batteries do not drain down when the SQ.410 is not being used make sure the SQ.410 is turned off and not left in Standby inadvertently.

**Troubleshooting**

**If you are encountering speech recognition errors**

The SQ.410 uses advanced speech recognition technology to quickly and accurately identify and translate the phrases you
say. However, factors such as background noise, improper microphone placement, pauses and other irregularities of speech can cause recognition errors. In some cases, instead of hearing the correct English verification in your headset earpiece, you may hear the no-recognition tone. In other cases, you may simply hear the wrong phrase verified back in your headset earpiece. To interrupt the SQ.410 from playing the incorrectly identified phrase, tap the PUSH TO TALK or A button. Then, press and hold the PUSH TO TALK or A button and say the English word or phrase again. If you continue to have recognition issues, try the following potential fixes:

1. Ensure the micro-SD card (with application software) is properly installed in the device.
2. Confirm in Settings that the correct microphone input has been selected.
3. If using the optional TACK-1 headset, confirm that you are wearing it properly. The headset earpiece is designed to fit over your left ear.
4. If using the optional TACK-1 headset, also confirm that the headset microphone is in proper position. It should be positioned close to the left corner of your mouth, about two inches away from your lips. Do not let the microphone touch against your face while speaking.

Example of proper headset position (below):
CAUTION: Facial hair such as a moustache or beard can sometimes rub against the microphone’s protective foam covering and cause unnecessary noise input which could confuse the ASR and reduce accuracy. If you have any sort of facial hair, be sure to position the microphone far enough away to eliminate any interference.

5. Try repeating the phrase. Be sure to enunciate your words, and speak in a clear, commanding voice.

6. If necessary, double-check the microphone gain input.

Note: When coaching a foreign language speaker on how to interact with the SQ.410, consider all the factors listed above. It may take a couple attempts for the foreign speaker to understand the concept that you are controlling the B button for voice recording, and that he or she needs to wait for the ping before beginning to talk.

If you encounter a software “lock up”
The SQ.410 is a mobile and rugged computer running sophisticated software. Like all computers, it may lock up occasionally. If this occurs, pressing any of the SQ.410’s buttons will not change its current state, except one – the Power button. In a lock up situation, pressing and holding the Power button for approximately 10 seconds will force the unit to turn off and reset itself.

TIP: If you experience a software lockup, and do not wish to use the Power button, removing the batteries from the SQ.410 is another excellent way of resetting the software application.

If you encounter a blank screen
There are several error conditions that might cause the SQ.410 to be stuck on a blank screen.

• Bright but Blank Screen. If the screen is bright but no text is showing and pushing the buttons does not result in any changes to the device’s functional state, ensure that the
micro-SD card (with application software) is properly installed in the device (refer to instructions on page 10 for proper removal and replacement instructions).

- Dark Blank Screen. If the screen is dark and blank, ensure that fresh batteries are installed and restart the system. Note that if the unit lost power during the initial boot sequence the internal system memory may have become corrupted. The unit will automatically repair the internal memory the next time the system is powered on, but boot time will be significantly increased, therefore when attempting to troubleshoot a dark black screen state be sure to allow the unit several minutes to attempt to complete the boot sequence before powering down or removing batteries.

**Maintenance and Care of the Device**

**Handling**

Do not pound, drop, or throw the device. Never carry the device by the headset or microphone. Do not open or disassemble the device. Keep all connector covers in place until ready to use the connector, and replace the cover immediately once the accessory has been disconnected. Do not open the micro-SD compartment in dusty or wet conditions, and ensure that the micro-SD card is free of dust and not wet when inserted into the device. At least once a month, inspect the O-ring inside the battery cap to ensure it is not cracked or blocked by grit or dust. Do not use solvents to clean the O-ring, but rather use gentle stream of compressed air or a soft, damp cloth to remove obstructions. A silicon-based lubricant may be used on the battery cap O-ring.

**Dust and Water Exposure**

The device is dust proof and waterproof to IEC Standard 60529 IP54. This means it can withstand exposure to fine dust without affecting performance during normal device operation and can withstand being splashed with water. However, prolonged
exposure to extreme dust or water submersion can cause damage to the device. Use the headset configuration if the unit will be used in conditions where continuous water exposure is anticipated, such as during a rainstorm. Before using the device in extreme conditions, ensure that both audio covers are closed, micro-SD cover is screwed down and battery compartment is tightly closed.

**Cleaning the Device**

*Note: Avoid chemical cleaners and solvents which can damage plastic or rubber components.*

1. Dampen a clean cloth with a mild detergent solution.
2. Wipe the device with the damp cloth.
3. Dry the device thoroughly with a soft, lint-free cloth and allow the device to dry completely before opening the micro-SD compartment, battery compartment or audio flapper covers.
4. Compressed air may be used to remove dust from surfaces and inside speaker compartment, but ensure that only a gentle stream of air is used otherwise dust may be forced inside the device.

**Cleaning the Screen**

1. Dampen a soft, clean, lint-free cloth with water, isopropyl alcohol, or eyeglass lens cleaner.
2. Wipe the screen with the cloth.
3. Thoroughly dry the screen with a soft, lint-free cloth.

**Extreme Temperatures**

Do not store the device where prolonged exposure to extreme temperatures can occur because it can cause permanent damage.

**Long-Term Storage**

Remove the batteries when the device will not be used for several days or more. Stored data is not lost when batteries are removed.
Service and Technical Support

If your SQ.410 needs service or you require technical support, please contact us via the Voxtec corporate website at www.voxtec.com/contact_us, or contact Voxtec directly. If possible, be sure to have the following information available before you contact Voxtec:

- Applicable technical problem or error message
- Model name (e.g., “SQU.ID”), model number (e.g., “SQ.410”), and date of manufacture (listed on product sticker on outside of original packaging)
- Product Serial Number (listed on back of device)
- Application Version and platform OS (found in the About section under Settings)

Return Merchandise Authorization

You must have a Return Merchandise Authorization (RMA) number before returning your SQ.410, or any of its components for repair. To obtain an RMA number, please contact Voxtec.

Contact Voxtec International, Inc.

| Address         | 20 Ridgely Avenue  
|                 | Suite 301          
|                 | Annapolis, MD 21401, USA |
| Phone           | 1.866.4VOXTEC (toll free) or 410.626.1110  
|                 | +1.410.626.1110 (international) |
| Fax             | 410.626.1112       |
| Email           | info@voxtec.com    |
| Web             | voxtec.com         |
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10. ADDITIONAL SOFTWARE/SERVICES. This EULA applies to updates, add-on components, product support services, or Internet-based services components of the SOFTWARE that you may obtain from LICENSOR and/or its Third Party Suppliers after the date you obtain your initial copy of the SOFTWARE, unless you accept updated terms or another agreement governs.

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12. SUBMISSIONS. Should you decide to transmit to LICENSOR’S website by any means or by any media, any materials or other information (including, without limitation, ideas, concepts or techniques for new or improved services and products), whether as information, feedback, data, questions, comments, suggestions or the like, you agree such submissions are unrestricted and shall be deemed non-confidential and you automatically grant LICENSOR and its assigns a non-exclusive, royalty-free, worldwide, perpetual, irrevocable license, with the right to sublicense, to use, copy, transmit, distribute, create derivative works of, display and perform the same.

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15. SEVERABILITY. Should any term of this EULA be declared void or unenforceable by any court of competent jurisdiction, such
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19. TERMINATION. Without prejudice to any other rights, LICENSOR may terminate this EULA if you fail to comply with the terms and conditions of this EULA. Upon termination, you must immediately cease use of the HARDWARE and destroy the SOFTWARE and all of its component parts.
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LIMITED WARRANTY. This limited warranty ("Limited Warranty") applies to the Voxtec International, Inc. ("Voxtec") branded hardware products sold by Voxtec or its authorized distributors with this Limited Warranty (collectively, the "Voxtec Product"). Voxtec warrants that (a) the hardware constituting the Voxtec Product will be free from defects in materials or workmanship under normal use for a period of one (1) year, and (b) the software Voxtec has included with your Voxtec Product (the "Voxtec Software") will perform substantially in accordance with the accompanying written materials for a period of ninety (90) days (both (a) and (b), the "Limited Warranty Period").

START DATE. The Limited Warranty Period starts on the date of purchase of your Voxtec Product from Voxtec or one of its authorized distributors. Your dated sales or delivery receipt, showing the date of purchase of the Voxtec Product, is your proof of the purchase date. You may be required to provide proof of purchase as a condition of receiving warranty service. Any implied warranties that may be imposed by law are limited in duration to the Limited Warranty Period.

EXCLUSIVE REMEDY. During the Limited Warranty Period and subject to applicable law, Voxtec will, at its option and as your exclusive remedy for breach of this Limited Warranty or any implied warranties:

• Repair or replace a defective Voxtec Product, or
• Following return of your Voxtec Product to Voxtec or one of its authorized repair centers, make payment to you for the allowable damages that you incur in reasonable reliance on this Limited Warranty, but only up to the amount of the purchase price that you paid for your Voxtec Product. This refund may include, at Voxtec’s reasonable discretion, a deduction for depreciation based on your actual use.

Voxtec will use commercially reasonable efforts to diagnose and
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Any replacement parts or Voxtec Product will be new or refurbished or serviceably used, comparable in function and performance to the original part or Voxtec Product and warranted for the remainder of the original Limited Warranty Period or 30 days from the date of shipment of the Voxtec Product back to you, whichever is longer. All component parts or hardware products removed under this Limited Warranty become the property of Voxtec.

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FCC Notice

Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Caution

Changes or modifications to this equipment not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment.
ADDENDUM TO USER MANUAL

OPTIONAL TWO-WAY TRANSLATION
SOFTWARE UPGRADE
Introduction

This manual addendum explains the use of the optional two-way software available for the SQU.ID SQ.410 translation device. Optional two-way software upgrades are available from Voxtec for purchase on a per-device basis.

This addendum assumes that the user has become familiar with the SQ.410 and its use as described in the user manual. This addendum merely serves to explain that which is different between using the SQ.410 in one-way mode versus two-way mode, with the assumption that anything not covered in this two-way addendum is simply not different from how the SQ.410 works in one-way mode.

As with one-way software, the two-way software uses **automatic speech recognition (ASR)** technology to recognize your spoken English, but unlike the one-way software it also uses ASR technology to recognize what is spoken by the foreign speaker. Also unlike the phrase-based software which uses predefined sets of English words and phrases that are pre-translated and vetted for accuracy by fluent foreign language speakers and interpreters, the two-way software uses **statistical machine translation (SMT)** to translate spoken words between two languages and **automatic text-to-speech (TTS)** to broadcast the translation over the device’s speaker or, if attached, an external speaker. By its very nature, SMT is subject to translation errors and TTS is subject to pronunciation errors, unlike one-way software. Given the possibility of errors in translation and pronunciation, the two-way software is not recommended in situations where mistakes in communication could prove dangerous.

The two-way software is designed with the assumption that the principal user of the device speaks English and that the English speaker will generally be in control of the device. In order to be most effective, the English speaker should direct the conversation by asking specific questions to elicit short responses (e.g. “How many people were injured in the explosion?” NOT “Tell me everything you witnessed.”). Foreign language speaker responses will be recognized and translated more effectively if they remain within the expected speech domain. Even in English, but especially in the foreign language, simple, non-colloquial phrases will result in better translations.
Selecting a Two-Way Module

The two-way software is treated as different modules on the Select Module screen, just like one-way phrase-based modules. You can recognize a two-way module by the words “Two-Way” in the title and a reference to which language pair it translates to and from. As with one-way modules, there are certain domains associated with the language pairs, such as “Basic-Conversation” or “Force Protection.” Only one language pair and one domain is handled per module, therefore changing the paired language or domain requires selecting a new module.

Viewing the list of available modules on the Select Module screen will show all one-way and two-way modules available as a combined list. For example, here is the two-way module for Basic-Conversation English-Spanish being selected:

As with all modules, the currently loaded module has a filled dot next to it and selecting a new module will unload the currently loaded module. Because two-way modules are larger than one-way modules, loading a two-way module will take comparatively longer.

Basic Translation Steps in Two-Way Modules

English to foreign language

1. Press and hold either the PUSH TO TALK or A button. You will hear a single audible “ping” in your headset earpiece or through the SQ.410’s speaker if you have elected to turn on English verification.
to the speaker. This ping indicates that the SQ.410 is waiting for you to say an English word, phrase or question to be translated.

2. Say the English word, phrase or question you wish to translate into the microphone.

3. Release the PUSH TO TALK or A button after you have finished speaking. You will hear an audible two beat “ping, PING” after you release the button.

4. For English verification, you can choose to have the English word or phrase played through the headset earpiece or speaker just before the foreign language translation broadcasts (same as in one-way modules).

5. The corresponding foreign language translation of the English word, phrase or question will then be broadcast through the SQ.410 speaker. Note that a small speaker icon will appear next to the foreign language portion of the screen indicating that the TTS was broadcast in that language.

6. The LCD will display the written English ASR result along with the translated foreign language text equivalent. Note that a small microphone icon next to the “English” portion of the screen indicates the ASR just recognized the English speaker.

Foreign language to English

1. Help the foreign speaker to position the microphone near his or her mouth. Depending on environmental factors (e.g. wind, road noise, or quiet setting) and the foreign speaker’s
voice level you may need to adjust the SQ.410’s secondary microphone gain up or down for good voice recognition.

2. Press and hold the B button. You will hear a single audible “ping” through the SQ.410’s speaker. This ping indicates that the SQ.410 is waiting for the foreign speaker to respond with a word, phrase or answer to be translated. While you continue to hold down the B button, the foreign speaker should say the word, phrase or answer to your question.

3. Release the B button after the foreign speaker has finished speaking. You will hear an audible two beat “ping, PING” after you release the button.

4. The corresponding English language audio translation of the foreign language word, phrase or answer will then be broadcast through the SQ.410 speaker. Note that a small speaker icon will appear next to the “English” portion of the screen indicating that the TTS was broadcast in English.

5. The LCD will display the written foreign language ASR result along with the translated English text equivalent. Note that a small microphone icon next to the foreign language portion of the screen indicates the ASR just recognized the foreign language speaker.

NOTES:

1. Best results are obtained if there is a slight pause after the “ping” before a speaker starts speaking. It
may take a couple attempts for the foreign speaker to understand the concept that you are controlling the B button, and he or she needs to wait for the “ping” before beginning to talk.

2. If the text displayed in English or the foreign language is too long to read, press and hold the RIGHT button then press the DOWN or UP buttons to scroll through the text as necessary.

3. Vulgar words in English and the foreign language are replaced with “<beep>” in the translation text and are heard as a “beep” noise when played through the TTS.

### Edit ASR Results

The two-way software allows the user to manually edit the ASR results. This is useful when the ASR will not recognize one or more words correctly. While it is possible to edit either the English or the foreign language ASR results, in most use cases this feature will be used for English.

To manually edit the ASR result:

1. With the phrase needing correction showing, press and release the RIGHT button to show a menu of options for that phrase.

2. Scroll down and select “Edit ASR Results” from the pop-up menu.
3. Using the five way key pad, navigate the on-screen keyboard to edit the phrase. Select the text area itself to move the cursor within the phrase.

![On-screen keyboard image]

4. When finished entering text, select the check mark (“✓”) in the lower right corner.

5. Press and release the CENTER button to repeat the translation with the now corrected phrase.

**System Setting Differences for Two-Way Modules**

The system settings are virtually identical whether in a one-way module or a two-way module. In System settings the only substantive difference is paying close attention to the connected microphone settings.

It is NOT recommended that “Primary Only” be selected, because that would require handing the headset to foreign speakers in order to recognize their speech.

Also note that when “Both” is selected under microphone settings, the primary headset is for English and the secondary microphone is for foreign language speech recognition.
The user must determine the appropriate headset and/or microphone combination depending on appropriate use case, including whether to use a near field, far field, handheld, clipped on, etc., type of microphone.

### Application Setting Differences for Two-Way Modules

In Application settings there are two new options: (A) Modified Translations, and (B) Added Words.

**A. Modified Translations.** Is almost identical to the “Added Phrases” menu in the one-way modules, which it replaces. As with the Added Phrases concept in one-way modules, the “Modified Translations” of the two-way modules allows you to create modified audio recorded translations you have created by collaborating with a fluent foreign language speaker or interpreter. The ability to modify SMT generated foreign language translations to better comply with local terminology or colloquialisms increases the SQ.410’s flexibility and usefulness in the field. Unlike one-way modules which require you to add new phrases only via the “Add Phrase” Application menu, you can modify a translation in a two-way module by not only using the “Modified Translation” menu but also directly from the Main Screen. To add a modified translation from the Main Screen:

1. Speak the phrase in English from the Main Screen.
2. Press and release the RIGHT button to show a menu of options for that phrase.
3. Scroll down and select “Record New Translation” from the pop-up menu.
4. On the next screen press and hold down the “B” button while the trusted foreign language speaker says the new translation.

5. The phrase will then be added to the Modified Translations list.

NOTES:

1. As with one-way modules, it is highly recommended that a quiet location with no background noise be used when recording foreign translations on device.

2. It is recommended that the microphone gain setting be changed from automatic to manual and adjusted to an appropriate setting given the recording environment to ensure the best possible audio recording quality.
B. **Added Words.** Add a person’s first name, last name, place name, or generic word directly onto the SQ.410 through the use of an on-screen keyboard that you control via the five-button keypad. Adding words that specifically address your location and the people you are working amongst can greatly increase the SQ.410’s effectiveness.

To add a word:

1. Select “Added Words” under the Application menu.
2. Select the first item in the list “Add New Word…”
3. Choose what type of word is being added. Choosing the proper type of word increases translation and speech recognition accuracy.
4. Using the five-way key pad, navigate the on-screen keyboard to type in the word as it is normally written in English. Select the word area itself to move the cursor in the word.
5. When finished spelling the word select the check mark ("✓") in the lower right corner.

The system will automatically generate a pronunciation of the added word in English and the foreign language. Some words sound very different than they are spelled. In that case the phonetic pronunciation of the word should be modified. The user may also wish to make a first or last name sound more familiar in a particular language, in which case the pronunciation of that name can similarly be modified.

To modify the pronunciation of an Added Word:

1. Select the word on the Added Words List, then press the CENTER button and choose “Edit English Phonetic” if the added word is in English or “Edit Foreign Phonetic” if the added word is in the foreign language.

2. Use the on screen keyboard to modify the spelling of the word to match how it sounds. Use the “Play” button to test how the Speech Synthesizer pronounces the word. Modify the spelling until it sounds correct. For example, set forth below are screenshots of adding the First Name “Laurent” and then modifying it so that it is pronounced as “Lawrence” in English.

3. When finished spelling the word phonetically, select the check mark ("✓") in the lower right corner.
Notes:

1. When adding words in a foreign language it is strongly recommended that a fluent translator verify the spelling and pronunciation to ensure the correct meaning and pronunciation are conveyed by the system.

2. The phonetic spelling and the written spelling are stored separately and therefore do not affect each other for purposes of ASR or SMT results.

Other Expanded Functionality

Two-way modules feature expanded functionality in two other areas when compared to one-way modules: (A) Data Captured for Logged Phrases; and (B) Expanded Functionality of the My Favorites Folder.

A. Data Captured for Logged Phrases.

Logging phrases in two-way modules is identical to how it is done in one-way modules, i.e., either quickly press and release the C button or select the “Log Phrase” option from the Main Screen menu. But in two-way modules the logging feature stores the original audio as sent to the ASR, the text results of the ASR, the text results of the SMT and the audio of the TTS.

This expanded data capability can be especially helpful in situations where the foreign speaker may have talked much longer than the machine can translate in one phrase, but the user thinks there is good information that can be understood by a human interpreter at a later time.

B. Expanded Functionality of My Favorites Folder

The My Favorites folder works nearly identically in one-way and two-way modules. The only significant difference is that ANY phrase saved to the My Favorites folder can now be modified by selecting the Record New Translation menu option, unlike one-way modules in which only user-added phrases can be modified.
Licensing Notice

If the optional two-way software is ordered, it will be loaded on the micro-SD card along with the base one-way software. The license right purchased to use the two-way software is handled on a per-device basis. This means that if the customer buys multiple SQ.410 devices but only one two-way software upgrade, only one device may use the two-way software and it is a violation of Voxtec’s intellectual property rights to copy the micro-SD card containing the two-way software to use it on multiple devices.