

Telecommunication Peripheral Products
Technical Practice

PDF-2
PathFinder
Phone/Data/Fax Switch
March 23, 2000

Eliminate the Expense of Dedicated Phone Lines!



The PDF-2 PathFinder allows any business, large or small, to enjoy the convenience of automated data transmission without the perpetual monthly expense of a dedicated phone line.

The PathFinder automatically answers each call, then routes the call to the appropriate telephone, fax, modem, point of sale terminal or other device.

All connected devices share the same line but operate independently, giving small offices or residences big business features and convenience.

Offices with multi-line phone systems can use the last line of their system as their fax/modem line, maximizing their line utilization.

<http://www.VikingElectronics.com>

[E-mail...Sales@VikingElectronics.com](mailto:Sales@VikingElectronics.com)

Features

- Four ports allow any four analog devices to share a single line
- Selectable security codes eliminate unauthorized access
- Monitors for Calling Party Control (CPC)
- Distinctive ringing auto routing
- Outbound CNG tones for manual fax machines
- Automatic "privacy" eliminates interruptions on both in and out bound calls
- Voice calls hear simulated ring-back tones
- Manual fax/modem calls can be transferred to data ports using a tone or pulse phone
- Transfer from voice to fax to voice as often as may be required during the same call
- All in and out bound calls are routed to the phone port during a power failure

Sales...(715) 386-8861

Applications

Facsimile Machines

- Retail
- Commercial
- Industrial
- Governmental
- Home office

Modem Terminals

- Personal computers
- Main frame computers
- Remote access applications

Point-Of-Sale Terminals

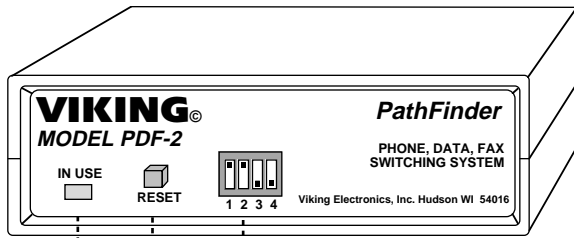
- Fast food chains
- Retail stores
- Convenience stores

Specifications

- Power:** 120V AC/12V DC 500mA, UL listed adapter provided
- Dimensions:** 127mm x 127mm x 25mm (5" x 5" x 1.5")
- Shipping Weight:** 1.36 kg (3 lbs)
- Environmental:** 0°C to 32°C (32°F to 90°F) with 5% to 95% non-condensing humidity
- CNG Detection:** 1100 hz burst
- Baud Rate:** 33.6 maximum (subject to line condition)
- Carrier Tone Detection:** Steady 1000hz - 3000hz
- Connections:** (5) RJ11 jacks

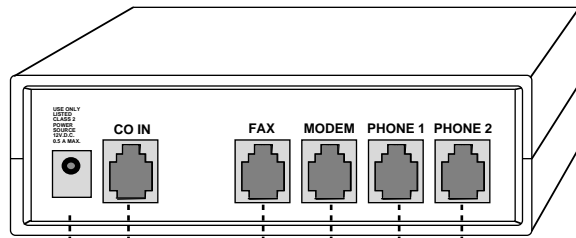
Installation/Applications

Front View of the PDF-2



Dip Switches
Reset Button (resets programming)
LED Indicator light

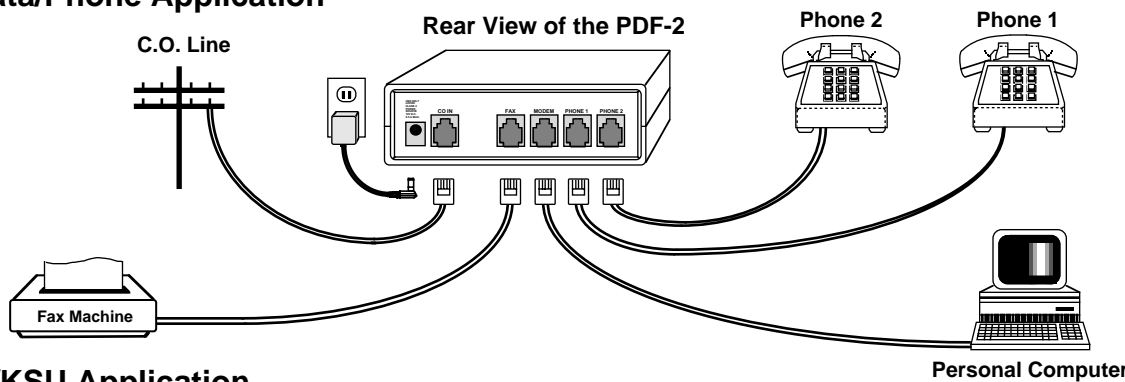
Rear View of the PDF-2



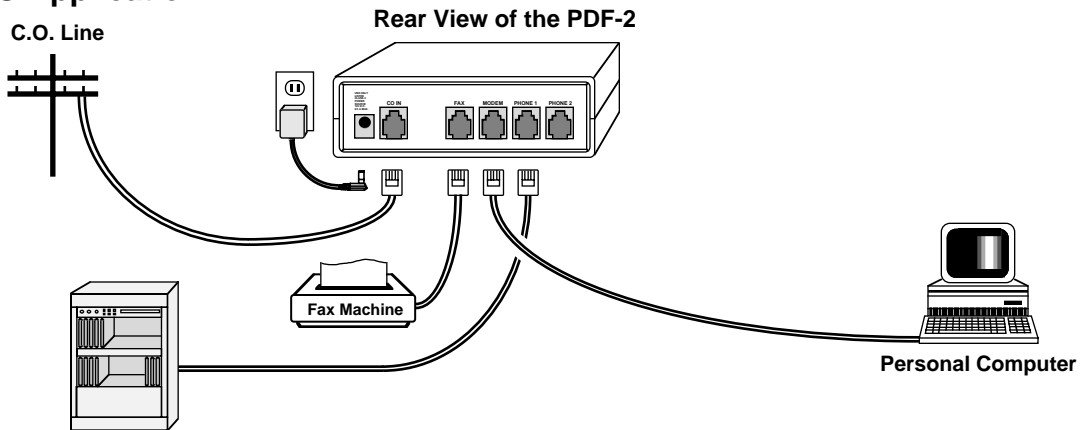
Phone 2
Phone 1
Modem Jack
Fax Jack
Line In Jack
Power Adapter Jack

Important: For efficient operation, program the Fax machine to answer on the first ring. It is recommended that all custom calling features be disabled on the phone line you will be using the PDF-2 on, they may cause errors.

A. Fax/Data/Phone Application

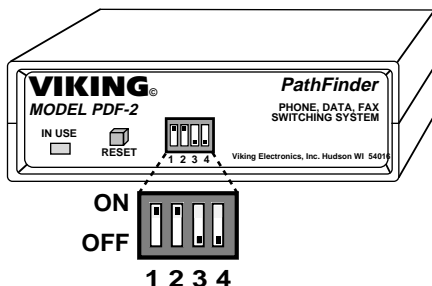


B. PABX/KSU Application



Programming

A. Dip Switch Settings



Switch Number	Switch Description	ON/OFF
1	Ring Delay	OFF - Rings default port 10 times ON - Rings 5 times then rings fax (factory setting)
2	Security Code	OFF - Security code enabled ON - Security code disabled (factory setting)
3	CPC Control	OFF - Detects CPC (factory setting) ON - Does not detect CPC
4	Distinctive Ringing	OFF - Distinctive ringing disabled (factory setting) ON - Distinctive ringing enabled

Important: After changing the dip switch settings, you **MUST** press the **RESET** button or momentarily disconnect power for the new settings to take effect.

Caution: The **RESET** button, resets the microprocessor, erasing all user programming.

B. The Default Port (Factory set to Phone 1)

You may program any one of the four ports to be a default port. The default port is the port to which an incoming call, either fax or modem, will go if the selected device port does not answer or the caller does not direct the call. For example, suppose the default port is the first telephone port. If a fax machine calls with C.N.G. tones, the **PDF-2** will detect this and send the call to your fax machine. But, suppose your fax is out of paper and doesn't answer the call. Then the **PDF-2** will ring your telephone making you aware of the problem with your fax. The **PDF-2** is factory set to default to port **PHONE 1**. To change the default port, follow the directions below:

1. Connect a Touch Tone phone to port **PHONE 1**.
2. Pick up the handset.
3. Press the “*” button to start programming the **PDF-2**.
4. Press **2** to change the default port.
5. Press the number of the desired port: **1 (FAX)**, **2 (MODEM)**, **3 (PHONE 1)** or **4 (PHONE 2)**.
6. Hang up.

Note: In the event of power failure, all user programming is erased and must be re-entered upon power restoration. Keep a log of all **PDF-2** programming at the **PDF-2** location.

C. Rollover

Rollover is the action of transferring the call from the default port to the fax port, after your ring delay setting has been exceeded.

Rollovers occur when the ring delay is set to 9 or fewer rings and there is no answer. The **PDF-2** “rolls over” and rings the fax port, unless you have protected the fax port with a security code. In that case, there is no rollover, the **PDF-2** just hangs up.

D. Rollback

The following are two conditions in which rollback will occur:

1. If you transfer a call to any port and there is no answer within 5 rings, the call will rollback.
2. If you transfer a call to any port and it answers, it will rollback to you if you don't hangup.

E. Ring Delay (Factory set to 5)

Ring delay is the number of times the **PDF-2** rings the assigned default port before it will roll over the call to the fax port. The **PDF-2** is factory set to default after the fifth ring. Follow the directions below to change the ring delay:

1. Connect a Touch Tone phone to port **PHONE 1**.
2. Pick up the handset.
3. Press the “*” button to start programming the **PDF-2**.
4. Press **1** to change the ring delay.
5. Press the number (1 - 9) of rings you want.
6. Hang up.

Note: In the event of power failure, all user programming is erased and must be re-entered upon power restoration. Keep a log of all **PDF-2** programming at the **PDF-2** location.

F. Security Code

Security codes enable you to prevent unauthorized calls from reaching your system. For example, you may wish to prevent unsolicited advertisements from being sent to your fax.

When the **PDF-2** answers, a beep will be heard. The caller will then have 5 seconds to enter a security code from their Touch Tone phone. If an incorrect code or no code is entered, the **PDF-2** will direct the call to the default port if no security code is programmed for that port (see section **A** in **Programming**). If all ports have been programmed with a security code, the **PDF-2** will hang up.

1. Setting or Changing the Security Codes

- a. Set switch 2 to OFF, then plug the **PDF-2** in (see **Installation**). **Note:** If you have already plugged in the unit and programmed it, all programming will be lost when the switch 2 is moved to OFF.
- b. Connect a Touch Tone phone to port **PHONE 1**.
- c. Lift the handset and press “*” to enter the programming mode.
- d. Press “**3**” to program the security codes.
- e. Select the port you want to program the security code for, **1 (FAX)**, **2 (MODEM)**, **3 (PHONE 1)** or **4 (PHONE 2)**. Select “**8**” instead of a port number, to program a security code for the assigned default port that will provide distinctive ring when a caller uses it.
- f. Use one to four digits (0 - 9) as the security code.
- g. Hang up.
- h. To set a security code for another port, repeat steps **c** through **g**.

Note: In the event of power failure, all user programming is erased and must be re-entered upon power restoration. Keep a log of all **PDF-2** programming at the **PDF-2** location.

2. Activating and Deactivating the Security Codes

- Connect a Touch Tone phone into the **PHONE 1** port.
- Lift the handset and press “*” to enter the programming mode.
- Press “3” to program the security codes.
- Press a “9” or a “0” to deactivate all security codes.
- Press a “7” to reactivate all security codes.
- Hang up.

Note: In the event of power failure, all user programming is erased and must be re-entered upon power restoration. Kepp a log of all PDF-2 programming at the PDF-2 location.

Operation/Applications

A. Standard Operation

During standard operation, the PDF-2 will answer all incoming calls and listen for:

- 1100hz CNG tone to route the call to the fax port
- Steady 1000 - 3000hz carrier tones to route the call to the modem port
- Manual Touch Tones, pulse dialing or hookswitch flashes to route the call as shown in the table below

Type of Phone	To Fax Machine	To Modem	To Phone 1	To Phone 2	Type of Call
Touch Tone	Dial “# 1”	Dial “# 2”	Dial “# 3”	Dial “# 4”	In-bound or intercom
Rotary (10 P/SEC)	Dial “2”	Dial “3”	Dial “4”	Dial “5”	In-bound only
Tone or Rotary	Hook Flash (2) times	Hook Flash (3) times	Hook Flash (4) times	Hook Flash (5) times	In or out-bound

Note: The “hook flash” must be longer than .2 seconds, but less than 1 second with no more than 2.5 seconds in between hook flashes.

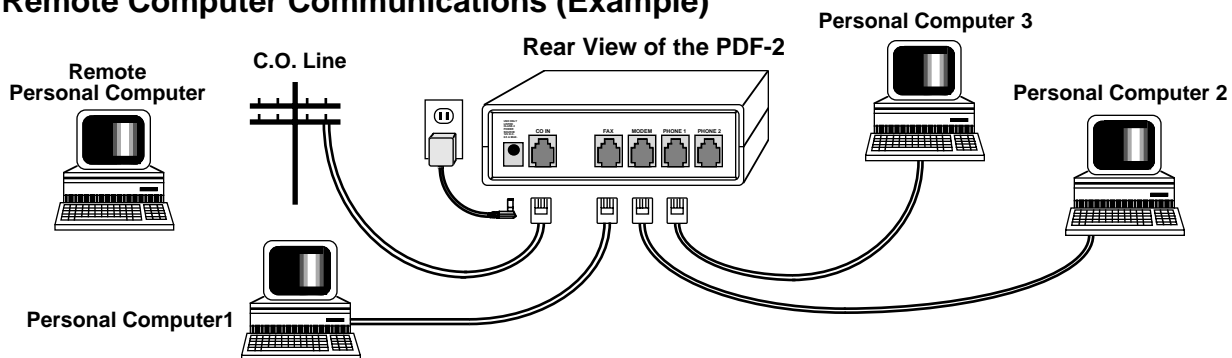
- If no Touch Tones are heard, the call will be routed to the **PHONE 1** or the assigned default port.

B. Distinctive Ringing (see Programming, section A)

The PDF-2 can identify distinctive ring cadences and route the call accordingly. **Notes:** If your “Normal” ring is less than 1.5 seconds or a double ring, etc., you cannot use this feature. On “Normal” ring, the PDF-2 will still monitor for CNG, carrier tones and Touch Tones, before sending the call to the default port.



C. Remote Computer Communications (Example)



- Remote computer is programmed to call “1-715-386-8861 (pause) 2222222222.”
Note: Depending on the network “connection” time, the pause may need to be longer or shorter.
- The PDF-2 answers after the first ring and detects the string of “2’s.” The PDF-2 will route the incoming call to port #2 and produce ringing to computer 2.
- Other ports may be accessed by inserting the port number in the dialing string as shown in 1. above.

Product Support Line...(715) 386-8666

Fax Back Line...(715) 386-4345

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