SUMMARY

According to a first aspect of the present invention, there is provided a method, comprising: transmitting command data from a transmission station via a first communication link, wherein the command data defines one or more commands; transmitting triggering data from the transmission station via a second communication link, wherein the triggering data includes an identifier identifying at least one of the one or more commands; wherein the second communication link transmits the triggering data using electromagnetic waves transmitted via skywave propagation; and wherein the first communication link has greater latency than the second communication link.

According to a second aspect of the present invention, there is provided a method, comprising: transmitting command data from a transmission station via a first communication link, wherein the command data defines one or more commands; transmitting triggering data from the transmission station via a second communication link, wherein the triggering data includes an identifier identifying at least one of the one or more commands; and wherein the first and second communication links transmit the triggering data using electromagnetic waves transmitted via skywave propagation.

According to a third aspect of the present invention, there is provided a method, comprising: receiving command data at a receiving station via a first communication link, wherein the command data defines one or more commands; receiving triggering data at a receiving station via a second communication link, wherein the triggering data includes an identifier identifying at least one of the one or more commands; wherein the triggering data passes over the second communication link to the receiving station using electromagnetic waves received via skywave propagation; and wherein the command data passes over the first communication link to the receiving station without using skywave propagation.

According to a fourth aspect of the present invention, there is provided a system, comprising: a processor coupled to a memory; a first network interface responsive to the processor and coupled to a communication network, wherein the network interface is configured to send command data defining one or more commands using the communication network; a second network interface responsive to the processor and coupled to a radio-frequency communication interface; an antenna system coupled to the radio-frequency communications interface; wherein the radio-frequency communication interface is configured to send triggering data using electromagnetic waves broadcast from the antenna system; wherein the antenna system and radio-frequency interface are

configured to transmit the electromagnetic waves via skywave propagation; and wherein the triggering data includes an identifier identifying at least one of the one or more commands.

According to a fifth aspect of the present invention, there is provided a system, comprising: a processor coupled to a memory; a first network interface responsive to the processor and coupled to a communication network, wherein the network interface is configured to receive command data defining one or more commands using the communication network; a second network interface responsive to the processor and coupled to a radio-frequency communication interface; an antenna system coupled to the radio-frequency communications interface; wherein the radio-frequency communication interface is configured to receive triggering data using electromagnetic waves broadcast from the antenna system; wherein the antenna system and radio-frequency interface are configured to receive the electromagnetic waves via skywave propagation; and wherein the triggering data includes an identifier identifying at least one of the one or more commands.

A unique communication system and method has been developed to address the above-mentioned latency issues as well as other issues. In the communication system, command data is transmitted so as to be received at a receiving station before (or at the same time) triggering data is received. The command data includes one or more directives, instructions, algorithms, and/or rules for controlling a machine, such as a computer and/or mechanical device, to take one or more actions. For example, the command data in one form includes a program for buying and/or selling particular options or stocks at certain price levels, ranges, and/or based on other conditions. Command data is typically (but not in all circumstances) larger in size than the triggering data such that the command data takes longer than the triggering data to transmit over communication links having the same data bandwidth. The triggering data includes information identifying one or more commands in the command data to execute. For example, the triggering data can identify one or more particular options in the command data that identifies the particular stock (or multiple stocks) to purchase at a particular price (or prices). In one example, the command data is transmitted over a communication link that has high bandwidth and high latency, such as over a fiber optic cable, and the triggering data is transmitted over a communication link

that has low bandwidth and low latency, such as through sky-wave propagation by refracting and/or scattering radio waves from the ionosphere. The relatively small-sized triggering data is then able to be more quickly received at a receiving station than if the triggering data was transmitted over the high bandwidth and high latency communication link provided by fiber optic cable. This communication system and method may dramatically reduce the time to execute complex time-sensitive actions, such as financial transactions, over large distances at remote locations. In one form, this technique is used to remotely perform actions past the radio horizon, such as for transatlantic communications. This technique can be adapted for one-way type communications or even two-way type communications.

This unique communication system and method in one example uses multiple communications links. In one form, the communication links use different communications media. Such a system might be used, for example, to transmit a