The line has direction $\mathbf{v} = \langle 1, 2, 1 \rangle$. Letting $P_0 = (2, -4, 2)$, parametric equations are $x = 2 + t$, $y = -4 + 2t$, $z = 2 + t$ and

symmetric equations are $x - 2 = \dfrac{y + 4}{2} = z - 2$.