

$$|0\rangle \longrightarrow \boxed{\text{H}} \longrightarrow \frac{1}{\sqrt{2}} (|0\rangle + |1\rangle)$$

$$|1\rangle \longrightarrow \boxed{\text{H}} \longrightarrow \frac{1}{\sqrt{2}} (|0\rangle - |1\rangle)$$