What is claimed is:

1. A method for preventing collision of two way optical signals propagating at least one of commands and data via a cut segment of optical cable extended between two optical accesses of first and second cascading devices, each said cascaded device includes two optical accesses operated and controlled by CPU, and wherein said first cascaded device is further linked via one of the two optical accesses to a controller;

wherein the CPUs of all the cascaded devices are programmed to prevent a random collision of optical signals exchanged between two cascading devices upon detecting optical signal activity through the cut segment and suspend an intended transmission, followed by transmitting a suspend pulse to suspend an intended transmission by the other one of the two cascaded devices, said method comprising the steps of:

a. sensing at all time by a receiving element of each optical transceiver included in each said optical accesses for detecting optical signal activity and suspending an intended transmission upon detecting one of said suspend pulse and an optical signal activity propagated via the cut segment;

b. awaiting for at least one of said suspend pulse and the optical signal activity to end followed by verifying no activity is detected during a verifying programmed duration;

c. transmitting said suspend pulse by a transmitting element of said optical transceiver of said access of the other one of the two cascaded devices, and

d. propagating said one of protocol and data via said cut segment linking said two cascaded devices free from collision.

2. The method according to claim 1 wherein said cascaded devices are one of plurality of AC powered intelligent support boxes for supporting plurality of plug-in AC powered devices and plurality of low voltage plug-in boxes for supporting plurality of low voltage plug-in devices wherein said intelligent support box and said plug-in AC powered devices having differing sizes from a single gang to n gang are selected from a group comprising at least one of electric hybrid switch, electric manual switch, electric relay, electric outlet, IoT device, Ai device, a voice operating device, a key pad, a touch pad, a camera, a face recognizing camera, an

~~environment sensor, a temperature sensor, a light level sensor, a humidity sensor, a shade controller, a curtain controller, a shutter controller, light dimmer and combinations thereof; and~~

~~wherein said low voltage plug-in boxes and said low voltage plug-in devices having differing sizes from half gang to n gang are selected from a group comprising communication outlet, IoT device, Ai device, a voice operating device, a key pad, a touch pad, a camera, a face recognizing camera, an environment sensor, a temperature sensor, a light level sensor, a humidity sensor, a shade controller, a curtain controller, a shutter controller, light dimmer and combinations thereof.~~

~~3. The method according to claim 2 wherein n cascaded devices are included in each cascaded line of n cascaded lines forming a combined optical network with an AC electrical grid and a low voltage grid of an intelligent home, wherein said AC electrical grid and said low voltage grid are physically separated, wherein said electrical grid including said intelligent electrical support boxes for controlling and operating electrical devices, electrical appliances, IoTs and Ai devices respectively and said low voltage plug-in boxes for~~

supporting communication outlets and low voltage controllers IoTs and Ai respectively, and

wherein a CPU of each said intelligent support box and each said low voltage plug-in box is recorded with particulars pertaining to the device structure and functions.

4. The method according to claim 3 wherein the propagated optical signals within the cascaded lines are assigned with a shorten link code by addressing each cascaded device with a single alpha numeric character for decreasing the optical signal command length, thereby shortening the propagation time through each of the segment of each cascaded lines, and wherein the first cascading one of intelligent support box and low voltage plug-in box is address with a combined link code address as set for the first cascaded device of and including each cascaded line address.

5. The method according to claim 4 wherein the shorten addresses propagated within each cascaded line are self assigned during a setting process, said method comprising the further steps of:

a. setting a link code addresses between the controller and each first cascaded device of each cascading line to be the addresses to link the controller with each cascaded line;

b. commanding each of the first cascaded devices of all the cascading lines to initiate an active address program for recording single alpha numeric address from 2 to n into each cascading device in ascending order within the given cascaded line;

c. responding in a descending order with each said cascading device confirming its particulars and structure for recording said single alpha numeric address, said particulars and said structure in the controller.

6. The method according to claim 4 wherein a given said cascaded devices include dual junctions operated and controlled by said CPU for propagating lower and higher speed optical signals via dual cascaded segments for independently propagating two optical signals and wherein said a. to d. steps apply to each said lower and higher speed signal independently.

~~7. The method according to claim 3 wherein said voice operating device includes one of voice processing circuit for identifying the voice commands and one of cordless telephone circuit for propagating voice signals to a given voice operating device with said voice processing circuit via one of said optical segment and one of said low voltage communication line and a given cordless telephone channel of a given cordless telephone RF band.~~

~~8. The method according to claim 3 wherein at least one of said controller and a given one of said plug-in AC powered devices and said low voltage plug-in devices comprising at least one RF antenna and at least one RF transceiver for one of monitoring and communicating RF signals selected from a group comprising WiFi, Bluetooth, UHF, cordless telephone band and combinations thereof; and~~

~~wherein said given plug-in device intending to transmit WiFi, Bluetooth of UHF signal is programmed to propagate via one of said optical network and said low voltage grid a request to transmit to said controller for transmitting only upon the receiving a consenting command response, thereby introducing a method to limit the RF signal transmission via a single device at a time.~~

~~9. The method according to claim 8 wherein each of said plug-in AC powered devices and said low voltage plug-in devices comprising RF antenna and transceiver is allotted with communication band and channel with the particulars recorded in each cascaded plug-in box for inclusion into the propagated intent to transmit command and further recorded in said controller; and~~

~~wherein upon simultaneously receiving via at least one of said optical network and said bus-line plurality of requests to transmit prompts the controller to respond with a command selected from a group comprising suspend, switch over to band n and transmit, switch over to channel n1 and transmit, and consenting, thereby providing traffic control to plurality of simultaneous transmissions with no collisions and interferences.~~

~~10. The method according to claim 9 wherein said controller is provided with one of wide band selectable RF receiver and a scanner for scanning WiFi, Bluetooth and UHF bands activity within the environment surrounding said intelligent home for at least one of re-allotting band or channel to a given plug-in device that is affected by~~

interfering communication propagated in the neighborhood and generate a warning display onto a screen of said controller to replace the plug-in device whenever a change in the allocation is not possible.

11. A cascaded chain of devices linked via cut segment of optical cable extended between first and second cascading devices, each said cascaded device includes two optical accesses operated and controlled by a CPU, and wherein said first cascaded device is further linked via one of the two optical accesses to a controller;

wherein the CPUs of all the cascaded devices are programmed to generate a suspend pulse and a verifying duration for preventing a random collision between at least one of one way and two way exchanges between two cascading devices by detecting optical signal activity prior to transmission, an optical receiving element of an optical transceiver included in each of said optical accesses senses at all time for at least one of said suspend pulse and optical signal activity propagated via said cut segment prior to intent to transmit; and

suspend an intended transmission upon said detecting by at least one of the two cascaded devices to await for the

~~suspend pulse, optical signal activity and said verifying duration to end and proceed with transmitting the intended transmission by a transmitting element of said optical transceiver of one of said cascaded devices free from collision.~~

~~12. The cascaded chain according to claim 11 wherein said cascaded devices are one of plurality of AC powered intelligent support boxes for supporting plurality of plug-in AC powered devices and plurality of low voltage plug-in boxes for supporting plurality of low voltage plug-in devices wherein intelligent support box and said plug-in AC powered devices having differing sizes from a single gang to n gang are selected from a group comprising at least one of electric hybrid switch, electric manual switch, electric relay, electric outlet, IoT device, Ai device, a voice operating device, a key pad, a touch pad, a camera, a face recognizing camera, an environment sensor, a temperature sensor, a light level sensor, a humidity sensor, a shade controller, a curtain controller, a shutter controller, light dimmer and combinations thereof; and~~

~~wherein said low voltage plug-in boxes and said low voltage plug-in devices having differing sizes from half~~

gang to n gang are selected from a group comprising communication outlet, IoT device, Ai device, a voice operating device, a key pad, a touch pad, a camera, a face recognizing camera, an environment sensor, a temperature sensor, a light level sensor, a humidity sensor, a shade controller, a curtain controller, a shutter controller, light dimmer and combinations thereof.

13. The cascaded chain according to claim 12 wherein n cascaded devices are included in each cascaded line of n cascaded lines forming a combined optical network with an AC electrical grid and a low voltage grid of an intelligent home, wherein said AC electrical grid and said low voltage grid are physically separated, wherein said electrical grid including said intelligent electrical support boxes for controlling and operating electrical devices, electrical appliances, IoTs and Ai devices respectively and said low voltage plug-in boxes for supporting communication outlets and low voltage controllers IoTs and Ai respectively, and

wherein a CPU of each said intelligent support box and each said low voltage plug-in box is recorded with particulars pertaining to the device structure and functions.

~~14. The cascaded chain according to claim 13 wherein the propagated optical signals within the cascaded lines are assigned with a shorten link code by addressing each cascaded device with a single alpha numeric character for decreasing the optical signal command length, thereby shortening the propagation time through each of the segment of each cascaded lines, and wherein the first cascading one of intelligent support box and low voltage plug-in box is address with a combined link code address as set for the first cascaded device of and including each cascaded line address.~~

~~15. The cascaded chain according to claim 14 wherein the shorten addresses propagated within each cascaded line are self assigned during a setting process by establishing link code addresses between the controller and each first cascaded device of each cascading line to be the addresses to link the controller with each cascaded line; and~~

~~wherein a generated initiation command by said controller via each of the first cascaded devices of each cascading line initiates an active address program for recording~~

the single alpha numeric address from 2 to n into each cascading device in ascending order within the given cascaded line and wherein each of said cascaded devices is responding in a descending order with each said cascading device confirming its particulars and structure for recording said single alpha numeric address, said particulars and said structure in the controller.

16. The cascaded chain according to claim 14 wherein a given said cascaded devices include dual junctions operated and controlled by said CPU for propagating lower and higher speed optical signals via dual cascaded segments for independently propagating two lower and higher speed optical signals.

17. The cascaded chain according to claim 13 wherein said voice operating device includes one of voice processing circuit for identifying the voice commands and one of cordless telephone circuit for propagating voice signals to a given voice operating device with said voice processing circuit via one of said optical segment and one of said low voltage communication line and a given

~~cordless telephone channel of a given cordless telephone RF band.~~

~~18. The cascaded chain according to claim 13 wherein at least one of said controller and a given one of said plug-in AC powered devices and said low voltage plug-in devices comprising at least one RF antenna and at least one RF transceiver for one of monitoring and communicating RF signals selected from a group comprising WiFi, Bluetooth, UHF, cordless telephone band and combinations thereof; and~~

~~wherein said given plug-in device intending to transmit WiFi, Bluetooth of UHF signal is programmed to propagate via one of said optical network and said low voltage grid a request to transmit to said controller for transmitting only upon the receiving a consenting command response, thereby introducing a control to limit the RF signal transmission via a single device at a time.~~

~~19. The cascaded chain according to claim 18 wherein each of said plug-in AC powered devices and said low voltage plug-in devices comprising RF antenna and transceiver is allotted with communication band and channel with the~~

particulars recorded in each cascaded plug-in box for inclusion into the propagated intent to transmit command and further recorded in said controller; and

wherein upon simultaneously receiving via at least one of said optical network and said bus-line plurality of requests to transmit prompts the controller to respond with a command selected from a group comprising suspend, switch over to band n and transmit, switch over to channel n1 and transmit, and consenting, thereby providing traffic control to plurality of simultaneous transmissions with no collisions and interferences.

20. The cascaded chain according to claim 19 wherein said controller is provided with one of wide band selectable RF receiver and a scanner for scanning WiFi, Bluetooth and UHF bands activity within environment surrounding said intelligent home for at least one of re-allotting band or channel to a given plug-in device that is affected by interfering communication propagated in the surrounding environment and generate a warning display onto a screen of said controller to replace the plug-in device whenever a change in the allocation is not possible.

1. A method for preventing collision of two way optical signals propagating at least one of commands and data via a cut segment of optical cable extended between two optical accesses of first and second cascading devices, each said cascaded device includes two optical accesses operated and controlled by a central processing unit (CPU), and wherein said first cascaded device is further linked via one of the two optical accesses to a controller;

wherein CPUs of the first and the second cascaded devices are programmed to prevent a random collision of optical signals exchanged between two cascading devices upon detecting optical signal activity through the cut segment and suspend an intended transmission, followed by transmitting a suspend pulse to suspend an intended transmission by the other one of the two cascaded devices, said method comprising the steps of:

a. sensing at all time by a receiving element of each optical transceiver included in each said optical accesses for detecting optical signal activity and suspending the intended transmission upon detecting one of said suspend pulse and an optical signal activity propagated via the cut segment;

b. awaiting for at least one of said suspend pulse and the optical signal activity to end followed by verifying no activity is detected during a verifying programmed duration;

c. transmitting said suspend pulse by a transmitting element of said optical transceiver of said access of the other one of the two cascaded devices, and

d. propagating said one of command and data via said cut segment linking said two cascaded devices free from collision.

2. The method according to claim 1 wherein said cascaded devices are one of plurality of AC powered intelligent support boxes for supporting plurality of plug-in AC powered devices and plurality of low voltage plug-in boxes for supporting plurality of low voltage plug-in devices wherein intelligent support box and said plurality of plug-in AC powered devices having differing sizes from a single gang to n gang are selected from a group comprising at least one of electric hybrid switch, electric manual switch, electric relay, electric outlet, internet of things (IoT) device, artificial intelligence (Ai) device, a voice operating device, a key pad, a touch

pad, a camera, a face recognizing camera, an environment sensor, a temperature sensor, a light level sensor, a humidity sensor, a shade controller, a curtain controller, a shutter controller, light dimmer and combinations thereof; and

wherein said plurality of low voltage plug-in boxes and said plurality of low voltage plug-in devices having differing sizes from half gang to the n gang are selected from a group comprising communication outlet, IoT device, Ai device, a voice operating device, a key pad, a touch pad, a camera, a face recognizing camera, an environment sensor, a temperature sensor, a light level sensor, a humidity sensor, a shade controller, a curtain controller, a shutter controller, light dimmer and combinations thereof.

3. The method according to claim 2 wherein n cascaded devices are included in each cascaded line of n cascaded lines forming a combined optical network with an AC electrical grid and a low voltage grid of an intelligent home, wherein said AC electrical grid and said low voltage grid are physically separated, wherein said electrical grid including said plurality of AC-powered intelligent electrical support boxes for controlling and

operating electrical devices, electrical appliances, IoTs and Ai devices respectively and said plurality of low voltage plug-in boxes for supporting communication outlets and low voltage controllers IoTs and Ai respectively, and

wherein a CPU of each intelligent support box and each low voltage plug-in box is recorded with particulars pertaining to device structure and functions.

4. The method according to claim 3 wherein the propagated optical signals within the cascaded lines are assigned with a shorten link code by addressing each cascaded device with a single alpha numeric character for decreasing optical signal command length, thereby shortening propagation time through each of the segment of each cascaded lines, and wherein the first cascading one of intelligent support box and low voltage plug-in box is address with a combined link code address as set for the first cascaded device of and including each cascaded line address.

5. The method according to claim 4 wherein the shorten addresses propagated within each cascaded line are self

assigned during a setting process, said method comprising the further steps of:

a. setting a link code addresses between the controller and each first cascaded device of each cascading line to be the addresses to link the controller with each cascaded line;

b. commanding each of the first cascaded devices of all the cascading lines to initiate an active address program for recording single alpha numeric address from 2 to n into each cascading device in ascending order within the given cascaded line;

c. responding in a descending order with each said cascading device confirming its particulars and structure for recording said single alpha numeric address, said particulars and said structure in the controller.

6. The method according to claim 4 wherein said cascaded devices include dual junctions operated and controlled by said CPU for propagating lower and higher speed optical signals via dual cascaded segments for independently propagating two optical signals and wherein said a. to d.

steps apply to each said lower and higher speed optical signal independently.

7. The method according to claim 3 wherein said voice operating device includes one of voice processing circuit for identifying voice commands and one of cordless telephone circuit for propagating voice signals to a given voice operating device with said voice processing circuit via one of said optical segment and one of said low voltage communication line and a given cordless telephone channel of a given cordless telephone radio frequency (RF) band.

8. The method according to claim 3 wherein at least one of said controller and a given one of said plurality of plug-in AC powered devices and said plurality of low voltage plug-in devices comprising at least one RF antenna and at least one RF transceiver for one of monitoring and communicating RF signals selected from a group comprising WiFi, Bluetooth, UHF, cordless telephone band and combinations thereof; and

wherein said given plug-in device intending to transmit WiFi, Bluetooth of UHF signal is programmed to propagate

via one of said optical network and said low voltage grid a request to transmit to said controller for transmitting only upon the receiving a consenting command response, thereby introducing a method to limit the RF signal transmission via a single device at a time.

9. The method according to claim 8 wherein each of said plurality of plug-in AC powered devices and said plurality of low voltage plug-in devices comprising RF antenna and transceiver is allotted with communication band and channel with particulars recorded in each cascaded plug-in box for inclusion into the propagated intent to transmit command and further recorded in said controller; and

wherein upon simultaneously receiving via at least one of said optical network and bus-line plurality of requests to transmit prompts the controller to respond with a command selected from a group comprising suspend, switch over to band n and transmit, switch over to channel n1 and transmit, and consenting, providing traffic control to plurality of simultaneous transmissions with no collisions and interferences.

10. The method according to claim 9 wherein said controller is provided with one of wide band selectable RF receiver and a scanner for scanning WiFi, Bluetooth and UHF bands activity within environment surrounding said intelligent home for at least one of re-allotting band or channel to a given plug-in device that is affected by interfering communication propagated in the neighborhood and generate a warning display onto a screen of said controller to replace the plug-in device whenever a change in the allocation is not possible.

11. A chain of optically linked n devices via n cut segment of optical cable of at least one cascading line extended between optical access included in one of a controller and a distributor and one of two optical accesses of a first cascading device via a first cut segment with the other access of said two optical accesses provides for extending the chain into a cascaded chain via a second cut segment into one of two optical accesses included in a second cascaded device, wherein said cascaded line terminates via a last cut segment linked to a single active optical access of the last cascaded device in the chain;

each said cascaded device is operated and controlled by a central processing unit (CPU), wherein the CPUs of all the cascaded devices are programmed to generate a suspend pulse and a verifying duration for preventing a random collision within the cut segment and accesses linking two cascaded devices for propagating one of one way and two way exchanges between said two cascading devices by detecting optical signal activity prior to transmission, an optical receiving element of an optical transceiver included in each of said optical accesses senses at all time for at least one of said suspend pulse and optical signal activity propagated via said cut segment prior to intent to transmit; and

suspend the intended transmission upon said detecting by at least one of the two cascaded devices to await for the suspend pulse, optical signal activity and said verifying duration to end and proceed with transmitting the intended transmission by a transmitting element of said optical transceiver of one of said cascaded devices free from collision.

12. The chain of devices according to claim 11 wherein said devices are one of plurality of alternating current (AC) powered intelligent support boxes for supporting

plurality of plug-in AC powered devices and plurality of low voltage plug-in boxes for supporting plurality of low voltage plug-in devices wherein intelligent support box and said plurality of plug-in AC powered devices having differing sizes from a single gang to n gang are selected from a group comprising at least one of electric hybrid switch, electric manual switch, electric relay, electric outlet, internet of things (IoT) device, artificial intelligence (Ai) device, a voice operating device, a key pad, a touch pad, a camera, a face recognizing camera, an environment sensor, a temperature sensor, a light level sensor, a humidity sensor, a shade controller, a curtain controller, a shutter controller, light dimmer and combinations thereof; and

wherein said plurality of low voltage plug-in boxes and said plurality of low voltage plug-in devices having differing sizes from half gang to the n gang are selected from a group comprising communication outlet, IoT device, Ai device, a voice operating device, a key pad, a touch pad, a camera, a face recognizing camera, an environment sensor, a temperature sensor, a light level sensor, a humidity sensor, a shade controller, a curtain controller, a shutter controller, light dimmer and combinations thereof.

13. The chain of devices according to claim 12 wherein n cascaded devices are included in each cascaded line of n cascaded lines forming a combined optical network with an AC electrical grid and a low voltage grid of an intelligent home, wherein said AC electrical grid and said low voltage grid are physically separated, wherein said electrical grid including said plurality of AC-powered intelligent electrical support boxes for controlling and operating electrical devices, electrical appliances, IoTs and Ai devices respectively and said low voltage plug-in boxes for supporting communication outlets and low voltage controllers IoTs and Ai respectively, and

wherein a CPU of each intelligent support box and each low voltage plug-in box is recorded with particulars pertaining to device structure and functions.

14. The chain of devices according to claim 13 wherein the propagated optical signals within the n cascaded lines are assigned with a shorten link code by addressing each cascaded device with a single alpha numeric character for decreasing optical signal command length, thereby

shortening propagation time through each of the segment of each cascaded lines, and wherein the first cascading one of intelligent support box and low voltage plug-in box is address with a combined link code address as set for the first cascaded device of and including each cascaded line address.

15. The chain of devices according to claim 14 wherein the shorten addresses propagated within each cascaded line are self assigned during a setting process by establishing link code addresses between the controller and each first cascaded device of each cascading line to be the addresses to link the controller with each cascaded line; and

wherein a generated initiation command by said controller via each of the first cascaded devices of each cascading line initiates an active address program for recording the single alpha numeric address from 2 to n into each cascading device in ascending order within the given cascaded line and wherein each of said cascaded devices is responding in a descending order with each said cascading device confirming its particulars and structure for recording said single alpha numeric address, said particulars and said structure in the controller.

16. The chain of devices according to claim 14 wherein a given said cascaded devices include dual junctions operated and controlled by said CPU for propagating lower and higher speed optical signals via dual cascaded segments for independently propagating two lower and higher speed optical signals.

17. The chain of devices according to claim 13 wherein said voice operating device includes one of voice processing circuit for identifying voice commands and one of cordless telephone circuit for propagating voice signals to a given voice operating device with said voice processing circuit via one of said optical segment and one of said low voltage communication line and a given cordless telephone channel of a given cordless telephone RF band.

18. The chain of devices according to claim 13 wherein at least one of said controller and a given one of said plurality of plug-in AC powered devices and said plurality of low voltage plug-in devices comprising at least one RF antenna and at least one RF transceiver for

one of monitoring and communicating RF signals selected from a group comprising WiFi, Bluetooth, UHF, cordless telephone band and combinations thereof; and

wherein said given plug-in device intending to transmit WiFi, Bluetooth of UHF signal is programmed to propagate via one of said optical network and said low voltage grid a request to transmit to said controller for transmitting only upon the receiving a consenting command response, thereby introducing a control to limit the RF signal transmission via a single device at a time.

19. The chain of devices according to claim 18 wherein each of said plurality of plug-in AC powered devices and said plurality of low voltage plug-in devices comprising RF antenna and transceiver is allotted with communication band and channel with the particulars recorded in each cascaded plug-in box for inclusion into the propagated intent to transmit command and further recorded in said controller; and

wherein upon simultaneously receiving via at least one of said optical network and bus-line plurality of requests to transmit prompts the controller to respond with a command selected from a group comprising suspend, switch

over to band n and transmit, switch over to channel n1 and transmit, and consenting, providing traffic control to plurality of simultaneous transmissions with no collisions and interferences.

20. The chain of devices according to claim 19 wherein said controller is provided with one of wide band selectable RF receiver and a scanner for scanning WiFi, Bluetooth and UHF bands activity within environment surrounding said intelligent home for at least one of re-allotting band or channel to a given plug-in device that is affected by interfering communication propagated in the surrounding environment and generate a warning display onto a screen of said controller to replace the plug-in device whenever a change in the allocation is not possible.