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SPECIAL THANKS
and
Appreciation to

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Introduction

What is MAGIC ? MAGIC is a utility that will read an Ascii Text file that does not have consistent column alignment. It will ''parse'' to the best of it's ability for single or multiple frequencies in a line of text, separate the frequencies from the text, with individual fields including a mode, increment, and the text and then create a record ''on the fly''. It will create one record per frequency, and the text on that line in two text fields consisting of a 15 character description and 70 character comment.

In addition, " MAGIC" will read directly the following database formats:

> 1. Scancat "*.FRQ"
>
> 2. Scancat "*.SCN"
>
> 3. DBASE "*.DBF"
>
> 4. Comma Delimited (SDF)

These " Target" files will be formatted in the viewer in a column oriented manner, much the same as if you were loading a 'text' file, and each field will be separated with a space.

SYSTEM REQUIREMENTS

The required hardware for MAGIC is an IBM/PC compatible computer, Windows 3.1 or greater, with at least 4 meg of RAM (8 recommended), Hard drive with 4 Meg free space, and an (optional) printer port

INSTALLATION

O.K, let's get started. The first thing to do is install your master diskettes onto your hard drive. MAGIC is not copy protected BUT the files are compressed on the disk into archives.

For Windows 3.1 simply click on the Files Menu bar at the top left of your Windows program Manager, and choose " RUN" . At the next Prompt, type A: SETUP (or B:SETUP if appropriate) and press enter.

For Windows '95 Click on START, and then point to SETTINGS. Double CLICK Add/Remove Programs, and follow the instructions on your screen to ADD a new program. You will see a prompt already filled in with the " A:setup" , so choose your source disk drive letter and press enter.

The installation will take several minutes, and when complete you will have a new Program Group, named MAGIC, with an Icon (MAGIC for WINDOWS) installed in the program manager.

Error messages while installing

The Basics

Sometimes an error box will pop up while your installation is being processed, saying " DDEM.DL_ is in use...." . This error occurs frequently on Windows 95 Installations. In almost all instances, you can simply press the " button" to continue, and the installation will proceed without any further problems. This is a known 'quirk' of the install program that is Generated by Microsoft's " Setup Compiler" , and there is no easy way to " prevent" it and still insure the integrity of the installation.

Once finished with your installation, it would be advisable to make copies of your system disks and store in a safe place.

GETTING STARTED

The description of the commands and functions in this manual are in order by the way they appear on the screen of the program. There are several 'naming conventions' used throughout this manual.

1. The features available from the top menu bar will always be referred to as **" Menu Bar"** items.

2. The Buttons that can be pressed on various screens are referred to as **" Command Buttons"** .

3. The main screen, where all 'text' or data is displayed is referred to as the **" Viewer"** .

4. The file that is loaded to be converted is always referred to as the **" Source"** .

5. The converted file that is written to the disk is always referred to as the **" Target"** .

Several things are ''Assumed'' or considered **" Defaults"**

It is not possible to create a 'totally intelligent' means of converting raw text files. Further in this manual we will present 'options' that will permit you to globally change or remove offending characters in order to insure a higher percentage of accuracy when converting.

In order to extract the frequencies from the rest of the text in a source file, certain conventions are " built in" .

A. If the source file is a text based file, then the individual rows or lines of text must be followed by a carriage return. If your text

contains an entire paragraph without any 'hard carriage returns', except at the end of the paragraphs, then these would be considered as one line, and anything beyond the 'normal limits' would be truncated.

B. Valid frequencies must meet one of certain criteria as detailed below

C. We ignore numbers below 999 that are followed by a decimal and space. IE "1. " "2. " to "999. "

 D. we ignore any frequency word that has a value LESS THAN 1000.   I.E.: "999" will probably come out as text but the One Thousand in the above line will be considered a valid frequency of 1. MHZ.

E. We figure that frequencies in the AM broadcast band will usually   be written as .999 not 999.0 (the last 999 will be a freq)

1. Frequencies without decimals must have a value greater than 2000

2. Numerics that have a decimal are interpreted as being frequencies

 3. Frequencies **must** have spaces on each side, or will they will be considered to be " text" . If your frequencies are listed with commas separating a series of frequencies, then MAGIC will not convert them without some 'fine tuning'.

Example: 123.455, 234.567, 345.678, 456.789

Only the last 'frequency' would be converted, as the others have commas on the right side, and are not considered valid " frequency words" .. You can use a 'global

removal' to correct this (see index in the manual under " commas")

5. All frequencies **without text** (descriptions) on the same line belong to the line above, and the text from that line will be duplicated until text is found on a new line.

6. All frequencies are converted to MHZ automatically using a " best guess" algorithm.

   a. Numerical 'Words" **below** a value of 2000 that **do not** contain a decimal are considered as text

   b. Numerical 'Words" **above** a value of 2000 that **do not** contain a decimal are considered as frequencies.

      Example: 123456 would be 'converted' to 123.456 mhz

   c. Numerical 'Words" that **contain** a decimal are considered as frequencies, but are converted to MHZ based on our " algorithm" .

      Example: 123.456 would be 'converted' to 123.456 mhz

      Example: 12345.6 would be 'converted' to 12.3456 mhz

   d. ALL other ''numbers'' are considered to be text

      (Examples: 55/850 1-800-123-4567 12:00:00am)

7. Blank lines and lines that contain only text are skipped and most ''white space'' is closed

8. A description "Header' that contains no frequencies will show up in the final result and will be associated with frequencies in lower lines <u>only</u> if those lower lines contain one or more frequencies, <u>and</u> have <u>no</u> text on same line. This is typical of long lists where several sets of frequencies are associated with a header. The Header does not have to be directly above, and can be underlined or use "-----"

9. We <u>do not</u> recognize text that takes up multiple lines if there are NO valid frequencies. Only the last full text line will be added to a frequency's comments, and only if there is no other text on a line with the frequency.

   FOR EXAMPLE: all the above two paragraphs will be ignored because the frequency 12.456 is on the line with <u>this</u> text.

10 All 'white space' in between words is removed. <u>plus</u> we make a "best guess" as to placing <u>whole</u> words into the two text data fields of "Descr" and "Comments" without 'splicing them'. The Description field holds 15 and the Comments 70 characters.

   As an example: If the first two words are less than 15 characters, then the third word will probably end up in the comments instead of being "split in half".

Screen output does not necessarily correspond to the actual format of the target files. Screen Col. order is:

1.Freq 2.Mode 3.Increment 4.Descr 5.Comments

Running Magic

The Viewer

To " run" MAGIC, simply double click the MAGIC
" Rabbit in the Hat" Icon. The Opening Screen
contains two command buttons

QUIT – Immediately exits the program

CONVERT – Brings up the " Viewer" and
   automatically loads the text file
   " MAGICHLP.txt"

Click on **" CONVERT"** . The viewer screen will appear
and the file " MAGICHLP.TXT" will be loaded if
there is no source file chosen.

The top Menu Bar will have the following
'selections':

Viewer Screen- The majority of your screen will be
   occupied by the " viewer" . It is the viewer's
   job to display either source or target files on
   the screen, and enable you to scroll through
   them. There is a practical record limit of 10,000
   lines (or records) and a maximum line length of
   500 characters including all spaces etc. This
   computes to a maximum file size of **5 Megabytes**.
   If your file exceeds any of these limitations,
   then the file will be truncated at the point
   where it reaches one of these maximum values.
   This should accommodate just about anything but
   'monster files'. If your files are larger than
   this you will have to split them into two or
   three smaller files and process each one.

   The following 'features' are built into the
   operation of the viewer

Running Magic

Horizontal Scroll bar - Moving the scroll bar by mouse control will enable viewing lines that exceed the length of the 'visible' screen width.

Vertical Scroll bar - The Up/Down Arrow keys, Page up and Page Down keys **or** dragging the 'scroll' bar with mouse control, will enable you to view the entire viewer's contents.

Keyword Search - typing a letter or a combination of letters will engage an automatic word search through the viewer's contents. As the letters are entered, the 'window title bar' will reflect the 'word' being searched. Pressing <u>Enter</u>, will progressively search for the keyed in word. The line will change color to show each found occurance until the end of the viewer's contents, and then searching will begin again at beginning of viewer.

TOP MENU BAR SELECTIONS

FileTypes – Selects one of several " Target" file formats

1. Scancat " .FRQ" files

2. Scancat " .SCN" files

3. Scancat " .TXT" files

4. Scancat " .ASC" files – (Comma delimited)

5. Scancat " .DBF" files – (DBASE files)

6. Scancat " .APF" files – (CE-232 loader files)

Bill Cheeks Hardware board for PRO2004/5/6 radios

Boundaries - Enables a user programmable 'global deletion' of text ,based on a left and right

boundary, for each line in the source file. Anything within the 'boundary' will be ignored.

Extra Options – Contains two options for :

1. Removal of selected text or characters

2. Insertion of a keyword into each record as created for future 'searching"

Prnt Vwr File – Send to a printer the present 'viewer contents'. Pages are automatically

FontSize – Choose from 8.25, 9.75 or 12 point typeface sizes. The Font is not changeable, as we have picked a 'universal non-proportional font to make 'conversion' more displayable.

The Bottom of the screen will contain the " Command Buttons" :

Source File - File used as the source for conversion. Any of the above listed file formats will be loaded, and displayed in column style format.

Target File - The output from the conversion of the source file to disk. You can choose any of the above listed formats as your target file format.

View Source - Permits you to view the actual source file in the viewer. The file will be formatted on the screen in columns if it is other than a text base file.

(The Source and Target files can be alternately viewed by pressing the appropriate buttons)

View Target File - If a conversion has been made, you can then view the actual output file in the viewer to check on how well the conversion went. The file will be formatted on the screen in columns if it is other than a text base file.

Running Magic

(The Source and Target files can be alternately viewed by pressing the appropriate buttons)

Begin - Starts the conversion process - to abort press the " Finished command button

Pause/Slow - We have actually 'slowed down' the conversion process as it is sent to the screen, but if you wish to view it even slower or pause, use this command button

Finished - Stops all conversion processes, and exits to Main Screen

F1 Help - While this key is not 'shown', pressing it will load the text based " MAGICHLP.TXT" into the viewer. You must then choose your 'source' file again, (press view source) or the conversion will use whatever is in the viewer at the time you press " Begin" . **Plus** if you need " quick help" , watch the 'help', at bottom of the screen, for each of the controls, as your mouse moves over that control.

CONVERSION

Once you become familiar with the Features and Command key options, you will want to convert a source text file. There are several files furnished with your MAGIC Program. Pick one of these and load it into the viewer.

Once the file is loaded, you can scroll through the text and see if there is anything you need to do before you convert it.

Default Parsing Features

Several " Default Parsing Features' are built into the Parsing Engine.

Running Magic

1. We remove all " (quotes) or ","
   (quote,comma,quote)

2. We remove the words KHZ or MHZ

3. We remove all "===" "___" "---" "*" "+" "<" ">"
   and ";" (semicolons)

   (All are substituted with an appropriate number
   of spaces)

We could probably delete some 'more' common
punctuation, but this is what we have ''built in'',
using the ones we've come across that   cause the
'most problems'. That is why we give <u>you</u> the
programmable text/character "remover", and a
Boundary Deletion.

User Programmable Parsing

You can program up to 100 'custom' words or
characters by using   this option. If you need
help, watch the 'help', at bottom of the screen,
for each of the controls, as your mouse moves over
that control. These options permit 'fine tuning'
your conversion so that unwanted characters, words
and areas can be automatically removed.

Boundaries - An area can be designated for removal
within each line of text. By setting
" boundaries" , anything <u>within</u> that boundary will
be removed before any other conversion process is
performed.

Left Boundary Selection

Click on the Boundaries Selection and then
click to select the left boundary. Once the
choice is made, the cursor changes to a large
crosshair. Move the cursor to the point where
you want the left boundary to be and click the
left mouse button. A solid vertical line will
appear to mark the boundary.

Right Boundary Selection

Click on the Boundaries Selection and then click to select the right boundary. Once the choice is make, the cursor changes to a large crosshair. Move the cursor to the point where you want the right boundary to be and click the left mouse button. A solid vertical line will appear to mark the boundary.

Character Removal

Click on Extra Options and then click on Character Removal. A 'list box' will appear and choices may be added to the 'database'.

Example: Click on the Add Command Button, and then type in a " comma" into the input area and then press Enter. Then Click on the Filter Command Button to turn the 'Filter ON" and then Exit. When you convert the source file, all occurrences of a 'comma' within the source text will be removed and the space 'closed up'

Character Replacement

Click on Extra Options and then click on Character Removal. A 'list box' will appear and choices may be added to the 'database'.

Example: Click on the Add Command Button, and then type a word or character that you wish to replace into the input area. Skip a space after the word you wish to replace, and the type in 3 " ===" (equal sign) followed by a space and the word you with to have used as the replacement. Then press Enter. Then Click on the Filter Command Button to turn

the 'Filter ON" and then <u>Exit</u>. When you convert the source file, all occurrences of word you choose will be removed and the replacement word inserted in it's place.

Global line removal

Click on <u>Extra Options</u> and then click on Character Removal. A 'list box' will appear and choices may be added to the 'database'.

Example: Click on the <u>Add</u> Command Button, and then type a word or character that you wish to search for into the input area. Skip a space after the word you wish to replace, and the type in 3 " ***" (asterisks). Then press <u>Enter</u>. Then Click on the <u>Filter</u> Command Button to turn the 'Filter ON" and then <u>Exit</u>. When you convert the source file, when the occurances of word you choose is found the entire line that contains the text will be removed.

MINI -TUTORIAL

1. Load any text file of your choosing into this viewer by clicking on **"Source".**

2. Choose the **File Output Type**. You can pick any of the types, even sending the output to the same target type as the source. You cannot 'overwrite' a source file when making a conversion. You will have to rename the target to something other than the source file's name, or change the output type to one that uses an extension different than the source.

   There are choices of:

   1. Scancat ".FRQ"

   2. Scancat ".SCN"

   3. Column Text file ".TXT"

   4. Comma delimited ".ASC"

   5. DBASE "*.DBF"

3. Choose the **Target File Name -** If no name, or target is chosen, then the default will be source name with the 'default' or chosen extension.

   There are choices of:

   1. Scancat ".FRQ"

   2. Scancat ".SCN"

   3. Column Text file ".TXT"

   4. Comma delimited ".ASC"

5. DBASE "*.DBF"

6. Bill Cheeks, CE232 "*.APF" (COMMA DELIMITED)

In the format for auto loading his CE232/Pro-Radio Shack boards.

Once the source file is loaded you will see the first 15 or so lines of text in the viewer.

A. Scroll the text in the viewer with the right hand of Vertical scroll bar. You can use the PageUP/DOWN and UP/DOWN arrow keys to vertically scroll throughout the viewer.

B. View text 'out of the viewer's range by:

1. Moving the Horizontal scroll bar to the right

2. Maximizing the viewer by clicking the 'max' button at top right of window

C. Once you have determined that you want to convert the loaded source file, click on **BEGIN.**

If the file exists, a Message Box will pop up telling you the file exists and asking you if you want to append to the file. You will have three choices.

Yes – The conversion will be added to the end of the existing File

No – The file will be erased and a new one created with the new conversion being written to the same file name.

Abort – Stops – and lets you change the output file name to one that will not conflict.

Note: There is **no** append prompt for " .FRQ or " .DBF" files.

The append feature is a valuable tool. With it you can continue to build a large file from several smaller source files. .FRQ and .DBF files cannot be

appended, however you **can** append several files to a target text file, and then do a one time conversion to a large DBASE file.

AS the conversion process takes place, the screen will be updated with the 'records' as they are created. This visual output is not actually the way the data may appear in the output file, but is a visual aid for seeing if the correct 'parsing' is taking place.

MAGIC will automatically select the proper **mode** based on one of two methods:

1. If the spelling for the mode is actually contained within the line of text

2. As a secondary " default' the built in 'auto bandplan will be used and a default mode based upon the frequency range will be selected.

MAGIC will automatically select the proper 'increment' or channel spacing based on frequency per the built in bandplan.

Once the conversion is finished, the MAGIC Rabbit will appear on the viewer screen, and a message saying that MAGIC is Finished.

Now, if you wish to view the output file to verify the conversion was done properly, you can use the <u>View Source</u> and <u>View Target</u> buttons to temporarily load either file.

Clicking on View Source enables you to "load" the Source into viewer. You can scroll through the file using the scroll bars or page/arrow keys. Clicking on View Target enables you to "load" the target file into viewer. You can scroll through the file using the scroll bars or page/arrow keys. Some file formats such as the " .FRQ" or " .DBF" formats are 'converted' to be in column order as they would not be visible without the actual program designed to use them (example DBASE files need a DBASE viewer).

But with MAGIC, the actual target file may be in any of the supported output formats, and the viewer will 'format' the text to give you and 'on-line' view of your records in the output file.

You can maximize this viewer screen to full screen, thereby enabling more text per screen. OR you can just drag the borders with your mouse.

THERE ARE SOME THINGS THAT ARE HARD TO 'PARSE'

1. It is difficult to deal with latitude and longitudes as they are   numbers, but in excess of 5 characters. They have values that   appear to be valid frequencies. So if the last digit of a number is a 'non-numeric', then it's considered as text.

      I.E.: 123.45.67W is considered text

2. It is not 'easily' possible to extract 2 columns of frequencies and   have SEPARATE text associated with each column. Mainly it is not possible to 'compute' how much white space constitutes a 'column' Our suggestion, is to take lists such as these and reduce them to a single column. It only takes a minute or two versus the inaccuracy of the "wrong description" on the frequency.

3. In order to give you the ability to 'exclude' massive text areas. if you place our 'Boundary' markers someplace on the viewer, all text or frequencies between the left and right boundary markers will be ignored. This could also be used to first exclude a left and the a right column etc. when you need to convert text with 2 or more columns.

You will begin to see that 'some things' work and other's 'don't'. Numbers that we have placed into the text above will be considered frequencies based on the above set of 'rules'. And some of our explanations will begin to 'make sense'.

PHONE numbers such as 318 687 2555 will probably be converted to a frequency or {2.555), but the 318-687-2555 or 318/687/2555 will go through as text.

Final Notes

6:43PM 2/3/97 will come out as text

(this is the conventional computer formatted method)

Longitude 123.4567 N will be a frequency but

Longitude 234.5678N will be text

This 'may' require a bit of 'pruning' in order to get a more accurate conversion, as there just isn't any way of anticipating everything.

What's the best way to learn how to use MAGIC ???

EXPERIMENT - EXPERIMENT - EXPERIMENT

But no matter <u>how</u> you <u>do</u> it

The end result is, within a few seconds of 'mashing' the BEGIN button, You'll have a frequency list in one of <u>several</u> file formats.

We're **sure** you'll find yourself saying....

It works like M A G I C !

enjoy

Jim Springer

Computer Aided Technologies

Thanks for purchasing MAGIC. If you have any questions or suggestions, lease feel free to

drop us a line. Ideas from people like you
are what makes MAGIC the great value it is.

You can reach us on our Tech Support line
between 9am - 2pm (CENTRAL) most Monday's
through Friday's.   If you have a fax, you
can leave a message 24 hours a day on our
dedicated fax line. OR from 6 PM to 9 AM
(CENTRAL) Mondays through Friday and all
weekend you can access the SCANCAT area or our
totally Ham Related BBS and browse the files,
Upload, Download or leave a message.

Computer Aided Technologies

P.O. Box 18285

Shreveport, LA 71138

Technical Assistance 318-687-2555

(9am to 2pm Central M-F)

FAX 318-686-0449 (24 HOURS A DAY)

NIGHTTIME BBS

318-631-3082 (6PM to 9AM central time

and

ALL WEEKEND

WORLD WIDE WEB http://www.scancat.com

E-MAIL magic@scancat.com

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Addendum for Magic For Windows

**JUST ADDED - FILTER TO REMOVE 'LOCATION DESIGNATOR CHARACTERS"
FROM MTXPRESS SHORTWAVE GUIDE**

(Excerpts from Magic On-line Help)……………..
There are five distinct methods of dealing with unwanted characters in the source files
    1. AUTOMATIC "PARSING"
    2. USER PROGRAMMABLE "REMOVAL"
    3. BOUNDARY DELETION
    4. MINIMUM / /MAXIMUM FREQUENCY
    5. ***NEW*** MT SHORTWAVE GUIDE FILTER

(MAGIC only recognizes frequencies if they contain a space both before and after the numerical value.)
5. THE MT FILTER. (TWO LINES FROM GROVE SHORTWAVE GUIDE AS AN EXAMPLE)
    0700-0726 Belgium,R Vlaanderen Intl 9925eu 15195eu
    0700-0800 vl Botswana, Radio 4820do 4830do 7255do

        To Quote from the MT Express Guide....

    To help you find the most promising signal for your location, immediately following each frequency
we've included information on the target area of the broadcast. Signals beamed toward your area will
generally be easier to hear than those beamed elsewhere, even though the latter will often still be audible.
            Target Areas
    af: Africa
    al: alternate frequency (occasional use only)
    am: The Americas
    as: Asia
    au: Australia
    ca: Central America
    do: domestic broadcast
    eu: Europe
    me: Middle East
    na: North America
    om: omnidirectional
    pa: Pacific
    sa: South America
    va: various

    Magic (correctly assumes) that a valid frequency has both a leading space and a trailing space, AND that
each character is a numeric. Normally if the above sample were 'parsed' there would not be any valid
frequencies in these two lines.   In the OPTIONS menu click on MT Shortwave Filter - it toggles ON/OFF.
if ON, and magic encounters the above, it will remove the last two offending alpha characters, thereby
permitting processing as a numeric (frequency)   "It works like M A G I C " !

 enjoy   jim springer
 Computer Aided Technologies