



**AMX797
PROGRAMMING GUIDE**

Uniden® PRC
Private Radio Communications

**FOR
SPH155D & SPU454K**

1. INTRODUCTION

THIS IS A QUICK REFERENCE GUIDE TO SHOW HOW TO INSTALL YOUR SOFTWARE AND EXPLAIN HOW TO PROGRAM YOUR SPH155D AND SPU454K CONVENTIONAL PORTABLES.

1.1 General Description

The AMX797 contains the PC¹ based program, UNICONV2.EXE. This program was compressed and made into a self-extracting archived file to save disk space. The AMX797 software operates in DOS with on-screen editing and allows you to save or print your customer files. (**NOTE** not designed to work with Windows™ or any other software of this type).

Navigating through the different fields and screens can be accomplished by either mouse or hot keys, (which will be indicated by []). If you do not have mouse capabilities you may access the menu by pressing ALT-SPACE or F10 then use your arrow keys to select the desired function. If you need help just remember, each window or field has its own help dialog that can be accessed by pressing the F1 key.

(**Note:** This program is not compatible with previous Unipro software, i.e. AMX791, AMX792, AMX793 or AMX794.)

1.2 Hardware Requirements

- A PC-XT compatible computer with 512 KB RAM
- One serial port
- AMX501 Programmer Interface

1.3 Software Requirements

MS-DOS version 3.3 or higher

UNICONV2.EXE - On the AMX797 distribution disk

If you have any questions or problems with this software please contact our Technical Assistance which is available from the Technical Support Group during the normal work days between the hours of 8:00 A.M. and 5:00 P.M. Eastern Standard Time.

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¹PC refers to an IBM PC-XT compatible computer. IBM PC-XT is a registered trademark of International Business Machines Corporation.

2. INSTALLATION

2.1 AMX797 - 720 KB (3.5") Diskette Installation

NOTE: You can not extract the program onto the AMX797 distribution disk unless you copy the file onto a high-density diskette.

2.1.1 Extracting UNICONV2 program onto another disk

You will need a formatted disk. It can be a system disk if needed.

1. Place the AMX797 distribution disk into one drive (A/B).
2. Place the formatted disk into the other drive (A/B).
3. Select distribution drive, example **A**.

(Type in) **A:** <Enter>

4. Extract the program onto drive B.

(Type in) **UNICONV2 B :** <Enter>

2.1.2 Hard Disk Installation

Use the self install program by typing (n):*install* and follow the instructions:

-or-

Create a directory on your hard drive then copy the files to that new directory.
EXAMPLE:

```
C:\mkdir UNICONV2
C:\cd UNICONV2
C:\UNICONV2
copy A:*. * C:
```

You should now have UNICONV2.EXE on your hard drive. Type UNICONV2.EXE to extract the program. Upon completion you will have 3 files, CONV2.EXE, CONV2.H16 and CONV2.C16 added under your directory.

3. CONNECTING AMX501

1. Connect standard DB-25 connector (not included) to AMX501 programmer and to selected RS-232C port of PC.
2. Connect the 5-pin DIN plug to the Microphone jack on mobiles. (Use the AC adapter for portables.) Power is supplied to the programmer from the radio through the 5-pin DIN cord.
3. Be sure the radio is ON before programming otherwise you will get an error message when trying to write data.

4. START UP

To run the program type CONV2.EXE at your DOS prompt. On initial startup the About dialog appears showing the revision number, date and copyright information. Pressing either the Esc key or Enter key will close this dialog and if your computer has mouse capability you need only to click on the OK button. After closing, the Model dialog appears to allow you to select Radio Type. The default model is the SPH155. If you select SPU454 on the first time you run the program you will get an Information dialog stating that the file doesn't exist. This is normal. After initial startup this message will not appear again.

Notice the top and bottom menu bars and the characters highlighted red which signifies *hot keys*. Pressing Alt + any red character will access that particular function. This command is for computers without mouse capabilities. When using mouse simply click on the desired selection.

5. SETUP

Next go into the Setup menu by pressing **[Alt-space]** and enter either **S** or use arrow keys to scroll to highlight Setup then enter. To select your Com Port press the letter **S** and use **↑↓** keys to move to your selection or just press the corresponding number 1, 2, 3 or 4. You will notice that "**Serial Port**" and "**(●) Com1**", which is the factory default port, becomes highlighted. Press **K** or **[Alt-K]** to save and exit the Serial dialog. You are now ready for Editing.

6. EDITING

6.1 Edit Menu

Pressing F10, **[Alt-spacebar]** and using the right arrow key to advance or **[Alt-E]** can access the Edit Menu. This menu contains two options to choose from, Features **[Alt-G]** and Channels **[Alt-C]**. We will start with the Features option with a step-by-step illustration.

6.1.1 Features **[Alt-G]**

Accessing this option pulls down the Radio Features dialog, which allows you to enter special comments and Serial number, change Features, Enable or Disable Scan, Battery Save and Drop Out Delay time, set Time Out Time, Vox, DTMF Hang Times and Vox sensitivity, plus Channel Spacing (SPH155D only). You can use the Tab key to go from one category to another. Features preceded with **[X]** (checkbox), can be toggled on/off by pressing the space bar. The categories that have **(●)** (radio button) can be selected by pressing the arrow keys. (For more information press F1 for help.) To exit without saving press the Esc key (or click on the Cancel button).

- **Serial No. [Alt-N]** allows you to enter, up to eight digits, the serial number of the radio to be programmed. (This information is not programmed into the radio, but it is saved with the customer file.)

- **Comments [Alt-C]** allows up to 64 characters for you to put any statement or name to identify your customers unit. The comments are saved only with the customer file. They do not get programmed into the radio.
- **Features [Alt-G]** gives you nine options:
 - 1) *Talk Back Channel* - Selecting this option enables the Talk Back feature to control which TX channel your radio will revert to during scan (see Table below).

TALK BACK	HOME CH	TRANSMITS ON..
ENABLED	DISABLED	RECEIVED CH.
DISABLED	ENABLED	HOME CH.*
ENABLED	ENABLED	HOME* or RECEIVED CH.

*A Home Channel must be programmed, otherwise your radio will display 00 when you press the SCAN button to disable scanning.

- 2) *Busy Indicator* - Disables or enables different LED combinations (see Table below).

BUSY INDICATOR	LED INDICATOR	CSQ/CTCSS/DCS LED Flashes RED	2-TONE LED Flashes YELLOW
ENABLED	ENABLED	YES	YES
DISABLED	ENABLED	NO	YES
DISABLED	DISABLED	NO	NO

NOTE: L.C.D. displays ^{Call} on all settings.

- 3) *LED Indicator* - Works in conjunction with Busy Indicator. If Busy Indicator is disabled, the LED Indicator feature will have no effect on radio operation.
 - 4) *L/O Switch* - Lock Out Switch gives user the ability to delete any channel(s) from being scanned. The channels locked out will display ^{DEL} on the LCD You can still TX and RX on locked out channels with scan disabled.
 - 5) *Monitor Switch* - Enabling allows user to monitor channels that has CTCSS, DCS or Two - Tone decoding. This does not affect the Two - Tone reset function.
 - 6) *Priority Alert* - Enabled, radio gives a short beep tone when Priority Channel receives a signal.
 - 7) *Battery Low Alert* - Will cause radio to flash ^{LOW BATT} and beep when voltage goes below the sufficient range.
 - 8) *Power On Alert* - When enabled radio will signal with a “beep” on power up.
 - 9) *Key Tone “Beep”* - Enabling causes radio to beep whenever any function key is pressed. Only the dealer through the AMX797 software controls this feature.
- **Scan Feature [Alt-S]** allows the dealer to enable or disable scanning. When enabled user will have the ability to turn scan on or off using the ^{SCAN} button. This feature works together with Priority Channel. You can have scan without a priority channel, but you cannot have priority without scan.
 - **Battery Save [Alt-B]** has 5 selections to choose from; Disable, 100mS, 200mS, 400mS or 800mS. Using the ↑↓ arrow keys or click mouse to make your selection. Battery save is the time the receiver is placed in “Sleep” mode, which is when supply voltage to the receiver section is shut off. The receiver “On” time is fixed at 150 milliseconds.

- **Drop-Out-Delay [Alt-O]** is the time it takes for the unit to start scanning after a call has been received. You have 3 selections to choose from, 0, 1 and 3 seconds. The drop out time that you select will also affect which channel is selected on Talk Back during scan. For example, you have your radio programmed for 8 channels with channel 4 as priority, channel 1 as the home channel and Talk Back enabled. The radio is scanning and a call is received on channel 6. If your drop out time is set to 0 the radio will immediately start scanning after the carrier is dropped making the unit transmit on the home channel when PTT is pressed. This makes it impossible to reply unless you take the unit out of scan and manually scroll to channel 6. By then you've missed the call. Changing the drop out time to 3 seconds will allow user enough time to reply, so make your select to accommodate a normal PTT reaction time.
- **Time-Out-Time [Alt-T]** has 5 selections to choose from, Disable, 15, 30, 60 and 120 seconds. You can use this feature to set the maximum allowable time for continuous transmission. The radio will give operator a warning beep 10 seconds before time-out. Releasing the PTT resets the timer.
- **CHAN Spacing [Alt-A]** is only for the SPH155 model. This selection is bypassed when programming the SPU454. Allows you select either 5.00 kHz or 6.25 kHz channel spacing.

VOX Hang Time [Alt-V] sets the amount of time it takes for PTT to drop after modulation is removed from the microphone to either 1, 1 or 2 seconds. **NOTE:** The APX291 VOX headset is required to use VOX feature.

- **DTMF Hang Time [Alt-D]** sets the amount of time it takes for PTT to drop after releasing DTMF key. To have DTMF capabilities you'll need to have an APX128 installed (contact your Uniden representative for details). There are 3 selections to choose from; 0 seconds, 1 second and 2 seconds.
- **VOX Sensitivity [Alt-X]** gives you, High, Mid and Low ranges for microphone sensitivity. High range is the most sensitive setting and can be used in low noise environments. The least sensitive is Low range, which is for high noise areas. For best operation, you should have the Mic element placed directly in front of your mouth no farther than a half-inch away.
- **Home Channel [Alt-H]** allows you to set any channel (1-16) as a home channel for Talk Back function and on power up sequence. The radio will revert to the Home Channel when PTT is pressed during scan, if Talk Back feature is enabled and no call has been received. To reply on a non-home channel call during scan, wait until the carrier drops then press PTT before Drop - Out - Time resets scanning sequence, otherwise radio will revert to Home Channel. Refer to the programming table under Talk Back Channel on page 5 for different configurations. An important note to remember, 00 displays anytime the unit tries to revert to Home if there no channel programmed.
- **Priority Channel [Alt-P]** allows you to set any channel (1-16) as a priority channel. This is a fixed channel that will be monitored during scan. The Talk Back or Home Channel feature does not affect the Priority Channel. **OK [Alt-K]** saves your data

and exits the Radio Features dialog. **CANCEL [Esc]** exits Radio Features Edit dialog without saving data.

6.1.2 Channels [Alt-C]

Accessing this option pulls down the Channel Edit dialog which allows you to program up to 16 channels with TX and RX frequencies, Encoder / Decoder options, Power level Two-Tone decoding and special Channel Options (Busy Channel Lockout, DTMF and VOX).

- **Tx Frequency [Alt-T]** for the SPH155 covers from 146 to 174 Mhz and 450 to 470 Mhz for the SPU454. Enter a valid frequency by typing in the most significant digits, the decimal is automatically placed.
- **Encode [Alt-E]** gives you three selections, CSQ (Carrier Squelch), CTCSS (Continuous Tone Controlled Squelch System) and DCS (Digital Coded Squelch). You can make your selection with the arrow keys. **Notice** the Code window changes with the Encode selection. Use the scroll bar or PageUp/PageDown keys to view codes. Your selection will stay highlighted when you advance to next entry. The Code window can only be accessed from the Encode section.
- **Rx Frequency [Alt-R]** for the SPH155 covers from 146 to 174 Mhz and 450 to 470 Mhz for the SPU454. Enter a valid frequency by typing in the most significant digits, the decimal is automatically placed.

Decode [Alt-D] gives you three selections and operates in the same manner as the Encode feature, CSQ (Carrier Squelch), CTCSS (Continuous Tone Controlled Squelch System) and DCS (Digital Coded Squelch).

- **Two-Tone Decode Tone A [Alt-A]** defines a range of from 288.5 HZ to 1433.4 HZ. Use the scroll bar to select your first tone. Select *No Tone* to disable this feature.
- **Two-Tone Decode Tone B [Alt-B]** defines a range of from 288.5 HZ to 1433.4 HZ. Use the scroll bar to select your first tone. Select *No Tone* to disable this feature.
- **Tx Power Level [Alt-P]** sets the power level for a given channel. Each channel can be set for either High Power (5 watts for SPH155 and 4 watts for SPU454), or Low Power (1 watt both SPH155 and SPU454). Remember the user cannot change this setting.
- **Channel Options [Alt-O]** gives you three checkbox selections;
 1. *Busy Ch Lock* will prevent the radio from transmitting on an active channel.
 2. *DTMF Encoder* allows this channel to send DTMF tones, if APX128 is installed.
 3. *VOX Function* sets this channel for Voice Activated PTT. To use this feature requires that the proper VOX headset be used.
- **2-Tone Functions [Alt-F]** sets this channel for Tone Only or Tone & Voice decoding. Press F1 for more information.

- **CTCSS (DCS)/2-Tone [Alt-C]** sets the decoding logic. “AND” requires CTCSS or DCS “AND” 2-Tone codes for decoding where “OR” only requires either CTCSS, DCS “OR” 2-Tone.

7. Programming

7.1 Program Menu

The Program Menu can be accessed by pressing either F10 or **[Alt-spacebar]** then use the arrow keys to make your selection or **[Alt-P]**, which takes you directly to the Write / Read dialog. Before Reading or Writing make sure that the unit is powered up and connected properly. (See section 3 on page 3 on connecting your AMX501.) If errors occur recheck all your connections to the radio, the AMX501 and your computer. Also make sure that your computer has DOS version 3.3 or higher.

Double check all your connections before attempting the write command. The most common errors with either program are not having the radio powered up, the AC adapter not plugged into the AMX501 (portables only) or the wrong Com Port selected.

7.1.1 Write [Alt-W]

Writes data to the radio. Before you initialize this command make sure that the radio is turned on and that power is applied to the AMX501.

After Write command is selected there will be a 3.5 second delay, then the radio will respond by displaying PR, which indicates program mode. Do not disconnect the radio until Write complete dialog is displayed.

7.1.2 Read [Alt-L]

Read pulls information from the radio. In regards to displays and error messages it performs the same way as Write. Follow the same procedures as with the Write command.

8. File Options

8.1 File Menu

Pressing F10, [Alt-spacebar] or [Alt-F] accesses the File Menu. You have 6 options to choose from; New, Open..., Save, Save As..., Print or Quit [**Alt-X**].

8.1.1 New

This command clears all information and creates a new data file with default values.

8.1.2 Open

This command accesses the “Open a File” dialog which gives you the ability to change directories, select files or change file types. You are shown, Name, Files, with the directory and files sizes displayed at the bottom.

- **Name [Alt-N]** shows *.dat as the default filename. You may either type in the filename or simply TAB to Files or select from the list.
- **Files [Alt-F]** lists all the files and directories on your computer. You can change directories by pressing the ENTER key when ..\ is highlighted.

8.1.3 Save

This command will automatically save your file under its' original file name. You must make sure the data is correct before selecting this command to prevent writing over your existing file.

8.1.4 Save As

This command pulls down the “Save File As” dialog which looks like the “Open a File” dialog. You can enter your file name under the Name heading. Pressing the ENTER key saves the file with .dat extension. Just like the Open command you have the option to change directories.

8.1.5 Print

Before selecting this option make sure your printer is ready. This command will print all data that is currently loaded.

8.1.6 Quit [Alt-X]

Exits program back to DOS prompt.

Summary: