

NuMorse Lite Help Contents

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Check out our page on the World Wide Web at http://ourworld.compuserve.com/homepages/Tony_Lacy for the latest versions of all our shareware applications.

Or

Contact the author by email on 100030.157@compuserve.com

Amateur Radio Study Guide:

This Amateur Radio Study Guide is for people wishing to get or upgrade their Amateur Licenses and contains useful information relevant to studying for the written theory exams..

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All of our products can be downloaded via the Web site.

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Introduction

NuMorse Lite is designed to start you off in learning the Morse Code and it has several features to make this task as enjoyable as possible.

Here is a list of features offered by NuMorse Lite:

Code style is the same as that used in FCC Novice tests (Element 1A); 5 WPM text speed and about 15 WPM character speed.

Generate authentic American callsigns. Can be configured for other countries.

Generate random streams of characters.

Read code from text files selected by you.

Select words at random from text files.

Will play code continuously or wait for you to make a guess at the words.

Keeps a score on how well you have guessed the characters.

You can choose which types of characters are sent.

Support for the prosigns required in FCC tests.

For complete beginners the code is sounded while the character is displayed.

Get the computer to correct you using synthesized speech! (Supporting software required.)

All code sent can be recorded on screen for you to review.

Once you have gotten started with the code then you may consider progressing to the big brother of NuMorse Lite, which is called NuMorse. Taken your written amateur radio test yet? If not then the NuTest program offers an effective way to get those facts and figures absorbed as quickly as possible. NuMorse Lite, NuMorse and NuTest offer a perfect pathway to getting or upgrading your Amateur radio license and are available via the [NuMorse home pages](#).

Legal stuff

Although I am not asking for a fee for the use of NuMorse Lite the program is NOT public domain, I reserve all rights. You may freely distribute the program provided:

The NuMorse Lite program and associated files are not altered.

You charge no fee except for media and distribution costs.

Commercial organizations must obtain my permission before distributing the program. This permission will normally be granted. I just want to know who is distributing it and where.

THIS SOFTWARE AND ACCOMPANYING FILES ARE PROVIDED ON AN "AS IS" BASIS. THE AUTHOR DISCLAIMS ALL WARRANTIES RELATING TO THIS SOFTWARE, WHETHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. NEITHER THE AUTHOR NOR ANYONE ELSE WHO HAS BEEN INVOLVED IN THE CREATION, PRODUCTION, OR DELIVERY OF THIS SOFTWARE SHALL BE LIABLE FOR ANY INDIRECT, CONSEQUENTIAL, OR INCIDENTAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE SUCH SOFTWARE, EVEN IF THE AUTHOR HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES OR CLAIMS. THE PERSON USING THE SOFTWARE BEARS ALL RISK AS TO THE QUALITY AND PERFORMANCE OF THE SOFTWARE.

Other products

NuMorse

NuMorse offers a comprehensive array of training aids for learning the Morse Code. Listen via PC speaker, sound card or externally keyed oscillator, or view visual signals. Learn from random, text, or simulated QSO (contact) sources, and create character sequences that you find difficult. Compare your results with the program source, and view error statistics. NuMorse supports prosigns (compound characters), and offers fully adjustable timing settings and spoken-character feedback via sound card. NuMorse includes excellent online help, making it an ideal training system for radio amateurs. The registered version allows speeds of up to 48 WPM!

NuTest

Are you interested in gaining or upgrading your amateur radio license? NuTest can help you earn the required qualifications by offering simulated FCC exams that include explanations of questions and links to an included file of official FCC regulations. View your score onscreen, review questions you missed, and create printed tests, score sheets, and answers. This first-class package includes a study guide and FCC Part 97 rules. NuTest uses the very same question pool as the real FCC examinations!

Check out our page on the World Wide Web at http://ourworld.compuserve.com/homepages/Tony_Lacy for the latest versions of all our shareware applications.

Or:

Contact the author by email on 100030.157@compuserve.com

Program operation (What the buttons do.)

Pause Code

Play Code

Code Source group:

Random Groups

Text File Serial

Text File Random

Call Signs

From keyboard

Options group:

Continuous Play

Wait between words

Select

Sound Output group:

No Sound

Wave file

DDE speech

DDE speech protocol group:

Server Name

Topic

Item

Initial string

Display group:

Text

Code

Character

Score

Play group:

Letters

Numbers

Prosigns

Punctuation

Call sign generator

Display Prosigns

Use phonetics

Calibration

Pause Code

This button stops code output. If the program is reading a text file then you may continue from where you paused by pressing the play button. If you want NuMorse Lite to reread from the start of a text file then click on one of the Code Source radio buttons. Then click on the Play Code button.

Play Code

This button starts code output. If text is being read from a file then the previous file position will be used.

Code Source, Random Groups

This causes random characters, interspersed with spaces, to be output. The type of characters that are generated depends on the Play settings on the More Options page.

Code Source, Text File Serial

This allows translation from text to Morse code. You select the text file to be played using the Select button. This feature is used to provide normal English language messages for you to copy. Some sample FCC style code tests are present in the NuMorse Lite directory.

Code Source, Text File Random

This feature selects words at random from the chosen text file. This is useful if you want to copy English language text, but want the challenge of not knowing what the next word will be.

Code Source, Call Signs

This feature generates American call signs. The rules for generating the call signs can be changed to allow call signs for other countries to be generated.

Code Source, From keyboard

When this option is selected the program will send as code whatever is typed into the edit control. A character score is not maintained and only continuous mode is available. If you find that question marks are sent instead of the characters typed then check the More Options Play controls to make sure that the required characters are enabled.

Options, Continuous Play

When this option is selected the program will not pause between words. It will, however check the last word sent against anything you may have typed while the last word was being sent.

Options, Wait between words

When this option is selected the program will pause between words and wait for you to press the <Enter> key or click on Continue.

Select

Here is where you choose the text file to be used as a code source for the Text File Serial and Text File Random features.

Sound Output, No Sound

If this option is checked then there will be no sound produced when you make a mistake. Sounds from the code generator will be played as usual.

Sound Output, Wave file

If this option is checked a stored .wav file will be played each time you make a mistake.

Sound Output, DDE speech

If this option is checked then when you make a mistake the correct word will be output from your text to speech software.

DDE speech protocol, Server Name

This information must be entered so that the NuMorse Lite program can link to your text to speech software if you wish to use the DDE speech feature. If you have the free Creative Labs Text Assist software that is bundled with Creative Labs soundcards then the correct string to enter here is:

TASSDDE

If you have the WSPEECH shareware text to speech program then the correct string is:

WSPEECH

If you have other text to speech software that supports DDE linking then the program documentation will indicate the required server name.

DDE speech protocol Topic

This information must be entered so that the NuMorse Lite program can link to your text to speech software. If you have the free Creative Labs Text Assist software that is bundled with Creative Labs soundcards then the correct string to enter here is:

Talk

If you have the WSPEECH shareware text to speech program then the correct string is:

Talk

If you have other text to speech software that supports DDE linking then the program documentation will indicate the required topic name.

DDE speech protocol, Item

This information is entered so that the NuMorse Lite program can link to your text to speech software. If you have the free Creative Labs Text Assist software that is bundled with Creative Labs soundcards or the WSPEECH shareware text to speech program then this field should be left blank. If you have other text to speech software that supports DDE linking then the program documentation will indicate the required item name.

DDE speech protocol, Initial string

This field determines what, if any, initialization string is output to the text to speech software before speech data is sent. If you have the free Creative Labs Text Assist software that is bundled with Creative Labs soundcards or the WSPEECH shareware text to speech program then this field should be left blank. If you have other text to speech software that supports DDE linking then the program documentation will indicate the required string.

Display Text

Code that has been sent during the current session is optionally displayed as text. This option switches the text display on or off. You may wish to leave Display Text switched on in the early stages of learning.

Display Code

The code that is currently playing can be displayed as dots and dashes. This option allows code display to be switched on or off.

Display Character

The character that is currently playing is optionally displayed. This option allows character display to be switched on or off.

Display Score

A score of your current session is maintained. The score indicates total characters correctly typed by you compared with the total characters sent. The scoring procedure is quite "kind" and if you have to skip any characters while typing in a word then any following "out of synch" correct characters will be scored as correct.

For example:

AMATEUR is sent,

MAEUR is typed, user missed the A and the T.

Score will be 5 correct 2 incorrect.

Play Letters

The letters 'A' through 'Z' will be included in code output.

Play Numbers

The numerals '0' through '9' will be included in code output.

Play Prosigns

The following prosigns (procedural signals) will be included in code output:

Prosign		Equivalent ANSI character	Meaning
(AR)	+		End of message
(SK)	*		End of work
(BT)	=		Double dash
(DN)	/		Fraction bar

These are the prosigns required for all FCC code tests.

Play Punctuation

The following punctuation will be included in code output:

Period

Comma

Question mark

These are the punctuation characters required for all FCC code tests.

Call sign generator

By default the call sign generator produces American call signs. It can be configured to produce call signs for other countries using an editable script file. Here is the default script file:

```
#AA through AL
A
A..L
#KA through KZ
K
A..Z
#NA through NZ
N
A..Z
#WA through WZ
W
A..Z
!common section
0..9
A..Z
A..Z
A..Z, _
```

Notes

For each callsign the file is read from top to bottom and a random choice is made from all of the sections beginning with the # symbol. (Any other text on a # line is ignored.)

After a single # section is chosen it is read from top to bottom. If a single character is present then this is used in the call sign. If a character range is present then a random choice within the range is made and used in the callsign. In the case of a list of characters (separated by commas) a choice will be made from the list.

The section beginning with a ! is then read from top to bottom and single characters or character ranges are processed as in the # sections. (Any other text on a ! line is ignored). The ! section will always be scanned.

The presence of a '_' (underscore) character indicates that the characters specified by the line may sometimes be omitted, this allows variable length callsigns to be generated.

Lines starting with a semicolon are ignored.

Examples:

A..Z use any letter

B,C use B or C

A,B,Z,_ use A, B or Z or omit from call sign

0..9 use any number

Display Prosigns

If this option is switched off then the prosigns are displayed as

- + End of message
- * End of work
- = Double dash
- / Fraction bar

Also, speech output (if NuTest Lite is linked to your Text to Speech software) will use the normal (none prosign) pronunciation for these characters.

If this option is switched on then the prosigns are displayed as

- (AR) End of message
- (SK) End of work
- (BT) Double dash
- (DN) Fraction bar

Also, speech output (if NuTest Lite is linked to your Text to Speech software) will use the prosign description for these characters.

Use phonetics

If NuTest Lite is linked to your Text to Speech software then you can choose how random character groups and callsigns are pronounced. If the Use Phonetics option is on then ITU recommended phonetics will be used. If it is off then the letters and numbers will be read out. If the code source is a text file then all spoken text will use the pronunciation rules from your text to speech software.

Calibration

This should normally be set to 100. If, for some reason, code output from your machine is faster or slower than 5 W.P.M (text speed) then adjusting the Calibration control should fix the problem. NuMorse Lite text speed is correct for text consisting of the word PARIS repeated for one minute. This word is chosen because it is 50 code element units long, which corresponds to the average word length in English text. This will give incorrect results for random groups where the average length of a character group may differ significantly from normal English words.

Tricks and Procedures

Suggested settings to learn the Code Characters:

Step 1

- Code Source group...Random
- Wait between words...on
- Display Text, Code, Character, Score
- Play Letters only
- Use phonetics

Step 2

When you think you know the characters then turn off the following options:
Display Text, Code, Character
Not so easy now, is it?
Keep at it until your score is reasonable but remember that perfection is not needed.

Step 3

Go back to step 1 with Letters and Numbers.

Step 4

Introduce prosigns and punctuation.

Once you have a smattering of code using the above procedure, you might like to increase your fluency by trying to copy some text.

Use the Select button to choose any text file.

Wait between words...off

To make the conditions more like the real tests try copying using a pencil and paper and compare your copy with what the program sent. You will find some specimen test text files in the NuMorse Lite directory. Don't worry too much about missed characters unless they are things such as callsigns. In the test you will have chance to go through your copy and correct any omissions.

To help you brush up on your callsign copying skills there is a callsign generator mode.

Support this Software

At this time I'm not asking for any fee for your continued use of this program although I reserve the right to do so at some future date. So, what is the catch?

Well, I'm hoping that when you have used this program you will be impressed enough to visit my homepages on http://ourworld.compuserve.com/homepages/Tony_Lacy and download some of my other software. This program is a sort of software advert for my [other products](#) and so the only support I'm asking for is that you use it and distribute it to your friends. Please check out the [Legal stuff](#) help topic for information on distributing NuMorse Lite.

Technical Support

If you need technical support then please [contact me](#) and, at my discretion, I will answer questions on program usage by email or post and attempt to fix any serious bugs that are reported. Please check out the [Legal stuff](#) help topic for information on distributing NuMorse Lite.

For technical support on the WinSpeech, Text Assist and TASSDDE applications please see the relevant program documentation.

Text To Speech

NuMorse Lite is able to link to third party text to speech software. During code generation you can type in your guesses and if a mistake is made NuMorse Lite will correct you using the linked text to speech software. If you do not have any text to speech software then you can use the built-in sounds instead.

NuMorse Lite has been tested with two text to speech systems and should work fine with any other speech synthesis system that is capable of functioning as a DDE server. Text Assist is a system that is bundled with Creative Labs soundboards. It has no DDE server capability, but an interface program called TASSDDE.EXE is available to add this functionality. TASSDDE is included in the NuMorse Lite package and must be running to allow NuMorse Lite to send speech to Text Assist. The procedure to use NuMorse Lite with Creative Labs Text Assist is:

- 1) Make sure that the location of TASSDDE.EXE is set correctly on the options page so that it will autoloading when you run NuMorse Lite. You may have to restart NuMorse Lite to autoloading TASSDDE.EXE the first time after setting this option.
- 2) Run NuMorse Lite and make sure that the DDE speech protocol and Sound Output DDE speech options are set correctly. The correct settings are:
Server name: TASSDDE
Topic: Talk
leave the "Item" and "Initial string" fields blank.
- 3) Select DDE speech for the sound output.

NuMorse Lite can also work with WinSpeech which is a shareware text to speech program. This application is capable of functioning as a DDE server. To enable WinSpeech DDE talking, the "Enable DDE" button in the WinSpeech Program Options dialog needs to be checked. Also, the WinSpeech program needs to be running in the background for NuMorse Lite to access it. Check out the NuMorse homepages for links to download WinSpeech.

The procedure to use NuMorse Lite with WinSpeech is:

- 1) Make sure that the location of WSPEECH.EXE is set correctly on the options page so that it will autoloading when you run NuMorse Lite. You may have to restart NuMorse Lite to autoloading WSPEECH.EXE the first time after setting this option.
- 2) Run NuMorse Lite and make sure that the DDE speech protocol and Sound Output DDE speech options are set correctly. The correct settings are:
Server name: WSPEECH
Topic: Talk
leave the "Item" and "Initial string" fields blank.
- 3) Select DDE speech for the sound output.

Related topics:

[Server Name](#)
[Topic](#)
[Item](#)
[Initial string](#)

Study Guide Introduction:

There is one resource you should not neglect: Your teacher and fellow students (if you are taking an organized course). Also, experienced Hams are famous for acting as "Elmers" who help new Hams get "On the Air." As much as you might dread the prospect of asking for extra help, it's worth it. It will make the entire experience of obtaining your license much more enjoyable.

Get a copy of the ARRL publication *Now You're Talking*. You can find a copy of this book at your local Radio Shack store along with other study books and materials. It is also available by mail-order direct from the ARRL. They have a catalog available with several other informative books and video tapes.

The information you will have to assimilate for the FCC written tests falls into two categories:

- a) There are things that fit into a framework of knowledge and generally make for interesting reading. For example, "An ATU is useful BECAUSE an antenna may not present a perfect match BECAUSE..." This type of knowledge leads you onwards, like an interesting plot in a work of fiction.
- b) Then there is the other stuff; collections of disconnected facts that don't have any particular explanation except "these are the rules. For example: "Novices can work on this section on the 10 Meter Band." or "Novices can work on that section of the 40 Meter Band."

You can only learn this type of knowledge by memorization; there are no short-cuts. For these questions, just keep reading the facts and drilling with NuTest. You will eventually absorb the information. One person who scored 100% in the tests has this advice: "Every morning, while groggy eyed and still half asleep, randomly open the book to any given page and stare blindly at it. In a few months, you will have absorbed all of those 'silly' questions that you just have to memorize anyway."

"But I can't do math!!"

There is nothing in the Element 2, 3(a), or 3(b) that is above fourth-grade level. The formulae required for the questions on the Element 4(a) and 4(b) exams are more complex, but the math itself isn't any harder. The hardest thing involved is knowing how to figure a percentage.

Your Study Environment:

- Have a good surface, such as a large table or desk of your own. Not the kitchen table if you can help it.
- Find a place where you can organize your materials, lay out papers and books and keep them there; set up your own office.
- If you are using your computer, it needs its own separate spot.
- Work by a good light, not a dim or irritating one.
- The whole room should be well lit. You should have a desk lamp over your papers and reading materials.
- Avoid phones, people, pets, players (audio and video), and refrigerators.
- As far as study is concerned, your television is dangerous. It is so easy to watch! Try to stick to a viewing schedule. Decide what programs you want to watch and plan for them in advance. Make a note of when they are on and watch only them rather than channel surfing at random.
- If possible, get someone else to take your phone calls.
- Stay comfortable and cool, with good ventilation. Open the window a bit, drink ice water or cola. Ice water has mysterious study-inducing properties.
- Sit in a good chair, one that is high, firm, comfortable, with good support.
- Take breaks and switch topics frequently. You should not work for more than an hour straight. Your lunch break at work might be a good time to study.
- Keep the breaks short. Take a walk or have a cup of coffee.

Planning Study Sessions:

Some people will feel happy planning their study periods for specific sections of the syllabus. For example you might plan to spend three one-hour sessions studying Ohms law. Other people prefer to plow through their study materials from start to finish, in one-hour sessions. When you are running NuTest it is useful to study the incorrect options as well as the correct one. Compare the correct answer with the incorrect ones to find the differences between them.

Suggested plan for one hour of study:

1. Skim through the planned section to familiarize yourself with content and themes. Don't try to read each word or think too hard; just get a sense of the material.
2. Then give a slower, more thorough reading to soak up the important details.
3. When you are tired after an hour or so, stop. At the end of a study session a final skim will help you solidify your understanding.

A Suggested Method for Taking the Test:

1. Skim through the test entirely. Establish your strategy.
2. Immediately answer whatever questions you know. Don't waste time pulling your hair out over something that you won't get. Mark troublesome questions and go back to them later. Often, when you return to a problem, you suddenly think of a new way to approach it.
3. Try to complete the test. Return to the harder questions and do as many as possible. If you are still unsure of the correct answer, try to rule out responses you know are wrong.
4. Check your work and complete the hardest problems of all, the long shots. In a multiple-choice test it is better to choose an answer at random than to make no choice at all.

Administration of FCC Examinations:

Volunteer Examiners (VE's) administer amateur radio license test sessions. The team consists of three General or higher class Volunteer Examiners (VE's) who are accredited by the FCC. One of them will be the Volunteer Examination Coordinator (VEC). To locate a VE team (VET) near you contact the American Radio Relay League at the following address:

ARRL/VEC

225 Main Street

Newington, CT 06111-1494

Telephone: (203) 666-1541

Fax: (203) 665-7532

E-Mail: vec@arrl.org (Volunteer Examiner Coordinator)

Test Format:

The test format is multiple-choice. The format of the test will be very close to the format of the printed sample exams that the NuTest program generates. It is important to realize that the questions and answers in any FCC test come from the published FCC question pools. These are the same pools used by NuTest. The examination team must select from the question pools. They cannot any changes to the content of the questions or the answers.

A specified number of questions from the pool will make up each subelement. For specific details of the subelement contents take a look at the Options page of NuTest. The Options page gives information on the currently selected license class.

In each question you select the correct answer from four options. One of the answers will be the correct one. Apart from the correct option there is usually an option that is obviously wrong. Finally, there will be two options that look correct and differ from the correct answer only slightly. So, carefully read **all** the choices before choosing your answer. If two answers seem correct, be sure to choose the **best** answer.

Things to Bring to the Test Session:

- The **original** copy of your FCC license or any previously awarded Certificates of Successful Completion of Examinations awarded during the last year.
- A **photocopy** of your FCC license or previously attained "Certificate of Successful Completion of Examination."
- Two forms of Personal **Identification** that have your photograph on them.
- Several sharp **pencils** and a **pen** with black or blue-black ink.
- A simple hand-held **calculator**. Do not bring one that can be programmed to store formulas or text.
- The test **fee** of about \$6.00 in cash.
- A letter from your doctor stating if you have any special requirements due to physical handicaps. If you require this, you should arrange it with the VE team before the test. This is to ensure that they have any necessary special equipment available.
- An FCC Form 610 will normally be available at the test location.

What to Expect at a Typical Test session:

Test sessions are usually held in the evening. Usually a classroom at a local college or a community meeting hall will be used. Sessions may be held at weekly, monthly, or longer intervals depending on demand and availability of the VE team.

At the beginning of the test session, there will be a registration period where everyone pays their fees and picks up their copy of FCC Form 610. Normally a registration sheet for your name, address, license class, and etc. will also be distributed for the VEC's records. The VE's will assist you with filling out the FCC Form 610.

Next, the exam papers and answer sheets will be distributed. You will be allowed as much time as you require to complete the written exam. When you are finished you will indicate this to one of the VE's by raising your hand. The VE will pick up your paper. The V.E.'s grade each paper while you wait and you will get your results, good or bad, right at the testing session. After grading the tests, there is a final session when the "Certificate of Successful Completion of Examination" is filled out and signed by both the VE's and the applicant. Finally, there is some hand shaking congratulations given before everyone goes home.

If anyone is found to be cheating during the exam, the entire testing session will be invalidated. **Everyone** will go home without a completion certificate, even if they passed.

If you are taking the Element 1a or Element 2 tests (Novice), you can do so without **paying the test fee**. For Elements higher than this, you will have to pay the fee.

If you pass a test, you are free to attempt the next higher element **without paying another test fee**. If you study hard and prepare to pass more than one test at a time, this can save you money. If you studied hard enough, you could come in with no license at all and walk out with your Extra class after only paying only one test fee! When you pass a test, it is a good idea to attempt the next higher element. This will give you some practice at taking it.

If you do not pass an exam, you may (at the V.E.'s discretion) be allowed to pay another test fee and try again **during** the same test session. However, don't forget that the V.E.'s are Volunteer Examiners. They attend test the session on their own time without pay. They may not be able to stay late while someone makes multiple attempts at getting through the exam.

Be aware that if there is a shortage of rooms, code exams are sometimes given during the written exam **in the same room**. It is not unknown for applicants to take ear plugs to a test session!.

Some VEC's now submit the test results to the FCC electronically by E-Mail. Using this method, it is possible to get new call signs back from the FCC on the same day as the test results are submitted. This means that you can get on the air very quickly, since all you require is your call sign to begin to legally use your new license privileges. Postal submissions can take 3 - 6 weeks.

What Elements You Need to pass:

This information is summarized from the FCC Part 97 rules:

Extra Class	1(C)	2	3(A)	3(B)	4(A)	4(B)
Advanced Class	1(B)	2	3(A)	3(B)	4(A)	*
General Class	1(B)	2	3(A)	3(B)	*	*
Technician Plus Class	1(A)	2	3(A)	*	*	*
Technician Class	*	2	3(A)	*	*	*
Novice Class	1(A)	2	*	*	*	*

Element 1(A) is the Novice code test. NuMorse Lite should help you get up to speed for this. NuMorse can help with all code tests from 1(A) to 1(C) and has a super array of features.

For the other written test Elements try NuTest. This program sets on-screen and written tests using exactly the same question pools that are used in the real FCC tests!

