# T|MUG

T/MAKER USER'S GROUP NEWSLETTER
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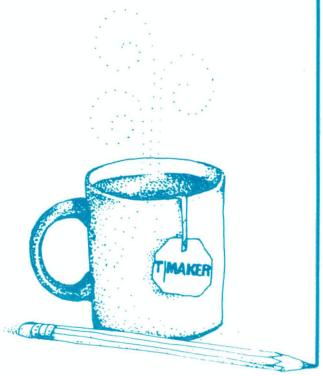
**In This Issue:**





T/Maker Users' Group Newsletter

# T/MAKER NEWSFRONT

*-- Heidi Roizen*

*T/Maker Five???*

No, there is no T/Maker Five. But, Peter is just beginning to think about the future T/Maker -- maybe the 1986 model. He wants to take advantage of increased memory, color, on-screen attributes (like bold and underline) and wants to make T/Maker even easier to use and learn, without destroying its utility. That should keep him busy for a while.

Along those lines, he'd like to invite all you T/Maker users to write in with suggestions. What has really bothered you about T/Maker? What is the best part of T/Maker? What kinds of things are you doing with it? What would you like to do with it, but can't? What would be the ultimate spreadsheet? Database? Word Processor?

We may not be able to incorporate all the suggestions, and probably can't even acknowledge your letters. But, we'd sure appreciate them and hope that we can return the favor by offering reasonable upgrades to an even better product next year.

*Foreign News*

T/Maker's OEM business has been going exceptionally well this year in a few foreign markets. Multitech Electronics of Taiwan, which markets a Chinese version of T/Maker known as "Tseitsuga 1-2-3" has sold out ahead of contract this quarter. In Japan, where T/Maker goes by "Micro REPO," NUIS reports that sales are also going extremely well.

We are working on a German version of T/Maker now, and hope to have that completed by mid- to late summer. We are talking with a company to become the distributor for Germany, but no announcements yet.

*Macintosh Products Are Selling Well*

We're pleased to report that both the ClickOn Worksheet and ClickArt Effects are on the *Softsel Hot List* of top selling products. The reviews should be coming out in most major computer publications over the summer. Our own Robert Simon and ClickArt Effects author Bill Parkhurst were on local television recently showing the new products. Two stars were born . . .

# T/MAKER T/IPS

**Call Me When You're Done:** Sometimes I do extensive sorting or tallying with my package on a large amount of data, which means it may take several minutes to finish. Since I would rather do something productive during that time instead of staring at my computer monitor, I add random characters to the end of my command line, such as:

```
TALLY IT ALL 1 5 END ASDF
```

After T/Maker completes the tally, it tries to find the command "ASDF". The illegal command results in a loud beep, which tells me that T/Maker is ready to do more work.
-- *Submitted by Carey Heckman*

**Protecting Database Fields:** Many of you have asked for a way to protect database fields -- that is, have them there but not allow the data entry person to change them. Unfortunately, such a facility is not built into the program. Here are two tricks to get around that:

**Method 1: Do Not Need To See It:** Say you want to associate a customer number (field name CUSTNUM) with each customer, but you do not want it to be changed. To do so, create your form and record definitions with the CUSTNUM field in them, then enter your data. When you are through entering the data, delete the field CUSTNUM from the *form* definition. The field CUSTNUM will no longer show up in UPDATE, yet it can still be used to ORDER, search, SELECT, or SET.

**Method 2: Need To See It When Entering Data:** Let's say you want to have the customer number be "protected" but be seen on the screen. Put two fields in the database, CUSTNUMP (for *customer number, protected*) and CUSTNUMS (for *customer number, shown.*) Set up two form definitions, one for the person who will actually enter the number, and one for the person who should not change the number. These two are the same, except one uses the field name CUSTNUMS and one uses CUSTNUMP. It's probably also a good idea to head the screens with a tag like "Data Entry Screen with Protection" and "Data Entry Screen -- Unprotected". In the RULES definitions, one of your rules should be CUSTNUMS = CUSTNUMP. This will SET the shown customer number to the protected version, even if the shown one had been changed.

The person with access would start by entering all the numbers. Then that person would use SET to set the shown field to equal the protected field. Next, the person without access would use the other screen form to enter the other data, then use SET to return the shown field to the same data as the protected field if he or she had inadvertently changed it.

# ANNOUNCING T/BILL!

T/Bill is a new, automated system -- written in T/Maker -- for handling accounts receivable or monthly billing. It lets you:

1) Log and calculate all current sales and payments.

2) Archive past sales and payment experience.

3) Prepare a monthly bill for all clients whose accounts were active during the preceding month or who show past-due balances.

   The bill T/BILL prepares includes: (a) the customer's name and address, (b) a line entry for each sale and payment in the preceding month (ordered by date), (c) a line entry for each past month with a past-due balance, and (d) the new current balance.

T/BILL is priced at $125.00 plus a variable fee ($50 to $100) for customization to your reauirements. The system includes complete reference documentaiton. Please contact:

*Ron Roizen*
*2011 Francisco Street*
*Berkeley, CA 94709*
*(415) 549-0103*

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## T/MUG PRICES FOR SOFTWARE:

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The following are prices for various T/Maker options that we often receive requests for. Orders can be placed through us and we'll take them over the phone for COD, VISA, or MasterCard payments. California residents add 7% sales tax. Shipping is $6.50 for UPS blue and $3.13 for UPS ground. And remember, we MUST know what kind of computer and operating system you have! Our number is (415) 962-0195.

| | |
|---|---|
| UPGRADE FROM T/MAKER III TO T/MAKER INTEGRATED SOFTWARE MUST HAVE PROOF OF T/MAKER III SERIAL NUMBER: | |
| FOR SAME COMPUTER TYPE: WILL RECEIVE BOUND MANUAL | $175.00 |
| FOR OPERATING SYSTEM OR COMPUTER OTHER THAN CURRENT LICENSE: WILL RECEIVE BOUND MANUAL | $250.00 |
| T/MAKER INTEGRATED SOFTWARE FOR SECOND OPERATING SYSTEM BOUND MANUAL. MUST HAVE PROOF OF T/MAKER I.S. SERIAL NUMBER. | $225.00 |

# DOING SURVEYS WITH T/MAKER--AN UPDATE

-- *Ron Roizen*

Many improvements have gone into T/Maker in the months since my four-part series of articles on how to analyze survey data appeared in the pages of *T/Mug*. Therefore, in this article, I'll try to bring survey procedures abreast of the current T/Maker package's considerable powers.

T/Maker's new database capability makes for an entirely new approach to surveys.

1. *Entering Data Directly in Telephone Surveys.* The database offers a data collection shortcut that is particularly useful if you happen to be doing a telephone survey. It works like this: rather than work from a paper questionnaire, marking it with a pencil, you put the questionnaire on your computer's screen and input the responses directly into your database.

   In Figure 1 I've laid out a short, six-item questionnaire as it might be constructed for this approach.

   Look at Figure 1. Notice, first, that it has two *form* definitions, one stacked atop the other. These let you put two different questionnaire "pages" on the screen. You press **ESC F** (or your *Change Frame Mode* keystroke) to change pages. T/Maker allows up to 10 such pages. Thus, with efficient use of screen space you need not be limited to a short questionnaire.

   All text that appears in these form definitions (save for the fields for variables--that is, the text contained between {} braces) are there to provide you with helpful information. This text spells out the questions, their legitimate responses, and the numeric codes associated with legitimate responses. You read from the screen and type in the appropriate response codes or narrative answers into the correct fields.

   The fields for variables do not appear on your screen when you go into the database's UPDATE mode. Instead, they provide the blank area for entering data. Every time you key-in a one-column answer code the cursor moves directly to the next question's field. This speeds data-entry greatly.

   Notice that both pages present the "CASE NUMBER" in the upper right corner--so that you can see which case you're working on no matter which page you're screen lies upon.

FIGURE 1: A DIRECT DATA-ENTRY QUESTIONNAIRE

```
<form>
================================================================================
  Survey Questionnaire--Page 1                                CASE NUMBER: {CN>}

  A1.  How long have you had your T/Maker program?   {A1}
                                                     1:  Less than a year
                                                     2:  1-2 years
                                                     3:  3 or more years
                                                     4:  Other
  A2.  How did you first hear about T/Maker?
       {A2                                                              }
       ----------------------------------------------------------------

  A3.  How much do you use T/Maker for the following tasks?

       Word processing?           {A3a}              1:  Very much for this
       Checking spelling?         {A3b}              2:  Less, but a lot
       Spreadsheet Applications?  {A3c}              3:  Somewhat
       Bar charts?                {A3d}              4:  A little
       Database Applications?     {A3e}              5:  Never
       List processing?           {A3f}
       Encryption?                {A3g}
       Other1?                    {A3h}   Other1: {A301                    }
       Other2?                    {A3i}   Other2: {A302                    }
================================================================================
<end>
<form>
================================================================================
  Survey Questionnaire--Page 2                                CASE NUMBER: {CN>}

  A4.  What's your favorite T/Maker feature?
       {A4                                                              }
       ----------------------------------------------------------------

  A5.  What's your least favorite T/Maker feature?
       {A5                                                              }
       ----------------------------------------------------------------

  A6.  Do you think T/Maker is overpriced, underpriced, or priced about right?

       Your opinion?  {A6}                           1:  Overpriced
                                                     2:  Priced about right
                                                     3:  Underpriced
                                                     4:  Other
================================================================================
<end>
```

*(file continued on next page)*

```
<record>
1{CN>}{##A1>}{##A3a}{##A3b}{##A3c}{##A3d}{##A3e}{##A3f}{##A3g}{A6}
2{A2<                                                              }}}
3{##A3h>}{A3O1<                          }{##A3i>}{A3O2<                          }}}
4{A4<                                                              }}}
5{A5<                                                              }}}
<end>
```

The questionnaire contains examples of both open-ended and closed-ended questions. Question A1, for instance, lists a series of four closed-ended, legitimate responses (1-4). These appear on the right side of the screen just below the question itself. You enter the response by typing the appropriate number in the A1 field.

Question A2 is open-ended. You type the response in field A2.

T/Maker lends itself nicely to "coding" open-ended data into a number of categories. How? Let's see how by walking through a demonstration of the procedure that might be applied to question A2:

To code open-ended data, you must begin by making a little room on your screen for a new variable--call it, A2C. The "C" stands for "coded"--which is to say, this variable name represents the coded version of variable A2. If space is cramped, you will need to alter the "pages" of your questionnaire. Of course, you'll also need to add {A2C} to your record definition. The revised portion of your screen display might now look something like this:

```
A2.  How did you first hear about T/Maker?
     {A2                                                           }
     ------------------------------------------------------------------

A2C.  CODES FOR QUESTION A2:  {A2C>}
                                                    1:  Friends
                                                    2:  Magazine Review
                                                    3:  Salesperson
                                                    4:  T/Maker Ad
                                                    5:  Other
```

This approach retains both the raw and the coded versions of the original data for you.

Question A3 shows yet another format, this time using the same response codes, 1-5, not for one but for a series of questions. Note that a respondent can suggest one or two "other" T/Maker uses in addition to the ones the questionnaire specifically mentions. With regard to these "other" uses the questionnaire provides space for both how much such a utility is used (fields A3h and A3i) and a brief description of what this "other" use actually is (fields A3O1 and A3O2).

The file's <record> definition appears below the second <form> definition. As you can see, I've compressed the data storage in many of the record definition's fields by using the ## option (see the T/Maker Reference Manual, p DB-22). The database system makes for very tight storage of the survey data, and hence files that can be made to hold many cases.

"Cleaning" the survey data means discovering and correcting incorrect data. When you place your survey instrument on the computer's screen, you can also use T/Maker's SET command to carry out a quick and preliminary cleaning at the actual time of the interview. You do this by pre-establishing "rules" in your file that define legitimate responses. Question A1, for example, allows responses 1, 2, 3, and 4. The following cleaning rule would apply to it:

```
<rules>
A1 = W when A1 < 1 or A1 > 4 end
<end>
```

This rule will change all illegitimate response codes to question A1 to "W's." Similar rules, of course, could be written for every item that implied contraints on its legitimate responses.

After the SET command's use, you could immediately look over your data for tell-tale W's, even using the "Search For A String" keystroke to speed the hunt. Illegitimate codes would be discovered and, if necessary, checked with the respondent himself before the interview session had ended.

2. *A Conventional Data Format.* If you don't happen to be doing a telephone survey you'll probably want to retain a more conventional mode of data formatting and data entry. You could, of course, enter data using the questionnaire already constructed in Figure 1--using it simply as a pretty data entry device. More likely, however, you will want to employ a leaner data-entry screen, one that presents only a series of question numbers and the fields associated with them. Hence, your database file might look more like the one shown in Figure 2:

FIGURE 2: A CONVENTIONAL DATA ENTRY FORMAT

```
<form>
================================================================================
  Survey Questionnaire Data Input Form:

  CASE NUMBER: {CN>}

  A1:  {A1}

  A2:  {A2                                                                  }

  A3a: {A3a}  A3b: {A3b}  A3c: {A3c}  A3d: {A3d}
  A3e: {A3e}  A3f: {A3f}  A3g: {A3g}

  Other1's Use Level: {A3h}  Other1 Description: {A301                        }
  Other2's Use Level: {A3i}  Other2 Description: {A302                        }

  A4:  {A4                                                                  }

  A5:  {A5                                                                  }

  A6:  {A6}
================================================================================
<end>
<record>
1{CN>}{##A1>}{##A3a}{##A3b}{##A3c}{##A3d}{##A3e}{##A3f}{##A3g}{A6}
2{A2<                                                                   }}}
3{##A3h>}{A301<                          }{##A3i>}{A302<                        }}}
4{A4<                                                                   }}}
5{A5<                                                                   }}}
<end>
```

The <record> definition appearing in Figure 2 is unchanged from Figure 1's, but the <form> definition has been greatly abbreviated. Naturally, both approaches--Figures 1's and Figure 2's--permit you to carry out coding for open-ended questions or the preliminary cleaning procedure described above--if you have the respondent at hand.

3. *Cleaning The Data.* Once you have input and coded your data, you will want to "clean" them. This, once again, means checking that your data are free of errors. The conventional approach to cleaning is to check that logical contingencies in your set of questions are obliged. This means that data should not be illogical. In the present study, for example, you might test to see that respondent's who listed "low price" among their favorite T/Maker features did not also answer question A6--which asks about price directly--by saying that T/Maker was "overpriced," answer-code 1. Suppose, for the sake of this example, that the code for "low-price" in response to question A4 is "7." Further suppose that you questionnaire data are lodged in a file named QDATA.

T/Maker's SELECT command provides the best device for such cleaning.

(a) CREATE a file named CLEANER. Enter the editor, and inscribe the following at the top of the file:

```
SELECT QDATA WHEN A4 CONTAINS 7 AND A6 = 1 END
<record>
{CN>}
<end>
```

(b) Now, all you need do is invoke the DO command to carry out your cleaning test. T/Maker's SELECT command will import to the CLEANER file only those case numbers associated with erring cases. You, then, must note those case numbers and return to the QDATA file to correct them or check them against the original questionnaire data.

Naturally, you will want to change the WHEN conditional in this DO command when you conduct a new cleaning test.

4. *Collapses.* To "collapse" data means to reduce the number of codes associated with a variable. Let's consider an example of the procedure.

Below is the first question in our little, mock survey:

```
A1.  How long have you had your T/Maker program?   {A1}
                                          1:  Less than a year
                                          2:  1-2 years
                                          3:  3 or more years
```

Say that you wanted to collapse this variable into a dichotomy--that is, into two instead of three response categories. You have two options: You can either lodge the collapsed variable in the A1 field or you can give it a new field--let's call the new field {A1D}, the "D" being for "Dichotomous."

It's a little easier to be lazy and use the original A1 field for the new variable. In this case, you would introduce a "Rules Definition" containing the following rule into your file:

```
<rules>
A1 = 2 when A1 = 2 or A1 = 3 end
<end>
```

This rule will collapse original values 2 and 3 into a 2 value. You insert this rule definition just above the record definition in the file. Then, you use the SET command.

The weakness in the above approach, of course, is that you lose information and lose it permanently. Therefore, it's often a better idea to provide a new field. There are two steps:

(1) Introduce a {##A1D} field into your record definition (you can introduce such a field into your form definition, too, if you like). (2) Provide the following rule definition:

```
<rules>
A1D = A1 end
A1D = 2 when A1D = 2 or A1D = 3 end
<end>
```

When the SET command is used, the first rule brings A1's data over into the A1D variable. The second rule recodes the A1D variable.

5. *Recodes.* To "recode" data means to give variables new values. Recoding is often necessary for building indexes or scales--these being numerical sums of variables.

Once more, an example provides the best mode of exposition.

Recall that our survey included this multi-part question on the respondent's (R's) use of T/Maker:

A3. How much do you use T/Maker for the following tasks?

| | | | |
|---|---|---|---|
| Word processing? | {A3a} | 1: | Very much for this |
| Checking spelling? | {A3b} | 2: | Less, but a lot |
| Spreadsheet Applications? | {A3c} | 3: | Somewhat |
| Bar charts? | {A3d} | 4: | A little |
| Database Applications? | {A3e} | 5: | Never |
| List processing? | {A3f} | | |
| Encryption? | {A3g} | | |
| Other1? | {A3h} | Other1: {A301 | } |
| Other2? | {A3i} | Other2: {A302 | } |

Suppose that you wanted to construct a standard index that reflected R's overall use of the program. You could simply create a new field for the index and add up R's responses to the first seven items. The following rule definition would suffice:

```
<rules>
{UI>} =  A3a + A3b + A3c + A3d + A3e + A3f + A3g end
<end>
```

One drawback to this approach, however, is that, according to the original codes attached to the responses, R's with heavy use of T/Maker's various abilities will be assigned low scores whereas R's with lighter use of abilities will be assigned high scores. This makes analysis awkward. Hence, it's a good idea to "recode" the data.

A simple procedure is to create a series of new, recoded variables based upon the original series. The following rules definition would accomplish this:

```
<rules>
A3aR = 6 - A3a end
A3bR = 6 - A3b end
A3cR = 6 - A3c end
A3dR = 6 - A3d end
A3eR = 6 - A3e end
A3fR = 6 - A3f end
A3gR = 6 - A3g end
<end>
```

This procedure will convert 5's to 1's, 4's to 2's, etc. You can also use the new, recoded variables in other analyses in which the direction of the values will clarify your results.

If, incidentally, you have no particular need for these recoded individual variables, then you can take the following shortcut to recoding your index:

```
<rules>
{UI>} =  42 - (A3a + A3b + A3c + A3d + A3e + A3f + A3g) end
<end>
```

The above rule, of course, accomplishes exactly the same thing as summing the recoded variables.

You may find it helpful to score your index so that R's scores reflect the range of the original variables that went into it. In the following rule definition, for example, the index scores will range from 1.00 (low use) to 5.00 (high use):

```
<rules>
{UI>} =  (42 - (A3a + A3b + A3c + A3d + A3e + A3f + A3g))/7 end
<end>
```

6. *Typologies.* A "typology" is a new variable that derives its values from the cross-classification of two (or more) other variables. For example, suppose that you wished to create a typology that reflected the respondent's joint use of word processing and spreadsheet abilities. The codes of the new variable might look like this:

| | | Word Processing Use: High | Word Processing Use: Low |
|---|---|---|---|
| Spreadsheet Use | High | 1 | 2 |
| | Low | 3 | 4 |

The following rule definition shows how this typology could be constructed:

```
<rules>
TYP1 = 1 when A3a <= 2 and A3c <=2 end
TYP1 = 2 when A3a >= 3 and A3c <=2 end
TYP1 = 3 when A3a <= 2 and A3c >=3 end
TYP1 = 4 when A3a >= 3 and A3c >=3 end
<end>
```

Don't forget to add a TYP1 field to the record and field definitions!

7. *Running Tables.* Running tables on variables is a snap.

CREATE a file named TAB, outfit it exactly as follows, and SAVE it:

```
select data end compute 4 tally it 10 15 18 23 26 31 34 39 end
<record>
+ +       {xxx>}  {xxx>}  {xxx>}  {xxx>}
<end>
example  xxx.xx  xxx.xx  xxx.xx  xxx.xx
zv
=
  avr
```

This is a powerful little file. It's easy to use:

1) GET the file.

2) Enter the editor. Fill-in the names of the variables you want to tabulate in the fields containing x's.

3) Home the cursor, quit the editor, and give the DO command.

T/Maker will now:

1) Bring over the appropriate data from your data file.

2) Compute the sum and the average values for each variable.

3) Cross-tabulate the variables.

Suppose, for example, that you wished to tabulate one variable, A1. (A one variable tabulation, incidentally, is called a "marginal.") After going through the aforementioned steps your working file will look like this:

```
<record>
+ +       {A1 >}   {xxx>}   {xxx>}   {xxx>}
<end>
TALLY IT 10 15 18 23 26 31 34 39 END

  1.00:       :       :        =      2
  2.00:       :       :        =      3
  3.00:       :       :        =      2

example  xxx.xx  xxx.xx  xxx.xx  xxx.xx
zv
..<here>
+ +         3.00
+ +         1.00
+ +         2.00
+ +         2.00
+ +         3.00
+ +         1.00
+ +         2.00
=          14.00
  avr       2.00
```

The record definition reports which variable was tabulated, A1. The three lines below the TALLY IT line report A1's frequency distribution. The portion of the file below the example line reports the actual data and the variable's sum and mean values.

# PRINT.UTL FOR THE PANASONIC KX-P1091 PRINTER

*-- William D. Eldred, Ph. D.*

This is the print.utl table for the Panasonic KX-P1091 printer. it is a good, versatile printer which can be set for letter quality or high speed printing using an external switch. However, it won't support sub- or superscript in letter quality. By using these print commands, you can easily switch it in and out of letter quality so you can do subscripts, etc. T/Maker makes this easy.

Here is the file:

PRINT.UTL

---

| Printer Codes: | | | To get this: | Type HIGH BIT CHARACTER and LETTER: |
|---|---|---|---|---|
| 210 | 27 64 | 128 | Reset | R |
| 215 | 27 87 1 | 128 | double width on | W |
| 247 | 27 87 0 | 128 | double width off | w |
| 195 | 15 | 128 | condense on | C |
| 227 | 18 | 128 | condense off | c |
| 194 | 27 69 | 128 | bold | B |
| 226 | 27 70 | 128 | bold off | b |
| 211 | 27 83 0 | 128 | superscript on | S |
| 243 | 27 83 1 | 128 | subscript on | s |
| 239 | 27 84 | 128 | super/sub off | o |
| 196 | 27 71 | 128 | double print on | D |
| 228 | 27 72 | 128 | double print off | d |
| 213 | 27 45 1 | 128 | underline on | U |
| 245 | 27 45 0 | 128 | underline off | u |
| 201 | 27 52 | 128 | italics on | I |
| 233 | 27 53 | 128 | italics off | i |
| 208 | 27 80 | 128 | pica pitch | P |
| 197 | 27 77 | 128 | elite pitch | E |
| 240 | 27 111 | 128 | proportional pitch | p |
| 204 | 27 110 | 128 | letter quality | L |
| 236 | 27 80 | 128 | letter quality off | l |

# VISICALC TO T/MAKER: THE FINAL BATTLE?

*Last discussion, we used T/Maker's Frame Mode to draw a border around a spreasheet (so that it would look like a more traditional table). We also learned how to effectively do row equations with T/Maker. This final (perhaps!) section covers column borders, constants, passing values, and a few more useful topics for veteran VisiCalc users lost in the T/Maker spreadsheet world.*

## RENAMING COMPUTE

A very simple way to make T/Maker's spreadsheet easier to use is to rename T/Maker's COMPUTE.TMK command to C.TMK. (That way, you will only have to type C at the WHAT NEXT? prompt instead of COMPUTE.)

You will have to do this through your computer's operating system - and have about 15K of free space on your command disk. (I'm assuming your T/Maker Command Disk is in Drive A.)

The CP/M command is: `A> pip a:C.TMK=a:COMPUTE.TMK <enter>`

The MS-DOS command is: `A> copy a:COMPUTE.TMK a:C.TMK <enter>`

## CREATING COLUMN BORDERS

Ever wish T/Maker had column borders? Here's a "quick & dirty" way to border T/Maker columns.

We'll place a single digit model number to the left and to the right of the column we want bordered.

Next, we'll define as "zero values" (on the Zero Value Line) our bordering character.

Because we will never enter any values under the two new single-digit models numbers, the zero value characters will appear.

Below is an example of what I'm talking about:

```
EXAMPLE         X  A,AAA  X        X  B,BBB  X

ZV              |  -----  |        |  -----  |

+               |  1,995  |        |    995  |
+               |  2,995  |        |  1,995  |
+               |  3,995  |        |  2,995  |
+               |  -----  |        |  -----  |
=               |  8,985  |        |  5,985  |

EXAMPLE
```

CONSTANTS

Adding, subtracting, multiplying, dividing, or setting a column equal to a constant value is simple with a Constant Row Equation.

A Constant Row Equation begins with a row code and row code number, but is followed by the operation you want the constant to perform. The constant is placed under the column you want the constant to operate on.

For example, the following Constant Row Equation will multiply the column by 5.

```
Before COMPUTE                    After COMPUTE

Example    AAA                    Example    AAA

acl*         5                    acl*         5

+            5                    +           25
+           10                    +           50
+           15                    +           75

Example                           Example
```

The next constant example sets the BBB column to 10.

Before COMPUTE

| Example | AAA | BBB | CCC |
|---|---|---|---|
| ac1= | | 10 | |
| ac2 | + | * | = |
| + | 2 | | |
| + | 4 | | |
| + | 6 | | |

Example

After COMPUTE

| Example | AAA | BBB | CCC |
|---|---|---|---|
| ac1= | | 10 | |
| ac2 | + | * | = |
| + | 2 | 10 | 20 |
| + | 4 | 10 | 40 |
| + | 6 | 10 | 60 |

Example

A final example moves the AAA column to a new BBB column, then multiplies the value by 1.10 to find what a 10% increase would yield.

| Example | AAA.AA | BBB.BB |
|---|---|---|
| ac1 | + | = |
| ac2* | | 1.10 |
| + | 100 | 110 |
| + | 200 | 220 |
| + | 300 | 330 |

Example

## INCREMENTS & BALANCES - PASSING VALUES

Here's a simple routine for doing increments. Suppose we wanted to increment years - that is, we only want to enter the first year, and have T/Maker enter additional years for each + row in a table.

The first Constant Row Equations (jc1) asks T/Maker to set the very next row of data equal to 1984.

The second Constant Row Equation (ac2+) asks T/Maker to add the value 1 to every row of data.

The PASs Row Equation (ac3) asks T/Maker to "pass" the value for the current "cell" to the "cell" immediately below it.

```
Example   aaaa

jcl=      1984
ac2+         1
ac3         pas

+         1985
+         1986
+         1987
+         1988
+         1989
+         1990

Example
```

**RESULT + RESULT = NEW RESULT**

Did you know that two "result" terminators on the same line actually return the summed result of those terminators?

In the example below, T/Maker first computes the 100 * .25 vertical equation (and places the answer on the "=" row). Next, T/Maker simply moves the 100 value down to the "=" row -- but, because there is another "=" sign on that row, T/Maker SUMS the two values, and places the result (25+100=125) on the "=" row.

```
          BEFORE                              AFTER

Example   AAA.AA                  Example     AAA.AA
+ +       100.00   1985 Profit    + +         100.00   1985 Profit
*           0.25   25% Increase   *             0.25   25% Increase
= =                1986 Profit    = =         125.00   1986 Profit
Example                           Example
```

**THE END?**

Hopefully, this "Visicalc-to-T/Maker" series has been helpful in making the transition between cell-based spreadsheets and free-form spreadsheets. If you have any particular spreadsheet application that you'd like to see, just drop us a line and we'll solve your spreadsheet problem in T/Mug!

## T/MAKER INTERFACE KIT NOW AVAILABLE FOR PROGRAMMERS TO WRITE THEIR OWN COMMANDS

Users of the MSDOS and CP/M86 versions of T/Maker can now write their own commands (.TMK files) in C. An interface kit is available for $395 from us. It includes the information about T/Maker that you will need as well as the necessary parts of Computer Innovations C86 Compiler and Linker (Version 1.31).

While this is probably not the place for beginners to learn to program, a C programmer should have no problem writing new commands to go through the working file or read a file from disk. You can use T/Maker subroutines for console input and output as well as many other standard operations.

Computer InNovations will not update this version of their compiler to their latest version, so it's use is pretty much restricted to preparing new T/Maker commands. Unfortunately, you can not user other C Compilers you may already have, because C86 uses its own special linker to prepare overlays.

If you are running T/Maker under MSDOS, please make sure that you have the latest version (4.03) with the PATH Command. The Interface Kit will not work with versions 3.02 or 4.01. For CP/M 86, all versions since 3.02 are covered by the same kit.

There are no dealer discounts for this product, since we must pay a fixed license fee to Computer Innovations for including their compiler. You can mail us a check or order by phone against a Visa or Mastercard. Please allow us a little extra time to get the package to you, since we need to get diskette labels from Computer Innovations and do not always have them in stock.

---

## EARN FAME, TRINKETS, AND T/MUG SUBSCRIPTIONS!

We encourage you to send us articles (on disk!!!) about how you are using T/Maker. You can help other users as well as earn your choice of either the latest T/Maker trinket (pens, mugs, teeshirts, etc) or the T/MUG back issues of your choice -- or even another one-year's subscription to this famed publication. Be sure to note on the diskette what computer format it is written in. Send diskettes to Heidi Roizen at the address on the back of the magazine. Any and all applications -- no matter how specific, simple, complex, or just plain off-the-wall -- are greatly appreciated.

---

# T/MAKER ROOM SCHEDULER AVAILABLE

Anybody out there trying to use T/Maker for room scheduling? We've taken a quick look at the problem of scheduling rooms and have come up with a menu-driven "mini-room scheduler" for the IBM PC and compatibles. In general, the scheduler can handle 16 rooms in one week increments. Of course, knowing T/Maker allows you to modify and customize the mini-application. If you're interested in this mini-application, send in a formatted PCDOS disk and $10 to the T/Maker address on the back of the magazine and we'll ship it out to you ASAP!

Below is a sample of a room's weekly print-out.

ROOM: 101 CAPACITY:
TABLES:
WEEK: 12-12 to 12-18 CONTACT:

| | 12-12 SUN | 12-13 MON | 12-14 TUE | 12-15 WED | 12-16 THU | 12-17 FRI | 12-18 SAT |
|---|---|---|---|---|---|---|---|
| 7A | | Physics | | Physics | | Physics | |
| 8A | | Math 101 | | Math 101 | | Math 101 | |
| 9A | | German | Economics | German | Economics | German | Track |
| 10A | | French | Marketing | French | Marketing | French | Track |
| 11A | | Art | | Art | | Art | Track |
| 12A | | Lunch | Lunch | Lunch | Lunch | Lunch | |
| 1P | | Geology | Literature | Geology | Literature | Geology | |
| 2P | | History | Ind.Study | History | Ind.Study | History | Tennis |
| 3P | | Track | Ind.Study | Track | Ind.Study | Track | Tennis |
| 4P | | Track | Ind.Study | Track | Ind.Study | Track | Swimming |
| 5P | | | | | | | Swimming |
| 6P | | PTA | | PTA | | PTA | |

# REAL ESTATE TRACKING WITH T/MAKER

*-- Robert K. Scott*

*Editor's Note: Robert Scott sent us this application in the hopes that he could find other people using T/Maker for real estate. This application uses only the features of T/Maker III -- using load and unload for database-type information.*

*I'm sure someone out there is using our database features to automate the real estate management process. If you are, please send me a copy of your solution (on disk!) for a future issue of T/MUG.*

The following is a real estate management program. The three files needed are labeled REALOAD.GRD, REAL.GRD and REALOAD.MT. To use it, put your data into REALOAD.MT (the blank template file), rename it REALOAD.GRD and SAVE it. Then, simply get REAL.GRD and DO.

This is the file REALOAD.MT:

---

```
                Date  5/15/85                          FROM THE COMPUTER ROOM
              **********************                     ROBERT K. SCOTT
               REAL ESTATE ANALYSIS                      3870 SPYGLASS HILL ROAD
              **********************                     SARASOTA, FL 33583

Address of property   ='3680 SPYGLASS, SARASOTA, FL 33685'

OWNER                 =  'ROBERT K. SCOTT'

HC                    =                (HOUSE COST)
RENT                  =                (RENT)
DP                    =                (DOWN PAYMENT)
FM                    =                (FIRST MORTGAGE)
SM                    =                (SECOND MORTGAGE)
ADV                   =                (ADVERTISING)
CIV                   =                (CIVIC ASSOCIATION)
CLEAN                 =                (CLEANING SERVICES)
INS                   =                (INSURANCE)
LEG                   =                (LEGAL & ACCOUNTING)
MANT                  =                (MAINTENANCE)
MANG                  =                (MANAGEMENT)
TAXES                 =                (TAXES)
UTIL                  =                (UTILITIES)
INT1                  =                (INTEREST ON FIRST)
INT2                  =                (INTEREST ON SECOND)
PINC1                 =                (PRINCIPAL ON FIRST)
PINC2                 =                (PRINCIPAL ON SECOND)
```

---

This is the file REALOAD.GRD: (REALOAD.MT after data has been entered)

```
                Date  5/15/85                          FROM THE COMPUTER ROOM
              **********************                     ROBERT K. SCOTT
               REAL ESTATE ANALYSIS                      3870 SPYGLASS HILL ROAD
              **********************                     SARASOTA, FL 33583

Address of property   ='3680 SPYGLASS, SARASOTA, FL 33685'

OWNER                 =  'ROBERT K. SCOTT'

HC                    = 40000.00        (HOUSE COST)
RENT                  = 350.00          (RENT)
DP                    = 4000.00         (DOWN PAYMENT)
FM                    = 32000.00        (FIRST MORTGAGE)
SM                    = 4000.00         (SECOND MORTGAGE)
ADV                   = 60.00           (ADVERTISING)
CIV                   = 100.00          (CIVIC ASSOCIATION)
CLEAN                 = 100.00          (CLEANING SERVICES)
INS                   = 100.00          (INSURANCE)
LEG                   = 150.00          (LEGAL & ACCOUNTING)
MANT                  = 300.00          (MAINTENANCE)
MANG                  =                 (MANAGEMENT)
TAXES                 = 700.00          (TAXES)
UTIL                  = 20.00           (UTILITIES)
INT1                  = 2560.00         (INTEREST ON FIRST)
INT2                  = 450.00          (INTEREST ON SECOND)
PINC1                 = 257.67          (PRINCIPAL ON FIRST)
PINC2                 = 341.01          (PRINCIPAL ON SECOND)
```

This is the file REAL.GRD:

```
LOAD B:REALOAD.GRD COMPUTE COMPUTE COMPUTE PRINT NONSTOP IT
.top
                                      17B}REAL.GRD       PAGE #

          Date  3/15/85                          FROM THE COMPUTER ROOM OF;
        **********************                   ROBERT K. SCOTT
         REAL ESTATE ANALYSIS                    3870 SPYGLASS HILL ROAD
        **********************                   SARASOTA, FL 33583

              Address of property {Address of property                    }

                 OWNER             {OWNER                                 }
.end
```

*-- This file continued on next page*

```
.clean
ex                                    99,999.99    99,999.99  999,999.99
zv
jcl                                    stg                        stt
jc2                                    +              *           =
+           * HOUSE COST              {>HC      } *     0.80
jcl                                       sts                     stm
jc2                                       +           *           =
+           * RENT                     {>RENT    } *    12.00
jcl                                     ftg                       stl
jc2                                     +             *           =
+           * CLOSING COST                             0.05              *
jcl                                     ftm
jc2                                     +             *           =
jc3                                                               stp
+           * VACANCY                                  0.05              *

ex                                    9,999,999.99
zv
jcl                                      ftg
+              PURCHASE PRICE
jcl                                      str
+              DOWN PAYMENT             {>DP      }        10%
               FIRST MORTGAGE           {>FM      }         @ 8% 30 YRS
               SECOND MORTGAGE          {>SM      }         @ 11% 8 YRS
                                       -------------
jcl                                        ftm
  +            GROSS INCOME
jcl                                        ftp
  -            VACANCY
                                        ------------
 +=            GROSS OPERATING INCOME

   +           ADVERTISING              {>ADV     }
   +           CIVIC ASSOCIATION        {>CIV     }
   +           CLEANING SERVICES        {>CLEAN   }
   +           INSURANCE                {>INS     }
   +           LEGAL & ACCOUNTING       {>LEG     }
   +           MAINTENANCE              {>MANT    }
   +           MANAGEMENT               {>MANG    }
   +           TAXES                    {>TAXES   }
   +           UTILITIES                {>UTIL    }
                                        ------------
 - =           TOTAL EXPENSES

 =   +         NET OPERATING INCOME
```

*-- This file continued on next page*

```
.new

                LESS LOAN PAYMENTS:
     +          INTEREST ON FIRST    {>INT1     }    RUN AMORT.COM TO GET
     +          INTEREST ON SECOND   {>INT2     }    THIS AMORTIZATION
     + +        PRINCIPAL FIRST      {>PINC1    }
     + +        PRINCIPAL SECOND     {>PINC2    }
                                     ----------
     =-         TOTAL LOAN PAYMENT
jc2                                        sta
      =+        GROSS SPENDABLE INCOME
jc2                                        stb
+       =        GROSS EQUITY INCOME
ex                                  99,999.99 99,999.99   999,999.99
jc1                                        fta
jc2                                         +          /        =
+            *   PAYMENT PER MO.                      12.00              *
jc1                                         fts                   stm
jc2                                         +             *        =
+            *   RENT   PER YR                        12.000             *
jc1                                         ftt                stc
jc2                                          +          /        =
+            *   DEPRECIATION                         30.00              **
jc1                                       ftc
jc2                                         +          *        =
jc3                                                              std
+            *   GOVT ALLOWANCE                        1.25              *
jc1                                         ftg
jc2                                         +          *        =
jc3
jc4                                                                sth
+            *   8% GROWTH PER YR                      0.08              *
jc1                                         ftd
jc2                                         -          +          =
jc3                                                    ftb
+            *   TAXABLE INCOME                                         *
jc1                                         ftr
jc2                                         +          +          =
jc3                                                    ftl
jc4                                                              stq
+               DOWNPAYMENT + CLOSING

jc1                                         fth        ftq
jc2                                         +          /          =
jc3
+            *   % RATE OF RETURN                                       *
                  per YEAR
       CLOSING COST = ABOUT 5% OF PURCHASE PRICE
       THE HOUSE REPRESENTS 80% OF THE VALUE
       NET EQUITY INC./(DOWN PAYMENT + CLOSING COST)X 100 = % RATE OF RETUR
       **  DEPRECIATION = PURCHASE PRICE X 80% = DEP / 30YR = 1YR
```

The file REAL.GRD after executing the DO line:

```
                                17B}REAL.GRD       PAGE 1

          Date  5/15/85                          FROM THE COMPUTER ROOM
         **********************                  ROBERT K. SCOTT
          REAL ESTATE ANALYSIS                   3870 SPYGLASS HILL ROAD
         **********************                  SARASOTA, FL 33583

          Address of property 3680 SPYGLASS, SARASOTA, FL 33685

             OWNER              ROBERT K. SCOTT
* HOUSE COST                40,000.00 *       0.80    32,000.00
* RENT                         350.00 *      12.00     4,200.00
* CLOSING COST               40,000.00         0.05     2,000.00 *
* VACANCY                                      0.05              *

   PURCHASE PRICE              40,000.00
   DOWN PAYMENT                 4,000.00       10%
   FIRST MORTGAGE              32000.00         @ 8% 30 YRS
   SECOND MORTGAGE              4000.00         @ 11% 8 YRS
                              ----------
   GROSS INCOME
   VACANCY
                              ----------
   GROSS OPERATING INCOME

   ADVERTISING                     60.00
   CIVIC ASSOCIATION              100.00
   CLEANING SERVICES              100.00
   INSURANCE                      100.00
   LEGAL & ACCOUNTING             150.00
   MAINTENANCE                    300.00
   MANAGEMENT              {M
   TAXES                          700.00
   UTILITIES                       20.00
                              ----------
   TOTAL EXPENSES               1,530.00

   NET OPERATING INCOME        -1,530.00
```

Date 5/15/85
**********
REAL ESTATE ANALYSIS
**********

FROM THE COMPUTER ROOM
ROBERT K. SCOTT
3870 SPYGLASS HILL ROAD
SARASOTA, FL 33583

Address of property 3680 SPYGLASS, SARASOTA, FL 33685

| | | | | |
|---|---|---|---|---|
| | OWNER | ROBERT K. SCOTT | | |
| | LESS LOAN PAYMENTS: | | | |
| | INTEREST ON FIRST | 2,560.00 | RUN AMORT.COM TO GET | |
| | INTEREST ON SECOND | | THIS AMORTIZATION | |
| | PRINCIPAL FIRST | 257.67 | | |
| | PRINCIPAL SECOND | ( | | |
| | TOTAL LOAN PAYMENT | 2,817.67 | | |
| | GROSS SPENDABLE INCOME | -4,347.67 | | |
| | GROSS EQUITY INCOME | -4,090.00 | | |
| * | PAYMENT PER MO. | -4,347.67 | 12.00 | -362.31* |
| * | RENT PER YR | 350.00 | 12.000 | 4,200.00* |
| * | DEPRECIATION | | 30.00 | ** |
| * | GOVT ALLOWANCE | | 1.25 | * |
| * | 8% GROWTH PER YR | 40,000.00 | 0.08 | 3,200.00* |
| * | TAXABLE INCOME | | -4,090.00 | * |
| | DOWNPAYMENT + CLOSING | 4,000.00 | | 4,000.00 |
| * | % RATE OF RETURN per YEAR | 3,200.00 | 4,000.00 | 0.80* |

CLOSING COST = ABOUT 5% OF OF PURCHASE PRICE
THE HOUSE REPRESENTS 80% OF THE VALUE
NET EQUITY INC./(DOWN PAYMENT + CLOSING COST)X 100 = % RATE OF RETURN
** DEPRECIATION = PURCHASE PRICE X 80% = DEP / 30YR = 1YR

## T/Maker Consultants

T/Maker consultants are T/Maker specialists who are willing to consult on your applications for a fee. Rather than listing all consultants every time, we will begin with this issue listing only a few, complete with their industry or application specialization. Please contact them directly for any further information on their work.

If you are interested in being listed as a consultant, please send us your applications (on paper and on disk) and a brief statement about your area of specialization.

| | |
|---|---|
| Don Baack<br>6495 S.W. Burlingame<br>Portland, OR 97201<br>(503) 244-2741<br>TELEX 277331 SMA UR | Manufacturing; operations analysis; cost accounting; inventory control; timber and wood products. |
| Dick Danielson, President<br>Strategic Advisory Consultants, Inc.<br>P.O. Box 137<br>Star Prairie, WI 54026<br>(715) 248-3434 | Fully integrated accounting system including general ledger, financial statements, accounts receivable, account analysis, operations analysis. Multiple divisions, accounts, and ledgers can be accommodated. |
| Gus Korman<br>English Only Computer Co.<br>5222-1 Lindley Ave.<br>Encino, CA 91316<br>(818) 344-2422 | Accounting system including many of the most popular accounting modules. |
| Ron Roizen<br>2011 Francisco Street<br>Berkeley, CA 94709<br>(415) 549-0103 | Automating smalll businesses, including accounts receivable/billing, mail-order accounting and inventory. Survey research, tracking organization membership, dues. Also training and documentation. |
| Elyse Sommer<br>Box E, 962 Allen Lane<br>Woodmere L.I. NY<br>(516) 295-0046 | Business communications specialist. Text-related data base use; custom macros with keyboard enhancers; on-screen writing "helpers" for correspondence, reports, manuals; fact sheet outlines; phrase files; boiler plate. |
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If you found this issue useful, you might want to consider picking up the back issues. T/Mug has been published since 1982, each issue aiming for a mix of articles for the novice T/Maker user through the expert.

The T/Mug also serves as a forum for users of particular machines and in particular industries. We try to include the applications most requested in letters and phone calls. Past issues have included: invoices, checking account management, statistics, personalized form letters, transferring data files, inventory, tracking athletic events, time calculations, and many more. The applications, like the product, have evolved over the years, so you may find the more recent issues to be of more value.

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