USER'S GUIDE

PERACOM NETWORKS

WIRELESS KEYBOARD

Important Safety Instructions

1. Read these instructions.
2. Follow all instructions.
3. Keep these instructions.
4. Heed all warnings.
5. Do not use this apparatus near water.
6. Clean only with a damp cloth.
7. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as the power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, or the apparatus does not operate normally or has been dropped.

FCC Notice

NOTICE

FEDERAL COMMUNICATIONS COMMISSION

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications, However there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

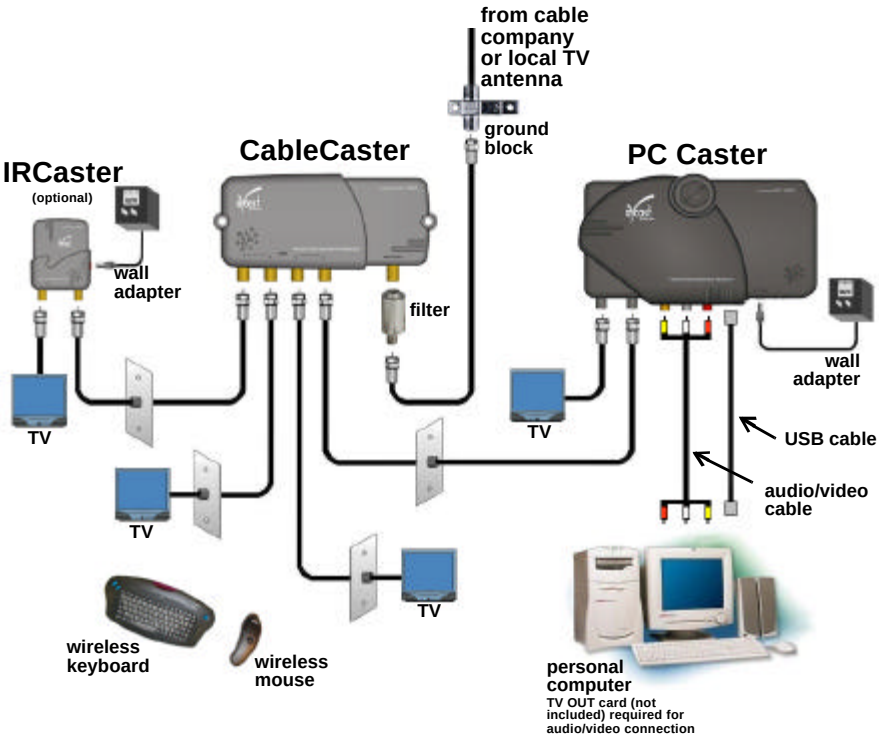
Modifications

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by Peracom Networks, Inc. may void the user's authority to operate the equipment.

Table of Contents

The Avcast Home Entertainment System

The Avcast system uses the existing coaxial cable wiring in a house to create a home entertainment network. The Avcast home entertainment network connects television sets (TVs) and a personal computer (PC) together — allowing the user to their PC screen on any television connected to the network. The following is an example of a basic Avcast home entertainment network:

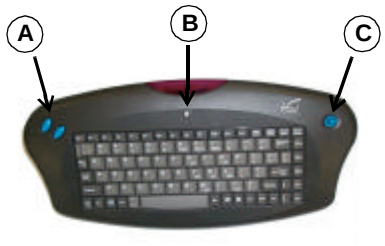


Introducing the Wireless Keyboard

The Avcast Wireless Keyboard is used in conjunction with a PC Caster and a PC in the Avcast home entertainment network.

The PC Caster allows you to view your personal computer screen on any TV connected to the Avcast network. The keyboard uses radio frequency (RF) to communicate with the PC via the PC Caster, giving you control of the PC from any room in the house.

The Wireless Keyboard with a built-in mouse remotely performs all the same functions of a standard keyboard and mouse that are connected to your PC.



A **left/right mouse buttons**

B **red LED**

C **mouse joystick**

The Wireless Keyboard is an 88-key Windows keyboard with a built-in mouse that consists of a mouse joystick and a pair of left/right mouse buttons. The keyboard functions similarly to a full-sized keyboard; however there are some physical differences (see the "Using Wireless Keyboard Functions" section for more information). For example, the Num Lock, Caps Lock and Scroll Lock keys have no LEDs to indicate whether they are active or inactive. Also, the Wireless Keyboard does not have a 17-key numeric keypad on the keyboard. Instead, a section of the keys in the main keypad become "extender" keys to perform the numeric keypad functions when the special Function (FN) key is pressed to activate them.

The Wireless Keyboard is powered by 3 AA batteries installed in the battery compartment on the back of the keyboard (see Appendix A for Wireless Keyboard Specifications).

Other Items in the Kit

- AA Batteries (3)
- Warranty Card

Technical Information

The appendixes in the back of this guide provide technical specifications.

How to Use the Wireless Keyboard

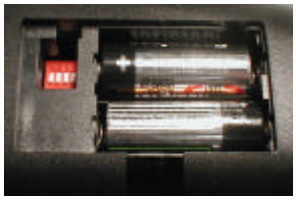
Before you start:

- The original PC keyboard and mouse need to be connected to the PC for it to boot up properly.
- The PC mouse and keyboard should not be used at the exact same time as the Remote Mouse and Keyboard. Both are attached to the system and function using the same application and using them simultaneously will produce unexpected results.

Set Up the Wireless Keyboard

1. **Remove the battery compartment cover and insert 3 new AA Batteries (supplied).**

   The Wireless Keyboard is powered by 3 AA batteries located in the battery compartment under a snap-on cover on the back of the device. Insert the batteries as indicated by the polarity symbols (+ and -) marked inside the battery compartment.



2. **Close the battery compartment cover.**
3. **Verify the Wireless Keyboard is working properly.**

   Press the left/right built-in mouse buttons at the same time — a red LED located on the top front section of the keyboard should light up temporarily to confirm that the Wireless Keyboard is working properly. The red LED also functions as a low battery indicator. If the LED lights up when you press the keys on the Wireless Keyboard, the batteries need to be replaced.

4. **Calibrate the built-in mouse on the Wireless Keyboard.**

   The built-in mouse on the Wireless Keyboard needs to be calibrated each time the batteries are replaced. To calibrate, press and release the mouse joystick straight down once, then move the joystick completely in each direction (right, left, forward, back).

5. Verify the Wireless Keyboard is working properly.

Go to the personal computer connected to the Avcast entertainment system and make sure that it is switched on. Position yourself in front of the PC and manipulate the built-in mouse joystick to verify it is communicating with the computer properly. You should be able to see the cursor moving around on the screen. Go to the troubleshooting information in Appendix B if the Wireless Keyboard does not appear to be communicating with the PC.

Next, go to a TV connected to the Avcast entertainment system and make sure that it is switched on. Position yourself in front of the TV and manipulate the built-in mouse joystick to verify it is communicating with the computer properly. You should be able to see the cursor moving around on the TV screen the same way you did on the PC screen. If the Wireless Keyboard does not appear to be communicating with the PC at that location, you need to make some adjustments to the physical placement of the PC Caster to improve the RF (remote) reception. Go to the RF Positioning of PC Caster section of the PC Caster User's Guide for more information.

Numeric Keypad Functions

Though the Wireless Keyboard provides all of the functions of a full-sized keyboard; however, some functions such as the numeric keypad and the built-in mouse are handled little differently.

The Wireless Keyboard does not have a separate 17-key numeric keypad, though the keyboard does provide all of the function of a numeric keypad. Pressing the special Function (FN) key activates a section of the keys in the main keypad to become "extender" keys. The extender keys perform the numeric keypad functions.

To use numeric keypad functions:

1. **Press the FN key to activate the extender keys.**
2. **Press the extender keys for the desired numeric keypad functions.**

   Press the Num Lock key to set Num Lock on or off for the correct set of numeric keypad functions (the keyboard does not have an LED to indicate whether the Num Lock function is on or off).
3. **Press the FN key again to deactivate the extender keys.**

   The figure on the following page illustrates the extender keys that are active when the FN key is pressed, when the Num Lock is ON and when the Num Lock is OFF.

Main Keypad Keys used as Extender Keys			
7	8	9	0
U	I	O	P
J	K	L	;
M			Enter

for

Numeric Keypad Function with Num Lock ON			
7	8	9	0
4	5	6	-
1	2	3	+
0	.	/	Enter

Main Keypad Keys used as Extender Keys			
7	8	9	0
U	I	O	P
J	K	L	;
M			Enter

or

Numeric Keypad Function with Num Lock OFF			
Home		PgUp	0
			-
End		PgDn	+
Ins	Del		Enter

"Drag and Drop" Operation

The built-in left/right mouse buttons and joystick on the Wireless Keyboard provide the same functions of a 2-button PC mouse. The further the mouse joystick is held in a direction, the faster the cursor moves.

When you press straight down on the mouse joystick and release it quickly, it serves the same function as the left mouse button "point and click" operation on a 2-button PC mouse.

When you place the cursor on a object on the screen and press the mouse joystick straight down for more than three seconds before releasing it, the "drag and drop" operation is activated. You can move the object around on the screen by pushing the mouse joystick in the desired direction. The "drag and drop" mode is indicated on the PC screen by a "jiggling" of the selected object. The mouse on the Wireless Keyboard stays in the "drag and drop" mode until you press and release the mouse joystick again, press one of the left/ right mouse buttons or press a key on the keyboard.

Power for Wireless Keyboard

When not in use, the Wireless Keyboard goes into a low current, powered down state. When you press either button or move the mouse joystick, the circuitry in the Wireless Keyboard causes its processor to “wake up”. When a motion or button push is no longer detected, the Remote Mouse returns to a power down state.

To ensure that the batteries do not get drained in case the mouse joystick is constantly pushed, the Wireless Keyboard will power down if the joystick is constantly active for about a minute. The joystick must be moved or a button pressed for the Wireless Keyboard to power on again.

The life of the batteries depends on the daily usage (see Appendix A, “Wireless Keyboard Specifications” for information about typical battery life for the Wireless Keyboard).

Appendix A: Changing the RF Address

What you need:

- A pointed tool such as a pen tip or tooth pick.

The Wireless Keyboard has a default radio frequency (RF) address of zero. The RF address selection switch, located through a small window inside the battery compartment, sets the radio frequency (RF) address for the Wireless Keyboard. Possible address values are zero through 15.

The RF address set on the Wireless Keyboard must match the RF address set on the PC Caster for the two devices to communicate. In most Avcast network installations, you will not need to change the address of the PC Caster or the Wireless Keyboard unless you have more than one PC Caster installed in your home entertainment system or if you live in close proximity to a neighbor who has a PC Caster installed in their home.

1. **Open the battery compartment cover on the back of the Wireless Keyboard to expose the instrument to change the RF address.**
2. **Find the desired RF address setting in table on the next page.**
3. **Use a pointed tool to move the switches on the instrument to change the RF address.**
4. **Close the battery compartment.**
5. **Set up the Wireless Keyboard.**

   Go to “Set Up the Wireless Keyboard” on page 3 for verification and calibration instructions.

The Wireless Keyboard is now ready to use.

RF Address Settings

Switch Positions 1 2 3 4	Address
	0
	1
	2
	3
	4
	5
	6
	7

Switch Positions 1 2 3 4	Address
	8
	9
	10
	11
	12
	13
	14
	15

Appendix B: Wireless Keyboard Specifications

Power for the Wireless Keyboard

The Wireless Keyboard is powered by 3 AA batteries located in the battery compartment under a snap-on cover on the back of the keyboard.

The life of the batteries depends on the daily usage. For 2850 mAh alkaline batteries, the following table shows the projected battery life in months (worse case and typical). The daily usage is the amount of time that the keys or mouse actuator have been used.

Daily Usage (minutes)	Battery Life (months)	
	Worst case	Typical
10	19	51
20	11	25
30	7	14

When not in use, the keyboard is in a low current power down state. When the user presses a key or touches the mouse joystick, circuitry in the keyboard senses this and causes the processor to wake up. The keys and activator are scanned and the information is sent through RF to the receiving PC Caster. When a touch or button push is no longer detected, the keyboard returns to a power down state.

To ensure that the batteries do not get drained in case the mouse actuator is constantly pushed, the keyboard will power down if the actuator is constantly active for about a minute. The actuator must be moved or a key pressed for the keyboard to power on again.

RF Transmission

The Wireless Keyboard uses radio frequency (RF) to communicate with the PC Caster. The keyboard uses a simple on off keying (OOK) scheme at 916.5 MHz. The distance covered is highly dependent upon environment factors where the keyboard is being used. In most applications the range of the keyboard should be greater than 80 feet.

Appendix C: Support and Troubleshooting

Support

If you encounter problems with any of the Avcast components, you can contact the Avcast support staff by e-mail, by telephone, by mail or on the Internet.

Web Postings/FAQ:	www.avcast.com/support
E-mail:	support@avcast.com
Telephone:	(919) 379-2705 8:00 A.M. to 5:00 P.M. EST
FAX:	(919) 379-9420
Mailing Address:	Peracom 13000 Weston Parkway Suite 105 Cary, North Carolina 27513

Troubleshooting

Additional troubleshooting information for the Avcast Wireless Keyboard can be found on the support website listed above.

Problem	Probable Cause/Correction
Red LED lights when you press keys on the keyboard	• The LED acts as a low battery indicator. If it illuminates during the normal use of the keyboard, it is time to replace the batteries.
Wireless Keyboard does not communicate with the PC locally	• Check the polarity of the batteries and make sure they are inserted properly. Replace if necessary. • Verify the USB cable is connected between the PC and the PC Caster. • Check the RF address of the keyboard (inside battery compartment) to make sure it matches the RF address for the PC Caster. The default address for the keyboard and PC Caster is zero, but changing both to another matching RF address may reduce interference from elements such as phone lines, etc.
Wireless Keyboard communicates with the PC locally but not remotely	• Check the position of the PC Caster (see section on RF Positioning of the PC Caster).

Appendix D: Accessories and Replacement Parts

The following accessories and replacement parts are available from Peracom Networks, Inc. Ordering information is available on the Avcast website: www.avcast.com and from retail suppliers. All kits and accessories include a User Guide and a Warranty Card.

Accessory	Part Number
CableCaster 1 CableCaster 2 Screws 3 Terminators 1 Wall Adapter (15 VDC Power Supply)	CC-1016N
PC Caster 1 PC Caster 1 IR Emitter 1 6-foot Audio/Video cable 1 6-foot coaxial cable 1 Terminator 1 Wall Adapter (15 VDC Power Supply)	MC-1011N
IRCaster 1 IRCaster 1 IR Detector 1 6-foot coaxial cable 1 Terminator 1 Wall Adapter (15 VDC Power Supply) (Each IRCaster after the first one in a network requires an in-line 75 Ohm DC Block — Radio Shack Part Number 15-1259)	IR-1018N
IR Detector Requires a Handset Adapter (Radio Shack Part Number 279-425) to connect the IR Detector and the IR Emitter to the PC Caster at the same time.	ID-1022N

Accessory	Part Number
Filters	
To block channels 65-90	FL-1029
To block channels 65-69	FL-1030A
To block channels 70-74	FL-1031A
To block channels 75-80	FL-1032A
To block channels 80+	
Weatherproof Case (for outdoor CableCaster installation)	WP-1033N
Wall Adapter (15 VDC Power Supply)	PW-1024NF
IR Emitter	IE-11023NF
IR Detector	ID-1022NF

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