

CLAIMS:

1. A method of negotiating capabilities between a wireless sink device and a wireless source device, the method comprising:
transmitting a message to the wireless source device, wherein the message identifies:
a list of supported input categories; and,
a plurality of lists of supported types, wherein each of the supported input categories of the list of supported input categories has an associated list of supported types.
2. The method of claim 1, wherein the message is an RTSP GET_PARAMETER response message.
3. The method of claim 1, further comprising:
wherein the list of supported input categories is a first list of supported input categories, and wherein the plurality of lists of supported types is a first plurality of lists of supported types; and,
receiving from the wireless source device a second message, wherein the second message identifies:
a second list of supported input categories;
a plurality of second lists of supported types, wherein each of the supported input categories of the second list of supported input categories has an associated second list of supported types.
4. The method of claim 3, wherein the second message further comprises a port for communication.
5. The method of claim 3, wherein the second message is an RTSP SET_PARAMETER request message.
6. The method of claim 3, wherein the supported types of the second lists are a subset of the types of the first lists.

7. The method of claim 3, further comprising:
transmitting to the wireless source device, a third message to confirm that the types of the second lists have been enabled.
8. The method of claim 7, further comprising:
receiving from the wireless source device, a fourth message, wherein the fourth message indicates that a communication channel between the wireless source device and the wireless sink device has been enabled.
9. The method of claim 8, further comprising:
transmitting to the wireless source device, a fifth message, wherein the fifth message confirms receipt of the fourth message by the wireless sink device.
10. The method of claim 8, wherein the communication channel is a user input back channel (UIBC).
11. The method of claim 1, wherein the supported input categories of the list of supported input categories are selected from a group consisting of a generic command and a human-interface device command (HIDC).
12. The method of claim 1, further comprising:
receiving from the wireless source device a parameter request message, wherein the parameter request message identifies an input path for a supported type of the list of supported types.
13. The method of claim 1, wherein the supported types of the lists of supported types are selected from a group consisting of a keyboard, a mouse, a single touch, a multi touch, a joystick, a camera, a gestures, and a remote control.
14. The method of claim 2, wherein the supported types of the second lists of supported types are selected from a group consisting of a keyboard, a mouse, a single touch, a multi touch, a joystick, a camera, a gestures, and a remote control.

15. The method of claim 4, wherein the port for communication is a transmission control protocol (TCP) port.
16. The method of claim 1, wherein the first message further identifies a null entry for a supported input category to indicate that the input category is not supported by the wireless sink device.
17. The method of claim 1, wherein the first message is a text format message.
18. A wireless sink device configured to negotiate capabilities with a wireless source device, the wireless sink device comprising:
 - a memory storing instructions;
 - one or more processors configured to execute the instructions, wherein upon execution of the instructions the one or more processors cause:
 - transmitting a message to the wireless source device, wherein the message identifies:
 - a list of supported input categories; and,
 - a plurality of lists of supported types, wherein each of the supported input categories of the list of supported input categories has an associated list of supported types.
19. The device of claim 18, wherein the message is an RTSP GET_PARAMETER response message.
20. The device of claim 18, wherein the list of supported input categories is a first list of supported input categories, and wherein the plurality of lists of supported types is a first plurality of lists of supported types; and, wherein upon execution of the instructions the one or more processors further cause:
 - receiving from the wireless source device a second message, wherein the second message identifies:
 - a second list of supported input categories;
 - a plurality of second lists of supported types, wherein each of the supported input categories of the second list of supported

input categories has an associated second list of supported types.

21. The device of claim 20, wherein the second message further comprises a port for communication.

22. The device of claim 20, wherein the second message is an RTSP SET_PARAMETER request message.

23. The device of claim 20, wherein the supported types of the second lists are a subset of the types of the first lists.

24. The device of claim 20, wherein upon execution of the instructions the one or more processors further cause:

transmitting to the wireless source device, a third message to confirm that the types of the second lists have been enabled.

25. The device of claim 24, wherein upon execution of the instructions the one or more processors further cause:

receiving from the wireless source device, a fourth message, wherein the fourth message indicates that a communication channel between the wireless source device and the wireless sink device has been enabled.

26. The device of claim 25, wherein upon execution of the instructions the one or more processors further cause:

transmitting to the wireless source device, a fifth message, wherein the fifth message confirms receipt of the fourth message by the wireless sink device.

27. The device of claim 25, wherein the communication channel is a user input back channel (UIBC).

28. The device of claim 18, wherein the supported input categories of the list of supported input categories are selected from a group consisting of a generic command and a human-interface device command (HIDC).

29. The device of claim 18, wherein upon execution of the instructions the one or more processors further cause:

receiving from the wireless source device a parameter request message, wherein the parameter request message identifies an input path for a supported type of the list of supported types.

30. The device of claim 18, wherein the supported types of the lists of supported types are selected from a group consisting of a keyboard, a mouse, a single touch, a multi touch, a joystick, a camera, a gestures, and a remote control.

31. The device of claim 19, wherein the supported types of the second lists of supported types are selected from a group consisting of a keyboard, a mouse, a single touch, a multi touch, a joystick, a camera, a gestures, and a remote control.

32. The device of claim 21, wherein the port for communication is a transmission control protocol (TCP) port.

33. The device of claim 18, wherein the first message further identifies a null entry for a supported input category to indicate that the input category is not supported by the wireless sink device.

34. The device of claim 18, wherein the first message is a text format message.

35. A computer-readable storage medium storing instructions that upon execution by one or more processors cause the one or more processors to perform a method of negotiating capabilities between a wireless sink device and a wireless source device, the method comprising:

transmitting a message to the wireless source device, wherein the message identifies:

a list of supported input categories; and,

a plurality of lists of supported types, wherein each of the supported input categories of the list of supported input categories has an associated list of supported types.

36. A wireless sink device configured to negotiate capabilities with a wireless source device, the wireless sink device comprising:
means for transmitting a message to the wireless source device, wherein the message identifies:

a list of supported input categories; and,
a plurality of lists of supported types, wherein each of the supported input categories of the list of supported input categories has an associated list of supported types.

37. A method of negotiating capabilities between a wireless sink device and a wireless source device, the method comprising:

receiving a message from the wireless sink device, wherein the message identifies:

a list of supported input categories; and,
a plurality of lists of supported types, wherein each of the supported input categories of the list of supported input categories has an associated list of supported types.

38. The method of claim 37, wherein the message is an RTSP GET_PARAMETER response message.

39. The method of claim 37, further comprising:
wherein the list of supported input categories is a first list of supported input categories, and wherein the plurality of lists of supported types is a first plurality of lists of supported types; and,
transmitting to the wireless sink device a second message, wherein the second message identifies:

a second list of supported input categories;

a plurality of second lists of supported types, wherein each of the supported input categories of the second list of supported input categories has an associated second list of supported types.

40. The method of claim 39, wherein the second message further comprises a port for communication.
41. The method of claim 39, wherein the second message is an RTSP SET_PARAMETER request message.
42. The method of claim 39, wherein the supported types of the second lists are a subset of the types of the first lists.
43. The method of claim 39, further comprising:
receiving from the wireless sink device, a third message to confirm that the types of the second lists have been enabled.
44. The method of claim 43, further comprising:
transmitting to the wireless sink device, a fourth message, wherein the fourth message indicates that a communication channel between the wireless source device and the wireless sink device has been enabled.
45. The method of claim 44, further comprising:
receiving from the wireless sink device, a fifth message, wherein the fifth message confirms receipt of the fourth message by the wireless sink device.
46. The method of claim 44, wherein the communication channel is a user input back channel (UIBC).
47. The method of claim 37, wherein the supported input categories of the list of supported input categories are selected from a group consisting of a generic command and a human-interface device command (HIDC).
48. The method of claim 37, further comprising:

transmitting to the wireless sink device a parameter request message, wherein the parameter request message identifies an input path for a supported type of the list of supported types.

49. The method of claim 37, wherein the supported types of the lists of supported types are selected from a group consisting of a keyboard, a mouse, a single touch, a multi touch, a joystick, a camera, a gestures, and a remote control.

50. The method of claim 39, wherein the supported types of the second lists of supported types are selected from a group consisting of a keyboard, a mouse, a single touch, a multi touch, a joystick, a camera, a gestures, and a remote control.

51. The method of claim 40, wherein the port for communication is a transmission control protocol (TCP) port.

52. The method of claim 37, wherein the first message further identifies a null entry for a supported input category to indicate that the input category is not supported by the wireless sink device.

53. The method of claim 37, wherein the first message is a text format message.

54. A wireless source device configured to negotiate capabilities with a wireless sink device, the wireless source device comprising:
a memory storing instructions;
one or more processors configured to execute the instructions, wherein upon execution of the instructions the one or more processors cause:
receiving a message from the wireless sink device, wherein the message identifies:
a list of supported input categories; and,
a plurality of lists of supported types, wherein each of the supported input categories of the list of supported input categories has an associated list of supported types.

55. The wireless source device of claim 54, wherein the message is an RTSP GET_PARAMETER response message.

56. The wireless source device of claim 54, wherein the list of supported input categories is a first list of supported input categories, and wherein the plurality of lists of supported types is a first plurality of lists of supported types; and, wherein upon execution of the instructions the one or more processors further cause:

transmitting to the wireless sink device a second message, wherein the second message identifies:

a second list of supported input categories;

a plurality of second lists of supported types, wherein each of the supported input categories of the second list of supported input categories has an associated second list of supported types.

57. The wireless source device of claim 56, wherein the second message further comprises a port for communication.

58. The wireless source device of claim 56, wherein the second message is an RTSP SET_PARAMETER request message.

59. The wireless source device of claim 56, wherein the supported types of the second lists are a subset of the types of the first lists.

60. The wireless source device of claim 56, wherein upon execution of the instructions the one or more processors further cause:
receiving from the wireless sink device, a third message to confirm that the types of the second lists have been enabled.

61. The wireless source device of claim 60, wherein upon execution of the instructions the one or more processors further cause:
transmitting to the wireless sink device, a fourth message, wherein the fourth message indicates that a communication channel between the wireless source device and the wireless sink device has been enabled.

62. The wireless source device of claim 61, wherein upon execution of the instructions the one or more processors further cause:
receiving from the wireless sink device, a fifth message, wherein the fifth message confirms receipt of the fourth message by the wireless sink device.
63. The wireless source device of claim 61, wherein the communication channel is a user input back channel (UIBC).
64. The wireless source device of claim 54, wherein the supported input categories of the list of supported input categories are selected from a group consisting of a generic command and a human-interface device command (HIDC).
65. The wireless source device of claim 54, wherein upon execution of the instructions the one or more processors further cause:
transmitting to the wireless sink device a parameter request message, wherein the parameter request message identifies an input path for a supported type of the list of supported types.
66. The wireless source device of claim 54, wherein the supported types of the lists of supported types are selected from a group consisting of a keyboard, a mouse, a single touch, a multi touch, a joystick, a camera, a gestures, and a remote control.
67. The wireless source device of claim 56, wherein the supported types of the second lists of supported types are selected from a group consisting of a keyboard, a mouse, a single touch, a multi touch, a joystick, a camera, a gestures, and a remote control.
68. The wireless source device of claim 58, wherein the port for communication is a transmission control protocol (TCP) port.
69. The wireless source device of claim 54, wherein the first message further identifies a null entry for a supported input category to indicate that the input category is not supported by the wireless sink device.

70. The wireless source device of claim 54, wherein the first message is a text format message.

71. A computer-readable storage medium storing instructions that upon execution by one or more processors cause the one or more processors to perform a method of negotiating capabilities between a wireless sink device and a wireless source device, the method comprising:

- receiving a message from the wireless sink device, wherein the message identifies:
 - a list of supported input categories; and,
 - a plurality of lists of supported types, wherein each of the supported input categories of the list of supported input categories has an associated list of supported types.

72. A wireless source device configured to negotiate capabilities with a wireless sink device, the wireless source device comprising:

means for receiving a message from the wireless sink device, wherein the message identifies:

- a list of supported input categories; and,
- a plurality of lists of supported types, wherein each of the supported input categories of the list of supported input categories has an associated list of supported types.

CLAIMS

1. A method of negotiating capabilities between a wireless sink device and a wireless source device, the method comprising:
transmitting a message to the wireless source device, wherein the message identifies:
a list of supported input categories, wherein the list of supported input categories identifies formats of user input data supported by the wireless sink device; and,
a plurality of lists of supported types, wherein each of the supported input categories of the list of supported input categories has an associated list of supported types.
2. The method of claim 1, wherein the message is an RTSP GET_PARAMETER response message.
3. The method of claim 1, further comprising:
wherein the list of supported input categories is a first list of supported input categories, and wherein the plurality of lists of supported types is a first plurality of lists of supported types; and,
receiving from the wireless source device a second message, wherein the second message identifies:
a second list of supported input categories;
a plurality of second lists of supported types, wherein each of the supported input categories of the second list of supported input categories has an associated second list of supported types.
4. The method of claim 3, wherein the second message further comprises a port for communication.
5. The method of claim 3, wherein the second message is an RTSP SET_PARAMETER request message.

6. The method of claim 3, wherein the supported types of the second lists are a subset of the types of the first lists.
7. The method of claim 3, further comprising:
transmitting to the wireless source device, a third message to confirm that the types of the second lists have been enabled.
8. The method of claim 7, further comprising:
receiving from the wireless source device, a fourth message, wherein the fourth message indicates that a communication channel between the wireless source device and the wireless sink device has been enabled.
9. The method of claim 8, further comprising:
transmitting to the wireless source device, a fifth message, wherein the fifth message confirms receipt of the fourth message by the wireless sink device.
10. The method of claim 8, wherein the communication channel is a user input back channel (UIBC).
11. The method of claim 1, wherein the supported input categories of the list of supported input categories are selected from a group consisting of a generic command and a human-interface device command (HIDC).
12. The method of claim 1, further comprising:
receiving from the wireless source device a parameter request message, wherein the parameter request message identifies an input path for a supported type of the list of supported types.
13. The method of claim 1, wherein the supported types of the lists of supported types are selected from a group consisting of a keyboard, a mouse, a single touch, a multi touch, a joystick, a camera, a gestures, and a remote control.

14. The method of claim 2, wherein the supported types of the second lists of supported types are selected from a group consisting of a keyboard, a mouse, a single touch, a multi touch, a joystick, a camera, a gestures, and a remote control.
15. The method of claim 4, wherein the port for communication is a transmission control protocol (TCP) port.
16. The method of claim 1, wherein the first message further identifies a null entry for a supported input category to indicate that the input category is not supported by the wireless sink device.
17. The method of claim 1, wherein the first message is a text format message.
18. A wireless sink device configured to negotiate capabilities with a wireless source device, the wireless sink device comprising:
 - a memory storing instructions;
 - one or more processors configured to execute the instructions, wherein upon execution of the instructions the one or more processors cause:
 - transmitting a message to the wireless source device, wherein the message identifies:
 - a list of supported input categories, wherein the list of supported input categories identifies formats of user input data supported by the wireless sink device; and,
 - a plurality of lists of supported types, wherein each of the supported input categories of the list of supported input categories has an associated list of supported types.
19. The device of claim 18, wherein the message is an RTSP GET_PARAMETER response message.

20. The device of claim 18, wherein the list of supported input categories is a first list of supported input categories, and wherein the plurality of lists of supported types is a first plurality of lists of supported types; and, wherein upon execution of the instructions the one or more processors further cause:
- receiving from the wireless source device a second message, wherein the second message identifies:
 - a second list of supported input categories;
 - a plurality of second lists of supported types, wherein each of the supported input categories of the second list of supported input categories has an associated second list of supported types.
21. The device of claim 20, wherein the second message further comprises a port for communication.
22. The device of claim 20, wherein the second message is an RTSP SET_PARAMETER request message.
23. The device of claim 20, wherein the supported types of the second lists are a subset of the types of the first lists.
24. The device of claim 20, wherein upon execution of the instructions the one or more processors further cause:
- transmitting to the wireless source device, a third message to confirm that the types of the second lists have been enabled.
25. The device of claim 24, wherein upon execution of the instructions the one or more processors further cause:
- receiving from the wireless source device, a fourth message, wherein the fourth message indicates that a communication channel between the wireless source device and the wireless sink device has been enabled.

26. The device of claim 25, wherein upon execution of the instructions the one or more processors further cause:
 - transmitting to the wireless source device, a fifth message, wherein the fifth message confirms receipt of the fourth message by the wireless sink device.
27. The device of claim 25, wherein the communication channel is a user input back channel (UIBC).
28. The device of claim 18, wherein the supported input categories of the list of supported input categories are selected from a group consisting of a generic command and a human-interface device command (HIDC).
29. The device of claim 18, wherein upon execution of the instructions the one or more processors further cause:
 - receiving from the wireless source device a parameter request message, wherein the parameter request message identifies an input path for a supported type of the list of supported types.
30. The device of claim 18, wherein the supported types of the lists of supported types are selected from a group consisting of a keyboard, a mouse, a single touch, a multi touch, a joystick, a camera, a gestures, and a remote control.
31. The device of claim 19, wherein the supported types of the second lists of supported types are selected from a group consisting of a keyboard, a mouse, a single touch, a multi touch, a joystick, a camera, a gestures, and a remote control.
32. The device of claim 21, wherein the port for communication is a transmission control protocol (TCP) port.

33. The device of claim 18, wherein the first message further identifies a null entry for a supported input category to indicate that the input category is not supported by the wireless sink device.
34. The device of claim 18, wherein the first message is a text format message.
35. A computer-readable storage medium storing instructions that upon execution by one or more processors cause the one or more processors to perform a method of negotiating capabilities between a wireless sink device and a wireless source device, the method comprising:
 - transmitting a message to the wireless source device, wherein the message identifies:
 - a list of supported input categories, wherein the list of supported input categories identifies formats of user input data supported by the wireless sink device; and,
 - a plurality of lists of supported types, wherein each of the supported input categories of the list of supported input categories has an associated list of supported types.
36. A wireless sink device configured to negotiate capabilities with a wireless source device, the wireless sink device comprising:
 - means for transmitting a message to the wireless source device, wherein the message identifies:
 - a list of supported input categories, wherein the list of supported input categories identifies formats of user input data supported by the wireless sink device; and,
 - a plurality of lists of supported types, wherein each of the supported input categories of the list of supported input categories has an associated list of supported types.

37. A method of negotiating capabilities between a wireless sink device and a wireless source device, the method comprising:

receiving a message from the wireless sink device, wherein the message identifies:

a list of supported input categories, wherein the list of supported input categories identifies formats of user input data supported by the wireless sink device; and,

a plurality of lists of supported types, wherein each of the supported input categories of the list of supported input categories has an associated list of supported types.

38. The method of claim 37, wherein the message is an RTSP GET_PARAMETER response message.

39. The method of claim 37, further comprising:

wherein the list of supported input categories is a first list of supported input categories, and wherein the plurality of lists of supported types is a first plurality of lists of supported types; and, transmitting to the wireless sink device a second message, wherein the second message identifies:

a second list of supported input categories;

a plurality of second lists of supported types, wherein each of the supported input categories of the second list of supported input categories has an associated second list of supported types.

40. The method of claim 39, wherein the second message further comprises a port for communication.

41. The method of claim 39, wherein the second message is an RTSP SET_PARAMETER request message.

42. The method of claim 39, wherein the supported types of the second lists are a subset of the types of the first lists.

43. The method of claim 39, further comprising:
receiving from the wireless sink device, a third message to confirm that the types of the second lists have been enabled.
44. The method of claim 43, further comprising:
transmitting to the wireless sink device, a fourth message, wherein the fourth message indicates that a communication channel between the wireless source device and the wireless sink device has been enabled.
45. The method of claim 44, further comprising:
receiving from the wireless sink device, a fifth message, wherein the fifth message confirms receipt of the fourth message by the wireless sink device.
46. The method of claim 44, wherein the communication channel is a user input back channel (UIBC).
47. The method of claim 37, wherein the supported input categories of the list of supported input categories are selected from a group consisting of a generic command and a human-interface device command (HIDC).
48. The method of claim 37, further comprising:
transmitting to the wireless sink device a parameter request message, wherein the parameter request message identifies an input path for a supported type of the list of supported types.
49. The method of claim 37, wherein the supported types of the lists of supported types are selected from a group consisting of a keyboard, a mouse, a single touch, a multi touch, a joystick, a camera, a gestures, and a remote control.

50. The method of claim 39, wherein the supported types of the second lists of supported types are selected from a group consisting of a keyboard, a mouse, a single touch, a multi touch, a joystick, a camera, a gestures, and a remote control.
51. The method of claim 40, wherein the port for communication is a transmission control protocol (TCP) port.
52. The method of claim 37, wherein the first message further identifies a null entry for a supported input category to indicate that the input category is not supported by the wireless sink device.
53. The method of claim 37, wherein the first message is a text format message.
54. A wireless source device configured to negotiate capabilities with a wireless sink device, the wireless source device comprising:
 - a memory storing instructions;
 - one or more processors configured to execute the instructions, wherein upon execution of the instructions the one or more processors cause:
 - receiving a message from the wireless sink device, wherein the message identifies:
 - a list of supported input categories, wherein the list of supported input categories identifies formats of user input data supported by the wireless sink device; and,
 - a plurality of lists of supported types, wherein each of the supported input categories of the list of supported input categories has an associated list of supported types.
55. The wireless source device of claim 54, wherein the message is an RTSP GET_PARAMETER response message.

56. The wireless source device of claim 54, wherein the list of supported input categories is a first list of supported input categories, and wherein the plurality of lists of supported types is a first plurality of lists of supported types; and, wherein upon execution of the instructions the one or more processors further cause:

transmitting to the wireless sink device a second message, wherein the second message identifies:

a second list of supported input categories;

a plurality of second lists of supported types, wherein each of the supported input categories of the second list of supported input categories has an associated second list of supported types.

57. The wireless source device of claim 56, wherein the second message further comprises a port for communication.

58. The wireless source device of claim 56, wherein the second message is an RTSP SET_PARAMETER request message.

59. The wireless source device of claim 56, wherein the supported types of the second lists are a subset of the types of the first lists.

60. The wireless source device of claim 56, wherein upon execution of the instructions the one or more processors further cause:
receiving from the wireless sink device, a third message to confirm that the types of the second lists have been enabled.

61. The wireless source device of claim 60, wherein upon execution of the instructions the one or more processors further cause:
transmitting to the wireless sink device, a fourth message, wherein the fourth message indicates that a communication channel between the wireless source device and the wireless sink device has been enabled.

62. The wireless source device of claim 61, wherein upon execution of the instructions the one or more processors further cause:
receiving from the wireless sink device, a fifth message, wherein the fifth message confirms receipt of the fourth message by the wireless sink device.
63. The wireless source device of claim 61, wherein the communication channel is a user input back channel (UIBC).
64. The wireless source device of claim 54, wherein the supported input categories of the list of supported input categories are selected from a group consisting of a generic command and a human-interface device command (HIDC).
65. The wireless source device of claim 54, wherein upon execution of the instructions the one or more processors further cause:
transmitting to the wireless sink device a parameter request message, wherein the parameter request message identifies an input path for a supported type of the list of supported types.
66. The wireless source device of claim 54, wherein the supported types of the lists of supported types are selected from a group consisting of a keyboard, a mouse, a single touch, a multi touch, a joystick, a camera, a gestures, and a remote control.
67. The wireless source device of claim 56, wherein the supported types of the second lists of supported types are selected from a group consisting of a keyboard, a mouse, a single touch, a multi touch, a joystick, a camera, a gestures, and a remote control.
68. The wireless source device of claim 58, wherein the port for communication is a transmission control protocol (TCP) port.
69. The wireless source device of claim 54, wherein the first message further identifies a null entry for a supported input category to indicate that the input category is not supported by the wireless sink device.

70. The wireless source device of claim 54, wherein the first message is a text format message.

71. A non-transitory computer-readable storage medium storing instructions that upon execution by one or more processors cause the one or more processors to perform a method of negotiating capabilities between a wireless sink device and a wireless source device, the method comprising:

receiving a message from the wireless sink device, wherein the message identifies:

a list of supported input categories, wherein the list of supported input categories identifies formats of user input data supported by the wireless sink device; and,

a plurality of lists of supported types, wherein each of the supported input categories of the list of supported input categories has an associated list of supported types.

72. A wireless source device configured to negotiate capabilities with a wireless sink device, the wireless source device comprising:

means for receiving a message from the wireless sink device, wherein the message identifies:

a list of supported input categories, wherein the list of supported input categories identifies formats of user input data supported by the wireless sink device; and,

a plurality of lists of supported types, wherein each of the supported input categories of the list of supported input categories has an associated list of supported types.