ASCII Typewriter Keys Reciprocal Table Solver.exe

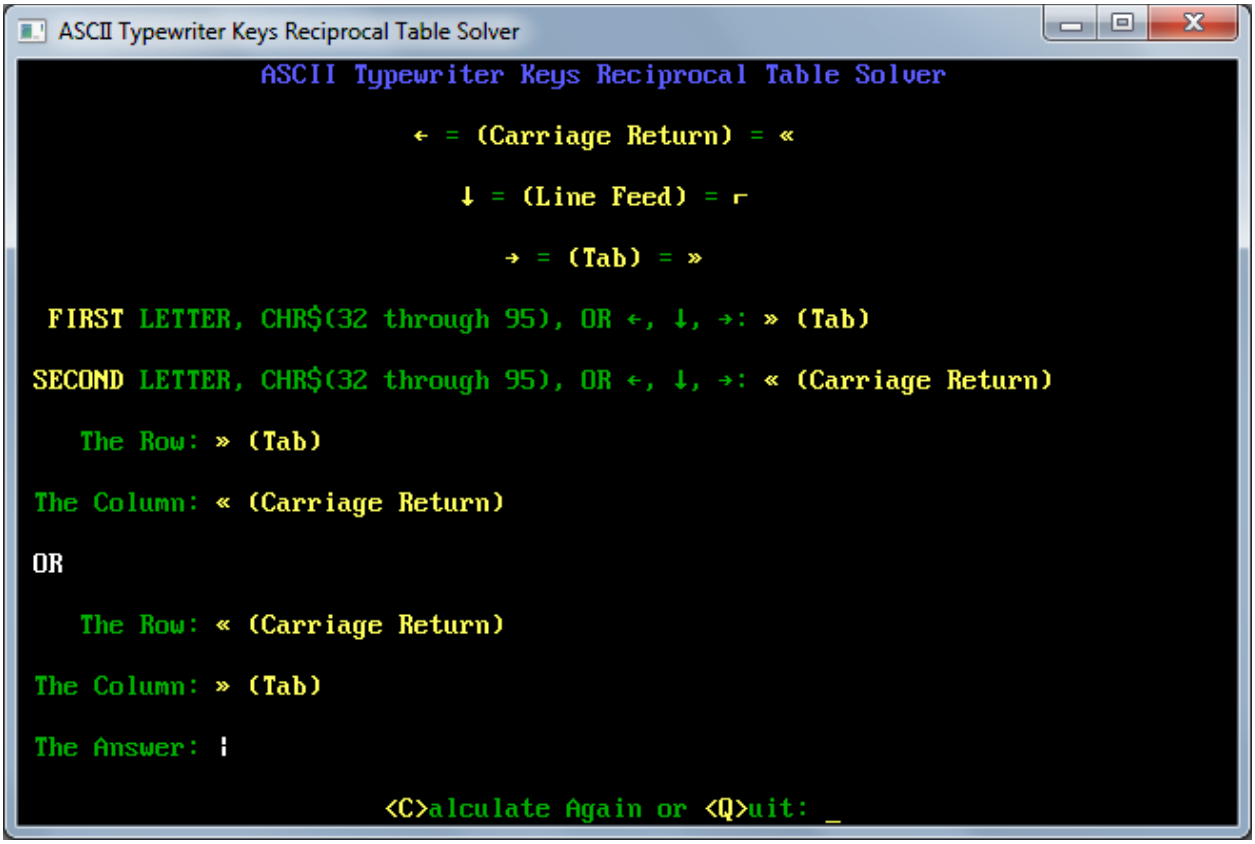
(The opening screen)

My previous program, ASCII Typewriter Keys Reciprocal Table Auto-Key Solver.exe, uses a modified form of a Vigenère Polygraphic Square Table that has a table size of 98 x 98 consisting of every typewriter key on the keyboard, CHR$(32) through CHR$(126) plus the control characters, CHR$(9) tab, CHR$(10) line feed, and CHR$(13) carriage return. Due to the control characters, the table was not printable. In order to solve this, I substituted high-bit characters for these control characters in order to create this new program as shown above in the opening screen. These high-bit characters are chosen by the user using the Arrow Keys. This also allowed for a very large PDF of this table, *ASCII Typewriter Keys Reciprocal Table.pdf* mainly for viewing on screen due to its size (29.50" x 22.00"). I printed a copy of this table by scaling it to fit on a 24" x 18" poster board. Scaling it to fit on anything smaller was next to impossible to read.

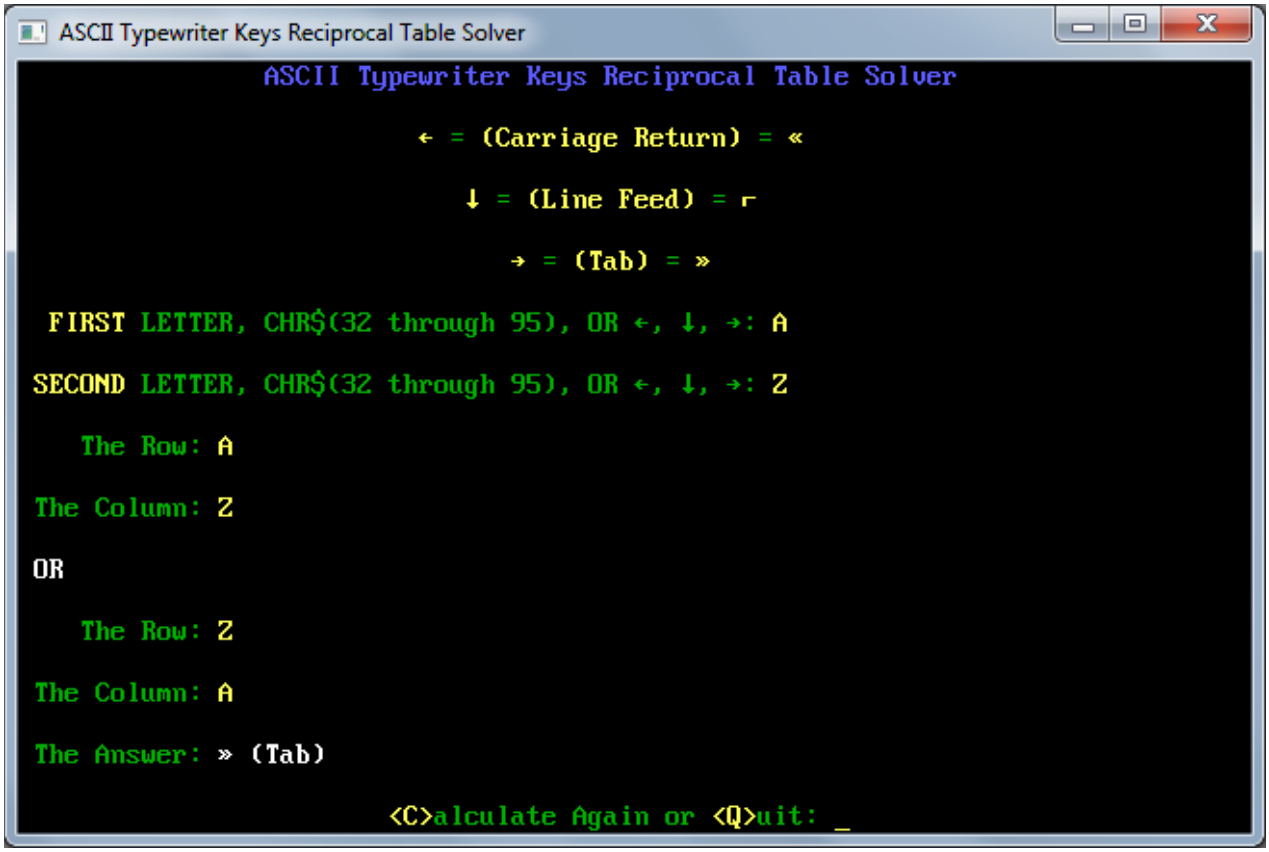
My desire with this program was to illustrate how my previous program, ASCII Typewriter Keys Reciprocal Table Auto-Key Solver.exe, worked using the Auto-Key approach in which the original text itself serves as the encrypting key after being initializing by a single character which remains secret between the sender and the receiver. By doing multiple encryptions with different keys in a predetermined order by the sender and known to the receiver, the possible solutions – only one of which works – are increased geometrically.

The next page shows two typical screen shots of this new program, *ASCII Typewriter Keys Reciprocal Table Solver.exe,* and then there is a short tutorial on using this program to manually create encrypted data with the Auto-Key approach. This will be followed by manually showing the decryption process to reverse the encrypted data back to original text.

Please note that this program is designed to manually simulate solutions – two characters at a time – that are automatically solved with my previous program, ASCII Typewriter Keys Reciprocal Table Auto-Key Solver.exe, that works with large text or HTML source files.



(The intersection of a row with a column is the same as the intersection of a column with a row.)
At either intersection, there are two characters in the cell. "The Answer" is the right-most character.



(The intersection of a row with a column is the same as the intersection of a column with a row.)
At either intersection, there are two characters in the cell. "The Answer" is the right-most character.

Encryption by Auto-Key - ENcipher

Y is The Initializing Character

|T|h|i|s| |i|s| |h|o|w| |a|n| |A|u|t|o|-|K|e|y| |w|o|r|k|s| (The Original Text)

|m|^|I|>|%|/|>|%|0|C|4|!|7|K|*|W|d|1|7|~|@|j|<|«|!|4|9|=|<| (Auto-Key & Encrypted Text)

YT = m (The first encrypted character)

Then use every adjacent two characters of the original TEXT to encrypt the next character, doubling back one TEXT character each time to create the Auto-Key AND encrypted text.

Note: The underscores _ below are spaces. Also notice the carriage return substitution is «

YT = m
Th = ^ hi = I is = > s_ = % _i = /
is = > s_ = % _h = 0 ho = C ow = 4
w_ = ! _a = 7 an = K n_ = * _A = W
Au = d ut = 1 to = 7 o- = ~ -K = @
Ke = j ey = < y_ = « _w = ! wo = 4
or = 9 rk = = ks = <

This is how an Auto-Key works (The Original Text)

m^I>%/>%0C4!7K*Wd17~@j<«!49=< (Auto-Key & Encrypted Text)

Decryption by Auto-Key – Decipher

Y is The Initializing Character

|m|^|I|>|%|/|>|%|0|C|4|!|7|K|*|W|d|1|7|~|@|j|<|«|!|4|9|=|<| (Auto-Key & Encrypted Text)

|T|h|i|s| |i|s| |h|o|w| |a|n| |A|u|t|o|-|K|e|y| |w|o|r|k|s| (The Original Text)

Ym = T (The first decrypted original text character)

Then use each original TEXT character combined with the next auto-key encrypted character to get the next original text character as follows:

Note: The underscores _ below are spaces. Also notice the carriage return substitution is «

Ym = T
T^ = h hI = i i> = s s% = _ _/ = i
i> = s s% = _ _0 = h hC = o o4 = w
w! = _ _7 = a aK = n n* = _ _W = A
Ad = u u1 = t t7 = o o~ = - -@ = K
Kj = e e< = y y« = _ _! = w w4 = o
o9 = r r= = k k< = s

Finally, use my previous program, ASCII Typewriter Keys Reciprocal Table Auto-Key Solver.exe, to ENcipher the included text file, *ENcipher with ANY key.txt*. Then save the results as an HTML file and open in your browser. This is an example of what NOT to do – I DEciphered original text. If you study the **Encryption By Auto-key** tutorial above, you will understand that any wrong key will *only change the first character of the original text* and then the rest of the original text will be decrypted. Therefore, ALWAYS ENcipher original text.