EXAMPLE 1

Flashing ditch lights using the F4 function key

Connect green wire (Aux 1) to left ditch light
Connect purple wire (Aux 2) to right ditch light
Connect blue wire to the common of both ditch lights
Set the following CV's

   CV115 set to 31
   CV116 set to 47
   CV165 set to 12

Control flashing rate by adjusting CV112. May need to add resistors if LED's are being used.

EXAMPLE 2

Flashing ditch lights using the F2 function key - Horn

Set up configuration from example one
Set the following CV

   CV153 set to 12

EXAMPLE 3

Ditch lights on with headlight. When F4 key is turn on, ditch lights alternate on and off. Ditch lights alternate on and off when horn is activated.

Configure headlight and ditch lights as shown in drawing example 3.
Set the following CV's

   CV115 set to 31
   CV116 set to 47
   CV153 set to 12
   CV154 set to 32
   CV155 set to 1
   CV156 set to 12
   CV157 set to 32
   CV158 set to 1
   CV165 set to 12
   CV166 set to 0
   CV167 set to 0
   CV168 set to 12
   CV169 set to 0
   CV170 set to 0

EXAMPLE 4

Manually dim headlights using the F4 function key

Connect the green wire (Aux 1) to the positive side of headlight
Connect the white wire with a small diode in series to the positive side of head light
Connect the blue wire to common side of headlight
Set the following CV's

   CV113 set to 15
   CV115 set to 7 or less

or

   CV113 set to 7 or less
   CV115 set to 15

The F4 function key now acts as a dimmer switch

EXAMPLE 5

Dimming of headlight - Rule 17 for headlights
Set the following CV's

   CV113 set to 175 headlights
   CV114 set to 191 rear lights

When locomotive is stationary on the track headlights are dimmed and upon movement of locomotive, headlights goes to bright.

NOTE: Just as an idea. I have added into my test locomotive a LokPilot for additional lighting functions. By setting the LokPilot to the same address as the locomotive and re-mapping the output function to un-used function keys, I achieved 4 additional output functions.

If 1.5 volts LED's or lamps are being used a 750 ohm resister must be connected in series with the lamp.