

uniden[®]

AMX 793/794

**Conventional Programming
Software**

UNIPRO Version 7.01
CONV Version 1.01



uniden[®]

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**Programmer's
Guide**

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Introduction

The AMX 793 and AMX 794 are distribution disks used with an AMX 501 Programmer Interface that attaches to a serial port of an IBM PC XT or 100% compatible personal computer. The AMX 793 is a 3 1/2" distribution disk and the AMX 794 is a 5 1/4" distribution disk.

The AMX 793/794 distribution disk contains the UNIPRO program for conventional mobile and portable radios. UNIPRO allows you to do the following:

- Read data from a radio.
- Open an existing data file on a disk.
- Create a new data file.
- Edit a data file.
- Save a data file to a disk.
- Write a data file to a radio.
- Print a data file.

A distribution disk for 800 MHz and 900 MHz trunking radios (AMX 791/792) is also available. You can install both the trunking and conventional versions of UNIPRO on the same disk or directory

You will need the following to use UNIPRO:

- An IBM PC-XT or 100% compatible personal computer with at least 512 KB of RAM. (Uniden **cannot** guarantee that this program will run on a TURBO type personal computer.)
- Any of the following combinations of disk drives for installation.
 - Two 360 KB floppy disk drives.
 - One 720 KB floppy disk drive.
 - One floppy disk drive and one hard disk drive.
- MS-DOS version 2.11 or higher.
- The AMX 501 Programmer Interface.
- AMX 793 for a 3 1/2" Floppy Disk Drive.
— or —
AMX 794 for a 5 1/4" Floppy Disk Drive.

Installing UNIPRO

You can install the UNIPRO program on a floppy disk or on a hard disk. The program UNIPCONV.EXE installs all necessary data and program files you need on the disk.

Installing UNIPRO on a Floppy Disk

You can install UNIPRO on any formatted floppy disk. The formatted floppy disk can be a system disk if needed. If you are using AMX 793, you can install UNIPRO on the AMX 793 distribution disk.

You will need a formatted floppy disk and two floppy disk drives to install UNIPRO on a formatted floppy disk.

1. Place the AMX 793/794 distribution disk in drive A.
2. Place the formatted disk in drive B.
3. Type **A** :
4. Press **Enter** .
5. Type **UNIPCONV B** :
6. Press **Enter** .
7. If you have already installed a version of UNIPRO, the prompt "Do you want to overwrite existing files (Y/N)" appears.
 - a. If the installed version is an earlier version, type **Y** and press **Enter** .
 - b. If the installed version is the current version, type **N** and press **Enter** .

Do the following to install the program on the AMX 791 distribution disk:

1. Place the AMX 791 distribution disk in drive A.
2. Type **A** :
3. Press **Enter** .
4. Type **UNIPCONV**
5. Press **Enter** .

Installing UNIPRO on a Hard Disk

You can install the UNIPRO program in a directory on a hard disk.

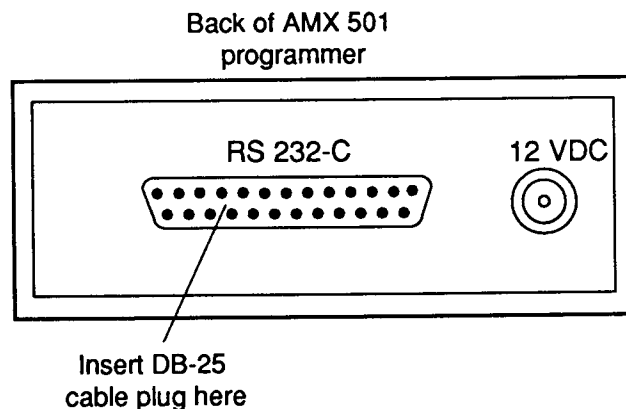
1. Place the AMX 793/794 distribution disk in drive A.
2. Type **MD \UNIPRO** and press **Enter** to make a UNIPRO directory on your hard disk.
3. Type **CD \UNIPRO** and press **Enter** to change to the UNIPRO directory.
4. Type **A : UNIPCONV C :** and press **Enter** to install the program in the UNIPRO directory.

5. If you have already installed a version of UNIPRO, the prompt "Do you want to overwrite existing files (Y/N)" appears.
 - a. If the installed version is an earlier version, type **Y** and press **Enter**.
 - b. If the installed version is the current version, type **N** and press **Enter**.

Connecting the AMX 501 Programmer Interface

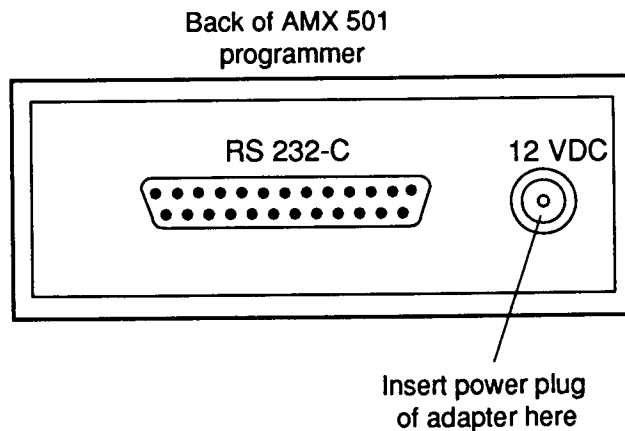
Before you can use UNIPRO to read data from or write data to a radio, you must connect the AMX 501 Programmer Interface to your personal computer as follows:

1. Use a standard DB-25 connector cable (not included) to connect the AMX 501 to the chosen RS-232C port of the personal computer.



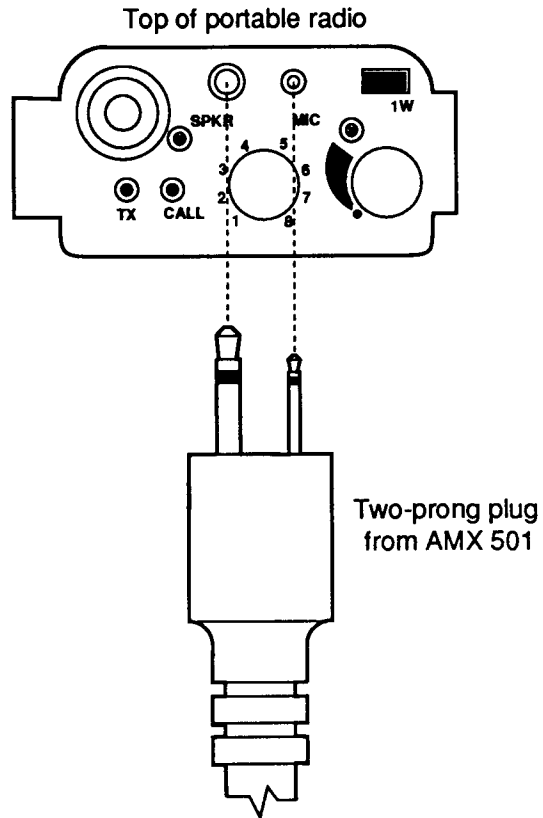
2. For Portable Radios:

- a. Insert the power plug of the adaptor supplied with the AMX 501 into the socket labeled "12 VDC" on the back of the AMX 501. This adaptor has a non-standard polarity. Always use this AC adaptor for the portable models. (In mobile radios, the radio can supply power to the programmer.) You can use cigarette lighter adaptors with the proper polarity for field programming.

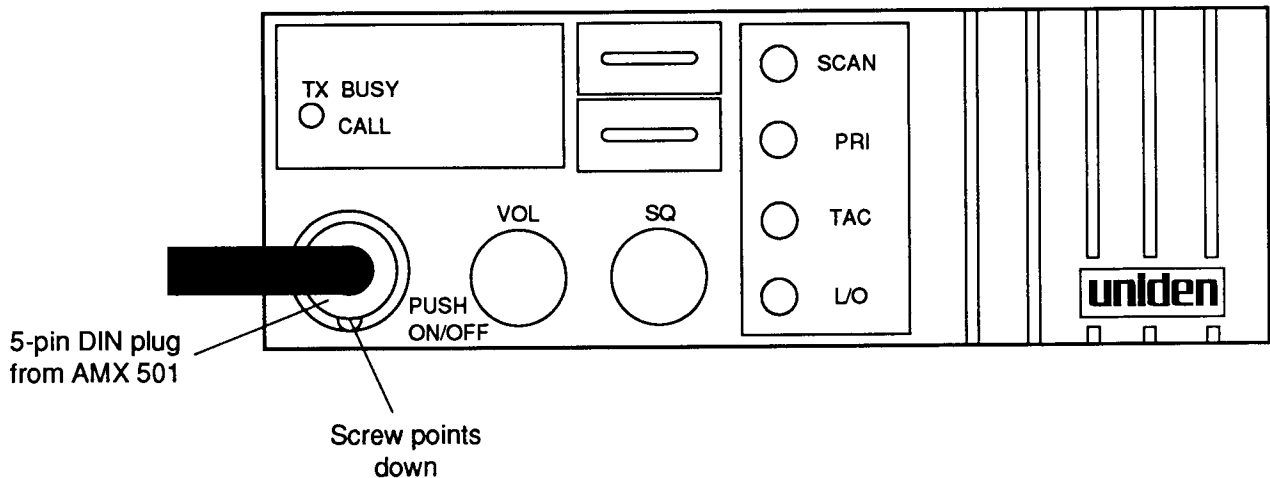


- b. Plug the adaptor into an AC power outlet.

- c. Plug the two-prong cord on the front of the programmer into the SP-MIC jack of the portable radio.



3. For Mobile Radios, connect the 5-pin DIN plug to the microphone jack of the radio.



If the radio is installed in a vehicle, power is supplied to the programmer from the radio through the 5-pin DIN plug. Make sure the screw on the 5-pin DIN plug always points down.

IMPORTANT: *Make sure the radio is ON before you try to read data from it or write data to it. Portable radios must have enough battery power for normal use. If the radio has insufficient battery power, insert the radio and battery into the battery charger.*

NOTE: *Uniden recommends that you use the AC adapter when possible. Even if you are programming a mobile radio.*

Configuring UNIPRO

You **must** run SETUP to configure UNIPRO. SETUP creates the configuration file UNIDEN.CFG which contains information on the monitor type, the default band, and the COM Port in the computer. To run SETUP:

1. Insert the floppy disk that you installed UNIPRO on.

—or—

Change to the UNIPRO directory on the hard disk.

When the DOS (>) prompt appears, type **SETUP**.

2. Press **Enter** and the Setup menu appears with **Monitor Type** highlighted.

NOTE: Throughout this guide highlighted selections in menus are shown in boldface. If you have a color monitor, highlighted selections are shown in a different color. If you have a monochrome monitor, highlighted selections are underlined.

3. Press **Enter** to choose **Monitor Type**. The monitor type menu appears.

Monitor Type	Band	COM Port	Save
Color			
B&W Color			
Monochrome			

4. Use the **↑** and **↓** keys to highlight the monitor choice that corresponds to the monitor attached to your personal computer.

Color	Use with CGA or EGA type monitors.
B&W Color	Use with composite type monitors. These are typically monochrome monitors attached to a CGA or MVGA adaptor.
Monochrome	Use with Hercules Graphic drivers (also called MDA or MGA).

5. Press **Enter**.
6. Use **→** to move the highlight to **Band**.
7. Press **Enter** to choose **Band**. The band selection menu appears with **Conventional** highlighted.

Monitor Type	Band	COM Port	Save
	Conventional		
	Trunking 800		
	Trunking 900		

8. Use the **↑** and **↓** keys to highlight the band that you want UNIPRO to use as the default band.
9. Press **Enter** to choose the default band.
10. Use **→** to move the highlight to **COM Port**.
11. Press **Enter** to choose **COM Port**. The COM Port selection menu appears with **COM 1** highlighted. SETUP uses COM 1 as the default COM Port when it does not find the configuration file, UNIDEN.CFG.

Monitor Type	Band	COM Port	Save
		COM 1 COM 2 COM 3 COM 4	

12. Use the **↑** and **↓** keys to highlight the port where you are connecting the programmer.

13. Press **Enter**.

NOTE: *If you want to exit the program without saving the new data, press **Esc** after you press **Enter**.*

14. Use the **→** key to highlight **Save**.

15. Press **Enter** to save the configuration file and exit SETUP.

Using UNIPRO

Before you run the UNIPRO program, you should have run SETUP. SETUP creates the UNIPRO configuration file, UNIDEN.CFG. If UNIPRO does not find UNIDEN.CFG, it will use the following defaults:

- Monitor type = Color.
- Band = Conventional.
- COM Port = COM 1

To start the UNIPRO program, insert the floppy disk that contains the UNIPRO files into drive A or change to the UNIPRO directory on the hard disk.

1. Type **UNIPRO**.
2. Press **Enter**. The start-up screen appears.
3. Press the spacebar or any key to continue to the next screen.

UNIPRO contains the programming information for conventional and 800 MHz and 900 MHz trunking (if installed) bands. Once you have chosen one of these bands; you can choose the radio model you want to program.

Choosing the Band

The main menu at the top of the screen shows menu choices of **BAND** and **QUIT**. The choice **BAND** is highlighted.

1. Press **Enter** to choose **BAND**.

BAND	QUIT
-------------	-------------

2. Use the **↑** and **↓** keys to highlight a radio band and press **Enter** to choose the band.

—or—

Press **C** for Conventional, **8** for 800 MHz, or **9** for 900 MHz.

BAND	QUIT
Conventional 800 MHz Trunking 900 MHz Trunking	

3. If you want to exit UNIPRO, use the arrow keys to choose **QUIT** from the menu and press **Enter**.

—or—

Press **Q**.

NOTE: You can press **Esc** to exit from any menu.

Once you choose the band, UNIPRO executes the module for that band, if it is installed.

NOTE: *If you choose 800 MHz Trunking and you have not installed the TRUNK800 module from an AMX 791 or AMX 792 distribution disk, the message "TRUNK 800 module not installed" appears. If you choose 900 MHz Trunking and you have not installed the TRUNK900 module from an AMX 791 or AMX 792 distribution disk, the message "TRUNK 900 module not installed" appears. If you press the spacebar, the Band selection menu reappears.*

Choosing the Radio Model

The band you chose appears at the bottom of the screen. The choice **RADIO** is highlighted on the main menu at the top of the screen.

BAND	RADIO	QUIT
------	--------------	------

1. Press **Enter**.
2. The conventional band radio selection menu appears:
3. Use the **↑** and **↓** keys to highlight the radio model you want to program.

BAND	RADIO	QUIT
------	--------------	------

SMU 300
SMU 3000
SMH 400
SMH 4000
SPU 48
SPH 58

4. Press **Enter** to choose the radio model.

The chosen radio name appears at the bottom of the screen and the full main menu appears at the top of the screen.

Loading an Existing Data File

Do the following to load an existing data file on disk:

1. Use **→** to move the highlight to **EDIT** and press **Enter**.

—or—

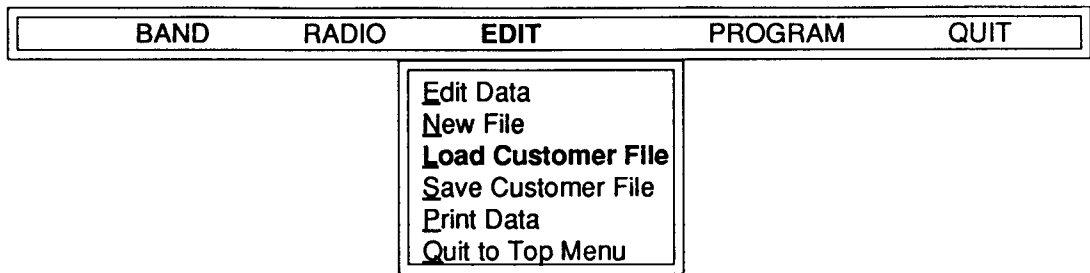
Press **E**.

BAND	RADIO	EDIT	PROGRAM	QUIT
------	-------	-------------	---------	------

2. Use the **↑** and **↓** keys to highlight **Load Customer File** and press **Enter**.

—or—

Press **L**.



3. A pop-up entry box appears on the screen. Type the filename of the customer file you want to load and press **Enter**. If you do not know the filename, you can type the wildcard entry "*" and a list of all the files on the UNIPRO directory appears. If the files were saved using the convention described in "Saving a Data File", you can type "*.CNV" to see a list of conventional data files. Refer to the DOS manual that came with your personal computer for more information about wildcards.
4. If radio data is already loaded into the memory of the personal computer, the message "Data is currently loaded. Erase current data? (y/n)" appears. Type **Y** or **N** and press **Enter**.
5. When the file is loaded, the message "Success" appears in the center of the screen and you can edit the data or write it to a radio.

Creating A New Data File

Do the following to create a new data file:

1. Use **→** to move the highlight to **EDIT** and press **Enter**.

—or—

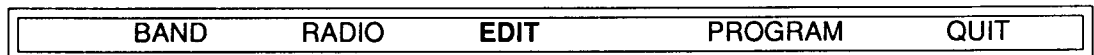
Press **E**.



2. Use the **↑** and **↓** keys to highlight **New File** and press **Enter**.

—or—

Press **N**.



Edit Data
New File
 Load Customer File
 Save Customer File
 Print Data
 Quit to Top Menu

4. If radio data is already loaded into the memory of the personal computer, the message "Data is currently loaded. Erase current data? (y/n)" appears. Type **Y** or **N** and press **Enter**.
3. If you type **Y**, all radio programming data in the memory of the personal computer clears and all radio variables are set to their default values. If you type **N**, the main menu reappears.
4. The channel data screen appears for the type of radio (mobile or portable) you are programming.

Reading Data From a Radio

Do the following to read data from a radio:

1. If you have not already done so, connect the AMX 501 Programmer Interface to the serial port of the personal computer that you chose during configuration.
2. Connect the radio to the AMX 501.
3. Turn the radio on.
4. Use **(→)** to move the highlight to **Program** and press **(Enter)**.

—or—

Press **(P)**.

BAND	RADIO	EDIT	PROGRAM	QUIT
------	-------	------	----------------	------

5. Use the **(↑)** and **(↓)** keys to highlight **Read Data from Radio** and press **(Enter)**.

—or—

Press **(R)**.

BAND	RADIO	EDIT	PROGRAM	QUIT
------	-------	------	----------------	------

Program Radio Verify Data in Radio Read Data from Radio Quit to Top Menu
--

NOTE: *If an error message appears or if the power LED on the AMX 501 does not light, see the Appendix.*

6. UNIPRO reads the programming data from the radio into the memory of the personal computer. The radio's CALL LED blinks to indicate that the radio is in 'READ DATA' mode.
7. UNIPRO verifies that the data was read correctly. After a successful read, you can change the data, save it to a disk file, print it, or write it to a radio.

Editing a Data File

Do the following to edit a data file that is loaded into the memory of the personal computer:

1. Use **(→)** to move the highlight to **EDIT** and press **(Enter)**.

—or—

Press **(E)**.

BAND	RADIO	EDIT	PROGRAM	QUIT
------	-------	-------------	---------	------

2. Use the **(↑)** and **(↓)** keys to highlight **Edit Data** and press **(Enter)**.

—or—

Press **(E)**.

- | |
|--|
| E dit Data
N <u>e</u> w File
L <u>o</u> ad Customer File
S <u>a</u> ve Customer File
P <u>r</u> int Data
Q <u>u</u> it to Top Menu |
|--|

There are edit screens that you can use to edit channel data or system feature data. There are different screens for portable radios and for mobile radios. Each of these screens is broken into fields. Some of these fields require you to type in a value. Other fields require you to press the spacebar to toggle between two or more values.

When the correct value is in a field press the **Enter** key or the **→** key to advance to the next field. If you want to return to the previous field on the screen, press and hold the **Shift** key then press the **→** key.

The **→** and **←** keys move the cursor one character to the right or left within a field. The **↑** key moves the cursor to the same field on the previous line and the **↓** key moves the cursor to the same field in the next line.

If you position the cursor over existing data in a field and type new data, the original data is overwritten. The **Backspace** key deletes the character to the left of the current cursor position within a field. It also moves the characters to the right of the deleted character one space to the left in the field.

NOTE: *The screens shown in this guide show all fields that may appear. Some of these fields may not appear for a specific radio. Fields that do not appear for specific radios are noted in the text.*

NOTE: *UNIPRO automatically saves the current radio data each time you exit the program. However, it is a good idea to save all of your data to a file each time you run UNIPRO. The default file UNIPRO saves data to is UNIDEN.CNV for conventional data.*

Editing Channel Data For Portable Radios

If you are programming a portable radio the following screen appears when you choose the **Edit Data** option on the main menu.

Channel Edit									
Channel	TX Freq	CSQ		RX Freq	CSQ		Optional Two Tone		Or/ And
		CTCSS/DCS			CTCSS/DCS		Tone A	Tone B	
1	463.2250	T	94.8	468.2250	T	94.8	1122.5	1395.0	OR
2	463.2250	C		468.2250	C		366.0	366.0	OR
3	464.0250	T	136.5	469.0250	T	136.5	366.0	366.0	OR
4	464.4000	T	146.2	469.4000	T	146.2	366.0	366.0	OR
5	462.6250	C		467.6250	C		366.0	366.0	OR
6	463.5750	C		468.5750	T	186.2	366.0	366.0	OR
7	462.0750	C		467.0250	C		366.0	366.0	OR
8	461.1500	C		461.1500	D	174	366.0	366.0	OR

<Esc> Exit	<PgUp> Last Screen	<PgDn> Next Screen
F1	F3 Mirror Freq	F5 CTCSS
F2	F4 Mirror Tones	F6 DCS
		F7 2TSD Tones
		F8 Copy Above
		F9
		F10

- The **TX Freq** field sets the frequency the radio uses to transmit. This frequency should be a multiple of the frequency resolution. The frequency resolution is 5 kHz for VHF and 12.5 kHz for UHF. Type in the frequency and press **Enter** or **→** to continue.
- You can set the first transmit **CSQ/CTCSS/DCS** field to **C** for carrier squelch, **T** for Continuous Tone Controlled Squelch System (CTCSS), or **D** for Digital Coded Squelch (DCS). Press the spacebar to toggle this field between **C**, **T**, and **D**. Press **Enter** or **→** to continue.
- For CTCSS or DCS operation, type the appropriate EIA frequency or 3-digit octal code into the second transmit **CSQ/CTCSS/DCS** field. Press **F5** to see a list of the 38 EIA CTCSS frequencies. UNIPRO does not accept other frequencies. Press **F6** to see a list of the recommended codes for digital coded squelch and their complements. **Avoid using a code and its complement on the same radio channel.**

Type in the frequency or code and press **Enter** or **→** to continue.

- The **RX Freq** field sets the frequency the radio uses to receive. This frequency should be a multiple of the frequency resolution. The frequency resolution is 5 kHz for VHF and 12.5 kHz for UHF. Type in the frequency and press **Enter** or **→** to continue.

—or—

Press **F3** to copy the frequency you entered in the TX frequency field to this field.

- You can set the first receive **CSQ/CTCSS/DCS** field to **C** for carrier squelch, **T** for Continuous Tone Controlled Squelch System (CTCSS), or **D** for Digital Coded Squelch (DCS). Press the spacebar to toggle this field between **C**, **T**, and **D**. Press **Enter** or **→** to continue.

—or—

Press **F4** to copy the tone information you entered in steps "2" and "3" to the Receive **CSQ/CTCSS/DCS** fields. After you press **F4** go to step "7".

6. For CTCSS or DCS operation, type the appropriate EIA frequency or 3-digit octal code into the second **CSQ/CTCSS/DCS** field. Press **(F5)** to see a list of the 38 EIA CTCSS frequencies. UNIPRO does not accept other frequencies. Press **(F6)** to see a list of the recommended codes for digital coded squelch and their complements. **Avoid using a code and its complement on the same radio channel.**

Type in the frequency or code and press **(Enter)** or **(→)** to continue.

7. For the optional two tone sequential operation, type the appropriate TTS frequency for tone A into the **Tone A** field. Press **(F7)** to see a list of the TTS standard frequencies.

Type in the frequency and press **(Enter)** or **(→)** to continue.

8. For the optional two tone sequential operation, type the appropriate TTS frequency for tone B into the **Tone B** field. Press **(F7)** to see a list of the TTS standard frequencies.

Type in the frequency and press **(Enter)** or **(→)** to continue.

9. You can set this field to either **OR** or **AND**. If you set this field to **OR**, the radio will allow audio to pass if it receives *either* the frequency or code you defined in the second receive **CSQ/CTCSS/DCS** field *or* the frequencies you defined in the **Tone A** and **Tone B** fields. If you set this field to **AND**, the radio will allow audio to pass if it receives *both* the frequency or code you defined in the second receive **CSQ/CTCSS/DCS** field *and* the frequencies you defined in the **Tone A** and **Tone B** fields.

Press the spacebar to toggle this field between **OR** and **AND**. Press **(Enter)** or **(→)** to continue.

10. Repeat steps 1 through 10 for each channel in the system. If you want to copy a frequency or tone information from the line above the current field, press **(F8)**.

11. Press **(PgUp)** to go to the previous channel screen.

—or—

Press **(PgDn)** to go to the next channel screen.

Editing Channel Data For Mobile Radios

If you are programming a mobile radio, the following screen appears when you choose the **Edit Data** option on the main menu.

Channel Edit							
Channel	TAC	TX Freq	CSQ CTCSS/DCS	RX Freq	CSQ CTCSS/DCS		
1	Y	463.2250	T 94.8	468.2250	T 94.8		
2	Y	463.2250	C	468.2250	C		
3	Y	464.0250	T 136.5	469.0250	T 136.5		
4	Y	464.40000	T 146.2	469.4000	T 146.2		
5	Y	462.6250	C	467.6250	C		
6	Y	463.5750	C	468.5750	T 186.2		
7	Y	462.0750	C	467.0250	C		
8	Y	461.1500	C	461.1500	D 174		
9	N		C		C		
10	N		C		C		
11	N		C		C		
12	N		C		C		

<Esc> Exit	<PgUp> Last Screen	<PgDn> Next Screen
F1	F3 Mirror Freq	F5 CTCSS Tones F7 F9
F2	F4 Mirror Tones	F6 DCS Tones F8 Copy Above F10

- When the you set the **TAC** field to **Y** , the talk around channel feature is enabled for that channel. If you set the radio to this channel and the press the TAC control in, the radio transmits and receives on the receive frequency. This allows you to communicate directly with another radio without going through the repeater. Press the spacebar to toggle this field between **Y** and **N** . Press **Enter** or **→** to continue.
- The **TX Freq** field sets the frequency the radio uses to transmit. This frequency should be a multiple of the frequency resolution. The frequency resolution is 5 kHz for VHF and 12.5 kHz for UHF. Type in the frequency and press **Enter** or **→** to continue.
- You can set the first transmit **CSQ/CTCSS/DCS** field to **C** for carrier squelch, **T** for Continuous Tone Controlled Squelch System (CTCSS), or **D** for Digital Coded Squelch (DCS). Press the spacebar to toggle this field between **C** , **T** , and **D** . Press **Enter** or **→** to continue.
- For CTCSS or DCS operation, type the appropriate EIA frequency or 3-digit octal code into the second transmit **CSQ/CTCSS/DCS** field. Press **F5** to see a list of the 38 EIA CTCSS frequencies. UNIPRO does not accept other frequencies. Press **F6** to see a list of the recommended codes for digital coded squelch and their complements. **Avoid using a code and its complement on the same radio channel.**

Type in the frequency or code and press **Enter** or **→** to continue.

- The **RX Freq** field sets the frequency the radio uses to receive. This frequency should be a multiple of the frequency resolution. The frequency resolution is 5 kHz for VHF and 12.5 kHz for UHF. Type in the frequency and press **Enter** or **→** to continue.

—or—

Press **F3** to copy the frequency you entered in the TX frequency field to this field.

- You can set the first receive **CSQ/CTCSS/DCS** field to **C** for carrier squelch, **T** for Continuous Tone Controlled Squelch System (CTCSS), or **D** for Digital Coded Squelch (DCS). Press the spacebar to toggle this CSQ/CTCSS/DCS field between **C**, **T**, and **D**. Press **Enter** or **→** to continue.

—or—

Press **F4** to copy the tone information you entered in steps "3" and "4" to the Receive CSQ/CTCSS/DCS fields. After you press **F4** go to step "8".

- For CTCSS or DCS operation, type the appropriate EIA frequency or 3-digit octal code into the second **CSQ/CTCSS/DCS** field. Press **F5** to see a list of the 38 EIA CTCSS frequencies. UNIPRO does not accept other frequencies. Press **F6** to see a list of the recommended codes for digital coded squelch and their complements. **Avoid using a code and its complement on the same radio channel.**

Type in the frequency or code and press **Enter** or **→** to continue.

- Repeat steps 1 through 7 for each channel in the system. If you want to copy a frequency or tone information from the line above the current field, press **F8**.

- Press **PgUp** to go to the previous channel screen.

—or—

Press **PgDn** to go to the next channel screen.

Editing System Features For Portable Radios

You use the System Features screen to enter data that effects all of the channels you program into the radio. The following screen appears if you are programming a portable radio.

System Features				
Serial Number:	03001000			
Comments:	Joe's Plumbing #4			
Time Out Time:	240 Seconds			
Busy channel lock out:	N			
DTMF Hang Time:	3 seconds			
Battery Save Time:	100 msec			
<Esc> Exit		<PgUp> Last Screen		<PgDn> Next Screen
F1	F3	F5	F7	F9
F2	F4	F6	F8	F10

- The **Serial Number** field allows you to record a specific serial number in the data file of the radio you are programming. Type up to 10 digits and press **Enter** or **→** to continue.
- The **Comments** field allows you to type in a message of up to 60 characters. This message can include the company name or vehicle number. Type up to 60 characters and press **Enter** or **→** to continue.

3. The **Time Out Time** is the time that you can key the transmitter before it automatically turns off. Press the spacebar to toggle the **Time Out Time** field between **D I S A B L E D**, **1 5**, **3 0**, **6 0**, **9 0**, **1 2 0**, **1 8 0**, and **2 4 0** seconds. Press **Enter** or **→** to continue.
4. The **Busy Channel Lock Out** feature automatically disables the transmitter when the receiver detects an active channel without the correct CTCSS or DCS coded squelch signal. Press the spacebar to toggle the **Busy channel lock out** field between **Y** and **N**. Press **Enter** or **→** to continue.
5. The **DTMF Hang Time** is the time that the transmitter stays on after you release a digit key on the DTMF keypad. Press the spacebar to toggle the **DTMF Hang Time** field between **0**, **1**, **2**, **3**, **4**, or **5** seconds. Press **Enter** or **→** to continue.
6. The **Battery Save Time** is the time that the receiver is placed in Sleep mode. In Sleep mode, the voltage supply to the receiver is shut off. The receiver 'ON' time is fixed at 100 msec. Press the spacebar to toggle the **Battery Save Time** field between **0**, **1 0 0**, **2 0 0**, **4 0 0**, or **8 0 0** milliseconds. Press **Enter** or **→** to continue.

WARNING: For critical applications, set the Battery Save Time to 0 seconds to avoid the possibility of missing calls.

Editing System Features For Mobile Radios

You use the System data screen to enter data that effects all of the channels you program into the radio. The following screen appears if you are programming a portable radio.

System Features																							
Serial Number: 03001000																							
Comments: Joe's Plumbing #4																							
Time Out Time: 240 Seconds		Scan: Y																					
Busy Channel Lock out: N		Drop out Delay Time: 1 second																					
Dwell Time: 100 msec																							
Priority Type: Fixed -		Fixed																					
Priority Chan: 1		2																					
<table border="0" style="width: 100%;"> <tr> <td style="width: 16.6%;"><Esc> Exit</td> <td style="width: 16.6%;"></td> <td style="width: 16.6%;"><PgUp> Next Screen</td> <td style="width: 16.6%;"></td> <td style="width: 16.6%;"><PgDn> Last Screen</td> <td style="width: 16.6%;"></td> </tr> <tr> <td>F1</td> <td>F3</td> <td>F5</td> <td>F7</td> <td>F9</td> <td></td> </tr> <tr> <td>F2</td> <td>F4</td> <td>F6</td> <td>F8</td> <td>F10</td> <td></td> </tr> </table>						<Esc> Exit		<PgUp> Next Screen		<PgDn> Last Screen		F1	F3	F5	F7	F9		F2	F4	F6	F8	F10	
<Esc> Exit		<PgUp> Next Screen		<PgDn> Last Screen																			
F1	F3	F5	F7	F9																			
F2	F4	F6	F8	F10																			

1. The **Serial Number** field allows you to record a specific serial number in the data file of the radio you are programming. Type up to 10 digits and press **Enter** or **→** to continue.
2. The **Comments** field allows you to type in a message of up to 60 characters. This message can include the company name or vehicle number. Type up to 60 Characters and press **Enter** or **→** to continue.
3. The **Time Out Time** is the time that you can key the transmitter before it automatically turns off. Press the spacebar to toggle the **Time Out Time** field between **D I S A B L E D**, **1 5**, **3 0**, **6 0**, **9 0**, **1 2 0**, **1 8 0**, and **2 4 0** seconds. Press **Enter** or **→** to continue.

4. The **Busy Channel Lock Out** feature automatically disables the transmitter when the receiver detects an active channel without the correct CTCSS or DCS coded squelch signal. Press the spacebar to toggle the **Busy channel lock out** field between **Y** and **N**. Press **Enter** or **→** to continue.
5. The **Scan** field enables or disables the scan function. If you set this field to **Y**, the scan function is enabled. Press the spacebar to toggle this field between **Y** and **N**. Press **Enter** or **→** to continue.
6. The **Dropout Delay** is the elapsed time from when a call ends until the radio resumes scanning. Press the spacebar to toggle the **Dropout delay time** field between **1** and **3** seconds. Press **Enter** or **→** to continue.
7. The priority channel scan **Dwell time** sets the duration that the receiver searches for activity in the first priority channel when there is no carrier present. Press the spacebar to toggle the **Dwell time** field between **100**, **150**, and **200** milliseconds. Press **Enter** or **→** to continue.
8. Use the **Priority Type** field to choose from the four possible priority scan settings. The receiver can have single or dual priority scan. The first priority can be fixed or variable. With dual priority, the first priority can only be fixed while the second priority can be fixed or variable. The radio defaults to the channel that was programmed as the first priority. Press the spacebar to toggle this field between, **Fixed**, **Variable**, **Fixed-Variable** and **Fixed-Fixed**. Press **Enter** or **→** to continue.
9. The **Priority Chan** field allows you to enter the channel number of the priority channel(s). Type the channel number and press **Enter** or **→** to continue.

Saving a Data File

Do the following to save the data in the memory of the personal computer to a disk file:

1. Use **→** to move the highlight to **EDIT** and press **Enter**.

—or—

Press **E**.

BAND	RADIO	EDIT	PROGRAM	QUIT
------	-------	------	---------	------

2. Use the **↑** and **↓** keys to highlight **Save Customer File** and press **Enter**.

—or—

Press **S**.

BAND	RADIO	EDIT	PROGRAM	QUIT
------	-------	------	---------	------

Edit Data
 New File
 Load Customer File
Save Customer File
 Print Data
 Quit to Top Menu

3. A pop-up entry box appears on the screen. Type a filename for the data you want to save and press **Enter**.

NOTE: Give the customer file an extension that describes the frequency band you are programming. For example:

- .CNV for conventional .
- .SMH for VHF Mobiles.
- .SMU for UHF Mobiles.
- .SPH for VHF Portables.
- .SPU for UHF Portables.

4. If a file with the same filename already exists, a prompt appears and asks if you want to overwrite the existing file. Type Y to overwrite the existing file and press **Enter** .

Printing a Data File

You can print the radio programming data that is in the memory of the personal computer to provide a written record of how you programmed the radio. The radio data is printed to LPT1.

1. Make sure that you connect the printer to the personal computer, turn it on, and put it on-line.

2. Use **→** to move the highlight to **EDIT** and press **Enter** .

—or—

Press **E** .

BAND	RADIO	EDIT	PROGRAM	QUIT
------	-------	------	---------	------

3. Use the **↑** and **↓** keys to highlight **Print Data** and press **Enter** .

—or—

Press **P** .

BAND	RADIO	EDIT	PROGRAM	QUIT
------	-------	------	---------	------

Edit Data
New File
Load Customer File
Save Customer File
Print Data
Quit to Top Menu

Writing Data to a Radio

Do the following to write the data in the memory of the personal computer to a radio:

1. If you have not already done so, connect the AMX 501 Programmer Interface to the serial port of the personal computer that you chose during configuration.

2. Connect the radio to the AMX 501.

3. Use **→** to move the highlight to **Program** and press **Enter** .

—or—

Press **P** .

BAND	RADIO	EDIT	PROGRAM	QUIT
------	-------	------	----------------	------

4. Use the **↑** and **↓** keys to highlight **Program Radio** and press **Enter** .

—or—

Press **P**.

BAND	RADIO	EDIT	PROGRAM	QUIT
------	-------	------	----------------	------

Program Radio
Verify Data in Radio
Read Data from
Radio
Quit to Top Menu

NOTE: *If an error message appears or if the power LED on the AMX 501 does not light, see the Appendix.*

5. UNIPRO writes the programming data from the memory of the personal computer into the radio. The radio's CALL LED blinks to indicate that the radio is in 'PROGRAM DATA' mode.
6. UNIPRO verifies that the data was written correctly.

Verifying Radio Data

Do the following to verify that the data in the radio matches the data in the memory of the personal computer:

1. If you have not already done so, connect the AMX 501 Programmer Interface to the serial port of the personal computer that you chose during configuration.

2. Connect the radio to the AMX 501.

3. Use **→** to move the highlight to **Program** and press **Enter**.

—or—

Press **P**.

BAND	RADIO	EDIT	PROGRAM	QUIT
------	-------	------	----------------	------

4. Use the **↑** and **↓** keys to highlight **Verify Data in Radio** and press **Enter**.

—or—

Press **V**.

BAND	RADIO	EDIT	PROGRAM	QUIT
------	-------	------	----------------	------

Program Radio
Verify Data In Radio
Read Data from
Radio
Quit to Top Menu

5. UNIPRO reads the programming data in the radio and compares it to the data in the memory of the personal computer. If the data in the radio is the same as the data in the memory of the personal computer, the message "Success" appears. If the data in the radio is not the same as the data in the memory of the personal computer, an error message. Verification does not change the data in the memory of the personal computer.

Appendix. Troubleshooting Flowcharts

The flowcharts in this appendix are designed to help you isolate problems with the AMX 501 Programmer interface.

- Use figure 1 when you try to program a mobile radio and the power LED on the AMX 501 does not light.
- Use figure 2 when you try to program a portable radio and the power LED on the AMX 501 does not light.
- Use figure 3 when you try to program a radio and the error message "Radio Not Responding to Control Lines" appears.
- Use figure 4 when you try to program a radio and the error message "ML Ack Time-out" appears.

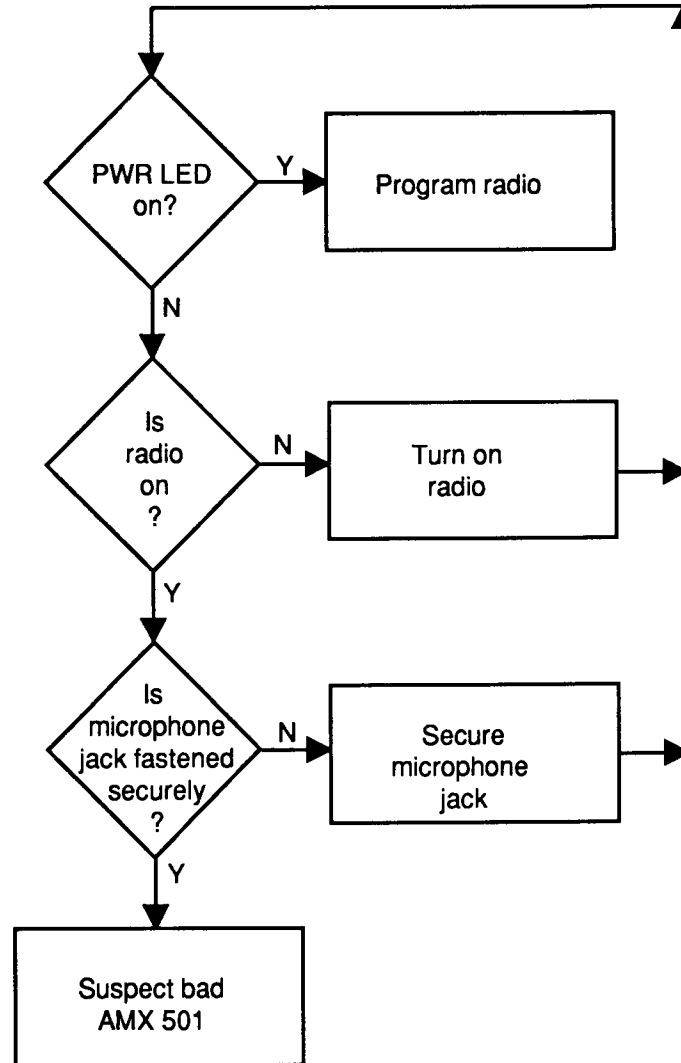


Figure 1. Mobile Radio Power Flowchart

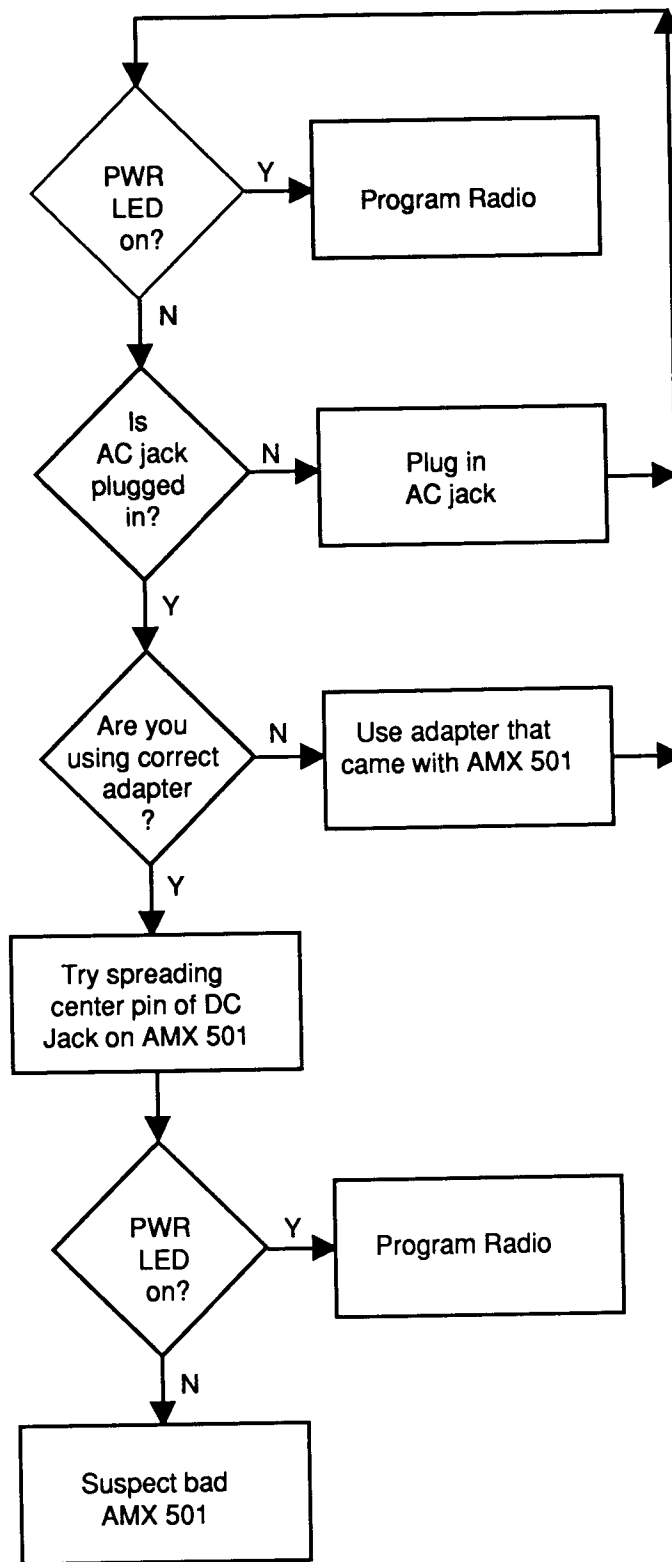


Figure 2. Portable Radio Power Flowchart

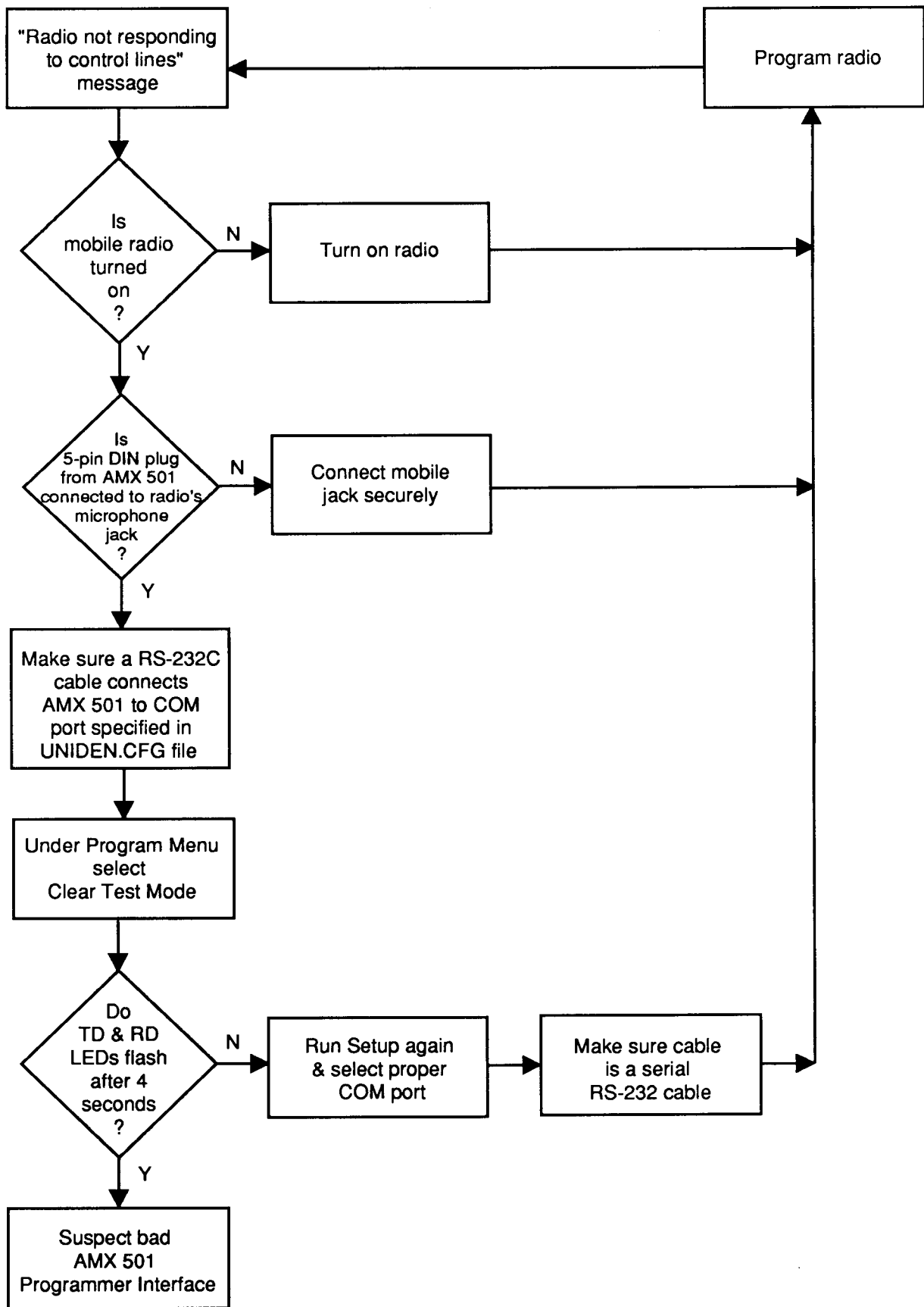


Figure 3. "Radio not responding to control lines" Error Message

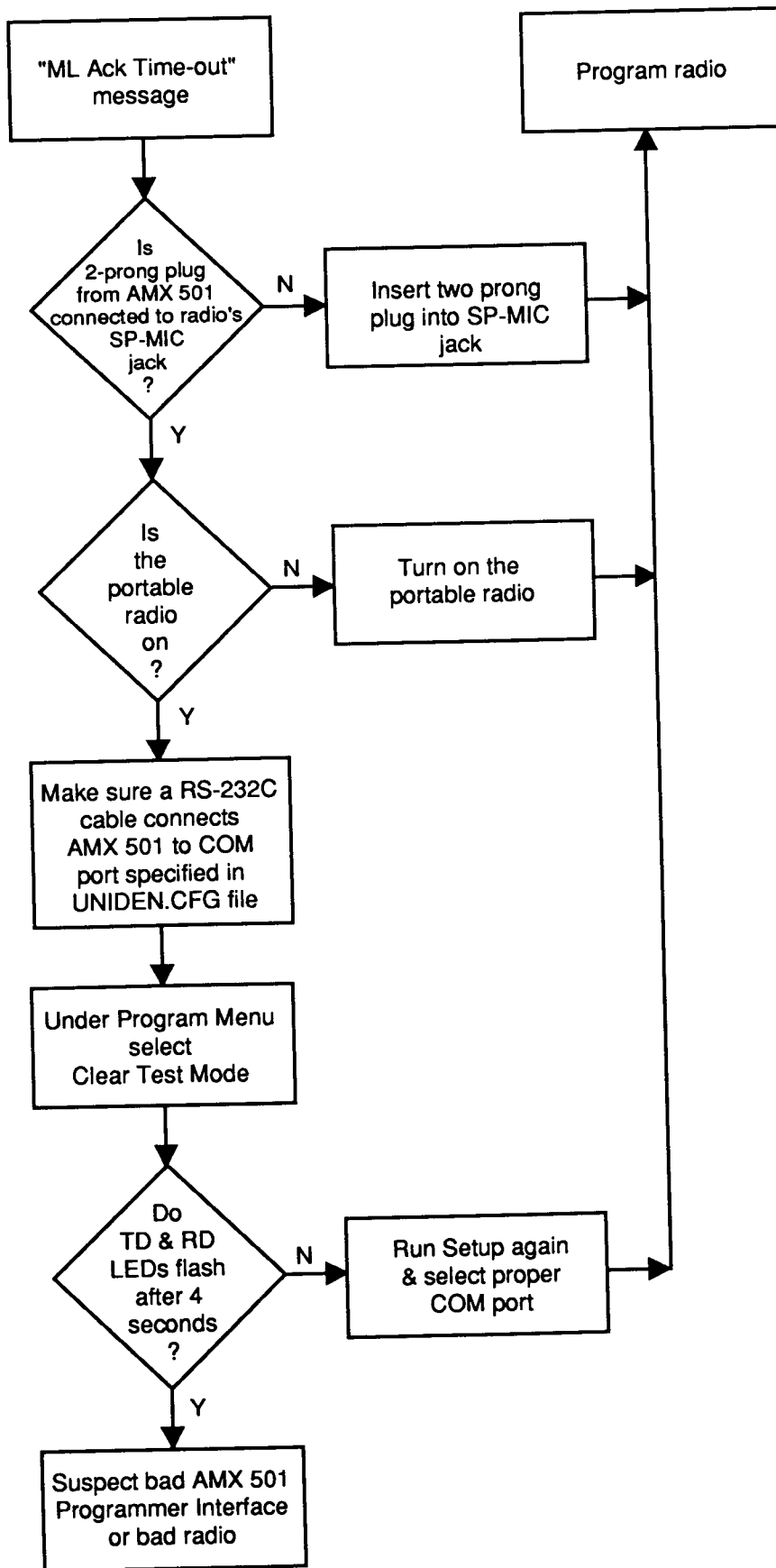


Figure 4. "ML Ack Time-out" Error Message