

muratecTM

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800) 292-2492 to order paper and other supplies

972) 364-3314 to order operating instructions

972) 364-1053 to order fax parts

972) 364-3350 to speak with customer support

M820 Operating Instructions

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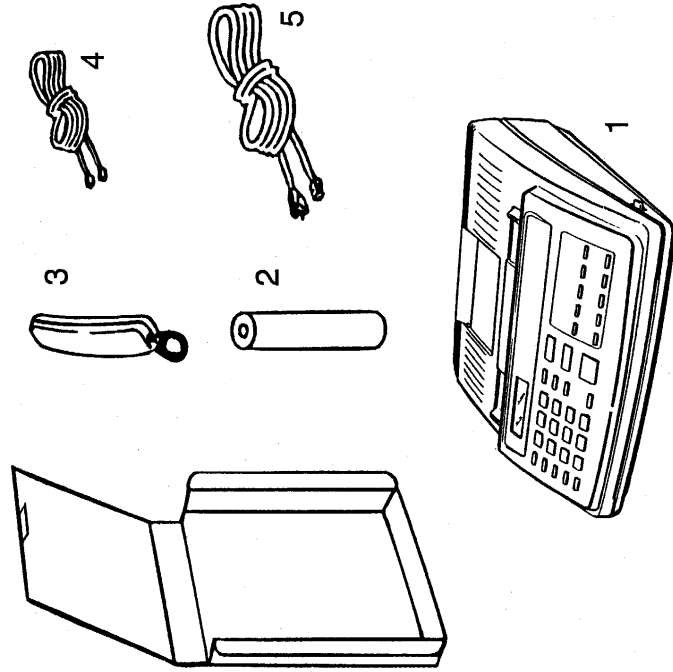
Your Fax

The M820 was made to accommodate your home or small office. You now have fax, phone, and copier capabilities in one easy-to-use machine. Transmit business correspondence to your clients, fax catalog orders, or send resumes with the touch of a button. The copier feature lets you copy documents such as journal articles, receipts, and letters. Communication was never so fast and easy.

Unpacking

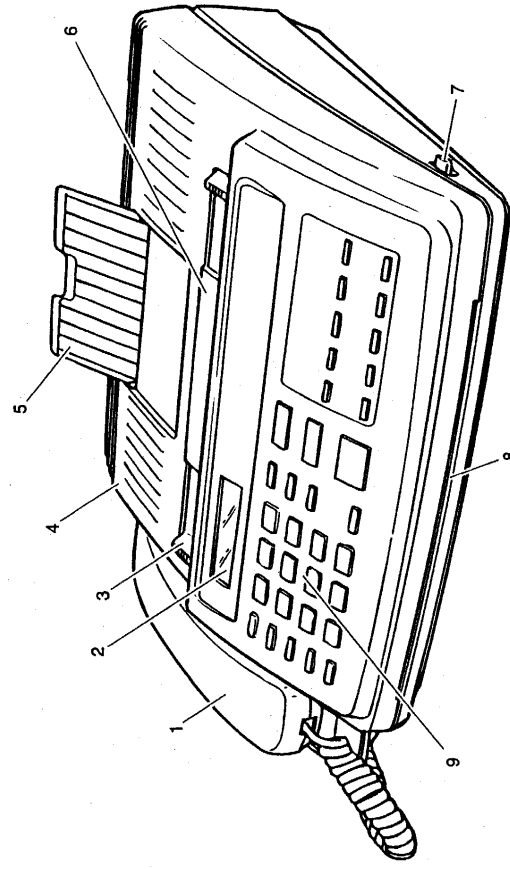
As you unpack your fax, check for the following items:

1. Fax machine
2. Starter paper roll
3. Handset and curl cord
4. Telephone line cord
5. Power cord

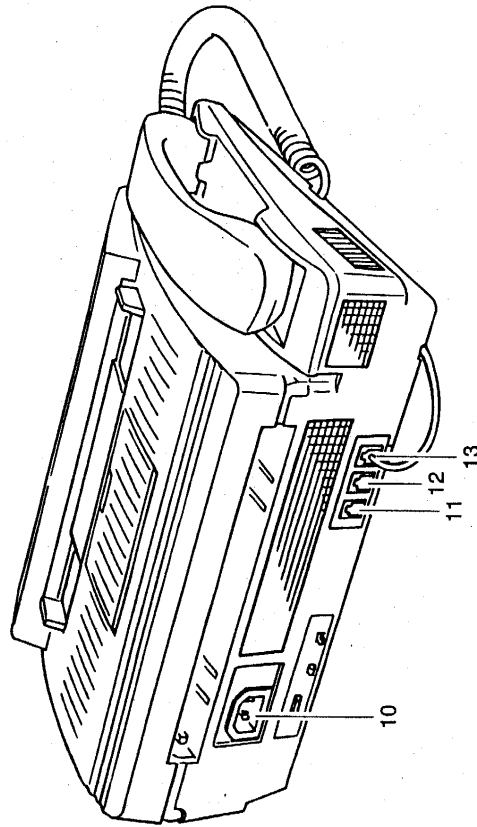


Be sure to save the box and packing materials for reshipment.

Machine Layout



1. **Handset**—Used for voice communication.
2. **LCD**—A one-line, 16-character display that shows the system status and fax operation.
3. **Document Size Guide**—Assures straight document feeding and measures paper width.
4. **Top Cover**—Allows access to paper jams within your fax.
5. **Document Hopper**—Holds the documents to be fed into the fax.
6. **Document Feeder**—Holds up to ten pages for transmission or copying.
7. **Top Cover Release**—Press to open the top cover of your fax.
8. **Original Document Exit**—Original pages exit from this slot.
9. **Control Panel**—Contains all of the keys used to operate your fax. See the Control Panel Layout section for more information.

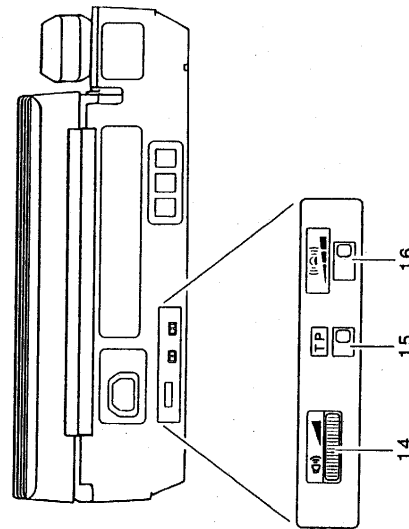


10. **AC Plug**—Connection for the power supply cord.

11. **Line**—A standard RJ-11C modular jack for a telephone line from a wall jack.

12. **Phone2**—An RJ-11C modular jack for optional use of your telephone answering machine, cordless telephone, or other telephone device.

13. **Handset**—An RJ-11C modular jack for your fax machine's telephone handset.

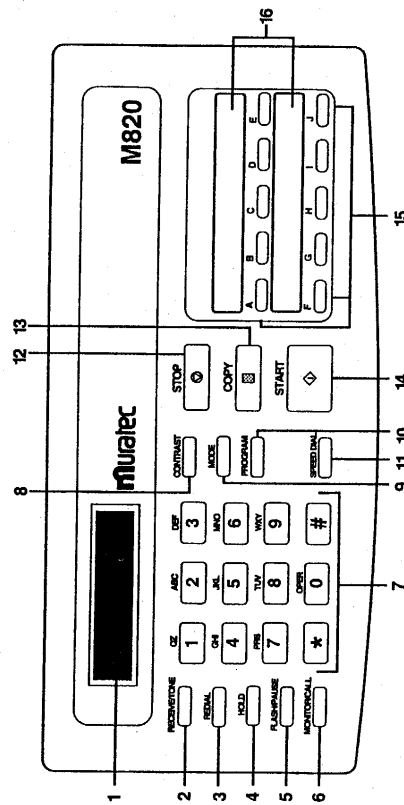


14. **Monitor Volume Control**—Controls the volume of your fax machine's monitor speaker.

15. **Tone/Pulse (Rotary) Setting**—Set to match the type of dialing signals used by your telephone system. Call your local telephone company for more information on the correct setting for your telephone system.

16. **Ringer Volume Control**—Allows you to select from three ringer volume settings: high, low, and off.

Control Panel Layout



1. **LCD**—A one-line, 16-character display that shows the system status and fax operation.

2. **Receive/Tone**—Press to choose manual and automatic reception options. Can be used for special dialing requirements on some rotary telephone systems.

3. **Redial**—Dials the last telephone number entered.

4. **Hold**—Puts callers on hold.

5. **Flash/Pause**—Inserts dashes and special dialing symbols into the telephone numbers you enter.

6. **Monitor/Call**—Press to get a dial tone without lifting the handset. This key also lets you request a call during transmission (see page 21).

7. **Numeric Keypad**—Used to enter numbers for fax transmissions and features.

8. **Contrast**—Press to adjust the darkness or lightness of your document. This key also allows you to scroll backward through features and command options.

9. **Mode**—Press to adjust the scanning resolution—normal, fine, superfine, or grayscale—when transmitting or copying a document. When you are programming information into your fax, this key serves as an "Enter" key.

10. **Program**—Press to scroll forward through features and command options.

11. **Speed-Dial**—Press for speed-dial transmissions.

12. **Stop**—Stops the current operation or discharges a document from the document feeder. Cancels alarms.

13. **Copy**—Press to copy a document.
14. **Start**—Starts a manual transmission or reception.
15. **One-Touch Keys**—Used for one-touch dialing and when entering TTI information and other alphabetical characters.
16. **One-Touch Labels**—Pencil-in labels for your one-touch keys.

Tips for Use

To keep your fax in perfect working order, be sure to install it away from:

- **Dust**—Dust build-up can damage your fax.
- **Splashes**—Keep your fax away from sinks, water fountains, and other sources of splash and spray.
- **Vibration**—Keep your fax on a level, vibration-free surface to improve performance and system life.
- **Overheating**—Allow at least 12 inches of clearance around your fax machine. Don't install your fax in direct sunlight and never cover your fax with a cloth or dust cover.

Specifications

Type: High-speed facsimile transmitter and receiver for home and office use.

Phone Line: Public Switched Telephone Network (PSTN) or equivalent.

Modem: 9600 bps with fallback to 7200, 4800, and 2400 bps.

Compatibility: CCITT Group 3.

Transmission Speed: 28 seconds per page.*

Document Feeder: 10 pages.

Resolution: Normal 203 H x 98 V lpi, Fine 203 H x 196 V lpi and Superfine 203 H x 392 V lpi.

Original Document Size: 8.5 (W) x 15.7 (L) inches maximum and 4.8 (W) x 4.0 (L) inches minimum.

Dimensions: 14.2 (W) x 11.6 (D) x 4.6 (H) inches.

Grayscale: 16-level.

Printing Width: 8.5 inches.

Scanning Width: 8.5 inches.

Scanning Method: Solid-state CCD.

Recording Paper: 8.5 inches x 164 feet.

Power: 120 V $\pm$ 10%, 50/60 Hz.

Weight: 11.2 lbs.

* Based on transmission of CCITT Test Chart 1 to a Muratec fax. Your transmission times will vary, but your fax will always provide the fastest transmission speeds possible under CCITT 9600 bps guidelines and phone line conditions.

Setting Up Your Fax

Setting up your M820 is easy and fast. You can install it in moments.

Phone and Electrical Requirements

To ensure proper operation of your fax:

Do: Make sure your home or office has the appropriate telephone and electrical systems before you install.

Power your machine from a standard three-pronged 120 V electrical outlet.

Power your fax from an electrical surge protector connected to your wall and telephone outlets to shield your fax from high-voltage surges.

Don't: Connect your fax to a multi-line system (public branch exchange, or PBX) like those found in many offices.

Plug your fax into an electrical outlet which is controlled with a wall switch.

Plug your fax into an outlet you use for a large appliance such as a refrigerator or air conditioner. These appliances can cause electrical "draw-downs"—temporarily reducing the power available for other equipment on the circuit—and could damage your fax.

Call-Waiting Signals

Fax transmission and reception can be stopped by telephone call-waiting signals. If you have requested call-waiting service for the line to which you will connect your unit, you may experience interruptions in facsimile service.

Voltage Requirements and Power Consumption

Voltage Requirements: 120 V 50-60 Hz

Power Consumption:	Standby:	8 W	Transmission:	18 W
	Reception:	26 W	Maximum:	100 W

You'll want to leave your fax plugged in at all times so that you never miss an important transmission. At standby, your fax uses only about the same amount of electricity as your clock/radio.

Quick Set-up

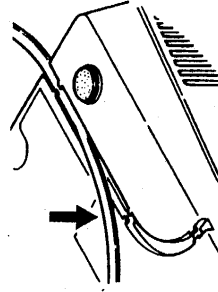
First, select a place with a standard three-pronged, 120 V electrical outlet and a standard modular telephone jack (an RJ-11C).

1. Plug one end of the fax handset's curl cord into the **Handset** connection on the back of your fax.

Note: If you need a longer handset cord, any standard telephone curl cord will do.

2. Plug the other end of the cord into the handset.

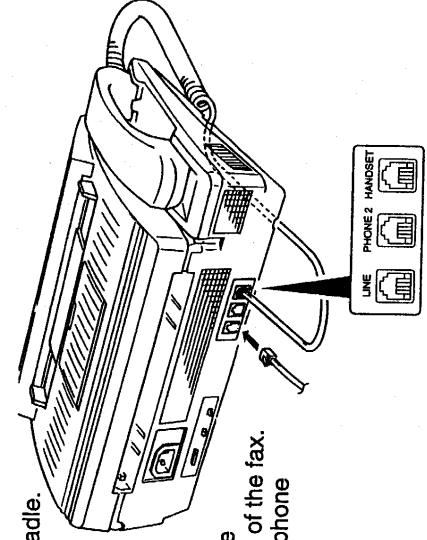
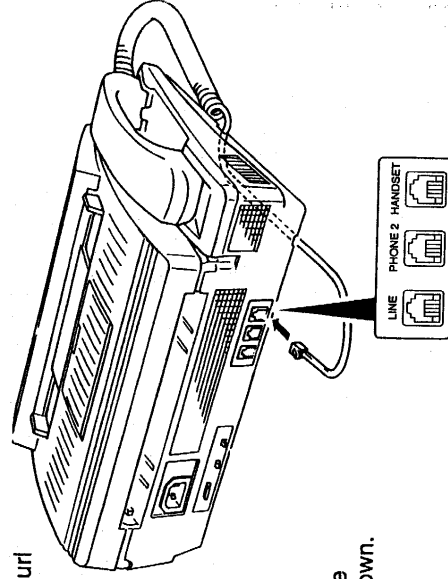
3. Thread the handset cord through the slot on the bottom of your fax as shown.



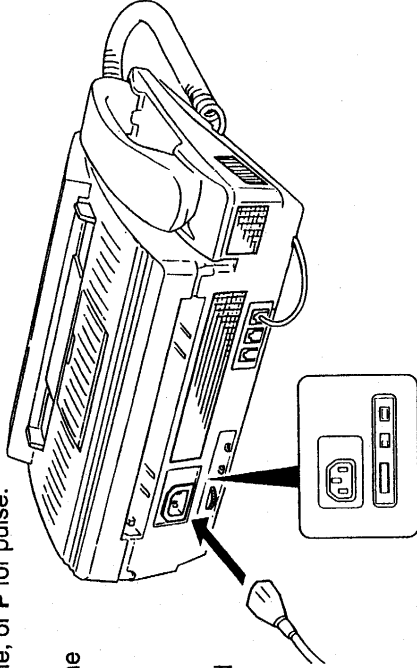
4. Place the telephone handset on the cradle.

Note: Your fax's handset is specially designed for your fax machine. It will not work if plugged into the **Phone2** jack.

5. Plug one end of the uncurled telephone line into the line connector on the back of the fax. Plug the other end into a standard telephone wall jack.



6. Make sure the **Tone/Pulse** setting on the back of your fax is positioned appropriately. Select **T** for tone, or **P** for pulse.



7. Plug the power cord into the connection at the back of the machine as shown.
8. Plug the other end of the power cord into a standard three-pronged 120 V electrical wall outlet.

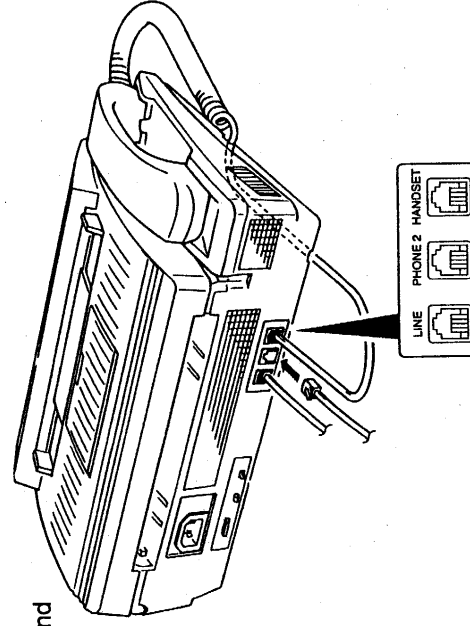
Adjusting Monitor Volume

1. Press **Monitor/Call**. You should hear a dial tone. If not, go back and re-check your connections so far.
2. Adjust the volume with the monitor speaker dial on the back of your fax. When you're satisfied with the volume, press **Monitor/Call** once more.

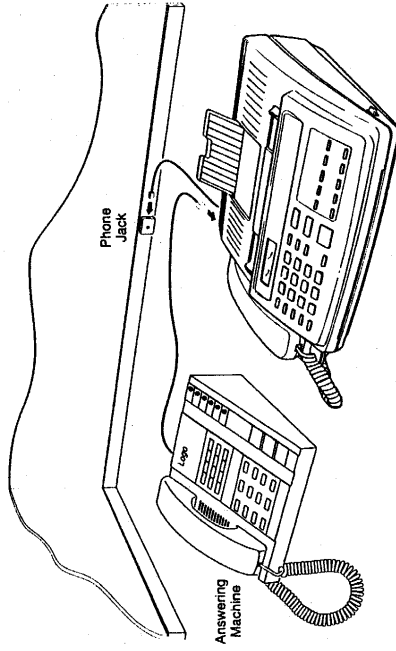
Attaching a Second Telephone or Answering Machine to Your M820

1. First install your M820 as directed on the previous pages.

2. Plug the line of your second telephone or answering machine into the **Phone2** jack on the back of your M820. Please refer to the illustration.



Note: Do not plug your second phone or answering machine into the wall jack. The answering machine must be connected to your fax machine's **Phone2** jack as shown.



3. Plug your answering machine's power cord into a standard electrical outlet.

Using an Answering Machine With Your M820

You can connect an answering machine to your fax's **Phone2** connector for the ultimate in fax/telephone convenience. Your answering device and Muratec machine can work perfectly side-by-side when you take a few precautions to accommodate the standards used by fax machines.

To ensure smooth operation of your M820 and your answering machine:

1. Check to see that your answering machine phone line is connected to your M820's **Phone2** jack on the back of the machine.

2. Press **Receive/Tone** until **Ans Ready** is displayed.

Ans Ready 12:45

Note: For more information on the **Ans Ready** mode, see page 14.

3. Set your answering machine to answer calls after one or two rings. Consult your answering machine's operator manual for instructions.
4. Create an outgoing message. Please see page 8 for more information.

Modifying Your Outgoing Message

Here's a suggested outgoing message for your answering machine that you can modify to suit your needs:

Hi. You have reached (your name or telephone number). To leave a voice message, wait for the beep. To send a fax now, press Start. Or leave a voice message, then press Start to send a fax. Thanks!

Tip: For best results, keep your message under ten seconds.

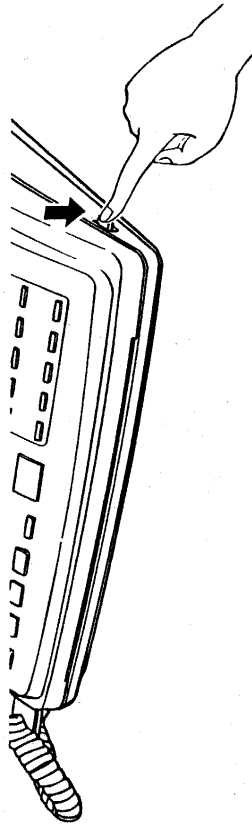
Standby

Your fax is in standby anytime it is idle. When it isn't being used for fax or voice calls, copying, or programming, you will see the following display:

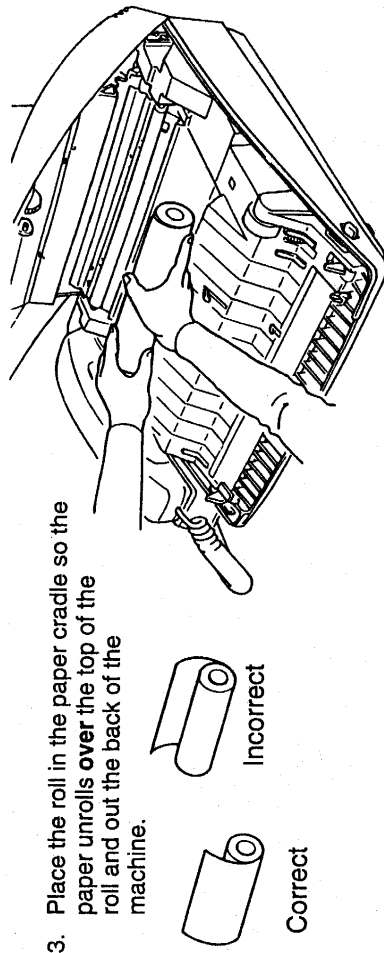
Fax Ready 12:45

Paper Roll Installation

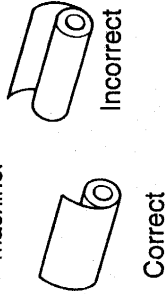
1. Press down on the cover release as shown. The cover will flip up.



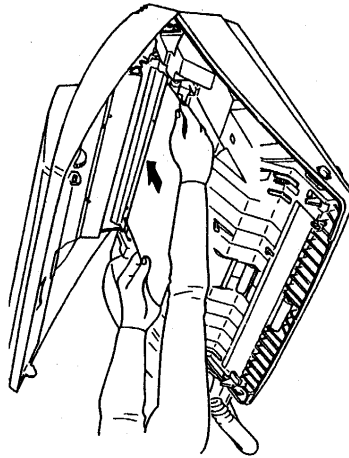
2. Remove the wrapper from a roll of fax paper.



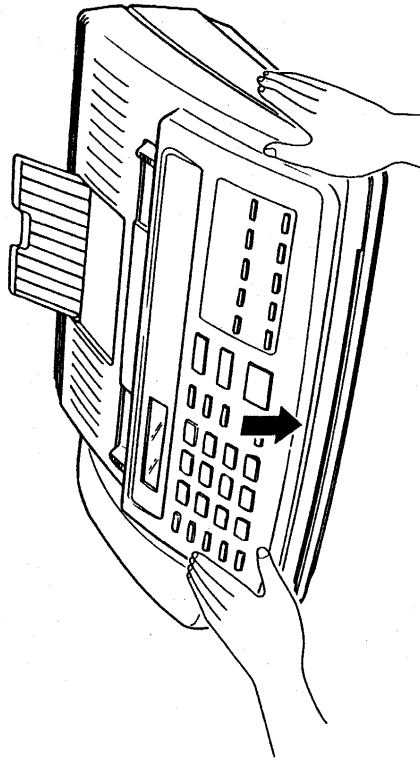
3. Place the roll in the paper cradle so the paper unrolls **over** the top of the roll and out the back of the machine.



4. Feed a few inches of the paper out through the paper exit.



5. Close the cover of your machine.



6. Reach around to the back of your fax, grasp the paper, and tear from left to right. This allows the next document you receive or copy to have a finished look.

Telephone Features

As you've already seen, your fax is a personal communications center that satisfies your fax and copier needs. You'll soon find that it is also a full-featured phone, equipped with all the standard conveniences you'd expect, plus a little more.

You can use the phone to make voice calls or to place fax calls. When calling a remote fax with the handset, wait until you hear fax reception tones, then press **Start** to transmit the document in the feeder.

Your fax machine's phone features include:

Call Timer

Each time you pick up your fax machine's handset and dial a call, a simple glance at the display will tell you exactly, in minutes and seconds, how long you've been on the phone.

Tel	05:21
-----	-------

This is particularly useful when you must make calls during the day when telephone rates are at their highest. The call timer takes the guesswork out of tracking your phone time.

Redial

Pressing this key redials the last number you dialed, up to 40 digits. When you receive a busy signal, your fax will automatically disconnect the call. Simply hang up the handset, or press **Monitor/Call**, then press **Redial**. Your fax will immediately dial the number again.

Hold

Put your callers on hold at any time during your telephone conversation by pressing **Hold** and hanging up the handset. Simply pick up the handset to return to your call.

Hold

Monitor/Call

For hands-free dialing, press **Monitor/Call** to get a dial tone while the handset remains down. Dial the telephone number using the numeric keypad, a one-touch key, or speed-dial number. If you're using the numeric keypad, press **Start** when the remote machine answers. When you use one-touch and speed-dial keys, your fax will attempt to transmit automatically; there's no need to press **Start**.

Telephone

Note: If you can hear a dial tone on your fax machine's handset, but are unable to dial out, make sure that your fax's power cord is plugged in. Your fax must be turned on in order for you to use the telephone features.

Fax Features

You can enter the following settings at any time and in any order you want. However, you'll want to set your fax machine's date and time and your TTI right away so that you can begin fax communications immediately. The other settings can be entered or ignored, depending on your particular fax needs.

Set Date and Time

The clock in your fax is protected from power failures for up to several days by an internal battery. The LCD displays time in 24-hour format, so hours after noon are shown as numbers larger than 12.

To enter the date and time into your fax:

1. Press **Program** four times.

Set Clock

2. Press **Mode**.

'93 05 19 11:22

3. Enter the date and time using the numeric keypad. Simply type over the numbers shown on the display. To change a specific number, use the **A** and **B** one-touch keys to move the cursor to the number you want to change.

'93 05 19 12:22

4. Press **Mode**.

Fax Ready 12:22

Press the **Stop** key at any time to return to standby without saving your changes.

Enter Your TTI

Your programmable Subscriber ID and Transmit Terminal Identifier (TTI) are added to the top of each page you send. The Subscriber ID and TTI appear on each page of the document as it is printed by the receiving fax. The Subscriber ID is your fax machine's telephone number. The TTI can be your name or business name and can be up to 25 characters long.

In the United States, the Telephone Consumer Protection Act of 1991 requires that fax users add their name and telephone number to the fax messages they send. Your fax machine's TTI and Subscriber ID are an ideal way to accomplish this automatically on every transmission.

To enter your name and telephone number:

1. Press **Program** five times.

Enter Your TTI

2. Press **Mode** twice.

ABCDEF 00

3. Enter your name or your business name, up to 25 characters.

The characters you will use to enter your name appear on the display in groups. Press the one-touch key **C** to scroll forward through your choices or one-touch key **D** to scroll backward. When the letter, number, or symbol you want appears on the display, use the **A** and **B** one-touch keys to move the cursor to the character. Press **Mode** to select it.

abcdef 02 Ka

As you enter your TTI, you will only see the four most recent characters you entered. The number you see in the center of the display tells you how many characters you have entered into your TTI so far.

Note: If you enter a letter by mistake, the **Contrast** key acts as a delete key.

4. Press **Program** to store your TTI. Your fax will now ask you to enter your fax number.

Set Fax #?

5. Press **Mode**.

00

6. Enter your fax number using the numeric keypad. Press the **Hold** key to enter dashes into your fax number to make it easier to read.

Note: Although you can enter up to 20 characters in your fax number, you will only see the last eight characters you entered.

08 214-403-

7. Press **Program**, then **Stop** to return to standby.

Fax Ready 11:28

Set Fax Resolution

Your fax offers a choice of transmission resolutions, so every document you send arrives looking great. With the fax resolution setting, you can tell your fax which resolution—normal or fine—you use most often. Documents you insert into your fax machine will automatically be sent at the resolution you select with this feature unless you manually change the resolution before transmission. To set the resolution:

1. Press **Program** six times.

Set Fax Resol.

2. Press **Mode**.

Fax Resol. Fine

3. Press **Program** to choose the normal or fine resolution.

Fax Resol. Norm

4. Press **Mode** to select your choice.

Fax Ready 11:30

Set Number of Rings

Use this setting to select the number of times your fax will ring before it responds to a call in the Fax Ready and Tel/Fax Ready modes. You can select from one to fifteen rings. Your fax is initially set to answer after two rings.

To set the number of rings:

1. Press **Program** eight times.

Set # of Rings

2. Press **Mode**.

of Rings = 02

3. Press **Program** to choose the number of rings.

of Rings = 06

Initially, this setting will allow you to set your fax to answer after either two or six rings. Later on, if you find that you need a specific number of rings, you can instruct your fax to offer different numbers using a special custom setting (see page 24).

4. Press **Mode** to select your choice.

Fax Ready 11:35

Block Junk Fax

The block junk fax setting guards your fax from unauthorized facsimile transmissions and eliminates "junk fax." Review how this feature works, however, to determine if it is right for you.

When you activate this feature, your fax studies the last four digits of each remote fax machine's Subscriber ID—the telephone number added automatically to the top of most fax messages. Your fax compares these four digits to every entry in your one-touch and speed-dial directories.

If the last four digits of the remote fax machine's Subscriber ID match the last four digits of any number in your autodialer, the call is accepted. If not, the call is disconnected.

Consider the following items before activating this feature:

- The remote fax machines you communicate with must have their telephone numbers programmed as their Subscriber IDs. Not all fax owners enter this information.
- Some fax machines do not have a Subscriber ID feature. If your fax is set to block junk fax, you will not be able to receive from these units.
- If you use a long-distance service that requires dialing access codes after a number, do not use the block junk fax feature. Any kind of code included at the end of a number in your autodialer can cause blocked calls.

To activate the block junk fax feature:

1. Press **Program** nine times.

Block Junk Fax

2. Press **Mode**.

Block Junk OFF

3. Press **Program** to turn the block junk fax feature on or off.

Block Junk ON

4. Press **Mode** to select your choice.

Fax Ready 11:31

Set Silent Mode

This feature disables the beep that your fax makes after a transmitting or making a copy. To activate the silent mode:

1. Press **Program** ten times.

Set Silent Mode

2. Press **Mode**.

Silent Mode ON

3. Press **Program** to turn the Silent Mode on or off.

Silent Mode OFF

4. Press **Mode** to select your choice.

Print Settings

After you have entered the settings you need for your fax communication, use a printed listing to check your entries.

To print a list of fax settings:

1. Press **Program**.

List Print

2. Press **Mode** twice.

Print Setting

Clear All Settings

This command **deletes all user information** from your fax and returns all dip switches to their factory positions.

Do not use this command unless you want to delete all user information—TTI, Subscriber ID, speed-dial numbers, one-touch keys, and all other stored information—from your fax.

To clear all settings and dip switches:

1. Press **Program**, *, 0. Your fax will ask you if you really want to clear all settings.

Sure?

Note: You can press **Stop** to exit from this setting without erasing your information.

2. Press **Mode**.

Reception

Your fax machine's reception options offer several ways for you to respond to incoming calls. The following chart summarizes your options.

Reception Option	Meaning
Tel Ready 12:45	Your fax machine will ignore all calls. You must answer each call manually using the fax machine's telephone handset or another telephone in your home or office.
Fax Ready 12:45	Your fax machine will answer all calls automatically and begin fax reception.
Ans Ready 12:45	Your fax will allow an answering device attached to its Phone2 jack to answer all calls. Or, you can answer calls manually using your fax's handset or a second telephone connected to the Phone2 jack.
T/F Ready 12:45	Your fax will answer all calls automatically and alert you with a special ring when you receive a voice call.

The following sections provide detailed information on each reception option. You'll want to review each option carefully to determine which one will best suit your home or office needs.

Tel Ready

The Tel Ready reception option is ideal if you have one telephone line that must serve double duty for fax and business use. That way, you answer all incoming calls, speaking normally to your voice callers and "greeting" remote fax machines by pressing **Start**. In the Tel Ready mode, your fax will never answer incoming calls.

1. Press **Receive/Tone** until "Tel Ready" is displayed.
2. When the fax rings, answer it as you would with an ordinary telephone. If the call is from a fax machine, you will hear the characteristic electronic fax tones. When you hear these tones, press your machine's **Start** button to return the remote unit's fax "greeting." Then hang up, and reception will begin.

Fax Ready

Fax Ready is ideal for homes and offices that have a dedicated line for the fax and receive voice calls on a separate line. When your fax is set to the Fax Ready automatic reception option, it will answer all calls after a specified number of rings (which you can control), exchange the standard fax "greeting" with the transmitting unit, and then attempt reception.

1. Press **Receive/Tone** until "Fax Ready" is displayed.
2. When the fax rings, you can answer the call manually as described in the "Tel Ready" section above, or you can allow the fax to take the call.

Ans Ready

The Ans Ready mode is specially designed to make the most of the telephone answering machine or second telephone that you connected to your fax in the Installation section. This mode offers two reception options:

Option 1: Use an answering machine with your fax.

To allow your fax to work side-by-side with your answering machine:

1. Press the **Receive/Tone** key until "Ans Ready" is displayed.
 2. Modify your answering machine message to explain that callers can first leave a voice message on your answering machine and then press **Start** to begin their transmission.
 3. Allow your answering machine to answer all incoming calls. Your fax will listen quietly on the line while the outgoing message is played. Callers making voice calls will not know the fax is there.
- If your fax detects the standard fax transmission tones from a remote unit, it will disconnect your answering machine and begin reception.

Option 2: Use a second telephone with your fax.

Although your fax is a full-featured phone, you have the option of using a second telephone connected to your fax machine's **Phone2** jack. This option is especially useful to people who cannot afford to be tied to the telephone, but must answer calls. Simply attach a cordless telephone to the **Phone2** jack and press **Receive/Tone** until "Ans Ready" is displayed. When you answer the call in another room using the cordless phone's handset and the call is from a person, talk as you would normally.

If the call is from a fax, just hang up. Your fax will assume that it is about to receive a transmission and will pick up the line. Occasionally, the handset will immediately go dead when you answer the phone. This means that your fax recognized fax tones as soon as you answered the phone. Your fax then disconnected your handset to begin reception.

Each time you answer the phone with your fax in Ans Ready mode, your fax prepares to receive a transmission. When you hang up the handset, your fax will come on line for about ten seconds to see if a remote machine was calling. Be-

cause of this, you will not be able to dial out again for ten seconds. If your fax does not detect fax tones, it will hang up and free the line.

Silent Detect

A few fax machines do not emit fax tones when transmitting. Normally, this would force your answering machine to keep recording until the remote fax completed its transmission attempt. Fortunately, your fax has a special feature called silent detect to prevent this whenever you use the Ans Ready mode.

For example, let's say you've set your fax to Ans mode and have connected an answering machine. An older remote fax, one that does not emit fax tones, calls your fax. Your answering machine will answer and, since your fax hears no tones, the answering machine will begin recording. At this point, your fax is still listening to the line. If your fax machine doesn't hear a voice message begin within six seconds, it will assume that a fax machine has called and will disconnect the answering machine to pick up the line.

Initially, your fax machine's silent detect feature is turned off. You should not turn it on unless you know for certain that you will be communicating with one of these non-standard machines. If you find that you need this feature, see page 24 for instructions on turning silent detect on.

T/F Ready

T/F Ready stands for "Tel/Fax Ready." When you set your fax to this mode, you're telling your fax to answer all calls, but to let you know when the call is from a person. This method of "screening out" fax calls is helpful if your fax is not on a dedicated line and you receive as many phone calls as you do fax calls.

To use the T/F Ready mode:

1. Press the **Receive/Tone** key until "T/F Ready" is displayed.
2. Let your fax answer all calls. Each time your fax answers a call, it will listen briefly to the incoming call to determine if it is from a fax or from a person. If your unit determines that the incoming call is from a fax, it will begin reception. If your unit determines that the call is from a person, it will sound a special ring for about 30 seconds. Your callers will hear a brief pause after the fax answers their call and then will hear the special ring. If you do not answer the call within the special ring period, your fax will disconnect the telephone line.

Silent Operation

It's possible to instruct your fax to only ring when the call is not from a fax machine. This way, anytime your fax rings you can be sure that it's a voice call.

1. After you've set your fax to T/F Ready, press **Program** ten times. Then press **Mode**. Make sure the following display is shown:

Silent Mode	On
-------------	----

If the silent mode has been turned off, turn it on by pressing **Program**. Then press **Mode** to return to standby.

2. Turn the ringer volume on the back of your fax to the "Off" position. See the installation instructions on page 6 for more information.
Now, each time your fax receives a call from a remote unit, it will simply begin reception without disturbing you. If it receives a voice call, your fax will sound its 30-second pseudo-ring to alert you of the voice call. It's important to remember, however, that this muting function works **only** for your fax machine's ringer. If your fax is not on a dedicated line, the other phones in your home or office will still ring with every single call.

What if I answer a call in another room?

Just because your fax machine has a built-in telephone handset, there's no need to race to the fax machine every time your telephone rings. You can use any telephone in your home or office to answer a call.

If the call is from a fax machine, put the telephone handset down, but don't hang up. Walk to the fax machine and pick up its handset. Then press **Start**.

After you press **Start**, you must hang up both the fax machine's handset and the second telephone's handset. Because remote fax machines will wait several seconds to hear reception tones from your unit, you have about 30 seconds to walk to your fax, pick up the handset, and press **Start**.

"Being Called" Display

When your fax machine automatically answers an incoming call, you will see the following display:

Being Called

If the call is from a fax machine, the LCD will display the telephone number of the remote fax.

2144033465

The next message that appears tells you that you're receiving a fax message and shows the resolution at which it is being received.

Receive	Norm
---------	------

Low Paper Warning

When your fax is almost out of paper, a low-paper line will appear on the underside of the page as it feeds out of the machine. Red or black lines will appear on the underside of the page on both sides. When these lines appear, it's time to replace the paper roll. Your fax cannot receive fax messages when it's out of paper.

Use only the 164-foot paper specifically designed for use in your fax machine. For best results, use Muratec's 164-foot paper rolls. Contact your Muratec dealer or call Muratec Customer Service at 1-800-292-2492 for more information on ordering supplies for your fax.

Sending A Fax

Your M820 is designed to communicate with virtually any fax machine in the world. You can send any piece of normal-weight paper whose dimensions fall within the size of a personal check to a document a little longer than a sheet of legal paper.

The exact minimum and maximum dimensions are:

Maximum: 8.5 inches x 15.7 inches.

Minimum: 4.8 inches x 2.7 inches.

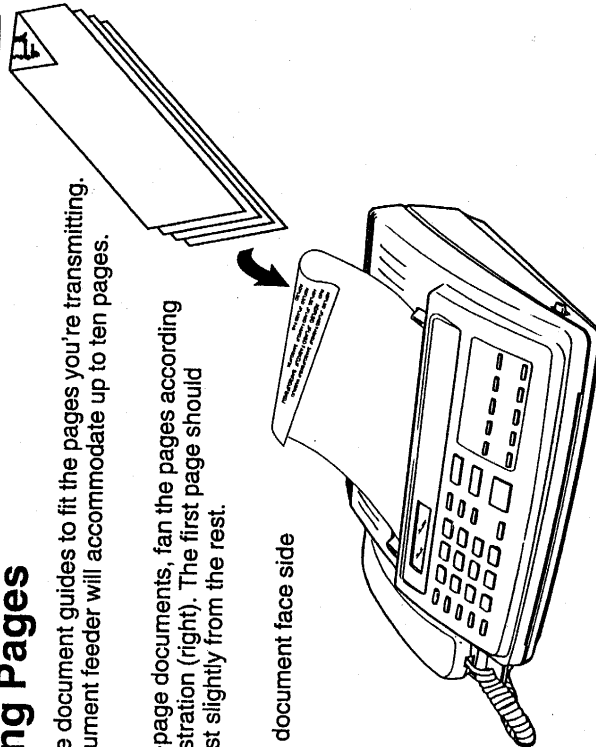
Note: You can transmit extra-long pages using a special custom setting. See page 23 for more information.

Do not transmit:

- Extremely thin or wrinkled pages.
- Folded pages.
- Cardboard, newspaper, or fabric.
- Documents carrying staples, glue, tape, paper clips, correction fluid, or duplicating carbon.

Inserting Pages

1. Adjust the document guides to fit the pages you're transmitting. Your document feeder will accommodate up to ten pages.
2. For multi-page documents, fan the pages according to the illustration (right). The first page should extend just slightly from the rest.
3. Insert the document face side down.



Resolution and Contrast

When transmitting a document, you have four choices of how the document will look when it's printed by the remote fax. The following chart describes the resolution settings available to you.

The...	Is Most Suitable for...
Normal setting	Typed documents.
Fine setting	Detailed or handwritten documents.
Superfine setting	Extremely complicated drawings or line images.
Grayscale setting	Halftone images and photographs.

Note: Your fax machine transmits two types of superfine—Muratec superfine and the new standard Group 3 superfine. You will be able to transmit in superfine to all Muratec fax machines, and any Group 3 fax equipped with the new industry standard. All other fax machines will receive superfine transmissions in fine mode. Grayscale is available to any Group 3 fax—even those without the grayscale mode.

1. Press **Mode** to select the proper transmission resolution for your document.
2. Press **Contrast** to select the lightness or darkness of your document. The contrast setting on your fax works in much the same way as many copy machines. Choose a light contrast to lighten your document or a dark contrast to darken it.

Handset and Monitor

To transmit a document manually:

1. Insert the document.
2. Select your document's resolution and contrast.
3. Pick up the handset or press **Monitor/Call** and listen for a dial tone.

4. When you hear a dial tone, dial your number using the numeric keypad, a one-touch key, or by pressing **Speed-dial** and entering the two-digit speed-dial number.

Note: Be sure to enter any necessary long-distance dialing codes.

5. When you hear fax tones, press **Start**. If a person answers, tell them you're trying to send a fax. When they're ready, press **Start**.
6. After transmission has begun, return the handset to its cradle. If you're using the monitor speaker, the fax will do the rest.

One-Touch and Speed-Dial Numbers

The numbers you program into your fax machine's autodialer allow you to send your documents with just the touch of a button—no more searching for lost fax numbers! To transmit using your autodialer numbers:

1. Insert the document.
2. Select your document's resolution and contrast.
3. Press **Speed-Dial**, the two-digit number you wish to reach, then **Start**; or simply press the appropriate one-touch key.

When your fax initiates the call, a fax number will appear in your M820's LCD. This number may or may not be the number you dialed; the number displayed is the number programmed into the remote machine's subscriber ID.

Note: You can program your fax to print out a confirmation report after each transmission for a little extra assurance that your document reached its destination. See page 21 for more information.

Redial Key and Automatic Redial

To manually redial when you reach a busy signal:

1. Pick up the handset or press **Monitor/Call**.
2. Press **Redial**. The number you last dialed will automatically be called again. Use this manual redial option any time you reach a busy signal using the handset or **Monitor/Call**. Your fax cannot automatically redial when you dial using either of these options.

Your fax will automatically redial a busy fax number anytime you attempt a transmission using a one-touch key, speed-dial number, or a fax number entered using your fax machine's numeric keypad. While your fax is attempting to redial, you will see this display:

Reserved

Your unit will redial the number every three minutes, up to a total of six redial attempts, before letting you know that the communication was unsuccessful.

Dialing Pause

You can include short pauses in your dialing sequences to simplify long-distance dialing. Dialing pauses are required for use with some long-distance systems and are often useful when dialing through special telephone exchanges.

To enter a dialing pause when dialing or in your autodialer, press **Flash/Pause** where you want your fax to pause in the dialing sequence.

The first pause you enter will last 3.5 seconds. A second pause will extend the pause time to 4.5 seconds. Each additional pause you enter will extend the pause time by one second. Use as many pauses as you like, but remember that each pause uses one of the 40 digits you're allocated in dialing.

Making Copies

Your M820 serves as a handy copier for your insurance forms, receipts, and letters.

To make copies:

1. Insert the pages to be copied (See "Inserting Pages" on page 16). Your M820 will copy up to ten pages at a time.
2. Press **Copy**. The copy will feed out through the recording paper exit at the rear of the machine, and your original will exit through the original document exit at the front.

Autodialer

Your M820 stores a total of 30 fax and phone numbers. Ten one-touch fax numbers and 20 speed-dial numbers put even the longest international calls just a few keystrokes away. The autodialer simplifies dialing wherever you call or fax most often.

One-Touch Keys

Your M820 has ten one-touch keys you can program with your most frequently used fax numbers. This convenient feature lets you dial fax numbers with only a touch of the button.

Entering a One-Touch Number

To enter a one-touch number:

1. Press **Program** twice.

Set One-Touch

2. Press **Mode**.

Select A - J

3. Select the one-touch key you want to program.

Fax No.: F

4. Press **Mode**. Enter the number exactly as it should be dialed. Be sure to enter any pauses and long distance dialing codes needed.

If no one-touch number is stored, your LCD will be blank. If you've previously entered a number for this key, the LCD will display that number.

To choose another one-touch number, press **Mode** to start over. Otherwise, the information you enter will overwrite the current number.

7. When you have entered the number as it should be dialed, press **Mode**.
8. Label the one-touch lightly in pencil or with an erasable pen.

Things to remember when entering or editing an autodialer number:

- To move the cursor right, press one-touch key **B**.
- To move the cursor left, press one-touch key **A**.
- The **Contrast** key will erase everything to the right of the cursor when the cursor is positioned at the beginning of the fax or telephone number. Position the cursor at the end of the entry to backspace over one character at a time.
- You can enter up to 40 digits in each autodialer number.
- To enter a pause in an autodialer number, press **Flash/Pause**. See page 17 for more information on dialing pauses.

Erasing a One-Touch Number

1. Press **Program** twice.

Set One-Touch

2. Press **Mode**.

Select A - J

3. Select the one-touch key you want to erase.

Fax No.:F

4. Press **Contrast**.

Directory Erased

To enter or erase another one-touch number, repeat steps 3 and 4 above. Or press **Stop** to return to standby.

Note: When all one-touch and speed-dial numbers are occupied, your M820 will briefly display the following message before returning to standby:

Directory Full

Printing a One-Touch List

You'll want to keep a printed list of one-touch numbers nearby for quick reference. The printed list includes the one-touch letter and the telephone number. To print a one-touch list:

1. Press **Program**.

List Print

2. Press **Mode**.

Print Setting

3. Press **Program**.

Print One-Touch

4. Press **Mode**.

Speed-Dial Numbers

Your M820 will store 20 speed-dial numbers. These are accessed by pressing **Speed-Dial**, then the two-digit number you've assigned as a speed-dial number.

Entering a Speed-Dial Number

1. Press **Program** three times.

2. Press **Mode**.

Select 1-20:01

3. Enter a two-digit speed-dial number, from 01 through 20.

Select 1-20:08

4. Press **Mode**. If a speed-dial number is already stored, that number will be displayed. Any new information you store will overwrite the old. To select another speed-dial number, press **Stop** and begin again from step 1.

5. Enter the number exactly as it should be dialed. Be sure to remember any necessary pauses and long distance dialing codes. The following example shows a 3.5 second pause after the "9" is dialed.

9!214-403-3465

6. Press **Mode**.

Select 1-20: 09

7. Select another two-digit speed-dial number to enter, or press **Stop** to return to standby.

Erasing a Speed-Dial Number

1. Press **Program** three times. Then press **Mode**.

Select 1-20: 01

2. Select the speed-dial number you want to erase.

Select 1-20: 06

3. Press **Contrast**.

Directory Erased

4. You can then enter or erase another speed-dial number, or press **Stop** to return to Standby.

Printing a Speed-Dial List

You'll want to keep a printed list of speed-dial numbers nearby for quick reference. The printed list includes the speed-dial number and the telephone number. To print a list of the speed-dial numbers programmed into your fax:

1. Press **Program**.

List Print

2. Press **Mode**.

Print Setting

3. Press **Program** twice.

Print Speed-Dial

4. Press **Mode**.

Erasing the Entire Autodialer

There's a way you can clear your entire autodialer with just a few keystrokes. This command is primarily used when the fax is being transferred to a new user; it will erase all of your autodialer numbers.

1. Press **Program**, *

Service Mode

2. Press **1**.

Sure?

3. Press **Mode**.

Special Communication Features

Other special features allow for even greater communication capabilities.

Call Request

Call Request allows you to have a fax transaction and voice conversation on the same call, whether you are sending or receiving a fax message.

To request a conversation after you receive or send a fax message:

1. While your machine is transmitting or receiving a fax message, press **Monitor/Call**.

Call Requested

2. The remote fax will ring after each page is printed, notifying the remote operator if he or she is near the machine. If someone responds, your machine will sound a prolonged ring.
3. Pick up the handset before the end of the prolonged ring and press **Stop**. In a few seconds, the line will open and you can begin your conversation.
4. To transmit after your conversation, insert your document in the feeder. Tell the remote operator to press **Start**. When you hear fax tones, press **Start** and hang up.

To respond to a remote operator's requested call:

If someone requests a call, you will hear a prolonged ring after each page is transmitted or received.

To answer the call request, pick up the machine's handset and press **Stop**.

When the person at the other end of the line answers, the phone line will open and you can begin your conversation.

Set Fax Report

Your M820 can print a report that lets you know your fax message was transmitted. This feature gives you extra peace of mind when you have important documents to transmit. Each fax report lists the date of the transmission, the receiving location, and the number of pages transmitted. The "Location" listing may be different from the number you called, or it may be blank. This information is entered by the remote operator in his or her fax's user settings.

You will also see a "Result" listing. A successful transmission will appear in the Result column as "OK." A report of an unsuccessful transmission will include an explanation of the error and a corresponding error code.

To set your unit to print a fax report for each of your fax transmissions:

1. Press **Program** seven times.

Set Fax Report

2. Press **Mode**.

Fax Report OFF

3. To change the setting, press **Program**.

Fax Report ON

4. Press **Mode** to return to standby.

Polling

Polling lets you automatically "pull" a page or document from another fax machine.

You can use polling anytime you need to retrieve information and don't want the remote fax user to pay for the phone call. With polling, you pay for the call and get the information you need.

To poll a document from a remote fax:

1. Make sure the remote fax operator has a document stored in his or her fax, ready to be retrieved. Also, make sure there's no document in your fax's feeder.
2. Pick up the handset or press **Call/Monitor**.
3. Dial the telephone number of the remote fax.
4. When the remote fax answers and you hear fax tones, press **Start**. Return your fax handset to the cradle. If you're using the monitor speaker, your fax will do the rest.

Custom Settings

Some special features in your fax are available by selecting soft dip switches—on/off switches in the software.

Use care when adjusting these settings, because it is possible to change or prevent proper fax operation with an incorrect switch setting. If you think you have made an incorrect setting, call the Customer Support Center at 1-800-347-3294. You can also use the Clear All Settings command (see page 12) to instantly return all dip switches to their factory settings, but this command deletes all user information—like your TTI, Subscriber ID and autodialer entries—from your unit's memory.

Add to Document Length for TTI

Your fax machine includes a special feature that serves as a courtesy to the owners of the plain-paper fax machines with which you communicate.

A TTI normally adds extra length to a transmitted page. This is not a concern for users of thermal fax machines that print on a roll. However, any transmitted document that is longer than a letter-sized sheet requires a few plain-paper units to print a second page.

To prevent the extra length required for your TTI from causing plain-paper fax machines to print a second page, your fax machine normally deletes a very small portion of the top of every image transmitted. The top 1/8 inch of your document is not transmitted and your TTI and Subscriber ID are sent in its place.

To cancel this feature, use the setting below. Remember that cancelling this feature may cause plain-paper fax machines to print two pages for each page you send.

1. Press **Program**, * 1.

dipsw-0 00010000

2. Press **Mode** three times.

dipsw-3 11010000

3. Press the **B** one-touch key once. Enter a zero.

dipsw-3 10010000

4. Press **Mode** to save your selection. Press **Stop** to return to standby.

Fax Ready 13:23

Unlimited Page Length: Transmission

Your fax can transmit individual pages up to 39.4 inches long. If you must transmit a very long unbroken page, like a medical strip chart or water well log, use the setting below to disable your fax machine's paper-jam sensor.

1. Press **Program**, * 1.

dipsw-0 00010000

2. Press **Mode** twice.

dipsw-2 01000000

3. Press the **B** one-touch key once. Enter a zero.

dipsw-2 00000000

4. Press **Mode** to save your selection. Press **Stop** to return to standby.

Fax Ready 13:23

After you've sent your extra-long document, repeat these steps. Enter a one in step 3 to return to normal fax operation.

Set Number of Rings

In the initial user setting, you can program your fax to answer after two or six rings. This software switch allows you to alter the number of rings your fax will offer as a second choice in the user setting.

You will always have the option of having your fax answer after two rings, plus a number of rings, from one to 15, that you specify in this software setting.

1. Press **Program**, * 1.

dipsw-0 00010000

2. Press **Mode** five times.

dipsw-5 01100110

3. Press the **B** one-touch key four times. To change this software switch, you will have to change the last four digits of the code. The following chart lists the code associated with each setting.

Code	Number of Rings	Code	Number of Rings
0000	1 or more times	1000	8 times
0001	1 time	1001	9 times
0010	2 times	1010	10 times
0011	3 times	1011	11 times
0100	4 times	1100	12 times
0101	5 times	1101	13 times
0110	6 times	1110	14 times
0111	7 times	1111	15 times

For example, if you wanted be able to program your fax to ring 12 times, enter 1, 1, 0, 0. The display would look like this:

dipsw-5 01101100

4. Press **Mode** to save your selection. Press **Stop** to return to standby.

Fax Ready 13:23

Silent Detect

Silent detect keeps the answering machine connected to your fax from recording silence when a non-standard fax calls. See page 14 for details.

You'll want to use this feature only if you are using an answering machine with your fax and you know for certain that you will be communicating with a non-standard fax that does not emit fax tones.

To turn this feature on:

1. Press **Program**, * 1.

dipsw-0 00010000

2. Press **Mode** six times.

dipsw-6 10111101

3. Press the **B** one-touch key once. Enter a one.

dipsw-6 11111101

4. Press **Mode** to save your selection. Press **Stop** to return to standby.

Fax Ready 13:23

Repeat these steps, entering a zero in step 3, to return to normal fax operation.

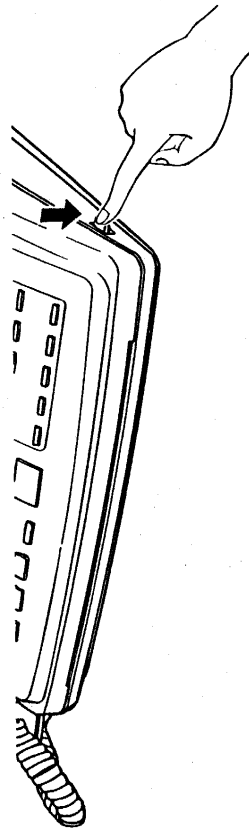
Problem Solving

Your fax is designed for years of reliable use. From time to time, however, you may encounter a problem that causes paper to become jammed inside your fax. Your fax will sound its alarm when this happens.

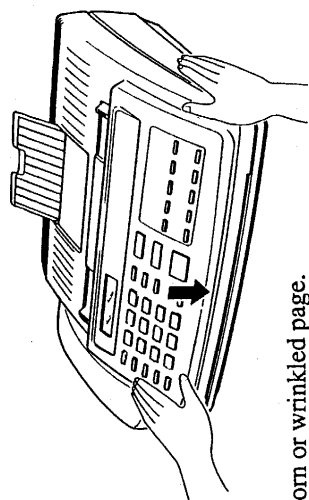
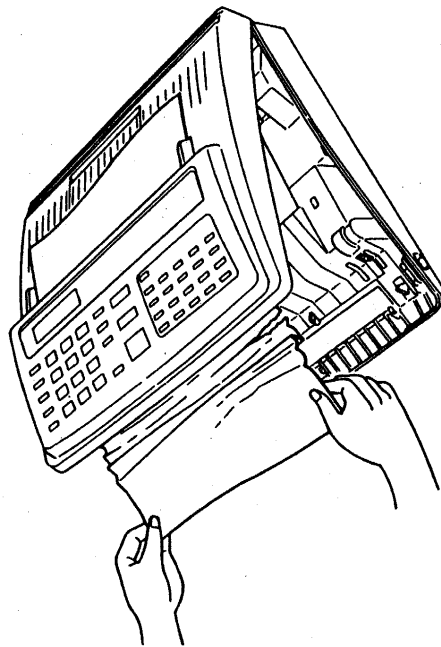
Paper Jams in the Document Feeder

Occasionally, a page may jam in the document feeder of your fax. To clear this type of paper jam:

1. Press the top cover release on the right side of your fax.



2. Pull the page through the document exit.



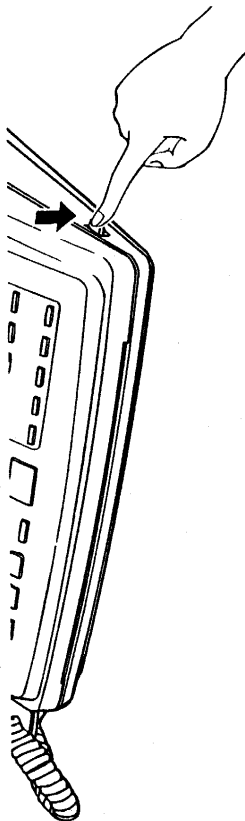
3. Close the top cover, and then try the transmission again.

Remember, never try to retransmit a torn or wrinkled page.

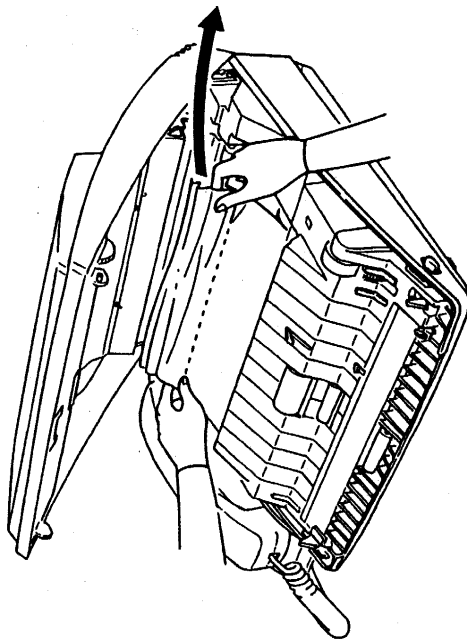
Paper Jams in the Printer

To clear a paper jam at the printer:

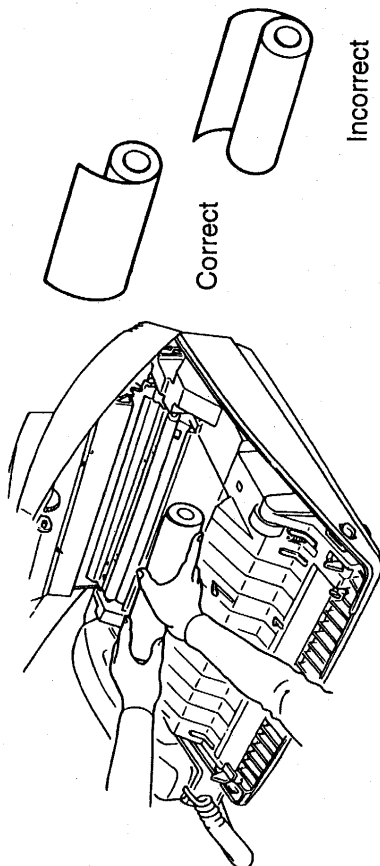
1. Press the top cover release on the right side of your fax.



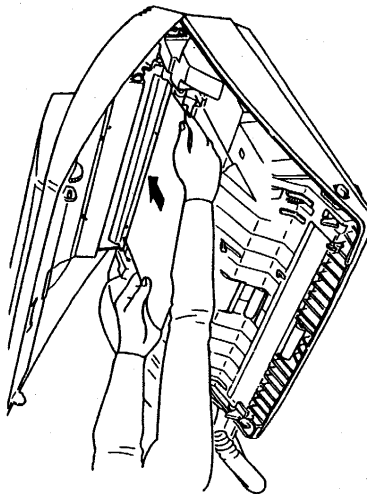
2. Remove the jammed paper gently.



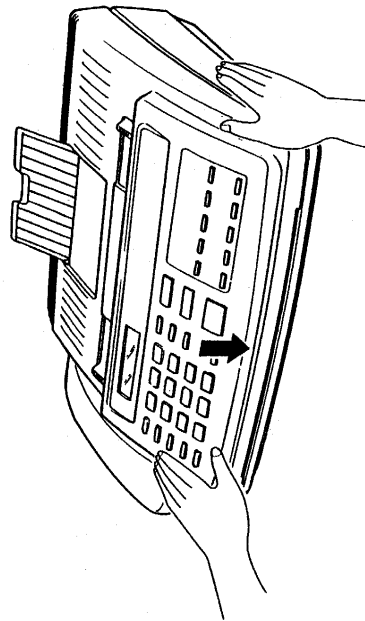
3. Place the paper roll back into its cradle so that it unrolls from the top.



4. Feed a few inches of the paper out through the paper exit.



5. Close the top cover; you'll hear a click when it's in place.



6. Reach around to the back of your fax, grasp the paper, and tear from left to right. This allows the next document you receive or copy to have a finished look.

Troubleshooting

Occasionally, you unit will detect a problem with the telephone line in use or encounter some trouble in transmission or reception. When it does, it will alert you with a beeping alarm tone. You can identify the problem with the LCD messages and printed error codes. See the following sections for information about these troubleshooting methods.

LCD Error Messages

Your fax machine's display message can help you to easily spot problems that halt communications. If you receive one of the following messages, just follow its directions and then press **Stop** to return to standby.

Set Page Again

Your page was not inserted properly or the machine you are sending to cannot accommodate the length of your page. Reset the page and try to transmit again.

Close Cover

Your fax machine's cover is open. Close it firmly.

Hang Up Phone

The telephone handset is off of its cradle. Hang it up.

Check Rec. Paper

Replace the recording paper roll. The fax will not answer a call and all printing is suspended until the recording paper is replaced.

Transmit Again

A paper jam has occurred in your fax machine's document feeder section. Remove the jammed paper (see page 25) and try the transmission again.

Check Remote Fax

An error has occurred in the remote fax with which you are trying to communicate. Call the operator of the remote unit.

Error Codes

When your fax detects an error, it prints out a fax report—a small slip of paper that lets you know where the problem occurred and what to do next. These errors may be caused by anything from lightening to telephone line interference—the same things that cause the line noise you sometimes hear when talking on the telephone.

In many cases, simply trying your call again is all that's necessary. If the problem persists, call Muratec Customer Service (see page 23) or your local telephone company for help.

Each fax report printed after a problem occurs lists an error message that briefly states the reason, the error, and a possible solution. The fax report also lists the date of the transmission, the sending location, and the number of pages sent. The location listing may or may not be blank, depending on the remote fax.

You will also see a code listed in the Result column of the report. Result codes indicate the specific problem encountered. Codes prefaced by a "T" occur during transmission. Those with an "R" occur during reception and "D" codes occur while dialing.

Type A: Check the condition of the remote fax.

- T.2.1, T.2.3, and R.2.3** Your call was disconnected during transmission or fax communication became impossible because of poor telephone line conditions. Try the call again.
- T.2.2 and R.1.2** The machine you are trying to communicate with is not compatible with your fax.
- R.1.1 and R.2.1** The remote fax did not respond properly to your fax machine. This error can be caused by a wrong number or by a remote fax that restricts access using a passcode.
- R.3.1** The transmitting fax detected too many errors from the receiving unit. This is often caused by an intermittently poor phone line.
- R.3.2** The telephone line was disconnected after the fax "greeting," but before the first page was transmitted.
- R.3.3** The fax attempting to transmit to you is not compatible with or had a document feeder problem.
- R.3.4** Poor telephone line conditions may have prevented your fax from properly printing some or all of the pages it received.
- R.4.2** The telephone disconnected before the transmission was acknowledged, or the transmitting fax needs maintenance.

Type B: Check received documents.

- T.4.2** Poor line conditions developed after transmission started. Try the call again.
- R.4.1** Poor telephone line conditions may have prevented your fax from properly printing some or all of the pages it received.

Type C: Repeat transmission.

- T.1.1** The remote fax did not respond properly to your fax and may not be working. Call the remote unit's operator.
- T.3.1** Your fax detected a document feeder error when it tried to transmit. Carefully reinsert the page into the feeder and try the call again.
- T.4.1** The telephone line was disconnected during transmission. Try the call again.

Type D: Line is busy.

- D.0.0** The remote machine is busy.

Miscellaneous

- T.1.4** Stop was pressed during transmission.
- R.1.4** Stop was pressed during reception.

Caring For Your M820

With proper installation and a little maintenance, your Muratec M820 should provide dependable service for years to come.

Although little day-to-day care is required for your fax, you can take these simple precautions to keep it in top form.

- Make sure your fax machine is installed according to Muratec's specifications. Review the requirements on page 6 before you install your unit. Don't install your fax where it can overheat, gather dust, or get splashed by water or other liquids.
- Use thermal facsimile paper labeled for use with your Muratec fax machine to insure a perfect fit.
- Clean your fax, if needed.

Cleaning Outside

Use a mild cleaning solution sprayed onto a lint-free towel or cloth to wipe down the machine's cover and handset.

Cleaning Inside

- Never spray cleaner directly on your fax. The drifting spray could damage components inside your fax.
- Always unplug your unit before cleaning.
- Use lint-free swabs, a specially formulated cleaning solution and a supply of dust-free air to clean inside your fax.
- Use a lint-free cloth moistened with cleaning solution to gently wipe components inside your fax.
- Use dry, dust-free compressed air to gently blow dust and other material from areas you cannot reach with swabs.
- Never attempt to clean inside sealed areas of your unit and never spray cleaning solution directly onto your fax.

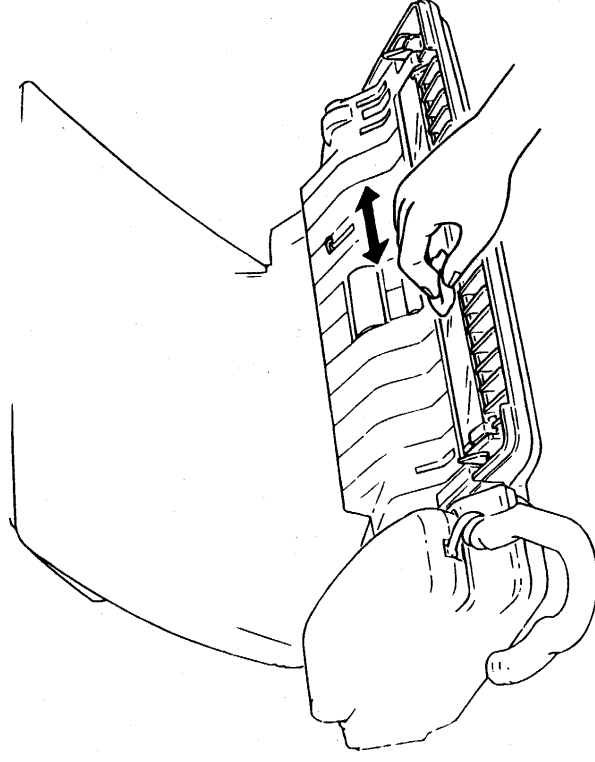
Corrective Cleaning

Following are some simple cleaning procedures to keep your M820 operating smoothly. Use them as the need arises for the problems described.

Poor Quality of Transmitted Documents

If you find your fax recipients complaining frequently that the faxes you send are streaked, the glass surfaces of your M820's contact image sensor may be dirty.

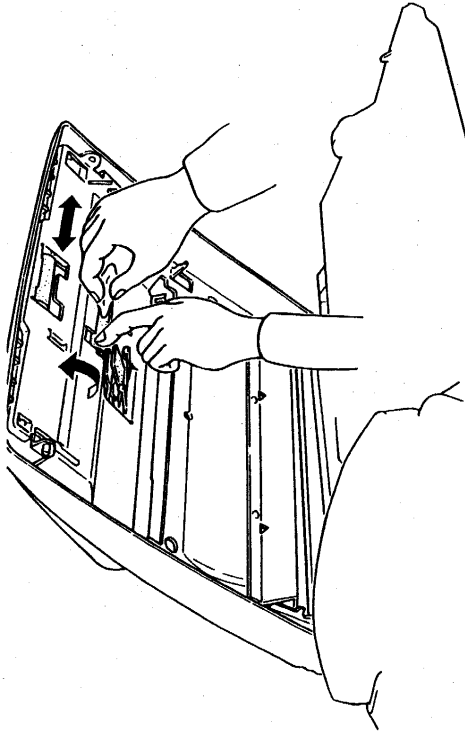
Use a soft, lint-free cloth moistened with isopropyl alcohol to clean the surface of the contact image sensor.



Original Document Jam or Misfeed

If your original document feeder frequently jams, the rollers which feed the document may be dirty.

Use a soft, lint-free cloth moistened with isopropyl alcohol to clean the surfaces of the document feeder rollers.

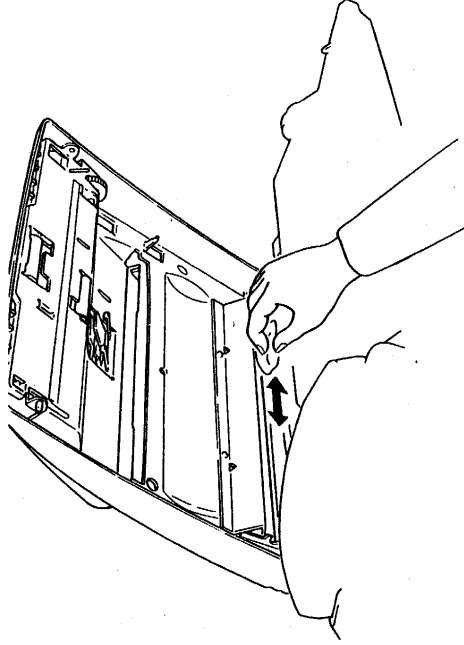


Top feeder rollers

Poor Quality of Received Faxes or Copies

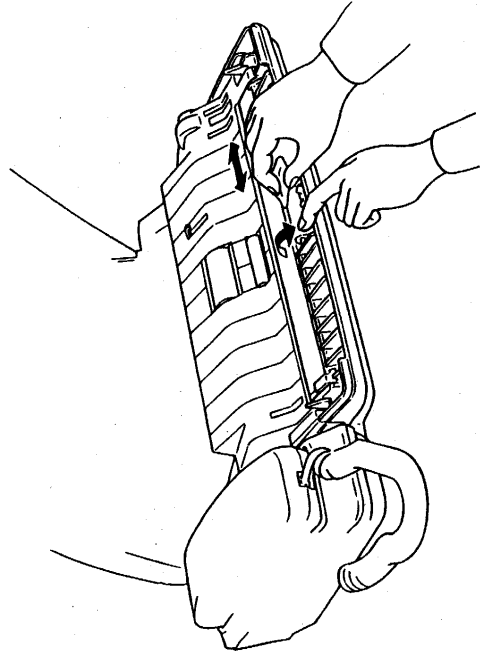
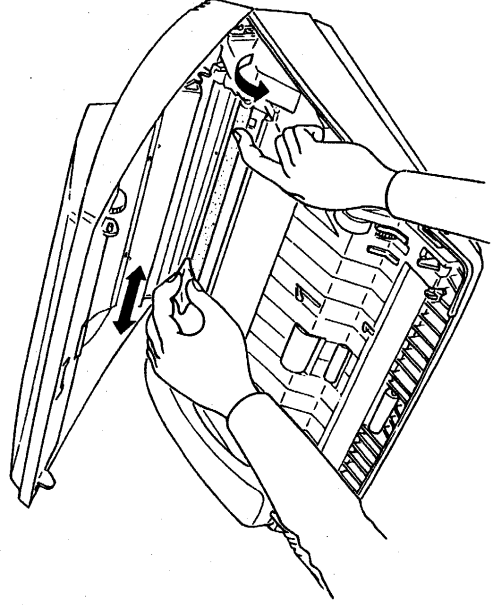
If you notice poor copy quality of the faxes you receive or the copies you make, the thermal head may be dirty.

Use a soft, lint-free cloth moistened with isopropyl alcohol to clean the surface of the press roller.



Recording Paper Misfeed

If the surface of your fax's paper feed roller becomes dirty, you may experience frequent recording paper jams. Try cleaning the surface of the paper feed roller with a soft, lint-free cloth moistened with isopropyl alcohol.



Bottom feeder rollers

Glossary

The terms and words below are often used when discussing facsimile machines and fax communication. Use these definitions for your reference only. Specifications and technical information are subject to change, so call the Customer Support Center (see page 23) if you have any questions.

A4

Standard stationery sizes defined by the International Standards Organization, an agency of the United Nations. A4 paper is 8.5 inches wide.

Analog Facsimile

An analog facsimile machine converts each picture element of black or white into an electrical signal. These signals in turn generate a constantly changing electrical signal that is transmitted to a receiving fax. Analog facsimile machines are characterized by extremely slow document transmission, three minutes per page or more, and are more susceptible to the signal "noise" encountered on standard telephone lines.

BPS

Bits per second. Used to express the speed of transmission. Because fax transmission treats a document as a graphic image rather than a series of alphabetic and numeric characters, bps does not correspond to the number of characters transmitted per second.

CCD

Charged coupled device arrays. The scanning mechanism used in Muratec fax machines to convert a document image into digital facsimile information. Fluorescent light reflected off your document is received by the CCD array and is converted into a digital signal for transmission.

CCITT

Abbreviation for the Consultative Committee for the International Telegraph and Telephone, a telecommunications forum for member countries of the United Nations. CCITT Study Group XIV established the primary groups for facsimile equipment, covering communication protocol and transmission. Muratec's Group 3 machines offer the fastest transmission allowed by CCITT when communicating with other Group 3 units. Some Muratec fax machines offer compatibility with older Group 2 and North American FM systems, as well.

CCITT V.29 and V.27 ter.

A standard set of communication procedures allowing fax machines to talk to all other units adhering to those standards.

Call-Waiting Service

Many telephone systems offer an optional call-waiting service that identifies when another party is calling while you are on the phone. Call-Waiting Signals may cause interruption of facsimile transmission or reception.

Compatibility

The term "compatible" describes the ability of separate things to work together. Your Muratec fax machines offers Group 3 compatibility, the modern standard for worldwide fax communication.

Copy

You can use your Murata fax as a convenience copier. Many Murata units can copy in two or more levels of resolution.

Data Compression

Used by digital fax machines to speed transmission. See Digital Facsimile, MH, MSE, and SMSE.

Digital Facsimile

Unlike analog systems that scan every portion of a page, digital fax machines survey a page's overall picture content. Digital fax machines scan a line and convert the information into a binary code of zeros and ones. The fax machine can take this information and compress it, providing transmission speeds of less than one minute per page. Muratec units offer the standard Group 3 data compression method for rapid transmissions to any other Group 3 fax, and many Muratec units offer proprietary transmission speeds for faster transmissions between Muratec units.

Dip Switches

Dual in-line package switch. A two-position on-off switch. Many Muratec fax machines include dip switches to control optional settings or features.

DTMF

For dual tone, multiple frequency. The dialing signals generated by push-button or "touch-tone" telephone systems. DTMF telephone service is an option in most North American telephone systems.

Effective Printing Width

The widest image that can be printed on your fax. The effective width can be influenced by the CCITT group of the unit transmitting to your fax machine.

Effective Scan Width

The maximum width the scanner in your fax can scan during transmission.

Facsimile

Although business fax use has grown rapidly since the advent of fast, powerful Group 3 units, facsimile communication itself has a surprisingly long history. The first facsimile system was introduced in 1842, and wide-spread service was underway before 1910. In the United States, fax units attached to home radios provided facsimile newspaper service in several cities through the late 1940s. The growing success of fax for news transmission was halted, however, by the development of commercial television.

Facsimile Interface Processor

An upgrade that allows some Muratec fax machines to operate with asynchronous ASCII host devices, coupling the power of computers with the scanning and transmission capabilities of fax machines for high-volume communication, graphics input and direct computer-to-fax transmissions.

Fallback

Group 3 fax machines operate at the highest transmission speed possible on a given telephone line. Muratec systems offer automatic fallback, so if line quality drops during transmission your fax machine will reduce speed to the fastest possible level.

Fax Number

The Fax Number is your unit's telephone number. Part of the TTI, your Fax Number is printed at the top of each page received from your unit. Also called the Subscriber ID.

Fax Report

A Fax Report provides proof that the document you set for transmission was sent. Printed after transmission, the Fax Report identifies the telephone number of the remote fax to which the document was sent.

G3, Group 3

G3 stands for Group 3. Your machine is a Group 3 fax. Group 3 compatibility is the modern standard for worldwide communication as determined by the CCITT, an international communication group.

Group 4

A CCITT-standard for capturing, processing, communicating and outputting all forms of data. Group 4 will be used for extremely high-volume fax communication in coming years, but the expense of leased, dedicated digital telephone lines will continue to make Group 3 fax the best choice for millions of fax owners.

Grayscale

Not a level of resolution, but a method of scanning and transmitting halftone images. Muratec fax machines with grayscale abilities interpret photographs in levels of gray between white and black. The transmitting fax machine must have grayscale ability to send a photographic image accurately, but the receiving machine does not need it to print the image.

Handshaking

Used by telecommunications and computer equipment to "introduce" two systems to each other. Facsimiles use a handshaking protocol, for example, to identify the type of unit and to begin fax communication.

Hz

Or hertz. A measure of frequency equal to one cycle per second. Used in the specifications for your fax, it identifies the AC power your unit requires. Call your electrician if you don't know the specifications of your office outlets.

LCD

Liquid crystal display. Used on some Muratec units for status displays.

LED

Light emitting diode. Used on some Muratec units for displays and lamps.

Load Number

A number assigned to telecommunications equipment used in Canada and designed to prevent overloading on a telephone circuit. Read the Canadian Department of Communications information in your operating instructions or call your local telecommunications company for more information.

Location ID

An optional identifier used on Muratec fax machines. The Location ID lets you identify by name the telephone numbers programmed in your autodialer. Also known as the Transmit Terminal Identifier

MH

Modified Huffman, the CCITT Group 3 standard data compression method. A feature of all Muratec fax machines, MH assures better than one-page-per-minute transmissions when communicating with other Group 3 units, regardless of manufacturer.

MSE, SMSE

Proprietary data compression methods, allowing transmissions faster than MH whenever you are communicating with a Muratec-manufactured unit. MSE and SMSE are features on many Muratec fax machines.

Modem

Originally an abbreviation for modulator-demodulator, but now a common word in fax and computer use. A modem is a digital device that converts digital data (like the information from your fax machine) into an analog signal for transmission over analog lines (like your ordinary telephone line). A modem is included in your fax machine and allows it to be connected directly to your PSTN telephone line.

Original Document Size

Used when defining the largest (or smallest) page that can be fed safely through your fax machine. Check your unit's operating instructions for more information.

PBX

Private branch exchange. Often called PBX, PABX and others. Privately owned telephone equipment serving a particular building, business or area. Many PBX systems use digital transmission lines which, unlike more common PSTN lines, are not compatible with fax machine use. Do not connect your Muratec unit to a PBX without first checking with the system manufacturer or service representative.

PPS

Pulses per second. Used to identify rotary dialing requirements.

PSTN

Public switched telephone network. PSTNs are the most common type of telephone lines and service in use, and are in contrast to private or leased lines. Muratec units provide fast, reliable data transmission over PSTN lines. You do not need a special line or a dedicated telephone line for your Muratec unit.

Polling

Polling allows some fax users to set a document in their fax machine for automatic transmission to a remote unit when that unit calls, or to call a remote unit and receive a document set to be polled. Polling is convenient whenever a central unit must receive information from one or several remote units. By polling the remote units, the central facility bears all telephone charges and prevents several remote units from calling at the same time.

Private Line

Or Leased Line. A service offered by many telephone systems that provides an exclusive phone circuit between two geographic points. Your Muratec unit does not require a private line.

Pulse (Rotary), Tone Dialing

Most telephone systems in the United States offer pulse (rotary) and touch-tone dialing options. Muratec units are compatible with both rotary and tone dialing signal requirements. Check your operating instructions for information on setting your unit for pulse or touch-tone dialing. Check with your telephone company if you have pulse dialing service.

Resolution

The resolution of documents transmitted or copied by fax machines is measured by the number of horizontal (H) and vertical (V) lines per inch the unit can print. Your unit also offers grayscale transmissions for accurate reproduction of photographs.

RJ-11C

A standard plug-in telephone jack. The RJ-11C is commonly used in North America for telephone line connections, but call your telephone company if you are unsure of the type of jacks in your home or office.

Subscriber ID

The Subscriber ID is your unit's telephone number. Part of the TTI, the Subscriber ID is printed at the top of each page received from your unit. The Telephone Consumer Protection Act of 1991 requires all fax users to provide their name and phone number on each fax, along with the date the fax is sent.

Surge Protector

A device that protects your telephone or electrical lines. A telephone power surge protector can absorb and divert high-voltage surges caused by lightning or static electricity without interfering with normal telephone operation. An electrical surge protector protects you fax from high-voltage surges in the AC line that may cause damage to your fax and other appliances.

Touch-Tone

A push-button telephone or the characteristic tones made by such a phone. Also a registered trademark of Western Electric for a brand of telephones.

Transmit Terminal Identifier

Your TTI is sent automatically with every page you send, and appears at the top of each page printed by the receiving unit. The TTI can be your personal or business name or any other identifier. The Telephone Consumer Protection Act of 1991 requires all fax users to provide their name and phone number on each fax, along with the date the fax is sent.

Common Questions

If you have a question about using your machine, read the section that applies to your particular question.

General Questions

Q: Where do I add ink or toner to make my fax print darker?

A: Your fax does not use ink or toner. Instead, it uses a special printing technique called thermal printing. You can adjust the darkness of the pages you transmit and copy using the **Contrast** key (see page 4).

Q: When I unplug my machine, will I lose the information I've stored (TTL, autodialer numbers, time and date, etc.)?

A: No. Your M820's internal battery protects user settings for several days if power fails or you decide to move your fax.

Q: Can I use a dust cover on my fax?

A: No. A dust cover blocks air circulation and could cause your fax to overheat.

Error Alarm

Q: How do I turn off my machine's error alarm?

A: Press **Stop**. In some cases, your fax will print an error report for help in diagnosing the problem.

Transmitting

Q: I just tried to send a fax. I dialed a number and heard a horrible screeching sound, so I hung up.

A: Don't worry. You'll hear screeching sounds any time you call a fax machine that answers automatically. Fax machines use these special tones to signal a fax communication. Next time you hear the tones, press **Start** to send a fax.

Q: Can I transmit a page with correction fluid on it?

A: Yes, as long as the fluid is completely dry before you begin transmission.

Q: I just sent a fax, but the number that appeared in my machine's display while the fax was being sent was not the number I dialed. Why?

A: The number that appears in your display is the number programmed into the remote fax machine by the user. They can enter any number as their fax identifier, or Fax Number.

Q: Can I transmit and receive at the same time?

A: No, but use the call request feature (see page 21) to ask the remote operator if he or she wants to transmit or receive after your fax transaction is complete.

Q: Do I have to dial a "1" for long distance?

A: Yes. Dialing a fax number is just like dialing any other phone number, so be sure to include any special long distance codes or dialing pauses when dialing. And remember to include them when you program your autodialer numbers.

Q: How do I send a fax to an overseas telephone number?

A: Dialing requirements for international calls may vary depending on your local telephone company's requirements. For most international calls, dial 011, then the appropriate country code, city code, and phone number. Country and city codes are often included in the front section of the telephone directory.

Q: Can I transmit if my fax is out of paper?

A: Yes; however, fax reports (see page 21) are not available when transmitting without recording paper in your fax.

Q: Can I transmit a document that's extra long?

A: You can if the receiving fax machine is equipped to handle long documents. Many fax machines have a special setting that allows them to receive documents that exceed the normal length. See page 23 for more information.

Q: Can I transmit pages from a newspaper?

A: No. Newspaper can jam in your document feeder. First make a copy, then send the copy.

Q: How can I be sure my fax was received?

A: Your machine can print out a Fax Report to verify a transmission.

Q: I don't want to install a dedicated phone line for my fax, so I've connected my fax to a PBX phone system. When I get a fax call, all the phones ring. How do I prevent this?

A: Call your PBX manufacturer or telephone company for assistance. They may be able to convert one of the PBX lines for fax use only.

Q: When I dial a remote fax using my fax handset I don't hear fax receiving tones. Am I doing something wrong?

A: When this happens, try pressing **Start**, then hang up the handset as you normally would. It's possible you're calling a fax that doesn't emit answering tones. A few Group 3 faxes on the market sound a sending tone but do not sound a receiving tone. After you transmit, call the remote operator to see if your document was received.

Q: I inserted a document in the feeder and dialed the remote fax, but my machine didn't transmit; however, "Reserved" appears on my LCD. What does this display mean?

A: The remote machine was busy. For more information on setting the number of redial attempts, see the section on User Settings.

Q: My manual says the average transmission speed for a page is 28 seconds, but when I transmit a page it can take much longer to transmit one page. Why?

A: The average transmission speed stated in your manual is based on transmission of the CCITT Test Chart 1. The test chart is a standardized letter used to test fax transmission times.

Some reasons for varying transmission speeds follow:

1. The pages you transmit may contain more information to be scanned than the CCITT Test Chart.
2. The transmission time measured for test documents does not include handshake time. The handshake is the protocol fax machines use to "introduce" themselves.
3. Your transmissions that use fine, superfine or grayscale take longer to transmit than transmissions using normal mode.

Redial

Q: I'm trying to send a fax, but instead of sending the fax, it displays "Reserved". What does this mean?

A: This display means that either your machine is trying to redial a busy number or the remote fax is busy.

Q: I called the number 011-555-555-1212, but not all of the digits appear on my fax report. Why didn't the whole number appear, and how can I be sure my document was transmitted to the right location?

A: The numbers you enter using the fax keypad are temporarily stored in a memory "buffer." That means the last part of the phone number is all that the fax machine's buffer remembers. An easy way to avoid getting incomplete telephone numbers on your printouts is to store your most frequently used numbers as one-touch keys or speed-dial numbers. Numbers stored in the autodialer will appear in their entirety on your reports.

Receiving Fax Messages

Q: My fax never answers. What's wrong?

A: Check and make sure your fax is properly connected to a working outlet and phone jack. (See page 6 for installation instructions.) If you're using a second device with your fax, make sure it's connected properly, and make sure your fax machine is set up for use with a second device. If you're using an answering machine with your fax, make sure the LCD displays **Ans Ready** (see page 14). Call your telephone company if you continue to have problems.

Q: Sometimes when I answer my fax I hear a beeping sound that repeats every few seconds. Is this a fax?

A: Yes. When you hear a beeping sound, someone is trying to send you a fax. Next time, press **Start** and hang up to receive the fax message.

Q: Does my fax have to be plugged in to receive a message?

A: Yes. Your phone will ring if the phone line is connected, but you can't receive a fax unless your fax machine is plugged in. Make sure your fax machine is plugged in all the time so you never miss an important reception.

Q: Can I receive a fax if I'm using the phone on my machine?

A: You can receive a fax from the person you're talking to. When they have a document ready in their machine's feeder, press **Start**. However, like your phone at home, your fax machine can only handle one call at a time.

Polling

Q: What's polling used for?

A: Polling lets you automatically "pull" a document from another fax machine's document feeder. You can poll anytime you need to retrieve information and don't want the source to pay for the phone call. With polling, you pay for the call and don't get the information you need.

Copies

- Q:** A black line is appearing on the back of my received pages and copies. What's wrong?
- A:** It's time to replace the paper roll. For best results, use Muratec-brand 164-foot paper.
- Q:** One of my fax copies has faded so much that it's unreadable. What happened?
- A:** The fax copy probably came in contact with window cleaner or some other solvent or its vapors. Your fax copies should be stored away from cleaners, solvents, and PVC vinyls.
- Q:** Remote operators have complained that they call my fax and hear my answering machine message, but are cut off before they can send a fax. What happened?
- A:** The outgoing message you have left on your answering machine is probably too long. The remote machine will time out after it waits a few seconds to hear fax tones. To ensure that you receive fax transmissions, change your outgoing message so it is fewer than 10 seconds long.
- Q:** I have my fax set to T/F Ready because I'm using it as both a telephone and fax line, but I need to answer each call. Sometimes when I answer calls, my callers are subjected to piercing, shrill tones. I have to shut off the fax to stop these tones, and only then can I carry on a conversation. This is proving to be very disruptive. What can I do?
- A:** Your fax is answering the call before you are—it assumes a fax is calling, so it sends out receiving tones. Try setting the number of rings to six instead of two (see Fax Features). Six rings will give you plenty of time to answer the call before the fax beats you to it!

Telephone Features

- Q:** My fax machine's speaker phone doesn't work.
- A:** The monitor on your fax is not a two-way monitor. The monitor is used for off-hook dialing and hands-free fax transmissions only, not for voice conversations. You can't talk to your callers using the monitor.

How Your Fax Works

Your fax works on ordinary telephone lines, so it's easy to understand fax operation if you compare it to the way a regular telephone works. Having a fax, in fact, is a lot like having a telephone with bonus features.

The way fax machines work is closely regulated by international standards. These standards ensure the compatibility of your fax machine with the millions of other fax machines worldwide, but they also limit the way your fax can be used with other telephones or answering machines.

The concept of how a fax works is simple:

When you insert a page into your fax machine's document feeder, a special scanner in your fax examines the information on the page. Then the fax translates that information into a numeric code. The fax then compresses this code so it can be sent rapidly over the telephone line. In this regard, the only difference between a fax call and a regular telephone call is the content of the transmission: an image is sent instead of your voice.

When you receive a fax call, your fax machine will ring in exactly the same way a voice call would. In fact, there is no way to tell if an incoming call is from a fax or from a person until you or your fax machine answers the line.

You'll know it's a fax call if you answer a call and hear a beeping sound that repeats every few seconds. This sound is the fax machine's way of identifying itself to other faxes. It's much like you making a voice call and identifying yourself, "Hello, this is Joe."

When you press **Start**, your fax responds to these signals using special receiving tones which are its way of responding to the other unit's "greeting." This acknowledgment—just like greetings exchanged between you and your friends—is called "handshaking."

FCC/DOC Information

FCC Regulations

Ringer Equivalence Number: 3.0B

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures.

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Telephone Company Procedures

The goal of the telephone company is to provide you with the best service it can. In order to do this, it may occasionally be necessary for them to make changes in their equipment, operations, or procedures. If these changes might affect your service or the operation of your equipment, the telephone company will give you notice, in writing, to allow you to make any changes necessary to maintain uninterrupted service.

If you have any questions about your telephone line, such as how many pieces of equipment you can connect to it, the telephone company will provide this information upon request.

In certain circumstances, it may be necessary for the telephone company to request information from you about the equipment which you have connected to your telephone line. Upon request of the telephone company, provide the FCC registration number and the ringer equivalence number (REN) of the equipment which is connected to your line. Both of these numbers are listed on the equipment label attached to your fax machine.

The sum of all RENs on your telephone line should be fewer than five (5) in order to assure proper service from the telephone company. Sometimes, a sum of five (5) may not be usable on a given telephone line.

Note: This equipment is hearing aid compatible (HAC).

Notice: The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device to send any message via a telephone fax machine unless such message clearly contains in a margin at the top or bottom of each transmitted page or on the first page of the transmission, the date and time it was sent and an identification of the business or other identity, or other individual sending the message and the telephone number of the sending machine or such business, entity, or individual.

Type of Service

Your fax is designed for use on standard device telephone lines. Your fax connects to the telephone line with a standard jack called the USOC RJ-11C. Connection to telephone company-provided coin service (central office implemented systems) is prohibited. Connection to party line service is subject to State tariffs.

If Problems Arise

If any of your telephone equipment is not operating properly, you should immediately remove it from your telephone line, as it may cause harm to the telephone network. If the telephone company notes a problem, they may temporarily stop service. When practical, they will notify you before this disconnection. If advance notice is not feasible, you will be notified as soon as possible. When you are notified, you will be given the opportunity to correct the problem and will be informed of your right to file a complaint with the FCC.

In the event repairs are ever needed on your fax, they should be done by Muratec, or an authorized representative of Muratec. For information, contact the Customer Support Center (see page 23).

DOC Regulations

DOC Load Number: 20

This digital apparatus does not exceed Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulation of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe B prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

Notice: The Canadian Department of Communications label identifies certified equipment. This certification means the equipment meets certain telecommunications network protective, operational and safety requirements. The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. Sometimes, the company's inside wiring associated with a single line individual service may be extended with a certified connector assembly (telephone extension cord). The customer should be aware that compliance with these conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any equipment malfunctions or repairs or alterations made by the user to this equipment may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected. This precaution may be particularly important in rural areas.

Caution: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority or electrician.

The Load Number assigned to each terminal device denotes the percentage of the total load to be connected to a telephone loop which is used by the device to prevent overloading. The termination on a loop may consist of any combination of devices subject only to the requirement that the total of the load numbers of all the devices does not exceed 100. The DOC Load Number for your fax is 20.

Limited Warranty

This warranty is made by Muratec ("Muratec"). This warranty is valid only on Muratec products purchased and used in the United States of America. This warranty applies to the product only while owned and used by the original purchaser (hereinafter referred to as the "Customer"). If ownership of the product is transferred, this warranty terminates. This warranty does not apply to any product in use for rental purposes.

This Muratec product is warranted against defects in material and workmanship for ninety (90) days commencing the date of original Customer purchase. If the product is defective in material and/or workmanship (normal wear and tear excepted) during the warranty period, Muratec or its authorized representative will, during Muratec's established service availability hours, make necessary adjustments and repairs, including at Muratec's option installation of replacement parts. Muratec's service availability hours are 8:30 a.m. to 5 p.m. Monday through Friday, excluding Muratec-recognized holidays. Muratec will complete the necessary adjustments and repairs within a reasonable time period, as dictated by the nature of the problem and by Muratec's service schedule. Replacement parts may have been used and/or reconditioned. Parts that have been replaced will remain the property of Muratec. This warranty is subject to the OBLIGATIONS and EXCLUSIONS set forth.

OBLIGATIONS

1. This warranty will be honored only on presentation of the original dated authorized Muratec bill of sale or Muratec dealer bill of sale or sales slip to an authorized Muratec service representative, authorized dealer or service center. For the name of your nearest authorized Muratec service center, contact Muratec, toll-free telephone number 1-800-347-3294.
2. During the warranty period, the Customer must notify Muratec by telephone of any defective product material and/or workmanship.
3. Transportation (including prepayment of freight and insurance charges) of the product to and from an authorized Muratec service center, designated by Muratec, is the responsibility of the Customer.
4. If Muratec provides maintenance or responds to a call which is outside the scope of this warranty, such maintenance shall be billed to the Customer at Muratec's then current rates for maintenance and parts and shall be due and payable in full upon receipt of invoice.

EXCLUSIONS

1. This warranty shall not cover a product with missing or altered original identification marks.
2. This warranty applies only to products that the purchaser has properly installed, adjusted and operated in accordance with the instructions set forth in or provided with product literature. This warranty does not apply to any product which has been subjected to tampering, alteration, misuse, abuse, neglect, improper installation or transportation damage. Nor does it apply to costs for any service requested for demonstration or to confirm proper operation of this product.
3. This warranty shall not apply to adjustments, repairs or replacements necessitated by any cause beyond the control of Muratec (whether foreseeable or not) including, but not limited to, any malfunction, defects or failure caused by or resulting from any of the following: improper unpacking or installation, unauthorized service or parts, or improper maintenance or cleaning, modification or repair by the Customer, accident (including without limitation, unavoidable accidents), fire, flood or other acts of God, improper telephone or electrical power or surges thereof, interconnection with or use of non-compatible equipment or supplies (including paper), or placement of the product in an area which does not conform to Muratec space, electrical and/or environmental requirements.

4. Muratec will not be required to make adjustments, repairs or replacements if the product is installed or used at a location deemed by Muratec to be hazardous to health or safety, or if Muratec is not provided with free and reasonable access to the product and a telephone during service availability hours, or if the product location is not accessible by an authorized Muratec service vehicle.

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