Vector Generator Instructions (6809 Style)

VCTR
\[ \phi \phi \phi \Delta Y \Delta X Z \]

\( \Delta x, \Delta y \) in 2's Complement

INTENSITY = \( Z \times ZSTAT \) (see color)

HALT
\[ \phi \phi 1 X XX \]

Stop Drawing

SVEC
\[ \phi 1 \phi \Delta Y Z \Delta X \]

Short Vector
\( \Delta x, \Delta y \) are \( \frac{1}{2} \) the 2's Comp.; \( Z \) as in VCTR

\( \Delta X = \Delta Y = \phi \) NOT ALLOWED

COLOR, (STAT)
\[ \phi 1 1 \phi COLOR ZSTAT \]

Colors: 4-RED, 2- GREEN, 1- BLUE, 8- Don't Care

ZSTAT is Intensity Multiplier

SCAL
\[ \phi 1 1 1 X, BIN LIN \]

Scaling

BIN multiplies all lengths by \( 2^{\frac{1}{16}} \)

LIN multiplies all lengths by \( 1 - \frac{1}{2^8} \)

CNTR
\[ 1 \phi \phi \phi \phi \phi \phi 1 X X \]

Center beam

JSRL
\[ 1 \phi 1 X \text{ADDRESS} \]

Jump to Subroutine at \( 2^X \) ADDRESS

(3 Levels allowed)

RTSL
\[ 11 \phi X XX \]

Return from Subroutine

JMPL
\[ 111 X \text{ADDRESS} \]

Jump to \( 2^X \) ADDRESS