

# MINITOR V<sup>TM</sup>



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# Registration

You can register with Motorola to receive software revision information by completing and returning the Software Registration Card enclosed with the software.

# Scope of This Manual

This manual contains information for equipment requirements, installation, setup and use of Minitor V Pager Programmer Software (PPS).

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# **Getting Started**

The Minitor V Pager Programmer Software and interface package, combined with an IBM personal computer (or compatible), provides the flexibility to program Motorola Minitor V pagers to meet individual requirements. To obtain the best results from the product, please take a few minutes to read this instruction guide.

### **Equipment Required**

To install and operate the programmer, you need a system that meets the following minimum requirements:

- Pentium II-class PC (300 MHz or higher)
- Windows 98, Windows NT 4.0 with Service Pack 6 installed, Windows 2000 and Windows XP
- Administrative Privileges on the system
- Microsoft Internet Explorer 5.0 or higher
- 128 megabytes of RAM
- Disk Space 500 MB
- Super VGA monitor (with the screen resolution set to at least 800 x 600, small fonts setting, and 256 colors or greater)
- A serial output port with DB9 or DB25 connector, or a USB port. Motorola does not offer a USB cable. Users can purchase one on the open market.

## **Programming Interface**

The programming interface kit, shown in Figure 1, supports Minitor V codeplug programming. Items included with the interface kit consist of the following:

- Programming interface
- AC/DC adapter/power supply
- DB25 to DB9 cable
- DB25 to DB25 cable
- Coiled cable

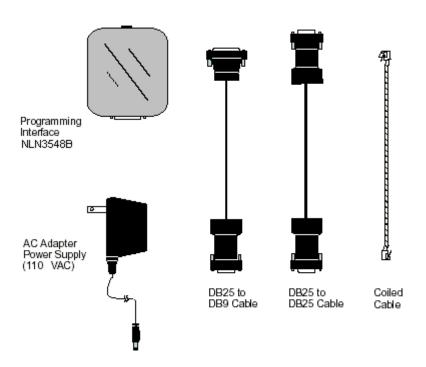


Figure 1: Programming Interface Kit

### **Installing the Programmer Software**

The pager programmer software can be installed from a Minitor V PPS installation CD. The installation CD has the auto run feature, which automatically starts the installation process. Please follow the procedure below to complete the installation.

- 1. Insert the Minitor V Pager Programming Software CD into your CD drive. The installation software should be launched automatically. **Note:** If it does not launch by itself, browse your CD drive using Windows Explorer, select the setup.exe at the root of your CD drive, and double click on it.
- 2. The Install Shield Wizard will guide you through the installation procedure.

**Note:** Only one configuration for the programming software is allowed. If you have an older version already installed on your computer, you have to remove it first. The software can be removed by selecting "Start  $\rightarrow$  Programs  $\rightarrow$  Minitor V PPS  $\rightarrow$  Uninstall Minitor V PPS " or following the procedure below:

- 1. Click on "Start → Settings → Control Panel → Add/Remove Programs"
- 2. Select "Minitor V PPS".
- 3. Click on "Remove" button. The old version of Minitor V PPS will be removed successfully.

The uninstall operation will retain all your previously archived codeplug files.

### **Connecting Programmer to Minitor V**

Connect the programmer and programming interface hardware as follows:

1. At the rear of your PC, connect either the DB25 to DB25 interface cable or the DB25 to DB9 interface cable to the RS232 serial port (COM1 ~ COM4). If you are using USB port, connect one end of the USB to Serial cable (**Note:** This cable is not included in the programming kit. You have to purchase it separately) to your PC's USB port and the other end to DB9 of the DB25 to DB9 cable. Your PC system can map the selected USB port to any free COM port up to COM8.

**Note:** How to check which COM port the USB port is mapped to

- From desktop, right click on My Computer
- Select Properties.
- Choose the **Hardware** tab
- Click on **Device Manager** button from the second group Device Manager
- Expend the **Ports (COM & LPT)** item
- From there, you can see which COM port the USB port is mapped to

Here is an example of device manager window. In this case, the cable is RadioShack USB to Serial cable. It is mapped to COM8

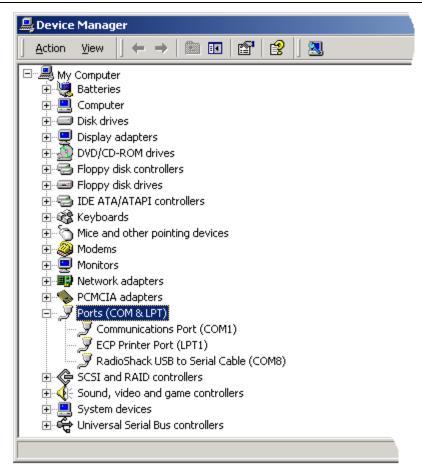
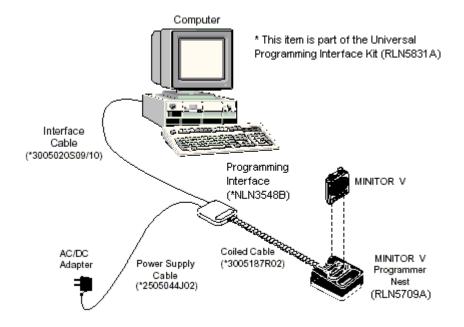


Figure 2: Device Managers

- 2. Connect DB25 end of the selected cable to the DB25 connector of the programming interface.
- 3. Connect the programmer cable end with the phone jack to the programming interface.
- 4. Plug the coiled cable into the Minitor V programmer nest and programming interface.
- 5. Connect AC/DC adapter/power supply to programming interface.
- 6. Plug AC/DC adapter/power supply into wall outlet.
- 7. Hardware installation is complete.



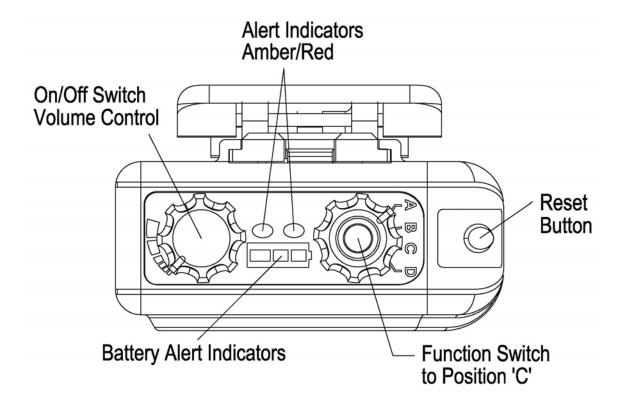
**Figure 3: Programmer Hardware Connections** 

### **Initializing Minitor V for Programming**

The Minitor V must be initialized for programming prior to install into the programmer nest. Refer to Figure 4 and perform the following steps:

- 1. Turn the On/Off volume control to the OFF (counterclockwise) position.
- 2. Set the function switch to position 'C'.
- 3. With your right or left thumb, press down firmly and hold the reset button.
- 4. With your other hand, turn the volume control to ON (clockwise).
- 5. The amber and red indicators should both light and a constant loud tone should sound for three seconds.
- 6. Release the reset button as soon as the events in Step 5 occur.
- 7. Observe the position of the programming pins and insert the Minitor V into the programming nest. The red indicator on the programming interface should light.

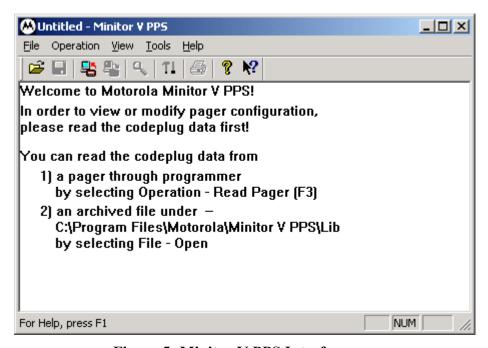
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**Figure 4: Controls and Indicator Location** 

# **Launching the Application**

The application can be launched from  $Start \rightarrow Programs \rightarrow Terrapin PPS \rightarrow Terrapin PPS$ . The following window appears,



**Figure 5: Minitor V PPS Interface** 

# **Commands**

The following table lists all Minitor V PPS commands.

Menu	Command	Icon	Description
File	Open	<b>*</b>	Open a Minitor V codeplug file. The file has the extension ".dat".
	Save		Save the current codeplug data to a file.
	Save As		Save the current codeplug data to a file with different filename.
	Print Preview		Preview the codeplug data.
	Print		Print the codeplug data.
	Exit		Exit the application.
Operation	Read Pager	<b>F</b>	Read codeplug data from a pager.
	Write Pager	*	Write the current codeplug data to a pager.
View	User Data	Q	View/Modify the User Data.
	Toolbar		Toggle the Toolbar.
	Status Bar		Toggle the Status Bar.
Tools	System Setup	TI	Set the serial communication port.
Help	Help Topics		Launch the Help System starting with Help Contents.
	About Minitor V PPS	?	About Minitor V PPS information.

**Table 1: Minitor V PPS Commands** 

The first command required to program the pager is the "Read" command. The PPS can either read from a pager or an archived file. After the Read command, user can view/modify the codeplug data, save the codeplug data to a file, or write directly to a pager.

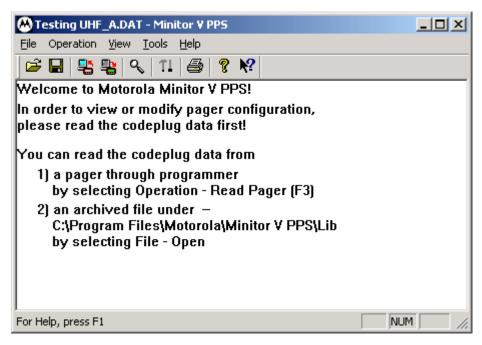
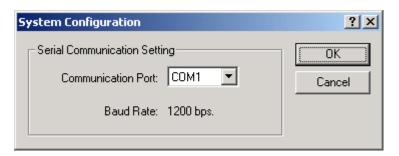


Figure 6: Minitor V PPS available commands after "READ" operation

### **System Setup**

If you encountered a problem reading codeplug directly from a pager, your serial communication port (RS-232) may not be set correctly. You need to execute the System Setup command to configure your system.



**Figure 7: System Configurations** 

Group	Field Name	Description
Communication Setting	Communication Port (COM1, COM2, COM3, COM4, COM5, COM6, COM7 and COM8)	Select the communication port which is connected to your programmer kit
	Baud Rate	This is a non-editable field with fixed baud rate 1200 bps.

**Table 2: System Configurations** 

# **Programming User Data**

User Data are organized into at least 4 pages in the User Data property sheet. They are General Information, Channel, Model Option and Function Switches.

### **General Information**

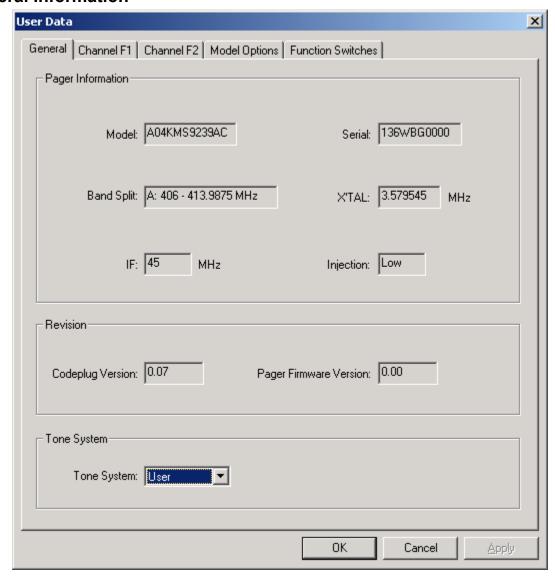


Figure 8: General Information Page

Group	Field Name	Description	
Pager	Model Number	This non-editable field displays the	
Information		model number programmed into the	
		pager at the factory and should match	
		the model number on one of the labels	
		attached to the pager.	
	Serial Number	This non-editable field displays the	
		serial number programmed into the	
		pager at the factory and should match	
		the serial number on one of the labels	
		attached to the pager.	
	Band Split	This non-editable field displays the band	
		split programmed into the pager at the	
		factory. The pager's working frequency	
		has to be within this band split.	
	X'Tal value	This non-editable field displays the CPU	
		clock for tone decoder chip. This is a	
		reference field for repairing.	
	IF	This non-editable field displays the	
		intermediate frequency.	
	Injection	This non-editable field displays the	
		injection direction.	
Revision	Codeplug	This non-editable field displays the	
	Version	codeplug version.	
	Pager	This non-editable field displays the	
	Firmware	pager firmware software version.	
	Version		
Tone	System	Select the type of system that the	
System	(Motorola, GE,	address tones will be selected for. If a	
Information	Plectron, User,	system other than USER is selected,	
	Fast Plectron)	then tones pertaining to the selected	
		system are the only tones available for	
		programming. If USER is selected, then	
		any address tone frequency can be	
		entered if proper tone spacing is	
		maintained.	

**Table 3: General Information Page** 

### Channel

The model number determines how many channels a pager supports. If more than one channel is supported, more channel pages will be added to the User Data property sheet. Here is an example for channel 1.

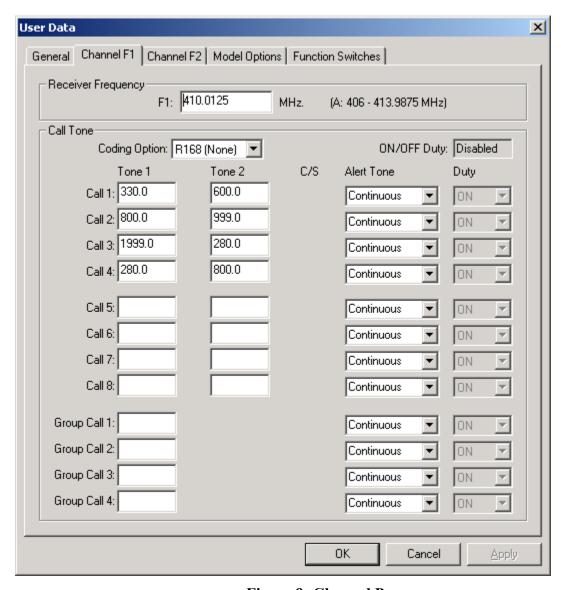


Figure 9: Channel Page

Group	Field Name	Description
Receiver Frequency	F1	Enter the frequency of operation for the channel. Channel frequency entry must be within the band split range.
Call Tone	Coding Option (R468, R130, R97, STD, R134, R138, R362, R177, R60, R621, R168 (None) ON/OFF Duty	Select one of available configuration options. This field activates combinations of tone, call, and duty fields located directly below this field.  This non-editable field enables or disables on/off duty functionality for this channel. This value is assigned in the Function Switches Page.
	Call/Tone (8 two-tone addresses and 4 group call addresses)	Make tone field entries. Entries into the tone fields are subject to previous selections of SYSTEM. If tone system selection is other than USER is selected then all entries must come from the selected system (Motorola, GE, Plectron, or FastPlect) and in the format selected (frequency or code).
	C/S	This non-editable field describes the relationship between call tones
	Alert Tone (Standard, Continuous, Music 1, Music 2, Music 3, Music 4, Music 5, Music 6, Music 7, Music 8)	Select one of the Alert Tone type
	Duty (ON/OFF)	If ON is selected, then the call address is always on. If OFF is selected, then the call address is normally ON unless the function switch is placed at the OFF DUTY position. In this function switch position, the call address is non functional.

**Table 4: Channel Page** 

Here is an example of tone table for MOTOROLA tones. When Motorola is selected as System Tone, all call tones must match the tone listed in this table. If a tone frequency other than the tone

frequency listed in this table is entered in the call tone field, the PPS will round this frequency to the nearest frequency in the table.

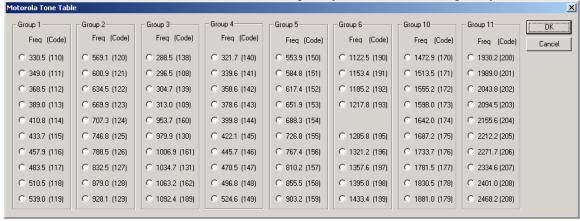


Figure 10: MOTOROLA Tone Table

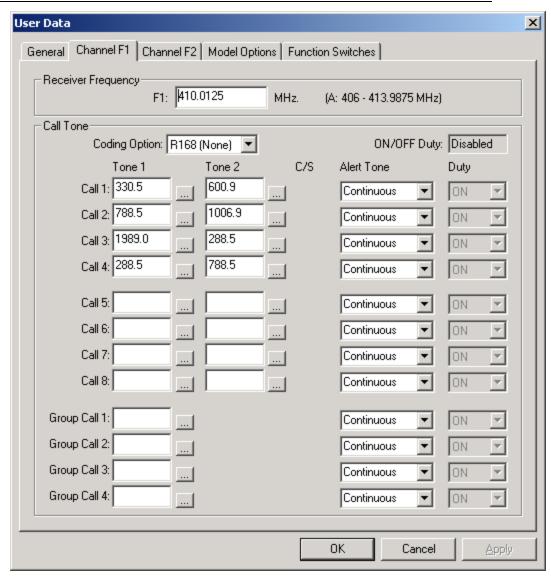


Figure 11: Channel Page with Tone System other than USER

# **Model Options**

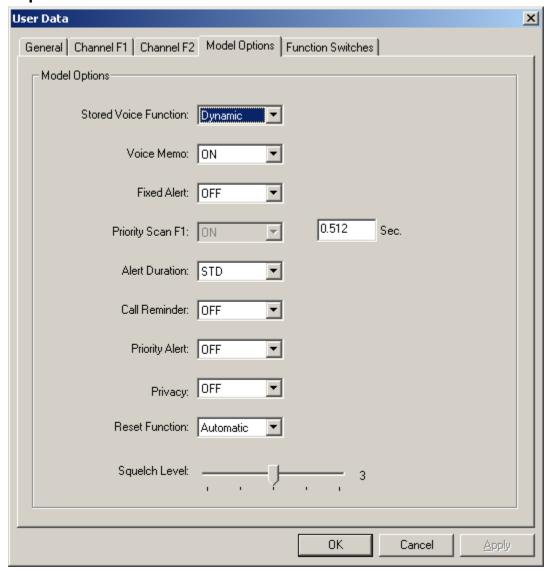


Figure 12: Model Option Page

Group	Field Name	Description	
Model	Stored Voice	Select the maximum length (in seconds) of	
Option	Function	a message. This entry is available only on	
	(15s, 30s, 60s,	stored voice pagers	
	120s, Dynamic)		
	Voice Memo	Enable or Disable the voice prompt when	
	(ON/OFF)	a pager is powered on or the function	
		switch is turned.	
	Fixed Alert	If ON is selected, the pager operates in the	
	(ON/OFF)	"fixed alert" mode. This means the tone	
		alert is at maximum volume regardless of	
		the position of the volume control. If OFF	
		is selected, then the alert tone and voice	
		audio level is adjustable using the volume	
	Dui - nita - C n E1	control.	
	Priority Scan F1 (ON/OFF)	This is a non-programmable field. The	
	(ON/OFF)	value is set in Function Switch page – Mode field.	
	Alert Duration	Select either standard (STD) or alert cycle	
	(Standard/Fixed)	duration variable (FIXED) in seconds.	
	(Standard/Tixed)	STD = Alert cycle controlled by the	
		transmitted tone duration.	
		FIXED = a fixed time entered by the user.	
		<b>Note:</b> A message may be missed if the	
		alert duration is too long.	
	Call Reminder	When stored voice is present, this enables	
	(ON/OFF)	the pager to beep periodically indicating	
	, , , ,	an unread message.	
	Priority Alert	When it is set to ON, vibrate page alerts	
	(ON/OFF)	are replaced by tone alert for call 1 only.	
	Privacy	When it is set to ON, it can prevent the	
	(ON/OFF)	reset button from being used to monitor	
		the channel.	
	Reset Function	Determines how a select call pager	
	(Automatic, Delayed N, Revert,	squelches a message after receiving a	
	Manual, Timeout,	page.	
	Revert N)		
	Squelch level	Squelch Level 1 is the tightest squelch	
	$(1 \sim 5)$	setting.	
Note: Not all features are available on all models			

**Table 5: Model Option Page** 

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### **Function Switches**

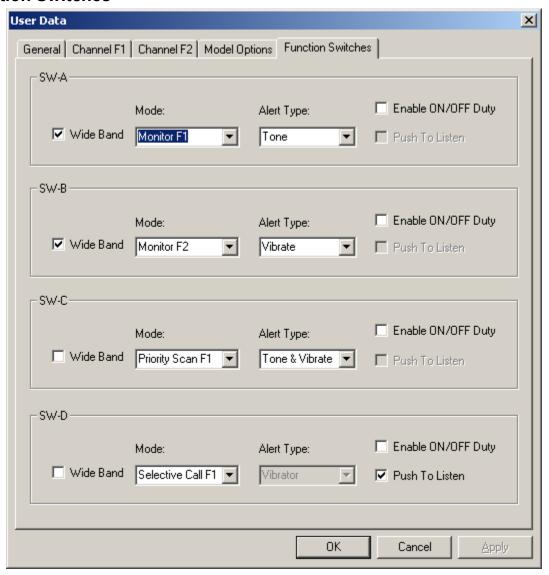


Figure 13: Function Switches Page

Group	Field Name	Description
SW-A / SW-B / SW-C /	Wide Band	Select this check box when a pager is working under wide band.
SW-D	Mode (Monitor F1, Monitor F2, SelCall F1, SelCall F2, Probability Scan, Priority Scan F1, Silent Scan)	Select one of the pager operation modes. If a pager is set to a single channel pager, only modes regarding F1 are available.
	Alert Type (Tone, Vibrate, Tone & Vibrate)	A pager can alert at three different ways.
	Enable ON/OFF Duty	Select this check box to enable the ON/OFF duty selection for each call address in Channel Page.
	Push to Listen	Enable the PTL option. At this time, the Alert Type is changed to Vibrate automatically and disabled the user selection for Alert Type. This option is only available in selective call and silent scan modes.

**Table 6: Function Switches Page** 

# **Troubleshooting Guide**

If	Then probable cause is	To correct the problem
Programming interface red LED fails to light after Minitor is	1. Cable connections	Reseat all cable connections between the programming nest, programming interface, and computer
inserted into programmer nest	2. Minitor is not inserted into programmer nest correctly for programming	Line up pins between Minitor and programmer nest then reinsert
Computer software can not read Minitor V	1. Minitor is not setup correctly for programming	Refer to installation and Setup and perform initialization procedure
codeplug	2. Com port selection	Check the COM port connection and set the COM port accordingly

**Table 7: Troubleshooting Guide** 

# **Ordering and Parts Information**

Available programmer parts are listed in Table 8

Description	Part Number	
Programmer nest, software, and manual	RLN5831A	
Programmer nest only	RLN5709A	
Software CD w/ Programming Manual	RVN4240A	
Programming Interface (110V)	NLN3548B	

**Table 8: Ordering and Parts Information** 

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