

Anytronics : Anylight Outstations

Infra Red Remote and Receiver Outstation

1.0 Introduction

The Anylight infra red remote control and receiver outstation are members of a range of products manufactured by Anytronics which are compatible with their Anylight interface cards normally fitted inside a dimming pack. The outstations communicate with the interface card over a simple two wire interface and generate the command codes accepted by these interface cards in order to control Channel levels and recall stored Preset scenes.

Key Features of IR Remote Control and Receiver Outstation

- Channel and Preset addressing set independently at receiver outstation
- Communication with Anylight interface card over two wire interface
- Address range 1-64 for both Channels and Presets
- Data LED on outstation confirms receipt of commands
- Anylight remote control, controls 8 Channels and 24 Presets (optionally 24 Channels and 8 Presets)
- Pronto TM or similar remote control, controls all 64 Channels and all 64 Presets

Preset controls

- Control 24 or 8 Presets from Anylight remote control
- Press and release for slow fade to preset levels
- 'Double click' for fast fade to preset levels
- Press and hold to raise and lower Preset levels (optional feature)

Channel controls

- Control 8 or 24 Channels from Anylight remote control
- Press and hold remote button to ramp level up or down until released
- Press and release remote button for slow fade up or down
- 'Double click' switch action for fast ramp up or down
- Dimming level memory feature converts from On/Off operation to Up/Down operation

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2.0 IR Receiver Outstation Installation

The receiver outstation can be supplied in a panel suitable for installation in a standard UK single patress box, or in a ceiling fitting which requires an 86mm hole. Only two low voltage data connections are required back to the A and B buss terminals on an Anylight interface card and these connections can be made with either polarity. Multiple outstations may be wired in parallel across the A and B buss connections with either polarity. It is important to ensure that one A and one B connection is made from each outstation back to the interface card. Do not wire the outstations in series, or they will not work. **Do not earth or make any other connection to these outstations.**

Note that the operation of infra red remote control receivers may be adversely affected if illuminated by direct sunlight, or if placed close to fluorescent lighting or to any other equipment generating electrical interference in the 35-40kHz range.

Outstation Addressing

Although the Anylight remote control has only 8 Channel buttons and 24 Preset buttons, the receiver outstation can be set so that these buttons address any consecutive range of addresses in the range Channels 1-64 and Presets 1-64. The start address can be set independently for Channels and for Presets using the two labelled bcd switches and switches 1,2 of their adjacent DIL switches. These controls set the address of the Channel or Preset affected by pressing Channel 1 or Preset 1 button on the remote. Successive buttons control the consecutive Channels and Presets. In effect the outstation adds the set number to the address indicated on the remote control overlay. In this way a single remote might be used with several receiver outstations to control a wide range of Channels and Presets in different areas. The table below shows the address of the Channel or Preset affected by pressing the Channel 1 or Preset 1 button on the remote. The receiver outstation address setting is shown in the left column, and the resultant Channel or Preset addresses shown in the table.

rotary control address setting	Sw1 Off Sw2 Off resultant address	Sw1 On Sw2 Off resultant address	Sw1 Off Sw2 On resultant address	Sw1 On Sw2 On resultant address
0	1	17	33	49
1	2	18	34	50
2	3	19	35	51
3	4	20	36	52
4	5	21	37	53
5	6	22	38	54
6	7	23	39	55
7	8	24	40	56
8	9	25	41	57
9	10	26	42	58
A	11	27	43	59
B	12	28	44	60
C	13	29	45	61
D	14	30	46	62
E	15	31	47	63
F	16	32	48	64



Note the effect of positions 1 and 2 of the four way DIL switch beside each bcd address switch in adding 16 or 32 to the selected address. If the outstation is set so that some remote buttons will send commands to addresses in excess of 64, these addresses will be sent modulo 64, ie with 64 removed. The outstation might be set so that the remote control addresses Presets 61 to 84, but the commands would be in fact sent with addresses 61 to 64 and then 1 to 20.

A further layer of address checking takes place at the interface card which might only have a valid Channel address range of 1-8, or 1-32. In this case, addresses are usually 'rolled over' so that an address of 9 is interpreted as an address of 1 in an eight channel interface (Anylight 8). This rollover feature can be disabled at the card however (see installation instructions).

3.0 IR Remote Control Operation

The remote control requires two AA batteries to work. These can be replaced when necessary by sliding the battery compartment cover off the back of the remote. Remove flat batteries and dispose of them safely. Place two new batteries in the battery compartment checking the correct orientation against the diagrams etched in the bottom of the battery compartment. Replace cover by fully engaging the tang of the battery cover in the slot in the top of the compartment and then clipping the cover down into place.

Positioning

The remote control needs to be within the line of sight of the receiver to work. It works best when the control is pointed at the receiver, though in a small room this is not essential. The receiver should accept commands from remote controls positioned within a cone defined by an angle of approximately 100 degrees. A working range in excess of 10m may be expected with remote control and receiver facing each other.

Several receiver outstations can be connected in the same network, but to avoid confusion, they should not be placed in positions where more than one at a time will be activated by a single remote control.

Operation

Channel and Preset buttons on the remote control can both be made to produce different results according to how they are operated.

Preset buttons

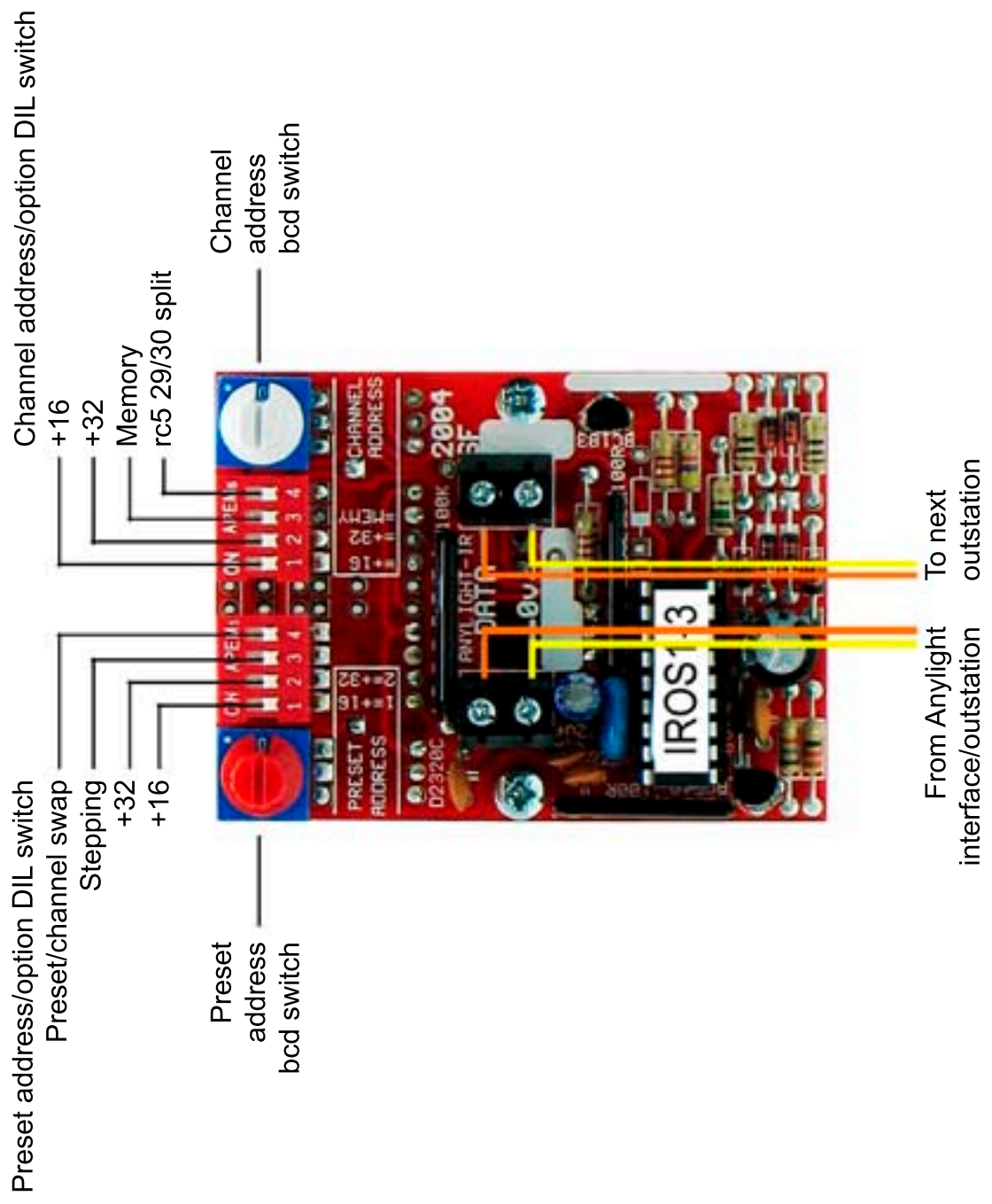
Starting with the Preset buttons, a single press and release or 'single click' operation will call up the stored Preset settings for the addressed Preset. The levels corresponding to this Preset will fade in over the period set by the four way DIL selection switch on the Anylight Interface card, ie over 2.5, 5, 10 or 20 seconds.

Alternatively a 'double click' on the same button will bring in the Preset levels at the fastest rate. Even if a single click operation has been started, a subsequent 'double click' will override this and bring in the Preset at the highest speed.

Like any other Anylight outstation with Preset controls, the remote control may also be used to programme Presets (see Anylight instruction manual).

From IROS1.3 a further feature can be engaged when using Anylight v1.8 or higher. When Preset DIL switch 3 of the outstation is set to on, then a prolonged press on a remote Preset button will ramp the Preset channels up or down on alternate long presses. Note that this feature will only work on channels set for dimming which are included in the Preset and which have a non zero value in the Preset. This allows the level of lights included in a scene to be raised and lowered from the IR remote.

Infra-red Receiver



Channel buttons

The remote control Channel buttons have more options and take more getting used to. At their simplest, they can be single clicked to alternately fade the channel on and off at the fade rate which is set by the four way DIL switch on the Anylight interface. A double click however will override this fade period setting and make the change happen at the fastest speed. Be aware though that a much slower double click might look like two single presses to the outstation, in which case the Channel may start to turn on, then turn off instead.

If the Channel buttons are held down, (rather than pressed and released) the Channel level will be slowly ramped up or down on alternate presses, giving direct control of the Channel dimming level.

For Channels that are set to switching (rather than dimming) operation at the interface card, the Channel level cannot be faded or ramped up or down, and so the corresponding outstation Channel button will only behave like a toggle switch. As a result, whether it is single or double clicked, or held down to ramp the Channel levels, in practice the Channel will only toggle between full on and off.

Channel / Preset button function swap

The Anylight IR outstation can swap over the operation of the Channel and Preset buttons on the Anylight remote control to give 24 Channel buttons and 8 Preset buttons. This is achieved by setting position 4 of the DIL switch next to the Preset address bcd switch to ON. The bcd address setting on the outstation works as before, setting Channel and Preset addresses independently as labelled on the outstation PCB.

Channel Memory

This feature of remembering the previous channel level is available on all outstation Channel buttons including the remote control. It is selected by setting position 3 of the Channel DIL switch on the outstation to ON. As the remote button operation can be confusing enough on its own, the use of this feature is not recommended for complete beginners, so initially please leave this DIL switch set to OFF.

With this feature engaged, a Channel's level can be ramped up or down to the desired illumination level as explained above by holding down the remote button until the required level is reached. Assuming that the user ramps up to the required level, a single click on the remote button will now fade the level down to zero, but the previous level of illumination will be held in memory. A further single click on the button will reinstate the remembered level at the set fade rate, or a double click at the fastest fade rate. In this way the button can be used to toggle a Channel's level between zero and the memorised level (or else between full on and the memorised level), removing the need to hold down the button to obtain normal illumination levels.

This feature is obviously of no value for channels set to switching only.

Checking outstation operation

Once the receiver outstation is correctly wired back to the Anylight Interface and the interface is powered up, the system should be ready to work. Pressing any button on an Anylight remote control in range of a receiver outstation should make the data light on the front of the receiver flash. This facility can be used to discover and check the working range of the remote control system with each receiver.

When the remote sends a command which is correctly received, the blue TWIF data LED on the Anylight interface PCB should flash on to show that the command has been accepted and details of the command will also be displayed on the LCD display (if fitted).

Assuming that the outstation is correctly wired and that Channel and Preset addresses are correctly set, you should be able to control each channel in turn from the appropriate remote control buttons and programme and then recall Preset scenes as described in the Anylight Interface Installation and Operating notes. Suggestions for troubleshooting Anylight installations are included in the Anylight interface installation notes.

Use with Pronto™ or similar general purpose IR remote

The normal Anylight rc5 codes have system code 29 and accept the 64 rc5 command codes with system Code 29. This places a limit on the number of addressable actions to 64 so the codes are split between

Command codes	0 - 31	Channel toggle control
Command codes	32 - 63	Preset control

From version OS1.3, by setting DIL switch 4 of the Channel address DIL switch to On, the Anylight receiver outstation can be set to accept rc5 IR codes so that system codes of 29 are interpreted as commands to Channels 1-64 and system codes of 30 can command Presets 1-64.

System code 29	Command codes	0 - 63	Channel toggle control
System code 30	Command codes	0 - 63	Preset control

In this mode, the settings of the receiver’s DIL and bcd Channel and Preset address switches are still used as an offset, so that to translate the received command codes 0-63 directly to Channel or Preset addresses 1-64, the Channel and Preset addresses on the outstation must be set to zero.

By setting switch 4 of the Preset Address DIL switch to On, the use of the two system codes can be swapped over thus :-

System code 29	Command codes	0 - 63	Preset control
System code 30	Command codes	0 - 63	Channel toggle control

And again the Channel address setting controls the Channel address offset and the Preset address the Preset offset, so to translate received command codes 0-63 directly to Channel or Preset addresses 1-64, the Channel and Preset addresses on the outstation should be set to zero.

Note that these codes can be created from a variety of sources including handheld and computer ‘learning’ remotes, IR passthrough, programmable controllers etc.

If such codes are generated by macros, then a stream of three or fewer identical codes will be interpreted as a single press for Preset recall, or eg Channel On or Channel Off command. If a longer stream of identical codes is received, then Channels will be ramped up or down (as will non-zero included dimming channels of a Preset if Preset DIL 3 is set on). Two short sequences of code, differing only in their rc5 toggle bit value will be interpreted as a ‘double click’ leading to Preset scene recall at the fastest rate, or to Channel change at the fastest rate.

