



QCE12U	QCE-GK	QCE-SPFP-1U	QCE-VCM-24U
QCE24U	QCE-DF-12U	QCE-SPFP-2U	QCE-VCM-42U
QCE42U	QCE-DF-24U	QCE-SPFP-3U	
QCE-CEB	QCE-DF-42U	QCE-SPFP-5U	

QuietCab Elite 12U, 24U, and 42U User Manual

Reduce noise and improve productivity
in your office with QuietCab soundproof data
cabinets.



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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 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 conectado 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 objetos líquidos 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: Objetos 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.

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1. Specifications

Attenuation — Up to 28.5 dB

Cable Knockout Size — Top panel: (3) 3" x 13" (7.62 x 33.02 cm);
Bottom panel: (3) 3" x 13" (7.62 x 33.02 cm)

Capacity — 1102.3 lb. (500 kg)

Fans — (2) 740 CFM total

Footprint, Cladding — 30.7"W x 47.6"D (78 x 121 cm)

Footprint, Floor — 30.7"W x 43.3"D (78 x 110 cm)

Heat Load (Maximum) — 7.2 kW

Power Consumption (Maximum) — 1 Amp

Rack Units — 12

RoHS — Yes

Size — QCE12U: External: 28"H x 30.7"W x 47.63"D (71.12 x 77.97 x 120.98 cm),
Internal: 21"H x 19"W x 33.47"D (53.34 x 48.26 x 85.01 cm);
QCE24U: External: 49.21"H x 30.7"W x 47.63"D (124.9 x 77.97 x 120.98 cm),
Internal: 42"H x 19"W x 33.47"D (106.68 x 48.26 x 85.01 cm);
QCE42U: External: 80.7"H x 30.7"W x 47.63"D (204.97 x 77.97 x 120.98 cm),
Internal: 73.5"H x 19"W x 33.47"D (186.69 x 48.26 x 85.01 cm)

Weight — QCE12U: 260 lb. (118 kg);
QCE24U: 394 lb. (179.1 kg);
QCE42U: 657 lb. (298.6 kg)

Chapter 2: Overview

2. Overview

2.1 Introduction

The QuietCab Elite reduces equipment noise to a level below background noise in an average office. It attenuates sound by 28.5 dB—the most you can get today in a soundproof enclosure. Independently tested as the most effective quiet cabinet in the world, the QuietCab Elite features an innovative airflow design with 7.2 kW heat dissipation—the equivalent of 37 single processor servers and peripherals.

Use the QuietCab in environments where you need to store network equipment near workers, such as offices, schools, medical offices, retail establishments, and more.

2.2 Features

- Reduces noise without compromising cooling capability.
- Handles higher heat loads with variable fan speed control and a temperature sensor for maximum energy efficiency. (Fan speed controller is not UL® listed.)
- 19" M6 rails are adjustable.
- Rear doors feature two exhaust fans (370 CFM each).
- Generous cable management space is built in.
- Accommodates all leading servers, including blade servers.
- Lockable front and rear doors keeps equipment safe and secure.
- Includes casters.
- 12U, 24U, and 42U models are available.
- Patent-pending design.

2.3 What's Included

Your package should include the following items. If anything is missing or damaged, contact Black Box Technical Support at 724-746-5500 or info@blackbox.com.

- QuietCab Elite 12U, 24U, or 42U
- Casters
- (1) cable entry box with foam inserts
- (2) foam inserts, 20.5" x 1.375" x 1.625" (52.07 x 3.49 x 4.13 cm)
- (9) pairs of keys
- This user's manual

NOTE: Mounting hardware is not included.

3. Preparing the Cabinet for Installation

Follow these simple recommendations for best performance from your new enclosure.

3.1 Handling

NOTE: For palletized cabinets, see the unpacking instruction sheet before attempting to remove the cabinet from the pallet.

To achieve the level of acoustic performance and industrial needs of a high-quality 19" enclosure, the composition of cabinet parts means that the QuietCab Elite cabinets are very heavy. When moving the cabinet, we recommend that a minimum of two people carry out this task.

The individual doors and side panels are also very heavy and need to be handled with care.

3.2 What Tools Will I Need?

- 2-point pozi drive screwdriver
- 10-mm ratchet and socket

3.3 Where Can I Put the Cabinet?

Be careful when choosing a site for the passive and active cabinets.

1. Don't place cabinets next to room heating sources, for example, radiators.
2. Don't place cabinets near windows (to avoid solar gain).
3. If possible, place cabinets in an air-conditioned room or in a well-ventilated space.
4. Check floor loading capacity. Consider the weight combination of both the cabinet and equipment housed.

3.4 Removing the Cladding

CAUTION: We recommend that a minimum of two people remove and assemble the cladding onto the cabinet.

1. To remove front passive wardrobe doors, turn the cam lock with the key supplied, then lift the swing handle and turn clockwise. Open doors without disturbing soundproof seals.
2. When doors are open, lift each side individually just high enough to clear hinge pins and safely stand the door against a solid wall.

Chapter 3: Preparing the Cabinet for Installation

3. To remove rear doors, disconnect the power supply, turn the cam lock with key supplied, then lift the swing handle and turn it clockwise. Hold the left-hand door in position while opening the right-hand door.

NOTE: Open without disturbing the sound-proof seals.

4. Each door has a cooling fan connected to a fan-speed controller placed behind the side infills.

CAUTION: Make sure that the fan speed controller is NOT connected to its supply BEFORE removing the rear door. Note the polarization of the connector so you can connect it later.

5. Disconnect each fan at the rear of the door by squeezing the retaining clips on the white connectors and pulling them apart. When the doors are open and the main door is away from the frame, lift off each door and safely stand it against a solid wall.

6. To re-hang the rear doors, reverse the procedure above.

NOTE: Remember to refit the fan connectors after reassembling the doors to the cabinet and then reconnect the power supply.

To remove the side panels, simply turn the cam locks with the keys supplied and lift the panel and place against a solid wall.

WARNING: Again, the panels are very heavy. We recommend that a minimum of two people work together to remove the side panels.

3.5 Thermal Considerations

To maximize the thermal capabilities of the QuietCab Elite, we strongly recommend filling all spaces on and around the front 19" area.

Sealing the front face of the 19" area keeps hot air from recirculating. Any air gaps will impact the amount of heat removed from the cabinet.

Fill the empty space on the 19" area with soundproof 19" quick-fit blanking panels; see the selection of sizes in Table 3-1.

There is a gap above and below the 19" area even after all the equipment and blanking panels have been fitted. We recommend filling this space using the 19" infill foam supplied with the cabinet (see Figure 3-3).

CAUTION: Make sure that once fitted, the foam does not cover any of the equipment's vents.

Table 3-1. Quick fit soundproof blanking panels.

Rack Units	Description	Part Number
1U	1U high, 19" wide filler panel	QCE-SPFP-1U
2U	2U high, 19" wide filler panel	QCE-SPFP-2U
3U	3U high, 19" wide filler panel	QCE-SPFP-3U
5U	4U high, 19" wide filler panel	QCE-SPFP-5U

The cabling runs from the front 19" face to the rear of the cabinet via the top and bottom of the left-hand and right-hand infills once installation is finished or following any refits. Fill the resulting air gaps around the cabling with the supplied infill foam (see Figure 3-3).

3.6 Cable Management

The QuietCab Elite is fitted with six cable entry positions, three on both the lid and base, fitted to the rear and to each side of the cabinet (see Figure 3-1).

Gland plates

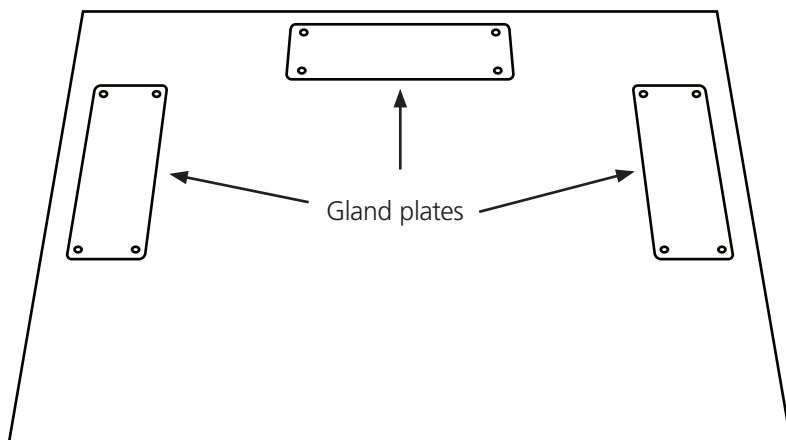


Figure 3-1. The cabinet has three cable entry points via removable gland plates fitted to the top cover shown and three more fitted to the base.

Chapter 3: Preparing the Cabinet for Installation

Cables are usually run into the side cable apertures of a cabinet and straight onto cable trays fitted to the cabinet frame (see Figure 3-5). With the interconnecting server and equipment, cables are dressed to the side and rear.

Most equipment fans expel hot waste air to the rear of the cabinet.. Disorganized cabling can inhibit airflow movement, so be careful when dressing cabling. We recommend that cables are dressed to the side rear infill panels.

Fitting a cable entry box (QCE-CEB)

Select a cable entry point and remove four M6 screws. Then remove the gland plate.

The gland plate will also be held in place by the adhesive stuck to the soundproof material; this means some force may be required to remove the gland plate. The soundproof material is partly precut and will require only the adhesive layer to be cut by a sharp blade before being removed.

One cable entry box (see Figure 3-2) is supplied with each cabinet. If you need more cable entry boxes, contact Black Box Technical Support at 724-746-5500 or info@blackbox.com.

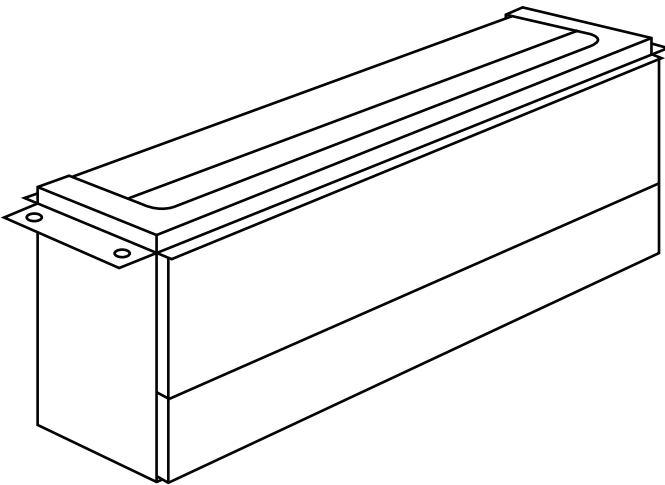


Figure 3-2. Cable entry box (QCE-CEB).

The cable entry box is reassembled in the hole exposed by removing the gland and soundproofing material. Assemble it from the inside of the cabinet so that the flange makes a seal on the cabinet's soundproofing material showing rear center base assembled. Make sure foam is dressed around cables so that no air can escape. This will ensure that any airborne sound inside the cabinet is retained and attenuated within the enclosure. We recommend that the cables, where possible, lay flat to avoid bunching.

For front-to-rear cable management, pass the cable through the front-to-rear foam blocks (see Figure 3-3). These are positioned to the top and bottom of the front infill panels on each side of the cabinet.

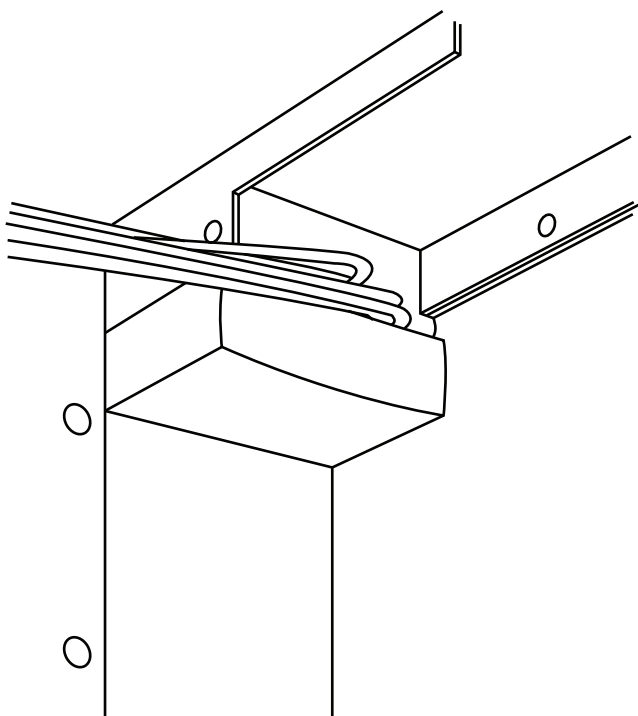


Figure 3-3. Front-to-rear cable infill foam. Top right hand side front shown.

Chapter 3: Preparing the Cabinet for Installation

Two foam inserts are supplied as standard and should be fitted, regardless of cables being passed through, because this ensures the correct air path for cooling. Keep cable bundle flat where possible when passing through foam blocks.

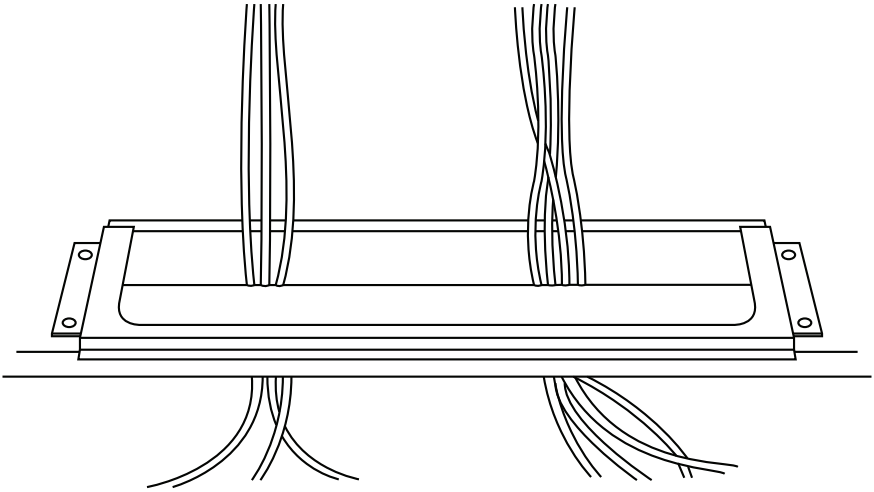


Figure 3-4. Cable entry box. Rear base shown.

NOTE: Keep cables flat where possible.

Middle side vertical cable management is achieved by fitting a cable tray (not included) to the cabinet depth support members fixed to the front and rear corner posts (see Figure 3-5).

NOTE: Table 3-2 lists cable tray sizes.

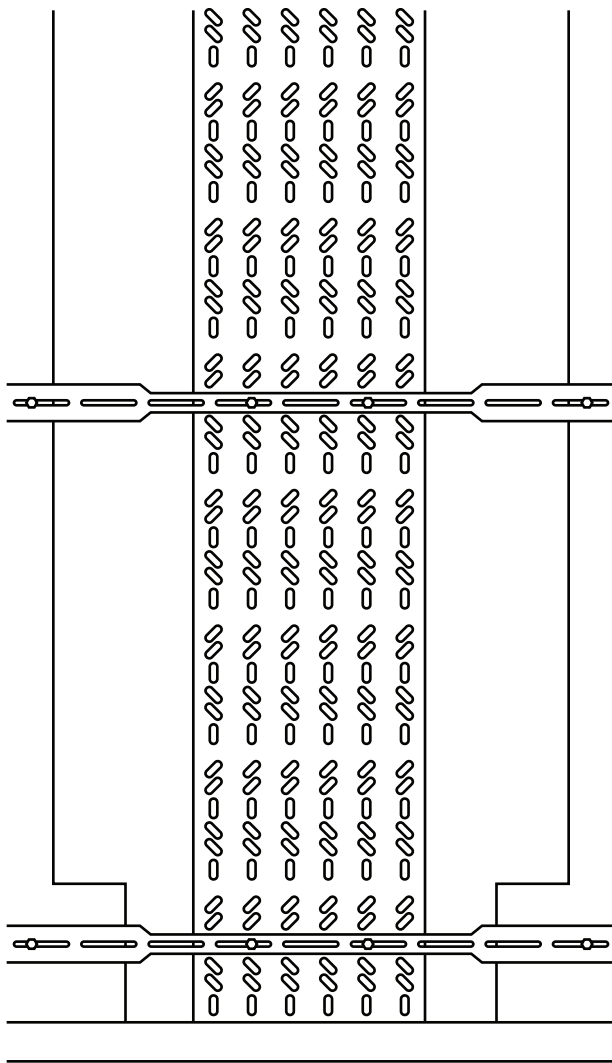


Figure 3-5. Cable tray.

Table 3-2. Available cable trays.

Rack Units	Description	Part Number
12U	5.9" (150 mm) wide	*Contact Tech Support.
24U	5.9" (150 mm) wide	*Contact Tech Support.
24U	5.9" (150 mm) wide	*Contact Tech Support.
42U	5.9" (150 mm) wide	*Contact Tech Support.
42U	5.9" (150 mm) wide	*Contact Tech Support.

*Contact Black Box Technical Support at 724-746-5500 or info@blackbox.com.

These along with other accessories can be purchased from Black Box. Contact Technical Support at 724-746-5500 or info@blackbox.com.

3.7 Additional Accessories

Table 3-3. Dust filters.

Rack Units	Part Number
12U	QCE-DF-12U.
24U	QCE-DF-24U
24U	QCE-DF-42U

Table 3-4. Vertical cable managers.

Rack Units	Part Number
24U	QCE-VCM-24U
24U	QCE-VCM-42U

Table 3-5. Grounding kit..

Rack Units	Part Number
12U, 24U, 42U	QCE-GK

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