We Claim:

1. An apparatus, comprising:

a transmitter operable to communicate in a wireless network and adapted to use an efficient Golay correlator running at 1.5 times a sampling rate.

~~2. The apparatus of claim 1~~, wherein said transmitter generates a signal at chip frequency Fc and a receiver in communication with said transmitter samples said signal at Fs=1½ Fc.

~~3. The apparatus of claim 2~~, and wherein all delays D(n) transmitted by said transmitter are replaced with 1.5D(n) except a first delay which remains 1.

4~~2~~. The apparatus of claim ~~3~~1, wherein a multiplier W(1) associated with transmissions from said transmitter is converted to exp(j2 π /3) if w(1) is equal to j thereby producing an impulse response very close to correlating with original sequences.

5~~3~~. A method, comprising:

using an efficient Golay correlator running at 1.5 times a sampling rate in a transmitter operating to communicate in a wireless network;.

~~6. The method of claim 1, further comprising~~ generating by said transmitter a signal at chip frequency Fc and a receiver in communication with said transmitter samples said signal at Fs= 1½ Fc; and .

~~7. The method of claim 6, further comprising~~ replacing all delays D(n) transmitted by said transmitter with 1.5D(n), except a first delay which remains 1.

8~~4~~. The method of claim ~~7~~3, wherein a multiplier W(1) associated with transmissions from said transmitter is converted to exp(j2 π /3) if w(1) is equal to j thereby producing an impulse response very close to correlating with original sequences.

9~~5~~. A computer readable medium encoded with computer executable instructions, which when accessed, cause a machine to perform operations comprising: using an efficient Golay correlator running at 1.5 times a sampling rate in a transmitter operating to communicate in a wireless network;.

~~10. The computer readable medium encoded with computer executable instructions of claim 9, further comprising additional instructions that provide~~ generating by said transmitter a signal at chip frequency Fc and a receiver in communication with said transmitter samples said signal at Fs= 1½ Fc; and~~.~~

~~11. The computer readable medium encoded with computer executable instructions of claim 10, further comprising additional instructions that provide~~ replacing all delays D(n) transmitted by said transmitter with 1.5D(n), except a first delay which remains 1.

~~12~~6. The computer readable medium encoded with computer executable instructions of claim ~~11~~5, wherein a multiplier W(1) associated with transmissions from said transmitter is converted to exp(j2 π /3) if w(1) is equal to j thereby producing an impulse response very close to correlating with original sequences.

~~13~~7. A system, comprising :

a first transceiver operable as a base station (BS) in a wireless network; and

a second transceiver operable as a mobile station (MS) is said wireless network and operable to communicate with said BS;

wherein said BS or said MS are adapted to use an efficient Golay correlator running at 1.5 times a sampling rate

~~14. The system of claim 13~~, wherein said transmitter generates a signal at chip frequency Fc and a receiver in communication with said transmitter samples said signal at Fs=1½ Fc~~.~~

~~15. The system of claim 14~~, and wherein all delays D(n) transmitted by said transmitter are replaced with 1.5D(n) except a first delay which remains 1.

~~16~~8. The system of claim ~~15~~7, wherein a multiplier w(1) associated with transmissions from said transmitter is converted to exp(j2 π /3) if w(1) is equal to j thereby producing an impulse response very close to correlating with original sequences.