

PROTOCOL 4

agf

INSTRUCTION LEAFLET.

For the sake of example select the card marked "AGF". Hold it so that the hinge bar is at the bottom and the arrows and letters etc. are facing away from you.

1. Slide the card, hinge bar first, down the two slots at either side of the interface centre until it clicks into the bottom of the slot.
2. Hinge the card away from you so as to cover the 'Protocol Key Codes' chart. Lay it flat and clip it down hard.

Moving the controller now should generate key responses on the screen just as if you were operating the keyboard.

More precisely the controller should be copying the cursor keys for movement and the zero key for the fire button.

i.e. UP = 7, RIGHT = 8, DOWN = 6, LEFT = 5 and FIRE = 0.

With this Custom Card in place you can select the 'AGF' or 'Protek' joystick option, available in many Spectrum games, rather than using the keyboard for control.

3. To remove the card from the interface simply unclip it by squeezing the back portion of the case.
4. Hinge it back up to vertical and pull it straight up to disengage completely.

The two other pre-programmed cards are labelled 'ZX2-1' and 'ZX2-2'. These will allow you to use player 1 or player 2 control options for the ZX Interface 2, provided more frequently in new release software and always in games from Sinclair of course.

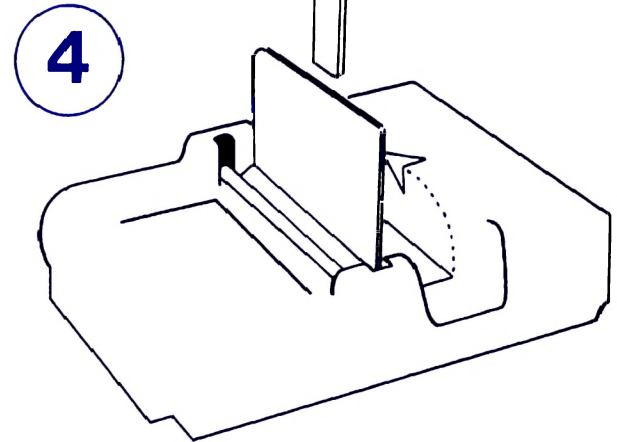
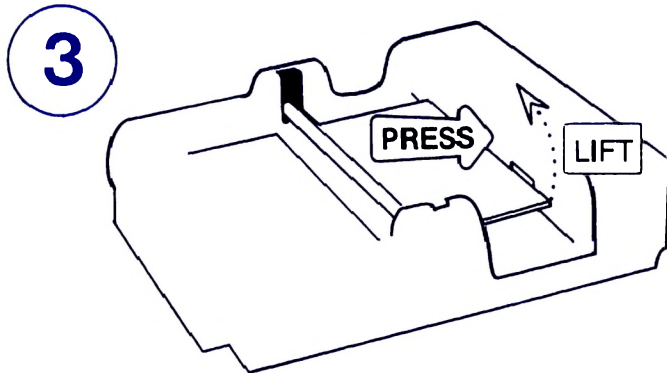
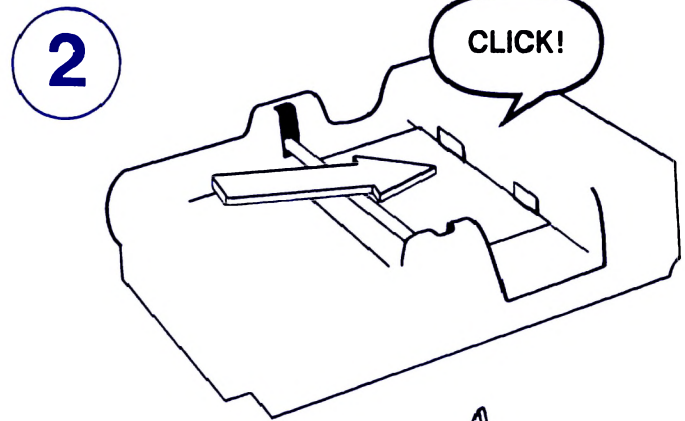
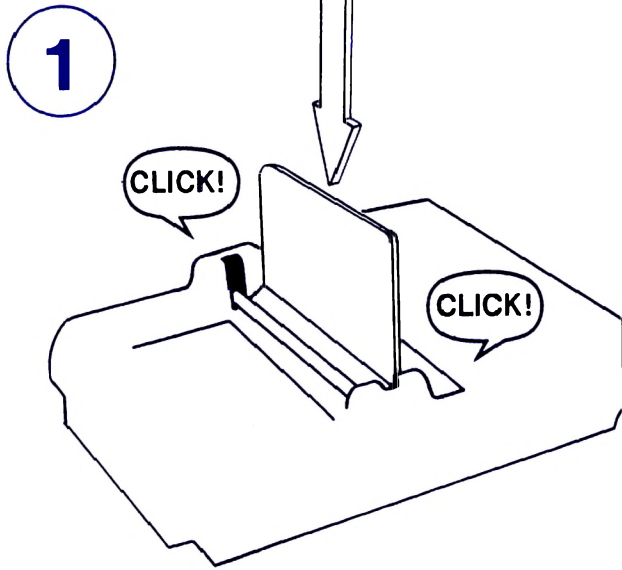
There is a fourth control standard that Protocol 4 can emulate and that is 'Kempston'. This is achieved by setting the 'Mode Switch' in the DOWN position which will immediately override any Custom Card that is clipped in. Setting the Mode Switch back UP again returns control via the Custom Card in use.

In summary, to use Protocol 4 with a control option, simply select the appropriate pre-set card or for 'Kempston' set the Mode Switch DOWN.

NB: As some programs have an automatic sensing routine to detect Kempston, if you wish to control the game via this option, set the Mode Switch DOWN before loading.

Once you have selected an appropriate joystick option for a game, you might find it useful to complete a Quick Reference Programming Card and store it with the particular program.

Simply tick the appropriate box on the bottom of the card and write the software title in the space



The purpose of the grid markings on the top of the card will be explained later in the 'Programming Custom Cards' section which follows.

Programming Custom Cards

Programming a Custom Card will be necessary when the game you wish to control does not offer the previously mentioned joystick options. You may also want to set up a card to customise the manner in which the game controller is used with the program, such as put the 'Pause-Game' facility onto an unused joystick direction in a game where only left, right and fire may be needed. Include the 'Start' key on another direction and you can completely control the game from the joystick without need to operate the keyboard.

The flexibility of Protocol 4 used in this way can greatly enhance the enjoyment and will also allow the use of controllers with more serious software applications.

To customise control of a particular game the keyboard option must be selected — all software can be controlled by keys so as to accommodate users without joysticks.

Slot a blank Custom Card into the Protocol 4 as previously described.

Instead of hinging it away from you pull it back towards you and lay it flat so that you can see the arrow markers and numbers moulded onto the face of the card.

You will see that there are five rows of thirteen holes. Four are marked with direction arrows and the fifth with an 'F' for fire.

To the left of the card are groups of five holes marked 0, 1, 2, 3, 4 and to the right eight holes marked 8, 9, 10, 11, 12, 13, 14, 15.

To set up which key will be activated by pushing the joystick UP, pop a programming peg into the appropriate holes on the top row. These can be found by looking up the desired key on the 'Protocol Key Codes' chart on the Protocol 4.

For example, the key 'K' has the code 2 and 14. Other examples are:

Key	Code	Key	Code
X	2, 8	ENTER	0, 14
4	3, 11	B	4, 15

By the same method pop in a pair of pegs for each direction you require and for the Fire button. Ensure that the pegs are seated correctly as in the illustration otherwise some directions may not respond when the card is clipped over on to the 'Key Codes' chart.

To check you have set up correctly try moving the joystick to see that the appropriate key response is generated on the screen.

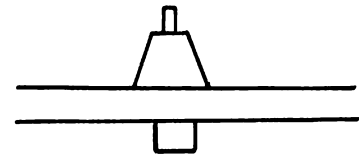
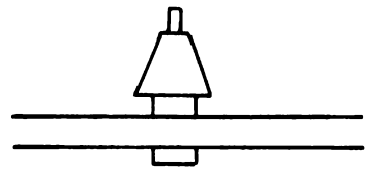
If you wish to keep this Custom Card programmed for a particular game remove the peg stub excess that protrudes from the rear of the card, by using a pair of electrical cutters or similar, and this will prevent the pegs from being accidentally pushed out. The Custom Card can then be labelled with one of the self-adhesive labels supplied.

Alternatively complete the grid section of a Quick Reference Programming Card to show where the pegs must go and store this with the game.

Custom Cards are designed so that they can be reprogrammed as often as you like, but you may prefer to build up a library of dedicated cards for your favourite games.

Extra packs of five Custom Cards can be purchased directly from us for £3.95 including postage and packing.

IMPORTANT: To preserve the long term reliability of this product do not leave Custom Cards clipped hard down on the central membrane area when Protocol 4 is not in use. It is sufficient just to release the retaining clip. There is no need to remove the card altogether.



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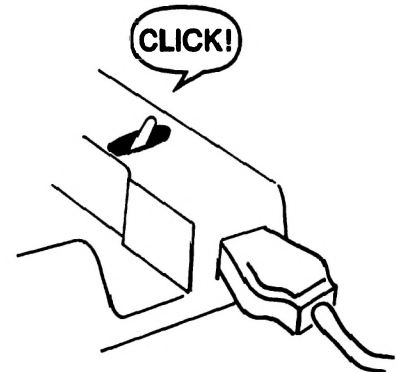
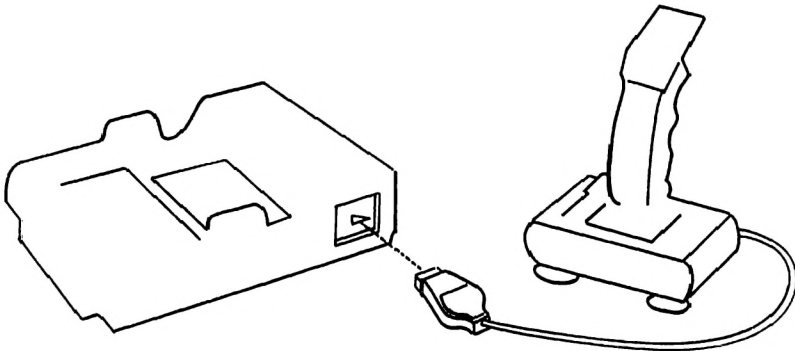
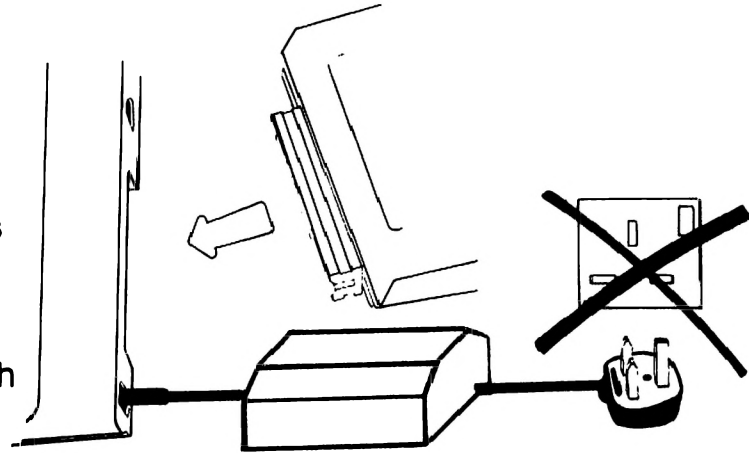
How to use Protocol 4

Always disconnect the power from your Spectrum before plugging or unplugging the Protocol 4. With the power disconnected check that the Key is present in the edge connector as shown in the illustration — this ensures that Protocol 4 connects properly to the back of the Spectrum.

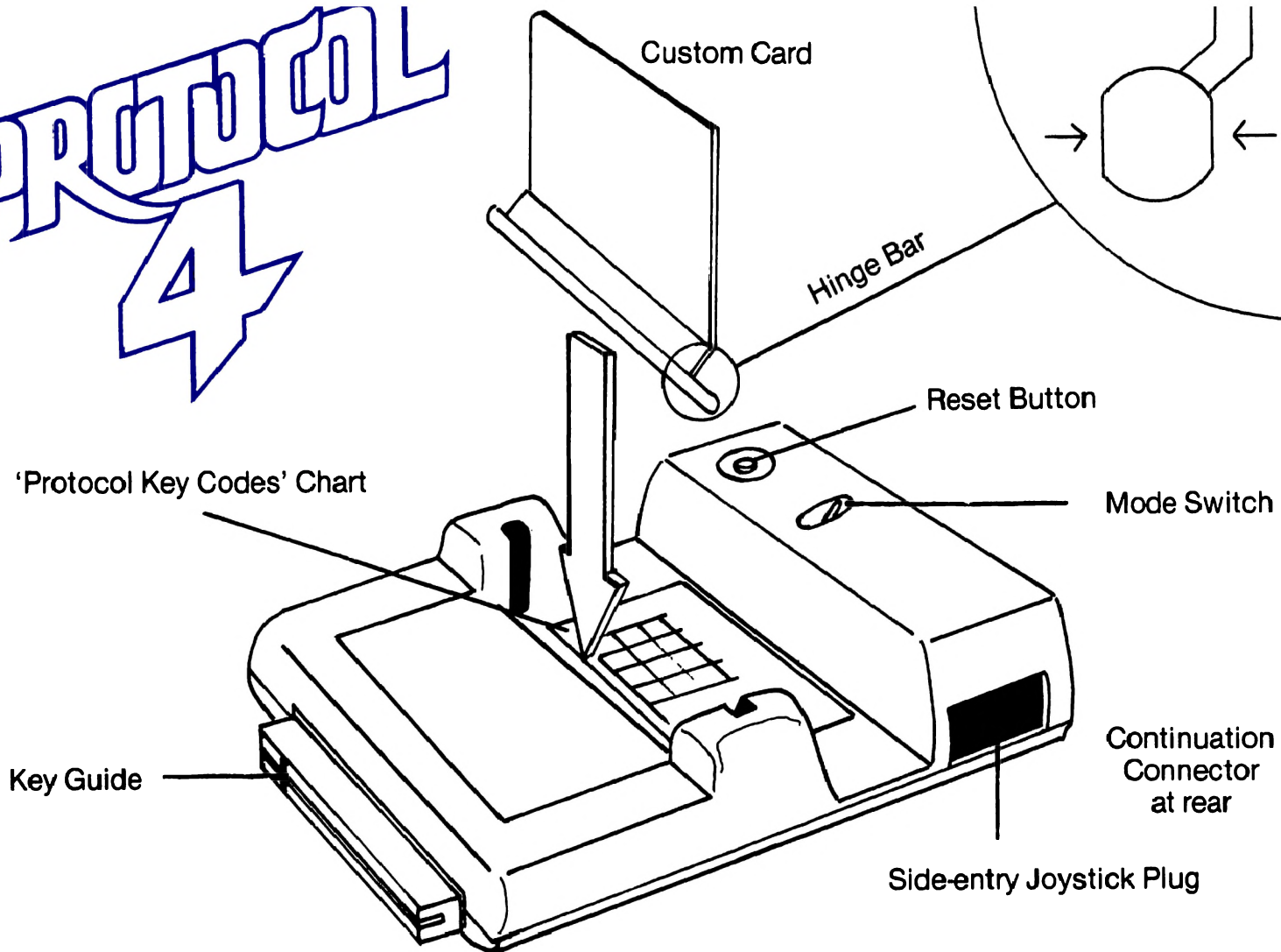
Plug Protocol 4 into the rear expansion port and reconnect the power.

If the normal start-up screen does not appear switch off immediately and re-check the Key.

When all is well plug your game controller into the side plug and put the mode switch in the UP position. Any movements of the controller at this stage will have absolutely no effect, the next step is to fit a pre-programmed Custom Card into the interface.



PROTOCOL 4



AGF Protocol 4 for the ZX Spectrum/Spectrum Plus

INSTRUCTIONS

GOLDEN RULE — NEVER CONNECT OR REMOVE ADD-ONS WHILE THE COMPUTER IS SWITCHED ON!

Protocol 4 description

The AGF Protocol 4 is an advanced design game controller interface for the ZX Spectrum and ZX Spectrum Plus.

Effectively four interfaces in one, Protocol 4 can operate like AGF/Protek, Kempston and ZX Interface 2 fixed interfaces or can be fully hardware programmed to suit games without joystick control options.

A rear expansion port will allow connection of printers, speech units or more Protocol 4's. Currah speech units with short leads will require an adaptor available direct from AGF at £1.95 fully inclusive.

The side entry joystick plug accepts all industry standard controllers including the Quickshot II with 'Auto-Fire' and Trackballs. **DO NOT** use specially modified joysticks that have two independent firing actions as these do not comply with the industry standard and may cause serious damage to your computer.

The recessed push switch is the computer Reset and pushing this has the same effect as pulling out the power plug. You can use this to clear out the computer memory ready to load the next program but a precautionary note, this does not have the same effect as the NEW command — all system variables etc. will be reset as at 'power-on'.

The centre toggle switch is to select the mode of operation of Protocol 4. In the UP position joystick movements are interpreted as key presses. In the DOWN position the interface simulates Kempston control. This will be more fully explained later.

The interface is supplied with three pre-programmed Custom Cards and two blank cards with a set of programming pegs.

How to use Protocol 4

Always disconnect the power from your Spectrum before plugging or unplugging the Protocol 4.

With the power disconnected check that the Key is present in the edge connector as shown in the illustration — this ensures that Protocol 4 connects properly to the back of the Spectrum.

Plug Protocol 4 into the rear expansion port and reconnect the power.

If the normal start-up screen does not appear switch off immediately and re-check the Key.

When all is well plug your game controller into the side plug and put the mode switch in the UP position.

Any movements of the controller at this stage will have absolutely no effect, the next step is to fit a pre-programmed Custom Card into the interface.

