TEX in México

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ABSTRACT

Since 1985, Aurion has been a leading supplier of typesetting solutions in Mexico, with applications ranging from simple word processing, to magazines and books, encyclopedias, product catalogs, directories, and ending with the massive Presidential Inform. Most of these are TEX-based solutions, where Aurion develops the macros, and accessory programs, installs the system and trains the production personnel.

Examining some of these complex publications, we will show the problems encountered, and show how we go about making the whole cycle succeed: from convincing the production managers to use TEX, to finally achieving the output they wanted. We will also examine some cases where we do *not* recommend TEX, and mention the limitations of TEX we have run into.

1. Introduction

TEX has had considerable success in Mexico, perhaps helped by the fact that it is pronounced exactly like MÉXICO in Spanish: *may'-he-coh*.

In most cases, the success has been in understanding the users' needs, then providing them with a complete solution: selecting and installing the system, writing special macros with documentation, developing special utilities like word processor converters, training the production personnel, telephone support, and anything else that is needed. The applications are varied and the solutions are quite satisfactory.

Section 2 describes the more challenging and interesting TEX projects we have encountered; Section 3 talks about how we have managed to make them successful; and finally, Section 4 lists some of the major limitations that TEX has for commercial applications.

2. Case Studies of TEX Applications

The simplest TEX application in Mexico is as a word processor, with a set of macros that allow fifteen or twenty effects (center line, change font, etc.) and prevent the user from receiving any unpleasant error message; this is of course a very limited system, but the easiest one to learn (training took half an hour) for the very high typographic quality it gives. This is used by one of the secretaries of the President of Mexico to type speeches, memos, invitations, to label envelopes, and other office applications.

Many other applications are being pursued in Mexico, from magazines to advertisements to commercial typesetters. We have selected the most significant and describe them in the next four subsections.

2.1 Electronic Publishing — Databases

More recently, this has been called "database publishing". It is a technique to obtain a camera-ready original as automatically as possible from a database, avoiding re-typing the text, eliminating manual

markup and pasteup, etc. The idea is very simple: given a format and macros, export the records from the database with the macro calls embedded; then compose and do only minor manual corrections. The important part is that the publishing part becomes more or less automatic and transparent, and the user from then on has to worry only to keep his data updated.

We have developed a dozen similar applications, of which the more interesting are:

Bibliografía Mexicana, National Library of Mexico

This was the first database publication we undertook. It is a bi-monthly publication made from a database in a minicomputer; originally, the text was printed on an impact printer, re-typed again on a composer machine and then pasted up manually. When we started the project, the publication was a couple of years behind schedule.

The solution was simple enough: connect a PC to the mini to download the data with the proper markup, and then compose and print camera-ready output to a laser printer. The only difficult part was to take care of the many rules of spacing, fonts and breaks to make the output resemble the Library of Congress format (see Figure 1), then automate the running heads, index and table of contents. As a mere experiment, we also produced catalog cards (see inset in Figure 1).

Membership Directory, American Chamber of Commerce of Mexico

The directory is similar to the previous one, but in the last phase the user had to add invocations to macros to leave space for advertisements (quarter, half, whole page) and to balance the last page of each section. There were many problems having to do with `Overfull hbox`, because uppercase hyphenation was forbidden due to the mixed appearance of many proper names in Spanish or other languages (see Figure 2).

The first year, the user complained sourly of the time it was taking to get the directory done, not seeing that it required macro and database development. The second year, one operator produced the whole 200-page directory in a few days.

J.T. Baker Catalog

This is a 400-page product catalog produced on an annual basis only, due to its complexity. Initially, the user attempted producing it with an interactive DTP[1] program, only to discover it took him more time than to do it manually, even though it required pen drawing and rub-on letters for some of the symbols. This is a very good example of the kind of publication made best with TeX automation, although it appears to require a lot of manual tune-up.

Besides the obvious complexity of the pages (see Figure 3), there were other major challenges:
  - Each group is a chemical product; it can be broken from a column to the next, but not over pages.
  - There are certain rules for vertical spaces, but not all groups have the same elements.
  - Chemical formulas have links on top or below or both.
  - The dot fill from *Producto* to *Pureza* must always appear; if either is too long, the line must be broken and the dot fill begin at the left margin.

Currently, production of the whole catalog is truly a matter of hours, to the delight of the user: not only for the incredible savings in typesetting, but also because it is the kind of publication that needs to be done frequently, due to changes in products and prices.

2.2 Electronic Publishing — Automation

Calendar, Sistemex

This is a yearly calendar (see Figure 4) with space for appointments; it shows the current day and week number, the days left, the current month's calendar on even pages, and next month's on odd. At the top of each day, it shows events celebrated that day. Final printing takes place in two colors.

All of this is wholly automated, using programs that compute the calendar, pull out the events out of a database, and with a special output driver that produces two pages for the different color plates.

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[1] "DTP" is the current acronym for "Desktop Publishing –Ed.

The publisher reported spending two weeks of production time for every month of the calendar, when it was done with traditional methods. He now spends two hours.

Study of Operations, Mexican Association of Stock Brokers
A monthly financial report with tables and histograms (Figure 5). Starting with a spreadsheet program to print the data to disk, a collection of special programs take on from there. One parses the columns and with a given scale (thousands, millions), computes the histogram, then the table shown at the lower left is typeset, selecting the first five that are in turn set into the small table on the upper right (overlapped onto the histogram). The programs produce a TeX file that is next \input into a master file, which is then processed and printed.

Current production currently takes literally a few minutes.

2.3 Standard Formats

Encyclopedia of Mexico
Although it is a fourteen-volume work, with six hundred pages per volume, this is actually a fairly simple two-column publication, because for this edition relatively few photographs were inserted. It is a good example of what can be automated with a set of two dozen macros, some of them even invisible (such as boldface characters that were entered in the word processor); it is the most common kind of application and solution that we have installed.

The difficulties for the macros were in the placement of figures (a space was left and the photograph was pasted up latter), since it required, for instance, that a page with a two-column photograph would not simultaneously contain a one-column photograph, and similar placement rules. It also required that lines would match from one column to the other, forcing all vertical dimensions to be multiples of the leading and preventing TeX from expanding \parskip glue, thus in turn creating widow lines, which the user fixed by adding a word or two. It is worth mentioning that the user had a terrible time trying to get tables done right; when they were typesetting the Encyclopedia, the Ampersand utility mentioned in Section 3 was not available.

The whole work is now finished; it took the publisher one laser printer, three PCs, and about a month to complete each volume from typing to proof correction to camera-ready originals.

2.4 Presidential Inform

This annual Inform[2] is the most ambitious project we have undertaken. It consists of two thousand legal size, landscape pages, with about 70% of them with intricate tables (see Figures 7 and 8), for which TeX's \halign just would not work.

To complicate things further, the production of the whole report takes place in about two months. The data comes in all formats imaginable, from typewritten text to any number of word processor or spreadsheet formats, to mainframe databases. The markup had to be extremely simple, due to the technical level of the operators involved in the project. Finally, both the TeX processing and the printing had to be very efficient, which did not permit using one of the few available macro packages for tables.

There were a number of formidable challenges for TeX:
- Table contents are many pages long.
- Table heads have over 60 different designs on several levels, with variable heading text.
- There are side notes, with automatic numbering somewhere in the table or heading, with numbering reset to 1 on each page. Sometimes this note is repeated over several pages or the whole chapter.
- In some columns (e.g., *Unidad de Medida*), when the word is repeated, a quote is inserted, but at the begining of page the repeated word should appear wholly.
- Table contents sometimes have a simple linear structure (Figure 7), but others have a tree-like structure (Figure 8), with main paragraphs (to the very left) having sub-items and these in turn sub-sub-items.

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[2] Consisting of a speech read by the President of Mexico the first day of September, and nine annex volumes with information about the Secretariats, budgets and similar information.

The project was ready in time before September first last year after developing the following:

- A utility to design interactively the more than 60 table heads and be able to modify them quickly to the user's specifications. This produced TEX files to be used later.
- About 30% of the work utilized 58 of those formats, with linear structure and a markup simple enough to be made with a standard word processor.
- The other 70% was for 2 kinds of tables, that in Figure 7 (simple) and that in Figure 8 (complex); for one or other reason, neither could be marked up efficiently with a text editor and so we developed database and data entry programs to aid in the process. This program then automatically produced TEX files with all necessary macro invocations.

The necessary TEX macros are rather long and complicated to be even begun to be described here.

3. The Whole Cycle

At the dawn of Desktop Publishing, there was a joke about laser printouts. Production managers would say they were plain "trash", while finance managers, learning of costs, would say they were "not bad trash". Back in 1985, when we started showing TEX printouts to professional typographers, they were very pleased with the many capabilities of TEX on pagination, justification, math typesetting, and of course lower costs. But they were dismayed by other aspects: difficulty to learn, low quality laser printouts, non-standard fonts, etc.

Some things that are obvious to academic users are not to commercial users. For example, entering formulas like:

$$\int_0^Q \infty\ f(x)\,dx$$

instead of entering symbols in a special keyboard, requires some knowledge of math, which many excellent typists lack. Or the accents: having to type `as\i\␣` instead of `así`, as it appears in a PC screen, and as is handled by many word processors is unacceptable for production work. Or the fonts: the Computer Modern fonts have their merits, but they are no substitute for the many classic and widely-used font designs. We realized this and similar things when we installed the first systems outside of universities.

The first task was to develop a hyphenation algorithm for Spanish, which turned out to be quite simple, since accents do not affect Spanish hyphenation, and since the exception dictionary is small; it works rather well, except for the fact that TEX will not hyphenate words in the vicinity of an accent. Next, for the accents, we managed to convince Personal TEX to produce a non-standard TEX that could input files with PC extended characters and translate them to control sequences (á to \'a), a true relief to typists and correctors. We did not attempt to translate the thousands of TEX control sequences nor the *TEXbook*, since people technical enough to understand it would be proficient enough in English to read it.

The second task was to develop a set of macros that had the basic things needed in any publication, as an addenda to `plain`: all kinds of paragraph shapes, boxed text, multi-column (two to thirteen) output with optional balancing, formats for letters, inclusion of images, optional but very precise crop marks, etc. All of this is written in a way that allows easy customization for different applications; for example, the `\footnote` macro is written with about ten parameters affecting the vertical spacing between them, the font used for text and numbering, leading, paragraph shape, etc. As well, many rather fancy `\output` routines can be written in 10 lines, with high precision in the positioning of headers, text box and other elements of the page. This set of macros is essentially a re-write of the old Fácil-TEX macro package (written for TEX-78 in 1980–81) that circulated in the public domain.

Documentation for this and for the basic control sequences of `plain` was written in Spanish, and a three-day (12 hour) hands-on course was designed to teach it all. After this training, most users can do simple things and can use the *TEXbook* as a reference. Users ranged from university professors, to phototypesetter operators, to people who had to be told how to insert a floppy disk into a PC. In general, about 75% of these are still happily TEXing, and many have trained other users.

Having finished this training, we started work with users on their particular applications, sometimes doing the macro development in their presence for their additional understanding. We usually supervised closely the production of their first documents until both were satisfied. After this, we seldom received further requests for major help, only occasional questions.

As for output drivers, in the early stages we developed the screen previewer MAXview, which

is very simple to use, fast, handles high-resolution monitors, and has the enormous advantage from the very first versions, to be able to use the laser printer fonts and reduce them for any screen. This program was later adapted to drive high-performance laser printer video controllers (such as Tall Tree's JLaser and LaserMaster's CAPCard); these drivers have the same functionality as MAXview, and were designed to be very fast (up to 5 pages per minute) and precise in sizes and margin positioning. They also handle legal size, landscape printing (without special fonts), Paintbrush images, can reduce pages to show 4, 9, or 16 pages per sheet for fast proofing, etc. A special version can handle a resolution of 600×300, when used with specially generated cmr fonts, or with Bitstream outlines. We also have in the works a driver that takes advantage of the laser and screen controller boards ability to scale fonts on the fly. MAXview made it outside of Mexico, but not the laser printer drivers.

As an outgrowth of the Presidential Inform project, we developed an interactive utility called Ampersand that allows designing and filling very complex tables, to the extent that users will hardly ever need to use \halign again for tables. To do it, one designs interactively the table layout, the heading, rulers, sizes, fonts, leading, etc., producing a TEX file, compatible with plain. Then with another program, the table data is appropriately marked up for insertion into the table, which may be more than one page long. Finally, both files are \input and the table is ready. The markup is made simple enough that you can even easily edit those files to change something, without needing to start over. The utility is so flexible, it even allows making flow or organization diagrams, as shown in Figure 9. A first release will be available at the time of the TUG meeting.

4. TEX Drawbacks and Limitations

TEX is an extraordinary tool, but awfully hard to use if special page layouts or complicated elements such as tables are needed. It is too much to ask a user in a commercial environment to undertake reading the TEXbook to attack applications such as those described in Section 2, or to be happy with the layouts found in a macro package such as LATEX, whose styles are probably as hard to define as in plain. We doubt that any of those applications would have been successful without extensive joint work with the users and special training for the operators. For this same reason, the least successful of our customers are in sites such as publishing houses, which constantly require many special definitions and which cannot and will not depend forever on our help.

There are other inherent limitations of TEX that we don't see how to solve without considerable effort, and are important in commercial applications:

- The \doublehyphendemerits takes care of two consecutive hyphens, but does not allow to set a maximum of three or any given number of consecutive hyphens, for example, which becomes critical in narrow text. Once, trying to set very narrow text (7 or 8pc), we had to allow more than two consecutive hyphens, but then obtained a paragraph with 20 consecutive ones! A partial solution is to increase the \hyphenpenalty and allow greater \hbadness and similar parameters.
- Even when allowing only two hyphens, TEX allows any number of adjacent lines ending in punctuation signs, something that many typographers consider unacceptable.
- Many typographers in Mexico do not allow two lines to begin or end with the same (usually short) word, like "the", and TEX has no control over this (called alley streets or rivers). Fixing this kind of thing, as the last two items, requires much effort, as you have to insert a \break, compose again, preview, and so on.
- Although not considered a very good practice in fine typography, allowing variable interletter spacing in lines is sometimes the only way to get a paragraph to right justify without re-phrasing.
- TEX does not handle tracking (changing the character widths by a uniform predefined amount, to make fonts tighter or wider), without generating a whole new tfm and fonts, or without special extensions to the program itself and to the output drivers.
- If a publication is needed with, for example, side notes to the right on odd-numbered pages and to the left on even-numbered pages, because of TEX's look-ahead algorithm, one is tempted to use macros like \ifodd \pageno... which naturally don't usually work near page breaks. Of course, there are ways around it (as in the Presidential Inform side note numbering), but usually in rather complicated and particular ways.

Other limitations of TEX have been solved by Ferguson's Multilingual version of TEX: for example, being able to specify the minimum size of a word and minimum letters at begining and end, to allow

hyphenation, and the ability to hyphenate accented words.

Given a typesetting problem, in general if it is easier to describe *how* to do it than *to do* it, we would still recommend TeX; such is the case with a straightforward text book, but not in the case of a multi-column magazine whose layout changes from issue to issue. A recent example of the first instance is the Department of Publications of the University of Mexico. Producing several dozen books per month, these are part of about only 50 collections with the same page design; macros can then be developed with similar syntax over different collections so that typists can be trained to do the initial markup, with one or two moderately educated TeXperts composing, previewing and fixing final details. Some of these collections, such as the art books, are too complicated to be handled by macros and are being produced with an interactive DTP system.

However this is rapidly changing, as many other DTP systems allow defining page layouts interactively, and markup of text with a text editor, but in the previewing phase, allow interactive modifications without going back to the original text (Ventura Publisher, for example). Nevertheless, for most applications and the solutions described in Section 2, TeX is still a good choice.

Bibliography

Knuth, Donald E. *The TeXbook*. Reading, Mass.: Addison-Wesley, 1984.

Figure 1: Bibliografía Mexicana

Ciencias sociales (300)

Educación (370)

Sociología (301)

Generalidades (371)

González Loyola, Pablo

Introducción a la teoría sociológica / Pablo González Loyola. — Querétaro : Universidad Autónoma de Querétaro, 1982.

237 p. ; 21 cm. — (Universidad Autónoma de Querétaro. Ser. humanidades. Colec. historia y sociología)

Bibliografía: p. 225-236.

1. Sociología.   I. Universidad Autónoma de Querétaro. II. t.   III. Ser.

301   83-3968

Universidad Nacional Autónoma de México. Dirección General de Servicios Médicos *(7a Jornadas Internas de Trabajo : 1982 : México, D.F.)*

Memorias / VII Jornadas Internas de Trabajo. — México : UNÁM, Dirección General de Servicios Médicos, 1982.

viii, 367 p. : il. ; 20 cm.

"25 y 26 de noviembre de 1982. Auditorio de Centro Médico Universitario, Ciudad Universitaria, D.F."

1. Universidad Nacional Autónoma de México — Asuntos sanitarios — Congresos.   I. t.

371.710672   83-3558

Pelto, Perti J.

El estudio de antropología / Pertti J. Pelto, George D. Spindler. Con un capítulo final en que se sugieren métodos a los maestros para la enseñanza primaria y secundaria / por Raymond H. Muessig y Vincent R. Rogers ; tr. Antonio Garza y Garza. — México : UTHEA, 1980.

xii, 199 p. ; 17 cm. — (Manuales UTHEA. Arte ; 356)

Traducción de: The study of anthropology.

Incluye bibliografías

ISBN 968-438-356-8

1. Antropología — Est. y ens.   I. Spindler, George D. II. Muessig, Raymond Henry.   III. Rogers, Vincent Robert, 1926—.   IV. Garza y Garza, Antonio, tr.   V. t. VI. Ser.

301   83-3897

Educación elemental (372)

Beatriz : muñeca viva : con guardarropa para todo el año [Modelo]. — México : Fernández, [197—?]

1 muñeca de cartón, 20 vestidos, trajes y abrigos, 11 sombreros y zapatos, 1 tijeras : cartón y papel, col. ; en caja, 34 x 25 x 4 cm. - (FESA ; 4276)

Modelitos.

1. Actividades creativas y trabajos preescolares.   I. Ser.

372.55   3245

Gobiernos centrales (351)

Madrid Hurtado, Miguel de la, *Pres. de México, 1934—*

Palabras del Secretario de Programación y Presupuesto Miguel de la Madrid H. en la Reunión toria del Programa de Capacitación de Empl la S.P.P. : ciudad de México, 22 de mayo — México : SPP, Dirección General de Di Relaciones Públicas, 1981.

6 p. ; 23 cm. — (México. Secretaría de Progr Presupuesto. Dirección General de Difusión y Relacio cas. Ser. intervenciones y entrevistas ; no. 75)

ISBN 968-809-262-2

1. Empleados — Capacitación — México — Alo conf. 2. México. Secretaría de Programación y Presu Personal — Dirección.   I. México. Secretaría de Pro y Presupuesto. Dirección General de Difusión y Rela blicas.   II. Reunión Evaluatoria del Programa de Ca de Empleados de la Secretaría de Programación y P (1981 : México, D.F.).   III. t.   IV. Ser.

351.7220972

Eréndira y sus trajes regionales [Modelo] : muñeca viva. — México : Fernández, [197—?].

1 muñeca de cartón, [16] trajes, 1 tijeras : cartón, papel y plástico, col. ; en caja, 34 x 25 x 4 cm. — (FESA ; 4276)

"Los más vistosos trajes típicos de México".

"Se para solita"

1. Actividades creativas y trabajos preescolares.   I. Ser.

372.55   83-3308

Wilcox, Francis Orlando, *1908– ed.*

The Atlantic community: progress and prospects. Edited by Francis O. Wilcox and H. Field Haviland, Jr. New York. Praeger [1963]

viii, 294 p. 21 cm.

"The essays ... originally appeared in a special issue of International organization ... vol. xvii, no. 3, summer, 1963."

Bibliographical footnotes.

1. North Atlantic region — Politics.   I. Haviland, Henry Field, 1919– joint ed.   II. International organization.   III. Title.

D844.W52   ◯   327   63-20149

Biblioteca Nacional   86|4| TEX

Figure 2: Membership Directory

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A

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A SUS ORDENES, S.A.   578-9348
Av. Chapultepec 57, Mezzanine
Col. Centro
Del. Cuauhtémoc
06040 México, D.F.
Lic. Fernando Yllanes Ramos, President; Paul P. Payne, Vice-President; Lic. Gerardo Salinas Baigts, General Manager.
Employment agency.
Established 1968 • Personnel 25

A. CALDERONI, S.A.   510-3887
Ayuntamiento 161
Col. Centro
Del. Cuauhtémoc
06040 México, D.F.
Alfredo Calderoni García, General Director.
Manufacturers of industrial carbon.
Established 1962 • Personnel 7

A. PALAZUELOS Y COMPAÑIA, S.C.   533-1430
Colima 114, 1er. Piso
Col. Roma Sur
Del. Cuauhtémoc
06700 México, D.F.
Alfredo Palazuelos, President; C.P. Félix Palazuelos, Director; Andrés Palazuelos, Manager.
Customs brokers, air freight, shipping containers.
Established 1920 • Personnel 200

A.B. CHANCE DE MEXICO, S.A. DE C.V.   397-1333
Camino Real de Santa Mónica 238
Col. Vista Hermosa
54080 Tlalnepantla, Méx.
Ing. Julio T. Moreno, President and General Director; C.P. Helio Rodríguez, Finance Director; Ing. Pedro Ochoa, Commercial Director; C.P. Florentino Rodríguez, Administratrive Manager; Ing. Mario Villavicencio, Materials Director.
Manufacturers of electrical capital goods.
Established 1952 • Personnel 289 • Telex 172634

A.C. NIELSEN COMPANY   395-0399
José Luis Lagrange 103, Desp. 11
Col. Chapultepec Morales
Del. M. Hidalgo
11570 México, D.F.
Apdo. Postal M-2638
06000 México, D.F.
A. Traslosheros, General Manager; J. Oviedo, Administratrive Manager; I. Chávez, Finance Manager.
Retail audits, consumer panel, advertising expenditure measurement, ad-hoc studies, special analysis.
Established 1967 • Personnel 509 • Telex 1773104

A.C. NIELSEN COMPANY DE MEXICO, S.A.   5-1022
Av. Lerdo 251 Norte
Col. Centro
32000 Ciudad Juárez, Chih.
Lic. Ovidio H. Enríquez, General Manager; Eduardo Valle, Comptroller; William Nicolai, Finance Director.
Marketing services.
Established 1969 • Personnel 10,000 • Telex 33880

A.E. VON HAUCKE, S.A. DE C.V.   533-2762
Salamanca 34, 2o. Piso
Col. Roma
Del. Cuauhtémoc
06700 México, D.F.
Ing. Juan M. del Castillo, General Director; Ing. José del Castillo, Comptroller; Lic. Pedro R. Pérez Orozco, Commercial Director.
Manufacturers of modular office furniture.
Established 1968 • Personnel 110

A.F. ROMERO & COMPANY, INC.   (619)357-1183
477 Railroad Boulevard
P.O. Box 989
Calexico, CA 92231
U.S.A.
Alex Romero, Executive.
Customs brokers.

A.H. ROBINS DE MEXICO, S.A. DE C.V.   565-7300
Autopista México-Querétaro Km. 37
Apdo. Postal 71
54730 Cuautitlán, Mex.
Ennio Sánchez Jasso, Vice-President and General Manager; Earle A. Jurgensen, Marketing and Sales Manager; José Luis Pacheco F., Purchasing Manager; C.P. Félix Ovando Venegas, Finance Manager.
Manufacturers of pharmaceuticals.
Established 1960 • Personnel 200 • Telex 171311

A.S., S.A. DE C.V.
See Guadalajara Members

AADELE TURISMO, S.A.   546-6971
Versalles 21-202   546-9214
Col. Juárez
Del. Cuauhtémoc
06600 México, D.F.
Adele Sabalette, Director; Lic. Delfor I. Sabalette Graf, Public Relations Manager; C.P. Ignacio Colín, Comptroller.
Travel agency.
Established 1979 • Personnel 12 • Telex 1761144

ABA, S.A. DE C.V.   542-4435
Agustín Delgado 39-A   542-7057
Col. Tránsito
Del. Cuauhtémoc
06820 México, D.F.
Moisés Sidauy Cherem, President; Iván Chimal, Technical Director; Edmundo Vázquez, Plant Manager; Emilio Kichik Sidauy, Assistant Director.
Manufacturers of polyethylene bags.
Established 1960 • Personnel 250

1

Figure 3: Product Catalog

Código	Presentación

A-Aminoantiprina'BAKER'
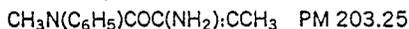
$CH_3N(C_6H_5)COC(NH_2):CCH_3$ PM 203.25

P.F. 107-109°C

ⁱ esta es una nota impertinente esta es una nota impertinente esta es una nota impertinente

Adecuado para Absorción de humedad .... pasa prueba
Adecuado para para para para para para para Absorción de humedad etc etc .... pasa prueba
Adecuado para para para para para para para Absorción .... pasa prueba

A630-03   25 gl
A630-05   100 g
9094-07   20 L
También viene en la siguiente presentación
9094-R   181 Kg
CAS NO.:   83078-00-0
SPILL-KIT: [SV] [AN]
EPA-HW: ⊙

ESCALA SAF-T-DATA:

Salud	Inflamable	Reactividad	Contacto
[2]	[1]	[1]	[2]

ALMACENAR EN AREA COLOR: Naranja (Almacén general).

○ **ABipyridine (p.30)**

$N:CHCH:CHCH:CC:CHCH:CHCH:N$ PA 5645

ALMACENAR EN AREA COLOR: Verde patriótico.

□ **ACamphor (p.44)**

$CH_3CCOCH_2CH[C(CH_3)_2]CH_2CH_2$ PG 24347
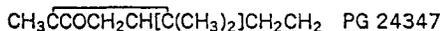
ALMACENAR EN AREA COLOR: Amarillo bilis.

● **ARaya arriba y abajo 1**

$CH_3NN(C_6H_5):::CH_7OCCH_3$ PM 56757
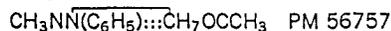
ALMACENAR EN AREA COLOR: Ninguno.

ACaffeine (p.39)

$CH_3NCON(CH_3)COC:CN:CHNCH_3$ PW 9890
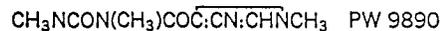
ALMACENAR EN AREA COLOR: Café.

ADichlorofluorescein (p.66)

$C_6H_4COOCC_6H_2-2-Cl-3-OHOC_6H_2-6-OH-7-Cl$ PF 67
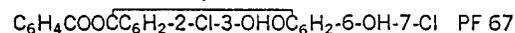
ALMACENAR EN AREA COLOR: Azul fosforescente.

Código	Presentación

α-**AChloralose (p.48)**

$OCH(CCl_3)OCHCHCHOHCH(CHOHCH_2OH)O$ PR 676
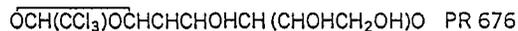
ALMACENAR EN AREA COLOR: Negro.

AA Estandares
Ver Listado Alfabético

ABX BAKERBOND
Ver La Sección de Productos de Investigación para Cromatografía

---

AC10 Celulosa
Ver Celulosa AC10

ALCONOX®
para uso manual y uso en lavadoras ultrasónicas
A461-05   1.8 kg
CAS NO.:   - -

ESCALA SAF-T-DATA:

Salud	Inflamable	Reactividad	Contacto
[1]	[0]	[1]	[2]

ALMACENAR EN AREA COLOR: Naranja (Almacén general).

ANHYDRONA,'BAKER ANALYZED *Reactivo* (A.C.S.)
Para secado (desecante, perclorato de magnesio)
El análisis real del lote se reporta en la etiqueta

$Mg(ClO_4)_2$ PM 223.21
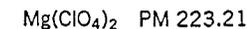
Según especificaciones de A.C.S.
Adecuado para Absorción de humedad .... pasa prueba
Límites Máximos de Impurezas:
Acido Libre Titulable .... >0.005 meq/g
Base Titulable .... <0.025 meq/g
Agua (H_2O) 8%

0828-01   500 g
CAS NO.:   10034-81-8   IMO: 5.1:1475
EPA-HW: ⑩   NFPA: 1-0-0 OXY

ESCALA SAF-T-DATA:

Salud	Inflamable	Reactividad	Contacto
[1]	[0]	[3]	[2]

ALMACENAR EN AREA COLOR: Amarillo (Reactivo).

AQUALYTE PLUS, Coctel LSC para muestras acuosas y biológicas en ampolletas MILLI
Ver Coctel LSC y productos accesorios

1

Figure 4: Agenda Sistemex

AGOSTO

LUNES 7

Los Santos Reyes (Epifanía).
Ntra. Sra. de Alta Gracia.
Día del Geólogo. Día de la Enfermera. Fundación de
Mérida, Yuc. (1542). Fiesta en los Reyes, Mich.

SEMANA 32	DIA 219	FALTAN 146	1989

8 Hrs.
9
10
11
12
13
14
15
16
17
18
19
20
21

MARTES 8

S. Raymundo de Peñafort,
S. Luciano, S. Crispín ob.
Fiesta en Acámbaro, Gto. Estalla la trágica
Huelga Obrera en Río Blanco, Ver. (1907).

SEMANA 32	DIA 220	FALTAN 145	

8 Hrs.
9
10
11
12
13
14
15
16
17
18
19
20
21

D	L	M	M	J	V	S		D	L	M	M	J	V	S	
	1	2	3	4	5		6 7 8 9 10 11 12	13	14	15	16	17	18	19	AGOSTO
20 21 22 23 24 25 26							27 28 29 30 31								

D L M M J V S

Figure 5: Study of Operations

Activo Total con Reportos

CASA DE BOLSA	PARTICIPACIÓN	% ACUM
INVERMEXICO	19.18%	19.18%
ACCIVALMEX	10.82%	30.00%
SOMEX	10.14%	40.14%
OPERADORA	6.86%	47.00%
MULTIVALORES	6.58%	53.58%
ÍNDICE DE CONCENTRACION	6.78	
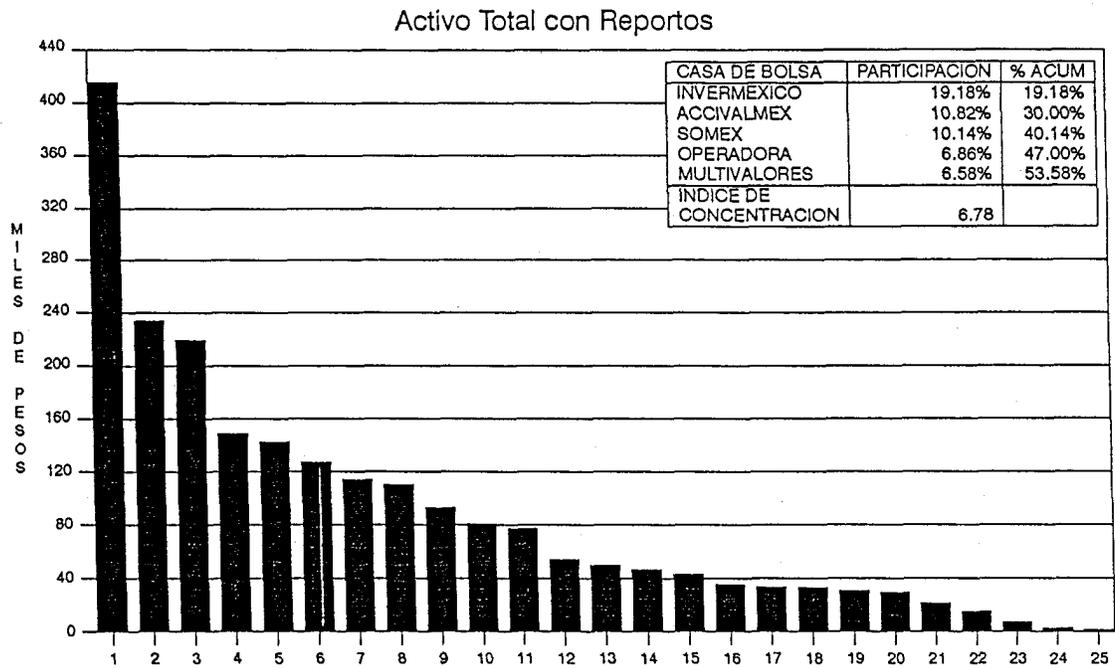
	CASA DE BOLSA	ACTIVO TOTAL. CON REPORTOS	%	% ACUM.
1	INVERMEXICO	415,403.10	19.18%	19.18%
2	ACCIVALMEX	234,245.10	10.82%	30.00%
3	SOMEX	219,667.00	10.14%	40.14%
4	OPERADORA	148,549.70	6.86%	47.00%
5	MULTIVALORES	142,499.90	6.58%	53.58%
6	INVERSORA	126,590.40	5.85%	59.43%
7	CREMI	114,171.60	5.27%	64.70%
8	BURSAMEX	110,071.40	5.08%	69.78%
9	FINAMEX	92,967.10	4.29%	74.07%
10	ARKA	81,131.30	3.75%	77.82%
11	CBI	77,581.80	3.58%	81.40%
12	INVERLAT	54,131.10	2.50%	83.90%
13	ESTRATEGIA	49,768.40	2.30%	86.20%
14	PROBURSA	46,446.80	2.14%	88.35%
15	MADRAZO	43,275.40	2.00%	90.34%
16	INTERVAL	35,440.20	1.64%	91.98%
17	AFIN	33,603.60	1.55%	93.53%
18	COMERCIAL	33,096.70	1.53%	95.06%
19	MEXICO	30,396.10	1.40%	96.46%
20	SOBURMEX	29,619.70	1.37%	97.83%
21	MEXINVAL	21,398.50	0.99%	98.82%
22	FIMSA	14,992.80	0.69%	99.51%
23	VALBURMEX	6,891.90	0.32%	99.83%
24	ABACO	2,552.30	0.12%	99.95%
25	ALLEN W.LL.	1,134.30	0.05%	100.00%
	TOTAL	2,165,626.20	100.00%	

A–ABADEJO

A. Prefijo negativo en náhuatl, con mismo valor que la *alpha* privativa de los griegos. *Cualli* es bueno y *acualli*, malo; *neconi*, lícito, y *aneconi*, ilícito; *yel*, diligente, y *ayel* perezoso; *patiuh*, barato, y *apatiuh*, caro; *tlácatl*, persona, y *atlácatl*, inhumano. De *huehueti*, envejecer, y la *a* privativa, se forma *ahuéhuetl*, el ahuehuete, árbol longevo "que nunca envejece". Duplicada, la *a* connota las ideas de perfección y abundancia: *aatzi* es alcanzar completamente una cosa; *aahuía*, llenarse de alegría; *aai*, hacer algo repetidas veces; *aamapoa*, leer mucho; *aami*, cazar en diversas partes. Como raíz de *atl*, agua, *a* se encuentra en innumerables vocablos, según se ve en etimologías de sustantivos y topónimos. *Acázul* es alberca; *ahuézotl*, sauz; *amózoc*, donde el río se ensancha; *analco*, en el otro lado del río; *anepantla*, en medio del agua; *atía*, licuarse algo; *acalpapano*, recrearse navegando.

AATZIN. (Del náhuatl *atl*, agua y *tzin*, reverencial: "venerable agua".) Caudillo de una de las tribus nahuas en su peregrinación desde Aztlán hasta el valle de México; se dice que fue el primero en llegar a Chapultepec. Está considerado como uno de los fundadores de Tenochtitlan; con Tenoch, llevó a cabo la unión con Tlatelolco. Son variedades del mismo vocablo *aátlatl*, *áhatl*, *áatl*, *ahuatzin*, *atzin*. Algunos autores suponen que no fue un personaje histórico, sino una personificación mitológica del agua.

ABABÁBITE. (*Poulsenia armata* Stand.; igual que *Coussapoa rekoi* Stand.) Árbol de la familia de las moráceas, de 25 m de altura, con jugo lechoso y provisto de pequeñas espinas en las ramas, peciolos, estípulas y nervaduras de las hojas. Éstas son grandes, ovales o elípticas, enteras, redondeadas en la base y con el ápice corto y acuminado; miden 50 cm de largo por 25 de ancho; y el peciolo, de 1.5 a 2.5 cm. Tiene flores unisexuales: las masculinas se dan en inflorescencias globosas, pedunculadas, de 1 a 1.5 cm; las femeninas, en receptáculos sésiles con tres a siete ejemplares. El fruto, carnoso y comestible, parecido a una chirimoya, mide de 2 a 3 cm de diámetro. La corteza tiene una fibra consistente, de aplicación industrial. Es común en las selvas muy húmedas de Guerrero, Oaxaca, Veracruz, Tabasco y Chiapas. Se le conoce también como *ababab*í, *chirimoya*, *carnero*, *carne de pescado* y *masamorro*.

ABACÁ. (*Musa textilis* Need.) Planta filamentosa de la familia de las musáceas, de 7 a 8 m de altura. Las hojas, elípticas, de color verde oscuro y de terminales angulosas, miden 2 m de longitud. En el espádice, de posición inclinada, se contiene un jugo lechoso y amarillento. Las brácteas, ovales, se enrollan hacia afuera y abrigan un promedio de 16 flores. Éstas, de estambres comprimidos y con cinco lóbulos, tienen los pétalos exteriores dos veces más largos que los interiores. El fruto es verde, duro, lento para madurar y no comestible. La planta fructifica al tercer año, pero es antes de la floración cuando debe extraerse la fibra denominada *cáñamo de Manila*; para ello, se remojan los tallos, se prensan, lavan y blanquean en agua acidulada con limón, ácido clorhídrico o una solución de sosa. En 1958 fue traída de Filipinas, de donde es originaria. Se inició su explotación sistemática en Teapa, Tab., primero para utilizar las tierras que habían quedado ociosas al ser devastados los platanares por el "mal de Panamá", y luego con el fin de obtener la fibra que, desde 1964, se emplea en la producción de cables trenzados para calabrotes. El jugo que se extrae de la base de las hojas tiene propiedades curativas contra la tuberculosis, y el extracto de la raíz se usa para curar inflamaciones tiroidales.

ABADEJO. Nombre de varias aves pequeñas pertenecientes al orden Paseriformes, familia Muscicapidae, subfamilia Sylviinae, género *Regulus*.

(*Regulus satrapa*.) Ave que presenta plumaje verde olivo en las partes superiores y verde grisáceo en las inferiores. El macho tiene la corona color naranja con bordes amarillos y negros; la hembra, en cambio, la muestra amarilla con bordes negros. Ambos presentan una línea superciliar blanquecina y dos barras alares. Esta especie se encuentra en México en invierno, en las montañas altas. Se le conoce también como *reyezuelo de oro*.
2. (*Regulus calendula*.) Ave que tiene una coloración muy similar a la de la anterior, aunque la corona en el macho lleva un parche bermellón. Al igual que *R. satrapa*, se alimenta de insectos que recoge revoloteando por las ramas. Durante el invierno se le encuentra en todo el país. Recibe igualmente el nombre de *reyezuelo rojo*.

ABADEJO. Nombre de varios peces del orden Perciformes, familia Serranidae, género *Mycteroperca*.

(*Mycteroperca bonaci*.) Pez de cuerpo mediano, robusto y largo, cabeza grande, boca oblicua, opérculo con tres espinas planas, y aletas dorsal y anal cubiertas por escamas en la base. Es de color ocre claro, con hileras de manchas rectangulares más oscuras. Las mejillas y los lados ventrales presentan máculas hexagonales color bronce. El margen de las aletas verticales es negro y el de las pectorales, naranja. Habita sobre fondos rocosos y arrecifes coralinos. Los individuos pequeños

1

Figure 7: Presidential Inform I

VIII. Comercio, Fomento Industrial y Turismo
Sector Turismo

CONCEPTO	UNIDAD DE MEDIDA	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987[P]	1988[E]
Recursos Totales, Estructura por Sectores[1]	Mil Mill $	1 076.3	1 327.4	1 737.9	2 330.9	3 519.0	8 061.0	13 142.0	20 265.3	34 848.7	76 792.7[2]	
20.10 RECURSOS TOTALES, ESTRUCTURA POR SECTORES[3]	.	1 076.3	77 121 327	1 737.9	2 330.9	3 519.0	8 061.0	13 142.0	20 265.3	34 848.7	76 792.7[4]	
Disponibilidades	.	1 076.3	1 327.4	1 737.9	2 330.9	3 519.0	8 061.0	13 142.0	20 265.3	34 848.7	76 792.7	
En sectores no financieros	.	1 076.3	1 327.4	1 737.9	2 330.9	3 519.0	8 061.0	13 142.0	20 265.3	34 848.7	76 792.7	
En activos internacionales[5]	.	1 076.3	1 327.4	1 737.9	2 330.9	3 519.0	8 061.0	13 142.0	20 265.3	34 848.7	76 792.7	
Billetes	.	1 076.3	1 327.4	1 737.9	2 330.9	3 519.0	8 061.0	13 142.0	20 265.3	34 848.7	76 792.7	
Cuenta de Cheques	.	1 076.3	1 327.4	1 737.9	2 330.9	3 519.0	8 061.0	13 142.0	20 265.3	34 848.7	76 792.7	
- Líquidos	.	1 076.3	1 327.4	1 737.9	2 330.9	3 519.0	8 061.0	13 142.0	20 265.3	34 848.7	76 792.7	
. A plazo menor de un año	.	1 076.3	1 327.4	1 737.9	2 330.9	3 519.0	8 061.0	13 142.0	20 265.3	34 848.7	76 792.7	
. A plazo de un año	.	1 076.3	1 327.4	1 737.9	2 330.9	3 519.0	8 061.0	13 142.0	20 265.3	34 848.7	76 792.7	
Recursos Totales, Estructura por Sectores[6]	.	1 076.3	1 327.4	1 737.9	2 330.9	3 519.0	8 061.0	13 142.0	20 265.3	34 848.7	76 792.7[7]	
Disponibilidades	.	1 076.3	1 327.4	1 737.9	2 330.9	3 519.0	8 061.0	13 142.0	20 265.3	34 848.7	76 792.7	
En sectores no financieros	.	1 076.3	1 327.4	1 737.9	2 330.9	3 519.0	8 061.0	13 142.0	20 265.3	34 848.7	76 792.7	
En activos internacionales	.	1 076.3	1 327.4	1 737.9	2 330.9	3 519.0	8 061.0	13 142.0	20 265.3	34 848.7	76 792.7	
Billetes	.	1 076.3	1 327.4	1 737.9	2 330.9	3 519.0	8 061.0	13 142.0	20 265.3	34 848.7	76 792.7	
Cuenta de Cheques	.	1 076.3	1 327.4	1 737.9	2 330.9	3 519.0	8 061.0	13 142.0	20 265.3	34 848.7	76 792.7	
- Líquidos	.	1 076.3	1 327.4	1 737.9	2 330.9	3 519.0	8 061.0	13 142.0	20 265.3	34 848.7	76 792.7	
A plazo menor de un año	.	1 076.3	1 327.4	1 737.9	2 330.9	3 519.0	8 061.0	13 142.0	20 265.3	34 848.7	76 792.7	
A plazo de un año	.	1 076.3	1 327.4	1 737.9	2 330.9	3 519.0	8 061.0	13 142.0	20 265.3	34 848.7	76 792.7	
Recursos Totales, Estructura por Sectores[10]	.	1 076.3	1 327.4	1 737.9	2 330.9	3 519.0	8 061.0	13 142.0	20 265.3	34 848.7	76 792.7[11]	
Disponibilidades	.	1 076.3	1 327.4	1 737.9	2 330.9	3 519.0	8 061.0	13 142.0	20 265.3	34 848.7	76 792.7	
En sectores no financieros	.	1 076.3	1 327.4	1 737.9	2 330.9	3 519.0	8 061.0	13 142.0	20 265.3	34 848.7	76 792.7	
En activos Internacionales	.	1 076.3	1 327.4	1 737.9	2 330.9	3 519.0	8 061.0	13 142.0	20 265.3	34 848.7	76 792.7	
Billetes	.	1 076.3	1 327.4	1 737.9	2 330.9	3 519.0	8 061.0	13 142.0	20 265.3	34 848.7	76 792.7	
Cuenta de Cheques	.	1 076.3	1 327.4	1 737.9	2 330.9	3 519.0	8 061.0	13 142.0	20 265.3	34 848.7	76 792.7	
- Líquidos	.	1 076.3	1 327.4	1 737.9	2 330.9	3 519.0	8 061.0	13 142.0	20 265.3	34 848.7	76 792.7	
A plazo menor de un año	.	1 076.3	1 327.4	1 737.9	2 330.9	3 519.0	8 061.0	13 142.0	20 265.3	34 848.7	76 792.7	
A plazo de un año	.	1 076.3	1 327.4	1 737.9	2 330.9	3 519.0	8 061.0	13 142.0	20 265.3	34 848.7	76 792.7	
Recursos Totales, Estructura por Sectores[12]	.	1 076.3	1 327.4	1 737.9	2 330.9	3 519.0	8 061.0	13 142.0	20 265.3	34 848.7	76 792.7[13]	
Disponibilidades	.	1 076.3	1 327.4	1 737.9	2 330.9	3 519.0	8 061.0	13 142.0	20 265.3	34 848.7	76 792.7	
En sectores no financieros	.	1 076.3	1 327.4	1 737.9	2 330.9	3 519.0	8 061.0	13 142.0	20 265.3	34 848.7	76 792.7	
En activos Internacionales	.	1 076.3	1 327.4	1 737.9	2 330.9	3 519.0	8 061.0	13 142.0	20 265.3	34 848.7	76 792.7	

OBSERVACIONES

1 Incluye no sectorizados e intermediarios financieros.
2 Esta es una nota.
3 Incluye no sectorizados e intermediarios financieros
4 Esta es una nota.
W Esta nota aparece sin llamada en el texto (después se puede pegar la W en cualquier parte)
5 Otra nota impertinente
6 Incluye no sectorizados e intermediarios financieros.
7 Esta es una nota.
8 Incluye no sectorizados e intermediarios financieros.
9 Esta es una nota.
10 Incluye no sectorizados e intermediarios financieros.
11 Esta es una nota.
12 Incluye no sectorizados e intermediarios financieros.
13 Esta es una nota.
P Cifras Preliminares
E Cifras Estimadas
n.d. No disponible

Fuente:
Banco de México y
Misc. La Luchita

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Figure 8: Presidential Inform II

Secretaría de Hacienda y Crédito Público
Información Programática Presupuestal 1987
(cifras presupuestales en millones de pesos)

| OBJETIVO	PROGRAMA SUBPROGRAMA	PRINCIPAL RESPONSABLE	PRESUPUESTO AUTORIZADO			METAS ORIGINALES			PRESUPUESTO EJERCIDO			METAS ALCANZADAS	OBSERVACIONES
			GASTO CORRIENTE	GASTO DE INVERSION	GASTO TOTAL	DESCRIPCION	UNIDAD DE MEDIDA	CANTIDAD	GASTO CORRIENTE	GASTO DE INVERSION	GASTO TOTAL		
Conocer y resolver controversias entre particulares y la Federación, fundamentalmente en asuntos fiscales.	1. IMPARTICION DE JUSTICIA FISCAL (SJ)	Tribunal Fiscal de la Federación	2 997		2 997	Conocer y resolver los recursos interpuestos por el Estado a los particulares en contra de las Salas Regionales	Sentencia	2 100	6 719	53	6 772	2 723	1 El Presupuesto de Egresos de la Federación consigna para esta Dependencia un responsable para cada uno de los subprogramas que ejecutan, por ello en este caso no se aplican los criterios de selección del principal responsable establecidos en la introducción general del presente anexo.
						Visitar las Salas Regionales, preparar para su publicación de síntesis de tesis de jurisprudencia, y resolver demandas y notificaciones	Informe / Asunto / Documento	16 / 15 500 / 155 000 / 1 500				16 / 13 666 / 236 830 / 1 130	
Contribuir al cumplimiento de las metas definidas en el Plan Nacional de Desarrollo y en el Programa Nacional de Financiamiento del Desarrollo, estableciendo los lineamientos y directrices de la política de precios y tarifas, así como determinar los ingresos del Sector Paraestatal y ejecutar la política de precios y tarifas a efecto de lograr el cumplimiento del presupuesto de recursos propios, propiciar el establecimiento de una estructura adecuada de precios relativos, evitar el otorgamiento de subsidios y proteger el consumo básico.	2. FORMULACION Y COORDINACION DE LA POLITICA DE FINANCIAMIENTO EN MATERIA DE PRECIOS Y TARIFAS DE LA ADMINISTRACION PUBLICA (EI)	Unidad Técnica de Precios y Tarifas de la Administración Pública	541		541	Formular estudios sobre las políticas de corto y mediano plazo, relativos a la modificación de precios y tarifas de los bienes y servicios proporcionados por la Administración Pública Federal e investigar los efectos económicos por sectores y empresas, que provocarían las posibles modificaciones	Programa / Estudio	6 / 2 / 11	796		796	7 / 5 / 22	
						Elaborar dictámenes y registros sobre las solicitudes de ajustes en los precios y tarifas, así como controlar y evaluar la ejecución del programa autorizado y los efectos que de la instrumentación se deriven	Dictamen / Registro / Reporte / Informe	122 / 246 / 4 / 7				140 / 276 / 12 / 10	
Dirigir y coordinar la formulación, instrumentación, ejecución, seguimiento y evaluación del Programa Nacional de Financiamiento del Desarrollo y su operativo anual correspondiente, así como fortalecer y consolidar el ámbito regional dictando políticas congruentes a la descentralización y/o desconcentración.	3. DIRECCION Y COORDINACION DE LA POLITICA DE FINANCIAMIENTO NACIONAL DEL DESARROLLO (EJ)		9 780		9 780				17 387	30	17 417		
	3.1 CONDUCCION DE LA POLITICA	Oficina del C. Secretario de Hacienda y Crédito Público[1]	524		524	Aprobar el contenido y términos de los subprogramas sustantivos que conforman el Programa Operativo Anual de Financiamiento y dar cuenta al Congreso de la Unión del estado que guarda el sector	Subprograma	12	937		937	12	
	3.2 CONTRALORIA INTERNA	Contraloría Interna	1 527		1 527	Elaborar procedimientos de control y evaluación del gasto público y llevar a cabo el control y seguimiento del mismo	Manual / Auditoría / Supervisión	1 / 192 / 300	2 407	10	2 417	1 / 54 / 64	
	3.3 COMUNICACION SOCIAL	Dirección General de Comunicación	2 120		2 120	Elaborar campañas de difusión y realizar eventos para fortalecer las relaciones públicas de la Secretaría	Campaña / Evento	18 / 105	5 215		5 215	18 / 28	

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Figure 9: Ampersand Utility

ampersand

Utility for making tables in T_EX

```
┌─────────────────────┐
│  &: interactive design │
│      and filling        │
└─────────────────────┘
```

| table design | table contents | table library | read / write | TABLE.DAT |

write

| TABLE.TEX master file | TABLE.TBL text file | TABLE.AMP table design |

```
┌──────────────────────────┐
│      translator &         │
│      (TRANS.EXE)          │
├─────────────┬────────────┤
│    from     │     to     │
│             │            │
│    ASCII    │   ASCII    │
│    Lotus    │  TABLE.TBL │
│   symphony  │            │
│   dbase III │            │
└─────────────┴────────────┘
```

```
┌──────────────┐
│   & macros   │
└──────────────┘
```

input   process   output

| TABLE.TEX and/or T_EX file + & macros + TABLE.AMP + TABLE.TBL | T_EX / Fácil-T_EX / LaTEX / ... | TABLE.LOG / TABLE.DVI |
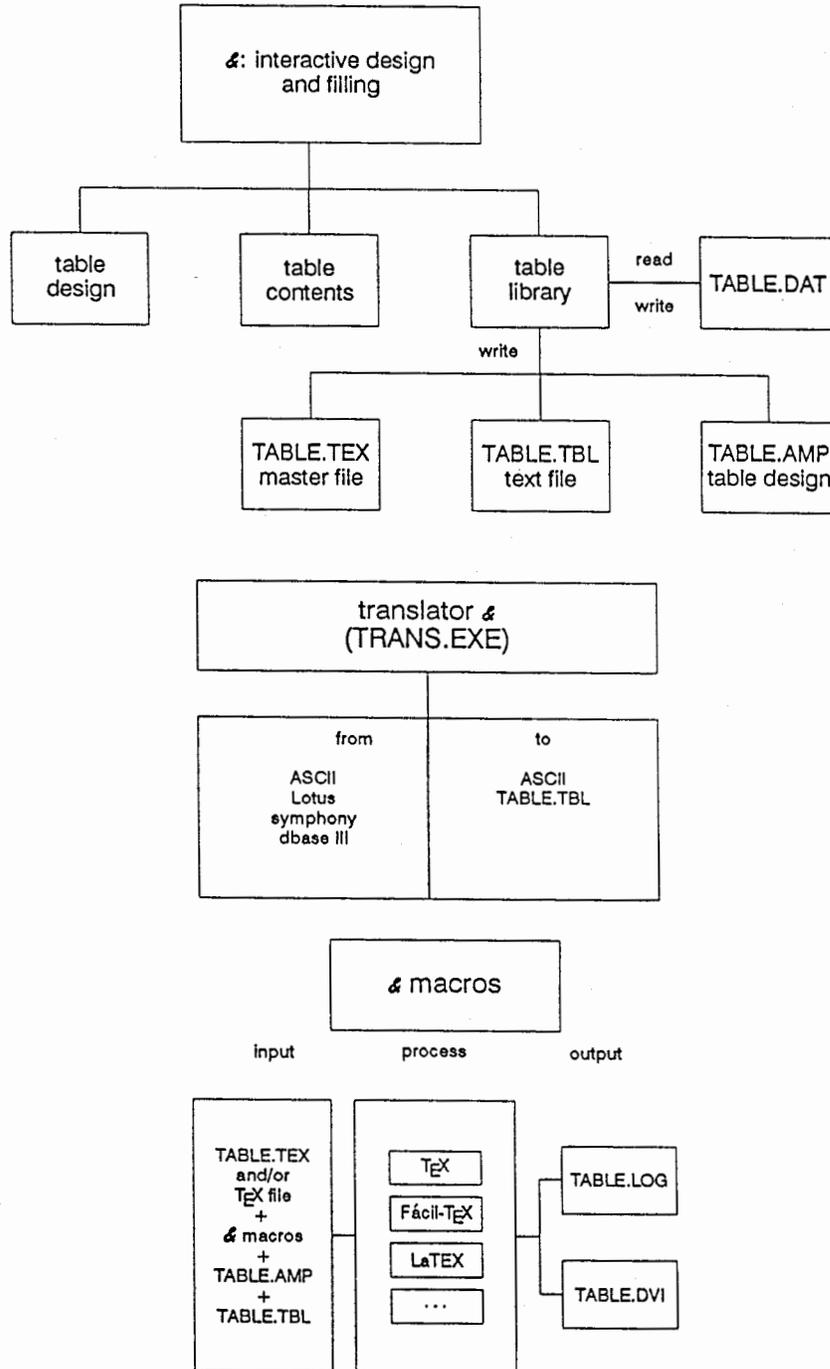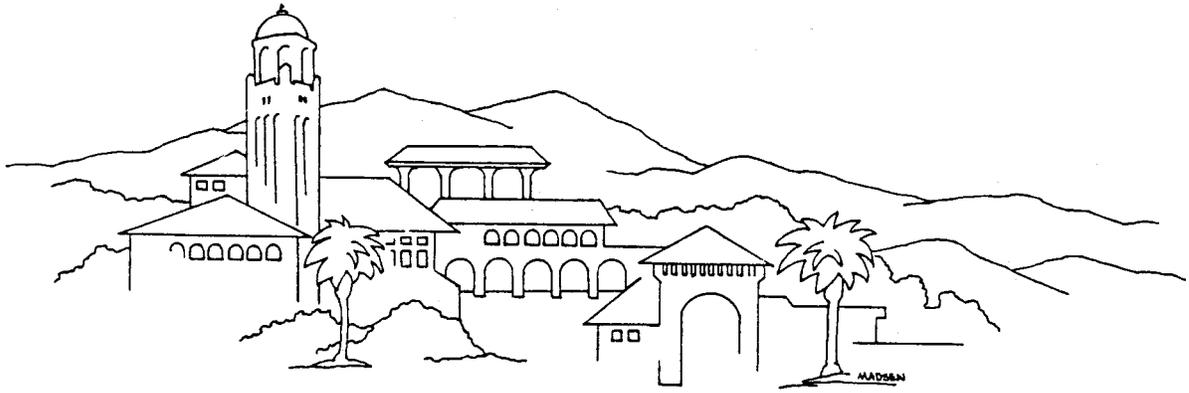
TeX Users Group Meeting and Short Course
Stanford University, July 25–30, 1982