

BocaVision®

Thin Clients

Hardware Reference



with Citrix ICA®
Support



Founded in 1985, Boca Research designs, manufactures, markets and supports quality, cost-effective Internet access/ thin client/server computing devices, data communications and networking products to facilitate the transmission of information on personal computers, computer networks and the Internet.

The Company also markets its products under the Global Village brand name and sells them worldwide through distributors, original equipment manufacturers (OEMs) and retailers. Boca Research is a U.S. corporation headquartered in Boca Raton, Florida with international operations and ventures worldwide.

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1—Introduction



BocaVision Thin Client network devices enable inexpensive 10BaseT access to corporate network servers. Built-in browser software with open ISP support provides a variety of user options. Configured with a 10BaseT Ethernet connection, monitor (or TV), keyboard, mouse and/or printer, BocaVision delivers exciting network access solutions.

Components

- BocaVision unit(s)
- Network Management Software CD
- PS/2 keyboard (104 keys)
- PS/2 mouse
- Administrator's Manual
- User Handbook
- Power cord

2—Summary of Connectors

Connectors and LEDs

FRONT VIEW:

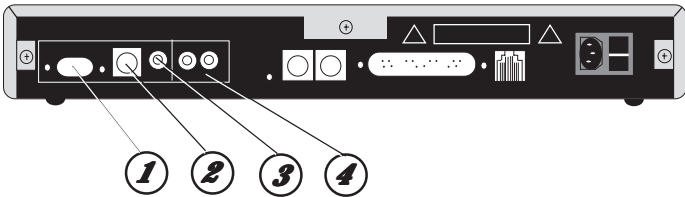
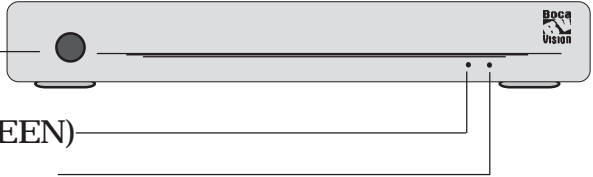
IR Receiver

Status LEDs

LED1—Power (GREEN)

LED2— (RED)*

*(flashing: looking for boot server)
(off: connected to boot server)



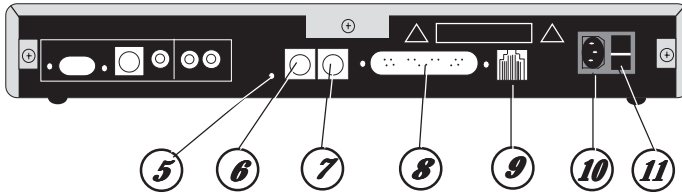
REAR VIEW:

1—VGA Monitor port. Use this port when connecting the unit to a computer monitor.

2—S-video Output. Use this port if using a television and the TV features an S-video connector. S-video may provide improved clarity of video display.

3—Composite video output. Use the video cable to connect this port to the VIDEO-IN jack on your TV.

4—Right/Left audio channels. Use audio cables to connect these ports to the AUDIO-IN jacks on your computer speakers, or your TV.



5—Reset Switch. Use this reset switch to recover from memory corruption. Pressing the reset switch once briefly will clear all unprotected RAM. Powering up the unit with the switch pressed in clears all RAM and resets the EEPROM to factory defaults.

6—Mouse. Connect a PS/2 mouse.

7—Keyboard jack. Connect a PS/2 keyboard.

8—Printer parallel port (DB-25). Allows connection of printer to the unit.

9—10BaseT jack (RJ-45). Attach one end of an RJ-45 cable to this jack and the other end to an RJ-45 wall connector.

10—AC Power connector. Connect the AC power cord here. Attach the other end to your wall outlet. **(MAKE THIS CONNECTION LAST).**

11—Power Switch. Simple rocker to power the unit on or off.

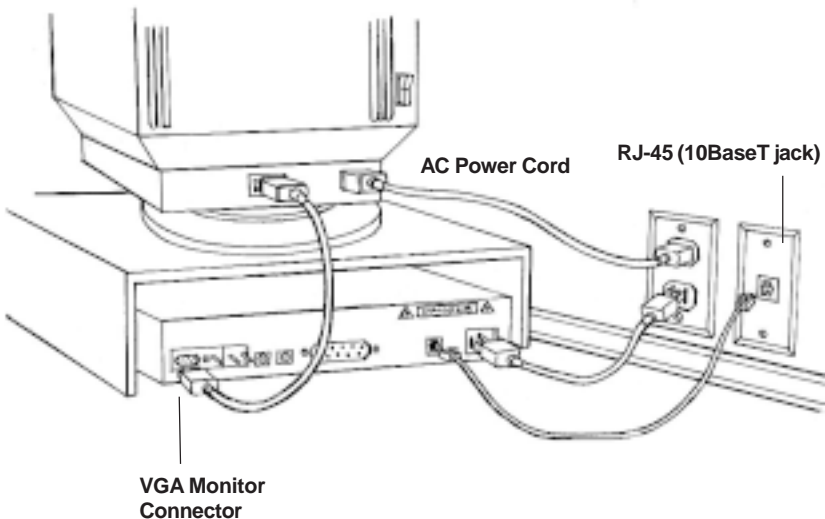
3—Standard Connections

Common Installation with VGA Monitor

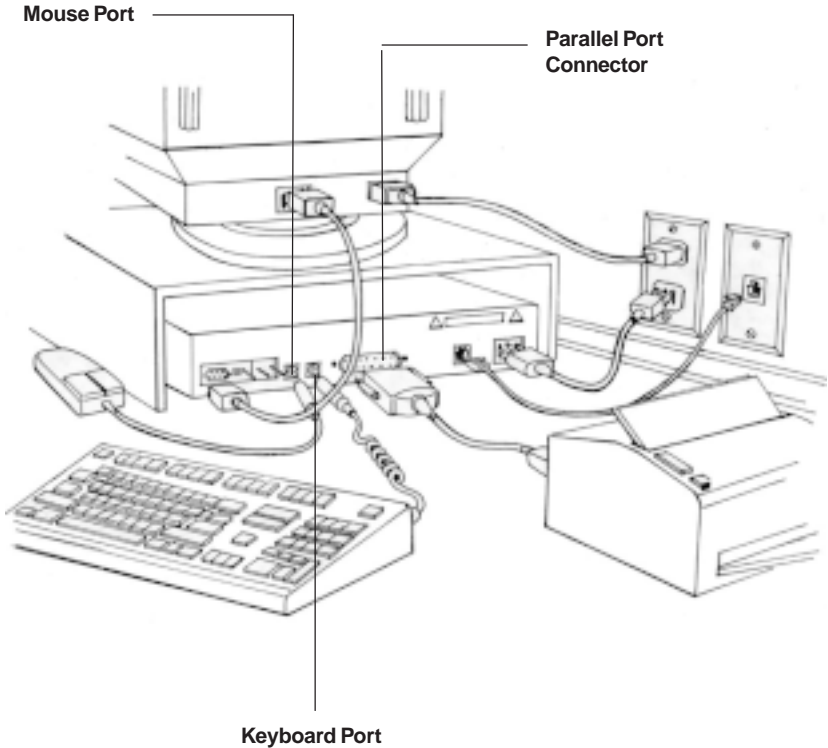
Before you can access the network, you need to connect the unit to:

- A. A VGA Monitor
- B. RJ-45 wall jack for 10Base-T network connection
- C. An AC electrical outlet

A common installation is depicted below. For an illustration of a sample network configuration with the BocaVision unit, see Section 5. In the event you wish to connect a television to the unit, refer to Appendix D in this manual. To connect peripheral devices such as a mouse, keyboard, and printer, see the next page.



Connecting Other Peripherals



4—Connecting to a TV/VCR

A common TV installation is depicted on the next page (TV or VCR with Audio jacks). More details are provided on subsequent pages. Your connection depends on how your TV is set up:

1. Does your TV have S-VIDEO, RCA-type A/V (audio/video), Or RF coaxial jacks?
2. Is your TV connected to a VCR?

IF YOU HAVE:

A TV/VCR without audio jacks...

A TV with S-VIDEO jack...

A TV/VCR with audio/video jacks...

THEN:

see page 12

see page 14

see page 16

NOTE: Connection to S-VIDEO may offer improved video display.

A. Television and VCR

Connect one end of the supplied RCA-type A/V cable to the BocaVision unit as identified and the other end to the A/V IN jacks on your TV or VCR. Make sure you match colors. If there is only one audio jack, connect the white plugs only.

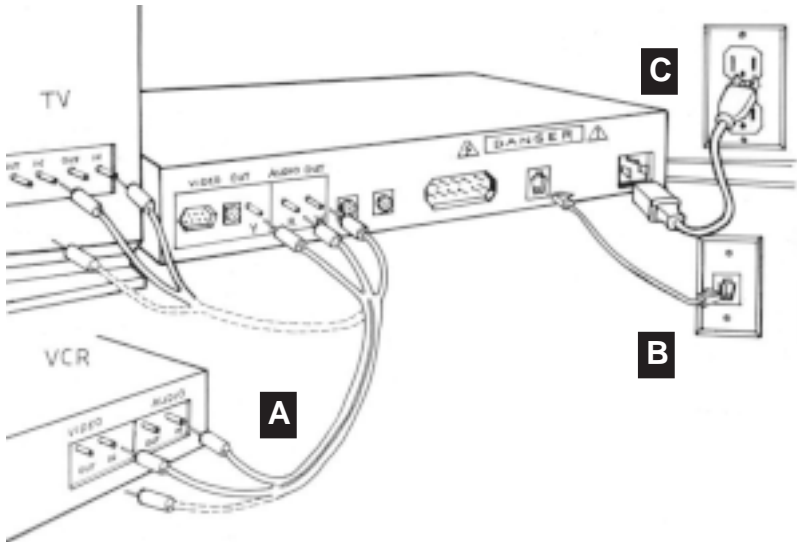
NOTE: If connecting through your VCR, connect the VCR's A/V OUT jacks to the TV's A/V IN jacks. If using a coaxial cable for this connection, connect the coax OUT jack on your VCR to the coax VHF/UHF jack on your TV, using a coaxial connector cable (not supplied). You will need either a coaxial cable, or an RCA-type A/V cable, but not both.

B. Telephone

Connect one end of the telephone cable to the unit's telephone jack. Connect the other end to the telephone wall jack. For best results, connect the unit to a telephone wall jack that you are not currently using. If you have only one telephone wall jack, use the supplied T-splitter so the unit and the phone can share the same line.

C. Power

Connect the proper end of the AC power cord to the unit's power receptacle and then plug in (**DO THIS LAST**).

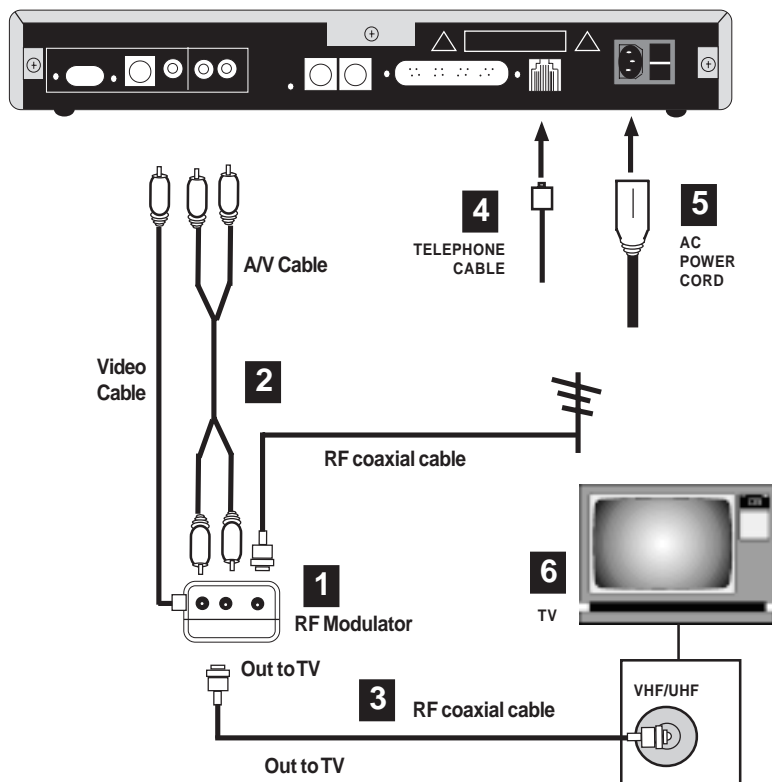


Connecting to a TV or VCR without Audio/Video Jacks

1. Set the channel switch on the RF modulator (not supplied) (Radio Shack cat. # 15-1283A) to VHF channel 3 or 4, whichever is not used or the least used in your area.
2. Connect the RF modulator to the Composite Video Output and Right/Left audio channel jacks on the unit.
3. Use an RF coaxial cable to connect the TO TV jack on the adapter to the ANTENNA IN jack on the back of your TV.

You may need to disconnect the antenna/cable from your TV to make this connection. Connect the antenna/cable to the ANTENNA IN jack on the RF modulator.

4. Connect one end of the telephone cable to the unit's telephone jack. Connect the other end to the telephone wall jack.
5. Connect the proper end of the AC power cord to the unit's power receptacle.
6. Set your TV to channel 3 or 4, as selected in step 1 above.



NOTE: If your television or TV remote has a TV/video button, push this button.

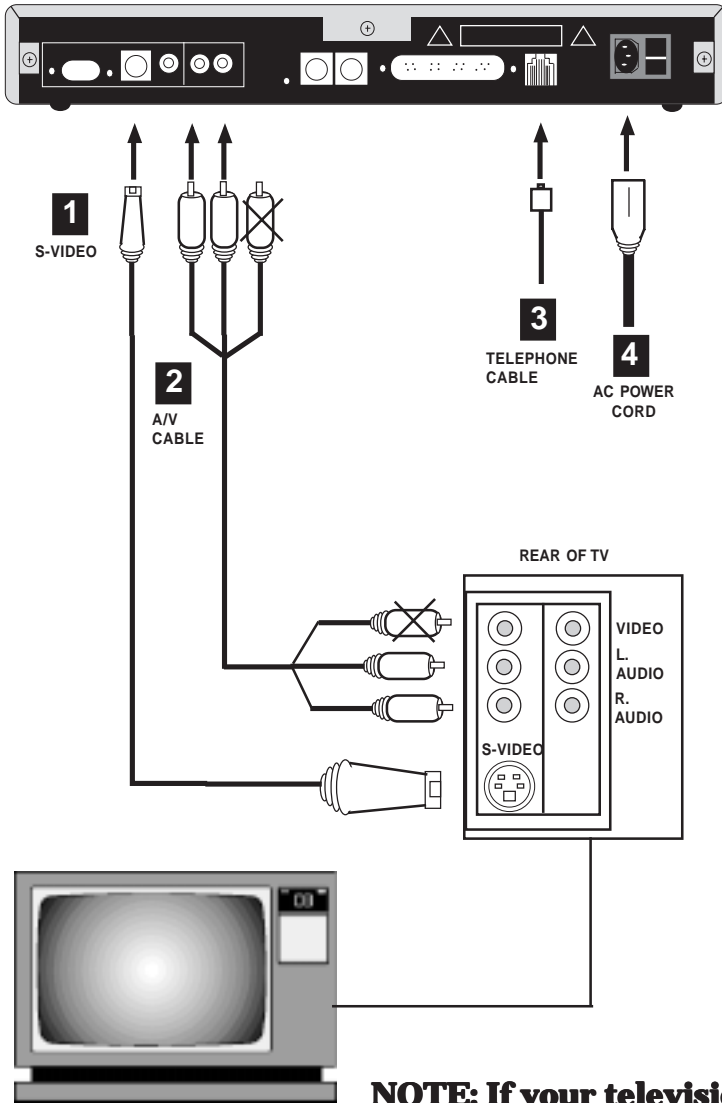
Connecting to a TV with an S-VIDEO Jack

NOTE: Connection to S-VIDEO may offer improved video display. To enhance audio performance, you may want to integrate the unit into your home entertainment system.

1. Use the supplied S-VIDEO cable to connect the S-VIDEO OUT jack on the unit to the S-VIDEO In jack on your TV.
2. Connect the Audio (right and left) jacks on the unit to your TV's AUDIO IN jacks, using the supplied audio cables.

NOTE: Do NOT connect the VIDEO cable (usually yellow) to the VIDEO jack when using the S-video connection.

3. Connect one end of the telephone cable to the unit's telephone jack. Connect the other end to the telephone wall jack.
4. Connect the proper end of the AC power cord to the unit's power receptacle.



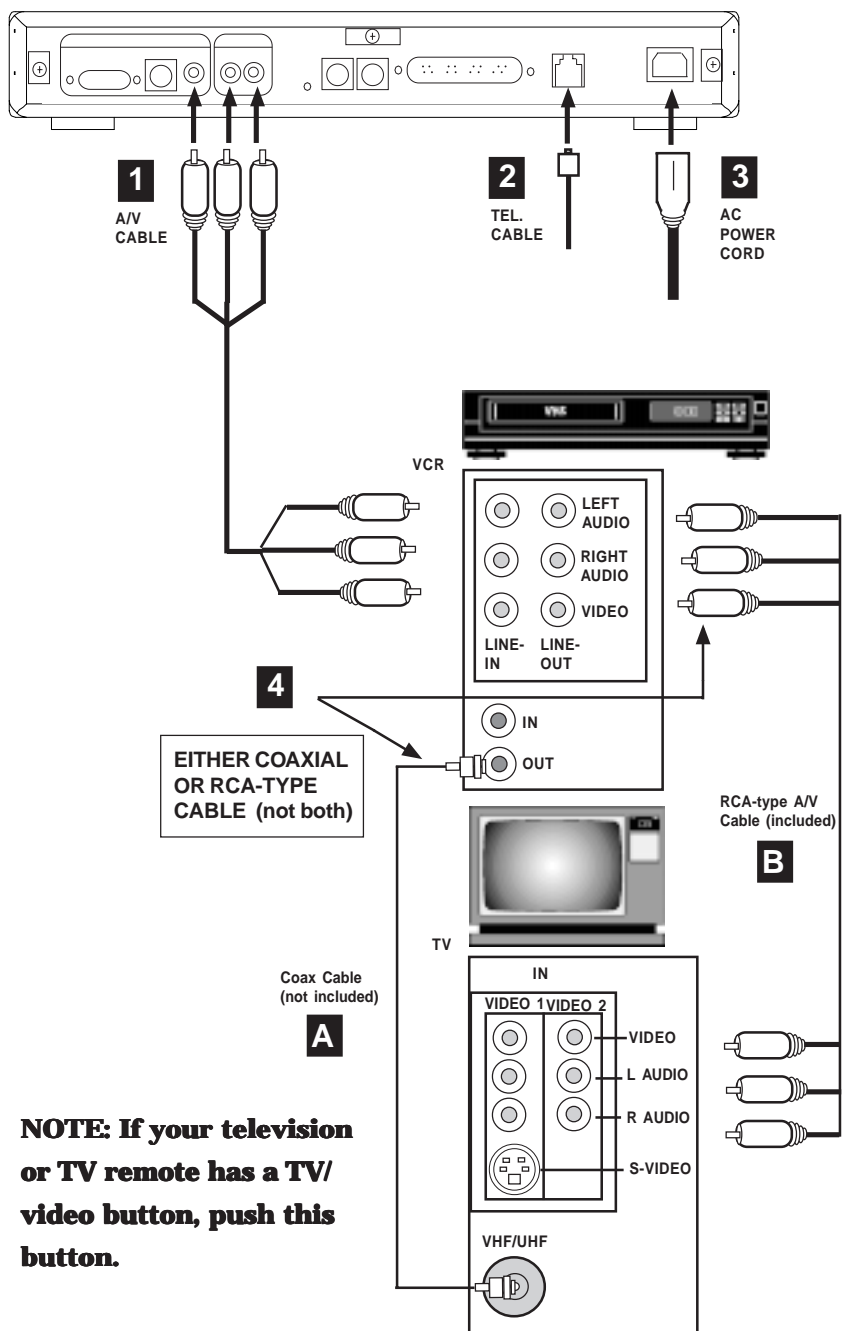
NOTE: If your television or TV remote has a TV/video button, push this button.

Connecting to a TV or VCR with Audio/Video Jacks

1. Connect one end of the supplied RCA-type A/V cable to the unit as identified and other end to the A/V IN jacks on your VCR or TV. Make sure you match colors. If there is only one audio jack, connect the white plugs.
2. Connect one end of the telephone cable to the unit's telephone jack. Connect the other end to the telephone wall jack.
3. Connect the proper end of the AC power cord to the unit's power receptacle.

NOTE: For step 4, you need either a coaxial cable (A), or an RCA-type A/V cable (B), *but not both.*

4. If connecting through your VCR, connect the VCR's A/V OUT jacks to the TV's A/V IN jacks. If using a coaxial cable for this connection, connect the coax OUT jack on your VCR to the coax VHF/UHF jack on your TV, using a coaxial connector cable (not supplied).



NOTE: If your television or TV remote has a TV/video button, push this button.

5—Technical Specifications

Components

- BocaVision WT unit
- Install CD for the server
- PS/2 keyboard
- PS/2 mouse
- Network Administrator User's Guide
- AC Power cord

Specifications

- ARM7500FE RISC-based processor (40MHz clock speed)
- 110/220V AC power supply
- Memory:
- ROM: 8MB Mask ROM (2M x 32bits)
- RAM: 8MB EDO DRAM (2Mx32 bits)

Connectors/Indicators

- Status LEDs: GREEN (standby or operational mode); RED (flashing: attempting to connect with server; off: connected to server)
- RJ-45 jack
- VGA port
- RCA composite video output
- RCA right/left audio channels
- S-video output
- Parallel port
- PS/2 keyboard port
- PS/2 mouse port
- Power connector
- Reset switch

Features***Display******For Browser:***

- 640x480x8 bits @50Hz (PAL mode)
- 640x480x8 bits @60Hz (NTSC/VGA mode)
- 800x600x8 bits @60Hz
- 1024x768x4 bits @70Hz

For ICA Client:

- 640x480 (256 colors)
- 800x600 (256 colors)
- 1024x768 (16 colors)

Network (see more on following page)

- 10BaseT (IEEE802.3/802.3u)
- TCP/IP with DHCP

Flexible Boot Configurations

- Boot directly into ICA-3 Client software
- Boot into Web Browser

Basic Features:

- Full HTML 3.2 compatibility
- Support for Netscape and Microsoft IE HTML extensions
- Discrete navigation, dynamic horizontal scaling of web pages
- Support for formatting web content for TV display *Extended*

Features:

- Audio: Real Audio, AU, SND, WAV, MIDI, AIFF
- Video: AVI movie files
- Internet Protocols: HTTP 0.9 and 1.0, SSL 2.0

Printer

- Bidirectional parallel port connection for over 150 models including HP, Epson, Lexmark, Canon, Okidata and more

Product Dimensions

Width: 11.75" (29.85 cm)

Length: 10.125" (25.72 cm)

Height: 1.625" (3.18 cm)

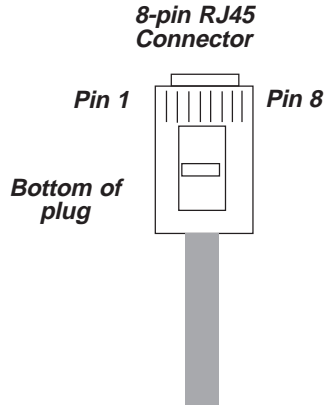
Weight: 2.50 lbs. (1.13 kg)

10BaseT Pin-Out Assignments

Pin-out assignments for the 10Base-T connector are as follows:

8-pin

1	Tx+
2	Tx-
3	Rx+
4	NC
5	NC
6	Rx-
7	NC
8	NC



10BaseT Cabling Specifications

Cable: RJ-45 (10BaseT) UTP Category 3, 4, 5, or better

Type: Unshielded Twisted Pair (UTP)
22-26 AWG (0.4-0.6 mm); 2 pairs

Max.

Distance: 100mm (328')

6—Compatible Printers

Printer Codes

Brother

HJ-100i	1
HJ-400	11
HL-10M	11
HL-10V	11
HL-1260	11
HL-630	11
HL-655M	11
HL-660	11
HL-730	11
HL-730X	11
HL-960	11
MFC 3900 ML	11
MFC 4000 ML	11
MFC 4500 ML	11
MFC 4550	11
MFC 5500 ML	11

Canon

BJ-100	1
BJ-10EX	1
BJ-105X	1
BJ-200	1
BJ-200E	1
BJ-200EX	1
BJ-230	1
BJ-30	1
BJ-300	1
BJ-330	1
BJC-210	1
BJC-240	1
BJC-250	2
BJC-4000	2
BJC-4100	2
BJC-4200	2
BJC-4300	2
BJC-4550	2
BJC-600	2
BJC-600E	2
BJC-620	2
BJC-70	2
LBP-1260	11
LBP-430	11
LBP45x	11

MultiPass 800	1
MultiPass 1000	1
MultiPass C2500	2

Citizen

Notebook Printer II	1
PN50 Notebook Printer	1
PN60 Notebook Printer	1
ProJet 3	1
ProJet 11	7
ProLaser 6000	11

Epson

ActionLaser II	11
ActionLaser 1000	11
ActionLaser 1100	11
ActionLaser 1400	11
ActionLaser 1500	11
ActionLaser 1600	11
EPL-5500	15
FX-185	4
FX-286	4
FX-80	3
FX-85	4
FX-86	4
GX-80	3
Stylus 800	5
Stylus 800+	5
Stylus 1000	5
Stylus Color 200	6
Stylus Color 300	6
Stylus Color 400	6
Stylus Color 500	6
Stylus Color 800	6
Stylus Color	6
Stylus Color II	6
Stylus Color IIS	6
Stylus Pro	6
Stylus Pro XL	6

HP

DeskJet 1200C	8
DeskJet 310	7
DeskJet 320	7
DeskJet 340	7
DeskJet 400	8
DeskJet 500	7
DeskJet 500C	8
DeskJet 510	7
DeskJet 540	8
DeskJet 550C	9

DeskJet 560C	9	Color Jetprinter 3000	9
DeskJet 600	7	ExecJet IIC	8
DeskJet 600C	8	Medley 4C	8
DeskJet 660C	9	Medley 4sx	8
DeskJet 660Cse	8	Medley 4X	8
DeskJet 672C	9	Optra E	11
DeskJet 680C	9	Optra Ep	11
DeskJet 682C	9	Optra E+	11
DeskJet 693C	9	Optra R	11
DeskJet 850C	9	Optra RX	11
DeskJet 855C	9	Valuewriter 300	11
DeskJet 855Cse	8	Valuewriter 600	11
DeskJet 855Cxi	8	Winwriter 400	11
DeskJet Pro	7	Winwriter 600	11
LaserJet 4	11		
LaserJet 4L	11		
LaserJet 4ML	11		
LaserJet 4MP	11		
LaserJet 4P	11		
LaserJet 4Plus	11		
LaserJet 5	11		
LaserJet 5L	11		
LaserJet 5MP	11		
LaserJet 5P	11		
LaserJet 6L	11		
LaserJet 6P	11		
LaserJet II	11		
LaserJet III	11		
LaserJet IIP Plus	11		
OfficeJet	7		
OfficeJet 300	7		
OfficeJet 330	7		
OfficeJet 350	7		
OfficeJet LX	7		
PaintJet	8		
PaintJet XL300	10		

IBM/Lexmark

4019 LaserPrinter E	11
4029-010 LaserPrinter	11
4029-020 LaserPrinter	11
4029-030 LaserPrinter	11
4037-SE	11
4039-10R LaserPrinter	11
4039-10 Plus	11
4039-12 Plus	11
4070IJ	1
4072 ExecJet	1
ExecJet II 4076	7
Color Jetprinter 1020BE	8

NEC

SilentWriter Model 1097	11
SilentWriter Model 95	11
SilentWriter Model 97fx	11
Superscript 610	11
Superscript 660	11

Okidata

Doc It 3000	11
Doc It 4000	11
OkiPage 16N	11
OL 1200	11
OL1200/PS	11
OL 400	11
OL 400E	11
OL 410E	11
OL 600E	11
OL 610E	11
OL 610E/PS	15
OL 800	11
OL 810	11
OL 810E	11
OL 810E/PS	11
OL 830 Plus	15
OL 850	15

Panasonic

KX-P4400 Sidewriter	11
KX-P4410	11
KX-P4430	11
KX-P4440	11
KX-P5400 Sidewriter	11
KX-P5410	15
KX-P6100	11
KX-P6500	11
KX-P5600	11

7—Accessories

- Keyboard: Part no. 8602
- Mouse Part no. 8603
- AA batteries Part no. 8264
- AC power cord: Part no. 8270
- Audio/Video cable: Part no. 8507
- S-video Cable: Part no. 8532

To order these items, contact your distributor. For a list of local distributors, contact

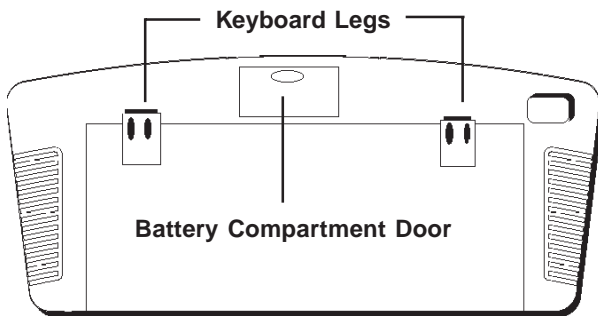
Boca Research, Inc.
1601 Clint Moore Road
Boca Raton, Florida 33437-2841
(561) 241-8088

8—Connecting a Wireless Keyboard

Your wireless keyboard installation is fast and easy, as described below.

Inserting the batteries

1. Remove the battery compartment door.
2. Insert batteries (included) as shown in the diagram inside the battery compartment.
3. Replace the battery compartment door.

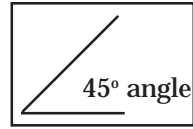


Adjusting the Keyboard Height

To raise the keyboard, lift up the keyboard legs until they snap into place. To lower the keyboard, push each leg down until it fits securely back into its cavity.

Pointing the Keyboard

The wireless keyboard should be used within 25 feet of the unit. For best results it should be pointed at no more than a 45° angle. The keyboard works on “line of sight”.



If there are obstructions between the keyboard and the unit, or if the keyboard is tilted at too severe an angle, it may appear as if the keyboard isn't working.

Keyboard Functions and Features

Arrows and ENTER / OK. Use the **arrows** to highlight items on the menu screens, and when surfing the web. Press **ENTER / OK** to select a highlighted item.

ALT. In ICA-application sessions, performs standard keyboard functions.

CLEAR/ESC. In ICA-application sessions, performs standard keyboard functions.

CTRL. In ICA-application sessions, performs standard keyboard functions.

FAV. Displays sites that are stored under 'Favorites' (when you are on-line).

FUNC. In combination with number keys, FUNC provides the equivalent function of pressing F1 to F10 on a PS/2-compatible keyboard.

GO BACK. Returns you to the preceding frame, web page, menu, or toolbar.

GO TO. Displays the URL Entry Toolbar so you can type in an URL to “go to” that web page.

GUIDE. Reserved for future applications.

HOME. Takes you back to the URL specified during setup.

INFO. Gives you web page details for a web site.

(continued on next page)

MAIL. Reserved for future applications.

MENU. Brings up the Main menu, or the Toolbar when you’re surfing the web.

PAGE UP and PAGE DOWN. Scroll up and down through web content one page at a time.

POWER. Turns the unit on and turns it off (standby mode).

PRINT. Displays the Print Options box.

RELOAD. Reloads the current web page. If you are downloading a page, it stops the download and loads the preceding page.

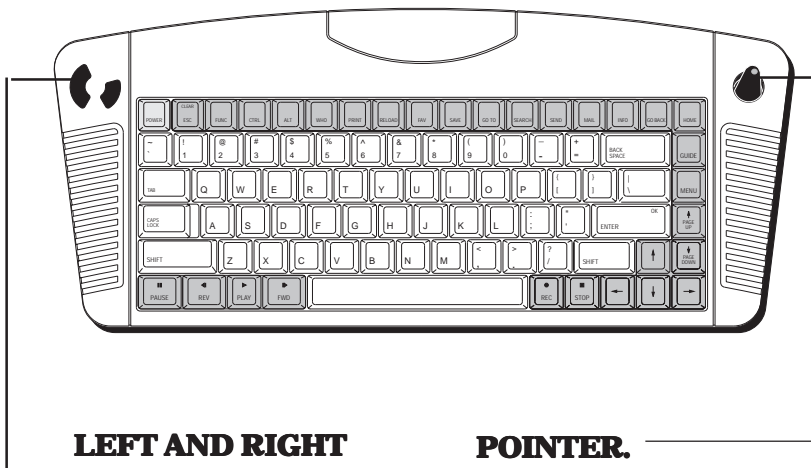
SAVE. Reserved for future applications.

SEARCH. Reserved for future applications.

SEND. Reserved for future applications.

Transport Keys (PAUSE, PLAY, STOP). Controls Internet sound and movie player functions. STOP also stops loading a web page and stops printing. REV and FWD are reserved for future applications.

WHO. Reserved for future applications.



LEFT AND RIGHT MOUSE CONTROLS.

Use the left mouse control to select a highlighted item on menu screen or Internet. The right mouse control is reserved for future applications.

POINTER.

Use to highlight items on menu screens and when you're surfing the web and when running software applications.

