



© Copyright 2001. Black Box Corporation. All rights reserved.

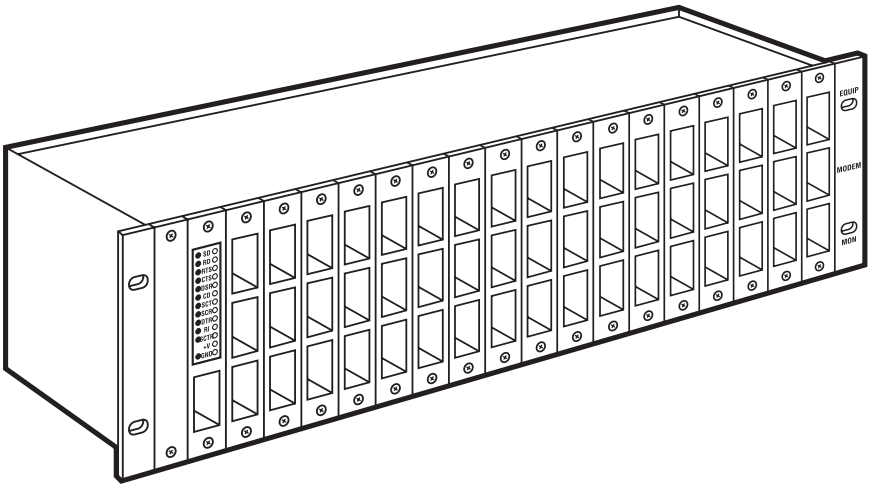
---

1000 Park Drive • Lawrence, PA 15055-1018 • 724-746-5500 • Fax 724-746-0746



JPM250	JPM255
JPM251	JPM256
JPM252	JPM257E
JPM253E	JPM258
JPM254	JPM259

## RS-232 and V.35 Basic Patch Panels



**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](http://www.blackbox.com) • E-mail: [info@blackbox.com](mailto: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 J 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 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 física 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 líneas de energía.
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.

# Contents

<b>Chapter</b>	<b>Page</b>
1. Specifications . . . . .	5
2. Introduction . . . . .	6
3. System Components. . . . .	7
3.1 RS-232/V.35 Basic Patch Module (JPM251) . . . . .	7
3.2 RS-232 or V.35 Monitoring Module with 110- or 220-VAC Power Supply . . . . .	8
3.3 RS-232/V.35 Access Module (JPM254) . . . . .	10
3.4 Chassis . . . . .	10
3.5 Power Supplies . . . . .	11
3.6 Rack Adapter . . . . .	11
4. Connecting User Cables . . . . .	12

## **TRADEMARKS USED IN THIS MANUAL**

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

# 1. Specifications

**Interface**—Physical: DB25 or M/34; Transmission: RS-232 or V.35

**Protocols**—Transparent to all protocols (physical layer)

**System Capacity**—(1) test module per chassis; (16) patch modules per chassis

**Activity Indicators**—(1) set of activity LEDs per test module; (1) set of activity LEDs per patch module

**Test Points**—(1) set per test module

**Contacts**—Gold-plated, self-wiping

**Power**—Monitoring modules: JPM252, JPM256: 110 VAC; JPM253E, JPM257E: 220 VAC

## NOTE

**The monitoring modules supply power to the LEDs. All other modules require no power.**

**Size**—JPM250: 5.25"H x 19"W x 4.75"D (13.3 x 48.3 x 12.1 cm); JPM255: 5.25"H x 19"W x 6.75"D (13.3 x 48.3 x 17.1 cm); JPM251, JPM252, JPM253E, JPM254, JPM256, JPM257E: 5.25"H x 7"W x 5"D (13.3 x 2.2 x 12.7 cm)

**Weight**—JPM250: 15 lb. (6.8 kg); JPM255: 20 lb. (9.1 kg); JPM251, JPM252, JPM253E, JPM254, JPM256, JPM257E: 4 oz. (113.4 g)

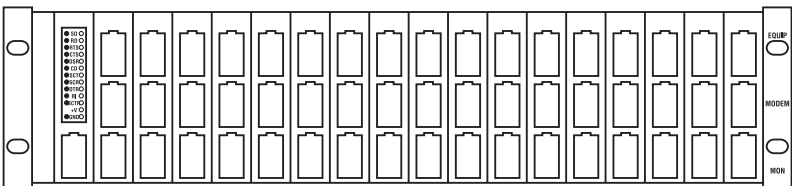


## 2. Introduction

The Basic Patch Panel is an inexpensive manual patching mechanism that allows rapid troubleshooting and equipment replacement. Models available include:

<b>Product Code</b>	<b>Product Name</b>
JPM250	RS-232 Basic Patch Panel Chassis
JPM251	RS-232/V.35 Basic Patch Module
JPM252	RS-232 Monitoring Module with 110-VAC power supply
JPM253E	RS-232 Monitoring Module with 220-VAC power supply
JPM254	RS-232/V.35 Access Module
JPM255	V.35 Basic Patch Panel Chassis
JPM256	V.35 Monitoring Module with 110-VAC power supply
JPM257E	V.35 Monitoring Module with 220-VAC power supply
JPM258	Patch Cable, 2-ft. (0.6-m)
JPM259	Patch Cable, 6-ft. (1.8-m)

The Basic Patch Panel has four components: the RS-232/V.35 Basic Patch Module, the RS-232 or V.35 Monitoring Module with 110- or 220-VAC power supply, the RS-232/V.35 Access Module, and the Chassis. Go to **Chapter 3** for an explanation of these components.



**Figure 2-1. Front view of the Chassis with modules installed.**

## 3. System Components

### 3.1 RS-232/V.35 Basic Patch Module (JPM251)

The Patch Module supports user data via two rear DB25 male connectors. It has three front patch cavities for equipment, modem, and monitor (see Figure 3-1). When no patch cords are in the front cavities, user data passes transparently between the two rear connectors as if the Patch Panel did not exist (see Figure 3-1).

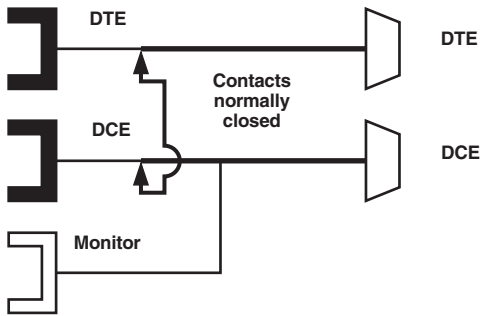


Figure 3-1. Patch Module normal data path.

Inserting the patch cord into the monitor cavity does not disconnect the interface and interface signaling is bridged through the cord for monitor purposes (see Figure 3-2).

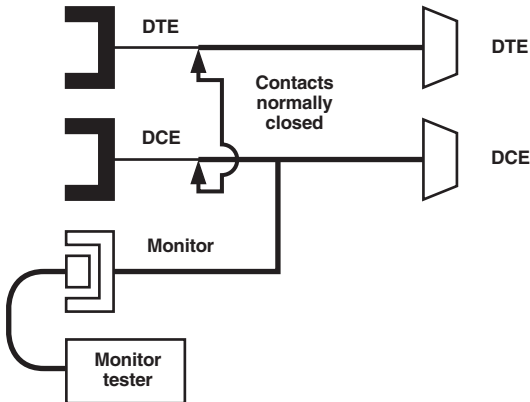


Figure 3-2. Patch Module passive monitoring.

## RS-232 AND V.35 BASIC PATCH PANELS

Inserting the patch cord into either the equipment (DTE) or modem (DCE) cavity will disconnect the interface and route the modem or equipment side through the cord (see Figure 3-3).

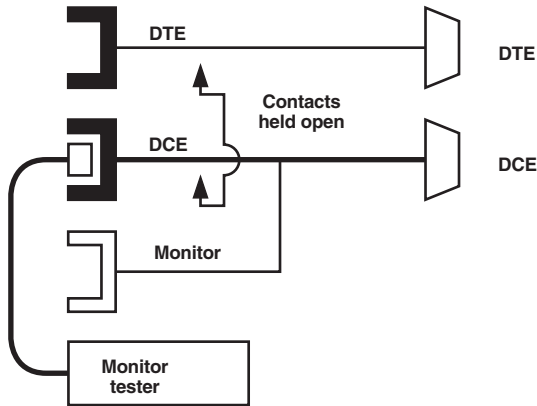
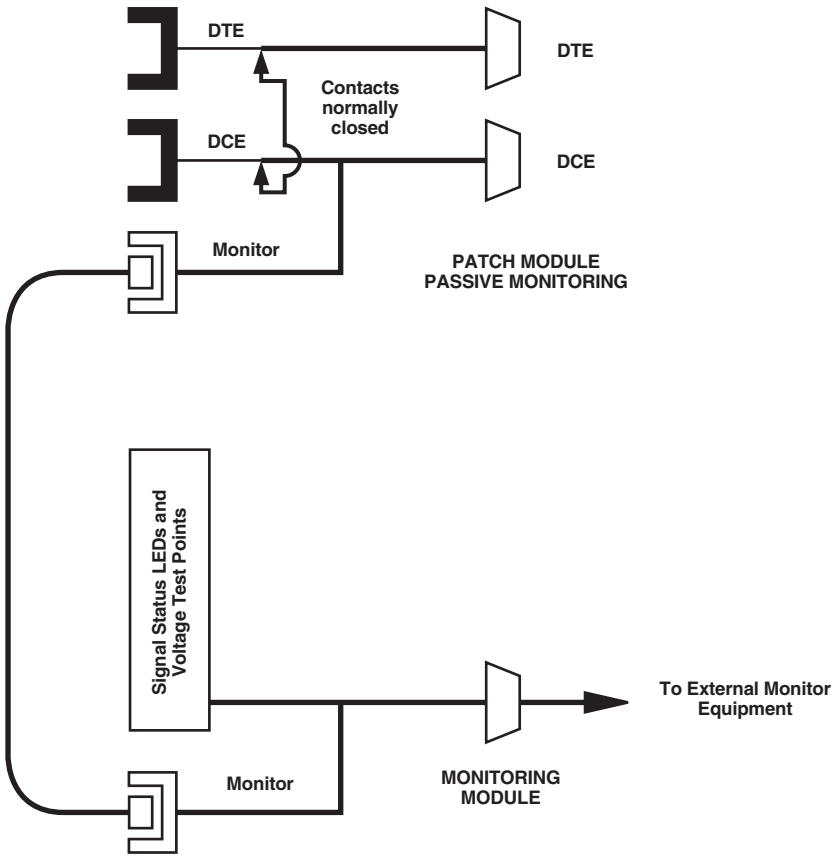


Figure 3-3. Patch Module interactive testing (toward DCE).

### 3.2 RS-232 or V.35 Monitoring Module with 110- or 220-VAC Power Supply

The RS-232 or V.35 Monitoring Module has a single front patch cavity that is connected to a front-panel LED display and voltage test points for critical interface signals. The cavity is also directly connected to a rear-mounted user connector to permanently attach a data monitor or an interactive tester.



**Figure 3-4. Connecting a Patch Module to a Monitoring Module.**

Four Monitoring Modules are available to support RS-232 or V.35 interfaces and come with 110- or 220-VAC power supplies. The Monitoring Module installs in the leftmost slot of the Chassis (when viewed from the front).

The following table lists the Monitoring Module's LEDs and voltage test points. The Module also has voltage test points for signal ground and positive voltage. The indicated pin assignments reflect the rear DB25 user connectors.

Table 3-1. Monitoring Module's LED and voltage test points

LED Abbreviation	LED and Voltage Test Point
SD	Send Data
RD	Receive Data
RTS	Request to Send
CTS	Clear to Send
DSR	Data Set Ready
CD	Carrier Detect
SCT	Serial Clock Transmit
SCR	Serial Clock Receive
DTR	Data Terminal Ready
RI	Ring Indicator
SCTE	Serial Clock Transmit External

### 3.3 RS-232/V.35 Access Module (JPM254)

The RS-232/V.35 Access Module is used for connecting a tester that doesn't have patch capability. It allows the patch in the front of the chassis to go directly to the DB connectors on the back of the chassis.

### 3.4 Chassis

The Patch, Monitoring, and Access Modules should be installed in the Patch Panel Chassis, which mounts in a standard 19" rack.

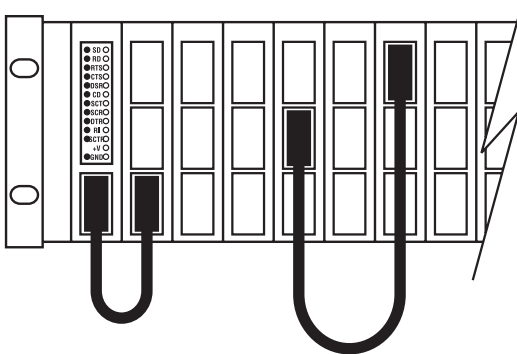


Figure 3-5. Front view of Patch Panel with Monitoring Module and Patch Module installed.

### **3.5 Power Supplies**

A Basic Patch Panel requires power only for the LED displays on the modules, and each module includes a power supply. If the power supply fails, all Patch Panel functions except the LED display will operate. The standard module includes a 110- or 220-volt integral power supply.

### **3.6 Rack Adapter**

The Patch Panel Chassis mounts in a standard 19" rack (5-1/4" vertical) and accommodates 18 Patch Modules or 17 Patch Modules and one Monitoring Module.

## 4. Connecting User Cables

The connectors on the cables you're using should have connectors that match the Patch Panel configuration.

- DB25 connectors for the RS-232 Basic Patch Panel.
- V.35 (M/34) connectors for the V.35 Basic Patch Panel.

Table 4-1 shows the connector pin assignments.

**Table 4-1. Connector pin assignments**

<b>Any Interface on a DB25 Connector</b>	<b>RS-232 Signals</b>	<b>V.35 Signals</b>	<b>V.35 on M/34 Connector</b>
1	FG	FG	A
2	SD	SD(A)	P
3	RD	RD(A)	R
4	RTS	RTS	C
5	CTS	CTS	D
6	DSR	DSR	E
7	SG	SG	B
8	DCD	DCD	F
9			
10			
11		LT	K
12	(S)CD	SCR(B)	X
13	(S)CTS	SD(B)	S
14	(S)SD	SCT(B)	AA
15	SCT	SCT(A)	Y
16	(S)RD	RD(B)	T
17	SCR	SCR(A)	V
18	RDC/LL		M
19	(S)RTS		
20	DTR	DTR	H
21	SQ/RL		
22	RI	RI	J
23	DRS	SCTE(B)	W
24	SCTE	SCTE(A)	U
25	BUSY/TM		

(S) is a secondary signal.

(A) and (B) are leads for a balanced signal.