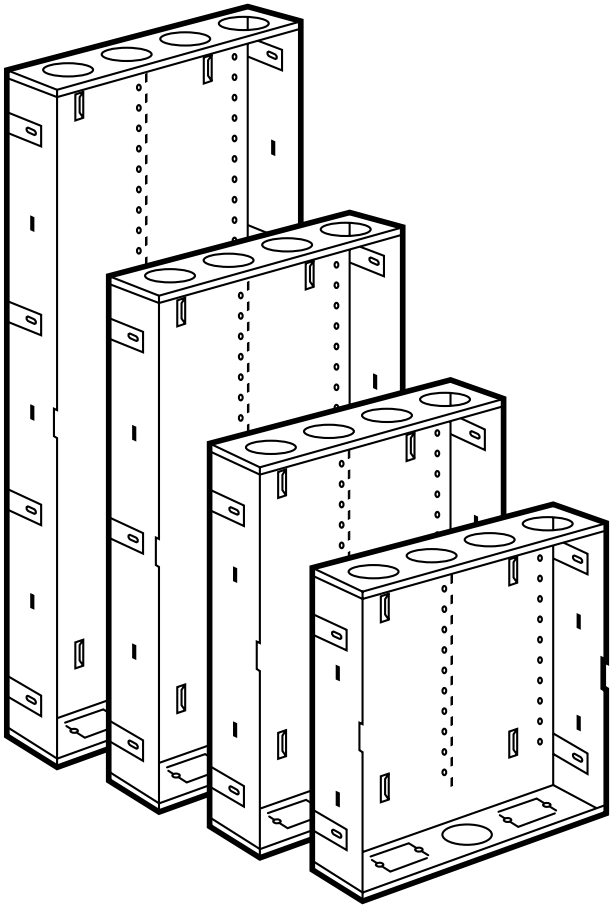
BLACK BOX
NETWORK SERVICES

SEPTEMBER 2005
JHN1014A
JHN1020A
JHN1030A
JHN1040A

Pure Home Networking Boxes



CUSTOMER SUPPORT INFORMATION

Order **toll-free** in the U.S.: Call **877-877-BBOX** (outside U.S. call **724-746-5500**)
FREE technical support 24 hours a day, 7 days a week: Call **724-746-5500** or fax **724-746-0746**
Mailing address: **Black Box Corporation**, 1000 Park Drive, Lawrence, PA 15055-1018
Web site: **www.blackbox.com** • E-mail: **info@blackbox.com**

FEDERAL COMMUNICATIONS COMMISSION
AND
INDUSTRY CANADA
RADIO FREQUENCY INTERFERENCE STATEMENTS

This equipment generates, uses, and can radiate radio-frequency energy, and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio communication. It has been tested and found to comply with the limits for a Class A computing device in accordance with the specifications in Subpart B of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference when the equipment is operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user at his own expense will be required to take whatever measures may be necessary to correct the interference.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This digital apparatus does not exceed the Class A limits for radio noise emission from digital apparatus set out in the Radio Interference Regulation of Industry Canada.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique publié par Industrie Canada.

NORMAS OFICIALES MEXICANAS (NOM)
ELECTRICAL SAFETY STATEMENT

INSTRUCCIONES DE SEGURIDAD

1. Todas las instrucciones de seguridad y operación deberán ser leídas antes de que el aparato eléctrico sea operado.
2. Las instrucciones de seguridad y operación deberán ser guardadas para referencia futura.
3. Todas las advertencias en el aparato eléctrico y en sus instrucciones de operación deben ser respetadas.
4. Todas las instrucciones de operación y uso deben ser seguidas.
5. El aparato eléctrico no deberá ser usado cerca del agua—por ejemplo, cerca de la tina de baño, lavabo, sótano mojado o cerca de una alberca, etc..
6. El aparato eléctrico debe ser usado únicamente con carritos o pedestales que sean recomendados por el fabricante.
7. El aparato eléctrico debe ser montado a la pared o al techo sólo como sea recomendado por el fabricante.
8. Servicio—El usuario no debe intentar dar servicio al equipo eléctrico más allá a lo descrito en las instrucciones de operación. Todo otro servicio deberá ser referido a personal de servicio calificado.
9. El aparato eléctrico debe ser situado de tal manera que su posición no interfiera su uso. La colocación del aparato eléctrico sobre una cama, sofá, alfombra o superficie similar puede bloquea la ventilación, no se debe colocar en libreros o gabinetes que impidan el flujo de aire por los orificios de ventilación.
10. El equipo eléctrico deber ser situado fuera del alcance de fuentes de calor como radiadores, registros de calor, estufas u otros aparatos (incluyendo amplificadores) que producen calor.
11. El aparato eléctrico deberá ser connectado a una fuente de poder sólo del tipo descrito en el instructivo de operación, o como se indique en el aparato.

12. Precaución debe ser tomada de tal manera que la tierra fisica y la polarización del equipo no sea eliminada.

13. Los cables de la fuente de poder deben ser guiados de tal manera que no sean pisados ni pellizcados por objetos colocados sobre o contra ellos, poniendo particular atención a los contactos y receptáculos donde salen del aparato.

14. El equipo eléctrico debe ser limpiado únicamente de acuerdo a las recomendaciones del fabricante.

15. En caso de existir, una antena externa deberá ser localizada lejos de las lineas de energia.

16. El cable de corriente deberá ser desconectado del cuando el equipo no sea usado por un largo periodo de tiempo.

17. Cuidado debe ser tomado de tal manera que objectos liquidos no sean derramados sobre la cubierta u orificios de ventilación.

18. Servicio por personal calificado deberá ser provisto cuando:

    A: El cable de poder o el contacto ha sido dañado; u

    B: Objectos han caído o líquido ha sido derramado dentro del aparato; o

    C: El aparato ha sido expuesto a la lluvia; o

    D: El aparato parece no operar normalmente o muestra un cambio en su desempeño; o

    E: El aparato ha sido tirado o su cubierta ha sido dañada.

TRADEMARKS USED IN THIS MANUAL

Any trademarks mentioned in this manual are acknowledged to be the property of the trademark owners.

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1. Specifications

Standards: TIA-570-A Residential Wiring, EIA-600 Consumer Electronics Bus (CEBus)

Box Capacity: JHN1014A: (8) one-unit, half-size modules;
JHN1020A: (12) one-unit, half-size modules;
JHN1030A: (18) one-unit, half-size modules;
JHN1040A: (24) one-unit, half-size modules

Size: JHN1014A: 14"H x 14.25"W x 4.25"D (35.6 x 36.2 x 10.8 cm);
JHN1020A: 20"H x 14.25"W x 4.25"D (50.8 x 36.2 10.8 cm);
JHN1030A: 30"H x 14.25"W x 4.25"D (76.2 x 36.2 x 10.8 cm);
JHN1040A: 40"H x 14.25"W x 4.25"D (101.6 x 36.2 x 10.8 cm)

Weight: JHN1014A: 5.7 lb. (2.6 kg);
JHN1020A: 7.1 lb. (3.2 kg);
JHN1030A: 9.7 lb. (4.4 kg);
JHN1040A: 12.4 lb. (5.7 kg)

2. Overview

2.1 Introduction

Organize communications wiring for high-speed data, phone, video (including cable/satellite TV), and audio in one central distribution box. Pure Home Networking Boxes are available in four different sizes. Choose from 14"H, 20"H, 30"H, or 40"H. Complete dimensions for each model are:

- 14"H x 14.25"W x 4.25"D (JHN1014A)
- 20"H x 14.25"W x 4.25"D (JHN1020A)
- 30"H x 14.25"W x 4.25"D (JHN1030A)
- 40"H x 14.25"W x 4.25"D (JHN1040A)

The Pure Home Networking Box does not have a door installed when you receive it. The Hinged Door with Keyed Lock and Bezel (JHN1014A-HD, JHN1020A-HD, JHN1030A-HD, or JHN1040A-HD) or the Lid Cover with Bezel (JHN1014A-LC, JHN1020A-LC, JHN1030A-LC, or JHN1040A-LC) is ordered separately. Each door or lid cover includes its own manual.

You can install various module combinations in each box, depending on your application.

Choose between the modules listed below and on the next two pages. Each module is 3"H x 6.3"W (7.6 x 16 cm) and comes with a user's manual.

Pure Home Networking Data/Telephone Modules:

- 6-Port CAT5e Data/Telephone Module, T568A (JHN2070A)
- 6-Port CAT5e Data Module, T568B (JHN2071A)
- 1 x 6-Port CAT3 Telephone Module, Bridged, TS568A (JHN2012A)
- 1 x 12-Port Basic Telephone Module, Bridged, T568A (JHN2010A)
- 1 x 12-Port CAT3 Expansion Telephone Module, Bridged, T568A (JHN2011A)

Pure Home Networking Multi-Dwelling Unit (MDU)/Condominium Modules:

- 6-Port CAT5e Data/Telephone Module, T568A (JHN2020A)

- 6-Port CAT5e Data Module, T568B (JHN2021A)
- 1 x 12-Port Basic Telephone Module, T568A (JHN2022A)
- 1 x 6-Port Basic Telephone Module, T568A (JHN2023A)
- 1 x 6-Port CAT3 Telephone Module, T568A (JHN2024A)

You might also need an MDU Module Bracket with (2) MDU and (1) CATV Module Openings, 1 Unit, Full Size (JHN2030A).

Pure Home Networking Video/Audio Modules:

- S-Video/Audio CAT5e Extender/Splitter with (6) RJ-45 Ports (JHN2400A)
- High-Resolution Baseband S-Video Adapter, RJ-45, Video Only (JHN2061A)
- High-Resolution Baseband S-Video/Audio Adapter (L/R) RJ-45, Video/Audio (JHN2062A)
- Video Signal Booster, 1-Port (JHN2060A)
- 1 x 2-Port Video Combiner (Passive) Module (JHN2046A)
- 4 x 4-Port Digital Broadcast Satellite Video/Audio Module (JHN2047A)
- 1 x 8-Port Bidirectional Video CATV Splitter (Passive) Module (JHN2048A)
- 1 x 7-Zone Audio Module (JHN2050A)

Six Bidirectional CATV Video Splitter Modules are available.

- 1 x 4-Port Video Splitter with Plate, 1-GHz (JHN2040A)
- 1 x 4-Port Video Splitter with Plate, 2-GHz (JHN2041A)
- 1 x 6-Port Video Splitter with Plate, 1-GHz (JHN2042A)
- 1 x 6-Port Video Splitter with Plate, 2-GHz (JHN2043A)
- 1 x 8-Port Video Splitter with Plate, 1-GHz (JHN2044A)
- 1 x 8-Port Video Splitter with Plate, 2-GHz (JHN2045A)

Pure Home Networking Blank Mounting Modules with Saddle Clips are available in three sizes, including:

- 1 Unit, Half Size (JPM1122A), which is 3"H x 6.3"W (7.6 x 16 cm)
- 2 Unit, Half Size (JHN2080A), which is 6"H x 6.3"W (15.2 x 16 cm)
- 2 Unit, Full Size (JHN2081A), which is 6"H x 13.2"W (15.2 x 33.5 cm)

2.2 What the Package Includes

Each Pure Home Networking Box includes:

- (1) chassis
- This users' manual

The package for each module ordered contains the module itself and installation instructions for that module.

The package for each Hinged Door or Lid Cover ordered contains the door itself and installation instructions.

2.3 What You Need to Supply

- Mounting screws
- Electric drill
- Phillips screwdriver
- A level

2.4 Site Planning

Before you install the main chassis, you must determine the destination of all connections. Below are a few questions you need to consider before you plan your installation.

1. How many networked rooms are in my home or office?
2. What media types will I need in each room?
3. Where are the wallplates in each room?

4. What is the exact distance from each of those wallplates to the Pure Home Networking Box?

5. Do I plan to use inbound video as well as outbound video?

Once you have answered these questions, you are ready to continue with the installation. First, determine the ideal location for the main chassis. (For example, you can have a main chassis in a garage or basement, and "sister" chassis boxes on each floor.) Keep in mind that each media type (copper or RG-6 coaxial) has a specified distance limit beyond which the data will become distorted or lost. Your data connection (using a copper connection) should not exceed 328 feet (100 m). Your video connection (using RG-6 coaxial cable) should not exceed 100 feet (30.5 m) total distance.

2.5 Sample Floor Plan

To begin your installation, draw a sample floor plan like the one shown in Figure 2-1.

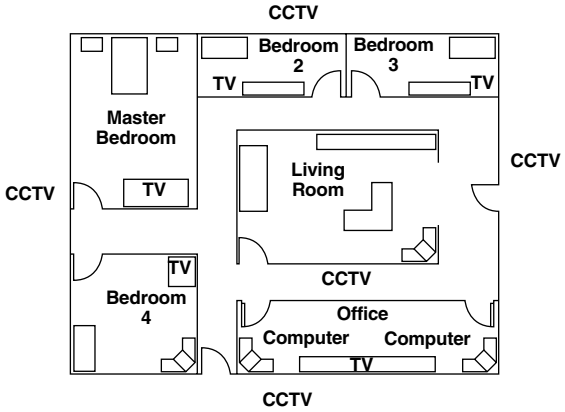

Figure 2-1. Sample floor plan.

Choose a central location for your Pure Home Networking Box and measure the exact distance of each run. A run is defined as the distance from an input device to an output device at the other end (for example, from a DVD to a TV). To determine the total length, measure the distance from the farthest input device to the main chassis. Then add that distance to the distance from the farthest output device to the main chassis. The result will be the total distance of your coaxial cable run. Unless you are using a video booster, the total length of your coaxial cable run should be 100 feet (30.5 m) or less.

3. Installation

3.1 Preparing the Pure Home Networking Box

1. Determine the mounting location and type of mounting. Choose either in-wall or surface-mount installation. For new construction, we recommend in-wall installation. For existing homes, we recommend surface-mount installation. Make sure that you allow enough space to install the necessary cables to the network box. It should be mounted at least 12" (30.5 cm) from any adjacent walls and at least 12" (30.5 cm) down from the ceiling and up from the floor.

2. Identify the location of each communication port that you will use. Determine the placement of each cable that you will attach to the network box.

3.2 Installing the Pure Home Networking Box

3.2.1 In-Wall Mounting (New Construction)

For an in-wall installation, use the adjustable mounting tabs on the sides of the box. Attach each side of the box in the center of 2 x 4 wall studs located 16" apart.

1. Position the Pure Home Networking Box between the two mounting studs and align the rear of the chassis flush with the back of the studs.

2. Mark and drill pilot holes for the mounting screws (see Figure 3-1).

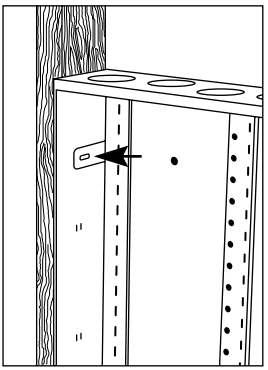

Figure 3-1. In-wall mounting screw locations.

3. Make sure that the Pure Home Networking Box is right side up. Align the adjustable mounting tabs with the pilot holes and start tightening the mounting screws into the pilot holes. The mounting tabs will flex in order to fit the opening while keeping the box square. This is normal (see Figure 3-2).

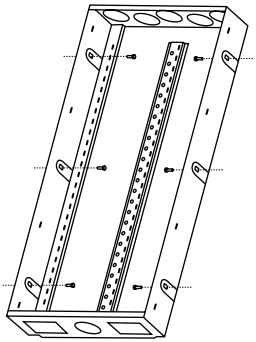

Figure 3-2. Putting the mounting screws into the pilot holes.

4. Install the hinged door or lid cover (see Figure 3-5) (this is optional, and they're ordered separately). The door (lid cover) shown in Figure 3-5 is the JHN1030A-LC. Do not overtighten the lid cover.

3.2.2 Surface Mounting (Existing Construction)

For surface mounting, use the mounting holes located in the back of the Pure Home Networking Box and mount the box directly to a stud in the wall. We recommend mounting the box to a stud that's securely fastened to your house's frame.

1. Using a level, position the chassis against the mounting board and mark the four screw locations with a pen or pencil. (See Figure 3-3.)

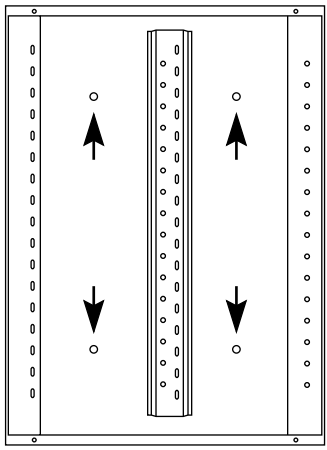

Figure 3-3. Surface mounting screw locations.

2. Drill pilot holes for the mounting screws.

3. Make sure that the Pure Home Networking Box is right side up. Align the mounting holes with the pilot holes, and start tightening the mounting screws into the pilot holes. (See Figure 3-4.)

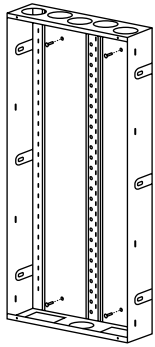

Figure 3-4. Tightening mounting screws after aligning mounting holes with pilot holes.

4. Install the hinged door or lid cover (this is optional, and they're ordered separately). The door (lid cover) shown in the diagram below is the JHN1030A-LC. Do not overtighten the lid cover. (See Figure 3-5.)

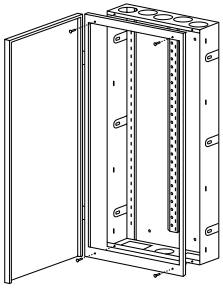

Figure 3-5. Installing the lid cover (optional).

3.2.3 Terminal Adapters

The large, circular openings at the top and bottom of the Pure Home Networking Box are designed to fit 2" PVC terminal adapters (available at any hardware store).

Insert the terminal adapters into the holes from the outside (top or bottom) of the box. Fasten them with the large hex nuts that are included with the adapters. (See Figure 3-6.)

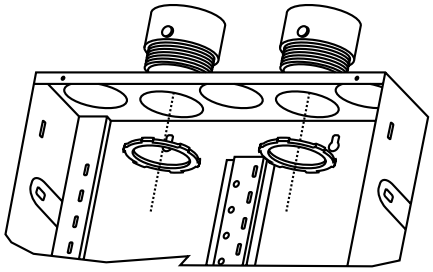

Figure 3-6. Terminal adapter installation.

3.2.4 Outlet Boxes

The two rectangular knockouts located on the bottom of the Pure Home Networking Box are designed for power outlet boxes. See Figure 3-7. Some equipment may require AC power; these specially designed knockouts allow you to mount the outlet boxes (not included) without wires running outside the box.

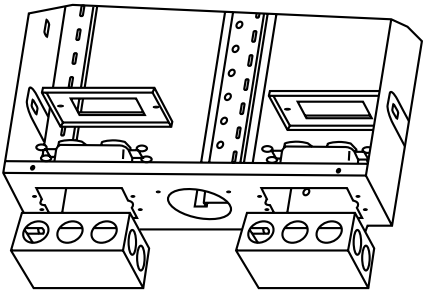

Figure 3-7. Power outlet mounting.

3.3 Cable Handling Guidelines

Follow the guidelines listed below when handling cable:

- Do not route cable through the same cable holes as the AC power cables.
- Separate all data, telephone, and video cables from parallel AC power lines by at least 6 inches (15.2 cm), whenever possible, for safety reasons.
- Avoid kinking the cable.
- Do not attach cable tie-downs too tightly. The cable-fastening hardware should not compress the cable sheath.
- Do not bend the cable sharply. Be especially careful to place the cables properly in the cable management after passing them through a hole (the edges of the hole can compress or even damage the cable sheath).
- When mounting an individual module in the Pure Home Networking Box, be sure to install it above or below the interfacing module, if possible. This will eliminate excessive cable crossing.
- Follow all warnings on the products.

- For your safety, do not use this or any electrical product near water (unless specifically designed for wet areas).
- Do not install wiring during thunder and lightning storms.
- Use caution when handling or installing any computer, telephone, video, or electrical devices.

3.4 Installing the Modules

Separate installation manuals are included with each module. Each manual contains the following general installation and removal instructions, along with specific instructions for each individual module. Follow those instructions when installing the modules into the Pure Home Networking Box.

To install a module into a Pure Home Networking Box:

1. Determine the area for installation.
2. Insert the metal tabs on the module at a 45-degree angle into the rail holes on the module.
3. Swing the module inward and place the push button into the hole on the module.
4. Press the push button to fasten the module to the Pure Home Networking Box.

NOTE

When installing an individual module in the Pure Home Networking Box, be sure to place it above or below the interfacing module, when possible. This will eliminate excessive cable crossing.

Removing a module from the Pure Home Networking Box:

1. Pull the push button to release the module from the Pure Home Networking Box.
2. Swing the module outward.
3. Position the module at a 45-degree angle and pull to remove it from the Pure Home Networking Box.

4. Troubleshooting

4.1 Calling Black Box

If you determine that your Pure Home Networking Box is malfunctioning, do not attempt to alter or repair the unit. It contains no user-serviceable parts. Contact Black Box at 724-746-5500.

Before you do, make a record of the history of the problem. We will be able to provide more efficient and accurate assistance if you have a complete description, including:

- the nature and duration of the problem.
- when the problem occurs.
- the components involved in the problem.
- any particular application that, when used, appears to create the problem or make it worse.

4.2 Shipping and Packaging

If you need to transport or ship your Pure Home Networking Box:

- Package it carefully. We recommend that you use the original container.
- If you are shipping the Pure Home Networking Box for repair, make sure you include everything that came in the original package. Before you ship, contact Black Box to get a Return Authorization (RA) number.

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