TwoXTen

Switch accessible infra-red remote control with auditory feedback and scanning

Features:-
- Records infra-red commands from other remote controls.
- Optional Z-Wave or EasyWave radio transmitter.
- Can be used to control TV, Hi-Fi, Lights, Sockets, Door opener etc.
- High quality auditory feedback using recorded speech.
- 3.5mm sockets for single switch, short click and two switch scanning
- Programmable scanning options to suit user needs.
- Bright LED display with slide-in pocket for custom made labels
- Battery powered, easy to mount, attractive robust enclosure.

Important Notes:
1. Read this manual carefully before installing or operating your TwoXTen.
2. Due to continuos product improvement Unique Perspectives reserves the right to update this Manual. This Manual supersedes all previous issues which must not continue to be used.
3. Any attempt to gain access to or in any way abuse the electronic components of the TwoXTen renders the manufacturer's warranty void and the Manufacturer free from liability.

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1   Specifications

Electrical

Power Supply	3 x 1.5V AA batteries
Quiescent Current	30mA

Mechanical

Weight	Approx. 500grams
Case material	Black ABS plastic.

Environmental

	Min	Max	Units
Operating ambient temperature range	-25	50	ºC
Storage temperature range	-25	70	ºC
Operating and storage humidity	0	90	%RH

The TwoXTen is not designed for outdoor use.

Intended Use

The TwoXTen is an Infra-red remote control designed to enable those individuals who cannot use a standard remote control the ability to operate entertainment equipment and environmental control equipment in their home or place of work/study.

The TwoXTen is for indoor use only.

The TwoXTen can be operated directly or by connecting an appropriate switch.

2   Introduction

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TwoXTen is a switch accessible Infra-red remote control with auditory feedback using recorded speech. It is practical and easy to use and can be operated by external switches or directly by pressing the keypad buttons.

TwoXTen can be used to control the Television, Hi-Fi, Video as well as environmental control functions such as lights, sockets, curtain openers etc (provided they have been previously fitted and can be controlled by Infra-red).

- Infra-red commands from other remote controls can be recorded on each of the 10 keypad buttons. Additional commands can be recorded by enabling a second level .

- It is possible to record a series of commands on each button. Each series can be up to 20 seconds long and stops when the user presses their switch. This is very useful for scanning television channels or adjusting the volume.

- The built in microphone and speaker deliver good quality speech output in scanning mode with 5 seconds record time per command.

- 3.5mm jack sockets for single switch scanning and two switch scanning. A number of scanning options can be changed in program mode.

- Bright LED display with slide-in pocket for keypad label.

- A 'lite' version uses auditory beeps rather than recorded speech.

- Easy to mount using a circular plate (TA66130 or similar) and suitable mounting bracket.

- Attractive robust enclosure. Size: 170mm x 75mm x 25mm. Buttons: 18mm x 18mm

- Runs on 3 x AA batteries (not provided).

Infra-Red output.
Powerful IR output ensures that user does not have to point the device.

Button indicator.
Illuminates during scanning or when the button is pressed.

Buttons.
10 light action buttons for easy direct access.

Program Button.
Used in combination with other buttons to enter and exit program mode.

Volume Button
If required, button 9 can be used to adjust the volume of the speaker.

Microphone Input.
Condenser microphone for recording audio prompts.

Label Insert.
Lift up flap to insert a custom designed label.

Infra-red signal indicator.
Illuminates when transmitting or recording an Infra-red signal.

Low battery indicator.
Illuminates when battery is low and needs to be changed.

Programming Indicator.
Illuminates when in program mode.

Level Button.
If required, button 0 can be used to change the level. There can be 2 levels.

Loudspeaker.
For playback of recorded messages, prompts and system sounds.

Switch 2 input.
Step switch in two switch scanning mode or changes level.

Switch 1 input.
Switch input for scanning modes and select switch in two switch mode.

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3 Basic User Operation

TwoXTen is designed primarily for switch users and is intended to be operated by one or two suitable external switches. How a user operates their device will depend on the number of switches they are using, the scanning method, the scanning style and other settings that have been chosen.

Since each setup can be quite different this chapter only gives a general description of how to use TwoXTen. For further details read the TwoXTen Settings chapter further on in this manual.

3.1 Getting Started

STEP 1: Connect your switches

The switch connectors are standard 3.5mm jack sockets located at the bottom of the unit. The socket on the right is switch 1, the socket on the left is switch 2.

Switch 2 input   *Switch 1 input*

STEP 2: Start scanning

How you operate TwoXTen depends on which scanning method has been selected. There are four different scanning methods:

Automatic Scanning
This is a single switch mode in which the buttons of TwoXTen are scanned automatically. Press Switch 1 to start the scanning and then press it again when the desired button lights up or when you hear the desired auditory prompt.

Short Click Scanning
In this mode make short clicks of Switch 1 to advance the scan. To make a selection press and hold Switch 1 for a short time. Although this mode involves

more switch activity it gives you control over both the scanning and the selection from one switch.

Two Switch Scanning

Two switch scanning or step scanning uses two external switches. Switch 2 is used to manually advance the scan and select the desired button. Switch 1 is used to activate the command on that button.

Direct Access

Direct access is not strictly a scanning mode and is provided for simple setups, demonstrations and assessments. In this mode Switch 1 activates the Infra-red command on Button 1 and plays back it's the auditory prompt. Likewise, Switch 2 activates the Infra-red command on Button 2 and plays back it's auditory prompt.

STEP 3: Make a Selection

When you have scanned to the button you want press Switch 1 to transmit the InfraRed code stored on that button (in Short Click scanning mode you must press and hold Switch 1).

If there is an InfraRed code stored on the button you have chosen it will be transmitted. As the code is being transmitted notice how both the button light and the 📶 light illuminate.

If a long sequence of InfraRed codes was recorded on the button, for example a series of program up commands, pressing your switch a second time will stop the transmission, and, if an "OK" code was recorded it will be transmitted now. *Long sequences and "OK" codes are very useful features that allow you, for example, to select a channel on your Sky box with only two presses of your switch (see page 12 for further details on how to record long sequences and "OK" codes).*

When the InfraRed code has stopped being transmitted the 📶 light will go out.

Pressing your switch again will restart the scanning so that you can select another function.

3.2   Scanning Styles

When you are scanning, the lights of the TwoXTen buttons will light up in a particular sequence. The order in which they light up depends upon what scanning style has been selected.

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The Scanning Style can also be called the scanning pattern. There are 6 different scanning styles or patterns possible within TwoXTen.

For details on how to choose the scanning style see page 28.

Linear XY
This is the standard Scanning Style. The scan advances sequentially from 1 to 2 to 3 and so on. When the scan reaches the 10th button, Button 0, it restarts from Button 1. If no switch is pressed after two complete scans TwoXTen stops scanning.

Linear XY
In this style the scan advances down the left hand buttons first and then down the right hand buttons. 1 to 3 to 5 to 7 to 9 and then 2 to 4 to 6 to 8 to 0.

Linear Sideways
This style is useful if you intend to operate TwoXTen on its side. The scan advances along the top row from left to right and then along the bottom row form left to right. 2 to 4 to 6 to 8 to 0 and then 1 to 3 to 5 to 7 to 9.

Row Column
In this style the buttons of TwoXTen are scanned two at a time or row by row. Pressing the switch selects the desired row. Then the buttons within the row are scanned one by one. Press the switch again to select the desired button.

This style enables you to quickly reach the desired command. Although it is possible to have auditory clicks for each row it is not possible to have auditory prompts.

Column Row
In this style the buttons of TwoXTen are scanned five at a time or column by column. Pressing the switch selects the desired column. Then the buttons within the column are scanned one by one. Press the switch again to select the desired button.

As before, this style enables you to quickly reach the desired command. Although it is possible to have auditory clicks for each column it is not possible to have auditory prompts.

Row Column Sideways
This style is useful if you intend to operate TwoXTen on its side . In this style the buttons of TwoXTen are scanned two at a time from left to right. Pressing the switch selects the desired column. Then the buttons within the column are scanned one by one. Press the switch again to select the desired button.

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3.3   Changing the batteries

TwoXTen runs on 3 x AA internal batteries. When the batteries are running low the ▌ light will illuminate. The InfraRed codes and Prompts are stored on a non-removable SD flash memory so there is no danger of losing any information if the batteries run out or when you are replacing the batteries.

To change the batteries

1. Remove the 2 screws on the back of the unit and gently open the back-cover by lifting it up from the left hand side as if it were hinged on the right hand side. Exercise care and do not apply excessive force.

2. Remove the batteries from the case taking care not to touch the TwoXTen circuit board.

3. Insert the new batteries according to the diagram on the inside of the casing. The negative battery terminal should be against the spring.

4. Replace the back-cover by lining up the slots on the right and side and then gently closing over the cover over onto the left hand side.

5. Screw the back-cover in place with the 2 screws removed earlier.

6. Check that TwoXTen is functioning by pressing any key.

TwoXTen viewed with the back-cover slightly open on the left hand side. Note how the cover is hinged on the right hand side. Always open the cover from the left hand side.

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4   Program Mode

When you receive TwoXTen it will have no Infra-red codes and no prompts recorded in it. All the settings will be set to their default values. To get started you will need the Infra-red controls of the devices you want to control.

To record an Infra-red code, record a prompt or adjust a setting you must select program mode first.

4.1   Selecting Program Mode

To select program mode:

1. With one hand press and hold button 1 and button 2 at the same time.
2. With the other hand press and hold the 🔧 button until all the lights come on.
3. Release all 3 buttons. All the lights will start to flash.
4. What happens next depend upon what button you press.

Record an Infra-red command	1 2	*Record a Prompt*
Scanning Speed	3 4	*Skip Enable/Disable*
Auditory Feedback	5 6	*Switch Acceptance Time*
Scanning Method	7 8	*Scanning Style*
Volume Control	9 0	*Level Two*

HouseMate
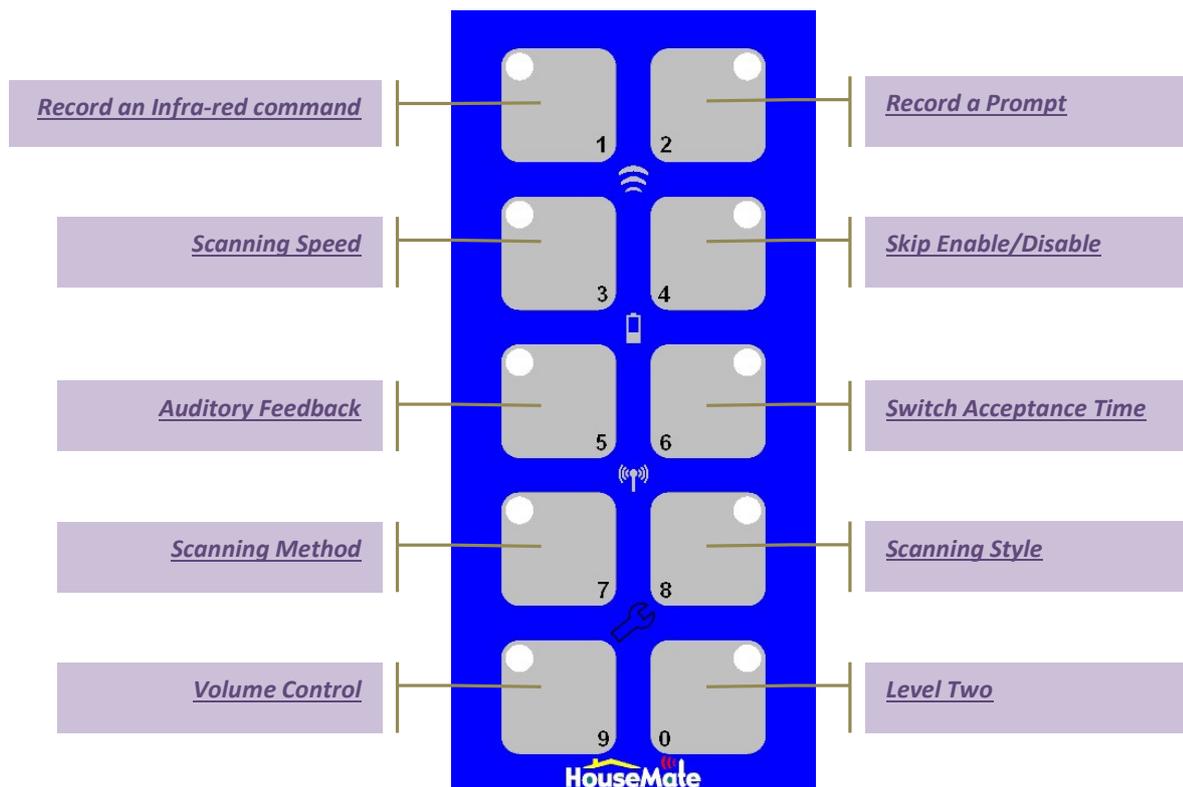
Tip: You can exit program mode at any stage by pressing the 🔧 button. When you are programming, if you are unsure of the next step, simply press the 🔧 button and start again.

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5   Recording Infra-red, EasyWave and Z-Wave

5.1   Recording an InfraRed command

Before you start make sure that you have the Infra-red controls of the devices you want to control and that they have new batteries.

Position the Infra-red control facing into the top of the TwoXTen as in the picture below at least one foot apart.
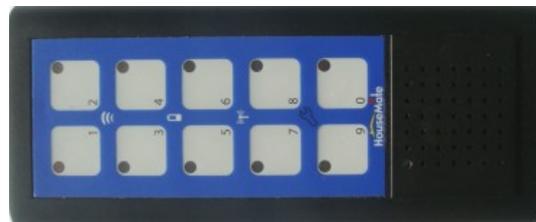
Warning: *Some fluorescent lights emit Infra-red radiation. When you are recording Infra-red codes be sure that you are not directly under fluorescent lighting.*

To record a single Infra-red command.

1. Select program mode and then press Button 1. *(see page 10)*

2. Button 1 and 2 should be flashing. Press Button 1 a second time. This selects *single command* record mode.

3. The symbol should be flashing.

4. Press a button on the Infra-red control and notice how the symbol illuminates. This indicates that the TwoXTen is receiving the Infra-red command from the Infra-red control. If the symbol does not light up check the batteries in both units.

    Note that you have not recorded anything in this step.

5. To record an Infra-red command press and hold the TwoXTen button you want to record onto. You will notice that the symbol starts flashing faster.

6. Continue holding and then press the button on the Infra-red control whose command you want to record. You should see the symbol and the symbol light up at the same time.

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In this mode the low battery indicator, 🔋, is used to indicate that recording is in progress.

7. Now, let go the button on the Infra-red control <u>followed</u> by the button on the TwoXTen.

8. Repeat this procedure a second time from step 5 for confirmation.

9. You can now leave program mode by pressing the 🔧 button. The «¡» symbol should stop flashing.

10. Now, test the button you just recorded on by pressing it. You should see the 📶 symbol illuminate. This indicates that the Infra-red command is being transmitted. Confirm that the device receiving the command (i.e. the TV, DVD etc) operates as expected (i.e. Volume Up, Program + etc).

> *Tip:* You can record an Infra-red command for more than one button before leaving program mode. When you have finished step 8 above repeat from step 5 for the next button you want to record on.

> *Note:* TwoXTen switches itself off after 1 minute if no buttons are pressed. If auditory feedback is enabled you will hear the power-off sound.

5.2   Recording a series of InfraRed commands (Macro)

To record a series of Infra-red commands or Macro.

TwoXTen allows you to record a series of Infra-red commands on a single button. TwoXTen records in real-time meaning that the Infra-red commands and the pauses in-between them are recorded into memory. Each button has 20 seconds record time and this makes it possible to create long sequences of commands.

A good use of this feature is to record a series of Volume Up commands. When the user presses the button, or selects it in a scanning mode, TwoXTen begins transmitting the sequence of Volume Up commands. The user can stop the sequence by pressing the button or switch a second time.

1. Select program mode and then press <u>Button 1</u>. *(see page 10)*

2. Button 1 and 2 should be flashing. Now press <u>Button 2</u>. This selects *macro* record mode.

3. The ((͡ᵢ)) symbol should be flashing.

4. Press <u>and hold</u> the TwoXTen button you want to record onto. Notice that the ((͡ᵢ)) symbol starts flashing faster.

5. <u>Continue holding</u> and then press, one after the other, the buttons on the Infra-red control whose commands you want to record.

   The ▯ symbol will light up when the first command is received and then the 📶 symbol will light up every time you press a button on the Infra-red control.

   In this mode the low battery indicator, ▯, *is used to indicate that recording is in progress.*

6. When you have finished the series let go the button on TwoXTen and then press the ✐ button to exit program mode.

7. As before, test the button you just recorded on by pressing it. You should see the 📶 symbol illuminate. Confirm that the device receiving the command (i.e. the TV, DVD etc) operates as expected (i.e. Volume Up, Program + etc).

8. To stop the series press the button a second time. The 📶 symbol should go out.

Tip: Before you record a sequence of commands try it out on the original remote first so that you can determine the pace at which you should press the buttons.

5.3   Recording an "OK" command.

To record a series of Infra-red commands followed by an "OK" command.

Often, after transmitting a series of commands, the next command a user would like to transmit is an OK or SELECT command. A good example would be a series of PROGRAM+ commands. In this case what the user wants to happen when they press their switch is not only to stop the PROGRAM+ series but to also transmit a new command, in this case, the OK command.

TwoXTen allows you to do this by recording two series of commands on the one button. In the example above the first series would be the PROGRAM+

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commands and the second series, or "OK command", would of course be the OK command itself.

1. Select program mode and then press <u>Button 1</u>. *(see page 10)*

2. Button 1 and 2 should be flashing. Now press <u>Button 2</u>. This selects *macro* record mode.

3. The ᶦᵀᶦ symbol should be flashing.

4. Press <u>and hold</u> the TwoXTen button you want to record onto. The ᶦᵀᶦ symbol starts flashing faster.

5. <u>Continue holding</u> and then press, one after the other, the buttons (or button) on the Infra-red control for the first series.

   The ▯ symbol will light up when the first command is received and then the ⌢ symbol will light up every time you press a button on the Infra-red control.

6. When you have finished the first series let go the button on TwoXTen but then <u>immediately</u> press it again before the ▯ symbol and the light of the button goes out.

7. <u>Continue holding</u> and now press, one after the other, the buttons (or button) on the Infra-red control for the second series. More often than not this will be just one button – i.e. an "OK command".

8. When you have finished the second series let go the button on TwoXTen and then press the 🔧 button to exit program mode.

9. As before, test the button you just recorded on by pressing it. You should see the ⌢ symbol illuminate. Confirm that the device receiving the command (i.e. the TV, DVD etc) operates as expected (i.e. Volume Up, Program + etc).

10. To stop the first series and start the second series, i.e. the "OK command", press the button a second time.

    Again, confirm that the device receiving the command operates as expected.

Tip: A good use of this function is to create a scan of a user's favorite sky channels.

Record the following series of commands from a Sky remote: GUIDE->FAVOURITES-> DOWN-> DOWN-> DOWN-> DOWN-> DOWN-> DOWN-> DOWN-> DOWN.

For the end command record the OK command.

Now when the user selects the button an automatic scan of their favorite channels will take place on the TV. Furthermore when they press their switch a second time the highlighted channel will be selected.

When creating a series like this it is important to leave enough of a pause between pressing the GUIDE button, the FAVOURITES button and the first DOWN button. This is because the time it takes to load the Guide and the Favorites varies from Tv to Tv and from time to time.

5.4   Programming EasyWave signals

TwoXTen can be optionally fitted with an EasyWave radio transmitter. This can be used to control EasyWave electrical devices such as alarms, relays and sockets. You can program any TwoXTen button to transmit an EasyWave signal instead of an IR code.

If your TwoXTen is fitted with an EasyWave transmitter, then, when you enter program mode buttons 1-4 should be flashing. Buttons 1 and 2 are for recording InfraRed and buttons 3 and 4 select one of two *EasyWave* modes.

| *Record Single IR Code* | 1 | 2 | *Record Macro IR Code* |
| *Single EasyWave signal* | 3 | 4 | *Continous EasyWave signal* |
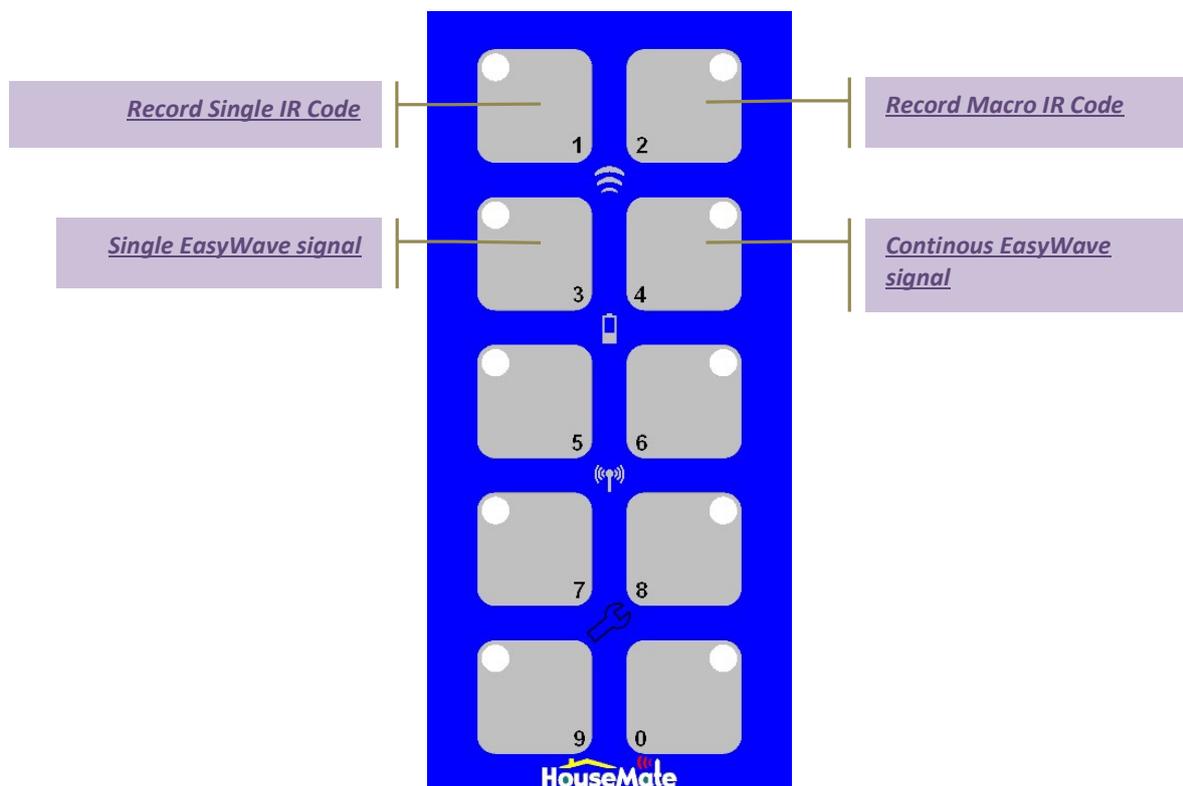
To program a button for EasyWave

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1. Select program mode and then press Button 1. *(see page 10)*

2. If your TwoXTen is fitted with an EasyWave transmitter buttons 1-4 should be flashing.

3. If you wish to transmit a once-off EasyWave signal press Button 3. If you wish to transmit a continuous EasyWave signal press Button 4.

4. The ((**ı**)) symbol should be flashing.

5. Now press the TwoXTen buttons that you want to use to transmit EasyWave signals. You can choose one button or all 10.

6. When you are finished leave program mode by pressing the ⚒ button. The ((**ı**)) symbol should stop flashing.

7. Now you can test the buttons. When you press a button you should see the ((**ı**)) symbol illuminate instead of the usual 📶 symbol. This indicates that an EasyWave RF signal is being transmitted rather than InfraRed.

8. Each EasyWave signal is completely unique and can be used to control EasyWave devices. Consult the documentation of your EasyWave device for programming instructions.

> *Note: It is beyond the scope of this manual to explain how to program individual EasyWave devices. Refer to the documentation of your target device for this information.*

5.5   Programming Z-Wave signals

TwoXTen can be optionally fitted with an Z-Wave radio transmitter. This can be used to control Z-Wave electrical devices such as light switches, relays, sockets, thermostats and so on. You can program any TwoXTen button to transmit a Z-Wave Group or Central Scene notification instead of an IR code.

> *Note: Central Scene notifications require the use of a BeNext Z-Wave gateway. Group signals can be fully configured using only the TwoXTen and does not require a gatway/software. In this case the gateway is only required at the beginning to include devices in your network.*

If your TwoXTen is fitted with a Z-Wave transmitter, then, when you enter program mode buttons 1-6 should be flashing. Buttons 1 and 2 are for recording InfraRed and buttons 3,4,5,6 are used for Z-Wave programming according to the chart on the next page.

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Record Single IR Code	*Record Macro IR Code*
Program Z-Wave Groups	*Program Z-Wave Central Scene Notification.*
Send Inclusion command	*Send Update command*
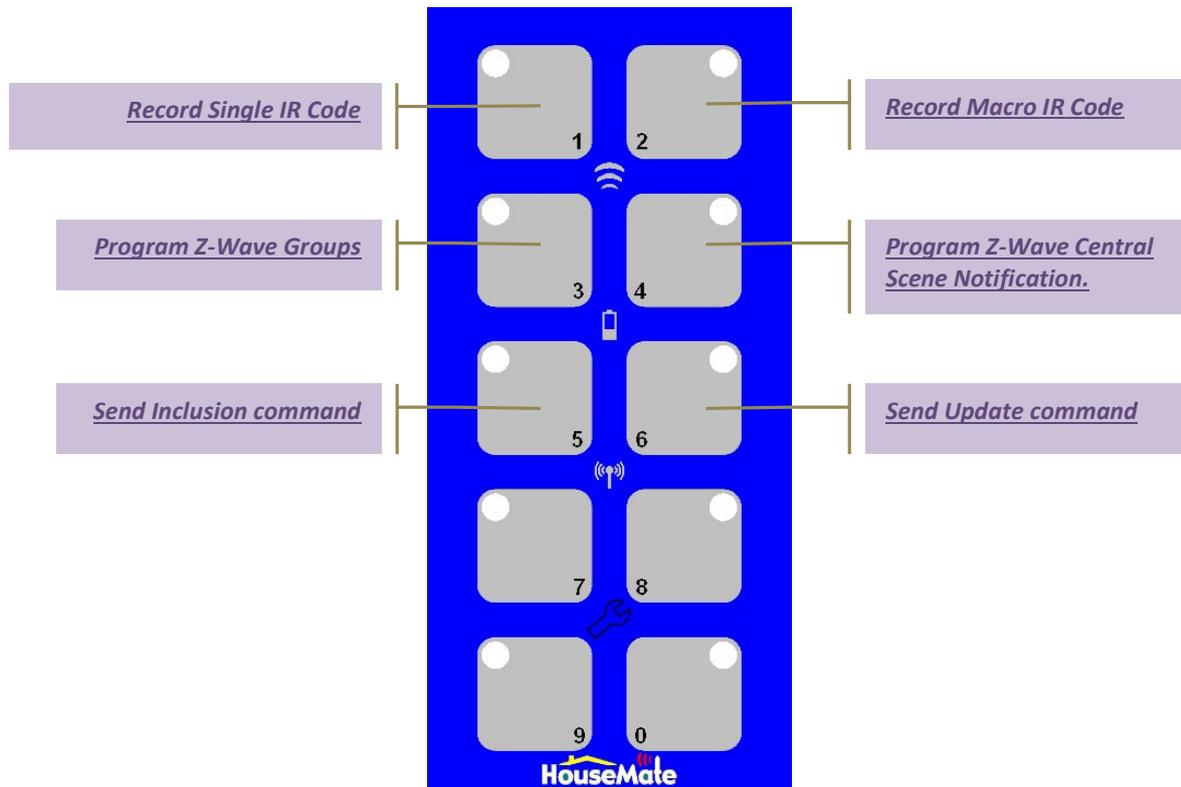
To Include your TwoXTen in a Z-Wave network

1. Within your Z-Wave controller select Inclusion mode.

2. Select program mode and then press Button 1. *(see page 10)*

3. If your TwoXTen is fitted with a Z-Wave transmitter, buttons 1-6 should be flashing. Buttons 1 and 2 are for recording InfraRed and buttons 3,4,5,6 are used for Z-Wave programming.

4. Now press Button 5.

5. The ((•)) symbol should flash. TwoXTen will transmit the INCLUDE command and exit program mode.

6. Your controller should detect the TwoXTen. Add it to your network as a Generic product.

7. Make sure that any devices you want to control have also been included in your network.

8. If you are going to use Central Scene notifications create rules between the TwoXTen and the scenes you want to control. The rules are stored in

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your BeNext Z-Wave controller. TwoXTen sends the notification to the controller which then activates the relevant scene. Refer to the chart below when choosing Central Scene notification numbers.

To program a button to control a device using a Z-Wave group signal.

1. Select program mode and then press Button 1. *(see page 10)*

2. If your TwoXTen is fitted with a Z-Wave transmitter, buttons 1-6 should be flashing. Buttons 1 and 2 are for recording InfraRed and buttons 3,4,5,6 are used for Z-Wave programming.

3. Press Button 3 to choose Z-Wave group signals.

4. The ((¹)) symbol should be flashing.

5. Now press the TwoXTen button that you want to use.

6. Within 30 seconds press the Include button on the device you want to control, or in the case of light switches simply toggle the switch.

7. When the device is detected the TwoXTen will make a confirmation sound and automatically leave program mode. If it does not exit program mode by pressing the ⚲ button and try again.

8. Test the button. When you press a button you should see the ((¹)) symbol illuminates instead of the usual 📶 symbol. This indicates that a Z-Wave RF signal is being transmitted rather than InfraRed.

   When testing bear in mind that the device you are controlling might need to be switched on or off first depending on whether you choose a Group Off or Group On button.

9. Repeat the procedure to program other buttons. If you are programming a button of the same group number, but different state, it is not necessary to press the include button on the actual device a second time.

10. If you wish to add additional devices to existing groups just repeat the procedure and press the Include button on the new device. You can add up to 8 devices to a group allowing you to turn on and off multiple devices from one button.

11. To reset a group carry out the reset procedure for a single button (see section 8.1).

12. To reset all groups carry out the device reset procedure (see section 8.2).

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LEVEL 1 Group Numbers

GROUP 11 OFF	GROUP 11 ON
GROUP 12 OFF	GROUP 12 ON
GROUP 13 OFF	GROUP 13 ON
GROUP 14 OFF	GROUP 14 ON
GROUP 15 OFF	GROUP 15 ON

HouseMate

LEVEL 2 Group Numbers

GROUP 21 OFF	GROUP 21 ON
GROUP 22 OFF	GROUP 22 ON
GROUP 23 OFF	GROUP 23 ON
GROUP 24 OFF	GROUP 24 ON
GROUP 25 OFF	GROUP 25 ON

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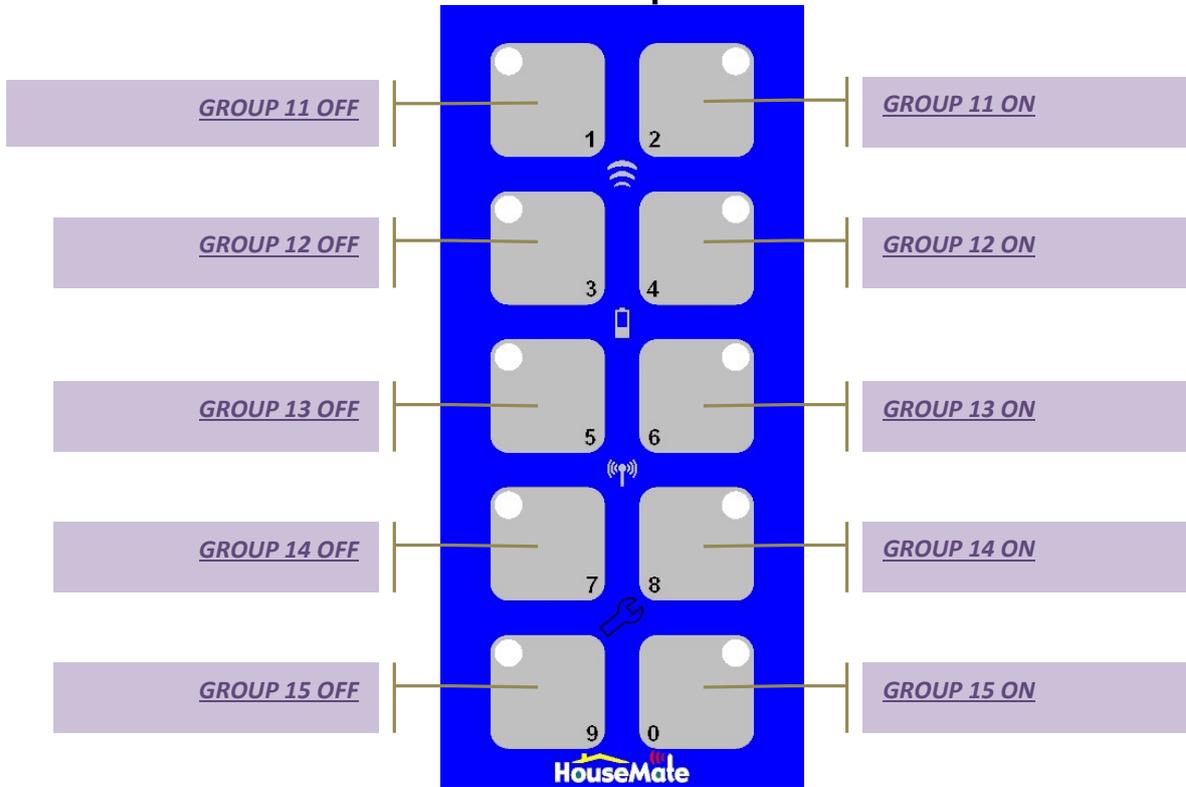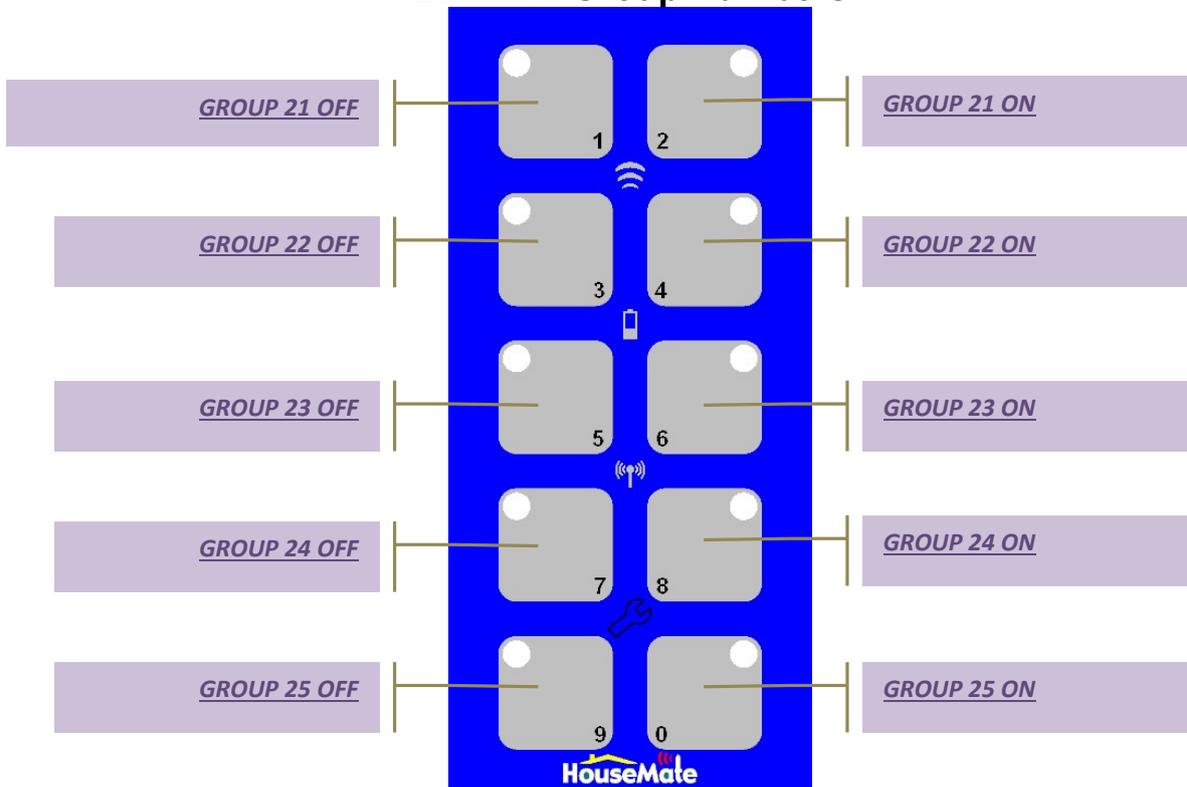
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To program a button to transmit a Z-Wave Central Scene notification

1. Select program mode and then press <u>Button 1</u>. *(see page 10)*

2. If your TwoXTen is fitted with a Z-Wave transmitter, buttons 1-6 should be flashing. Buttons 1 and 2 are for recording InfraRed and buttons 3,4,5,6 are used for Z-Wave programming.

3. Press <u>Button 4</u> to choose Z-Wave Central Scene signals.

4. The ((ı)) symbol should be flashing. Now press the TwoXTen buttons that you want to use to transmit Z-Wave Central Scene notificatrions.

5. When you are finished leave program mode by pressing the 🔧 button. The ((ı)) symbol should stop flashing.

6. Now you can test the buttons. When you press a button you should see the ((ı)) symbol illuminate instead of the usual 📶 symbol. This indicates that a Z-Wave RF signal is being transmitted rather than InfraRed.

7. If you have correctly set up the Central Scenes then the buttons should activate the relevant scenes. Refer the chart at the beginning of this section.

1/41		2/42
3/43		4/44
5/45		6/46
7/47		8/48
9/49		10/50
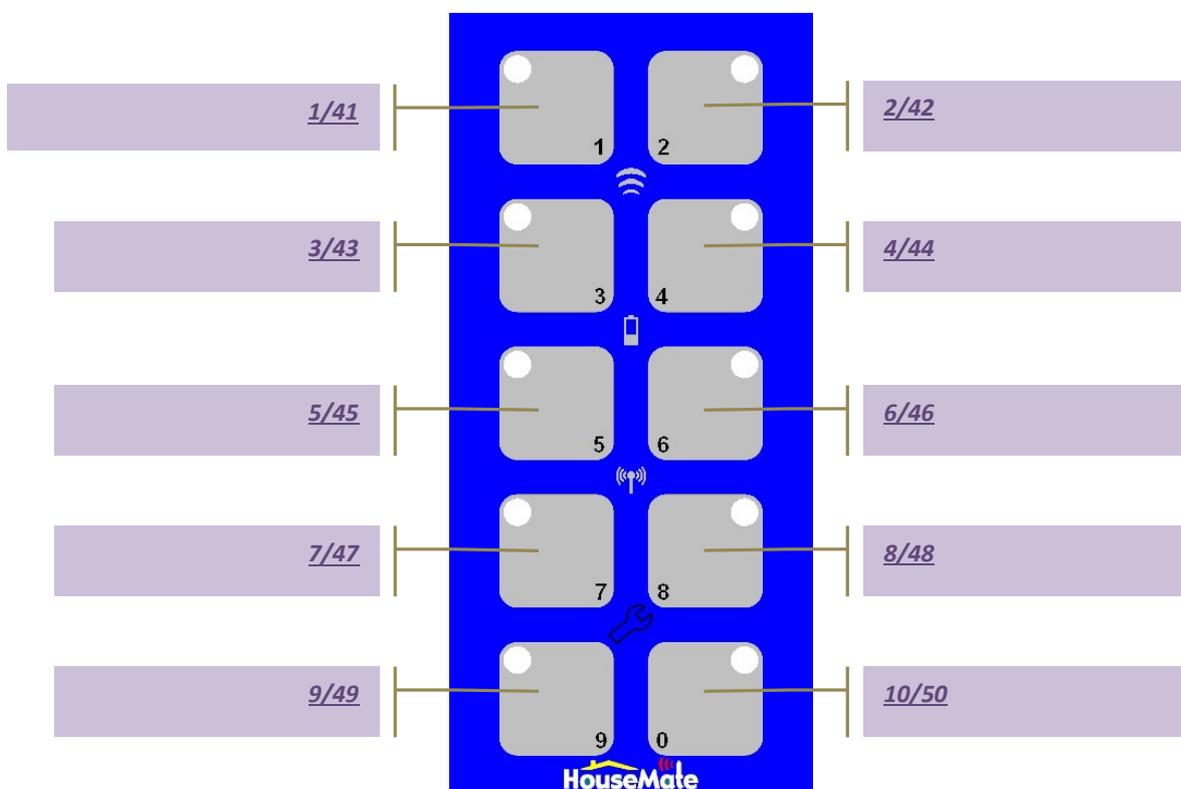
> *Tip:* A Central Scene notification is also transmitted when you release a button. For example Button 1, Level 1 transmits Central Scene number 1 when it is pressed and 41 when it is released. Button 2 transmits 2, then 42, and so on. You can use this feature to create a push-button effect.

> *Warning:* Some earlier Z-Wave modules and TwoXTens (serial number below 346) do not support adding devices to groups as described in the preceding section. In this case the associations must be setup manually using the gateway. Refer to the chart on page 19 to determine which group number is controlled which button.
>
> *If you have an older z-wave module contact your supplier for an upgrade.*

5.6   Recording commands on Level 2

There are two levels or pages within TwoXTen. This expands the number of possible commands to 20. Each button has a different command depending on what level you are on. Level 1 could be used for TV commands whilst level 2 could be used for House commands such as lights, sockets, door opener etc.

Like level 1, it is possible to record a command or series of commands on each button in level 2. In order to do so you must have level 2 open first. See page 33 on how to set the *Level Two* setting to *Open – use Button 0*.

To record an Infra-red command on a button in level 2

1. Select the correct level by pressing Button 0. Button 1 will light up if you have selected level 1. Button 2 will light up if you have selected level 2. In this instance you want to select level 2.

    Notice that when you release Button 0 the current level is indicated by blinking the light in the relevant button, i.e. Button 1 or Button 2.

    TwoXTen stops doing this once you start using it but if no buttons are pressed for a few seconds it will return to blinking the current level for a few moments before it switches itself off. This gives the user a visible queue as to what level they are on.

2. Now that you have selected level 2 the procedure for recording Infra-red commands is exactly the same as before. Choose one of the procedures from the previous pages.

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6   Recording Auditory Prompts

TwoXTen allows you to record Auditory prompts for each button. The prompts are played back during scanning so that the user can press their switch when they hear the correct prompt. The prompts are also played back when you press a button on TwoXTen directly.

The microphone is positioned in the top left hand corner of the speaker grill. To get the best result speak close to the microphone but not directly into it.

Tip: For best results make sure there is no background noise when you are recording prompts.

Before you can playback an auditory prompt the *Auditory Feedback* setting must be set to *Prompts* or *Prompts and Clicks*. By default it is set to *Prompts*. See page 29 for adjusting this setting.

6.1   Recording Button Prompts

To record a prompt

1. Select program mode and then press Button 2. *(see page 10)*

2. The ((ʇ)) symbol should be flashing.

3. To record a prompt press and hold the button you want to record onto. You will notice that the ((ʇ)) symbol starts flashing faster and the 🔋 symbol lights up.

    In this mode the low battery indicator, 🔋, is used to indicate that recording is in progress.

4. Continue holding and speak your prompt clearly into the microphone.

    Each prompt can be a maximum of 5 seconds in duration. If you try and record a longer prompt the recording will fail.

5. When you have finished speaking let go the button on the TwoXTen.

6. You can now leave program mode by pressing the 🔧 button. The ((ʇ)) symbol should stop flashing.

7. Verify the recording by pressing the button you recorded on.

> *Tip:* You can record a prompt for more than one button before leaving program mode. When you have finished step 5 above repeat from step 3 for the next button you want to record on.

To record a prompt on a button in level 2

There are two levels or pages within TwoXTen. This expands the number of possible commands and associated prompts to 20. Each button has a different command depending on what level you are on. Level 1 could be used for TV commands whilst level 2 could be used for House commands such as lights, sockets, speakerphone etc.

Like level 1, it is possible to record a prompt for each button on level 2 but in order to do so you must have level 2 open first. See page 33 on how to set the *Level Two* setting to *Open – use Button 0*.

1. Select the correct level by pressing Button 0. Button 1 will light up if you have selected level 1. Button 2 will light up if you have selected level 2. In this instance you want to select level 2.

   Notice that when you release Button 0 the current level is indicated by blinking the light in the relevant button, i.e. Button 1 or Button 2.

   TwoXTen stops doing this once you start using it but if no buttons are pressed for a few seconds it will return to blinking the current level for a few moments before it switches itself off. This gives the user a visible queue as to what level they are on.

2. Now that you have selected level 2 recording prompts is exactly the same procedure as before. Start from step 1 on the previous page.

6.2   Recording Level Prompts

To record a prompt for level 1 or level 2

When using two levels TwoXTen blinks Button 1 or Button 2 to give the user a visual queue as to what level they are on. However it is also possible to record a prompt for each level so that when the user selects or presses the level button they hear a prompt telling them what level they are on. "This is where your TV commands are" for example. This prompt is in addition to the prompt recorded on Button 0 that is played back during scanning.

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In order to record a prompt for level 1 or level 2 you must connect an external switch into switch input 1 on the right hand side of the connector panel at the bottom of TwoXTen.

1. Select the correct level by pressing Button 0. Button 1 will light up if you have selected level 1. Button 2 will light up if you have selected level 2.

2. Select program mode and then press Button 2. *(see page 10)*

3. The 📶 symbol should be flashing.

4. To record a prompt for the current level press and hold Switch 1. You will notice that the 📶 symbol starts flashing faster and the 🔋 symbol lights up.

   In this mode the low battery indicator, 🔋, is used to indicate that recording is in progress.

5. Continue holding and speak your prompt clearly into the microphone.

   The level prompts can be a maximum of 3 seconds in duration. If you try and record a longer prompt the recording will fail.

6. When you have finished let go the switch.

7. You can now leave program mode by pressing the 🔧 button. The 📶 symbol should stop flashing.

8. To verify the recording press Button 0 to select the other level. Then press Button 0 again to select the level you just recorded on. You should hear the newly recorded level prompt.

9. Repeat the procedure for the other level.

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7   TwoXTen Settings

This chapter deals with TwoXTen settings such as **Scanning Method**, **Switch Acceptance Time**, **Open Level Two** and so on. With the exception of the **Scanning Speed** setting they are all adjusted in exactly the same way. This section briefly explains the procedure.

When you are in program mode the buttons on the TwoXTen are used to select the setting you want to change according to the following diagram.

Scanning Speed   *Skip Enable/Disable*

Auditory Feedback   *Switch Acceptance Time*

Scanning Method   *Scanning Style*

Volume Control   *Level Two*
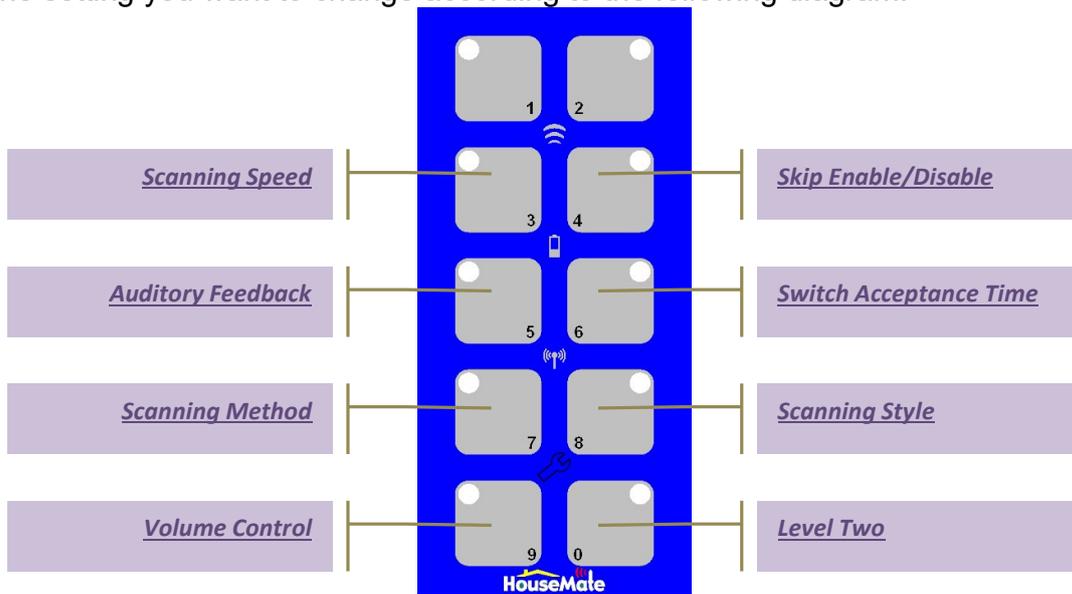
When you have selected a setting, TwoXTen shows you its current value by blinking the relevant button light. In the example below the **Skip Enable** setting was selected and its current value is **Skip Disabled**.

Blinking LED indicates current value

Solid LED indicates the setting you are changing
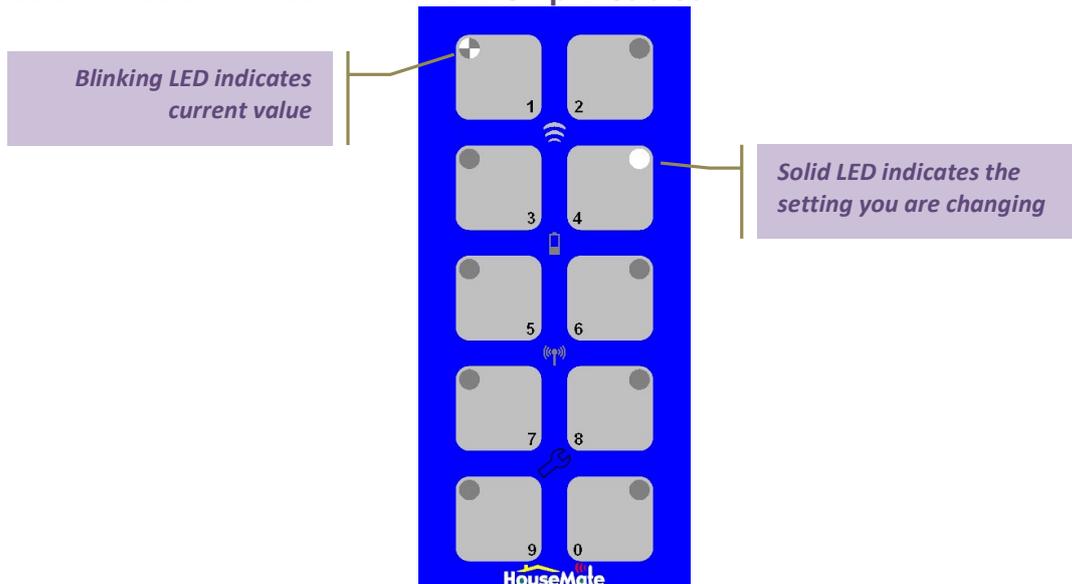
Two X Ten

To change the setting, simply press the button representing the new value. When you release the button TwoXTen shows you the new value by blinking the light of the button you just pressed. In the example below the **Skip Enable** setting has been changed to **Skip Enabled**.
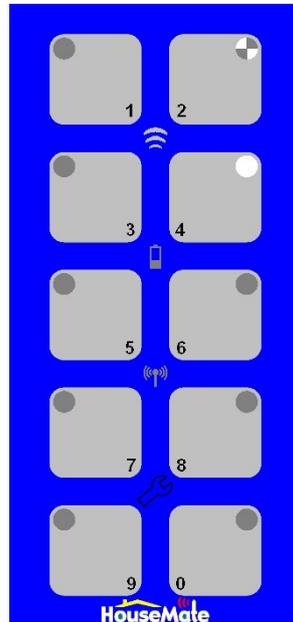
Note that each setting has its own permitted values. If you press a button other than the permitted values for that setting no change will occur.

The permitted values for each setting are discussed further on in the text. In the example above there are only two permitted values, **Skip Disabled** and **Skip Enabled**.

7.1   Choosing a Scanning Method

A variety of scanning methods are available along with associated settings that enable the clinician to "tweak" the TwoXTen to suit a particular user's needs and abilities.

There are four different scanning methods available: Automatic Scanning, Short Click Scanning, Two Switch Scanning and Direct Access. For a description of each scanning method see pages 6 and 7.

To set the Scanning Mode

1.   Select program mode and then press **Button 7**.

2. The current scanning method is indicated by whichever button is blinking according to the table below:

Automatic Scanning	*Button 1*
Short Click Scanning	*Button 2*
Two Switch Scanning	*Button 3*
Direct Access	*Button 4*

3. Select the scanning method you require by pressing the corresponding button.

4. You can now leave program mode by pressing the 🔧 button.

5. Confirm that the new scanning method is working by pressing Switch 1 or Switch 2.

7.2   Setting the Scanning Speed

This setting has different functions depending on which Scanning Methods you have selected.

In Automatic Scanning the Scanning Speed is the speed at which the scan advances from one button to the next. If you have recorded prompts, however, it is the length of time or pause that occurs between the playback of each prompt.

In Short Click Scanning the Scanning Speed is the length of time which defines a short click. If Switch 1 is released within this time then the scan advances to the next button. If Switch 1 is held for longer than this time then it is considered a long click and the relevant Infra-red command is transmitted. Adjust this setting to suit a particular user's ability to make a short click and to keep a switch pressed.

In Two Switch Scanning the Scanning Speed has no effect.

To set the Scanning Speed

1. Select program mode and then press **Button 3**.

2. The current scanning speed is indicated by flashing the 📡 symbol and generating a "click" in the loudspeaker.

3. Select the scanning speed you require by pressing the corresponding button.

¼ second	*Button 1*
½ second	*Button 2*
1 second	*Button 3*
1 ½ seconds	*Button 4*
2 seconds	*Button 5*
2 ½ seconds	*Button 6*
3 seconds	*Button 7*
4 seconds	*Button 8*

Note how the rate at which the 📶 symbol flashes and the pace of the "clicks" changes.

4. You can now leave program mode by pressing the 🔧 button.

5. Confirm the new scanning speed by pressing Switch 1 to start the scan.

7.3 Choosing a Scanning Style

There are 6 different scanning styles possible within TwoXTen. The Scanning Style is the sequence in which the buttons are scanned. It could also be called the scanning pattern. For a description of each scanning style see page 7.

To set the Scanning Style

1. Select program mode and then press **Button 8**.

2. The current Scanning Style is indicated by whichever button is blinking according to the table below:

Linear XY	*Button 1*
Linear YX	*Button 2*
Linear Sideways	*Button 3*
Row Column	*Button 4*
Column Row	*Button 5*
Row Column Sideways	*Button 6*

3. Select the Scanning Style you require by pressing the corresponding button.

4. You can now leave program mode by pressing the 🔧 button.

5. Confirm that the new Scanning Style is working by pressing Switch 1 or Switch 2.

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7.4   Skipping empty buttons

For user's who only wish to use a small number of commands it is possible to skip buttons that have no Infra-red code command recorded on them. This reduces having to scan through unused buttons.

To set the Skip Function

1. Select program mode and then press **Button 4**.

2. The current Skip Function setting is indicated by whichever button is blinking according to the table below:

Skip Disabled	*Button 1*
Skip Enabled	*Button 2*

3. Enable or Disable the Skip function by pressing the corresponding button.

4. You can now leave program mode by pressing the 🔧 button.

5. Confirm that the Skip Function is either Disabled or Enabled.

Note: The Skip Function only works when a Linear Scanning Style has been selected.

7.5   Selecting the type of Auditory Feedback

The Auditory Feedback is what you hear in the loudspeaker during scanning, when a button is pressed or when the level is changed. There are 4 different settings for Auditory Feedback.

Prompts Only
By default the Auditory Feedback is set to Prompts Only. When TwoXTen is scanning the recorded prompts are played back as the scan advances from one button to the next. When a button is selected the Infra-red command is transmitted.

Clicks Only
When Auditory Feedback is set to Clicks Only, TwoXTen plays back internal clicks rather than recorded prompts. When a button is selected a different click is played back and the Infra-red command is transmitted.

Both

When Auditory Feedback is set to Both, then, as in Prompts Only, TwoXTen plays back the recorded prompts during scanning. However when a button is selected the recorded prompt is stopped, a click is played back and the Infra-red command is transmitted.

None

Except for system sounds during programming there is no Auditory feedback.

To set the Auditory Feedback

1. Select program mode and then press **Button 5**.

2. The current Auditory Feedback setting is indicated by whichever button is blinking according to the table below:

Prompts only	*Button 1*
Clicks only	*Button 2*
Both	*Button 3*
None	*Button 4*

3. Choose the type of Auditory Feedback you require by pressing the corresponding button.

4. You can now leave program mode by pressing the ✐ button.

5. Confirm that the new Auditory Prompt setting is having the desired effect.

Note: When the Auditory Feedback is set to Prompts Only the prompt is played back in full even if the user presses their switch during the middle of the playback.

7.6   Adjusting the Switch Acceptance Time

The Switch Acceptance Time is the length of time a user must press an external switch before the switch press (or release) is accepted. It only affects the external switches. The acceptance time of the TwoXTen buttons is fixed at 50 milli-seconds.

For users who make accidental switch presses or releases set the switch acceptance time to a high value. This ensures that they must make a deliberate press of the switch for a fixed amount of time before anything happens. It also allows them to momentarily let go of the switch.

For fast switch users it is important to keep the switch acceptance time short as it may appear to them that pressing the switch has no effect and they may presume the unit or switch to be broken.

To set the Switch Acceptance Time

1. Select program mode and then press **Button 6**.

2. The current Switch Acceptance Time is indicated by whichever button is blinking according to the table below:

50 milli-seconds (short)	*Button 1*
¼ second	*Button 2*
½ second (long)	*Button 3*

3. Select the desired Switch Acceptance Time by pressing the corresponding button.

4. You can now leave program mode by pressing the ⚲ button.

5. Confirm that the new Switch Acceptance time has the desired effect.

Note: If you have set the switch acceptance time to long remember that you must press the switch for that length of time before anything happens. Short presses of the switch will not have any effect and may be confused between a broken switch or a malfunctioning unit.

Furthermore, if you are using Short Click Scanning it is recommended to set the Switch Acceptance time to short.

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7.7   Enabling the Volume Control

It is possible to adjust the volume of the TwoXTen loudspeaker by enabled Button 9 to be a volume control. Once enabled, Button 9 can be used to toggle through 5 different volume settings.

Lights 1-4 indicate the current TwoXTen volume.

Press or select Button 9 to adjust the TwoXTen volume.
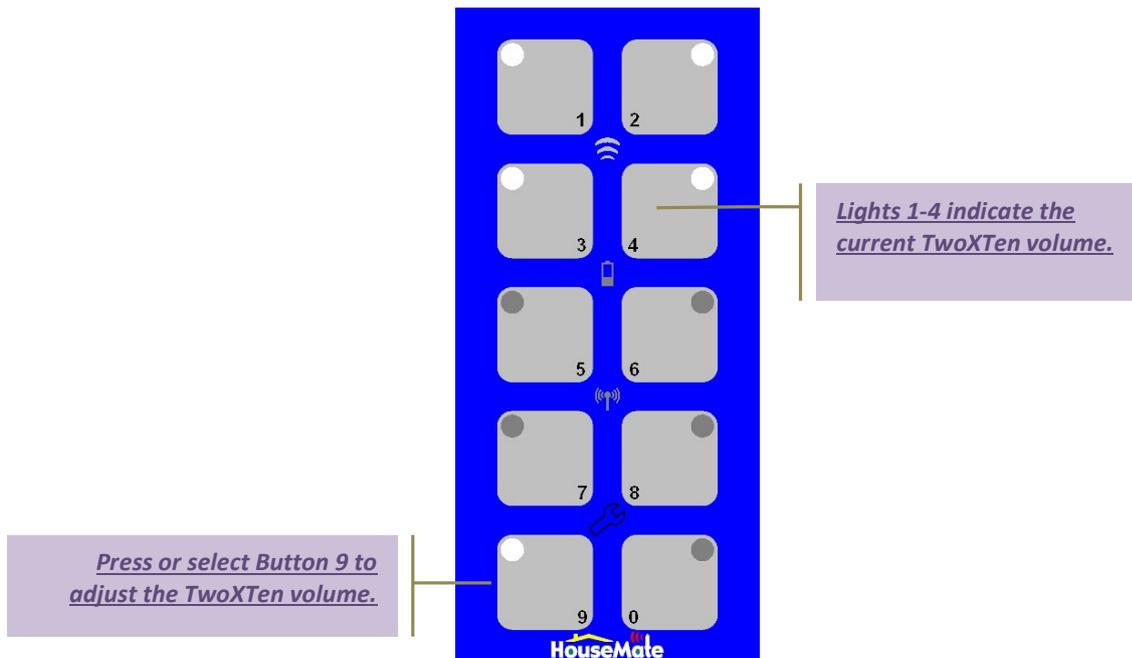
This function only applies to level 1. If you intend to use level 2 then Button 9 on level 2 is free to use for Infra-red commands.

To enable the Volume Control

1. Select program mode and then press **Button 9**.

2. The current Volume Control setting is indicated by whichever button is blinking according to the table below:

Volume Control Disabled	*Button 1*
Volume Control Enabled	*Button 2*

3. Enable or Disable the Volume Control function by pressing the corresponding button.

4. You can now leave program mode by pressing the 🔧 button.

5. Confirm that the Volume Control is either Disabled or Enabled by pressing Button 9.

7.8   Opening Level 2

There are two levels or pages within TwoXTen. This feature expands the number of possible Infra-red commands and associated prompts to 20. Each button has a different command depending on what level you are on. Level 1 could be used for TV commands whilst level 2 could be used for House commands such as lights, sockets, speakerphone etc.

When Level 2 is open Button 1 or Button 2 will blink to give the user a visual queue as to what level they are using. TwoXTen stops doing this once you start scanning or pressing buttons but if no buttons are pressed for a few seconds it will return to blinking the current level.

The Level 2 setting can be set to three values: Closed, Open – use Button 0, Open – use Switches. When level 2 is opened it can be accessed in the following different ways:

Open – *use Button 0*
You can switch between levels either by pressing Button 0 or by selecting Button 0 when scanning by pressing the Switch 1.

Open – *use External Switches*
With this advanced option how you switch between levels depends on what Scanning Method you are using:

Automatic Scanning
When the scanning has stopped and the level light it is blinking press and hold Switch 1 to change the level.

OR

Press Switch 2 at any time to change the level.

Short Click Scanning.
When the level light is blinking press and hold Switch 1 to change the level.

OR

Press Switch 2 at any time to change the level.

Two Switch Scanning
In Two Switch Scanning you can only use Switch 1. When the level light is blinking press Switch 1 to change the level.

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To Open Level 2

1. Select program mode and then press **Button 0**.

2. The current state of Level 2 is indicated by whichever button is blinking according to the table below:

Level 2 closed	*Button 1*
Open – *use Button 0*	*Button 2*
Open – *use Switches*	*Button 3*

3. Select the desired state of Level 2 by pressing the corresponding button.

4. You can now leave program mode by pressing the ✏ button.

5. Confirm that Level 2 is open by pressing Button 0 or the relevant Switch.

Tip: You can record an Auditory Prompt for Level 1 or Level 2 in addition to the Prompt on Button 0. This enables the user to "hear" the level they have just selected. For example "Use these commands to control your television". For more details on recordin this type of prompt see "To record a prompt for Level 1 or Level 2" on page 23.

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8 Resetting TwoXTen

Occasionally you will want to erase the InfraRed commands and Prompts that you have recorded onto the TwoXTen buttons. It is possible to do this one button at a time or all at once. When you erase all at once the TwoXTen settings, such as Scanning Speed, Scanning Method etc., are reset to their default values.

> *Warning:* There is no "Undo" when erasing InfraRed commands or Prompts. Once an InfraRed command is erased it is gone from memory and can only be recorded back into the TwoXTen using the original remote control.

8.1 Resetting a single button

To erase the InfraRed command and Prompt for a single button

1. If you are using two levels choose the level that contains the button you want to erase.

2. Select program mode (see page 10).

3. Press and hold the 🔧 button until all ten LEDs light up. Then release the 🔧 button

4. You are now in Erase mode and the ten LEDs will blink rapidly. If you wish to stop at this stage you can do so by pressing the 🔧 button.

5. Press the button you want to erase.

6. If you want to erase more buttons press them one after the other.

7. When you are finished leave program mode by pressing the 🔧 button.

8.2 Resetting everything

To erase all InfraRed commands, Prompts and reset the Settings

1. Select program mode (see page 10).

2. Press and hold the 🔧 button until all ten LEDs light up. Then release the 🔧 button

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3. You are now in Erase mode and the ten LEDs will blink rapidly. If you wish to stop at this stage you can do so by pressing the ✐ button.

4. With one hand press and hold button 3 and button 4 at the same time. With the other hand press and hold the ✐ button until all the lights come on.

5. Release all 3 buttons. All the InfraRed commands and Prompts will be erased for each button one after the other and all the TwoXTen settings will be reset to their default values.

6. TwoXTen will automatically leave program mode and return to normal operation.

9 Maintenance

The TwoXTen should be regularly checked for integrity. Loose, damaged or corroded connectors or terminals, or damaged cabling should be reported to your Service Centre and be replaced immediately.

The AA batteries should be regularly checked for corrosion or leakage.

If you are not using your TwoXTen for an extended period remove the AA batteries.

All switches connected to the TwoXTen should be regularly tested to ensure that they function correctly.

The TwoXTen should be kept free of dust, dirt and liquids. If necessary wipe with a cloth dampened with warm water or alcohol. **Do not** use solvents or abrasive cleaners.

Where any doubt exists, consult your nearest Service Centre or Agent.

There are no user-serviceable parts within the TwoXTen. Do not attempt to open the case.

In accordance with the requirements of CE marking of this device and the Company's policy, it is requested that re-occurring faults or defects be reported back to Unique Perspectives Ltd.

Warning !! If the TwoXTen is damaged in any way, or if internal damage may have occurred (for example by being dropped), have it checked by qualified personnel before operating.

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10 Safety and Misuse Warnings

Do not install, maintain or operate the TwoXTen without reading, understanding and following the proper instructions and manuals, otherwise injury or damage may result.

Do not operate the TwoXTen if it behaves erratically, or shows abnormal response, heating, smoke or arcing. Turn the unit off, disconnect all cables, and consult your service agent.

Ensure the TwoXTen is turned off when not in use and remove the batteries if it is not going to be used for an extended period.

No connector pins should be touched, as contamination or damage due to electrostatic discharge may result.

TwoXTen is not designed to resist water penetration. If a spillage occurs Turn the unit off, disconnect all cables, and consult your service agent. Once turned off any spillage over the TwoXTen should be wiped dry without delay. The TwoXTen may not be used outdoors.

Most electronic equipment is influenced by Radio Frequency Interference (RFI). Caution should be exercised with regard to the use of portable communications equipment in the area around such equipment. While the manufacturer has made every effort to ensure that RFI does not cause problems, very strong signals could still cause a problem.

Report any malfunctions immediately to your Service Agent.

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11 Warranty & Sales and Service Information

All equipment supplied by Unique Perspectives Ltd. is warranted by the company to be free from faulty materials or workmanship. If any defect is found within the warranty period of 12 months, the company will repair the equipment, or at its discretion, replace the equipment without charge for materials and labor.

The warranty is subject to the conditions that the equipment:

- Has been used solely in accordance with this manual.

- Has not been subjected to misuse or accident, or been modified or repaired by any person other than someone authorised by Unique Perspectives Ltd.

- Has been used solely for the use of alternative Infra-red control.

For Sales and Service advice, or in case of any difficulty, please contact:

Unique Perspectives Ltd.	Telephone:	+353 56 7725913
Ballyclovan	Fax:	+353 56 7725936
Callan		
Kilkenny		
Ireland		

WEB: www.click2go.ie
EMAIL: info@click2go.ie

NOTE: The TwoXTen should be clearly labeled with the manufacturer's service agent's telephone number.

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12   Appendix A: Blank Labels

www.click2go.ie