

**ACS Report: 06-0357-15C-PC**  
Revision A

**Manufacturer: Arris Group, Inc.**  
**Model: SD300**

**Appendix C: User's Manual/Installation Guide**



CXM™

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# SD300/301 Access Appliance User Guide

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Revision C

February 2006

**ARRIS International, Inc.**

3871 Lakefield Drive  
Suwanee, GA 30024

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## **Warning**

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## Limited Warranty

ARRIS guarantees that every SD3-Series Access Appliance will be free from physical defects in material and workmanship under normal use for one (1) year from the date of purchase. If the product is determined to be defective during the warranty period, please call ARRIS's or your equipment provider's Customer Support to obtain a Returned Material Authorization (RMA) number. The RMA number should be clearly marked on the outside of the package, when it is shipped. If returned product is determined to be functioning properly, a nominal processing fee may be charged to cover shipping and handling.

This product contains no end-user serviceable parts; authorized technicians should perform all service.

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ARRIS reserves the right to revise or update its products, software, or documentation without obligation to notify any individual or entity.

## FCC Compliance

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.

**Note:** This equipment has been tested and found to comply with the limits for a Class B personal computer and peripherals, pursuant to Part 15 of the FCC Rules. 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, might cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this unit does cause harmful interference to radio or television reception, which can be determined by turning the unit off and on, the user is encouraged to try to correct the interference by one of more of the following measures:

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

**Warning:** FCC Regulations state that any unauthorized changes or modifications to this equipment not expressly approved by the manufacturer could void the user's authorization to operate this equipment.

## Canadian Compliance

This Class B digital apparatus complies with Canadian ICES-003.  
Cet appareil numérique de classe B est conforme à la norme Canadienne NMB 003.

## NEC Compliance

The SD300/301 Access Appliance is intended for connection to a cable system, which has been properly grounded in accordance with the National Electric Code.

## UL Compliance

To insure proper operation and UL compliance of the SD300/301 Access Appliance in the USA, use only an ARRIS-approved power supply.

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# 1: Overview

## Introduction

ARRIS welcomes you to the world of Broadband. Through the use of our SD300/301 Access Appliance and your PC, you can take advantage of the many Internet services available today, and will be ready with high-speed connectivity that will be required for the services of tomorrow. ARRIS has alleviated the typical concerns of installing new computer equipment, making installation as easy as setting up a VCR. And once it's set up, using the product is as simple as double-clicking an icon.

The SD300/301 Access Appliance includes these features:

- Provides access to Broadband services
- Easy to install and use
- Doesn't require opening the PC or changing existing network settings
- Uses a unique geometric design with clearly-marked status indicators
- Multiple units can operate in a single building or within a single dwelling
- Operates over existing cable TV or CATV wiring without interfering with reception or other services in any way
- Uses patented transmission techniques specifically designed to overcome topology issues commonly found in the on-premises cable distributions networks of Multi-Dwelling Units (MDUs) and hotels.

## Target Audience

The SD300/301 Access Appliance was designed with the general computer user in mind, to insure fast, easy installation and operation.

## Package Contents

Check the SD300/301 Access Appliance package. In addition to this User's Guide (on a CD), the package should contain:

## Chapter 1: Overview

- one Access Appliance
- one Ethernet PC cable
- two coaxial cables (one 2-foot and one 8-foot)
- one Diplex-Filter or splitter (depending on SD model)
- one power adapter with attached power cord

If you are missing any items, contact the service provider from whom you received the Access Appliance.

## Items You Need

In addition to the Access Appliance package, you need the following items:

- one Personal Computer - see requirements below
- 1 7/16" or adjustable wrench (optional) — might be needed to loosen and tighten cable connections.
- one CATV wall outlet

## Personal Computer Requirements

The Personal Computer (PC) must meet the following requirements:

- Have an available Ethernet communications port.
- Have Microsoft Internet Explorer 4.0 or later, or Netscape Navigator 4.0 or later.

## Building Requirements

This unit operates only in buildings using ARRIS Internet Access Solutions.

## Operating Safely

The Access Appliance has been engineered with both performance and safety in mind. However, safety is also your responsibility. Read and observe all these recommended safety precautions.

<b>Important Rules for Safe Operation</b>	
<b>Check power sources</b>	<p>Plug this device only into the recommended power source indicated on the product's marking label. If you are not sure what type of power source is provided at your location, consult your local power company or other certified expert.</p> <p>The U.S. is 110Vac Japan is 100Vac Europe is 230Vac Australia is 264Vac</p>
<b>Always use the provided power adapter</b>	<p>Always use the power adapter provided with the product. Do not use any substitutes. If the provided adapter becomes damaged or misplaced, see the Replacement Parts chapter.</p>
<b>Be careful of overloading</b>	<p>Do not overload wall outlets or extension cords, as this can result in the risk of fire or electric shock. Don't use any frayed power cords. Don't stretch cords to reach the appliance or other devices; tension at the connectors is a fire hazard.</p>
<b>Avoid damage to power cords</b>	<p>Arrange power supply cords so they are out of the way. Route them through areas where it is unlikely they will be walked on or objects rolled over them.</p>
<b>Avoid placing the product near any heat source</b>	<p>Never place this product near any heat source. This includes any kitchen appliances (ovens, toasters, etc.), heating vents, or any other heat source. This is a fire hazard.</p>
<b>Do not use the product near water</b>	<p>Never use this product anywhere near a water source or in a damp area. Don't use it near bathroom or kitchen water sources such as sinks or washing appliances. Don't use it near pools. Don't use it in a damp area such as a basement.</p>
<b>Avoid stacking</b>	<p>Avoid stacking this item on top of or under other devices that can generate or radiate heat. Such stacking can concentrate heat sources in a small area and creates a fire hazard.</p>
<b>Use caution when moving the product</b>	<p>Use caution whenever moving the Access Appliance. If dropped, resulting damage could render the appliance inoperable or a fire hazard.</p>

<b>Important Rules for Safe Operation</b>	
<b>Ground the cable system</b>	Be sure the outside cable system is grounded to provide some protection against voltage surges and built-up static charges. Section 810 of the National Electric Code, ANSI/NFPA No. 70-1984 (section 54 of the Canadian Electrical Code, Part 1) provides information with respect to proper grounding of the cable system. Always refer to local building codes to ensure compliance with all applicable grounding requirements.
<b>Do not connect or disconnect the RF coax cable</b>	Do not connect or disconnect the RF coax cable to or from your Access Appliance while the Appliance is plugged into the power source.
<b>Unplug the power adaptor before cleaning the Access Appliance</b>	Do not use liquid cleaner or any aerosol cleaner. Use only a damp cloth for cleaning.
<b>Protect from lightning</b>	For added protection for this product during a lightning storm, unplug all devices from the coaxial cable and power sources when they are not in use, especially for any extended time.
<b>Take care when disconnecting and re-connecting a power source</b>	Wait at least 10 seconds after disconnecting the power adaptor before re-connecting it.

## Servicing the Access Appliance

**Caution:** Do not remove covers from or attempt to service the product yourself.

Opening or removing covers may expose you to dangerous voltage or other hazards and void the product warranty. Refer servicing of this product to qualified service personnel under the following circumstances:

- When the power supply or cord is damaged.

- If liquid has been spilled onto or objects have fallen onto the product.
- If the product has been exposed to rain or water.
- If the product does not operate normally by following the operating instructions.
- If the product had been dropped or its enclosure has been damaged.
- When the product exhibits a distinct change in performance, such as the inability to perform basic functions, indicating a need for service.

## Customer Care

If after reading through this documentation you still have questions regarding the use of the Access Appliance, please contact ARRIS Customer Care:

Web: [cxm-support@arrisi.com](mailto:cxm-support@arrisi.com)

Phone: 678-473-8240

Monday-Friday, 9:00am to 5:00pm Eastern Standard Time

## Chapter 1: Overview

## 2. Installing the Access Appliance

The chapter provides step-by-step instructions for installing your Access Appliance. The SD300/301 Access Appliance is easy to install; taking an average of 15 minutes to set up. However, before getting started, it is important for you to read the following information.

### About the Access Appliance

#### Front Panel



The LED indicators on the front of the Access Appliance indicate the current operational status.

LED	Description	Operation
<b>P</b>	Power	On when power is being provided by the power adapter.
<b>S</b>	Sync	Off when the Access Appliance is not receiving a service signal from the central access equipment. Blinks when the Access Appliance has not been activated by the central access equipment. On steadily when the Access Appliance has been recognized by the central access equipment.



LED	Description	Operation
T	Transmit Data	On when data is ready to be transmitted. (Might blink fast when sending streams of data.)
R	Receive Data	On when the Access Appliance is waiting for the PC to read data. (Might blink fast when receiving streams of data.)
D	Disable	On when the Access Appliance is disabled, preventing access to the Internet. On when maintenance or diagnostics is being performed by the central access equipment.
F	Fault	Blinks randomly if a fault is detected by the Access Appliance.

## Rear Panel



The ports at the back of the Access Appliance connect the appliance to your computer, power, and the coax network.

**Note:** When making these connections, unplug the TV/VCR, computer, and the SD300/301 from the power source, as a precaution.

LED	Description	Operation
RF	Coax Connector	Used for connecting the Appliance to the coaxial network via the coaxial cable.
PWR	Power	Used to provide power to the unit.
Ethernet	Ethernet Port	Used to connect the Access Appliance to the PC for Ethernet operation.

## Before Installing

1. Review the Personal Computer Requirements on page 3.
2. Review the Building Requirements on page 4.
3. Review the Safety Information on page 4.
4. Gather tools. Although most installations do not require any special tools, it might be necessary to use a 7/16" wrench or pliers to loosen an existing coax cable connection on a TV or CATV wall outlet. ARRIS recommends that you lightly tighten all coax cable connections associated with installing the Access Appliance to ensure solid, reliable connections; this can be done with a wrench, with pliers, or by hand.

## Installation Considerations

### Select a Location

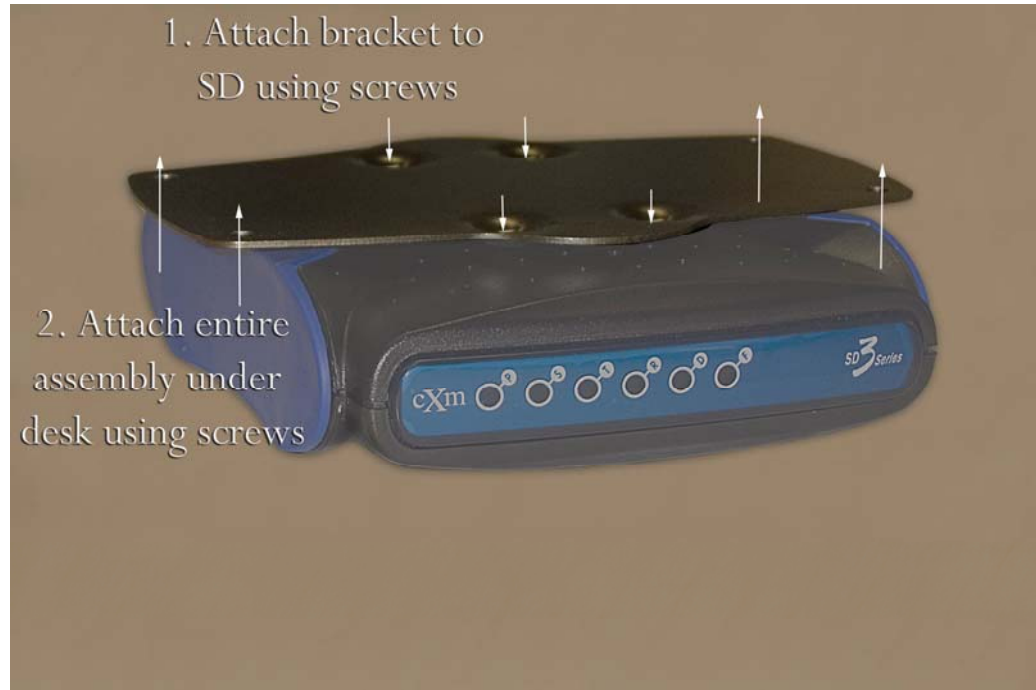
The next step in installing your new Access Appliance is selecting a CATV outlet that is located near your computer. When making your selection, consider where you use your PC/laptop and the distance between that location and the CATV outlet. Although coaxial cables are provided with your Access Appliance, they might not be long enough for your installation. If this is the case, you must purchase RG-6 or RG-59 cables with F-type connectors. The cables included with the Access Appliance are two feet and eight feet long.

### Access Appliance Mounting

If the Access Appliance is being installed in a location requiring it to be secured, an optional mounting kit can be utilized (Model# MK300-001); allowing the Access Appliance to be mounting on a wall, under a desk, or behind an amore. However, keep

in mind the consideration noted above and insure the unit is place such that the LEDs and MAC address label are visible. Also insure that the Access Appliance connections are accessible.

The figure below demonstrates how to affix the mounting bracket to the Access Appliance.



## Connecting the Access Appliance

The following illustration diagrams the series of steps involved in connecting the parts together. Many parts have labeled connectors; those labels are in bold type.

**Caution:** As a precaution , turn off power to the computer and TV (or VCR) before connecting the cables. ARRIS recommends that you disconnect them from the wall power outlets.

**Note:** To ensure proper operation and UL compliance of product in the USA, use only an ARRIS-approved power supply.

Follow these steps to set up your Access Appliance:

1. Disconnect the TV from the CATV Outlet.

Locate the cable connecting your TV (or VCR) to the wall cable TV/CATV outlet. Unscrew the end from the wall connector. Leave the other end connected to the TV/VCR. If you aren't using a TV in the room, skip this step.

2. Connect the TV to the diplex-filter (or splitter for SD301 models).

Connect the end of the coaxial cable that was unscrewed from the TV/CATV outlet to **TV** port of the provided diplex-filter or splitter. If a TV or other device is not being used, leave the **TV** port unconnected.



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**Caution:** Do not substitute a generic cable splitter for the provided diplex-filter.

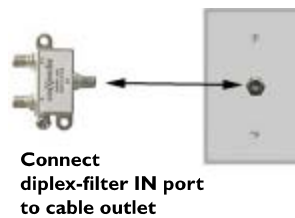
If you are not connecting to a TV in the room, use the provided diplex-filter, leaving the TV connector unconnected.

If you use one or more cable splitters in the room, you may continue to use them; however, you must install the diplex-filter so that it is the first device connected to the TV/CATV outlet.

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3. Connect the Diplex-Filter to the CATV Outlet.

- a) Locate the shorter (2-foot) coaxial cable included with the Access Appliance and connect one end to the **IN** port of the diplex-filter or splitter.
- b) Connect the other end of that coaxial cable to the CATV wall outlet.



4. Connect the Access Appliance to the diplex-filter.

- a) Locate the longer (8-foot) coaxial cable included with the Access Appliance and connect one end to the **X** port of the diplex-filter or splitter.
- b) Connect the other end of that coaxial cable to the **RF** port of the Access Appliance.



**Note:** Make sure all connections are secure; if necessary, use a wrench or pliers to lightly tighten the connections.

5. Connect the PC Cable.

- a) Locate the Ethernet PC cable included with the Access Appliance and connect it to the Access Appliance's **Ethernet** port.
- b) Connect the other end of that cable to an active Ethernet port on your PC. If your PC does not have an Ethernet port, one must be installed before you can use the Access Appliance. Many computer retail stores and service centers can perform this task, if you require assistance.



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**Caution:** Do not attempt to insert the supplied Ethernet cable into a dial-up modem. Doing so could damage your modem port and/or the Ethernet cable.

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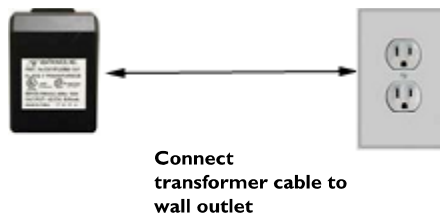
6. Connect the Power Adapter to the Appliance.

Locate the included power adapter and connect the appropriate end to the **PWR** port on the Access Appliance.



7. Apply Power to the Access Appliance.

Plug the transformer cable into the wall power outlet.



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**Caution:** Before plugging the adapter into the power outlet, check the voltage requirements printed on the power adapter. If the power adapter's input voltage specification does not match what is being provided at your AC outlet, contact your service provider or ARRIS for a replacement. See the chapter on Operating Safely on page 4.

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The **P** indicator on the Access Appliance front panel should light up when power is supplied.



## 3. Configuring Your PC

After all the necessary hardware connections have been made, your computer's network configuration might need to be adjusted. Often when using the Ethernet connection, Internet Service Providers require your Ethernet card to be configured to obtain an IP address automatically, using Dynamic Host Control Protocol (DHCP). You can find instructions for making the necessary adjustment below; however, your Internet Service Provider might supply you with additional instructions that should take precedence. Please refer to these instructions if supplied.

These procedures apply to the following operating systems:

- Windows 98
- Windows 2000
- Windows Me
- Windows XP

**Note:** For Unlisted Operating Systems: if you are using a PC with an Apple, Linux, or any other operating system not mentioned here, refer to your operating system's documentation for instructions on how to enable DHCP client operation.

**Note:** If information is already entered in these fields, be sure to write down all this information before making any changes. You will need to re-enter this information if you remove the SD300/301 from your system.

### Configuring Windows 98

1. Click **Start > Settings > Control Panel**.
2. Double-click the **Network** icon.
3. Double-click **TCP/IP**. Select the **IP Address** tab.
4. At the IP Address tab, select the **Obtain an IP Address automatically** option.
5. Click **OK**, then **OK** once more. If the computer prompts you to reboot, do so now.



## Configuring Windows 2000 and ME

**Note:** Under Windows 2000, you must be logged in using an account with administrators' rights to make the necessary changes.

1. Click **Start > Settings > Control Panel**.
2. Double-click the **Network and Dial-Up Connections** icon.
3. Right-click the **Local Area Connection** icon and select **Properties**.
4. Double-click **Internet Protocol (TCP/IP)**.
5. At the General tab, select the **Obtain an IP Address automatically** option.
6. Select the **Obtain DNS server address automatically** option.
7. Click **Apply**, then click **OK**. If the computer prompts you to reboot, do so now.

## Configuring Windows XP

1. Click **Start > Settings > Control Panel**.
2. Click **Network and Internet Connections**, then **Network Connection**.
3. Right-click the **Local Area Connection** icon and select **Properties**.
4. Double-click **Internet Protocol (TCP/IP)**.
5. At the General tab, select the **Obtain an IP Address automatically** option.
6. Select the **Obtain DNS server address automatically** option.
7. Click **Apply**, then click **OK**. If the computer prompts you to reboot, do so now.

## 4. Using Your Access Appliance

### Accessing the Internet

Your Access Appliance provides you with an “Always-On” connection to the Internet, so simply start up your e-mail client, Web browser, newsgroup reader, or other Internet applications and use them as usual.

If you have any security concerns about leaving your PC connected while it is not in use, firewall software or equipment can be purchased at many computer retailers; or you can simply unplug the Ethernet cable from the PC until you need to access the Internet again.

### Troubleshooting Connection Problems

The **P** (Power) and **S** (Sync) LEDs should be ON; and you should see the **T** (Transmit) and **R** (Receive) LEDs flash when you attempt to browse the Internet.

If the **S** or **F** LED is blinking or no LEDs are on, check all the hardware connections and cables (refer to Connecting the Access Appliance on page 3).

If the **P**, **S**, and **D** LEDs are ON, the Access Appliance is functioning correctly, but it has not been enabled. Contact your service provider for service activation.



# Appendix A: Specifications

## Client Interface

- Ethernet transfer speed: up to typical 10/100BaseT speeds
- Cable connectivity: RJ-45 Ethernet

## Electrical Specifications

There are two options for the AC Adapter:

- Inputs: 120VAC 50/60 Hz  
Operating Ranges: 108-132 VAC  
Output: 5VDC, 1A
- Inputs: 240VAC 50/60 Hz  
Operating Ranges: 220-240 VAC  
Output: 5VDC, 1A

## Environmental Specifications

- Operating Temperature: 0 to +40 C
- Storage Temperature: -40 to +75 C
- Humidity: 10% to 90% non-condensing

## Physical Specifications

The dimensions are: 4.26" wide, 5.32" deep, 1.24" high.



## Appendix B: Optional Equipment and Replacement Parts

Many optional and replacement parts are available for the SD300/301 Access Appliance.

If you need to replace or add a part, consult the service provider from whom you obtained this product.

The following appliance options and replacements are available. Specify the part number(s) as well as description(s) of any part when ordering to ensure correct identification of the item

Part Number	Description
CB201-001	Ethernet Cable - 10ft
PS200-001	SD20x/30x AC Power Adaptor - Plug Type: North America (GlobTek 48-5-1000R)
PS200-002	SD20x/30x AC Power Adaptor - Plug Type: Australia (GlobTek WR37A1000LCP-N or equivalent)
PS200-003	SD20x/30x AC Power Adaptor - Plug Type: Europe (GlobTek WR23A1000LCP-N or equivalent)
PS200-004	SD20x/30x AC Power Adaptor - Plug Type: UK (GlobTek WR35A1000LCP-N or equivalent)
PS200-005	SD20x/30x AC Power Adaptor - Plug Type: Japan (GlobTek WR49A1000LCP-N or equivalent)
CD300-001	SD3-SERIES Access Appliance User's Guide CD



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