CLAIMS

1. A weapon, comprising:

an upper receiver;

a lower receiver;

a powered accessory mounted to a rail of the upper receiver; and

an apparatus for inductively networking a microcontroller of the powered accessory to a microcontroller of the rail of the upper receiver and a master CPU of the weapon, wherein data is exclusively provided to the powered accessory from one of a plurality of coils located within the rail; and

wherein the powered accessory further comprises a plurality of coils and the powered accessory is configured to determine when one of the plurality of coils of the powered accessory is adjacent to the one of the plurality of coils of the rail.

2. The weapon as in claim 1, further comprising:

an optical receiver/transmitter located in the rail for optically communicating with an optical receiver/transmitter located in the accessory.

3. The weapon as in claim 2, further comprising:

an optical receiver/transmitter located in the upper receiver for optically communicating with an optical receiver/transmitter located in the lower receiver, wherein optical receiver/transmitter located in the upper receiver is also coupled to the optical receiver/transmitter located in the rail.

4. The weapon as in claim 1, wherein the master CPU of the weapon is coupled to a component remote from the weapon via a tether such that data may be transferred between the component and the master CPU.

5. A weapon, comprising:

an upper receiver;

a lower receiver;

an accessory configured to be removably mounted to a rail of the upper receiver;

a system for networking a microcontroller of the accessory to a master CPU of the weapon, wherein data is bi-directionally transferred between the microcontroller of the accessory and the master CPU of the weapon via the rail; and

wherein the system is configured to determine when the accessory is secured to the rail and wherein the system and the accessory are further configured to use at least one of a plurality of slots of the rail exclusively for bi-directional data transfer between the accessory and the master CPU.

6. The weapon as in claim 5, wherein the weapon is a semi-automatic or automatic rifle.

7. The weapon as in claim 6, wherein the data is transferred in anyone of the following data rates defined by their peak rates of: 100 kb/s; 10 Mb/s; and 500 Mb/s.

8. The weapon as in claim 5, wherein the data is transferred in anyone of the following data rates defined by their peak rates of: 100 kb/s; 10 Mb/s; and 500 Mb/s.

9. The weapon as in claim 5, wherein the at least one of the plurality of slots of the rail configured for exclusive bi-directional data transfer is adjacent to another one of the plurality of slots that is configured for exclusive power transfer between the accessory and the rail.

10. The weapon as in claim 9, wherein the data is transferred in anyone of the following data rates defined by their peak rates of: 100 kb/s; 10 Mb/s; and 500 Mb/s.

11. The weapon as in claim 5, wherein the rail is a plurality of rails secured to the upper receiver.

12. The weapon as in claim 11, wherein the data is transferred in anyone of the following data rates defined by their peak rates of: 100 kb/s; 10 Mb/s; and 500 Mb/s.

13. The weapon as in claim 12, wherein the at least one of the plurality of slots of the rail configured for exclusive bi-directional data transfer is adjacent to another one of the plurality of slots that is configured for exclusive power transfer between the accessory and the rail.

14. The weapon as in claim 13, wherein the data is transferred in anyone of the following data rates defined by their peak rates of: 100 kb/s; 10 Mb/s; and 500 Mb/s.

15. The weapon as in claim 12, wherein the at least one of the plurality of slots of the rail configured for exclusive bi-directional data transfer is adjacent to another two of the plurality of slots that are adjacent to each other and configured for exclusive power transfer between the accessory and the rail.

16. The weapon as in claim 11, wherein the plurality of rails are configured to surround a barrel of the weapon and wherein the weapon is an automatic or semi-automatic rifle.

17. The weapon as in claim 5, wherein the at least one of the plurality of slots of the rail configured for exclusive bi-directional data transfer is adjacent to another two of the plurality of slots that are adjacent to each other and configured for exclusive power transfer between the accessory and the rail.

18. A weapon, comprising:

an upper receiver;

a lower receiver;

an accessory configured to be removably mounted to a rail of the upper receiver; and

a system for networking a microcontroller of the accessory to a master CPU of the weapon and a microcontroller of the rail, wherein data is bi-directionally transferred between the microcontroller of the accessory and the master CPU via the micro controller of the rail; and

wherein the system is configured to determine when the accessory is secured to the rail and wherein the system and the accessory are further configured to use at least one of a plurality of slots of the rail exclusively for bi-directional data transfer between the accessory and the microcontroller of the rail.

19. The weapon as in claim 18, wherein the weapon is a semi-automatic or automatic rifle and wherein the data is transferred in anyone of the following data rates defined by their peak rates of: 100 kb/s; 10 Mb/s; and 500 Mb/s and wherein the at least one of the plurality of slots of the rail configured for exclusive bi-directional data transfer is adjacent to another one of the plurality of slots that is configured for exclusive power transfer between the accessory and the upper receiver.