



Basics of Remote Keyless Entry

Remote Keyless Entry (1)

Uni-directional

First systems: **Fixed code**



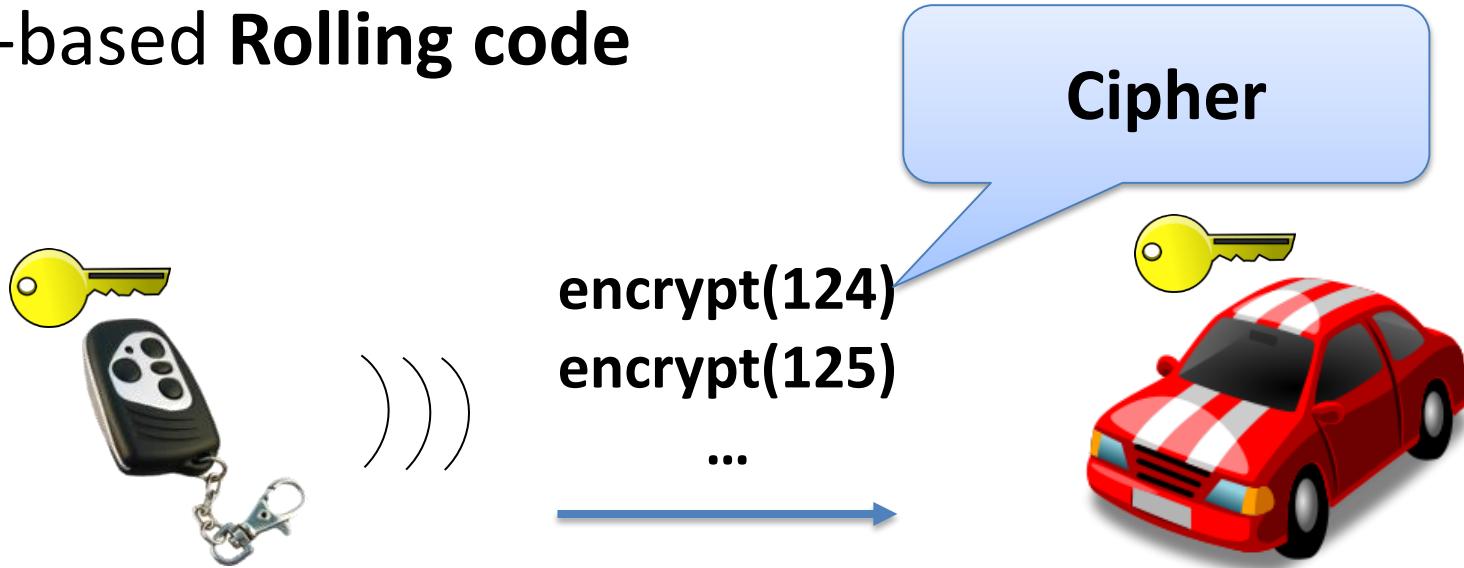
123xbhdsgf ...
123xbhdsgf ...
123xbhdsgf ...



Remote Keyless Entry (2)

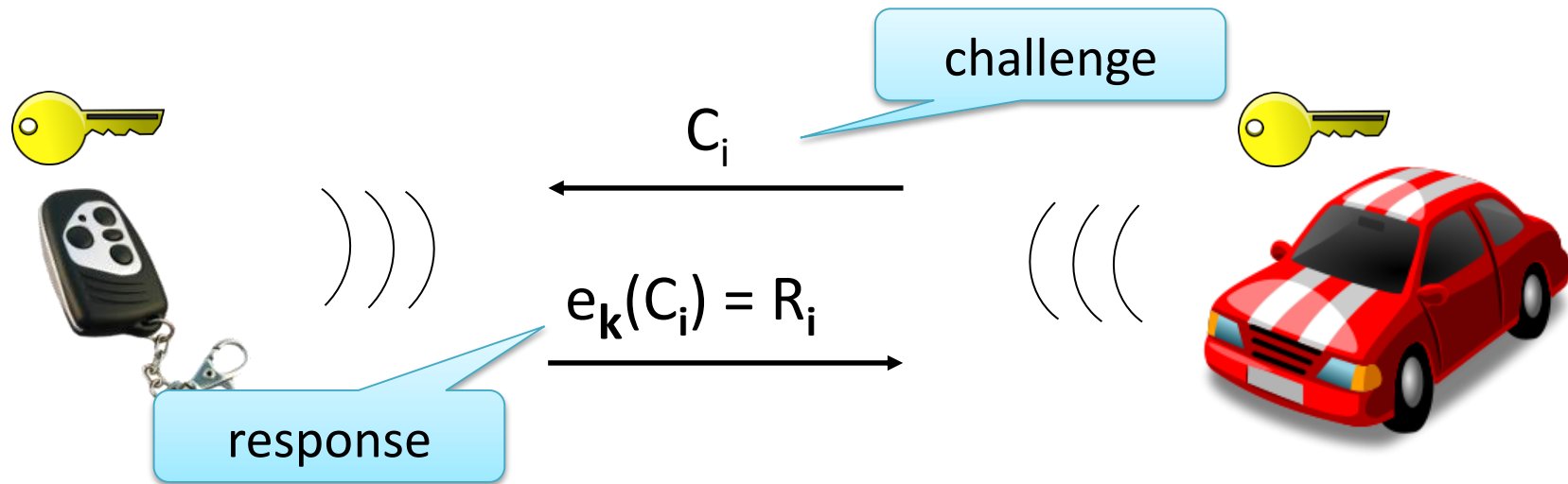
Uni-directional *with Crypto*

Counter-based **Rolling code**



Remote Keyless Entry (3)

Bi-Directional: Challenge-Response



1. computes: $R'_i = e_k(C_i)$

2. verifies: $R'_i \stackrel{?}{=} R_i$