

GUIDE TO INSTALLATION OF THE B&K CK2.2 KEYPAD



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B&K
SIMPLY BETTER!

Thank you for choosing to install the B&K CK2.2 Keypad for this system!

Please use this manual as a guide to connecting and mounting the CK2.2 Keypad.

The CK2.2 keypad is preprogrammed at the factory to initially operate B&K CT products. It can be re-programmed using a Windows PC and the accompanying CD. See the CK2.2 Keypad Programming Manual on the CD for instructions on programming.

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Guide to Installation of the B&K CK2.2 Keypad
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Features and Benefits

Programming Capacity

The CK2.2 can be programmed with up to 1500 IR commands or macros, which can span over 50 separate devices. The On and Off, Volume Up or Down, and Navigation buttons can additionally be programmed with a command or macro per device. The soft button labels can be customized with labels up to eleven characters, so the commands or macros will display user friendly names that are easy to use.

One Touch Automated Operation

The On, Off and all of the soft buttons can be programmed with macros of up to 190 steps, including IR commands or delays of .1 to 30 seconds.

Point Any Remote Control at the Keypad

The integrated IR pass through allows commands from infrared remotes to pass through to the back panel and on to other sources using emitters. The sensor can be disabled using the programming software.

Control Local TV's and the Central System

By connecting a flasher directly to the keypad, you can program the IR commands and Macros to control TV's and other local components placed in the room.

Two Way Communications With B&K Multi-Zone Receivers

The keypad displays the status of the zone it controls in two ways:

1. The blue status LED indicates when the zone is on or off with typical CT/Keypad programming and wiring.
2. The keypad will display the current zone status including volume, tone, input, and tuner band with frequency in real time when the backlight button is pressed. The zone status key will scroll through the current parameters of the zone the keypad is connected to.

Multiple Keypads within One Zone

You can daisy-chain multiple keypads within one zone. All keypads will correctly display the zone power status of the zone it is connected to.

Ultra-Fast Programming via PC Software

A vast database of more than one thousand brands instantly programs IR codes for most components; B&K Batch Learning does the rest in a fraction of the time of any other system.

Retains Programming through Power Failures

Your programming is safe in the event of a power failure of any length. The Non-Volatile Flash Memory keeps the program intact.

Basic Controls and Displays

LCD Display

Labels on the screen change depending on what activity has been selected.

On/Off Buttons

Typically programmed for a command or macro for power of the Zone or device.

Soft Buttons

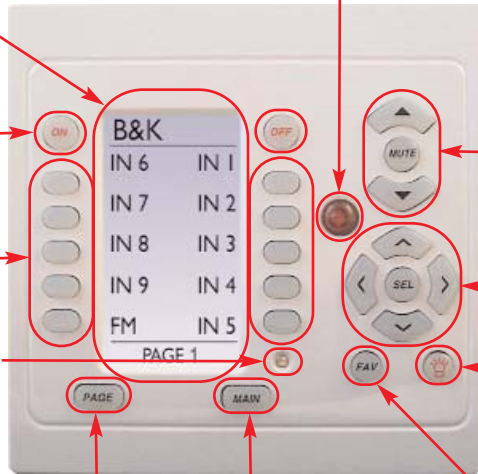
Drag and drop any command or macro from the Universal IR Database.

Power LED

Typically lights up when the Zone/Room is on.

Remote Control Target

Conceals an IR Sensor which relays commands from a handheld IR remote to control the main system and components connected to flahers.



Volume/Mute Buttons
Typically programmed for control of the audio level.

Navigation Buttons

Backlight Button
Lights the keypad display and recalls status feedback of the CT Receiver on the bottom line of the LCD display.

Page Button

Cycles through the pages of commands or macros.

Main Button

Takes the keypad back to Main Page 1.

Fav Button

Takes the keypad to the Favorites Page 1.

Slave (Out)

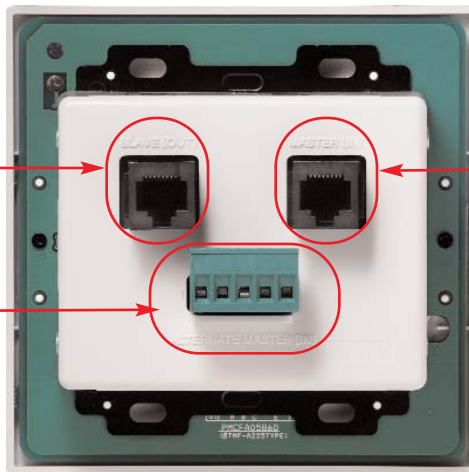
Connects to the Master (In) of any other zone keypads via straight CAT-5 cable terminated with a RJ-45 connector.

Master (In)

Connects to the CT Receiver Zone Control I/O via straight CAT-5 cable terminated with a RJ-45 connector.

Alternate Master In

Mirrors the connectors in the Master (In) but usable in a retro-fit application.



Master Pin Out

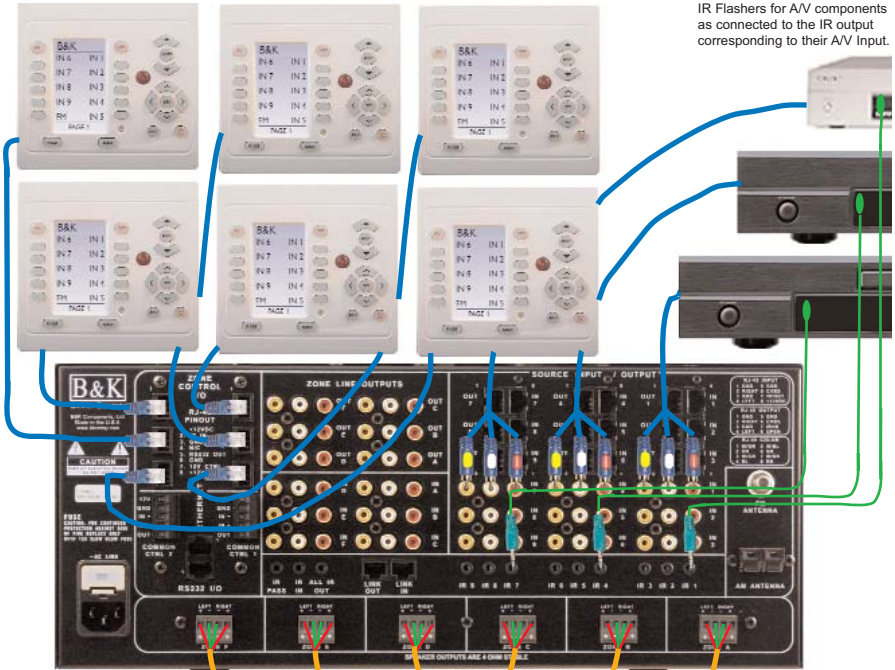
1. +12V DC IN
2. KEYPAD IR DATA OUT
3. GROUND
4. N/C
5. RS-232 RECEIVE INPUT
6. GROUND
7. STATUS IN
8. +12VDC IN

Slave Pin Out

1. +12V DC IN
2. KEYPAD IR DATA OUT
3. GROUND
4. N/C
5. RS-232 OUTPUT
6. GROUND
7. STATUS IN
8. +12VDC IN

Standard CT Receiver System

Keypads connect to the Zone Control Connectors on the CT Receiver using CAT-5 cables. CK 2.2 keypads can be coupled with CK 1.1 keypads in any zone.



IR Flashers for AV components as connected to the IR output corresponding to their AV Input.

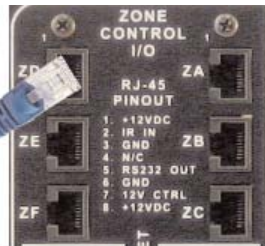
The CT Receiver amplifier channels connect to each zone speakers via speaker wire. Please see the CT Receiver manual for more information.

Connecting to a CT Receiver

Keypads connect to the CT Receiver using a **straight CAT-5** at the Zone Control RJ-45 ports. There is one port for each hardware zone, labeled A through F on the CT 600.3/600.1 and A through C on the CT300.3.

CK 2.2 Master (In)

1. +12V DC IN
2. KEYPAD IR DATA OUT
3. GROUND
4. N/C
5. RS-232 RECEIVE INPUT
6. GROUND
7. STATUS IN
8. +12VDC IN



CT Receiver Zone I/O Ports (A-F)

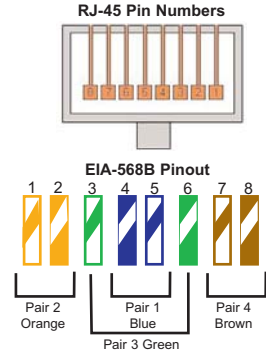
Terminate RJ-45's One to One

Terminate the RJ-45's using any color code, just connect the cables straight through, i.e. exactly the same color to pin on each end of the cable. Standard pre-terminated LAN (Local Area Network) cables work fine.

For convenience, the T568-B color scheme is listed and shown below. N/C is Not Connected.

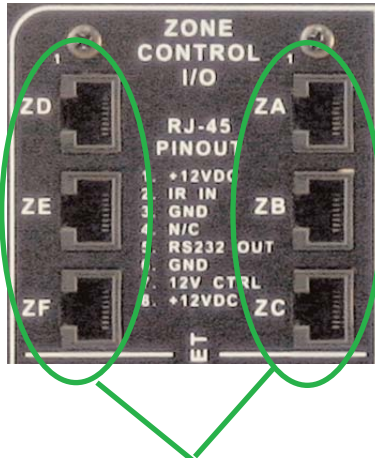
CK 2.2 MASTER (IN) T568B Standard CT Receiver Zone I/O

1. +12VDC In	White/Orange	1. +12VDC Out (Extra)
2. IR Data Out	Orange	2. IR Data In
3. Ground	White/Green	3. Ground (Extra)
4. N/C	Blue	4. N/C
5. RS-232 Receive	White/Blue	5. RS-232 Transmit
6. Ground	Green	6. Ground
7. Status In	White/Brown	7. Control Out
8. +12VDC In	Brown	8. +12VDC Out



Keypad Total Power Consumption

The six zone CT Receiver 12VDC outputs support a maximum of 20 keypads total, ten keypads to each vertical array of three zone control connections. Thus, a three zone CT Receiver can support a maximum of 10 keypads. If power is being supplied to relays, screens or sensors, these devices must be accounted for and would reduce the total number of potential keypads. **Each CK 2.2 keypad consumes 75mA.**



Each of the zone/control cards of the CT600.3 are identical to the single card of the CT 300.3. Zone/Control cards incorporate 3 zone keypad/sensor connectors and 1 common control output. The total power consumption of all devices attached to one card **cannot exceed 1 amp.**

Connecting Slave Keypads

Each zone should have one CAT-5 cable home run to the CT Receiver. When rooms interconnect and open to each other (for example inter-connecting family room, kitchen, dining areas) you may opt to expand a zone to include several rooms. Each room can have it's own keypad. Many keypads can be connected by a daisy chain configuration in any zone. Daisy chained keypads can also operate as an independent zone keypads if desired. Status feedback and power LED will reference the zone to which it is connected, not the zone it is controlling.

The main system connects to the Master keypad via the MASTER (IN). From the Master keypads SLAVE (OUT) connect to the Slave keypad's MASTER (IN). You can continue to daisy chain as many keypads as necessary. However, keep in mind that each keypad consumes 75mA of power. See page 3 for more information on Total Power Consumption.



The CK2.2 and B&K Home Theater

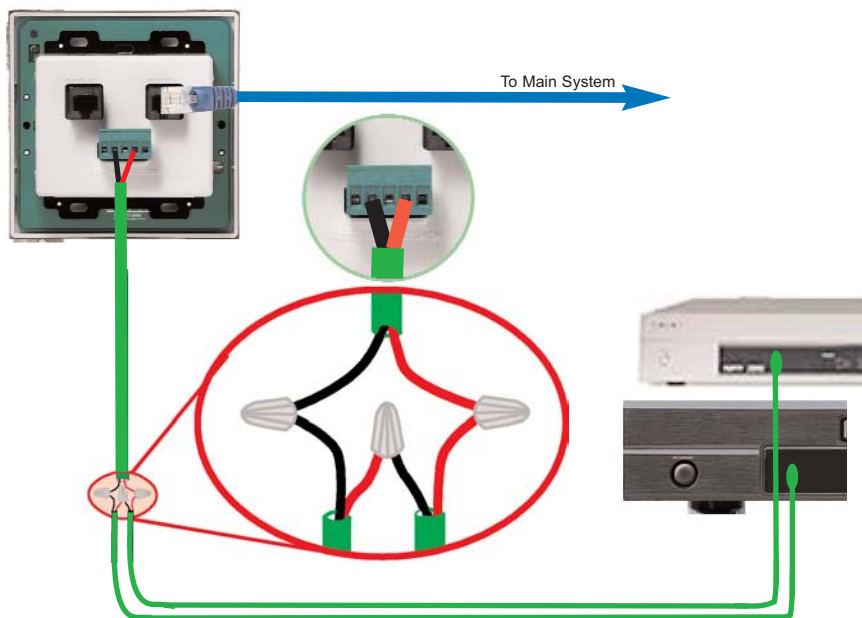
The CK 2.2 can be easily programmed with the commands for all remote controlled B&K receivers and preamps. The CK2.2 can be directly connected to the Home Theater product to integrate easily for second zone or IR source control. When using the CK2.2 with B&K Home Theater products, zone status will display the same way when the keypad is used with CT Multi-Zone products. The CK2.2 keypad can be used separately or be coupled with another keypad, including the CK1.1. Up to two keypads can be directly connected to the the RJ-45 connection on the Home Theater product. If additional keypads are required, an additional 12VDC power supply must be used.

Note: Not all features are applicable when keypad (s) are used in systems other than B&K.



Connecting a Local Device

Every keypad can control a local IR source(s) by directly connecting IR emitters from the keypad to the local source. A two conductor cable should be run from the keypad location to the local component location. Up to four infrared emitters can be wired to a keypad by connecting in SERIES as shown below.



Multiple emitters should connect in SERIES! When connecting emitters directly to the keypad, multiple emitters should be connected in series. A maximum of 4 emitters can be connected directly to the CK 2.2 keypad. Additional resistance is not necessary when directly connecting emitters to the CK 2.2 keypad. Wire requirements for emitters vary. Standard 2 conductor speaker wire is ideal for long runs from the keypad to a local device. Utilizing CAT-5 cable will also work well.

Using IR “Eyes” with the CK2.2

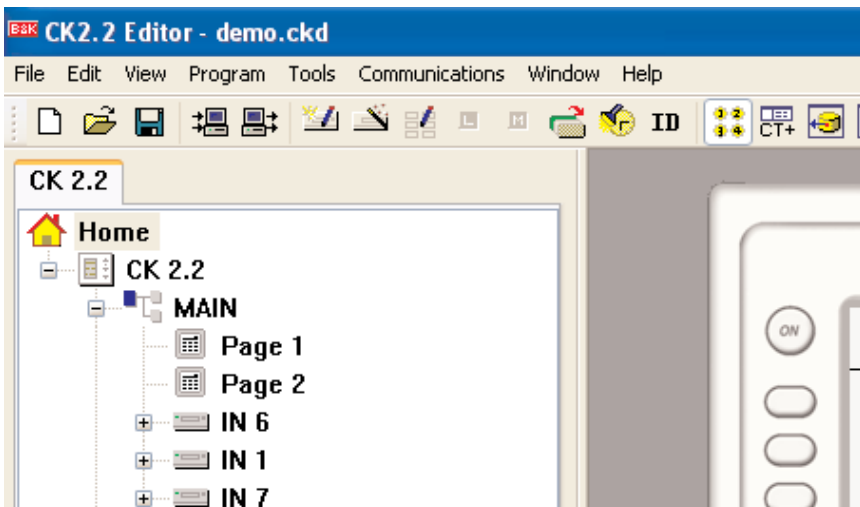
Sometimes additional IR receivers are required in some rooms in addition to the CK 2.2 keypad. If additional IR receivers are used in a zone, they should be treated like a slave keypad. Run a cable from the CK 2.2 to the IR receiver in the zone. The IR receiver should be pinned from the Alternate Master (In) of the CK 2.2 keypad according to the connection figure below.

IR Receiver
 IR Data Pin 4
 Ground Pin 2
 +12VDC Pin 1

CK 2.2 Alternate Master (In)
 IR Data In
 Ground
 +12VDC

Programming

Use the included CD-ROM to install B&K's Keypad editor on your Windows PC. The CK2.2 Editor runs on Windows 2000, XP, XP Pro and Windows Vista. It is best to do all programming in front of the components with a CK2.2 connected to a laptop's USB port. Each keypad must have its own program downloaded to it. To program, simply open the CK2.2 Editor, go to the Program Menu and work your way through the programming steps. See the CK2.2 Programming Manual on the included CD for more information.



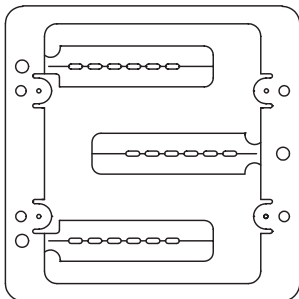
Programming Jack - Behind the Faceplate

The faceplate is removed by pulling the magnetic faceplate from the base of the keypad. Once removed, the programming jack is revealed. The CK 2.2 keypad is programmed using a USB port on a laptop with the USB cable that is provided.



Mounting

After connections are made, the CK2.2 installs into a standard double gang J-Box or an open backed double gang trim ring with the screws provided. If you opt to use a closed J-Box, it must be a minimum of 2 3/4" deep to accommodate standard RJ-45 plugs in the rear. It is easiest to mount the keypad in an open backed trim ring as shown below.

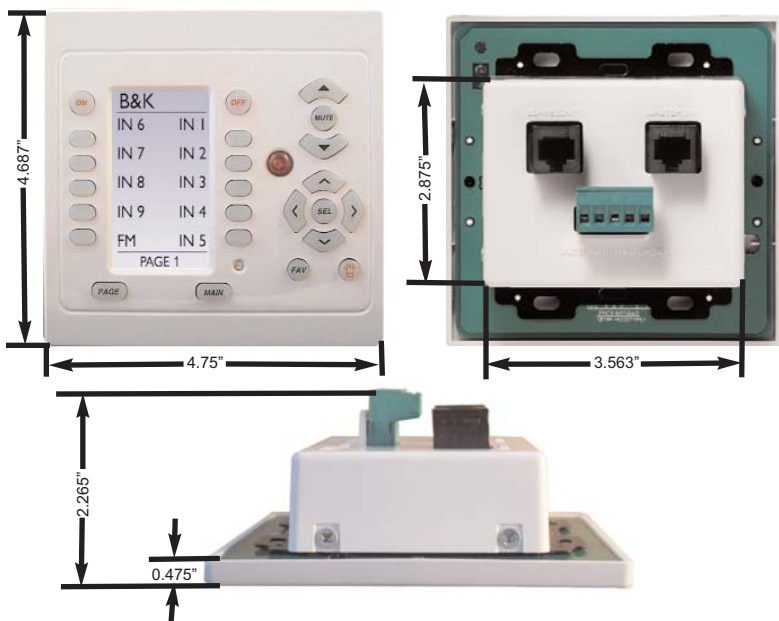


Often the best solution to mounting a B & K keypad are the mounting plate brackets for Low Voltage Class 2 devices made by Caddy, B-Line etc. Of course, enclosed J-Boxes can be used, they must be deep enough to accommodate the depth of the RJ-45 connectors plugged into the rear of the keypad (2 3/4").

White and Beige Faceplates

Once programming is complete and downloaded to each keypad, finish the installation by installing either the white or the beige faceplate. The wall plate magnetically fits into place, first from the top and finishing with the bottom.

Keypad Dimensions



Keypad Specifications

Compatible B & K products:	B&K Receivers, Preamp Processors and Infrared controllable equipment.
Operating Voltage and Current:	12VDC @ 75mA
Master Input and Type:	1 RJ-45 and one 5-position phoenix adapter (Alternate Master)
Slave Output and Type:	1 RJ-45
Front Panel IR Pass	Yes
Local Emitter Capability:	Yes
Included Faceplates:	White and Beige
Available Faceplates:	TBD
Installation Requirement	Standard Double Gang
Keypad Dimensions	
Height (Faceplate)	4.687"
Width (Faceplate)	4.75"
Depth	2.265"



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