

<http://picprojects.org.uk>

This PIC has been pre-programmed with Version 3 firmware and contains the following RGB colour sequences.

1. Fade through full colour spectrum
2. Fade through full colour spectrum. 75% intensity, slow
3. Pastel colours fade, fast
4. Pastel colour fade, slow
5. Slow fade Red + Green, 50% to 100%
6. Slow fade Red + Blue, 50% to 100%
7. Slow fade Green + Blue, 50% to 100%
8. Red full intensity, slow fade to off; Green full intensity, slow fade to off; Blue full intensity, slow fade to off.
9. Slow fade of Red to full intensity, slow fade to off; Slow fade of Green to full intensity, slow fade to off; Slow fade of Blue to full intensity, slow fade to off.
10. Slow fade of Red on, slow fade of Green on, slow fade of Red off, slow fade of Blue on, slow fade of Green off, slow fade of Red on, slow fade of Green off.
11. Slow cycle of fade between rainbow of colour, various combinations of Red, Green and Blue on/off at various intensities.
12. Bright White: Red, Green and Blue combination.
13. Half White: Red, Green and Blue combination.
14. Low White: Red, Green and Blue combination.
15. Full colour spectrum fade.
16. Slower full colour spectrum fade.
17. Slow warm colour spectrum fade.
18. Cool colour spectrum fade.
19. Purple colour fades.
20. Red, Green, Blue cycle at 50mS rate.
21. Red, Green, Blue cycle at 100mS rate.
22. Red, Green, Blue cycle at 200mS rate.
23. Red, Green, Blue cycle at 300mS rate.
24. Red, Green, Blue cycle at 400mS rate.
25. Red, Green, Blue cycle at 0.5S rate.
26. Red, Green, Blue cycle at 1S rate.
27. Triple flash of Green and Blue with delay between flashes.

Operation

- When the PIC is first powered on after programming, it should start running the sequence #1 "Fade through full colour spectrum".
- User control of the RGB Driver is done using the SW1 switch which performs multiple functions as described in the following section.

Single press to Hold / Run current sequence

Press SW1 at any time to stop the sequence running and hold the colour being displayed at that moment in time. Pressing SW1 again will start the sequence running.

If the controller is powered off while in the hold state when it is next powered on it will remain in the hold state displaying the same colour.

Double press to Select Next Sequence

(press SW1 twice less than 0.5 second apart; think 'double-click' computer mouse button)

Step through all available sequences. When the last sequence has been reached it will go back to the first available sequence. Each time the SW1 switch is 'double clicked' the RGB LED PWM values are set back to 0 (LEDs off) and the new sequence will start running.

When stepping through the sequences it always starts each new sequence in the Run state, even if it was previously in a Hold state

Press and hold to enter / exit sleep state

Press and hold SW1 switch for about 1.2 seconds to put the PIC into sleep mode. Once in sleep mode, press the SW1 switch for about 2 seconds then release it to wake the PIC from sleep. If the SW1 button isn't held for two seconds the PIC returns to sleep

- About 10 seconds after the SW1 switch is last pressed the currently selected sequence number, RGB colour values and Hold state are saved to non-volatile EEPROM memory. When the RGB LED driver is next powered on, the saved sequence number is read back and will automatically start running the sequence. If it was in a Hold state at power off it will power on and remain in the 'Hold' state until SW1 is pressed again.
- Anytime the PIC is put into sleep mode by holding SW1 switch down, the currently selected sequence, displayed colour and Hold state will be saved to EEPROM.