## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

| In re application of : | STAR |  |
| :--- | :--- | :--- |
| Serial No. | $:$ | 87672264 |
| For | $:$ | remarkable.legal |
| Examiner | $:$ | Andr Crowder-Schaefer |
| Law Office | $:$ | 104 |

## RESPONSE TO OFFICE ACTION DATED 08/15/2018

This is responsive to Office Action dated 08/15/2018. The Applicant respectfully requests that the application be reconsidered.

## BACKGROUND

Applicant Mark Sampson seeks registration of U.S. Serial No. 87672264 for STAR in relation to "electronic amplifiers; electronic effects accessories, namely, effects pedal, electronic devices placed between the instrument and amplifier" in International Class 09. The Examining Attorney has refused registration of the mark.

The Examining Attorney alleges that the applied for mark is likely to be confused with the mark(s) listed below. Trademark Act Section 2(d), 15 U.S.C. § 1052(d); see TMEP § § 1207.01 et seq.
-U.S. Registration No. 2547438 for ZTAR (typeset) covering "musical instruments, namely, electronic guitars" in International Class 09.

# APPLICANT'S ARGUMENT THAT THE MARK PRESENTS NO LIKELIHOOD OF CONFUSION 

Applicant respectfully disagrees with the Examining Attorney's decision for the reasons discussed below.

## The Standard for Determining Likelihood of Confusion

A determination of likelihood of confusion between two marks is determined on a case by case basis. In re Dixie Restaurants Inc., 41 USPQ2d 1531, 1533 (Fed. Cir. 1997). The Examining Attorney is to apply each of the applicable thirteen factors set out in In re E.I. DuPont DeNemours \& Co., 476 F.2d 1357, 1361, 177 USPQ 563, 567 (CCPA 1973). The relevant DuPont factors as they relate to likelihood of confusion in this case are reviewed below.

The similarity or dissimilarity of the marks in their entireties as to appearance, sound, connotation, and commercial impression;

In comparing two trademarks for confusing similarity, the Examining Attorney must compare the marks for resemblances in sound, appearance and meaning or connotation. In re E.I. DuPont de Nemours \& Co., 476 F.2d 1357, 177 U.S.P.Q. 563 (C.C.P.A. 1973). Similarity in one respect - sight, sound, or meaning - does not support a finding of likelihood of confusion, even where the goods or services are identical or closely related. TMEP §1207.01(b)(i).

It has long been established under the "anti-dissection rule" that "the commercial impression of a trademark is derived from it as a whole, not from its elements separated and considered in detail. For this reason it should be considered in its entirety." Estate of P. D. Beckwith, Inc. v. Commissioner of Patents, 252 U.S. 538, 545-46, 64 L. Ed. 705, 40 S. Ct. 414 (1920). It violates the anti-dissection rule to focus on the "prominent" feature of a mark, ignoring other elements of the mark, in finding likelihood of confusion. Massey Junior College, Inc. v. Fashion Institute of Technology, 492 F.2d 1399, 181 U.S.P.Q. 272 (C.C.P.A. 1974). See Franklin Mint Corp. v. Master Mfg. Co., 667 F.2d 1005, 212 U.S.P.Q. 233 (C.C.P.A. 1981) ("It is axiomatic that a mark should not be dissected and considered piecemeal; rather, it must be considered as a whole in determining likelihood of confusion."); Sun-Fun Products, Inc. v. Suntan Research \& Development, Inc., 656 F.2d 186, 213 U.S.P.Q. 91 (5th Cir. 1981) (the test is "overall impression," not a "dissection of individual features").

1. No Explicit Rule that Likelihood of Confusion Applies Where Junior User's Mark Contains the Whole of Another Mark.

There is no explicit rule that likelihood of confusion automatically applies where a junior user's mark contains in part the whole of another mark. See, e.g., Colgate-Palmolive Co. v. Carter-Wallace,

Inc., 432 F.2d 1400, 167 U.S.P.Q. 529 (C.C.P.A. 1970) (PEAK PERIOD not confusingly similar to PEAK); Lever Bros. Co. v. Barcolene Co., 463 F.2d 1107, 174 U.S.P.Q. 392 (C.C.P.A. 1972) (ALL CLEAR not confusingly similar to ALL); In re Ferrero, 479 F.2d 1395, 178 U.S.P.Q. 167 (C.C.P.A. 1973) (TIC TAC not confusingly similar to TIC TAC TOE); Conde Nast Publications, Inc. v. Miss Quality, Inc., 507 F.2d 1404, 184 U.S.P.Q. 422 (C.C.P.A. 1975) (COUNTRY VOGUES not confusingly similar to VOGUE); In re Merchandising Motivation, Inc., 184 U.S.P.Q. 364 (T.T.A.B. 1974) (there is no absolute rule that no one has the right to incorporate the total mark of another as a part of one's own mark: MMI MENSWEAR not confusingly similar to MEN'S WEAR); Plus Products v. General Mills, Inc., 188 U.S.P.Q. 520 (T.T.A.B. 1975) (PROTEIN PLUS and PLUS not confusingly similar). See Monsanto Co. v. CI-BA-GEIGY Corp., 191 U.S.P.Q. 173 (T.T.A.B. 1976) (use of portion of another's mark to indicate that defendant's product contains plaintiff's product held not likely to cause confusion). Even the use of identical dominant words or terms does not automatically mean that two marks are similar. Luigino's Inc. v. Stouffer Corp., 50 USPQ2d 1047, the mark LEAN CUISINE was not confusingly similar to MICHELINA'S LEAN 'N TASTY though both products were similar low-fat frozen food items and both shared the dominant term "lean." Finally, "marks tend to be perceived in their entireties, and all components thereof must be given appropriate weight." In re Hearst, 982 F.2d 493, 494 (Fed.Cir. 1992). In Hearst, Applicant registered VARGA GIRL for calendars and was refused registration by the Trademark Trial and Appeal Board because of earlier registration of VARGAS for posters, calendars, and greeting cards. The Federal Circuit reversed the refusal on appeal. The higher court found that the Board inappropriately changed the mark by diminishing the portion of "girl." When the mark was reviewed in its entirety, there was no likelihood of confusion. Here, the marks share no common term. Rather, they contain the allegedly similar terms STAR and ZTAR. However, these
allegedly similar terms are not enough to support a finding of likelihood of confusion, particularly where there are a number of differentiating factors.

## 2. Marks Differ in Sight, Sound, and Commercial Impression

## a. Marks Differ in Sight

A visual examination of the literal elements of the conflicting marks supports a finding that they are different. Applicant's mark consists of STAR. In contrast, Registrant's mark consists of ZTAR. Here, Applicant's mark has the appearance of the common English word STAR. Registrant's mark, on the other hand is not recognizable as a common English word. Rather, Registrant's mark is an entirely fanciful term. Moreover, Registrant's mark begins with "z." Because it is the least commonly used letter in the English language, the letter " z " is distinctive in Registrant's mark and thus distinguishes the mark from Applicant's (see Exhibit A). Accordingly, the marks are substantially visually distinct. Given the significantly different literal elements discussed above, there is little likelihood of confusion.

## b. Marks Differ in Sound

Here, the marks vary substantially in sound. Applicant's marks begins with the soft sound of the unvoiced consonant "s." Registrant's mark, on the other hand, begins with the clipped, vibrato sound of the voiced consonant "z." The marks have entirely distinct first phonemes. As such, these marks sound little alike and have an entirely different phonetic profile.

However, even where two marks are phonetically similar, no likelihood of confusion exists if other differentiating factors can be established. See National Distillers \& Chemical Corporation $v$. William Grant and Sons, Inc., 505 F.2d 719 (finding that DUVET and DUET did not raise likelihood of confusion where other differentiating factors existed such as the term "duet" was a common word whereas "duvet" was not). As stated above, the visual differences between Applicant's mark and the Registrant's mark provide one of many differentiating factors that do not support a claim of likelihood of confusion.

## c. Marks Differ in Commercial Impression

The marks in this case vary substantially in commercial impression. Here, Applicant's mark, STAR, used with "electronic amplifiers" and "electronics effects accessories" brings to mind rockstars. Applicant's products help musicians produce unique sound and amplify that sound with precision. Thus, the products allow artists to fulfill and faithfully communicate artistic vision achieve professional success or become "rockstars."

In contrast, Registrant's mark, ZTAR, has no English meaning and does not convey the idea of rockstardom. ZTAR is not a common, intentional misspelling of word STAR such that consumers perceive it as have the same meaning. Rather, ZTAR is a fanciful term." Consumers are thus likely to perceive ZTAR, used with electronic guitars, as a fanciful play on "g-tar" or "gee-tar" as shortened or slang forms of "guitar" (see Exhibits B and C). Registrant's mark thus suggests that Applicant's product is a unique or evolved style guitar (see Exhibit D). Accordingly, the marks present distinct commercial
impressions. Given the significant differences in commercial impressions, there is little likelihood of confusion between the marks.

## The similarity or dissimilarity and nature of the goods as described in an application or registration or in connection with which a prior mark is in use;

Goods and services fall into three categories: (1) competitive, (2) non-competitive but related, and (3) non-competitive and non-related. Homeowners Group, Inc. v. Home Mktg. Specialists Inc., 931 F.2d 1100, 18 USPQ2d 1587,1593 (6th Cir. 1991). Services in the last category are unlikely to be confused. Murray v. Cable National Broadcasting Co., 86 F.3d 858,861 39 USPQ2d 1214 (9th Cir. 1996). Moreover, "the presence of goods in the same store does not necessarily lead to the conclusion that confusion would arise under such conditions." 7-Eleven, Inc. v. HEB Grocery Company, $L P, 83$ U.S.P.Q.2d 1257 at *22 (TTAB 2007)(citations omitted).

Applicant's and Registrant's goods are distinct. Here, while both Applicant's and Registrant's goods can broadly be described as related to music, they are non-competitive. Applicant sells amplifiers and electronic effects accessories. Applicant does not sell instruments. Registrant, on the other hand, sells electronic guitars. Whereas Registrant's products are instruments, Applicant's products are merely accessories. The products serve different purposes. Thus, consumers do not purchase guitars as an alternative to Applicant's amplifiers or accessories. Similarly, consumers do not purchase Applicant's amplifiers or accessories in lieu of purchasing one of Registrants guitars. Accordingly, Applicant's and

Registrant's goods are distinct. Given the dissimilar nature of the goods of both parties, there is little likelihood of confusion.

# The conditions under which and buyers to whom sales are made, i.e. "impulse" vs. careful, sophisticated purchasing; 

"The sophistication of a buyer certainly bears on the possibility that he or she will become confused by similar marks." Freedom Sav. and Loan Ass'n v. Way, 757 F.2d 1176, 1185 (11th Cir. 1985). The more sophisticated a consumer, the more likely that consumer will use great care in selecting and discerning goods. The greater the care used, the less the likelihood of consumer confusion. "Sophisticated purchasers involved in purchasing decisions would be aware of the practices of the industry, and recognize that such goods and services do not emanate from a single source." Calypso Tech., Inc., 100 U.S.P.Q.2d 1213 (T.T.A.B. 2011).

If the relevant goods are expensive, the reasonably prudent buyer does not buy casually, but only after careful consideration. Thus, confusion is less likely than where the goods are cheap and bought casually. McCarthy on Trademarks and Unfair Competition § 23:96 (4th ed.); Kiekhaefer Corp. v. Willys-Overland Motors, Inc., 236 F.2d 423, 428 (C.C.P.A. 1956). "It has been repeatedly held, and we think properly so, that, other things being equal, confusion is less likely where goods are expensive and are purchased after careful consideration than where they are inexpensive and are purchased casually." Magnaflux Corp. v. Sonoflux Corp., 231 F.2d 669, 671 (C.C.P.A. 1956).

Regardless of the price of the relevant goods/services, the sophistication of the relevant consumers can be determined based on assumptions about the nature of certain buyers. See, e.g.

Luigino's, Inc. v. Stouffer Corp., 170 F.3d 827, 50 U.S.P.Q.2d 1047 (8th Cir. 1999) (diet-conscious consumers tend to examine food packages more carefully to determine source and caloric content); Barbecue Marx, Inc. v. 551 Ogden, Inc., 235 F.3d 1041, 57 U.S.P.Q.2d 1307 (7th Cir. 2000) ("We can expect that customers will exercise a reasonable degree of care when planning to dine at a restaurant of [a certain] caliber"). Buyers of goods in specialized, niche markets may be very sophisticated as to differences between brands and discerning in their purchases. Consumers of banking services, alcoholic beverages, insurance, and specialty or artisan goods have all been found to be sophisticated purchasers to a relevant degree. McCarthy on Trademarks and Unfair Competition § 23:99 (4th ed.).

In this case, consumers of Applicant's and Registrant's goods are sophisticated. Applicant sells amplifiers and electronics effects accessories; the goods are highly specialized for a unique purpose. Moreover, purchasers of those highly specialized goods are artists with particular tastes who are discerning with respect to their craft. Purchasers who are merely hobbyists or beginners nonetheless seek to learn or develop a specialized skill; thus, they exercise care in their choice of purchase. Moreover, musical equipment is expensive. The starting price of Applicant's amplifiers, for example, is $\$ 2500$; the amplifiers commonly resell for more than $\$ 1000$ (see Exhibits E and F). Purchasers are loathe to make such a costly investment on impulse. Similarly, and for those same reasons, purchasers of Registrant's electronic guitars are sophisticated. Given the sophistication of the relevant consumers, there is little likelihood of confusion.

The length of time during and the conditions under which there has been concurrent use without evidence of actual confusion;

The Applicant's and Registrant's marks have coexisted for nearly ten years without any known instances of consumer confusion. Accordingly, this factor supports that for the relevant market there is little likelihood of confusion.

## CONCLUSION

For the reasons listed above, Applicant respectfully requests that the Examining Attorney should remove all refusals for the trademark STAR (U.S. Serial No. 87672264) and approve the mark for publication.


Javier Gómez, Esq. Attorney of Record, Puerto Rico Bar Member
remarkable.legal
P.O. BOX 4120

ECM \#72065
PORTLAND, OR 97208
503-549-4854
docket2@remarkable.legal

## WikipediA

## Letter frequency

## EXHIBIT

The frequency of letters in text has been studied for use in cryptanalysis, and frequency analysis in particular, dating b formally developed the method (the ciphers breakable by this technique go back at least to the Caesar cipher invented classical times).

Letter frequency analysis gained additional importance in Europe with the development of movable type in 1450 AD , wher the amount of type required for each letterform, as evidenced by the variations in letter compartment size in typographer's

Linguists use letter frequency analysis as a rudimentary technique for language identification, where it's particularly effec
to the Iraqi mathematician Al-Kindi (c. 801-873 AD), who Julius Caesar, so this metho puld have been explored in
e must estimate
e cases. of whether an unknown writing system is alphabetic, syllablic, or ideographic. For example, the Japanese Hiragana syllabary cortants 40 distinct characters, which is more than most phonetic alphabets; by contrast, the English and Hawaiian alphabets have only 26 and 13 letters, respectively.

No exact letter frequency distribution underlies a given language, since all writers write slightly differently. However, most languages have a characteristic distribution which is strongly apparent in longer texts. Even language changes as extreme as from old English to modern English (regarded as mutually unintelligible) show strong trends in related letter frequencies: over a small sample of Biblical passages, from most frequent to least frequent, enaid sorhm tgblwu (æ)cfy $\boldsymbol{\text { dbpxz}}$ of old English compares to eotha sinrd luymw fgebp kviqxz of modern English, with the most extreme differences concerning letterforms not shared. ${ }^{[1]}$

Linotype machines for the English language assumed the letter order, from most to least common, to be etaoin shrdlu cmfuyp vbgkjq xz based on the experience and custom of manual compositors. The equivalent for the French language was elaoin sdrétu cmfhyp vbgwqj xz.

Modern International Morse code (generally believed to have been developed by Alfred Vail based on English-language letter frequencies of the 1830s) encodes the most frequent letters with the shortest symbols; arranging the Morse alphabet into groups of letters that require equal amounts of time to transmit, and then sorting these groups in increasing order, yields $\mathbf{e}$ it san hurdm wgvlfbk opxcz jyq. Similar ideas are used in modern data-compression techniques such as Huffman coding.

Letter frequency was used by other telegraph systems, such as the Murray Code.

## Contents

## Introduction

Relative frequencies of letters in the English language
Relative frequencies of the first letters of a word in the English language
Relative frequencies of letters in other languages
See also
References
External links

## Introduction

Letter frequencies, like word frequencies, tend to vary, both by writer and by subject. One cannot write an essay about x-rays without using frequent Xs, and the essay will have an idiosyncratic letter frequency if the essay is about the use of x-rays to treat zebras in Qatar. Different authors have habits which can be reflected in their use of letters. Hemingway's writing style, for example, is visibly different from Faulkner's. Letter, bigram, trigram, word frequencies, word length, and sentence length can be calculated for specific authors, and used to prove or disprove authorship of texts, even for authors whose styles are not so divergent.

Accurate average letter frequencies can only be gleaned by analyzing a large amount of representative text. With the availability of modern computing and collections of large text corpora, such calculations are easily made. Examples can be drawn from a variety of sources (press reporting, religious texts, scientific texts and general fiction) and there are differences especially for general fiction with the position of ' $h$ ' and ' i ', with ' $h$ ' becoming more common.

Herbert S. Zim, in his classic introductory cryptography text "Codes and Secret Writing", gives the English letter frequency sequence as "ETAON RISHD LFCMU GYPWB VKJXQ Z", the most common letter pairs as "TH HE AN RE ER IN ON AT ND ST ES EN OF TE ED OR TI HI AS TO", and the most common doubled letters as "LL EE SS OO TT FF RR NN PP CC". [2]

Also, to note that different dialects of a language will also affect a letter's frequency. For example, an author in the United States would produce something in which the letter 'z' is more common than an author in the United Kingdom writing on the same topic: words like "analyze", "apologize", and "recognize" contain the letter in American English, whereas the same words are spelled "analyse", "apologise", and "recognise" in British English. This would highly affect the frequency of the letter 'z' as it is a rarely used letter elsewhere in the English language. ${ }^{[3]}$

The "top twelve" letters constitute about $80 \%$ of the total usage. The "top eight" letters constitute about $65 \%$ of the total usage. Letter frequency as a function of rank can be fitted well by several rank functions, with the two-parameter Cocho/Beta rank function being the best. ${ }^{[4]}$ Another rank function with no adjustable free parameter also fits the letter frequency distribution reasonably well ${ }^{[5]}$ (the same function has been used to fit the amino acid frequency in protein sequences. ${ }^{[6]}$ ) A spy using the VIC cipher or some other cipher based on a straddling checkerboard typically uses a mnemonic such as "a sin to err" (dropping the second "r") ${ }^{[7][8]}$ or "at one sir" ${ }^{[9]}$ to remember the top eight characters.

The use of letter frequencies and frequency analysis plays a fundamental role in cryptograms and several word puzzle games, including Hangman, Scrabble and the television game show Wheel of Fortune. One of the earliest descriptions in classical literature of applying the knowledge of English letter frequency to solving a cryptogram is found in Edgar Allan Poe's famous story The Gold-Bug, where the method is successfully applied to decipher a message instructing on the whereabouts of a treasure hidden by Captain Kidd. ${ }^{[10]}$

Letter frequencies had a strong effect on the design of some keyboard layouts. The most frequent letters are on the bottom row of the Blickensderfer typewriter, and the home row of the Dvorak Simplified Keyboard.

## Relative frequencies of letters in the English language

There are three ways to count letter frequency that result in very different charts for common letters. The first method, used in the chart below, is to count letter frequency in root words of a dictionary. The second is to include all word variants when counting, such as "abstracts", "abstracted" and "abstracting" and not just the root word of "abstract". This system results in letters like "s" appearing much more frequently, such as when counting letters from lists of the most used English words on the Internet. A final variant is to count letters based on their frequency of use in actual texts, resulting in certain letter combinations like "th" becoming more common due to the frequent use of common words like "the". Absolute usage frequency measures like this are used when creating keyboard layouts or letter frequencies in old fashioned printing presses.

An analysis of entries in the Concise Oxford dictionary, ignoring frequency of word use, gives an order of "EARIOTNSLCUDPMHGBFYWKVXZJQ" ${ }^{[11]}$

The letter-frequency table below is taken from Pavel Mička's website, which cites Robert Lewand's Cryptological Mathematics. ${ }^{[12]}$

| Letter | Relative frequency in the English language |  |
| :---: | :---: | :---: |
| a | 8.167\% |  |
| b | 1.492\% |  |
| c | 2.782\% |  |
| d | 4.253\% |  |
| e | 12.702\% |  |
| $f$ | 2.228\% |  |
| g | 2.015\% |  |
| h | 6.094\% |  |
| i | 6.966\% |  |
| j | 0.153\% |  |
| k | 0.772\% |  |
| 1 | 4.025\% |  |
| m | 2.406\% |  |
| n | 6.749\% |  |
| 0 | 7.507\% |  |
| p | 1.929\% |  |
| q | 0.095\% |  |
| r | 5.987\% |  |
| s | 6.327\% |  |
| t | 9.056\% |  |
| u | 2.758\% |  |
| v | 0.978\% |  |
| w | 2.360\% |  |
| x | 0.150\% |  |
| y | 1.974\% |  |
| z | 0.074\% |  |



Relative frequencies of letters in text


Relative frequencies ordered by frequency

According to Lewand, arranged from most to least common in appearance, the letters are: etaoinshrdlcumwfgypbvkjxqz. Lewand's ordering differs slightly from others, such as Cornell University Math Explorer's Project, which produced a table after measuring 40,000 words. ${ }^{[13]}$

In English, the space is slightly more frequent than the top letter (e) ${ }^{[14]}$ and the non-alphabetic characters (digits, punctuation, etc.) collectively occupy the fourth position (having already included the space) between $t$ and a. ${ }^{[15]}$

## Relative frequencies of the first letters of a word in the English language

The frequency of the first letters of words or names is helpful in pre-assigning space in physical files and indexes. ${ }^{[16]}$ Given 26 filing cabinet drawers, rather than a $1: 1$ assignment of one drawer to one letter of the alphabet, it is often useful to use a more equal-frequency-letter code by assigning several low-frequency letters to the same drawer (often one drawer is labeled VWXYZ), and to split up the most-frequent initial letters $-\mathrm{S}, \mathrm{A}$, and C - into several drawers (often 6 drawers $\mathrm{Aa}-\mathrm{An}, \mathrm{Ao}-\mathrm{Az}, \mathrm{Ca}-\mathrm{Cj}, \mathrm{Ck}-\mathrm{Cz}, \mathrm{Sa}-\mathrm{Si}, \mathrm{Sj}-\mathrm{Sz}$ ). The same system is used in some multi-volume works such as some encyclopedias. Cutter numbers, another mapping of names to a more equal-frequency code, are used in some libraries.

Both the overall letter distribution and the word-initial letter distribution approximately match the Zipf distribution and even more closely match the Yule distribution. ${ }^{[17]}$
Often the frequency distribution of the first digit in each datum is significantly different from the overall frequency of all the digits in a set of numeric data-see Benford's law for details.
An analysis by Peter Norvig on Google Books data determined, among other things, the frequency of first letters of English words: ${ }^{[18]}$

| Letter | Relative frequency as the first letter of an English word |  |
| :---: | ---: | ---: |
| a | $11.682 \%$ |  |
| b | $4.434 \%$ |  |
| c | $5.238 \%$ |  |
| d | $3.174 \%$ |  |
| e | $2.799 \%$ |  |
| f | $4.027 \%$ |  |
| g | $1.642 \%$ |  |
| h | $4.200 \%$ |  |
| i | $7.294 \%$ |  |
| j | $0.511 \%$ |  |
| k | $0.456 \%$ |  |
| l | $2.415 \%$ |  |
| m | $3.826 \%$ |  |
| n | $2.284 \%$ |  |
| o | $7.631 \%$ |  |
| p | $4.319 \%$ |  |
| q | $0.222 \%$ |  |
| r | $2.826 \%$ |  |
| s | $6.686 \%$ |  |
| t | $15.978 \%$ |  |
| u | $1.183 \%$ |  |
| v | $0.824 \%$ |  |
| w | $5.497 \%$ |  |
| $\mathbf{x}$ | $0.045 \%$ |  |
| y | $0.763 \%$ |  |
| z | $0.045 \%$ |  |
|  |  |  |

## Relative frequencies of letters in other languages

2/14/2019
Letter frequency - Wikipedia

| Letter | English | $\frac{\text { French }}{[19]}$ | $\underset{[20]}{\text { German }}$ | $\underset{[21]}{\text { Spanish }}$ | Portuguese [22] | Esperanto [23] | Italian [24] | Turkish [25] | Swedish [26] | Polish [27] | Dutch [28] | Danish [29] | Icelandic [30] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a | 8.167\% | 7.636\% | 6.516\% | 11.525\% | 14.634\% | 12.117\% | 11.745\% | 12.920\% | 9.383\% | 10.503\% | 7.486\% | 6.025\% | 10.110\% |
| b | 1.492\% | 0.901\% | 1.886\% | 2.215\% | 1.043\% | 0.980\% | 0.927\% | 2.844\% | 1.535\% | 1.740\% | 1.584\% | 2.000\% | 1.043\% |
| c | 2.782\% | 3.260\% | 2.732\% | 4.019\% | 3.882\% | 0.776\% | 4.501\% | 1.463\% | 1.486\% | 3.895\% | 1.242\% | 0.565\% | 0 |
| d | 4.253\% | 3.669\% | 5.076\% | 5.010\% | 4.992\% | 3.044\% | 3.736\% | 5.206\% | 4.702\% | 3.725\% | 5.933\% | 5.858\% | 1.575\% |
| e | 12.702\% | 14.715\% | 16.396\% | 12.181\% | 12.570\% | 8.995\% | 11.792\% | 9.912\% | 10.149\% | 7.352\% | 18.91\% | 15.453\% | 6.418\% |
| $f$ | 2.228\% | 1.066\% | 1.656\% | 0.692\% | 1.023\% | 1.037\% | 1.153\% | 0.461\% | 2.027\% | 0.143\% | 0.805\% | 2.406\% | 3.013\% |
| g | 2.015\% | 0.866\% | 3.009\% | 1.768\% | 1.303\% | 1.171\% | 1.644\% | 1.253\% | 2.862\% | 1.731\% | 3.403\% | 4.077\% | 4.241\% |
| h | 6.094\% | 0.737\% | 4.577\% | 0.703\% | 0.781\% | 0.384\% | 0.636\% | 1.212\% | 2.090\% | 1.015\% | 2.380\% | 1.621\% | 1.871\% |
| i | 6.966\% | 7.529\% | 6.550\% | 6.247\% | 6.186\% | 10.012\% | 10.143\% | 9.600\%* | 5.817\% | 8.328\% | 6.499\% | 6.000\% | 7.578\% |
| j | 0.153\% | 0.613\% | 0.268\% | 0.493\% | 0.397\% | 3.501\% | 0.011\% | 0.034\% | 0.614\% | 1.836\% | 1.46\% | 0.730\% | 1.144\% |
| k | 0.772\% | 0.074\% | 1.417\% | 0.011\% | 0.015\% | 4.163\% | 0.009\% | 5.683\% | 3.140\% | 2.753\% | 2.248\% | 3.395\% | 3.314\% |
| 1 | 4.025\% | 5.456\% | 3.437\% | 4.967\% | 2.779\% | 6.104\% | 6.510\% | 5.922\% | 5.275\% | 2.564\% | 3.568\% | 5.229\% | 4.532\% |
| m | 2.406\% | 2.968\% | 2.534\% | 3.157\% | 4.738\% | 2.994\% | 2.512\% | 3.752\% | 3.471\% | 2.515\% | 2.213\% | 3.237\% | 4.041\% |
| n | 6.749\% | 7.095\% | 9.776\% | 6.712\% | 4.446\% | 7.955\% | 6.883\% | 7.987\% | 8.542\% | 6.237\% | 10.032\% | 7.240\% | 7.711\% |
| 0 | 7.507\% | 5.796\% | 2.594\% | 8.683\% | 9.735\% | 8.779\% | 9.832\% | 2.976\% | 4.482\% | 6.667\% | 6.063\% | 4.636\% | 2.166\% |
| p | 1.929\% | 2.521\% | 0.670\% | 2.510\% | 2.523\% | 2.755\% | 3.056\% | 0.886\% | 1.839\% | 2.445\% | 1.57\% | 1.756\% | 0.789\% |
| q | 0.095\% | 1.362\% | 0.018\% | 0.877\% | 1.204\% | 0 | 0.505\% | 0 | 0.020\% | 0 | 0.009\% | 0.007\% | 0 |
| r | 5.987\% | 6.693\% | 7.003\% | 6.871\% | 6.530\% | 5.914\% | 6.367\% | 7.722\% | 8.431\% | 5.243\% | 6.411\% | 8.956\% | 8.581\% |
| s | 6.327\% | 7.948\% | 7.270\% | 7.977\% | 6.805\% | 6.092\% | 4.981\% | 3.014\% | 6.590\% | 5.224\% | 3.73\% | 5.805\% | 5.630\% |
| t | 9.056\% | 7.244\% | 6.154\% | 4.632\% | 4.336\% | 5.276\% | 5.623\% | 3.314\% | 7.691\% | 2.475\% | 6.79\% | 6.862\% | 4.953\% |
| u | 2.758\% | 6.311\% | 4.166\% | 2.927\% | 3.639\% | 3.183\% | 3.011\% | 3.235\% | 1.919\% | 2.062\% | 1.99\% | 1.979\% | 4.562\% |
| $v$ | 0.978\% | 1.838\% | 0.846\% | 1.138\% | 1.575\% | 1.904\% | 2.097\% | 0.959\% | 2.415\% | 0.012\% | 2.85\% | 2.332\% | 2.437\% |
| w | 2.360\% | 0.049\% | 1.921\% | 0.017\% | 0.037\% | 0 | 0.033\% | 0 | 0.142\% | 5.813\% | 1.52\% | 0.069\% | 0 |
| x | 0.150\% | 0.427\% | 0.034\% | 0.215\% | 0.253\% | 0 | 0.003\% | 0 | 0.159\% | 0.004\% | 0.036\% | 0.028\% | 0.046\% |
| y | 1.974\% | 0.128\% | 0.039\% | 1.008\% | 0.006\% | 0 | 0.020\% | 3.336\% | 0.708\% | 3.206\% | 0.035\% | 0.698\% | 0.900\% |
| z | 0.074\% | 0.326\% | 1.134\% | 0.467\% | 0.470\% | 0.494\% | 1.181\% | 1.500\% | 0.070\% | 4.852\% | 1.39\% | 0.034\% | 0 |
| à | 0 | 0.486\% | 0 | 0 | 0.072\% | 0 | 0.635\% | 0 | 0 | 0 | 0 | 0 | 0 |
| â | 0 | 0.051\% | 0 | 0 | 0.562\% | 0 | ~0\% | 0 | 0 | 0 | 0 | 0 | 0 |
| á | 0 | 0 | 0 | 0.502\% | 0.118\% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.799\% |
| å | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.338\% | 0 | 0 | 1.190\% | 0 |
| ä | 0 | 0 | 0.578\% | 0 | 0 | 0 | 0 | 0 | 1.797\% | 0 | 0 | 0 | 0 |
| a | 0 | 0 | 0 | 0 | 0.733\% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| a | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.699\% | 0 | 0 | 0 |
| æ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.872\% | 0.867\% |
| œ | 0 | 0.018\% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ç | 0 | 0.085\% | 0 | 0 | 0.530\% | 0 | 0 | 1.156\% | 0 | 0 | 0 | 0 | 0 |
| $\hat{\text { c }}$ | 0 | 0 | 0 | 0 | 0 | 0.657\% | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ć | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.743\% | 0 | 0 | 0 |
| č | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| d' | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ठ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4.393\% |
| è | 0 | 0.271\% | 0 | 0 | 0 | 0 | 0.263\% | 0 | 0 | 0 | 0 | 0 | 0 |
| é | 0 | 1.504\% | 0 | 0.433\% | 0.337\% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.647\% |
| ê | 0 | 0.218\% | 0 | 0 | 0.450\% | 0 | ~0\% | 0 | 0 | 0 | 0 | 0 | 0 |
| ë | 0 | 0.008\% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| e | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.035\% | 0 | 0 | 0 |
| è | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\hat{\mathrm{g}}$ | 0 | 0 | 0 | 0 | 0 | 0.691\% | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ğ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.125\% | 0 | 0 | 0 | 0 | 0 |
| h | 0 | 0 | 0 | 0 | 0 | 0.022\% | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| î | 0 | 0.045\% | 0 | 0 | 0 | 0 | $\sim 0 \%$ | 0 | 0 | 0 | 0 | 0 | 0 |
| ì | 0 | 0 | 0 | 0 | 0 | 0 | (0.030\%) | 0 | 0 | 0 | 0 | 0 | 0 |
| í | 0 | 0 | 0 | 0.725\% | 0.132\% | 0 | 0.030\% | 0 | 0 | 0 | 0 | 0 | 1.570\% |
| ï | 0 | 0.005\% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |


| Letter | English | French [19] | $\frac{\text { German }}{[20]}$ | $\underset{[21]}{S p a n i s h}$ | Portuguese [22] | Esperanto [23] | Italian [24] | Turkish [25] | Swedish [26] | Polish [27] | Dutch [28] | Danish [29] | Icelandic [30] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5.114\%* | 0 | 0 | 0 | 0 | 0 |
| ĵ | 0 | 0 | 0 | 0 | 0 | 0.055\% | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\dagger$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2.109\% | 0 | 0 | 0 |
| n | 0 | 0 | 0 | 0.311\% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ń | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.362\% | 0 | 0 | 0 |
| ň | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ò | 0 | 0 | 0 | 0 | 0 | 0 | 0.002\% | 0 | 0 | 0 | 0 | 0 | 0 |
| ö | 0 | 0 | 0.443\% | 0 | 0 | 0 | 0 | 0.777\% | 1.305\% | 0 | 0 | 0 | 0.777\% |
| ô | 0 | 0.023\% | 0 | 0 | 0.635\% | 0 | $\sim 0 \%$ | 0 | 0 | 0 | 0 | 0 | 0 |
| ó | 0 | 0 | 0 | 0.827\% | 0.296\% | 0 | $\sim 0 \%$ | 0 | 0 | 1.141\% | 0 | 0 | 0.994\% |
| o | 0 | 0 | 0 | 0 | 0.040\% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ๑ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.939\% | 0 |
| r | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| s | 0 | 0 | 0 | 0 | 0 | 0.385\% | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ş | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.780\% | 0 | 0 | 0 | 0 | 0 |
| s | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.814\% | 0 | 0 | 0 |
| š | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 0 | 0 | 0.307\% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathrm{t}^{\prime}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| p | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.455\% |
| ù | 0 | 0.058\% | 0 | 0 | 0 | 0 | (0.166\%) | 0 | 0 | 0 | 0 | 0 | 0 |
| ú | 0 | 0 | 0 | 0.168\% | 0.207\% | 0 | 0.166\% | 0 | 0 | 0 | 0 | 0 | 0.613\% |
| û | 0 | 0.060\% | 0 | 0 | 0 | 0 | $\sim 0 \%$ | 0 | 0 | 0 | 0 | 0 | 0 |
| ŭ | 0 | 0 | 0 | 0 | 0 | 0.520\% | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ü | 0 | 0 | 0.995\% | 0.012\% | 0.026\% | 0 | 0 | 1.854\% | 0 | 0 | 0 | 0 | 0 |
| u | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ý | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.228\% |
| ź | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.078\% | 0 | 0 | 0 |
| ż | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.706\% | 0 | 0 | 0 |
| ž | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

*See Dotted and dotless I.
The figure below illustrates the frequency distributions of the 26 most common Latin letters across some languages. All of these languages use a similar $25+$ character alphabet.


Based on these tables, the 'etaoin shrdlu'-equivalent results for each language is as follows:

- French: 'esait nruol'; (Indo-European: Romance; traditionally, 'esartinulop' is used, in part for its ease of pronunciation ${ }^{[32]}$ )
- Spanish: 'eaosr nidlt'; (Indo-European: Romance)
- Portuguese: 'aeosr idmnt' (Indo-European: Romance)
- Italian: 'eaion Irtsc'; (Indo-European: Romance)
- Esperanto: 'aieon Isrtk' (artificial language - influenced by Indo-European languages, Romance, Germanic mostly)
- German: 'enisr atdhu'; (Indo-European: Germanic)
- Swedish: 'eanrt sildo'; (Indo-European: Germanic)
- Turkish: 'aeinr Ikdım'; (Turkic)
- Dutch: 'enati rodsl'; (Indo-European: Germanic) ${ }^{[28]}$
- Polish: 'aieon wrszc'; (Indo-European: Slavic)
- Danish: 'ernta idslo'; (Indo-European: Germanic)
- Icelandic: 'arnie stulð̛'; (Indo-European: Germanic)
- Finnish: 'ainte slouk'; (Uralic: Finnic)
- Czech: 'aeoni tvsrl'; (Indo-European: Slavic)


## See also

- Corpus linguistics
- ETAOIN SHRDLU
- RSTLNE (Wheel of Fortune)
- Frequency analysis (cryptanalysis)
- Linotype machine
- Most common words in English
- Scrabble
- Arabic Letter Frequency


## References

1. Moreno, Marsha Lynn (Spring 2005). "Frequency Analysis in Light of Language Innovation" (http://www.math.ucsd.edu/~crypto/Projects/MarshaMoreno/TimeComparis onFrequency.pdf) (PDF). Math UCSD. Retrieved 19 February 2015.
2. Zim, Herbert Spencer. (1961). Codes \& Secret Writing: Authorized Abridgement. Scholastic Book Services. OCLC 317853773 (https://www.worldcat.org/oclc/31785377 3).
3. "British and American spelling - Oxford Dictionaries" (http://www.oxforddictionaries.co $\mathrm{m} /$ words/british-and-american-spelling). Oxford Dictionaries - English. Retrieved 18 April 2018.
4. Li, Wentian; Miramontes, Pedro (2011). "Fitting ranked English and Spanish letter frequency distribution in US and Mexican presidential speeches". Journal of Quantitative Linguistics. 18 (4): 359. arXiv:1103.2950 (https://arxiv.org/abs/1103.2950). doi:10.1080/09296174.2011.608606 (https://doi.org/10.1080\%2F09296174.2011.6086 06).
5. Gusein-Zade, S.M. (1988). "Frequency distribution of letters in the Russian language" Probl. Peredachi Inf. 24 (4): 102-7.
6. Gamow, George; Ycas, Martynas (1955). "Statistical correlation of protein and ribonucleic acid composition" (http://www.pnas.org/content/41/12/1011.full.pdf) (PDF). Proc. Natl. Acad. Sci. 41 (12): 1011-19. Bibcode:1955PNAS...41.1011G (http://adsabs. harvard.edu/abs/1955PNAS...41.1011G). doi:10.1073/pnas.41.12.1011 (https://doi.org/ 10.1073\%2Fpnas.41.12.1011). PMC 528190 (https://www.ncbi.nIm.nih.gov/pmc/article s/PMC528190). PMID 16589789 (https://www.ncbi.nIm.nih.gov/pubmed/16589789).
7. Friedrich L. Bauer. "Decrypted Secrets: Methods and Maxims of Cryptology" (https://bo oks.google.com/books?id=hfWTDr_bvMwC). 2006. p. 57.
8. Greg Goebel. "The Rise Of Field Ciphers: straddling checkerboard ciphers" (http://ww w.vectorsite.net/ttcode_03.html) 2009.
9. Dirk Rijmenants. "One-time Pad" (http://users.telenet.be/d.rijmenants/en/onetimepad.ht m)
10. Poe, Edgar Allan. "The works of Edgar Allan Poe in five volumes" (http://www.gutenber g.org/catalog/world/readfile?fk_files=1977099). Project Gutenberg.
11. "What is the frequency of the letters of the alphabet in English?" (http://oxforddictionari es.com/words/what-is-the-frequency-of-the-letters-of-the-alphabet-in-english). Oxford Dictionary. Oxford University Press. Retrieved 29 December 2012.
12. Mička, Pavel. "Letter frequency (English)" (http://en.algoritmy.net/article/40379/Letter-fr equency-English). Algoritmy.net.
13. "Frequency Table" (http://www.math.cornell.edu/~mec/2003-2004/cryptography/subs/fr equencies.html). cornell.edu.
14. "Statistical Distributions of English Text" (https://web.archive.org/web/2017091802090 7/http://www.data-compression.com/english.html). data-compression.com. Archived from the original (http://www.data-compression.com/english.html) on 2017-09-18.
15. Lee, E. Stewart. "Essays about Computer Security" (http://www.cl.cam.ac.uk/~mgk25/l ee-essays.pdf) (PDF). University of Cambridge Computer Laboratory. p. 181.
16. Herbert Marvin Ohlman. "Subject-Word Letter Frequencies with Applications to Superimposed Coding". [1] (http://books.nap.edu/openbook.php?record_id=10866\&pa ge=903) Proceedings of the International Conference on Scientific Information (1959).
17. Hemlata Pande and H. S. Dhami. "Mathematical Modelling of Occurrence of Letters and Word's Initials in Texts of Hindi Language" (http://www.skase.sk/Volumes/JTL16/p df_doc/02.pdf).
18. "English Letter Frequency Counts: Mayzner Revisited or ETAOIN SRHLDCU" (http://n orvig.com/mayzner.html). norvig.com. Retrieved 18 April 2018.
19. "CorpusDeThomasTempé" (https://web.archive.org/web/20070930194046/http://gpl.ins a-lyon.fr/Dvorak-Fr/CorpusDeThomasTemp\�\�). Archived from the original (htt p://gpl.insa-lyon.fr/Dvorak-Fr/CorpusDeThomasTemp\%C3\%A9) on 2007-09-30. Retrieved 2007-06-15.
20. Beutelspacher, Albrecht (2005). Kryptologie (7 ed.). Wiesbaden: Vieweg. p. 10. ISBN 3-8348-0014-7.
21. Pratt, Fletcher (1942). Secret and Urgent: the Story of Codes and Ciphers. Garden City, N.Y.: Blue Ribbon Books. pp. 254-5. OCLC 795065 (https://www.worldcat.org/ocl c/795065).
22. "Frequência da ocorrência de letras no Português" (http://www.numaboa.com/criptogra fia/criptoanalise/310-Frequencia-no-Portugues). Retrieved 2009-06-16.
23. "La Oftecoj de la Esperantaj Literoj" (http://lingvakritiko.com/2007/09/13/literoftecoj-kajtabelvortoftecoj/). Retrieved 2007-09-14.
24. Singh, Simon; Galli, Stefano (1999). Codici e Segreti (in Italian). Milano: Rizzoli. ISBN 978-8-817-86213-4. OCLC 535461359 (https://www.worldcat.org/oclc/53546135 9).
25. Sefik Ilkin Serengil, Murat Akin. "Attacking Turkish Texts Encrypted by Homophonic Cipher (http://www.wseas.us/e-library/conferences/2011/Cambridge/NEHIPISIC/NEHIP ISIC-20.pdf)" Proceedings of the 10th WSEAS International Conference on Electronics, Hardware, Wireless and Optical Communications, pp.123-126, Cambridge, UK, February 20-22, 2011.
26. "Practical Cryptography" (http://practicalcryptography.com/cryptanalysis/letter-frequenc ies-various-languages/swedish-letter-frequencies/). Retrieved 2013-10-30.
27. Wstęp do kryptologii (http://www.korzen.org/wsisiz/wstep\ do\ kryptologii/wyklad y/Wykad\%202.doc), counting [space] 17.2\%, [dot point] 0.9\%, [comma] 0.9\% and [semicolon] 0.5\%
28. "Letterfrequenties" (http://www.onzetaal.nl/advies/letterfreq.php). Genootschap OnzeTaal. Retrieved 2009-05-17.
29. "Practical Cryptography" (http://practicalcryptography.com/cryptanalysis/letter-frequenc ies-various-languages/danish-letter-frequencies/). Retrieved 2013-10-24.
30. "Practical Cryptography" (http://practicalcryptography.com/cryptanalysis/letter-frequenc ies-various-languages/icelandic-letter-frequencies/). Retrieved 2013-10-24.
31. "Practical Cryptography" (http://practicalcryptography.com/cryptanalysis/letter-frequenc ies-various-languages/finnish-letter-frequencies/). Retrieved 2013-10-24.
32. Perec, Georges; Alphabets; Éditions Galilée, 1976

## Notes

Some useful tables for single letter, digram, trigram, tetragram, and pentagram frequencies based on 20,000 words that take into account word-length and letter-position combinations for words 3 to 7 letters in length. The references are as follows:

1. Mayzner, M.S.; Tresselt, M.E. (1965). "Tables of single-letter and digram frequency counts for various word-length and letter-position combinations". Psychonomic Monograph Supplements. 1 (2): 13-32. OCLC 639975358 (https://www.worldcat.org/oclc/639975358).
2. Mayzner, M.S.; Tresselt, M.E.;Wolin, B.<R.< (1965). "Tables of trigram frequency counts for various word-length and letter-position combinations". Psychonomic Monograph Supplements. 1 (3): 33-78.
3. Mayzner, M.S.; Tresselt, M.E.;Woliin, B.<R,.. (1965). "Tables of tetragram frequency counts for various word-length and letter-position combinations". Psychonomic Monograph Supplements. 1 (4): 79-143.
4. Mayzner, M.S.; Tresselt, M.E.Wolin, B..<R.> (1965). "Tables of pentagram frequency counts for various word-length and letter-position combinations". Psychonomic Monograph Supplements. 1 (5): 144-190.

## External links

- A site with content of Cryptographical Mathematics (https://web.archive.org/web/20070402181401/http://pages.central.edu/emp/LintonT/) by Robert Edward Lewand
- Some examples of letter frequency rankings in some common languages (http://www.bckelk.ukfsn.org/words/etaoin.html)
- JavaScript Heatmap Visualization showing letter frequencies of texts on different keyboard layouts (http://www.patrick-wied.at/projects/heatmap-keyboard/)
- An updated version of Mayzner's work using Google books Ngrams data set (http://norvig.com/mayzner.html) by Peter Norvig

Retrieved from "https://en.wikipedia.org/w/index.php?title=Letter_frequency\&oldid=874380550"

This page was last edited on 18 December 2018, at 22:08 (UTC).
Text is available under the Creative Commons Attribution-ShareAlike License; additional terms may apply. By using this site, you agree to the Terms of Use and Privacy Policy. Wikipedia® is a registered trademark of the Wikimedia Foundation, Inc., a non-profit organization.

y $f$ >
music 24

A shortened version of the word Guitar, meaning a musical instrument. Particuly used by younger people.
"Somebody go feth my G-Tar and I'll play some songs."
by Michael February 27, 2005


Word
-


1. california potato chip
2. Desperation Day
3. slosher
4. the wig
5. lil chano
6. HEEEE
7. Tweezers
8. lady pond
9. maho
10. groundhog
11. jeeting
12. A-Rod
13. stank eye
14. botched abortion
15. barking
16. LMSYDWYPKH3
17. Canadian Snowplow
18. milk fic
19. XcQ
20. mike who cheese harry
21. Malentines Day

© 1999-2019 Urban Dictionary *<br>advertise terms of service privacy dmca remove help chat



TOP DEFINITION

## geetar

Geetar as in geetar.com is cool. A kind of onomatopoeic way of saying the conventional 'Guitar'. Often used in southern states of the U.S through the local dialect, guitar pickers soon picked up on this accented 'Gee'. As an addition to the conventional explanation, the word 'Geet' is also a Hindu word for 'music and creativity' which, in my mind, makes saying 'Geetar' just that little bit more cooler than just 'Guitar'.

I just found an awesome site called www.geetar.com with a free e-book to download.
" Paw, git my Geetar down from the shelf. I feel a heap o' fine pickin' about to happenin' "
\#guitar \#cal williams jr \#geetar.com \#geetar \#geetarplay \#cal williams jnr \#cal williams
by The Geetar Man January 18, 2010


Get a geetar mug for your girlfriend Rihanna.

## gee-tar

yokel version of guitar
by gribble February 01, 2003


Get a gee-tar mug for your Uncle Georges.


## Geetar

Quite possibly the most annoying and stupid way to refer to a "guitar". Proper guitarist never say "geetar" as it's just too damn idiotic. Ranked with the word "exqueeseme".

Example1:
1st person: Dude, come look at my geetar.

2nd person: *Thumps first person.*
Example2:
Idiot: Exqueeseme, I'd like to buy a geetar!"
Guitar salesman: "Gtfo."
by The Wretched One December 30, 2005


## Get a Geetar mug for your barber Callisto.

## geetar

A cute or clever way of saying 'guitar'. Often used when someone really likes guitars, and uses this as an alternative. Depending on what text it's used in, it often is elongated like: geeeeetar. This way, showing how it would actually sound. It's only a goofy. way of saying 'guitar'. All us dorks use it. xD

Dude, Ilove to play the geeeeeetar.
by Anna September 18, 2003


Get a geetar mug for your friend Julia.


Ingredients delivered
B instacart

## geetar

an instrument that one plays. Also known as a guitar.
dude, you gotta see me new geetar!
by noname April 29, 2004


Nord
ze $=$
Get a geetar mug for your cat Manafort.

6

## Geetar

The *cough* cool *cough* way to say guitar
Guy 1 - Wanna play GEETAR Hero with me?
Guy 2 - Dude, you're sad. It's GUITAR.
Guy 1 - No no no I'm cool. I say GEETAR!
\#guitar \#geetar \#cool \#hero \#dude \#sad
by DownloadThisSong February 13, 2008


Get a Geetar mug for your dog José.

## Fall Salad with Salmon

 Ingredients delivered
## $\delta$ instacart

## Shop now

## geetar

Quite possibly the most annoying and stupid way to refer to a "guitar". Proper guitarist never say "geetar" as it's just too damn idiotic. Ranked with the word "exqueeseme".

Example1:

1st person: Dude, come look at my geetar.

2nd person: *Thumps first person.*

Example2:

Idiot: Exqueeseme, I'd like to buy a geetar!"
Guitar salesman: "Gtfo."
\#geetar \#guitar \#getar \#geeetar \#geeeeetar
by The Wretched One December 26, 2005

| 1413 | 7155 |
| :--- | :--- |

Get a geetar mug for your coworker Zora.

## CATEGORIES

$\Delta$ Sex
Jusic
N Work
Sports
© Internet
College
$\simeq$ Drugs
$\Delta$ Religion
© 1999-2019 Urban Dictionary ${ }^{*}$ advertise terms of service privacy dmca remove help chat

## EXHIBIT

## D




INTERNATIONAL okly 1, 2005

NOVA 5W, 1×10" Jensen, Hi and Lo Inputs, 999 Line Out, Headphone Out, Detachable Speaker

## $1 \times 12$ COMBOS

ofocial 1 Channel Shiemo Olmp:
$\begin{array}{ll}\text { BLUES STAR } 15 & 3299 \\ \text { BLUES STAR } 30 & 3749\end{array}$
1912


## HEADS

oponial 1 Prurured Sherre Olingp:

| BLUES STAR 15 | 3029 | 1544 |
| :--- | :--- | :--- |
| BLUES STAR 30 | 3449 | 1759 |

2 Cranmed civithtingy + Pifects Slago:
GAIN STAR 15 3029
GAIN STAR $30 \quad 3449$
1544
1759

2 Cranned obwitching + Ppects Slogo + SRewenb:
SIRIUS 15 REVERB $\quad 3449 \quad 1759$
SIRIUS 30 REVERB 38591968
EXTENSION CABINETS
ST112
ST212
1029
422
524
PRICES FOB PLANT, LOS ANGELES, CALIFORNIA USA
All prices and specifications are subject to change without notice.
STAR, STAR Amplifiers, Gain Star, Sirius, and Blues Star are (TM) STAR Amplifiers.

## STAR AMPLIFIERS

## by Mark Sampson

DEALER SALES CONTACT: Joe Allrich
allrich@redshift.com
TEL: 8316220835 FAX: 8316220853

# Star Gainstar 15 1x12 combo (Mark Sampson Guitar Amp 


$\underset{+}{\text { +sso.00 Shipping }}$

## or Best Offer

Get it by Wednesday, Feb 20 from Redmond, Washington

- Used condition
- No returns, but backed by eBay Money back guarantee
"It has great tubes in it and works great. The 15 watt Gainstar has two EL-84's in it. It's covered in dark green vinyl and has a gold face plate. It's class A, and has $t$... " Read full description
See details

$\square$

Watch

Sold by yj_chris (281) 100.0\% Positive feedback

Contact seller

Similar Items


SPONSORED
Matchless Thunderman
(1046
\$5,302.73


MARK SAMPSON STAR GAIN STAR 30 Amp!!!
$\$ 1,800.000$ bids 3d 11h
Free shipping


Matchless 30/15 Combo Amplifier
\$1,799.99


Morgan Amps RCA35RC 35-watt 1x12" Combo... \$2,000.00
Free shipping
$\square$


DV Mark Gen15 15W 1x12 Tube Guitar Combo Amp... \$703.99
Free shipping

rare early Matchless D/C30 cab combo amp... \$699.00


Ceriatone Dizzy 30 (Mutchless DC-30 Clone)... \$1,399.00


Gabriel Voxer V18 head amp - bumblebee vox... \$1,700.00



Gabriel Gabriel Voxer V18 combo amp 12＂vox．
\＄2，000．00


VOX 2－12 FAWN SPEAKER CABINET WITH ALNICO．．．
\＄750．00


Divided By 13 RSA 23 Tube Valve Guitar Amplifi．．． \＄1，895．00


Jackson Ampworks Britain 30 Head．Mint！Vox
\＄1，749．00


Bad Cat Classic Deluxe w／Reverb－Green and gold \＄1，200，00


Louis Electric KR12 guitar amp with 20／40 switch a．．． \＄1，925．00

## Best Selling in Guitar Amplifiers



Save on Guitar Amplifiers（1）



Matchless SC－30 Reverb Combo Amp Red \＄3，089．00 Free shipping

