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INTRODUCTION

ECTACO SpeechGuard™ GI-4 is a portable device featuring English phrases recognition module providing quick translation from English into Arabic.

To meet the specific requirements, the device phrase bank could be customized to include additional language combinations for the same phrase set. You can also expand the phrase bank by adding phrases to *MY SPEECHGUARD*, the user-defined topic.

The ECTACO SpeechGuard™ GI-4's main purpose is to ensure real-time search and playback of the phrases to help your dialog with a non-English speaker. The other important task is to establish the user-interlocutor feedback and cooperation, and vice versa.

The standard package includes:

- ECTACO SpeechGuard™ GI-4 device
- User Manual
- Quick Start guide
- AC/DC adapter (battery charger)
- Rechargeable battery
- MultiMedia Card (MMC) with translations sounding
- External microphone
- Palm strap
- Spare stylus

ECTACO SpeechGuard™ GI-4 features:

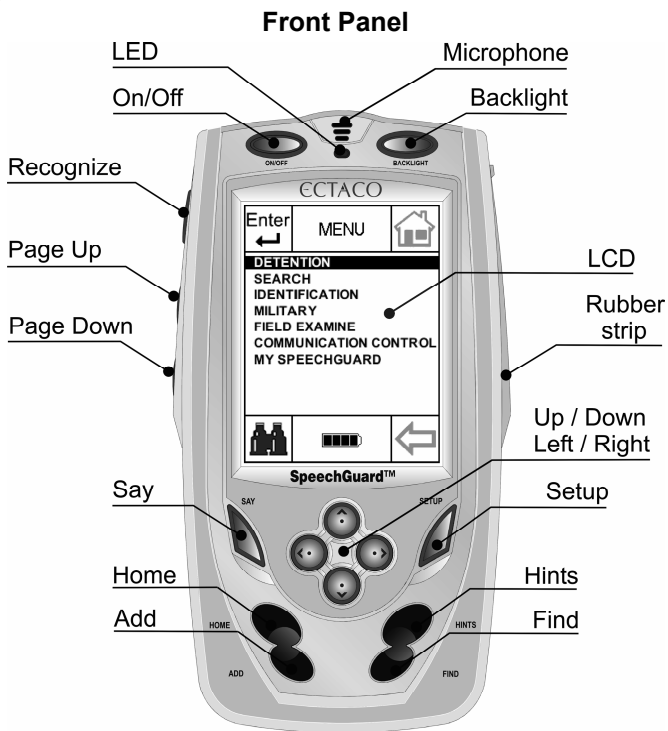
- ❖ Voice translation from English into Arabic – 3,000 phrases
- ❖ English speech recognition

- ❖ Speaker adaptation
 - ❖ Volume control
 - ❖ Modern ergonomic design
 - ❖ Dust- and waterproof case
 - ❖ Expandable memory – MMC/SD slot, supports 8 to 64 Megabyte cards
 - ❖ Touch screen (320x240 pixels)
 - ❖ Screen backlight
 - ❖ Built-in 50 mm high-quality speaker
 - ❖ Built-in microphone
 - ❖ User-defined topics and phrases addition
 - ❖ Friendly interface
 - ❖ Search function
 - ❖ External power jack
 - ❖ Microphone jack
 - ❖ Headphone jack
 - ❖ Data protection system
- ◆ **Note:** As continuous efforts are made by the manufacturer to ensure better quality and performance of the ECTACO products, some characteristics of the device you have purchased may slightly differ from those described in this manual.

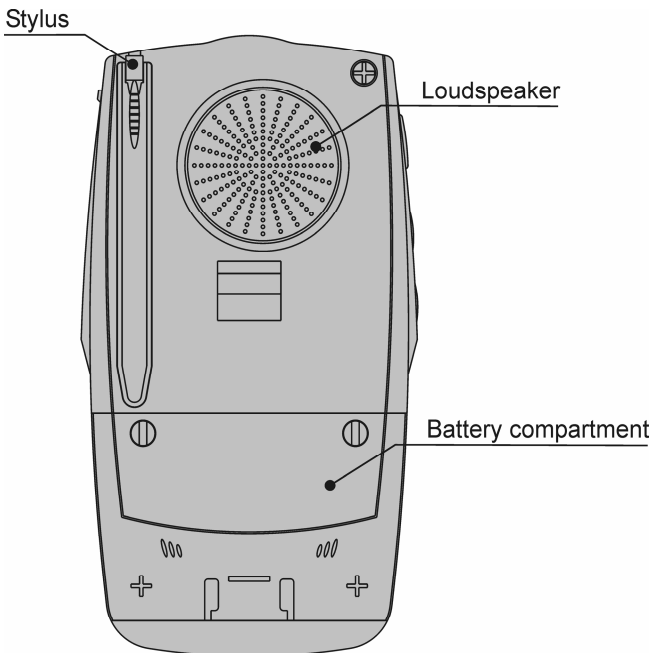
GENERAL DESCRIPTION

General View

The general view and external appliances of ECTACO SpeechGuard™ GI-4 are shown below.



Back Panel



Turn the Device On/Off

Your ECTACO SpeechGuard™ GI-4 must be turned on before you can operate it.

1. Press the *On/Off* button (see *General View* on page 4) to turn the device on. You will either see the *Main Menu* or whatever was displayed on the device screen at last turn off. If the screen remains blank, please make sure that the battery is inserted and charged.

2. To turn the device off, press the *On/Off* button once again. The screen will go blank.

- ◆ **Note:** When turning the device on, you can see a message offering you to format the user disk. Press the *Down* button to cancel formatting and keep the user data. If you press the *Up*

button, the user data will be erased and the default settings will be restored.

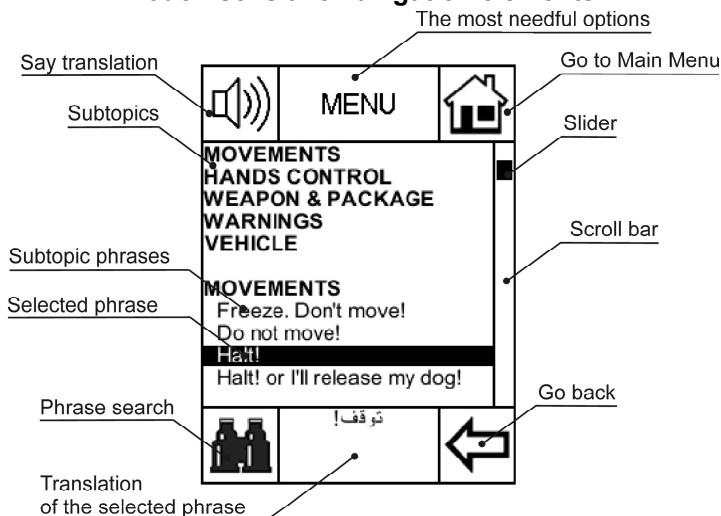
Navigate the Device

Before you start working with ECTACO SpeechGuard™ GI-4, please familiarize yourself with its basic navigation features. The following information will help you get the most of your electronic speech-to-speech translator.

Hardware buttons

Button	Action(s)
On/Off	Turns the device on/off
Backlight	Turns the screen backlight on/off
Recognize	Starts the speech recognition engine (in the <i>Main Menu</i> or in a topic – press and hold <i>Recognize</i>), opens topic or subtopic, pronounces phrase translation (press and release <i>Recognize</i>), applies settings (in the <i>Setup</i> section), starts searching (in the search screen), closes popup windows
Page Up	Scrolls up one page (screen) at a time
Page Down	Scrolls down one page (screen) at a time
Say	Pronounces phrase translation
Setup	Opens the <i>Setup</i> section
Up	Scrolls up one line or phrase at a time
Down	Scrolls down one line or phrase at a time
Left	Switches tabs (in the <i>Setup</i> section), moves the cursor to the left (in a text entry field)
Right	Switches tabs (in the <i>Setup</i> section), moves the cursor to the right (in a text entry field)
Home	Returns to the <i>Main Menu</i>
Add	Adds the selected phrase to <i>MY SPEECHGUARD</i>
Hints	Shows helpful dialog-forming phrases (within a topic or in the <i>Main Menu</i>)
Find	Opens the search screen with virtual keyboard

Touch-sensitive navigation elements



ECTACO SpeechGuard™ GI-4 screen has four predefined touch-sensitive areas located in the corners of the display. Depending on the section, these areas hold the following touch buttons.

Button Action(s)



Opens a topic



Returns to the *Main Menu*



Opens the search screen with virtual keyboard



Goes to an upper level (from within a subtopic or the *Setup* section)



Pronounces phrase translation



Indicates that the *Say* function is not available – for example, when you select a topic name instead of a phrase



Applies settings (available in the *Setup* section)



Shows the tab with general information on ECTACO SpeechGuard™ GI-4 (available in the *Setup* section)



Opens the *General Settings* screen (available in the *Setup* section)



Opens the *Advanced Settings* screen (available in the *Setup* section)



Opens the *System Settings* screen (available in the *Setup* section)

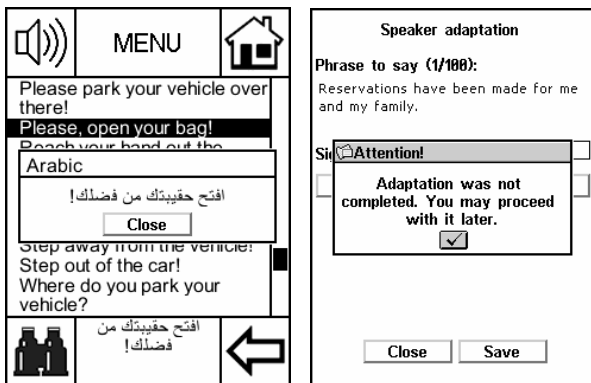
♦ **Note:** When inactive, a touch button is shown dimmed.

The *scroll bar* is shown when the phrase list doesn't all fit on the device screen. The *slider* shows the position of the displayed contents relative to the rest of data. To use these features please follow the steps below.

1. Tap on the scroll bar to move the slider to the desired position.
2. Tap on the slider and, holding the stylus down, drag it to the desired position.

Popup Windows

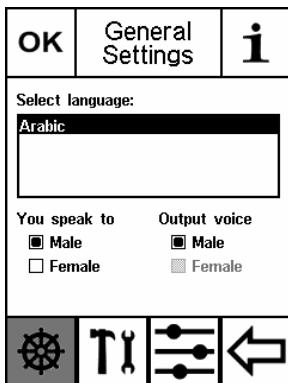
Popup windows, or just *popups*, are the short messages you will see on the device screen following certain operations. For example, if in the *Setup* section you have enabled the *Show speech quality messages* option, each time the device recognizes a voice command you will receive a popup with information on your speech distinctness. Two examples of popups are shown below.




To close the popup, tap on its check mark , press the *Recognize* button, or tap *Close*, where available.

Address to a Male or Female

In some cases, the phrase translation depends on the interlocutor's gender. Please follow the steps below to set your device for addressing a male or female correctly, as the situation requires.



1. Go to the *Setup* section by pressing the *Setup* button, or just tap on the word *MENU* in the upper part of the screen and then select *Settings* in the appeared menu.

2. Tap  or press the *Left / Right* buttons to open the *General Settings* screen.
3. On the *General Settings* screen, under *You speak to*, tap *Male* or *Female*. A check mark will indicate your selection.
4. To apply your settings and exit the *Setup* section, tap *OK* in the upper left of the screen or press the *Recognize* button. Now all the gender-dependent translations will be shown and pronounced in the selected grammatical gender.

Pronounce a Phrase Repeatedly

If you want your ECTACO SpeechGuard™ GI-4 to pronounce a phrase repeatedly, use the *Announcement* function. The selected phrase will be pronounced continuously until you stop it. To set the *Announcement*, please follow the steps below.

1. Within a topic, highlight the desired phrase by tapping it with the stylus.
2. Tap on the word *MENU* in the upper part of the screen. The following menu will appear.



3. Tap *Announcement*. You will see the *Current announcement* screen.
4. Tap *Set*. You will see the *Announcement successfully set!* popup. Tap on the check mark to close it.





5. Make sure there is a check mark next to *Arabic*. It indicates that the item is selected. To set or remove the check mark, tap it once.
6. Tap *Play*, and your announcement will be repeated continuously in the Arabic language.
7. To stop playback, tap *Stop*.
8. Tap *Ok* to exit the *Announcement* section.

Find and Translate a Phrase



How does one find a phrase in ECTACO SpeechGuard™ GI-4? Any phrase in ECTACO SpeechGuard™ GI-4 can be found manually – through the topics hierarchy structure, or automatically – by using the *Find* button, or through the voice commands. The next sections will illustrate this process in detail.

Manual Search

1. In the *Main Menu*, tap on the desired topic name. (If the *Main Menu* is not displayed, tap  or  to go to the *Main Menu*.) You will see the list of subtopics with their relevant phrases.
2. Tap the desired subtopic name. You will see the list of its phrases.
3. Scroll down by pressing the *Down* or *Page Down* buttons or by using the scroll bar, if necessary.


4. Tap on the desired phrase to select it. You will see the phrase highlighted. The phrase translation will be shown at the bottom of the device screen.

- ◆ **Note:** If the translation doesn't fit in its area, just tap it with the stylus. You will get a popup with the full text of translation. To close the popup, tap *Close*.

5. Press the Say button or tap . Alternatively, press the *Recognize* button and instantly release it (if you hold it, the device will switch to the recognition mode). The phrase translation will be pronounced in Arabic. To stop pronouncing, just press the Say button or tap .



Automated Search

Semantic net-based intelligent search technology used in ECTACO SpeechGuard™ GI-4 allows you to find not only the best matches, but also variations of the close matching phrases.

1. When in a topic or in the *Main Menu*, press the *Find* button or tap . You will see a text entry field and the virtual keyboard.

vehicle				
A	B	C	D	E
F	G	H	I	J
K	L	M	N	O
P	Q	R	S	T
U	V	W	X	Y
Z	↔	↔	←	
Enter	space		↩	

2. Tap on the virtual keyboard to type a word or phrase to search for. You may input a whole phrase (for example, *please open your bag*), or a single word (*bag*).

3. Tap *Enter*, or press the *Recognize* or *Find* buttons to start searching. If your search is successful, you will see the list of relevant phrases.
4. Scroll the list down by pressing the *Down* or *Page Down* buttons or by using the scroll bar, if necessary.
5. Tap on the desired phrase to select it. You will see the phrase highlighted. The phrase translation will be shown at the bottom of the device screen.
6. Press the *Say* button or tap . Alternatively, press the *Recognize* button and instantly release it (if you hold it, the device will switch to the recognition mode). The phrase translation will be pronounced in Arabic. To stop pronouncing, just press the *Say* button or tap .

Search by Voice Commands

1. When in the *Main Menu*, press and hold the *Recognize* button. Please remain silent for the first second – until you see the *SPEAK UP!* message.
2. Say the name of the desired topic and then release the *Recognize* button. The topic will open.

Note: If the *Show speech quality messages* option is enabled in the *Setup* section, each time the device recognizes a voice command you will get a popup with information on your speech distinctness.

3. Press and hold the *Recognize* button again. Please remain silent for the first second – until you see the *SPEAK UP!* message.
4. Say your phrase and then release the *Recognize* button. The highlight bar will move to the phrase you have pronounced, and ECTACO SpeechGuard™ GI-4 will pronounce the phrase translation (if the *Say translation* option is enabled in the *Setup* section). To stop pronouncing, just press the *Say* button or tap





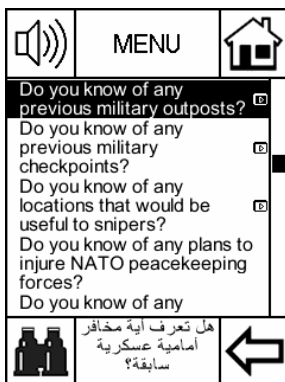
- ◆ **Note:** To go to the *Main Menu* from within a topic, just press and hold the *Recognize* button and say *Please choose another topic*. Make sure the *Switch topics by voice* function is enabled in the *Setup* section.


Use Hints

Our goal is to help you and your respondent understand each other to provide bilateral communication dialog. The *Hints* section offers you the most important phrases to start or keep up the conversation.

1. When in the *Main Menu* or in a topic, press the *Hints* button. You will see a list of the most important phrases.
2. Highlight the desired phrase by tapping it with the stylus or by pressing the *Up / Down* buttons. Tap *more hints* to see other helpful phrases.

3. Press the *Say* button or tap . Alternatively, press the *Recognize* button and instantly release it (if you hold it, the device will switch to the recognition mode). The phrase translation will be pronounced in Arabic. To stop pronouncing, just press the *Say* button or tap .



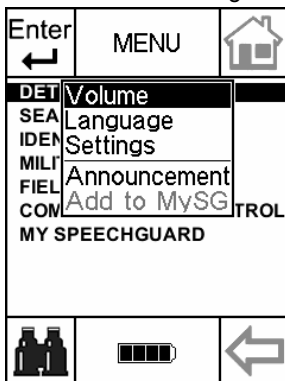
- ◆ **Note:** For certain phrases, expected answers can be also found in the *Hints* section. If a phrase is provided with a list of answers, it is marked with the  symbol shown next to it.

ADDITIONAL FEATURES

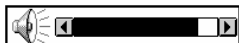
Adjust the Volume

Volume adjustment is a convenient feature of your ECTACO SpeechGuard™ GI-4 allowing you to control the speech volume of the voice translations.

1. When in a topic or in the *Main Menu*, tap on the word *MENU* in the upper part of the screen. The following menu will appear.



2. Tap *Volume*. You will see the following chart.





3. Tap on the chart or press the *Left / Right* buttons to change the volume. Solid chart indicates full volume. Empty chart indicates that the volume is at the minimum.
4. To close the *Volume* chart, press the *Recognize* button or tap anywhere on the screen.

Adjust Microphone Sensitivity

In some cases it may become necessary to increase or decrease the sensitivity of the device to match the natural volume of your voice. This is done through microphone sensitivity adjustment.



1. Go to the *Setup* section by pressing the *Setup* button, or just tap on the word *MENU* in the upper part of the screen and then select *Settings* in the appeared menu.

- Tap  or press the *Left / Right* buttons to open the *System Settings* screen.
- Tap on the chart next to  to decrease or increase microphone sensitivity.
- To apply your settings and exit the *Setup* section, tap *OK* in the upper left of the screen or press the *Recognize* button.

Create a New Phrase










The option allowing you to add new phrases is a very useful feature expanding the device phrase bank. All phrases you have created are stored in a special topic – *MY SPEECHGUARD*.

- ◆ **Note:** You can store up to 500 phrases in each user-defined topic.

- Navigate to the *Main Menu* by tapping  or  or by pressing the *Home* button.
- Open *MY SPEECHGUARD* by tapping its topic name with the stylus or by using a voice command (see page 13). You will see the current list of *MY SPEECHGUARD* topics and phrases, if any.
- Tap on the word *MENU* in the upper part of the screen. The following menu will appear.



- Tap *Organize*. You will see the *Organize MY SPEECHGUARD* screen.

5. Tap *New phrase*. The *EDITOR WIZARD* will open.
6. Type your phrase by using the virtual keyboard. Use  for *Shift*,  for *Caps Lock*, and  for *Backspace*.
7. Tap *Next*. If you receive the *Word is unknown* popup (the problem word will be mentioned in the popup text), tap the check mark to close it and then please check spelling of the problem word or just replace it with a synonym.
8. If the phrase translation is gender-dependent, select *depends*. Otherwise, select *does not depend*. To copy the translation of an existing phrase, tap . When searching a phrase within subtopics, tap  to go up one level. Tap on the desired phrase to copy its translation. You will see the *Translation copied* message. Tap on the check mark to close the popup.
9. Tap *Next* and then type the translation(s) by using the virtual keyboard. Use  for *Shift*,  for *Caps Lock*, and  for *Backspace*. Tap  to access Arabic letters. To switch between male/female fields, just tap on the respective line.
10. Tap *Next*. You will see the recording screen.
11. Tap *Record* and then say the phrase translation. To switch between male/female fields, just tap the appropriate check box. The voice translation will be recorded and saved into the device memory.
12. Tap *Finish*. Now you can find your phrase in *MY SPEECHGUARD*.

Edit an Existing Phrase


You may want to edit some phrases and/or their translations to make them perfectly match your actual situation.

Before you can edit a phrase, it must be either created or placed in *MY SPEECHGUARD* topic. The following steps show how to do that.

1. Navigate to the phrase you want edited and then highlight it by tapping with the stylus.
2. Press the *Add* button. The selected phrase will be added to *MY SPEECHGUARD*. Alternatively, tap on the word *MENU* in the upper part of the screen. The following menu will appear.



3. Tap *Add to MySG*. You will see the message: *This phrase successfully added to MY SPEECHGUARD*. Tap on the check mark to close the popup.

4. Tap  or press the *Home* button. The *Main Menu* will be displayed.

5. Open *MY SPEECHGUARD* and then highlight your phrase by tapping it with the stylus.

6. Tap on the word *MENU* in the upper part of the screen. The following menu will appear.



7. Tap *Organize*. You will see the *Organize MY SPEECHGUARD* screen.

8. Tap *Edit*. The *EDITOR WIZARD* will open.

9. Use the *EDITOR WIZARD* to edit your phrase. For more information, please read steps 6 – 12 described in the *Create a New Phrase* chapter on page 17.

Recharge the Battery

ECTACO SpeechGuard™ GI-4 works up to 1 week without recharging (in sleep mode) or up to 8 hours of active use. If the battery power runs too low, a warning message will be displayed. The following section shows how to recharge the battery.

1. Make sure the battery is inserted in the battery compartment.

♦ **Note:** Only special Li-Polymer rechargeable battery may be used with your ECTACO SpeechGuard™ GI-4.





2. Unfix the rubber strip on the right-hand side of the device to access the AC/DC adapter jack.

3. Connect the AC/DC adapter to your device. The red LED signal indicates that the battery is recharging and the green one indicates that the battery is charged.

♦ **Note:** The use of an inappropriate external power supply may cause failure of the device and void the warranty. Only special adapter may be used with ECTACO SpeechGuard™ GI-4.

Check the Battery Life

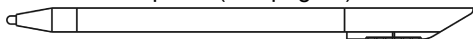
You can instantly access the battery life indicator at any time to check if your battery has enough energy.

1. Tap  or  to go to the *Main Menu*. At the bottom of the screen, you will see the battery life indicator. A dark indicator  means that the battery is fully charged, and an empty indicator  shows that it is necessary to recharge the battery as soon as possible.

2. Tap the battery life indicator to change the battery life picture to percentage value or a chart.

Use the Stylus

Tap the screen with the supplied pointing device called the stylus, which, when not in use, is conveniently kept in a special slot at the side of the device's back panel (see page 5).



The stylus cap screws off for your convenience to use it as a reset pin.

- ◆ **Note:** If, for some reason, using the stylus does not provide the desired effect, you may need to perform touch screen *Calibration*.

Perform Calibration

This screen fine-tuning procedure will help you adjust the device to comply with stylus commands.

1. Go to the *Setup* section by pressing the *Setup* button, or just tap on the word *MENU* in the upper part of the screen and then select *Settings* in the appeared menu.

2. Tap  or press the *Left / Right* buttons to open the *System Settings* screen.

3. Tap *Calibration* or just press the *Setup* button. You will see the calibration screen with five targets, appearing one after another as you tap them with the stylus.

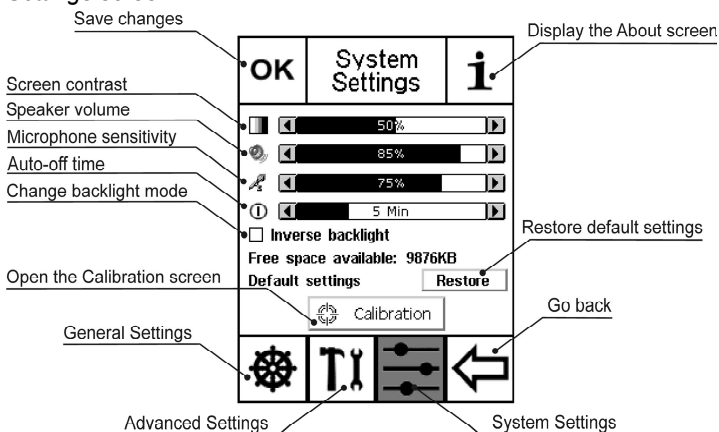
4. To complete *Calibration*, please follow the instructions on the screen. To skip *Calibration*, just press the *Recognize* button.


Tweak the System – Auto-off, Contrast, Backlight


Your speech-to-speech translator has a number of features designed to help you customize the interface. The following sections will show you how to change the *screen contrast*, adjust the *auto-off time*, and change the *screen backlight mode*.


1. Go to the *Setup* section by pressing the *Setup* button, or just tap on the word *MENU* in the upper part of the screen and then select *Settings* in the appeared menu.

2. Tap  or press the *Left / Right* buttons to open the *System Settings* screen.



3. Tap on the chart next to  to adjust *screen contrast*. You will see the screen getting darker or brighter.

4. Tap on the chart next to  to adjust *speaker volume*. Press the *Say* button to listen to the checking phrase *Do you speak English?* to make sure the volume is properly adjusted.



5. Tap on the chart next to  to adjust the *auto-off time*, which can be set to 1 to 15 minutes. This feature saves battery life by shutting the device down after the specified period of inactivity.

6. Tap on *Inverse backlight* to change the backlight mode. A check mark indicates that the option is selected. Press the *Backlight* button to make sure the backlight mode has changed.

7. To apply your settings and exit the *Setup* section, tap *OK* in the upper left of the screen or press the *Recognize* button.

Change Font Size


ECTACO SpeechGuard™ GI-4 offers you three font sizes for displaying phrases and their translations: *Small*, *Medium*, and *Large*. To change the current font size, please follow the steps below.

1. Go to the *Setup* section by pressing the *Setup* button, or just tap on the word *MENU* in the upper part of the screen and then select *Settings* in the appeared menu.
2. Tap  or press the *Left / Right* buttons to open the *Advanced Settings* screen.
3. Under *Font size*, tap *Small*, *Medium*, or *Large*. A check mark  will indicate your selection.
4. To apply your settings and exit the *Setup* section, tap *OK* in the upper left of the screen or press the *Recognize* button.

Perform Adaptation

ECTACO SpeechGuard™ GI-4 uses the speaker-independent speech-recognition technology. It means that regardless of the pronunciation or speech characteristics, the majority of users will be able to choose phrases by voice with equally good results.

To ensure the correct speech recognition, you can perform the *Adaptation* procedure during which the system adjusts to a particular voice more precisely.

1. Go to the *Setup* section by pressing the *Setup* button, or just tap on the word *MENU* in the upper part of the screen and then select *Settings* in the appeared menu.
2. Tap  or press the *Left / Right* buttons to open the *Advanced Settings* screen.
3. Tap *Adaptation*. You will see the *Speaker adaptation* screen.
4. To record the adaptation phrase, tap *Record* and then read the phrase displayed on the screen into the microphone. Tap *Play* to listen to what you have recorded. It is important to listen to your voice recorded in the initial steps of adaptation in order to exclude any alien noises or adjust the recording level.
5. Tap the *Next* button to switch to the next adaptation phrase when you have recorded the previous one satisfactorily.
6. To save the current adaptation data, tap *Save*. To exit *Adaptation*, tap *Close*. Next time you perform *Adaptation*, the system will allow the adaptation process to start from the last recorded phrase.

- ◆ **Note:** The system will adapt to the speaker voice only after all the adaptation phrases are recorded.

Check the Power Supply

ECTACO SpeechGuard™ GI-4 is powered by a Li-Polymer rechargeable battery (3.7V, 1800mAh). The battery compartment is located on the back of the device and is covered with a plastic cover (see *Back Panel* on page 5).

To open the battery compartment, unscrew two screws, holding the battery compartment cover.

- ◆ **Note:** If the battery power runs too low, the warning message will be displayed. To restore full functionality of the device and avoid risk of losing user data, recharge the battery as soon as possible.

The device works up to 1 week without recharging (in sleep mode) or up to 8 hours of active use. The automatic turnoff has a preset delay of 5 minutes. This feature saves battery life by shutting the device down after the specified period of inactivity (see *Tweak the System* on page 20)

- ◆ **Note:** Before you plug in the AC/DC adapter, please make sure that the battery is inserted in the battery compartment.

Install MMC

ECTACO SpeechGuard™ GI-4 MultiMedia Card is included in the standard package. The card contains data necessary for proper functioning of the device.

The MMC slot is situated under the battery in the battery compartment. If the MMC is not installed, please follow the steps below to install it.

- ◆ **Note:** Always make sure the device is turned off before installing or removing the MMC. Use the *On/Off* button to turn the device off.

1. To open the battery compartment (see *Back Panel* on page 5), unscrew two screws, holding the battery compartment cover.
2. Remove the battery from the compartment.
3. Slide the MMC into the MMC slot with the label face up and the contacts face down.

4. Insert the battery into the compartment and screw two screws back.

Remove MMC


You may need to remove the MMC, for example, to replace it with a new one containing new linguistic and voice data.

1. Turn the device off by using the *On/Off* button.
2. Open the battery compartment and remove the battery.
3. Remove the MMC from the slot.


Reset the Device

If you want to restore the default settings for your device or, in the rare event of a program failure, to recover, you will need to perform a reset procedure. This can be done in one of the following ways.

Reset by Using the Reset Button

1. Unfix the rubber strip on the right-hand side of the device (see *General View* on page 4).
2. Unscrew the removable cap of the stylus – it will serve you as a reset pin.
 - ◆ **Note:** The *Reset* button can also be accessed with any thin object such as a paper clip. Never use a needle or a sharp pin for this purpose since it can damage the device.
3. Press the *Reset* button. On completion of the reboot, factory-defined settings will be restored and the *General rules* screen will be displayed.
4. To close the *General rules* screen, tap  or press the *Recognize* button. You will see the *Main Menu*.

Reset via the Setup Section

1. Go to the *Setup* section by pressing the *Setup* button, or just tap on the word *MENU* in the upper part of the screen and then select *Settings* in the appeared menu.
2. Tap  or press the *Left / Right* buttons to open the *System Settings* screen.

3. Tap *Restore*. You will receive a popup asking you to confirm restoring.
4. Tap to restore the default settings or to cancel the restore process.