Red-Eye Mark II www.redremote.co.uk

Remote control translator for Pace® 1000, 1010, 2000 and 4000 series, and Scientifc Atlanta Explorer 4000/4200 DVB Telewest & NTL Digital Cable TV Set Top Boxes.

Red-Eye provides an alternative infra-red (IR) remote control system for the above digital cable set-top box (STB). It overcomes the problems encountered by users of many universal/learning remote controls and remote repeater/ sender systems caused by the use of a non-standard remote control protocol (based on the IRDA® computer protocol).

Red-Eye uses an alternative remote control protocol (the RC6 system, as used on the Philips® DTX6370/1 Digital Terrestrial STB), allowing the Pace STB to be controlled by any remote control which supports this protocol. This includes replacement remotes for the Philips STB, some universal remotes, most learning remotes, and programmable remotes like the Philips Pronto, either directly or through an infra-red sender system, and some VCRs and DVDs. *Red-Eye* also has the ability to teach its control codes to a learning remote. **Note that *Red-Eye* does NOT enable the use of the <u>original</u> NTL/Telewest remote through an IR sender system.**
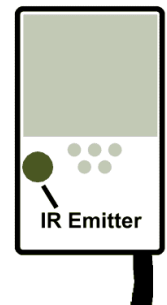
Installation

(If you need to use *Red-Eye* to teach its commands to a learning remote, don't stick it onto the STB yet – see overleaf for details.)

Disconnect the STB from the mains. Fix *Red-Eye* to the left-hand side of the display window on the STB, using the sticky pad provided. It needs to be positioned so that the cable emerges from the bottom left-hand corner of the *Red-Eye*. Take care to get the position right before pressing home as the sticky pad will usually only work once & need peeling off & replacing if you get it wrong! Ensure that the sticky pad (or a replacement) doesn't obstruct the Infra-Red emitter on the rear (shown right). Pass the cable under the receiver, and plug it into the ***IR Blaster Out*** socket on the rear of the STB (this is the upper of the two 3.5mm jack sockets on Pace STBs, the lower one on Scientific Atlanta). Reconnect the mains supply to the STB – when power is applied, you should see the red LED on the front of *Red-Eye* light brightly for approximately 5 seconds, then go very dim. **Don't try using a remote during this initial 5s period** or *Red-Eye* might enter *teach* mode (see *learning remotes* section overleaf).

While power is on, the LED will normally remain on <u>very</u> dimly, and will flicker if it sees any infra-red signal (e.g. from another remote). It will flash more brightly when it receives a *Red-Eye* remote command. If you see it continuously flickering instead of the steady dim illumination, it could be that it's picking up stray light, (e.g. from fluorescent or energy-saving bulbs), or electrical interference. This may reduce the reliability of reception, and you should try to reposition if possible (e.g. shading from overhead lighting or sunlight).

IR Emitter

<u>Remotes which can be used with *Red-Eye*</u>

For use with Philips Pronto and similar remotes, suitable configuration files can be downloaded from www.redremote.co.uk

Red-Eye works with programmable and learning remotes, as well as the following original/replacement/preprogrammed remotes:

 1) Original remote for the Philips DTX6370/1 OnDigital STB, Philips remote model number RC2580/01. This remote also provides basic controls for most makes of TVs and VCRs. (See **www.redremote.co.uk/remotes.html** for a source of these remotes)

 2) Wallis replacement remote for Philips DTX6370/1. Wallis part number 90 57 96 07. Available from CPC (www.cpc.co.uk, 08701 20 25 30), order code HS0040366

 3) *One For All 4 Digital* URC-7541/44 (N.B. must be the <u>Digital</u> model). This is a universal remote which can also control most makes of TV, Video and other equipment. Available from many retail outlets, including Argos (catalogue number 534-0521) Use the OnDigital (Philips) stick-on overlay, **with code S0133** (code system A) or S0134 (code system B) in SAT mode. **Do NOT use the NTL codes.**

 4) For 1000 and 2000 STBs and Telewest 4000DVB **ONLY**, you can also use the NTL <u>Blue</u> RC5 remotes. On the old version, *Browse* performs the ***i*** (info) function and there is no *favorites* function. On the new style blue NTL remote, all keys are available. **Do NOT use these remotes if you have a Pace 4000 series box** as the dual IRDA/RC5 compatibility of these STBs will cause problems.

For up-to-date information on other supported remotes and sources of the above units, please visit www.redremote.co.uk

When using a Pronto or learning remote, all STB functions are available.

When using one of the remotes 1,2 or 3 listed above, the following table shows the differences in key labels :

Table 1 : Functions which are labelled differently on the Philips remote and compatibles listed above. **Not applicable to Pronto.**			
Pace STB function	**Philips remote key**	**Pace STB function**	**Philips remote key**
Favorites	Wide	Interactive	Menu
Back	Exit	Help	Subtitle
TV	TV/DTV	Page up/down	Volume up/down
TV On Demand	Not available (access via TV guide)	Skip	Not available
Volume up/down	Not available		
Home and ***Guide*** keys on Telewest "Silver remote", and ***Settings*** and # keys on the new-style NTL remote are not available when using a DTX3670 remote. They **are** available with Pronto and learning remotes.			

Red-Eye can use either the system A or B command sets supported by the Philips DTX6370/1, to reduce the risk of clashes with this or other products. *Red-Eye* will automatically use whichever code system it receives first after power-up, so if you need to use a specific system to avoid clashing with the Philips DTX or other unit, ensure that the remote you want to use with *Red-Eye* is the first one it 'sees' after powering up. This setting will be retained for as long as mains power is on (the STB on/off button does not control power to *Red-Eye*). Instructions for selecting the code system on the Philips remote are on the website **www.redremote.co.uk**.

Use with learning remotes

Red-Eye provides a special ***Teach Mode*** to teach its commands to learning remotes.

Note that the infra-red (IR) emitter on *Red-Eye* is less bright than the one on a normal remote, as it works close to the STB's IR receiver. It's possible that some learning remotes may not be sensitive enough to learn from this less bright emitter, even when very close. It may be necessary to position the *Red-Eye*'s IR emitter much closer to the learning remote's receiver than you would when learning from a normal remote. The position of the emitter on the rear of *Red-Eye* is shown in the *Installation* section. You may need to experiment to find the exact position of your learning remote's IR sensor so it can be placed as close as possible to *Red-Eye*'s emitter. If this still doesn't work you'll need to borrow *a Red-Eye* compatible remote to teach from.

To use Teach mode, you need to use another remote control to step *Red-Eye* through the stages of the teach process. Almost any type of remote will do (except the original Pace STB remote). This remote will be referred to as ***Rx***. *"Rx"* below means *"any key on Rx"*. You may need to hold Rx for up to half a second, depending on the type of remote used.

Teach mode is rather fiddly to use, but should only need doing once! You will find it MUCH easier if Rx, *Red-Eye* and the learning remote are placed on a flat surface (fix *RedEye* down with tape or Blu-Tak), so your hands are free to press buttons. It will also save a lot of time if you plan exactly what functions you want to map to which keys BEFORE you start!

When *Red-Eye* is initially powered up (by connecting mains power to the STB), the LED lights for 5 seconds. During this 5s period, press <u>and hold</u> Rx – the LED will start flickering. <u>Continue</u> holding Rx down until the LED goes out – this will take 1 to 5 seconds depending on the type of remote used. When the LED goes out, release Rx.

Red-Eye is now in Teach mode, and the LED will be showing a series of 6 short flashes, repeating after a 2 second gap.

In teach mode, *Red-Eye* alternates between two states, a press of Rx being used to switch between them (see Table 2).

In the first state, it shows a repeating pattern of 6 long and/or short flashes, to tell you which code will be taught next (see Table 3). When Rx is pressed, it enters the second state: the LED lights for 5 secs, goes out for 1s, then the IR code to be taught is transmitted continuously for 15s, during which time the LED flickers rapidly. You should start the *learn* function on your remote shortly <u>after releasing</u> Rx, i.e during the 5s period when the LED is on. Ensure you start learning shortly <u>after releasing</u> Rx (to avoid picking up a false code from Rx), and <u>before</u> the LED goes out. If you activate it while the LED is flickering, your remote may not learn the code correctly, leading to unreliable or sluggish *Red-Eye* operation when that code is used. If you don't manage to activate the learn function before the LED starts flickering, wait until the flickering stops and LED comes on again before trying again. This 5 sec LED / 15s IR send sequence repeats until Rx is pressed, to allow further attempts on the same code if the learning remote did not capture correctly the first time. Once the code has been successfully learnt, you don't have to wait until the end of the 15 seconds to move onto the next code - Rx can be pressed at any time to move onto the next code, and this will return to the 6-flash mode to show which code will be taught next. The learn process is then repeated for each code. If you don't want to teach all the functions, you can skip over the unwanted codes by exiting the teach state with Rx as soon as the LED is on or is flickering.

Table 3 shows the sequence of key functions taught. After the last step, it restarts at step 0 (channel up)

When teaching is complete, power down *Red-Eye* by powering off the STB at the mains for 10 seconds.

Table 2 – LED patterns in teach mode (LED times not to scale) Rx steps down 1 line in table

LED pattern	Description
• • • • • • • • • • •	Repeating pattern showing the next code to be taught (0)
▬▬▬▬ ••••••••• 5s 1s 15s	5s flash acknowledges Rx, 1s gap, fast blink as IR code 0 is sent for 15s. Pattern repeats until Rx press
• • • • ▬ • • • • ▬	Repeating flash pattern showing the next code to be taught (1)
▬▬▬▬▬ •••••••••••	Long flash acknowledges Rx, 1s gap, fast blink as IR code 1 is sent for 15s. Pattern repeats until Rx

Sequence repeats for codes 2..40, then restarts at 0

Table 3 : Key codes in teach mode, plus RC6 codes for Philips Pronto remote etc.

No	Function	LED Flash sequence (2 sec gap between repeats)						RC6
0	Channel Up	•	•	•	•	•	•	20
1	Chan Down	•	•	•	•	•	▬	21
2	TV	•	•	•	•	▬	•	43
3	Up	•	•	•	•	▬	▬	58
4	Down	•	•	•	▬	•	•	59
5	Left	•	•	•	▬	•	▬	5A
6	Right	•	•	•	▬	▬	•	5B
7	OK	•	•	•	▬	▬	▬	5C
8	Page Up	•	•	▬	•	•	•	10
9	Page Dn	•	•	▬	•	•	▬	11
10	Red	•	•	▬	•	▬	•	6D
11	Green	•	•	▬	•	▬	▬	6E
12	Yellow	•	•	▬	▬	•	•	6F
13	Blue	•	•	▬	▬	•	▬	70
14	TV Guide	•	•	▬	▬	▬	•	CC
15	I (info)	•	•	▬	▬	▬	▬	0F
16	Back	•	▬	•	•	•	•	83
17	Skip	•	▬	•	•	•	▬	31
18	Power	•	▬	•	•	▬	•	0C
19	Mute	•	▬	•	•	▬	▬	0D
20	help	•	▬	•	▬	•	•	4B
21	Interactive	•	▬	•	▬	•	▬	54
22	Favorites	•	▬	•	▬	▬	•	D8
23	TV On Dem	•	▬	•	▬	▬	▬	30
24	Guide (TW)	•	▬	▬	•	•	•	37
25	Text	•	▬	▬	•	•	▬	3C
26	0	•	▬	▬	•	▬	•	00
27	1	•	▬	▬	•	▬	▬	01
28	2	•	▬	▬	▬	•	•	02
29	3	•	▬	▬	▬	•	▬	03
30	4	•	▬	▬	▬	▬	•	04
31	5	•	▬	▬	▬	▬	▬	05
32	6	▬	•	•	•	•	•	06
33	7	▬	•	•	•	•	▬	07
34	8	▬	•	•	•	▬	•	08
35	9	▬	•	•	•	▬	▬	09
36	Vol up	▬	•	•	▬	•	•	32
37	Vol down	▬	•	•	▬	•	▬	33
38	Settings (N)	▬	•	•	▬	▬	•	38
39	# (N)	▬	•	•	▬	▬	▬	39
40	Home (TW)	▬	•	▬	•	•	•	36

(N) New-style NTL codes
(TW) Telewest "Silver remote" codes.
RC6 codes are in hexadecimal. Full RC6 code is 28 xx for System A, 2F xx for System B. For Pronto etc, the RC6 string is
6000 0073 0001 0000 0028 00xx for system A (..002F 00xx for system B)

Information for programmable remotes, VCRs and other products
Please check **www.redremote.co.uk for the latest updates**

JVC VCR/DVDR Code **84** **Panasonic VCR**: Code **218** or **219**
Sharp VCR Code **38** **Sony VCR** Code **864**
TiVo® Make : **Philips**, code : **20012**
Windows XP Media Centre See www.redremote.co.uk/mce.html
Philips DVDR80 / HDRW720 See www.redremote.co.uk/dvdr80.html
Toshiba RD-XS32 see www.redremote.co.uk/xs32.html

Philips Pronto® CCF files for configuring the Pronto remotes via *ProntoEdit* software available at **www.redremote.co.uk** RC6 code data is also listed in Table 3

If your remote/VCR has an option for the Philips DTX6370, use this setting, if not, other Philips sat codes may be worth trying.

If it has a facility to enter RC6 commands, these are listed in Table 3.