

ABSTRACT**CYCLIC PREFIX SCHEMES**

Methods and systems are proposed for transmitting data from a source 110 to a
5 destination 130 via a relay station 120 having multiple antennae 122, 124. The relay
station 120 receives from the source a message containing the data and a first cyclic
prefix. It does this using each of its antennae 122, 124, so producing multiple respective
received signals. In certain embodiments, the relay station 120 removes the first cyclic
prefix from the received signals, replacing it with a new one. In other embodiments, the
10 relay station 120 removes only a portion of the first cyclic prefix. In either case, the
relay station 120 may apply space-time coding to generate second signals, which it
transmits to the destination 130, which extracts the data. Methods are also proposed for
estimating parameters of the channel, to enable the destination 130 to decode the data.

15 Figure 1