

INSTRUCTIONS



Eye-Gaze Gaming device

Pack Contents

Carefully check the contents of the box, which are:

Game On unit

2 x USB cables

4 x colour coded switch cables

Colour coded D-Pad decal

These instructions



Product Description

Game On with Pretorian Technologies is a unique assistive gaming product, allowing users of eye-gaze enabled AAC devices and computers to achieve full control of computer games using only their eyes.

It may be used to play games either on a standard PC or on an Xbox via an Xbox Adaptive Controller. The user's AAC device, such as a computer* or Grid Pad running Grid 3, displays a special gaming grid set with a similar layout to a standard game controller handset.

Simply gaze at any of the grid cells and the corresponding game controller action is sent to the game console/gaming computer to successfully play the game. Every one of the controls on a standard game controller is reproduced in the grid set, including both momentary and timed thumbstick movements and single, double and timed presses of all buttons, bumper and triggers. A Rapid-Fire option is also included for all buttons and triggers.

The grid set may be easily customised for particular users and/or particular games, a feature which is especially useful when the user has low cognition and would be unable to understand a full game controller layout.

Editing the grid set may also be beneficial when using Game On with Co-Pilot.

The display and keypad on **Game On with Pretorian Technologies** allows the user to adapt the degree of thumbstick movement and all timer periods and may optionally be saved as a Profile. Up to six Profiles may be stored and recalled, either using the keypad or directly on the AAC device using eye-gaze. Profiles are useful both for customising the gaming experience for individual games or for individual users, depending on their preferences and particular needs.

Game On with Pretorian Technologies also allows up to four players to be in the same room, a facility which can equally enable co-operative gaming, where each player takes control of a subset of the controls, or to allow gaming tournaments where multiple gamers are playing individually in the same setting. Each player will need his or her own **Game On** device.

**PC running Grid 3 must have an infra-red output, for example by connecting an Abilia Progress Star USB.*

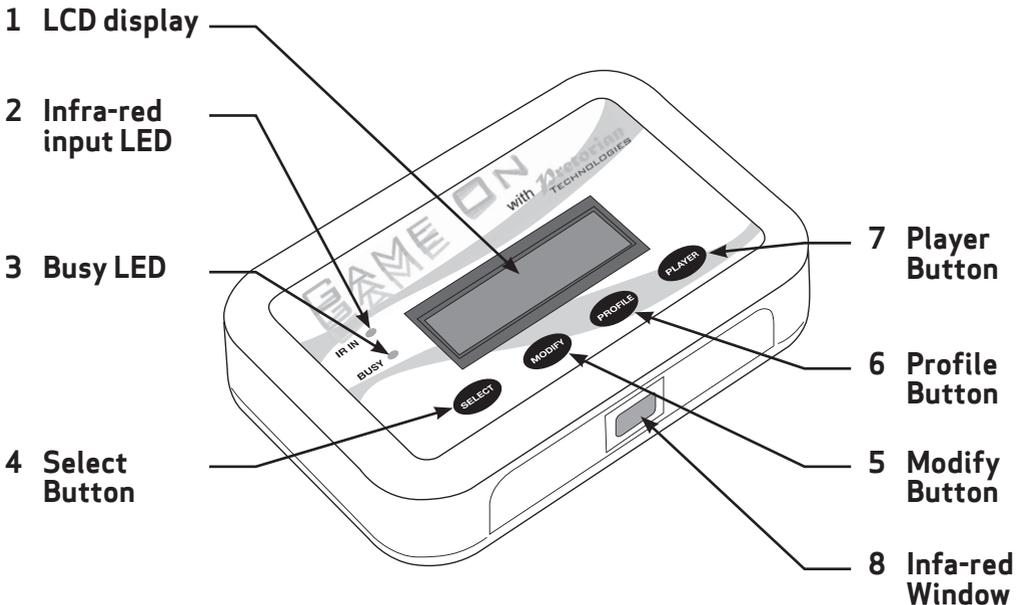
GAME

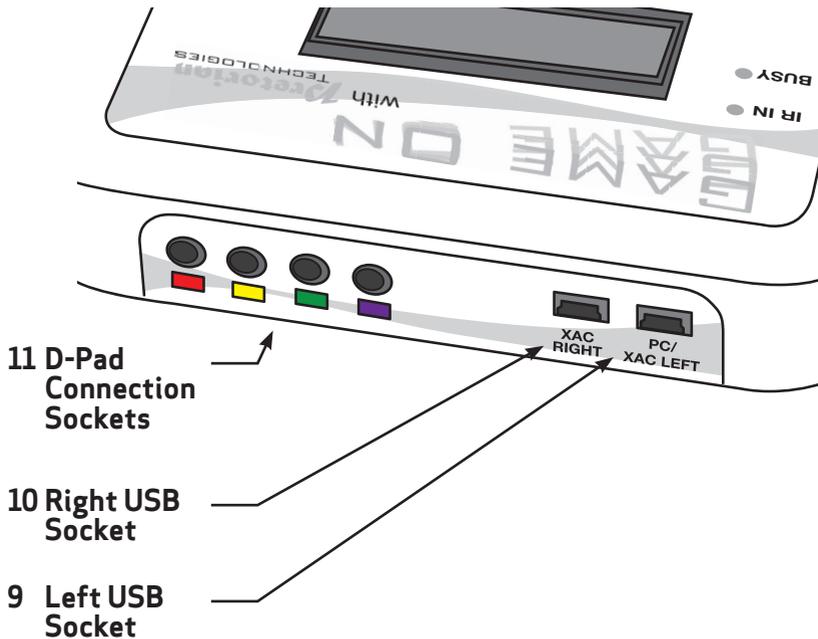
ON

with **Pretorian**[®]
TECHNOLOGIES

Features and Benefits

- Allows eye-gaze enabled AAC device users to access computer games using only their eyes.
- Implements all the controls on a game controller, or a subset.
- Interfaces to a gaming computer or an Xbox via an Xbox Adaptive Controller.
- Can be used with Co-Pilot to allow a gaming partner to assist with game play.
- Stores up to six Profiles to allow customisation for individual users and/or individual games.
- Multi-player facility allows both co-operative play of a single game, or simultaneous game play in a single setting.
- Fully customisable grid sets allow the grid to be changed according to the user's unique requirements.
- Can also be used for gaming using switch scanning instead of eye-gaze.





Connecting your Game On

Game On may be connected to a gaming PC or to an Xbox via an Xbox Adaptive Controller. The connection method differs substantially between the two types of host, so please refer to the relevant section below for full connection details.

Because Xbox Adaptive Controller has been adopted as the de facto standard adaptive device for gaming by most gaming console providers, it is expected that there will be more connection options available as time goes by. We recommend you refer to Pretorian Technologies' website for the most up to date information.

Connecting to a gaming PC

Connection to a gaming PC is achieved using a single USB cable but it is important to make sure it is plugged into the socket marked PC/ XAC LEFT [9]. Then plug it into a spare USB socket on the PC. You do not need to turn off the PC when doing this. The first time Game On is plugged in, the computer will install a driver, a process which takes a few seconds. The computer will tell you once the driver has successfully been installed.

Nothing should be connected to the USB socket marked XAC RIGHT [10], nor to the D-Pad connection sockets [11].

Game On appears to the computer as a generic game controller, whereas some games (for example Forza) will only respond to proprietary game controllers. If you are intending to play a game of this kind, there are two options open to you:

- Install Game On via an Xbox Adaptive Controller, by reference to the section below and then connecting the Xbox Adaptive Controller to the PC via a USB-C to USB-A cable. Your computer must be running Windows 10 or later.
- Use an Xbox Controller Emulator such as X360CE. This will make Game On appear to the computer as a standard Xbox game controller. Please refer to the Knowledge Base on our website for further details by following the QR code at the back of these instructions.

Games and gaming platforms change very quickly, so when using Game On to play games on a platform such as Steam, please refer to the Knowledge Base on our website for details of how to connect by following the QR code at the back of these instructions.

Connecting to an Xbox game console

To connect to an Xbox game console, you will first need to connect **Game On** to an Xbox Adaptive Controller. Do not connect **Game On** to any of the USB sockets on the Xbox console as these do not support generic game controllers. Instead, connect the socket marked **PC/ XAC LEFT [9]** to the left socket on the Xbox Adaptive Controller and the socket marked **XAC RIGHT [10]** to the right socket. This is necessary because each socket on Xbox Adaptive Controller only supports some of the game controller functions. Please refer to Figure 1.

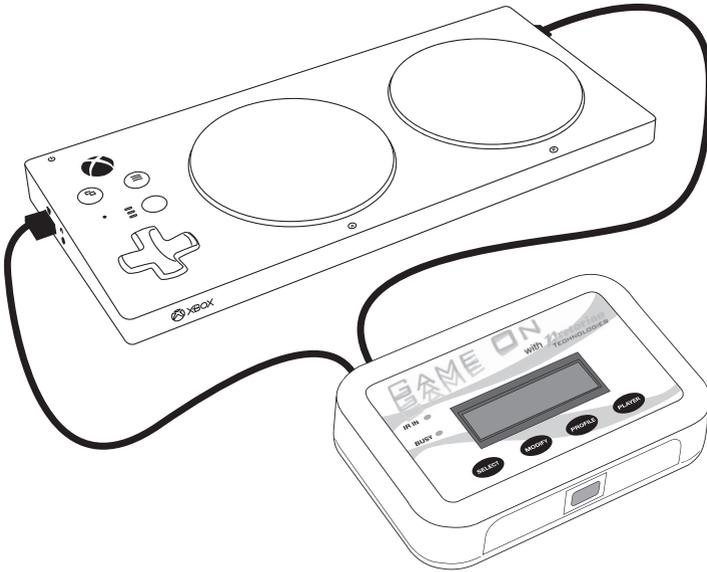


Figure 1

Unfortunately, neither of the sockets support the D-Pad functions, nor the Left and Right Triggers. If these are required for the games you intend to play, you will need to follow one or both of the next two steps:

Connecting D-Pad cables

Many games can be played perfectly well without the D-Pad buttons. However, if the D-Pad is necessary for the games you intend to play, you will need to make four more connections between **Game On** and the Xbox Adaptive Controller using sockets [11]. We have provided four colour coded cables and a decal to make this easier. Begin by attaching the coloured decal to your Xbox Adaptive Controller as shown in Figure 2, making sure it is correctly orientated and adjacent to the four D-Pad sockets. (Note that an 'L' and 'R' is included on the decal to help with orientation). Now connect the corresponding cables to the **Game On** sockets and to the Xbox Adaptive Controller, so red goes to red, yellow to yellow and so on. See Figure 3.



Figure 2

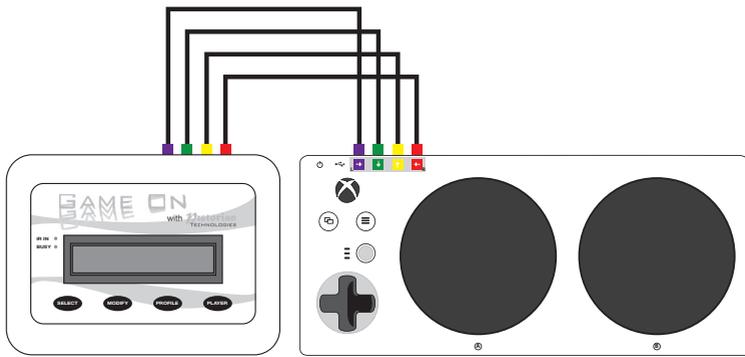


Figure 3

Trigger Emulation with Xbox Adaptive Controller

Because neither of the USB sockets on Xbox Adaptive Controller support Left and Right Trigger (LT and RT), if you need these for gaming, you will need to re-assign X1 and X2 to be LT and RT by following these steps:

1. On your Xbox, select Accessories, then when the XAC screen appears, select Configure.
2. Select New Profile and give it a name, e.g. Game On.
3. Navigate to X1 and select (by default it is set to Left Stick Up). Select Primary and then pick Left Trigger from the list. Then dismiss this menu by pressing B (by default, the large black button on the right).
4. Navigate to X2 and select (by default it is set to Left Stick Down). Select Primary and then pick Right Trigger from the list. Then dismiss this menu by pressing B.
5. Now press B to get back to the Profiles menu, navigate to the slot number drop-down and assign your new Game On profile to a slot number. Figure 4 shows how the summary screen should look.
6. Make sure your Xbox Adaptive Controller is set to the corresponding Slot number whenever you are using Game On. For example if you are using Slot 1, ensure that the top LED is lit. If not, press the adjacent button until it is.

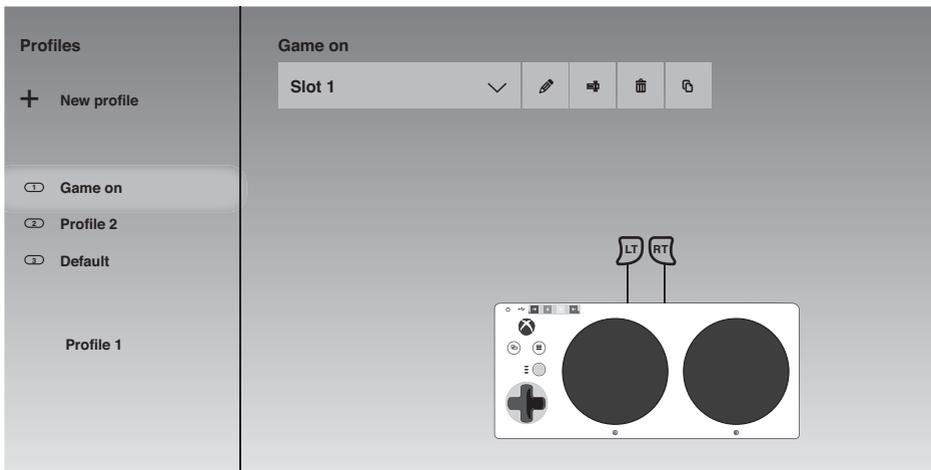


Figure 4

Because most games make use of the Trigger controls, we recommend you always make this modification to the Xbox Adaptive Controller configuration on your Xbox console. A video has been produced illustrating these steps- please refer to our Knowledge Base using the QR code at the back of these instructions.

Using your Game On with Xbox Co-Pilot

Co-Pilot is a feature built into Xbox to allow the controls to be split between two separate controllers, either to allow a single person to use two controllers or to allow two people to act as one.

The latter option is especially useful with **Game On** as it allows the disabled user to access a limited number of controls according to their abilities and the remaining controls to be operated by another disabled user or a family member/friend. For example, if the user's abilities allow them only to activate the Fire button using **Game On**, the remaining controls could be operated by somebody else, perhaps using a standard game controller (or alternatively it is possible to use two Xbox Adaptive Controller/**Game On** configurations so that two eye-gaze users can act as one).

When a disabled user is using this facility, it may be beneficial to reduce the number of controls in the grid set and/or make the remaining ones larger. This will make it easier for them to play using eye-gaze. More detail on how to modify the **Game On** grid sets can be found in the manual for Grid 3.

To turn on Co-Pilot, first of all make sure that both controllers are connected to your Xbox. Then navigate to Settings → Ease of Access → Controller and select Co-Pilot Settings. Select Turn on Co-Pilot. It doesn't matter which controller you use to do this but please remember that it then becomes the 'Pilot' controller and is to be used when turning Co-Pilot back off again. The Pilot also accrues all game scores and achievements.

Note that all the controls work on both controllers simultaneously. To limit the number of controls available to the **Game On** user, edit the grid set as described above.

Setting up your Game On

The keypad [4,5,6 and 7] and the LCD display [1] are used to view and change the degree of movement of both thumbsticks and the times for which the buttons, thumbstick buttons, Triggers and Bumpers are pressed. It also allows you to set up the double-click and Rapid-Fire functions. You will almost certainly need to change these settings depending on the games you play and your particular requirements. Up to six complete sets of these settings may be stored and recalled; each is called a Profile.

First use the Profile button [6] to select the Profile which you intend to view or change. The Profile number is shown on the LCD display [1]. Press Profile [6] repeatedly until you see the number you require. Whenever a Profile is being viewed or changed, game play is suspended.

To view the various settings, press Select [4] repeatedly and the LCD display [1] will cycle around all of the settings that are available. If you wish to make a change to any setting, simply press the Modify button [5] until you see the particular value you need.

Once you have made a change, you may either press Select [4] again to move to the next setting, or simply wait. After a few seconds of no further button presses being made, ALL of the settings for this Profile are saved and the display returns to showing 'Active', showing that game play can re-commence. Note that Profiles are stored in non-volatile memory in **Game On**, so they will continue to be available after it is powered down or moved to another game configuration.

The following sections summarise each of the parameters in a Profile:

Slow Speed

Definition:	The lower of the two speed parameters. Applies to all directions of both left and right thumbsticks.
Possible settings:	10% through 100% in 10% steps.
Default Setting:	60%

Fast Speed

Definition:	The higher of the two speed parameters. Applies to all directions of both left and right thumbsticks.
Possible settings:	10% through 100% in 10% steps.
Default Setting:	100%

Note there while there is no requirement for Slow Speed to be less than Fast Speed, it is expected that it will always be configured in this way.

Joystick Time

Definition:	The time for which a momentary movement of either left or right thumbstick occurs
Possible settings:	1 to 10, where each increment represents a time of 125ms
Default Setting:	2 (approx. 0.25sec)

D-Pad Time

Definition:	The time for which a momentary movement on the D-Pad occurs.
Possible settings:	1 to 10, where each increment represents a time of 125ms
Default Setting:	2 (approx. 0.25sec)

Button Time

Definition:	The time for which a momentary press on A, B, X, Y, Left Thumbstick button, Right Thumbstick button, Left Bumper or Right Bumper occurs
Possible settings:	1 to 10, where each increment represents a time of 125ms
Default Setting:	2 (approx. 0.25sec)

Long Button Time

Definition:	The time for which a long press on A, B, X or Y buttons occurs
Possible settings:	10 to 30, where each increment represents a time of 125ms
Default Setting:	15 (approx. 2 sec)

Trigger Time

Definition:	The time for which a momentary press on Left or Right Triggers occurs
Possible settings:	1 to 10, where each increment represents a time of 125ms
Default Setting:	6 (approx. 0.75sec)

Hold Time

Definition:	The time for which a Hold press/movement on Left and Right Thumbsticks, Left or Right Triggers and D-Pad occurs
Possible settings:	5sec to 30sec in 5sec increments
Default Setting:	20s

Note that all Hold commands may be ended sooner than the Hold time by selecting their corresponding Stop commands.

Rapid Fire Gap Time

Definition:	The time between successive clicks when a double click or Rapid-Fire on A, B, X, Y,LT or RT buttons occurs.
Possible settings:	1 to 10, where each increment represents a time of 125ms
Default Setting:	1 (approx. 0.125sec)

Double-click timing comprises a single click of duration Button Time, followed by a single gap of Rapid-Fire Gap Time and then a second click of duration Button Time.

Rapid-Fire timing comprises a single click of duration Button Time followed by a single gap of Rapid-Fire Gap time repeated the number of times specified by the Rapid Fire Hits setting. See Section entitled Rapid-Fire for more details.

Rapid Fire Hits

Definition:	The number of Rapid-Fire presses on A, B, X, Y, LT or RT.
Possible settings:	1 to 20, where each increment represents a time of 125ms
Default Setting:	5

See Section entitled Rapid-Fire for more details.

Setting the Player Number

Up to four **Game On** units can be used simultaneously in the same setting provided they are each set to a different Player number. **Game On** will ignore data coming from AAC devices which are set to a Player number other than the one to which **Game On** itself is set. The current Player number is shown on the LCD display [1] and may be changed at any time by pressing the Player button [7].

If you are using **Game On** alone, it does not matter which Player number it is set to, provided the AAC device is set to the same Player number.

If you are using **Game On** at the same time as others in the same setting, make sure you each use a unique Player number both on **Game On** and on the corresponding AAC device.

Positioning your Game On

Game On uses Infra-Red data which is sent from the AAC device whenever a command is selected. Because infra-red is a form of light, it travels in straight lines. Although it tends to ricochet off walls and so 'bounces' around the room, the optimum position for **Game On** is such that the infra-red window [8] is in direct sight of the infra-red output device on the corresponding AAC device, which is usually on the back of the device.

This alignment will be especially important when using more than one **Game On** in the same setting. Although **Game On** is designed only to respond to commands relating to the Player number which you have set up, it works best when the infra-red commands coming from the corresponding AAC device are stronger than any coming from the others.

Provided **Game On** and its corresponding AAC device are close to one another and in direct line of sight between the infra-red windows on each, you are unlikely to experience problems even in a multi-player setting.

Configuring your AAC Device

This section is written with Grid 3 software in mind, although support for AAC devices from other vendors will be added over time. Please refer to our Knowledge Base using the QR code at the back of these instructions for up to date information on your particular AAC device.

From the Grid Explorer, go to Menu - Add grid sets - Online Grids and search for Game On. You will see a number of grid sets to suit particular games which have been uploaded by the online community. Look for the grid set called Smartbox Game On Templates. Within this grid set are templates which you can use as a starting point to modify for specific users or games. Select either the Simple or Intermediate grid and copy and paste the required extra cells from the Full grid (for example a rapid-fire button).

Once you have installed your required grid sets, select the one you would like to use in Grid Explorer. You will first need to select the Player number to correspond with the Player number you have selected on **Game On**. Please refer to the section entitled Setting the Player Number for more information.

Figure 5 shows a typical intermediate grid set. The D-Pad and right thumbstick actions are grouped together in a cross shape to correspond with the direction of movement. Momentary buttons are towards the inside of the group and Hold buttons

towards the outside. A Stop button is provided for each thumbstick, which will end any actions currently taking place. Note that the left thumbstick Stop button only stops left thumbstick actions and the right Stop button only stop right thumbstick actions. The thumbstick button is in the centre of the group in both cases.

Whenever you select a thumbstick movement, any previous movement on the same thumbstick is cancelled. So, for example, if you selected left thumbstick Fast Hold Up and before it timed out selected left thumbstick Fast Hold Right, the thumbstick output would switch from up to right and the Hold timer will start over again.

The D-Pad group may be operated either momentarily or with Hold and its stop button is in the centre of this group.

The left and right Bumper and Trigger groups are in the corresponding corner groups. Note that the Bumpers are always momentary whereas the Triggers may be either momentary, long-press, double-click, rapid-fire or with Hold. The stop button may be used to end any lengthy action prematurely. Please refer to the section entitled Trigger compatibility for more information on how to make best use of the Left and Right Triggers.

The A, B, X and Y buttons are available in momentary, double-click, rapid-fire and extended press forms. Note that the extended press is configured using the Long Button Time setting and not the Hold time.

The full grid set also includes a facility to recall any of the six Profiles. This is in addition to being able to select them using the Game On keypad and display and is useful in empowering some users to make their own changes as they switch from game to game.

One of the key advantages of using Grid 3 is the ability to be able to edit grid sets to suit your exact needs. Users with limited cognition may benefit

from having a reduced set of controls, allowing the remaining controls to be laid out more clearly and each of the remaining cells to be larger. If you wish to customise the grid sets provided, please refer to Smartbox documentation for full details on how to achieve this or follow the QR code at the back of these instructions.

Before using the grid set for gaming, you may wish to review the current eye-gaze settings to make sure they are optimal. Go to Menu → Settings → Access → Eye gaze to review and make changes.

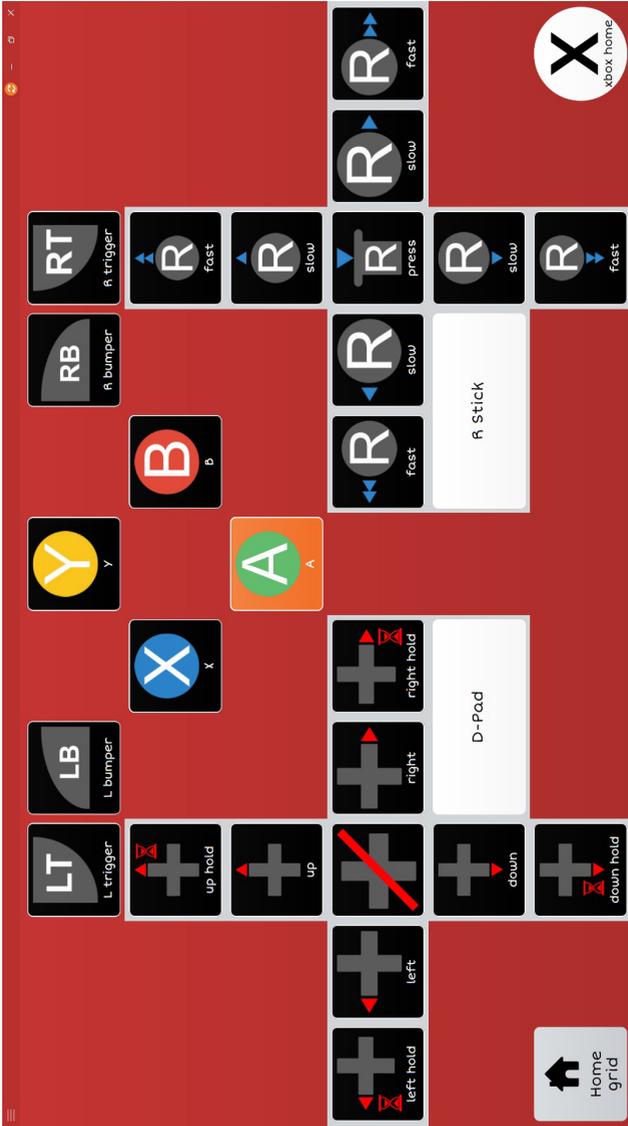


Figure 5

Game On!

You are now ready to begin game play. Enjoy!

Note that whenever Game On receives a command from an AAC device set to the same Player number, the 'IR IN' LED [2] flashes briefly.

Additionally, whenever an action is taking place, the 'BUSY' LED [3] is lit, allowing the user to see immediately whether any command is currently executing. This is particularly useful with timed, double-click, rapid-fire and Hold commands.

Trigger Compatibility

Left and Right Trigger can occasionally cause difficulties when it comes to gamepad compatibility. Some games expect Left and Right Trigger to be a single control, with Left Trigger giving positive movement and Right Trigger giving negative movement. This is fine for racing games where the Triggers are usually brake and accelerator, since these are mutually exclusive, i.e. you would never need brake and accelerator pressed at the same time.

Other games require the two Triggers to be entirely separate, for example in shooting games. Game On reports the Triggers over USB as separate controls. When connected to a PC, if this causes a problem with operating the game, we recommend that you either connect via an Xbox Adaptive Controller instead, or perhaps use the X360CE Controller Emulator software by referring to our Knowledge Base (see QR code at the back of these instructions).

Rapid-Fire Capability

Game On has been provided with a Rapid-Fire capability to compensate for users who are unable to press the buttons quickly enough to achieve meaningful game play. Rapid-Fire timing comprises a single click of duration Button Time, followed by a single gap of Rapid-Fire Gap time, both repeated the number of times specified by the Rapid-Fire Hits setting. For example, if the Button Time and the Rapid-Fire Gap are both set to 1 (0.125s), the time for each full press and release is 0.25 seconds. This is the fastest rate of fire which can be achieved and is approximately four presses per second, broadly equivalent to the maximum rate which an able-bodied user might achieve. If, for example, Rapid-Fire Hits is set to 10, each rapid-fire will comprise ten hits of 0.25s duration, i.e. 2.5 seconds altogether.

If, alternatively, the Button Time was set to 2 (0.25s) and the Rapid-Fire Gap to 2 (0.25s), the total time would be 0.5 seconds, or two presses per second. (There is no requirement for the two settings to be the same).

The longest press cycle time is when Button Time and the Rapid-Fire Gap are both set to 10 (1.25s), the time for each full press and release is 2.5 seconds. If Rapid-Fire Hits were also set to maximum (20) the total rapid-fire time would be 50 seconds.

Rapid-Fire of LT and RT can be cancelled by selecting the corresponding Stop grid cell. In the case of rapid fire of A, B, X or Y, the best way to cancel a rapid-fire is to select the corresponding single-hit grid cell.

Note that double-clicking is just a special case of rapid-fire where the number of hits is pre-set at 2. All the above example timings hold true for double-clicking as well as rapid-fire.

Important Note: In providing the Rapid-Fire capability, Pretorian is in no way condoning the use of Game On as a means for able-bodied users to gain an unfair advantage during gaming. We respectfully ask that all users treat Game On for what it is - a method of enabling gamers with disabilities to play the games they wish. Pretorian takes great pride in providing devices such as Game On for the benefit of mankind. Please do not undermine those efforts.

Maintenance

Your **Game On** unit has no user serviceable parts. If repair becomes necessary, the unit should be returned to Pretorian Technologies or an authorised distributor.

Warranty

Your **Game On** unit is warranted for 24 months from the date of purchase against defects in manufacture or component failure. The unit is designed for domestic and educational applications. Use outside these areas will invalidate the warranty. Unauthorised repair or modification, mechanical abuse, immersion in any liquid or connection to incompatible equipment or an incompatible power supply will invalidate the warranty.

Troubleshooting

If your **Game On** unit does not operate correctly, please use the following guide to determine the cause. If, after following this guide and consulting our Knowledge Base, your unit still does not operate, please contact your supplier before returning it. There is an on-line chat facility on the Pretorian Technologies' website and we're here to help.

Symptom	Possible Cause/Remedy
No output from Game On	<ul style="list-style-type: none">• Player number on Game On and AAC device do not match. Make both the same.• USB cable plugged into incorrect socket. For PC applications, make sure cable is plugged into socket [9]. For Xbox applications, make sure the cables are the correct way around- refer to Figure 1.• No line of sight between AAC device and Game On infra-red window [8]. Re-orientate and remove any obstructions.
Output from Game On does not correspond to the settings I made	<ul style="list-style-type: none">• Make sure you have the correct Profile selected, either using the Profile button [6] or the Profile cells in the grid set.
When connected via an Xbox Adaptive Controller, the left and right thumbstick and some of the buttons are the wrong way around	<ul style="list-style-type: none">• Make sure you have the USB cables the correct way around in the two USB sockets on Xbox Adaptive Controller. Refer to Figure 1.
When connected via an Xbox Adaptive Controller, the D-Pad controls do not work, or are the wrong way around	<ul style="list-style-type: none">• Make sure you have connected the four D-Pad wires according to the section entitled Connecting D-Pad Cables and that they are correctly orientated according to the colour scheme.
When connected via an Xbox Adaptive Controller the Left Trigger and Right Trigger result in movement of the left thumbstick	<ul style="list-style-type: none">• Make sure you have re-assigned X1 and X2 according to the section entitled Trigger Emulation with Xbox Adaptive Controller.• Make sure you have the correct Slot selected on Xbox Adaptive Controller to correspond with the Slot you re-assigned X1 and X2 in.
When connected to a gaming PC, Left and Right Trigger do not function as I expect.	<ul style="list-style-type: none">• Please refer to the section entitled Trigger compatibility.



www.pretorianuk.com/game-on-1



www.thinksmartbox.com/product/game-on



www.everyonecan.org.uk

GAME ON
with **Pretorian**
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Pretorian Technologies would like to thank Tom Wagner, Smartbox Assistive Technology, Everyone Can and SpecialEffect for their considerable assistance in developing **Game On**.

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For use with Game On 1 Version 1.3 (firmware 114.0 and 115.0)

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