

**DATA EXTENDER CB-222
(CB-220 & CB-221)**

**User's Manual
CA944**

PACKAGE CHECKLIST

This manual is written for the product of CB-222 which includes the CB-220 and the CB-221 products. When you unpack your CB-222, it shall include following elements:

- . CB-220 TX (Transmission) Embodiment - 1 pc (Fig.1-2)
- . CB-221 RX (Reception) Embodiment - 1 pc (Fig.1-3)
- . Power Adapter (DC 9V, 200 mA) - 1 pc (Fig.1-4)
- . 10m 6-wire Telephone Line - 1 pc (Fig. 1-5)
- . CB-222 User's Manual - 1 pc

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1 FUNCTION OVERVIEW

1-1 Introduction

Personal computer and printer has been widely used in many fields. However, PC might have to be separated from printer at a certain distance due to job requirements and under such circumstance, our product - data extender CB-222 will help you to solve aforesaid problem.

For most of printers would produce quite high noises during printing except Laser Printer, so someone has an idea for locating printer far from PC to reduce noises and this device thus can meet this purpose.

The CB-222 not only has a volume of pocket but the most speed can be run at 225K bits/sec. Therefore CB-222 is a high performance and low cost data extender. It can be connected for use as shown in Figure 1-1.

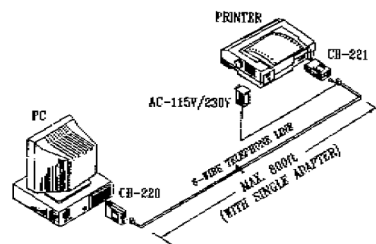


Figure 1-1. Complete connection of CB-222

Following figures are the CB-222 element's external view.

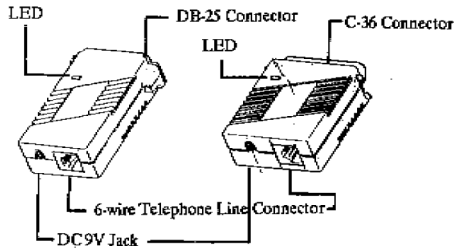


Figure 1-2. CB-220

Figure 1-3. CB-221

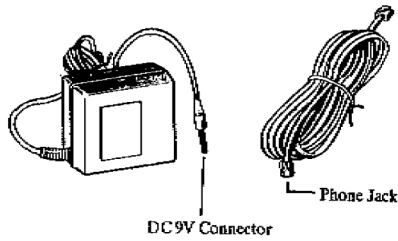


Figure 1-4. Adapter

Figure 1-5. 6-wire Telephone Line

I-2 Function Specifications

DATA EXTENDER	CB-220	CB-221
Power Supply	DC 9V 200mA	DC 9V 200mA
Size	76 x 54 x 20mm	63 x 67 x 20mm
Weight	45g	45g
Enclosure	Plastics	Plastics
Connectors	DB-25 -- Phone Jack	Phone Jack -- C-36
Interface	Centronics - RS232 like	RS232 like - Centronics
Distance	Single adapter	Up to 800 Feet (244m)
	Two adapter	Up to 2500 Feet (762m)
Transfer Rate	22.5k bytes/sec	22.5k bytes/sec
Temperature	32°F-113°F(0°C-45°C)	32°F-113°F(0°C-45°C)
Humidity	0% - 80%	0% - 80%
	Non-Condensing	Non-Condensing

Figure 1-6. Function Specification Table

Note: The maximum distance between the CB-220 and CB-221 allows up to 2500 feet (762m) under two adapters have been plugged in. If you only plug in one adapter, the distance is up to 800 feet (244m).

2 INSTALLATION

2-1 Installation Procedure

Providing you own an IBM PC or IBM Compatible PC and a standard parallel printer, you may complete assembly and use the CB-220 and CB-221 in accordance with the following procedures.

- STEP 1:** Unpack the CB-220 and CB-221.
- STEP 2:** Plug the CB-220 25-pin male connector into the printer port (i.e. 25-pin female connector) on the back side of the PC.
- STEP 3:** Plug one end of the 6-wire telephone line into the phone jack of the CB-220.
- STEP 4:** Plug one end of DC 9V 200mA power adapter into the receptacle and another end into CB-220 or CB-221 power jack.
- STEP 5:** Plug CB-221 36-pin male connector into printer 36-pin female connector.
- STEP 6:** Plug another end of 6-wire telephone line into CB-221 phone jack.
- STEP 7:** Prepare paper for printer and turn power on, and on-line.
- STEP 8:** Turn your PC on.
- STEP 9:** Turn power on for CB-220 or CB-221 and the power LEDs on CB-220 and CB-221 shall turn on.

Note: If the distance between the CB-220 and the CB-221 is over 800 feet then increase a power adapter,

under 800 feet it is not necessary to increase a power adapter.

After completing the aforesaid 9 steps, the connection for each unit shall conform to that in the Figure 1-1. At this moment you may give a print command on your PC.

2-2 How to Install the CB-220 and PC

The connector of the printer port in the common PC(Personal Computer) is usually the 25-pin female type. Therefore, the 25-pin connector with CB-220 is designed in the male type. So, in most cases it will be easy to connect CB-220 to the PC. If however, the print port connector of your PC is not a 25-pin female type, please check the signal description for various pins and refer to the pin assignments table in Appendix B of this manual to seek the appropriate transducer to perform an accurate connection between the CB-220 and your PC.

Plug one end of the 6-wire telephone line into the CB-220 phone jack and its assembly as shown in Figure 2-1.

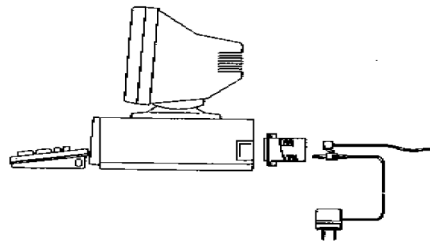


Figure 2-1. Connection of the CB-220 and PC

2-3 How to Install the CB-221 and Printer

For general standard parallel printer, its 36-pin connector is female type. Therefore, 36-pin connector of CB-221 is designed in male type and you are easy to connect CB-221 to printer. If however, your printer's port connector is not a standard 36-pin female connector, please check the signal description for its various pin and then refer to the pin assignments table in Appendix B to seek for appropriate transducer and perform an accurate connection between CB-221 and your printer. Refer to Figure 2-2 assembly drawing for power adapter and 6-wire telephone line is shown as below.

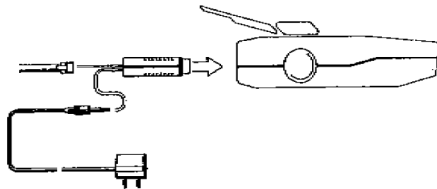
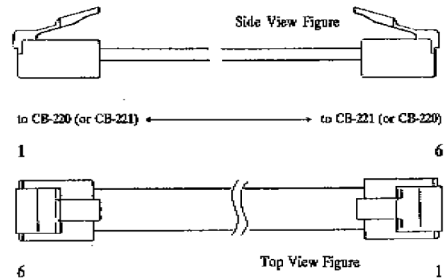


Figure 2-2. Connection of the CB-221 and printer

2-4 6-wire Telephone Line

In your package, you should find a 10m(33 ft) in length 6-wire telephone line in it. The 6-wire telephone line is shown as Figure 2-3.

We also provide with the CB-220 and CB-221 a 800 feet (244m) 6-wire telephone line as a standard component. Should you need a longer 6-wire telephone line, you can purchase one from us.



CB-220		CB-221	
Pin No.	Signal Name	Pin No.	Signal Name
1	GND	6	GND
2	RI-	5	DO-
3	RI+	4	DO+
4	DO-	3	RI-
5	DO+	2	RI+
6	+9V	1	+9V

Assembly drawing for 6-wire telephone line

Figure 2-3. Connection of the 6-wire telephone line

2-5 Complete Connection Figure

After finish appropriate connections among CB-220, CB-221 power adapter, 6-wire telephone line, PC and printer, it shall be viewed as Figure 2-4.

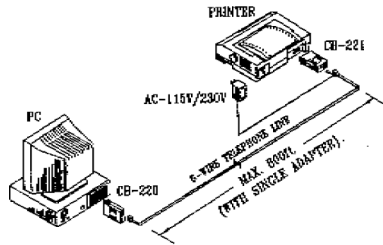


Figure 2-4. Complete connection of CB-222

At this moment, turn power on for printer, PC, CB-220 and CB-221 respectively and power LED on CB-220 and CB-221 to represent normal power supply. Then, prepare paper for printer and give print command on PC.

APPENDIX A TROUBLESHOOTING

Problem	Solution
LED fails to lit up	Check if power is turned on or not.
Failure of data transmission	<ol style="list-style-type: none"> 1. Check if connector and 6 pin phone line is well plugged or not. 2. Check if PC is turned on or not. 3. Check if printer is turned on or not. 4. Check if paper for printer is well prepared or not. 5. Check if print command on PC is correct or not. 6. Check if connect on computer end or printer end has been connected in accordance with menu.

If failure of printing is still existed upon aforesaid solutions, please contact your dealer immediately.

APPENDIX B PIN ASSIGNMENTS

Pin assignment of 25-pin connector of CB-220.

Pin No.	Signal Name	Pin No.	Signal Name
1	STROBE	14	NC
2	DATA 1	15	TIED TO +5V VIA 2.2KΩ
3	DATA 2	16	NC
4	DATA 3	17	NC
5	DATA 4	18	GND
6	DATA 5	19	GND
7	DATA 6	20	GND
8	DATA 7	21	GND
9	DATA 8	22	GND
10	ACK	23	GND
11	BUSY	24	GND
12	GND	25	GND
13	TIED TO +5V VIA 2.2KΩ		

Pin assignment of 6-pin phone-jack of CB-220.

Pin No.	Line Color	Signal Name
1	BLUE	GND
2	YELLOW	RI -
3	GREEN	RI +
4	RED	DO -
5	BLACK	DO +
6	WHITE	+5V

Pin assignment of 36-pin connector of CB-221.

Pin No.	Signal Name	Pin No.	Signal Name
1	STROBE	19	GND
2	DATA 1	20	GND
3	DATA 2	21	GND
4	DATA 3	22	GND
5	DATA 4	23	GND
6	DATA 5	24	GND
7	DATA 6	25	GND
8	DATA 7	26	GND
9	DATA 8	27	GND
10	NC	28	GND
11	BUSY	29	GND
12	NC	30	GND
13	NC	31	TIED TO +5V VIA 2.2KΩ
14	+5V	32	NC
15	NC	33	GND
16	GND	34	NC
17	GND	35	NC
18	NC	36	GND

Pin assignment of 6-pin phone-jack of CB-221.

Pin No.	Line Color	Signal Name
1	WHITE	+5V
2	BLACK	RI+
3	RED	RI-
4	GREEN	DO+
5	YELLOW	DO-
6	BLUE	GND

**APPENDIX C CENTRONICS INTERFACING
TIMING CHART**

