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APC AV
ENGINEERED POWER SOLUTIONS℠

C Type Power Filter
Owner's Manual

Models C10 and C10BLK

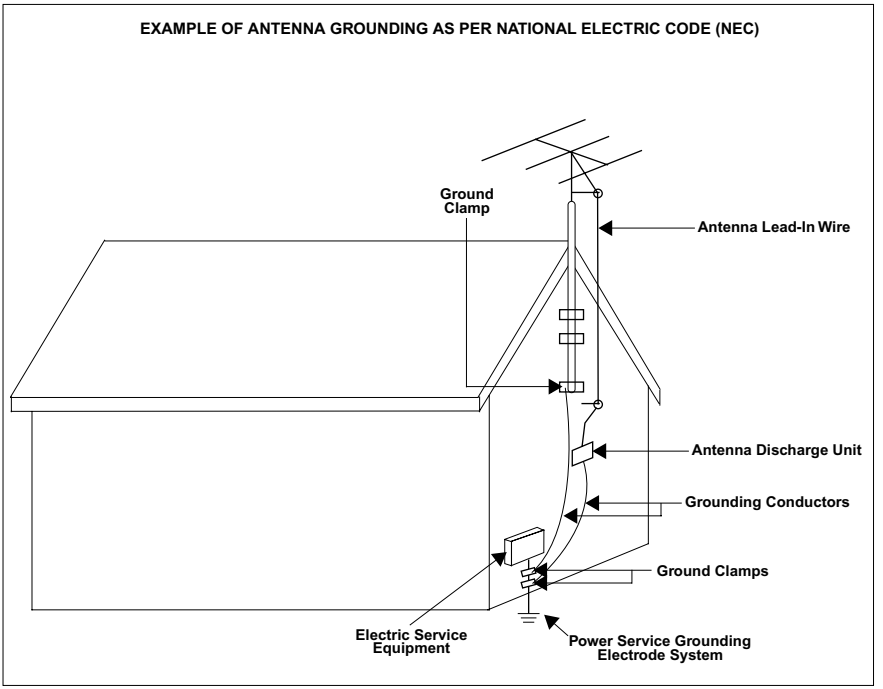
Safety Information

1. **Read this manual** - Read all of the safety and operating instructions before installing and operating this device.
2. **Keep this manual** - Retain this manual, and all of the safety information that came with this device.
3. **Warnings** - Comply with all warnings presented in this manual, as well as any found on the device.
4. **Follow Instructions** - Follow all operating and use instruction.
5. **Cleaning** - Unplug this device from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a soft damp cloth for cleaning.

   Note: A product that is meant for uninterrupted service and for some specific reason, such as the possibility of the loss of an authorization code for a cable TV converter, is not intended to be unplugged by the user for cleaning or any other purpose, may exclude the reference to unplugging this device.
6. **Water and Moisture** - Do not use this product near any source of water, or in an environment where the relative humidity may exceed 95% (non-condensing).
7. **Placement** - Do not install this device on any unsteady surface. Do not install this device on any heat source.
8. **Power** - Ensure this device is connected to a properly grounded AC power source. Further ensure the device is plugged into a source providing the required 120 Vac. Do not use a plug adapter which defeats the ground pin of the AC plug.
9. **Polarization** - This device has a polarized AC line plug having one blade wider than the other. This plug will only fit into the wall outlet in one orientation. This is a safety feature. Do not remove the round grounding pin, or use an adapter that defeats this safety feature.
10. **Power Cord** - Ensure power cords are routed in a manner that will preclude them being pinched, frayed, or stepped on. After connecting other devices to this device, do not push the rear of the device up against any surface (wall or shelving unit), as this may create an undesired bend in the power cords which may break the wire strands of the cord.
11. **Antenna Grounding** - Although this device provides protection against electrical surges, when connecting an outside antenna or cable system to devices connected to this device, ensure the antenna or cable system is grounded so as to provide additional protection against voltage surges and static charges in accordance with Section 810 of the National Electric Code, ANSI/NFPA No.70 (see illustration - next page).
12. **Lightning** - This device employs Metal Oxide Varisters (MOVs), and other circuitry to protect against lightning and other sources of voltage surges and sags. It is not necessary to turn this device or the devices connected to this device, off during a lighting storm.
13. **Power Lines** - Do not locate outside antenna systems near overhead power lines, or other electric light or power circuits, or where it may fall or otherwise come in contact with these power sources. Do not allow the ladder being used, or the antenna itself to come into contact with these power sources, and such contact may be fatal.

Safety Information (continued)

14. **Overloading** - Do not overload the wall outlet where this device is being connected. Do not overload this device. Ensure the total load to this device does not exceed that which is listed in the Specifications section of this manual.
15. **Servicing** - There are no user-serviceable components within this device. Removal of any cover from this device may present a shock hazard, and/or void the warranty.
16. **Damage Requiring Service** - If any type of damage occurs to this device, immediately disconnect it from the wall outlet. Do not use the Power switch or line cord into the rear of the device to disconnect power. Notify APC Technical Support or Customer Service at once.
17. **Replacement Parts** - There are no components within this device that can or should be removed/replaced unless it is by an APC-qualified technician.
18. **Periodic Inspection** - Inspect the line cords. telephone/data cords, or DSS/ Cable TV coaxial cables connected to this device to ensure they remain fully pushed in or attached, and that they are not frayed or otherwise damaged.



Protect Your Investment

Congratulations and thank you for selecting and investing in APC's Model C10 Power Filter. At APC, we know you have made an intelligent choice sure to reward you for many years. To ensure you receive all the benefits and protection that accompany your purchase, please take a few minutes to fill out and mail the enclosed Warranty Registration Card, or complete the online form at www.apc.com.

Note: Under California law, failure to register your purchase may not exclude you from provisions of the Warranty and Equipment Protection Policy. Benefits of warranty registration are outlined below..

Registration

By registering your purchase now, it guarantees you will receive all the information and special offers you qualify for as the owner of this product.

Verification

By registering your purchase now, it confirms your right to maximum protection under the terms and conditions of the Warranty, and Equipment Protection Policy.

Confirmation

By registering your purchase now, you have a way to confirm yourself as the owner of the product in the event of fire, theft or loss.

Safety Symbols

This "bolt of lightning" indicates uninsulated material within your unit that may cause an electrical shock. For the safety of everyone in your home, please do not remove the product cover.

This "exclamation point" calls attention to features for which you should read about in this Manual to prevent operating and maintenance problems.

Warnings, Cautions and Notes

Warnings

Warnings provide information about a procedure that, if not performed exactly as stated, may result in injury or death.

Cautions

Cautions provide information about a procedure that, if not performed exactly as stated, may result in equipment damage.

Notes

Notes provide information that is essential to highlight.

Class B Labeling and Instruction Manual Requirements

Devices subject to Certification must be labeled with an FCC Identifier. Devices subject to Verification or Certification must be labeled with the following compliance statement:

> **This device complies with 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.**

In addition, for a Class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

> ***Warning*: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.**
>
> ***NOTE*: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the CC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiated 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 audio TV technician for help.**

If shielded cables or other specialized accessories are necessary for the unit to achieve compliance, a statement similar to the following should be added:

> **Shielded cables must be used with this unit to ensure compliance with the Class B FCC limits.**

Table of Contents

Introduction

Congratulations on your purchase of APC's C10 Power Filter (Figure 1). This unit will protect your high performance audio and video (AV) system from damaging power surges, spikes and lightning. Protection is guaranteed. Isolated noise filter banks will eliminate EMI/RFI as a source of audio and video signal degradation. Data-line surge protection jacks will stop surges traveling over phone and ethernet lines. Digital Satellite System, Cable Modem, and CATV Coaxial Cable lines are equally protected. With APC, your entire home entertainment experience is protected from damage as a result of bad power.

Figure 1. C10 Power Filter (Front View)

Proven Expertise…Proven Reliability

From corporate data centers to home offices, APC is regarded as an innovator, designer and manufacturer of high quality power protection solutions. With a proven reputation for Legendary Reliability™, leading companies depend on APC every day to protect and support many of the most critical networks in the world, including those at Microsoft, Toyota Motor Sales, Inc., Time-Warner, and IBM. Over the last 20 years, APC has been a pioneer in the development of new power protection technologies that have resulted in countless industry awards, design patents and an installed-base numbering in the tens of millions of units. Multiple R&D centers, along with APC-owned and controlled factories ensure APC solutions are the safest, most advanced and reliable products available. When you buy APC, you buy "peace of mind".

Safety Precautions

Please ensure you have read and understand all of the safety information located at the front of this manual. If you have any questions about the safety information, or are concerned that your home may not be properly wired for this equipment, please contact APC Technical Support or a qualified and licensed electrician.

Package Contents

Note: the C10 and C10BLK have the same performance, features and functionality. The only difference is color. In this manual, C10 will be used to refer both to the silver an black models.

Your C10 package should include the following items:

- 1 Power Filter
- 1 Coaxial Cable
- 1 Network Cable
- 1 Telphone Cable
- 1 Wall Mount Bracket
- 1 User manual
- 1 Equipment Protection Policy Sheet
- 1 Warranty Registration Card

Unit Power Capacity

The C10 is rated for 15 Amps. The C10 is capable of supplying the dynamic peak current draws required by any component designed to work on a 15A circuit. Despite their nameplate power ratings, high performance AV equipment draw much less than their listed power ratings. The C10 can inform the user how much of the power capacity is available as equipment is connected to the unit.

Features

The following are major features of the Model C10:

Surge Protection

The C10 Power Filter provides a high level of surge protection for the voltage going into the unit, thus protecting the devices connected to the unit. Additionally, surge protected coax/radio frequency (RF) connectors are protected against surges traveling over coaxial lines to protect your digital satellite system (DSS), CATV box, or cable modem. Similarly, the telephone line surge protection feature provides a protected splitter to allow output to a telephone, modem, Digital Subscriber Line (DSL) modem, fax, digital video recorder (DVR), DSS system, set-top internet service provider (such as WebTV), or pay-per-view cable TV function. Ethernet protection is provided to protect devices on a network from surges traveling on patch cables.

Isolated Noise Filter Banks (INFB)

The C10 also provides INFB technology to eliminate electromagnetic and radio frequency interference that can negatively impact sound and video quality.

DC Trigger

When connected to a component acting as a DC trigger, that component controls the turning on/off of the 'delayed' outlet banks.

CAUTION: *The maximum input voltage for the DC Trigger is 30VDC. Do not apply an AC voltage to the DC trigger jacks. Failure to comply with this statement may result in equipment damage.*

12 Outlets

All outlets provide surge protection and noise filtering.

Sequenced Turn On/Off

Ensures connected equipment is powered-up/down in the proper order and with the right amount of delay between the stages. This feature is preprogrammed with a six second delay. This delay feature eliminates transients that can affect connected components.

Top Panel

The following section describes the controls and indicators on the top panel.

Top Panel Controls and Indicators

The top panel controls and indicators for the C10 Power Filter are detailed in Figure 2. Each numbered callout refers to the numbered description found immediately below the picture.

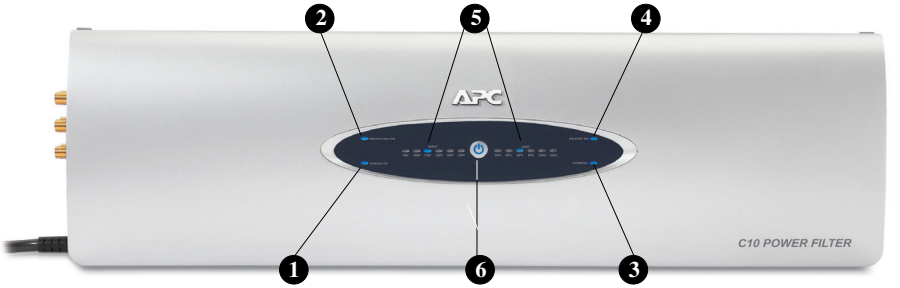


Figure 2. C10 Front Panel Controls and Indicators

❶ **Wiring OK Status Indicator**
When lit, the receptacle the C10 is plugged into is properly wired. If not lit, one of three wiring problems exists in the building wiring circuit: missing ground, overloaded neutral, or reversed polarity. An electrician should be consulted to resolve the problem.

❷ **Protection On Status Indicator**
When lit, the C10 is functioning properly. If the light is extinguished, the C10 has been hit by a surge and the protection circuitry may be damaged.

❸ **Filtering Status Indicator**
When lit, notifies the user that the EMI/RFI noise reduction circuit is active.

❹ **Delayed On Status Indicator**
If illuminated, power is ‘on’ at those outlets.

❺ **LED Display**
The LED bars display voltage IN (line voltage) and LOAD. If the unit is loaded over 100%, unplug equipment until the indicator shows less than 100% of load.

❻ **On/Off switch**
Controls power to all 12 outlets. APC recommends the C10 be left ‘on’ at all times. When illuminated, power is "on" at all outlets except those with a programmed delay.

Outlet Panel and Side Panel

The following section describes the functionality of the outlet and side panels.

Outlet Panel

The outlet panel for the C10 Power Filter is deteailed in Figure 3. Each numbered callout refers to the numbered description found in the following pages.

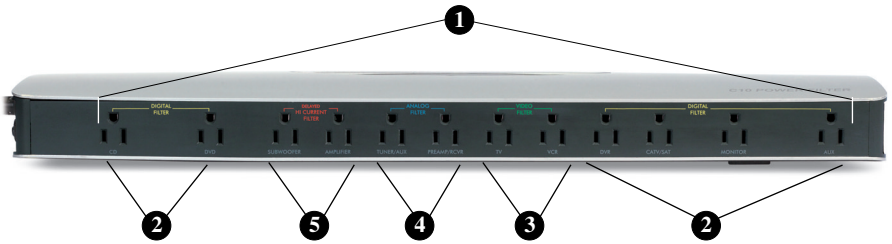


Figure 3. C10 Outlet Panel

❶ **AC-Powered Outlets**

The C10 Power Filter provides for connection of up to twelve (12) AC-powered devices. The outlets are arranged according to the type of filtering protection provided for a given application. These Isolated Noise Filter Banks eliminate electromagnetic and radio frequency interference (EMI/RFI) that can negatively impact sound and video quality. APC recommends you plug your devices into the outlets as marked, in order to assure optimum protection for your equipment. The outlets are further defined in the following:

❷ **Digital Filter Outlets** provides filtering of the incoming AC power to protect your most sensitive digital devices (CD, DVD, DVR, CATV/SAT, Monitor, and AUX (one auxiliary digital device).

Note: Any digital device can be plugged into the digital outlets, any video device can be plugged into either of the video outlets, etc. Example, if you have a cable box and a satellite receiver, but no monitor, you can plug the cable box into the "CATV/SAT" outlet, and the satellite receiver into the "MONITOR" outlet.

❸ **Video Filter Outlets** provides filtering for your video devices (TV and VCR).

❹ **Analog Filter Outlets** provides filtering for your analog-based equipment (Tuner/AUX and Preamp/Receiver).

❺ **High Current Filter Outlets** provides filtering for your high-current devices (Subwoofer and Amplifier).

Side Panel Controls and Indicators

The side panel connectors for the C10 Power Filter are detailed in Figure 4. Each numbered callout refers to the numbered description found in the following pages.

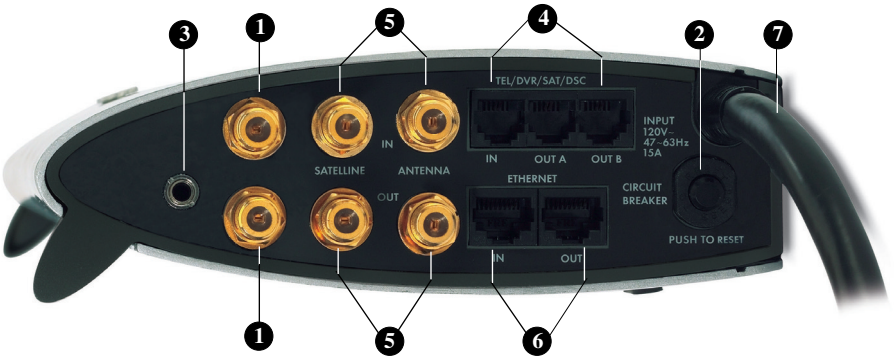


Figure 4. C10 Side Panel Connectors

❶ **Surge Protected COAX/RF Connectors**

The C10 provides surge protection for your CATV system, Cable Modem, DSS, or Antenna system. The surge protection feature prevents surges traveling over Coaxial data lines from damaging the system.

Connect the coaxial cable from the CATV or Cable Modem provider to the connector marked “IN.”

Connect other cable from the connector marked “OUT” to the device being protected (CATV box or Cable Modem).

❷ **Circuit Breaker**

The C10 also provides a “press-to-reset” circuit breaker. When this breaker is “tripped” due to an electrical surge or overload, the device pops out and shuts down output power to the outlets. To reset the circuit breaker, push it straight inward.

CAUTION: When resetting the Circuit Breaker, push the button in quickly, and release the button. Do not hold the button inward. Failure to comply may result in equipment damage.

❸ **DC Trigger jack**

When connected to a component acting as a DC trigger, that component controls turn on/off of the ‘delayed’ outlet banks.

CAUTION: Maximum input voltage for the DC Trigger is 30VDC. Do not apply an AC voltage to the DC trigger jack. Failure to comply with this statement may result in equipment damage.

❹ **Surge Protected Telephone Jacks**

The C10 provides a telephone line splitter with surge protection to protect components connected via telephone line. Connect the supplied RJ11 Telephone cable from the wall jack (source) to the telephone line connector marked “IN”. Connect other telephone cables to the connectors marked “OUT A” and/or “OUT B” and then to the equipment to be protected (Telephone, DVR, DSS, or DSL).

❺ **Additional Surge Protected COAX/RF Connectors**
The C10 also provides a surge protection for your DSS system or RF Antenna system. The surge protection feature prevents surges traveling over Coaxial cable from damaging the equipment.

Connect the coaxial cable from the DSS or Antenna system to the connector marked “IN.”

Connect another coaxial cable from the connector marked “OUT” to the device being protected (DSS or Antenna).

❻ **ETHERNET Surge Protected Jacks**
The C10 protects a device connected to a home network from surges traveling over Ethernet network data lines. Connect the RJ45 Cable from the wall jack (source) to the connector marked “IN”. Connect another network cable from the connector marked “OUT” to the network equipment to be protected.

Installation

The installation of the C10 consists of the following steps:

1. Make connections
2. Apply power

Make Connections

Prior to connecting equipment to the C10 Power Filter, ensure the unit is functional by connecting the AC Power Cord (provided) on the side panel (❼, Figure 4). Once power is applied to the unit, and the unit is powered on, the front panel LEDs will illuminate. Turn the power switch off - all LEDs extinguish.

Note: Due to the unique filtering and surge protection provided by the C10, APC recommends connecting AV components as noted on the outlet panel of the unit (Figure 3).

Apply Power

Apply power to the C10 by pressing the front panel Power Switch (❻, Figure 2) inward, then releasing the switch. Once power is applied to the unit, the front panel LEDs are illuminated.

Dimming of the C10 Display

If the LEDs are too bright, they can be extinguished without impacting the functionality of the unit.

To extinguish the LEDs on the top panel, push and hold the power button for six seconds. The power button should begin to flash. Once the button is released, all LEDs except the Power Button and Protecton on LED should be extinguished.

Please note: If you choose to extinguish the LEDs you will not be able to read important information on the panel, including input voltage, load, wiring ok, etc.

Technical Specifications

The following table contains the specifications for the C10 and C10BLK.

Item	Specification
INPUT	
Input Voltage Range for Operation (on utility)	92V - 140V
Nominal Voltage	120 Vac
Rating Frequency	50/60 Hz
Rated Input Current	15 Amps
Input Circuit Breaker Rating	15 Amps
OUTPUT	
Number of Outlets	12 (all outlets are surge protected and filtered)
Outlet type	NEMA 5-15R
Rated Output Current	15 Amps
SURGE PROTECTION	
Let-Through Voltage Rating	<40 Volts
Peak Surge Current (NM + CM)	230KA
Data Line Protection Jacks (splitter)	Single-line 2-wire phoneline protection for phone, modem, or fax.
Ethernet Protection Jacks	1 Pair 10/100bT
Coax	3 Pairs
MISCELLANEOUS	
DC Trigger	3.5mm mini-jack plug (5-30V)
EMI/RFI	40-100 dB @ 100KHz-30MHz
Total Surge Joules	5024

CAUTION: *The maximum input voltage for the DC Trigger is 30VDC. Do not apply an AC voltage to the DC trigger jacks. Failure to comply with this statement may result in equipment damage.*	
Physical Dimensions (H x W x D)	22.7" x 6.5" x 2.2"
Weight: Unpackaged / Shipping	6.71 lbs / 8.47 lbs
Safety Agency Approvals	UL1449, UL 1363, UL+CSA FCC Part 15 and Part 68 Class B

Federal Communications Commission (FCC) Compliance Information

This device complies with Part 68 and Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device must not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation. As required, the bottom of this equipment contains, among other information, the Registration Number and Ringer Equivalence Number (REN) for this equipment. If requested, this information must be provided to the telephone company.

Troubleshooting

This section describes possible causes and solutions for the following problems:

- Unit will not turn on.
- "Wiring OK Indicator" LED is not illuminated.

Unit will not turn on.

Probable Cause: Input power cord is not connected properly.
Solution: Ensure supplied power cord is connected firmly to the wall outlet.

Probable Cause: No power or insufficient power available at the wall outlet.
Solution: Ensure the wall outlet has good power by using a voltmeter, or by plugging in another device.

Note: The unit will not turn on and accept incoming utility power if the power is out of range.

Probable Cause: Circuit Breaker has tripped.
Solution: Check both home and unit circuit breakers. If the circuit breaker located on the side of the C10 has tripped, the center post will be extended outwards about a quarter to half inch. Push it back in to reset it. If the trip occurs again, reduce the amount of equipment plugged into the unit and try again. While the unit's breaker is rated for 15 Amps, National Electric Code (NEC) dictates that any particular home circuit should not be loaded more than 80% of its rating.

If the this problem remains unsolved, contact APC Technical Support at 888-88APCAV or by visiting www.apcav.com.

Probable Cause: Unit is overloaded.
Solution: The load bar top panel of the C10. If the display indicates over 100% (LED lights in red), or close 100% (LED lights in yellow), the unit may be overloaded. If the unit is overloaded or nearly overloaded (>95%), it is recommended that the load be reduced by unplugging one or more components.

"Wiring OK Indicator" LED is not illuminated.

Probable Cause: There are 3 reasons why this LED would not be illuminated:

1. Reversed polarity exists at the wall outlet.
2. Neutral wire is overloaded.
3. Earth ground is missing at the wall outlet.

Solution: Operating the unit under such conditions may impact its surge protection performance. Contact an electrician to have them inspect the building or home wiring to fix the problem.

Probable Cause: Unit is on but LEDs are turned off.
Solution: Push the Power button, push the Select button twice (turns the unit off and back on again). The LEDs should illuminate.