$$K_{64}^2 = \begin{bmatrix}
\frac{-5\,U}{t} & 0 & -\left(\frac{\sqrt{2}\,U^2}{t^2}\right) & \frac{2\,\sqrt{2}\,U}{t} & 0 & 0 & -\left(\frac{U}{t}\right) & \frac{\sqrt{2}\,U}{t} & 0 & 0 \\
0 & \frac{-9\,U}{2\,t} & \frac{3\,U}{\sqrt{2}\,t} & -2\,\sqrt{2} & -\left(\frac{4\,t^2+U^2}{\sqrt{2}\,t^2}\right) & \frac{U}{\sqrt{2}\,t} & 4 & 0 & \frac{\sqrt{2}\,U}{t} & -\left(\frac{U}{t}\right) \\
-\left(\frac{\sqrt{2}\,U^2}{t^2}\right) & \frac{3\,U}{\sqrt{2}\,t} & \frac{-3\,U}{t} & -\left(\frac{U^2}{t^2}\right) & 0 & \frac{U}{t} & 0 & 0 & \frac{2\,U}{t} & \frac{\sqrt{2}\,U}{t} \\
\frac{2\,\sqrt{2}\,U}{t} & -2\,\sqrt{2} & -\left(\frac{U^2}{t^2}\right) & \frac{-9\,U}{t} & \frac{U}{t} & -2 & -\left(\frac{\sqrt{2}\,U}{t}\right) & \frac{-2\,U}{t} & 2 & 0 \\
0 & -\left(\frac{4\,t^2+U^2}{\sqrt{2}\,t^2}\right) & 0 & \frac{U}{t} & \frac{-4\,U}{t} & -2 & \frac{U}{\sqrt{2}\,t} & \frac{U}{t} & 2 & 0 \\
0 & \frac{U}{\sqrt{2}\,t} & \frac{U}{t} & -2 & -2 & \frac{-5\,U}{t} & \frac{4\,t^2+U^2}{\sqrt{2}\,t^2} & 0 & \frac{U}{t} & 0 \\
-\left(\frac{U}{t}\right) & 4 & 0 & -\left(\frac{\sqrt{2}\,U}{t}\right) & \frac{U}{\sqrt{2}\,t} & \frac{4\,t^2+U^2}{\sqrt{2}\,t^2} & \frac{-9\,U}{2\,t} & \frac{-3\,U}{\sqrt{2}\,t} & -2\,\sqrt{2} & 0 \\
\frac{\sqrt{2}\,U}{t} & 0 & 0 & \frac{-2\,U}{t} & \frac{U}{t} & 0 & \frac{-3\,U}{\sqrt{2}\,t} & \frac{-6\,U}{t} & -\left(\frac{U^2}{t^2}\right) & \frac{\sqrt{2}\,U^2}{t^2} \\
0 & \frac{\sqrt{2}\,U}{t} & \frac{2\,U}{t} & 2 & 2 & \frac{U}{t} & -2\,\sqrt{2} & -\left(\frac{U^2}{t^2}\right) & 0 & \frac{2\,\sqrt{2}\,U}{t} \\
0 & -\left(\frac{U}{t}\right) & \frac{\sqrt{2}\,U}{t} & 0 & 0 & 0 & 0 & \frac{\sqrt{2}\,U^2}{t^2} & \frac{2\,\sqrt{2}\,U}{t} & \frac{-4\,U}{t}
\end{bmatrix}$$