Paul's Christmas Star

December 23, 1997

Code and Programming Information

I have included 6 Stamp II programs that must be programmed in the following order for the Star to work properly. They are:

    WRITE1A.BS2
    WRITE2A.BS2
    WRITE3A.BS2
    WRITE4A.BS2
    WRITE5A.BS2
    STAR97X.BS2

The first 5 programs use the Stamp to program the EEPROM. The last program (STAR97X.BS2) is the actual star program used by the Stamp.

With each of the patterns, the STAR97X.BS2 program gives you the opportunity to choose how long each pattern is run, the pattern speed, which direction the pattern should move and in what order it should be executed. Please examine the code for further details.

Pattern Names and Descriptions:

The patterns are described below:

1. **Flash** – Turns all LED's on and off simultaneously

2. **Random Stay** – Turns 1 LED on at a time in a seemingly random fashion. Each LED stays on as it is lit and then they are unlit in reverse order.

3. **Marquee Left** – A pattern similar to what you might see on a movie marquee moving in a left direction.

4. **Marquee Right Left** – A pattern similar to what you might see on a movie marquee moving in a right direction.

5. **Inchworm** – a small group of LEDs that move around the star in a stretching/shrinking fashion similar to how an inchworm might travel.

6. **Slap Short Stick Right** – A "short stick" is one side of a point consisting of 7 LEDs. A "slap" means that all 7 LEDs are lit at once. Therefore, a "slap short stick right" means that one half of each point is lit at a time, extinguished, and then the next group is lit moving in a right direction.

7. **Slap Short Stick Bounce** – Same as #6 but the short sticks bounce back and forth.

8. **Slap Short Stick Left** – Same as #6 but moves left.

9. **Slap Short Stick Stay Bounce** – Same as #7 but the short sticks stay lit as the pattern moves around the star.

10. **Slap Stick** – A "stick" is a long side of the star. Therefore, each long side is "slapped" up and extinguished as it moves through the pattern.

11. **Slap Stick Stay** – Same as #10 but sticks stay lit.

12. **Two Ball Bounce** – Two balls start at the top point and meet and bounce off each other at the bottom. They then return to the top.

13. **Two Ball Bounce Stay** – Same as #12 but the balls leave a trail.

14. **Pointer** – This pattern turns the star into a series of pointers. Watch pattern for details.

15. **Slap Point Right** – Each point is slapped up and extinguished as it moves through the pattern.

16. **Slap Point Stay Right** – Same as #15 but the points stay lit.

17. **Juggler** – A pattern that gives the illusion that balls are being juggled around the star.

18. **Spiral** – A loan LED moved around the star in a spiral fashion.

19. **Spiral Stay** – Same as #18 but the LED leaves a trail of lit lights.

20. **Draw Stick Stay** – When a pattern "Draws", it lights 1 LED at a time as compared to a "Slap". Therefore, this pattern is drawing the star, 1 LED at a time, in a stick fashion. Also, the LED's remain on as the star is drawn.

21. **Draw Stick Right** – Same as pattern #20 but the LEDs do not remain on.

22. **Draw Star Right** – This pattern draws the actual outline of the star, one LED at a time moving in a right direction.

23. **Draw Star Left** – Same as #22 but moving left.

24. **Draw Star Stay Right** – Same as #22 but leaving a trail of lit LEDs.

25. **Draw Star Stay Bounce** – Same as #24 but also going in a reverse direction to show a bouncing effect.

26. **Kicker** – Hard to explain but a very nice pattern. My daughter's favorite. Take a look at it.

27. **Iris** – Two LEDs from all 5 points move in towards the center 1 LED at a time and then reverses. It reminded me of how an eye iris works, moving concentrically inward and outward.

28. **Iris Stay** – Same as pattern #28 but the LEDs leave a trail of lit lights.

29. **Butterfly Right** – The butterfly is the inside angle of the points consisting of 13 LEDs. These LEDs come on a group at a time and move in a right direction.

30. **Butterfly Left** – Same as #29 but moving left.

31. **Butterfly Stay Right** – Same as #29 but groups of butterflies stay on as they are lit.

32. **Slap Side Right** – A side consists of 2 half points with a point in the center. It is slapped around the star in a right direction.

33. **Snake** – Very similar to #5 above (inchworm) but the group of LEDs do not grow and shrink, they simply move around the star.

34. **Pinwheel 1** – A delightful pattern that made me think of a child's pinwheel.

35. **Pinwheel 3** – Same as #34 but using 3 LEDs at a time instead of 1

36. **Pinwheel 7** – Same as #34 but using 7 LEDs at a time.