TelcoMgr™

Telecommunications Management Software

By Access Business Communications, Inc.

TelcoMgr™ | Telecommunications Management Software

By ABCI

TelcoMgr™ | Telecommunications Management Software

© Access Business Communications, Inc.

All rights reserved. No parts of this work may be reproduced in any form or by any means - graphic, electronic, or mechanical, including photocopying, recording, taping, or information storage and retrieval systems - without the written permission of the publisher.

Products that are referred to in this document may be either trademarks and/or registered trademarks of the respective owners. The publisher and the author make no claim to these trademarks.

While every precaution has been taken in the preparation of this document, the publisher and the author assume no responsibility for errors or omissions, or for damages resulting from the use of information contained in this document or from the use of programs and source code that may accompany it. In no event shall the publisher and the author be liable for any loss of profit or any other commercial damage caused or alleged to have been caused directly or indirectly by this document.

Printed: April 2012 in Huntington Beach, California.

Publisher

Access Business Communications, Inc.
16835-236 Algonquin Street
Huntington Beach, CA 92649

Technical Editors

Jack Bogle

ACCESS
Business Communications, Inc.
Software Solutions

Table of Contents

Foreword 0

Part I Introduction to TelcoMgr 1

1 About TelcoMgr ... 2
EULA ... 5
2 Activating & Registering the License ... 8
First User Wizard ... 10
3 Application Setup ... 12
*Special Upgrade Considerations ... 14
Changing the Company File ... 17
Carrier Network Elements ... 22
A Locations ... 23
Bill Types ... 24
Carrier Group Numbers ... 25
Facility Types ... 26
Network Platforms Required ... 26
UNE-P ... 27
Z Locations ... 29
Circuit Lookup Tables ... 30
Class of Service Lookup Table ... 30
Copy to Excel ... 31
Data Network ... 32
Data Network Elements ... 32
Group Names ... 32
History Status Table ... 34
LEC, IEC and OEC Names ... 35
Message Clock ... 36
Phone Numbers: Canonical Formats ... 38
Country Codes ... 39
Area Codes ... 41
Prefix Codes ... 43
Registering TelcoMgr ... 44
Reminder Alarm Default Settings ... 46
User Defined TEM Field Defaults ... 47
4 Browse Graphical Tree ... 48
5 Circuit Record: Detailed Information Tab ... 50
Cellular Telephones ... 52
Circuits Account Code ... 54
LFSTC Field Designation ... 54
NPA-NXX-LINE ... 55
Order Plan +Other Network Info Tab ... 56
A Location & Z Location Records ... 57
Carrier Facility Circuit ID ... 58
UNE-P ... 59
USOC Lookup Table ... 60
Term Contract +TEM Info Tab ... 60
TEM Defaults Settings ... 61
User Definable TEM Fields ... 62

© Access Business Communications, Inc.

6 Data and IP Network 62
TCP/IP Access Method 63
IP Mask 63
Gateway IP 64
7 Customer Location Record 65
Customer/Location Tabs Overview 67
Company Id 69
Customer Location Tab 73
User Defined Order Field 75
Customer Circuits Tab 76
Copying A Circuit Record 77
Customer History Log Tab 79
Adding a Telco History Record 80
Create Email with Telco History 82
Customer/Location: Add, Change or Delete 83
Carrier Contract Attachments 85
Customer Directory Tab 86
Customer Rate Comparison Tab 87
Customer Asset/Equipment Tab 88
Customer Managed Services Info Tab 89
Attachment Documents 90
MSC Dynamic Calendars 91
MSC Document Attachments 91
TEM Margin and Calculation Methods 92
8 Customer Premises Equipment (CPE) 92
CPE Components 95
9 Expense Log 96
Update Expense Log 100
10 Expense Management and Tracking: Tutorial 101
Budget 102
Creating a Baseline of Expenses 107
Outline for Tracking Expenses 108
11 Help Desk 117
Follow-up Fields 122
Follow-up Calendar (Month) 125
Clear or Set an Alarm 126
12 Installation Tips 126
Common Practices for Multiple Users 127
Set or change the default data path 129
13 Global Assets Database 130
14 Global Telco Circuits Database 132
15 Glossary 134
16 Main Icon Menu Bar 135
17 Optional Modules 136
Admin and User Security 137
Getting Started with User Security 138
Setting-up Groups 141
Adding Users for Security 142
Assigning Access Levels 145
User Login 147

© Access Business Communications, Inc.

Change Passw ords ... 147
Change User ... 148
Work Groups ... 148
IMPEX for TelcoMgr ... 149
Field Data Manager ... 150
Automated FDM Process ... 151
Automatic FDM Undo Process ... 153
Circuits Table FDM ... 154
Field Data Manager Brow se Table ... 156
Field Data Manager Expression Editor ... 157
Saving FDM Expressions ... 158
Expression for Phone Number Format (###) ###-#### ... 159
Expression for Phone Number Format ###-###-#### ... 159
Field Data Manager Expressions ... 159
Field Data Manager Operators ... 162
Customer Table FDM ... 164
Customer FDM Expression Editor ... 165
Auto Format Process ... 166
Enterprise License Features ... 167
File Manager ... 167
18 Printing Reports ... 171
Report Headings ... 172
Help Desk & History Reports ... 174
Trouble Ticket Report ... 176
History Report Titles ... 178
Telephone and Circuit ID Reports ... 179
Expense Report ... 181
Asset Reports ... 184
19 Query By Example ... 185
20 Rate Comparisons ... 188
Brow se Group Rates Types ... 193
Copying A Rate Comparison Template ... 193
Copying an RCT from a Customer/Location ... 195
Rate Comparison Templates ... 197
Editing Rate Comparison Templates ... 199
Rate Names within a Rate Group ... 202
Type of Rate Groups ... 204
21 Reminders ... 204
Add or Edit Reminders ... 209
Alarm Sound ... 210
Clear or Set an Alarm ... 211
Print Reminders ... 211
Reminder Calendar (Month) ... 213
Reminder Calendar (Week) ... 214
Verifying Reminders ... 214
22 Report Builder ... 215
What is a report builder? ... 217
Features Of Report Builder ... 218
Report Builder - User Interface ... 221
Databases ... 223
Fields ... 226
Database filters ... 226

Expressions and Formulas **228**
Database Filters Tutorial **230**
Filters 101 - Part 1 231
Filters 101 - Part 2 232
Filters 101 - Part 3 233
Filters 101 - Part 4 234
Filters 101 - Part 5 235
Global Variable Fields **238**
Report Formatter Screen **239**
Report Bands **239**
Sorting Bands **240**
Frames **242**
Adding Text Frame **243**
Concatenation Symbol **244**
Frame Properties **245**
Group Band Properties **248**
Dictionary **249**
Dictionary - Built in Variables 252
Dictionary - Calculated Fields 252
Dictionary - Funtions 253
Dictionary - Gather Totals 254
Dictionary - Processed Files 254
Dictionary - Standard Functions 256
Dictionary - Standard Operators 259
Data Picture **261**
Page Counter **265**
Report Builder Tutorial **266**
Tutorial - Page 1 267
Tutorial - Page 2 269
Tutorial - Page 3 273
Tutorial - Page 4 279
Tutorial - Page 5 280
Tutorial - Page 6 280
Tutorial - Page 7 283
Tutorial - Page 8 286
Tutorial - Page 9 290
Tutorial - Page 10 294
Tutorial - Page 11 297
Tutorial - Page 12 303
Tutorial - Page 13 304
Tutorial - Page 14 306
Tutorial - Page 15 307
Tutorial - Page 16 309
Tutorial - Page 17 313
Tutorial - Page 18 317
Group Footer 1 321
Group Footer 2 322
Group Footer 3 323
23 Resource Directory **324**
24 Spell Check **326**
25 TelcoMgr File Structures **326**
Data Types **328**
telco.tps file **329**

© Access Business Communications, Inc.

circuits.tps file ... 331
directry.tps file ... 334
cpe.tps file ... 334
CPE Components (componts.tps) file ... 336
26 Telephone Directory ... 337
27 Terms Used in TelcoMgr ... 339
CIR/Port Speed ... 341
Data Network Frames ... 341
DLCI ... 341
EUCL ... 342
INI Type Files ... 342
Local Loop ... 342
MPLS ... 342
PVC ... 342
SVC ... 343
QoS ... 343
TAPI ... 343
Part II What's New for TelcoMgr 345
1 Planned for TelcoMgr ... 348
2 Version Release History ... 348
Part III Download Software ... 361
Part IV Download TelcoMgr.com as PDF 0
Part V How to Order TelcoMgr 361
Part VI Web Links 361
1 Community Relations ... 0
2 Cable Management Software ... 362
Join CablePro User Group ... 366
3 CRM and Contact Management Software ... 367
Join CRMworx User Group ... 371
4 E-Books ... 372
Cut the Cost! Corporate Edition ... 373
Cut the Cost! Professional Edition ... 375
5 ISO Consultants ... 0
6 ISO Registrar for Certification ... 0
7 Service Management Software ... 377
Join SWORD User Group ... 380
8 Telecom Auditors International Directory ... 0
9 USOCodex | USOC Database Application ... 381
Index 383

1 Introduction to TelcoMgr

Telecommunications
Expense Management
Software

TelcoMgr™ is a software application suite for Telecom Auditing, Telecom Expense Management and **Help Desk** resources for telecommunication professionals. **TelcoMgr™** is designed to help you accurately record your business telephone and data services. The program includes databases that can be used for multiple customers such as a vendor may wish to maintain or for a single end-user with multiple locations.

Are you new to **TelcoMgr™** and in need of a demonstration copy or license? Be sure to review the "How to Order TelcoMgr" section.

The **TelcoMgr™** relational databases are designed to be a central repository for the following information:

- **Master Telephone Company** (Telco) or Service Carrier account data.
- Detailed line, circuit and/or service data, including summary cost, Data Network Elements and Carrier Network Elements.
- A Customer/Circuit Telco history log for each customer/location that is created and maintain in chronological order.
- An Asset listing of Customer Premises Equipment (CPE), components, equipment and systems, plus vendor information, warrant and maintenance contract data.
- Separate Telephone Directories can be easily created and edited for each Customer or Location.
- Expense Log by location and/individual expense items.
- Telco Rate Comparison Table and Worksheet. Plus, a Baseline Expense Template, which may be copied to as many Customer/ Location records as needed.
- Global History File & Help Desk Tools**,** which includes document indexing and warehousing functionality. Save PDF, image, HTML and/or Excel with any History record.

© Access Business Communications, Inc.

Additional Features

- A variety of reports, many of which may be customized, are included with comprehensive data and summary information of existing, or planned changes.
- A Telco Glossary for easy lookup of common and uncommon terms.
- An an optional 'Import' and 'Export' tool (IMPEX) is available to allow information exchanged among multiple locations. Exchange text, Excel or CSV file types.
- Reminder Alarms for moves, changes, additions and telephone company orders.
- Comprehensive asset and/or equipment inventory module for serial numbers, systems, components, warranty information, maintenance contract details and other related telecommunication data information.
- Dynamic Weekly and Monthly Planning calendars are linked to Reminders and Managed Service Contracts.
- Common database for saving Universal Service Order Codes (USOC).
- Advanced User Security Access control.

Note: Be sure to review the "Special Upgrade Considerations" for version 6.

1.1 About TelcoMgr

TelcoMgr™ is an active development software application created by a community of North American Telephone Company (Telco) corporate users, associations, telecommunication equipment vendors, local & long-distance carriers and other business communication professionals. We welcome your comments, and suggestions to improve **TelcoMgr**.

Regardless whether your business is focused on telephone networks or IP networks, TelcoMgr provides the essential tools for creating a central repository of information about your networks. For example, a wired (or wireless because the transmitter must be wired at the Carrier's node) Internet connection requires 1 to 3 pairs of wire (a circuit) from premises A to premises Z. The physical layer gets identified as a Circuit Id, and the logical layer gets a number assigned according to the North American Numbering Plan (NANP). Therefore, features, lines, and services get assigned a number.

Data is modulated or modemized to traverse the physical layer of the Telecommunications Network using a wide variety of protocols like the Internet Protocol (IP) or PRI (Primary Rate Interface of ISDN). The

© Access Business Communications, Inc.

carrier network can be equipped with a variety of elements (modems, routers, switches) to move data packets based upon a various techniques (Frame Relay, Multiprotocol Label Switching {MPLS}) and the nodes (connecting points) and end-points get assigned address codes (IP Address, MAC Address). All of this information can be easily recorded in TelcoMgr.

Customization

Many of the features that are currently included in TelcoMgr were brought about through client driven and requested customization process. This process, for the most part, is fee based. The cost of custom development may be offset through non-exclusive licensing, which means the customized features are offered to the user base as a minor or major version release. Please let us know what your Telecommunications database management requirements are and we will provide you with a scope of work and a written proposal for the customization of **TelcoMgr**.

Report Creation and Customization

Also, on a fee basis, we offer custom reports and/or the modification of one or more of the TelcoMgr built-in and/or standard reports. Most custom reports may be created with the TelcoMgr built-in reporting engine and formator, which we name Report Builder. Please let us know what your Telecommunication Reporting requirements are and we will provide you a written quotation for the custom reporting.

Documentation

Some of the screen-shots and text descriptions may not be completely up-to-date when compared to the most current version of TelcoMgr. We apologize for any misunderstanding, which this may cause.

Public Web Sites:

http://www.telcomgr.com

Write to:

Email - sherlock @ abci-software.com

Mail:

TelcoMgr
ACCESS BUSINESS COMMUNICATIONS, INC.
16835-236 ALGONQUIN STREET
HUNTINGTON BEACH, CA 92649 USA

© Access Business Communications, Inc.

Copyright © Access Business Communications, Inc. All rights reserved.

1.1.1 EULA

ACCESS BUSINESS COMMUNICATIONS, INC. (ABCI)

ELECTRONIC END USER LICENSE AGREEMENT

FOR TELCOMGR™

NOTICE TO USER:

THIS IS A CONTRACT. BY INSTALLING THIS SOFTWARE YOU ACCEPT ALL THE TERMS AND CONDITIONS OF THIS AGREEMENT.

This **ACCESS BUSINESS COMMUNICATIONS, INC.** ("ABCI") End User License Agreement accompanies the ABCI TelcoMgr product and related explanatory materials "Software"). The term "Software" also shall include any upgrades, modified versions or updates of the Software licensed to you by ABCI. Please read this Agreement carefully. At the end, you will be asked to accept this agreement and continue to install or, if you do not wish to accept this Agreement, to decline this agreement, in which case you will not be able to use the Software.

Upon your acceptance of this Agreement, ABCI grants to you a nonexclusive license to use the Software, provided that you agree to the following:

1. Use of the Software. Simply stated, each single user licenses grants the user permission to use one copy of TelcoMgr on one single hard drive.

- You may install the Software on a hard disk or other storage device; install and use the Software on a file server for use on a network for the purposes of (i) permanent installation onto hard disks or other storage devices or (ii) use of the Software over such network; and make backup copies of the Software.

- You may not make and distribute copies of the Software, including copies for

commercial distribution.

2. Copyright and Trademark Rights. The Software is owned by ABCI and its suppliers, and its structure, organization and code are the valuable trade secrets of ABCI and its suppliers. The Software also is protected by United States Copyright Law and International Treaty provisions. You may use trademarks only insofar as required to comply with Section 1

of this Agreement and to identify printed output produced by the Software, in accordance with accepted trademark practice, including identification of trademark owner's name. Such use of any trademark does not give you any rights of ownership in that trademark. Except as stated above, this Agreement does not grant you any intellectual property rights in the Software.

3. Restrictions. You agree not to modify, adapt, translate, reverse engineer, decompile, disassemble or otherwise attempt to discover the source code of the Software. Although you may customize the installer for the Software as documented on the ABCI TelcoMgr CD-ROM or web site download file (e.g.,installation of additional help files), you may not otherwise alter or modify the installer program or create a new installer for the Software.

4. No Warranty. The Software is being delivered to you AS IS and ABCI makes no warranty as to its use or performance. ABCI and its suppliers do not and Cannot warrant the performance or results you may obtain by using the software Or documentation. ABCI and its suppliers make no warranties, express or Implied, as to noninfringement of third party rights, merchantability, or Fitness for any particular purpose. In no event will ABCI or its suppliers be Liable to you for any consequential, incidental or special damages, including Any lost profits or lost savings, even if an ABCI representative has been Advised of the possibility of such damages, or for any claim by any third Party. Some states or jurisdictions do not allow the exclusion or limitation of incidental, consequential or special damages, or the exclusion of implied warranties or limitations on how long an implied warranty may last, so the above limitations may not apply to you.

5. Governing Law and General Provisions. This Agreement will be governed by the laws of the State of California, U.S.A., excluding the application of its conflicts of law rules. This Agreement will not be governed by the United Nations Convention on Contracts for the International Sale of Goods, the application of which is expressly excluded. If any part of this Agreement is found void and unenforceable, it will not affect the validity of the balance of the Agreement, which shall remain valid and enforceable according to its terms.

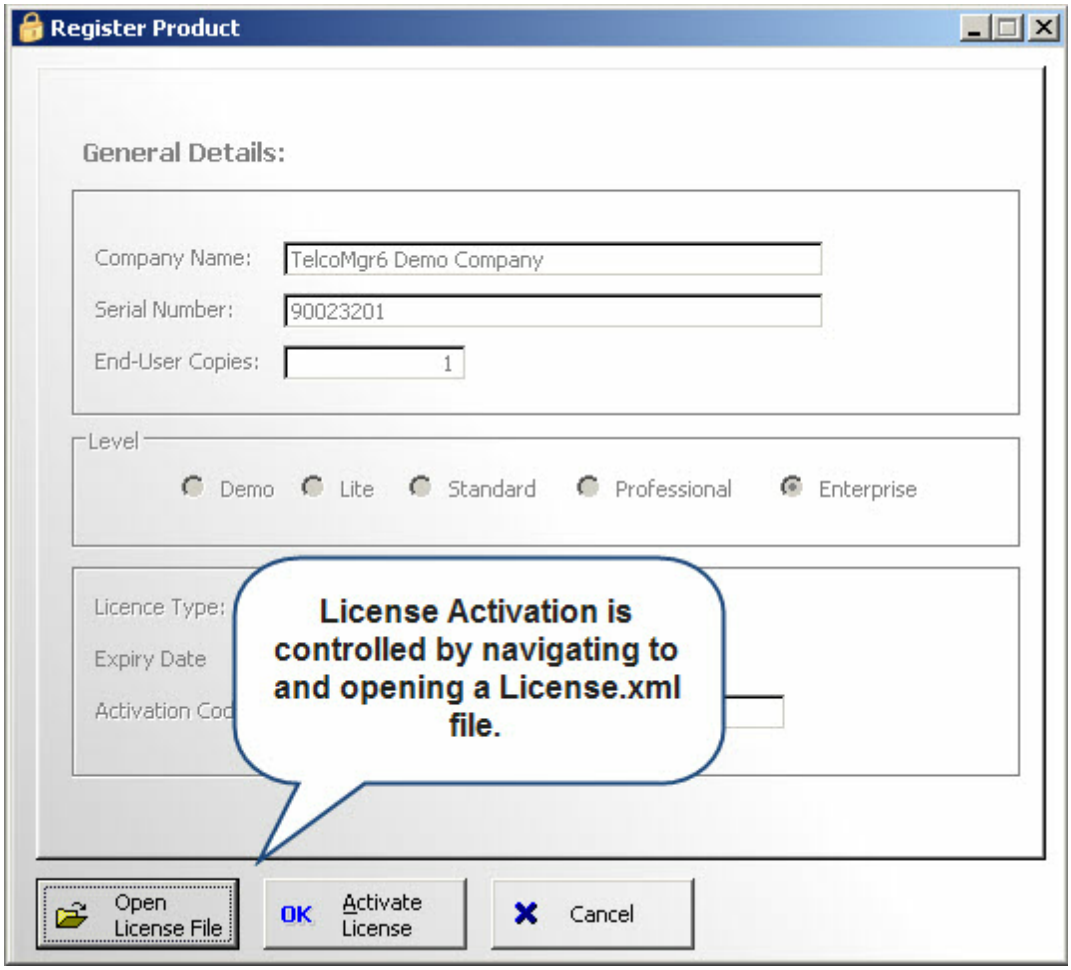
You agree that the Software will not be shipped, transferred or exported into any country or used in any manner prohibited by the United States Export Administration Act or any other export laws, restrictions or regulations. This Agreement shall automatically terminate upon failure by you to comply with its terms. This Agreement may only be modified in writing signed by an authorized officer of ABCI.

6. Notice to Government End Users. The Software and Documentation are “Commercial Items," as that term is defined at 48 C.F.R. §2.101, consisting of "Commercial Computer Software" and "Commercial Computer Software Documentation," as such terms are used in 48 C.F.R. §12.212 or 48 C.F.R. §227.7202, as applicable. Consistent with 48 C.F.R. §12.212 or 48 C.F.R. §§227.7202-1 through 227.7202-4, as applicable, the Commercial Computer Software and Commercial Computer Software Documentation are being licensed to U.S.

Government end users (A) only as Commercial Items and (B) with only those rights as are granted to all other end users pursuant to the terms and conditions herein. Unpublished-rights reserved under the copyright laws of the United States.

1.2 Activating & Registering the License

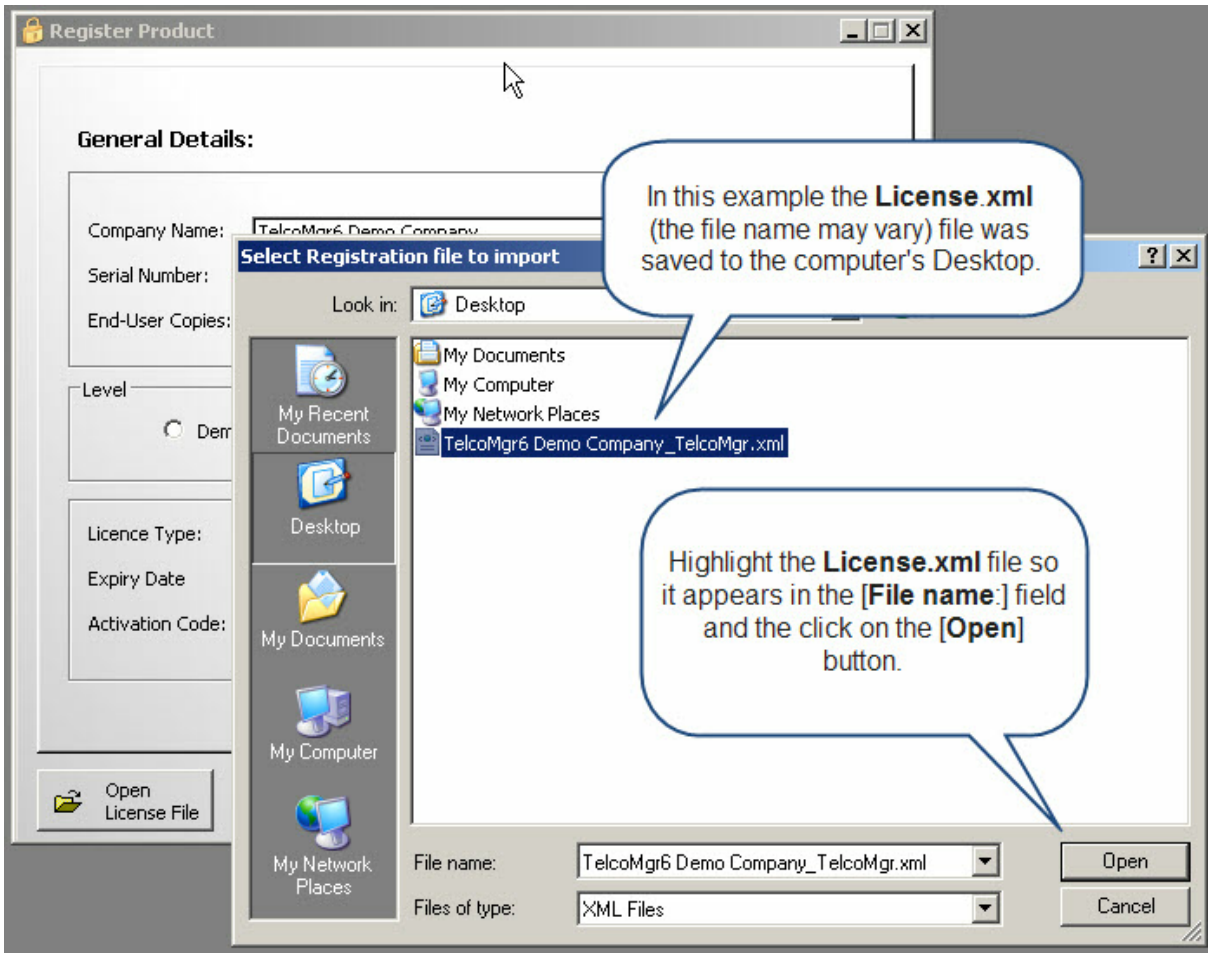
TelcoMgr is distributed as a fully working software application, with just a few exceptions. These few excepts allow new users to get started learning about and exploring the many features in TelcoMgr before activating or registering the license.



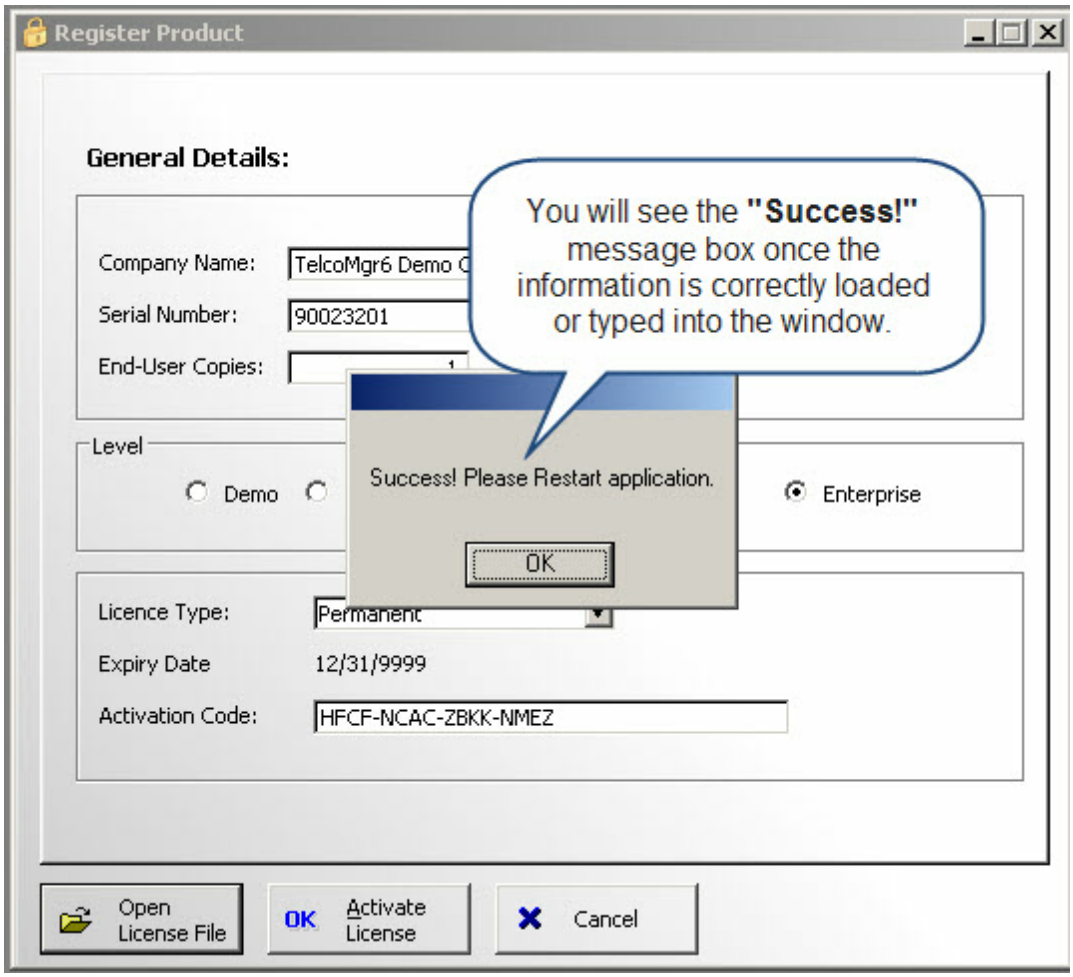
The **License Activation** information is sent to a Licensed User as an XML type file via an Email or on computer media. The License Activation information may be manually typed into the fields as shown above or imported from XML file as described below.

Tutorial for Importing the XML License File:

1. Click on the [**Open License File**] button and navigate to the place where you License file was saved on your computer. The License *.XML file is not installed with TelcoMgr but is sent to the person that has acquired the License.



2. Select the appropriate **License.xml** file (the name may vary), making sure that the [**File name**:] field contains the License file name. Click on the [**Open**] button, which will close the window and load the contents of the XML file into the **TelcoMgr License Activation window**.

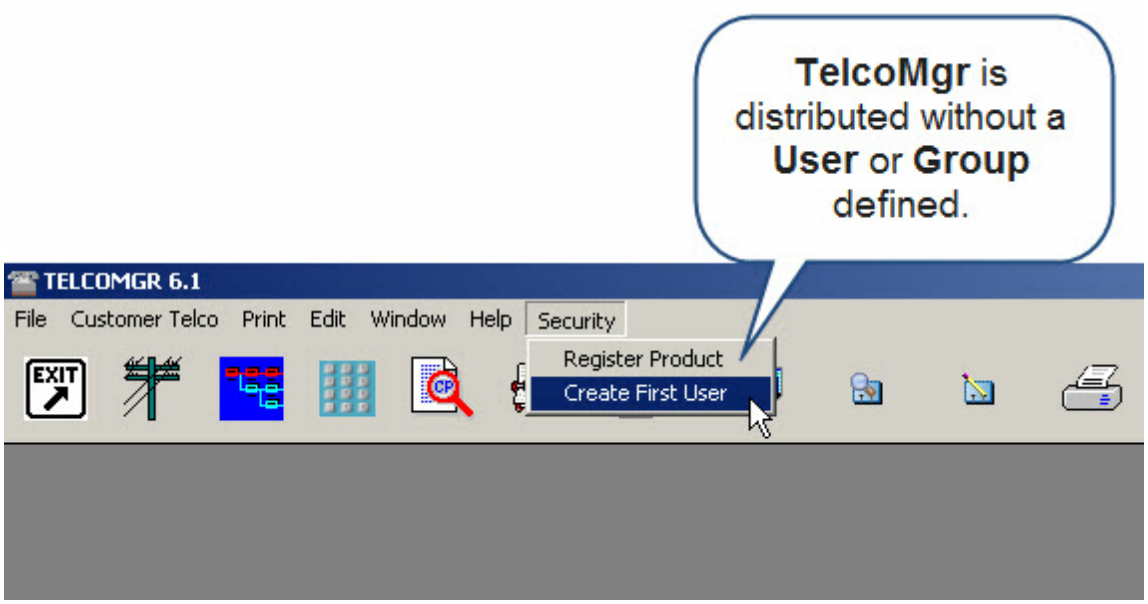


3. Click on the [**Ok Activate License**] button once the License information is loaded into the TelcoMgr window

4. Optionally setup your First User.

1.2.1 First User Wizard

CAUTION: Setting up Users is optional. Once you create the First User then all users must login. Otherwise TelcoMgr may be used without requiring Users to Login.

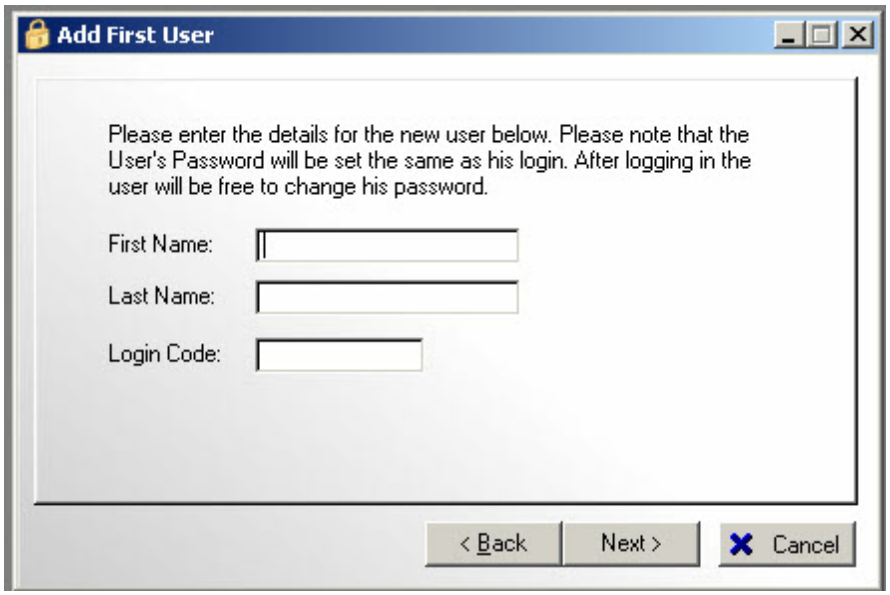


TelcoMgr is distributed with a User or Group defined. Therefore, Login is optional until the First User is created. Once a First User is created then TelcoMgr will demand a valid Login. Therefore, it is very important that you retain the appropriate information about your First User. The process may not be reversed and Login shall no longer be optional to TelcoMgr Users.

USER TIP: Carefully review the section in this guide entitled Admin and User Security before entering your **First User**.

The "Create First User Wizard" may be found under the Security main menu option and through a couple of mouse clicks your first user may be created.

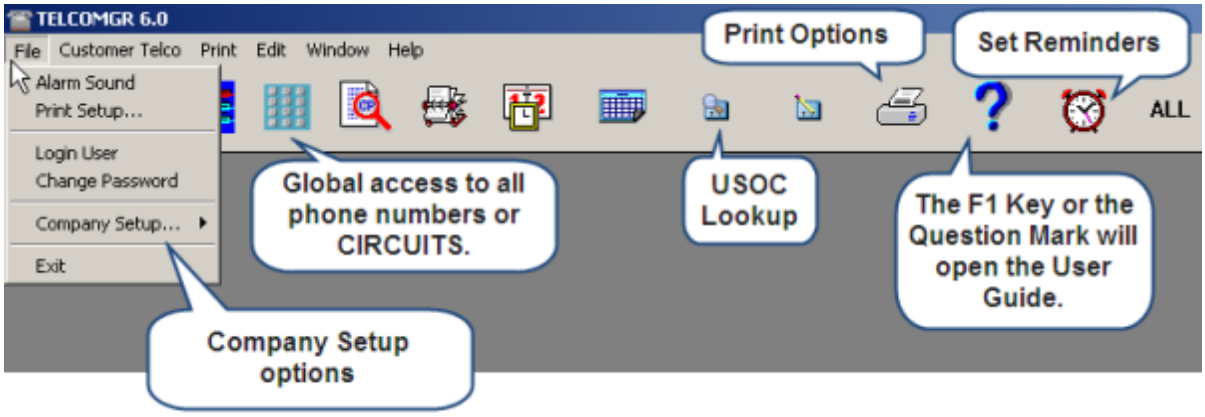
© *Access Business Communications, Inc.*



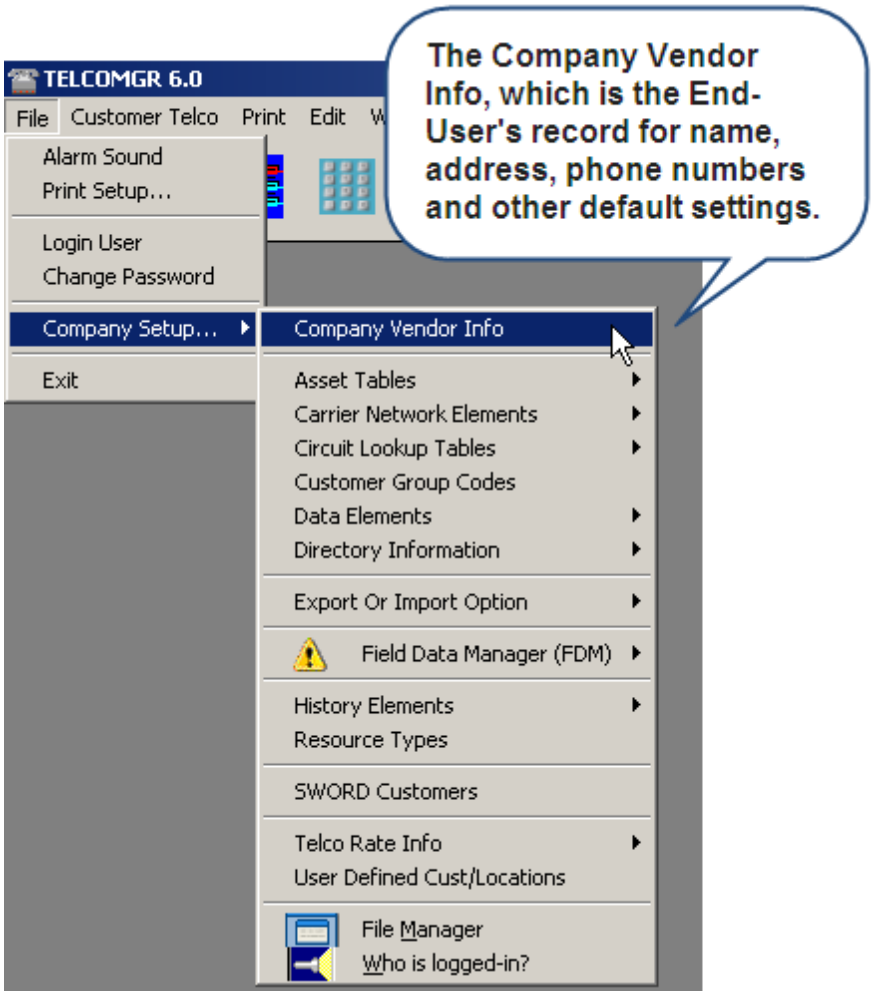
1.3 Application Setup

Getting Started

Select the [File] option from the main startup screen.



Select the [**Setup**...] menu option and a list of files that contain standard default values will open. You may add, change or delete any of the default values to match the appropriate services of your Telephone Company.



Under the Company Setup ... option:

- **Asset Tables**
- **Carrier Network Elements**
- Circuit Lookup Tables
- Customer Group Codes
- Data Network Elements Elements
- Directory Information
- Export or Import Option

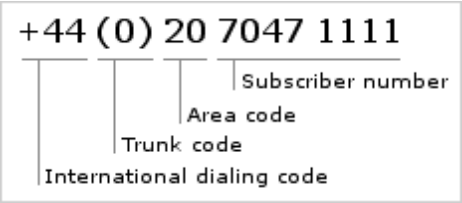
© Access Business Communications, Inc.

- Field Data Manager (FDM)
- History Log Elements
- Resource Directory Types
- SWORD Customers (Requires Enterprise License and SWORD License)
- Telco Rate Info
- User Defined Customers or Locations
- File Manager
- Who is logged-in?

1.3.1 *Special Upgrade Considerations

Prior to **TelcoMgr 6**, TelcoMgr stored the **NPA-NXX-LINE** data and other phone number fields without any formatting, but the user-windows displayed the phone number with the format as ###-###-####. Therefore, the stored data for the displayed phone number 800-675-2415 was actually 8006752415. It was not possible to enter or import another phone number format, for example (800) 675-2415 was not supported.

Starting with TelcoMgr 6 the NPA-NXX-Line [CIR:Line] field was reformatted so telephone numbers may be accepted in various formats, such as +1 (555) ###-#### or (01) ### ######, plus other international number patterns and emerging ISO canonical formats. The canonical address format is a universal phone number format that is both standardized and widely recognized by many different software systems. The format explicitly identifies the components of a phone number and includes Country or Region Code, Area Code and the subscriber number. The canonical format is +Country/RegionCode (AreaCode) SubscriberNumber. For example, this is how you would enter a number for a subscriber in the United States of America in canonical format +1 (425) 555-0100].



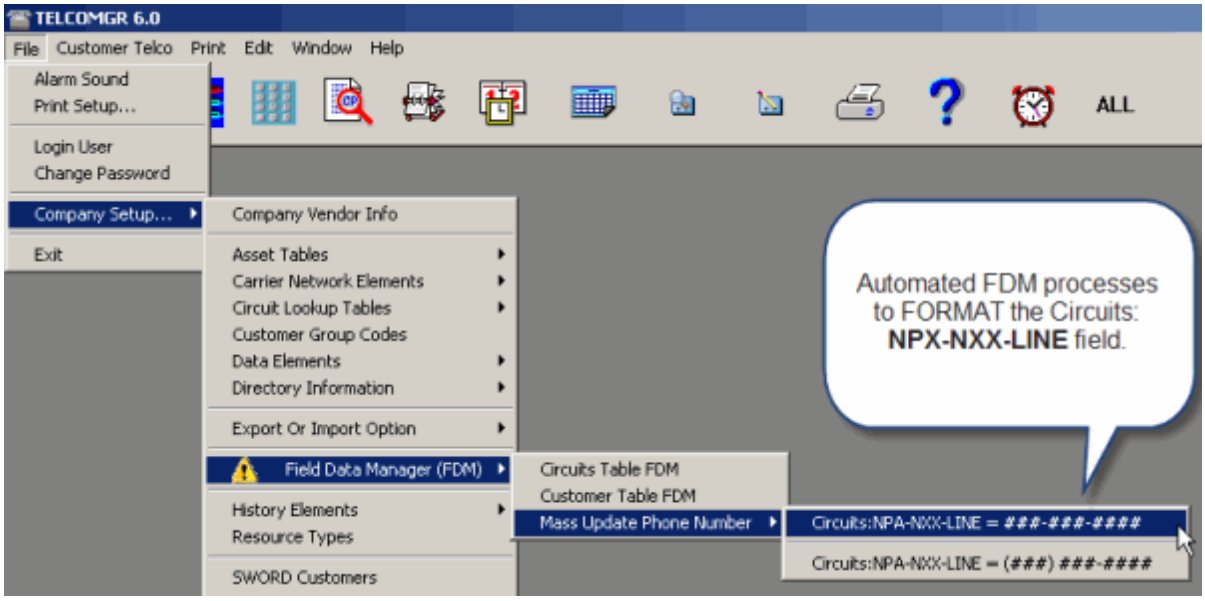
If you are upgrading from a previous version of **TelcoMgr 6.0**, then we recommend the following "**Special Upgrade Considerations**."

1. Complete and verify a backup of the entire contents of your current live TelcoMgr folder and all sub-folders.

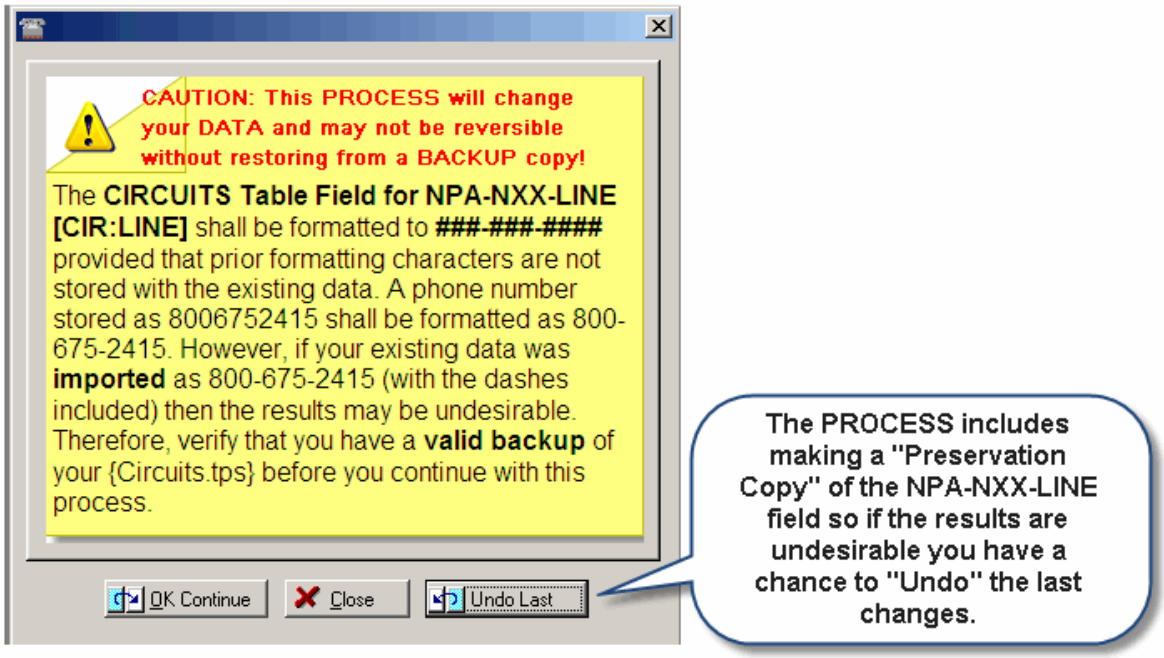
2. Prior to upgrading, read about the **What's new in TelcoMgr** and become familiar with the features before going live.

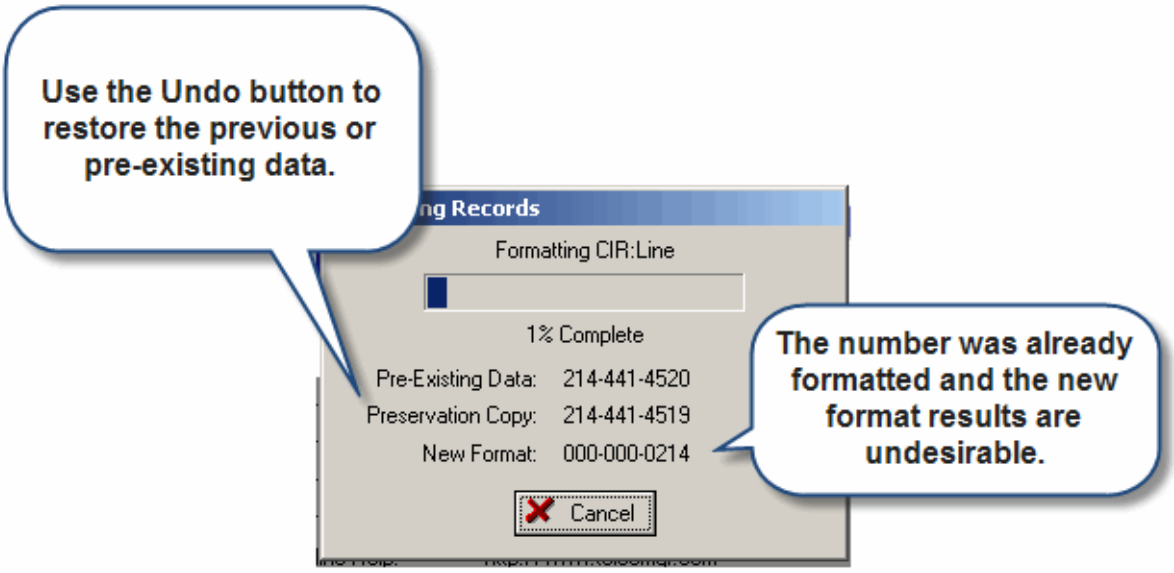
3. Consider making a practice upgrade by copying your current live folder to another hard-drive on your server or local computer. Using the practice folder location you can observe the impact of the phone format changes and you can try the **Field Data Manager** reformatting and mass field update utility that we have included to change your **NPA-NXX-Line** data back to **###=###-####** or (###) ###-####.

4. Several **Field Data Manager** (**FDM) processes** have been automated to format the **Circuits:NPA-NXX-LINE field**.

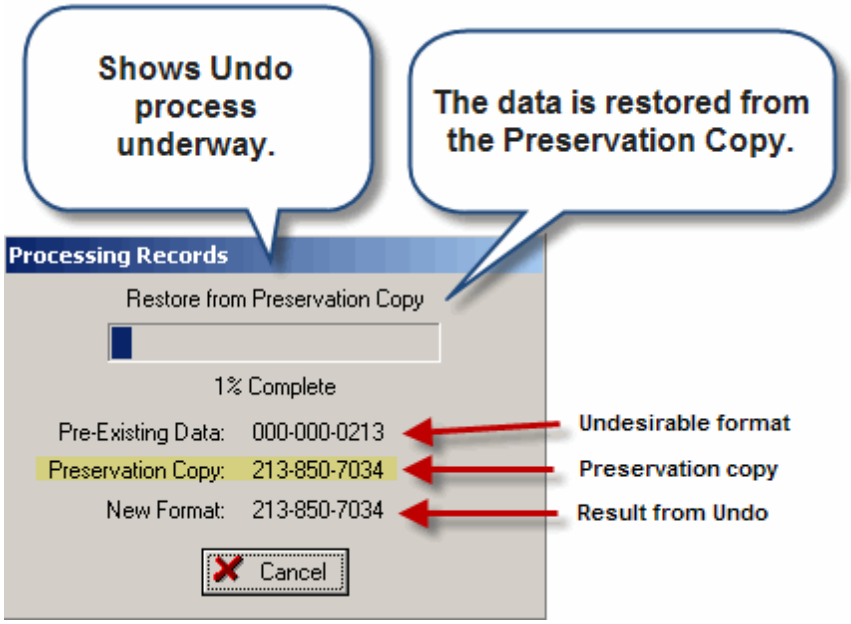


5. Two **Automated FDM Processes** are included with TelcoMgr 6 to restore the formatting of the data in the **NPA-NXX-Line** field.





6. Also, the **Automated FDM Process** has an Undo feature, which allows the Format to be applied and then restored if the results are undesirable.



7. FDM documentation for formatting your **NPA-NXX-Line** data to the standard format of ***###=###-####*** may be view using the following URL: Page url: http://www.telcomgr.com/index.html?expression_for_phone_number_fo.htm , or;

8. Page url: http://www.telcomgr.com/index.html?expression_for_phone_number_f2.htm

9. Were any of your existing CIRCUITS records imported using IMPEX? If yes, you may not able to use the Automated FDM Processes. The FDM process for formatting the [CIR:Line] will only work properly if the field contains numbers only. **IMPEX** allows the import of CIRCUIT records from EXCEL or CSV type files, which include the "dashed format" or ###-###-####. Therefore, some of your records may be already formatted and if you try to apply a new format to an already correctly formatted phone number, then the results may be undesirable.

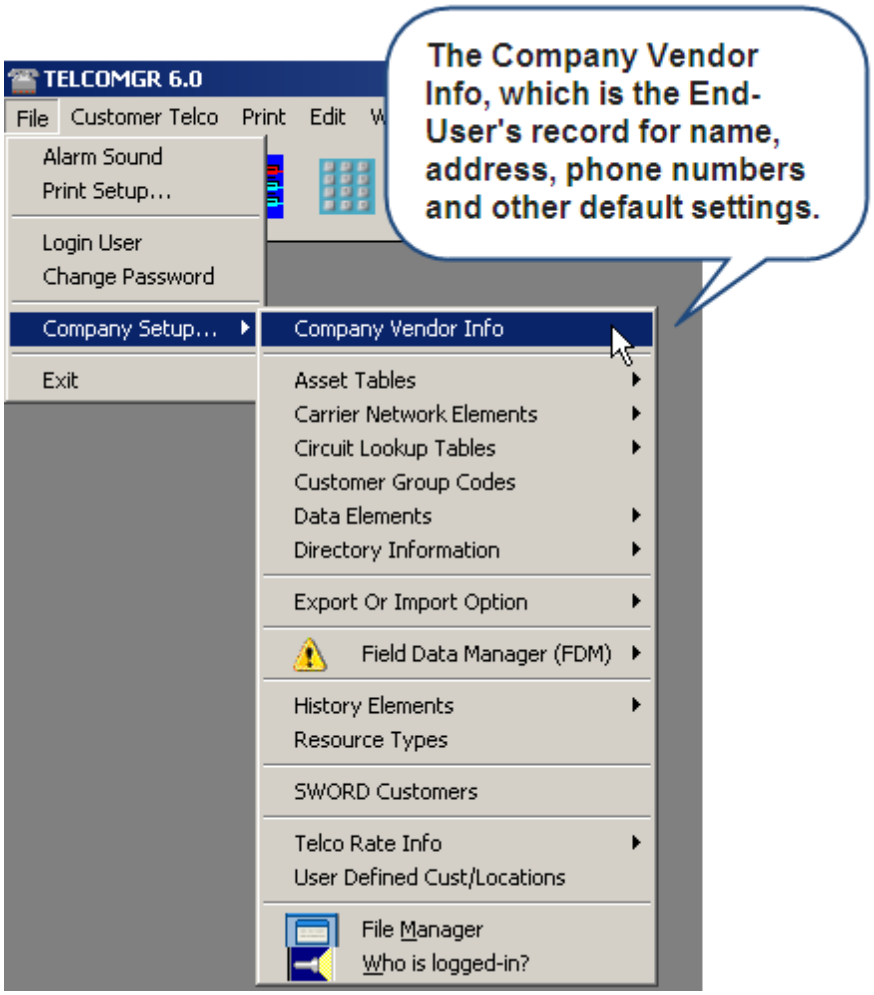
10. If you experience a problem with incorrectly formatting any of your phone number fields, please contact ABCI Tech Support:

http://www.abci-software.com/contact/support.htm

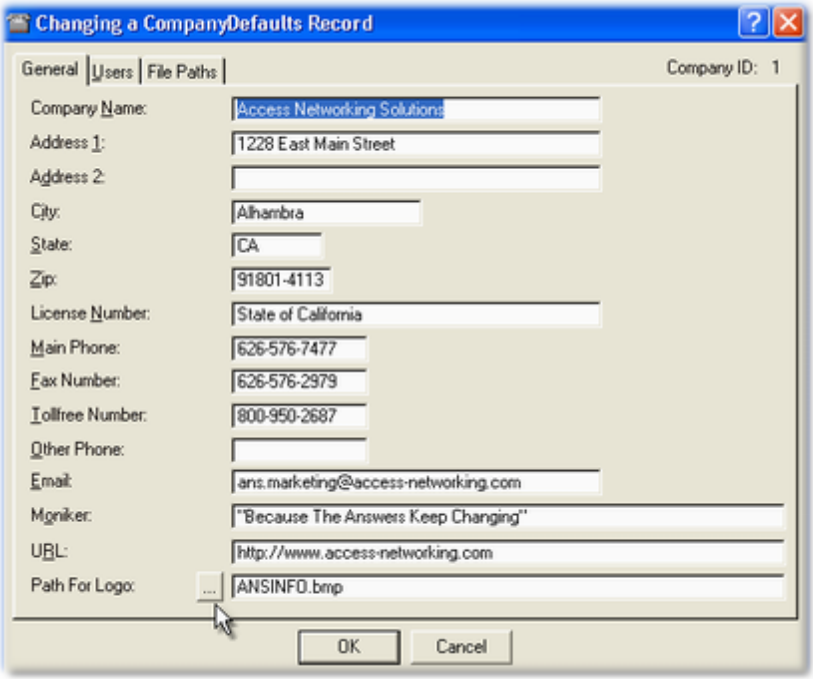
1.3.2 Changing the Company File

Note: TelcoMgr must first be Registered with Access Business Communications, Inc. before changes to the **Company/vendor** record are allowed.

Select [**File**] > [**Setup**...] > [**Vendor Company Info**].

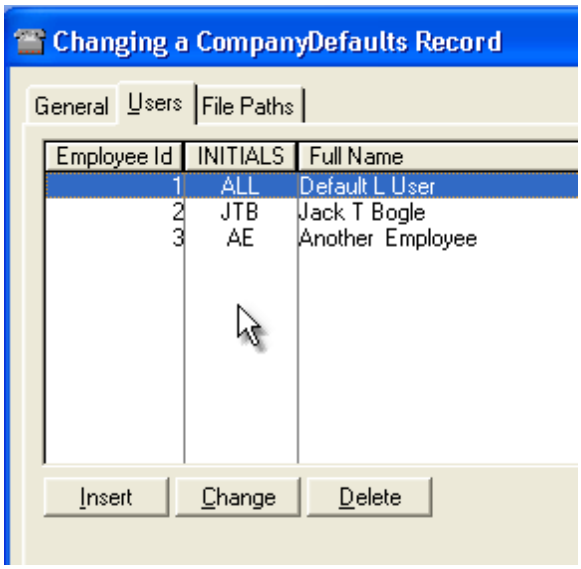


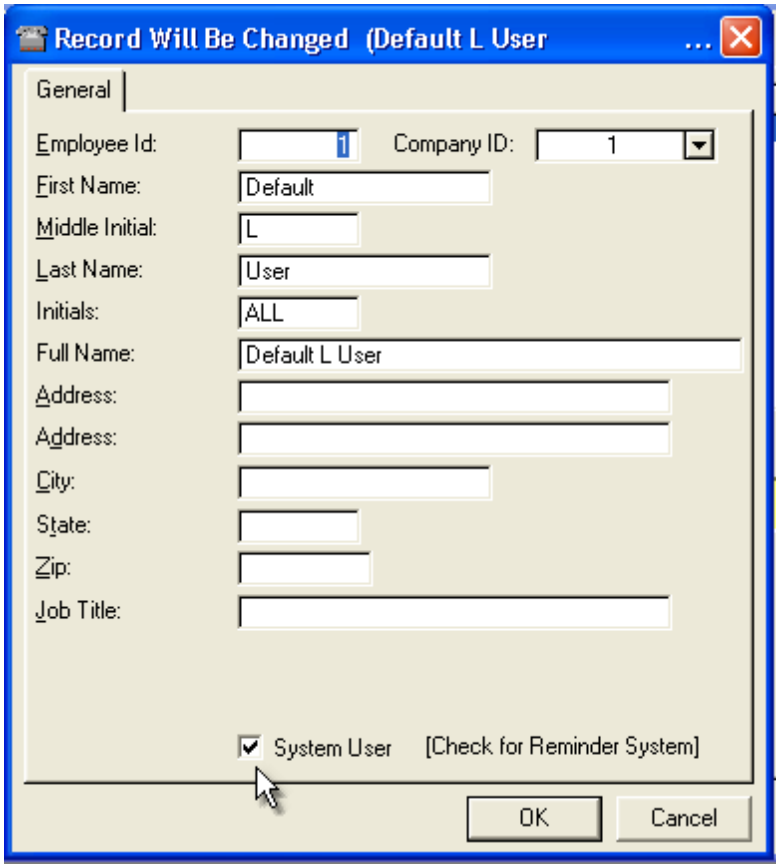
Select the [**Change**] button. (The [**Change**] button will appear dim and it will be *inoperable* if TelcoMgr has not been registered.)



The information that is entered into the above window also appears on various TelcoMgr reports. The [Path For Logo] field may be changed to allow a new logo selection. Use the [...] button to navigate to a new logo. Your logo art should be no larger that 1" H. x 3" W. (See the sample logo below.)

Select the **[Users] Tab** to enter/edit users for the **Automated Reminder System**.

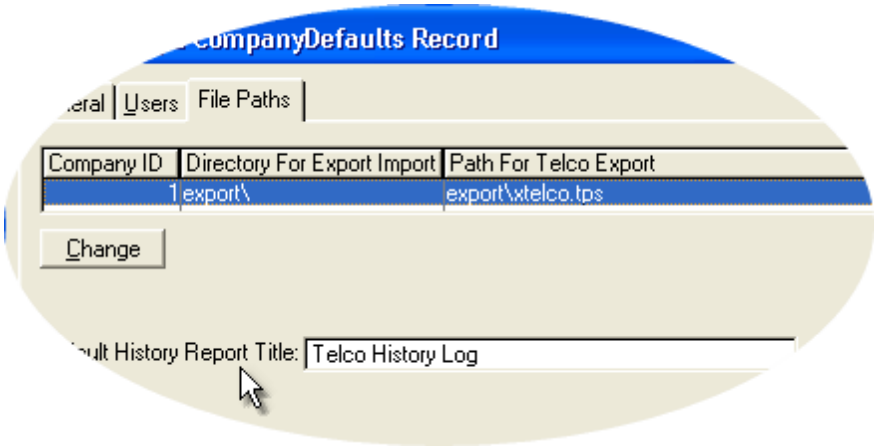




[ ] System User - Check this field to make the user of the **Reminder System**. The term 'Users' applies only to users of TelcoMgr's Reminder System.

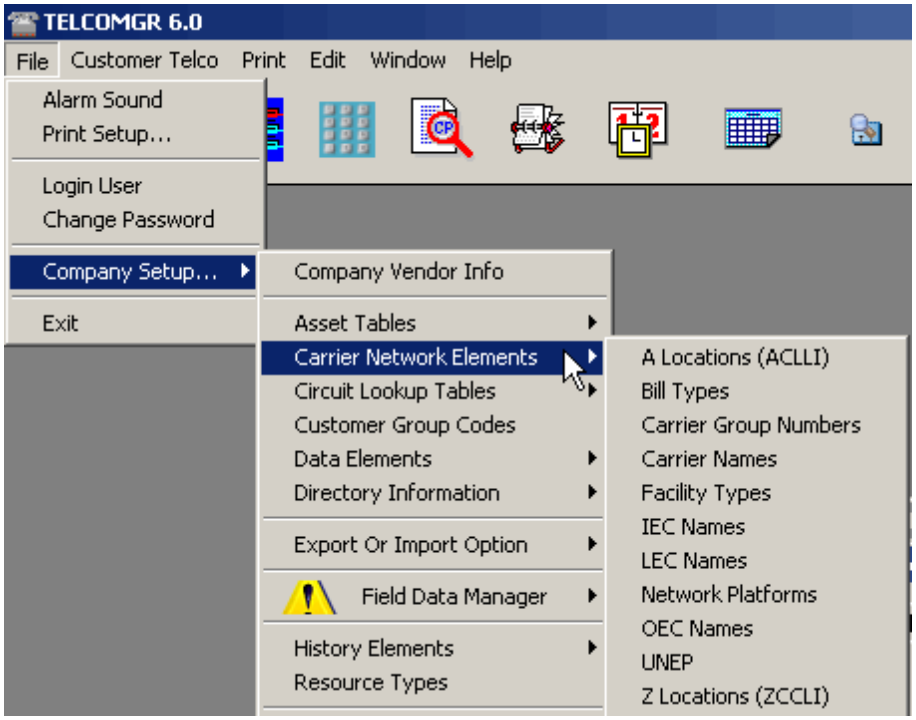
Select the **[File Paths] Tab** if you wish to change the default paths for the Export and Import process.

Tip: You may change the path to a floppy disk, however you must insert a formatted floppy disk before you start the process.



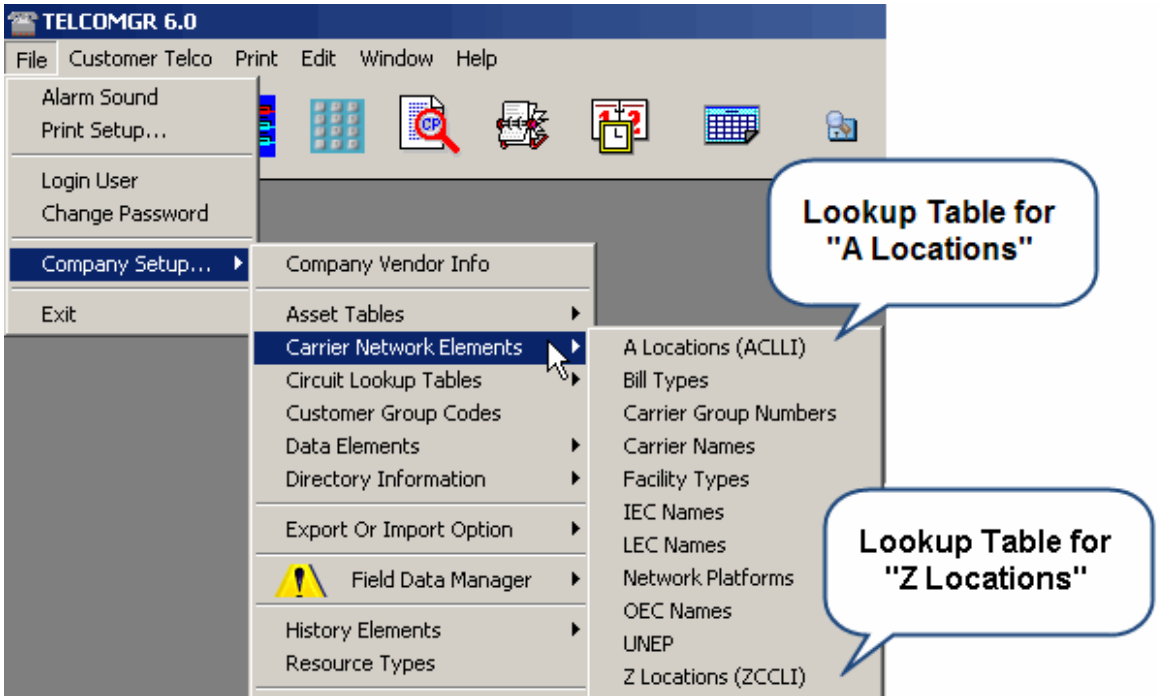
The **[Default History Report Title]** is used to title the history log report.

1.3.3 Carrier Network Elements



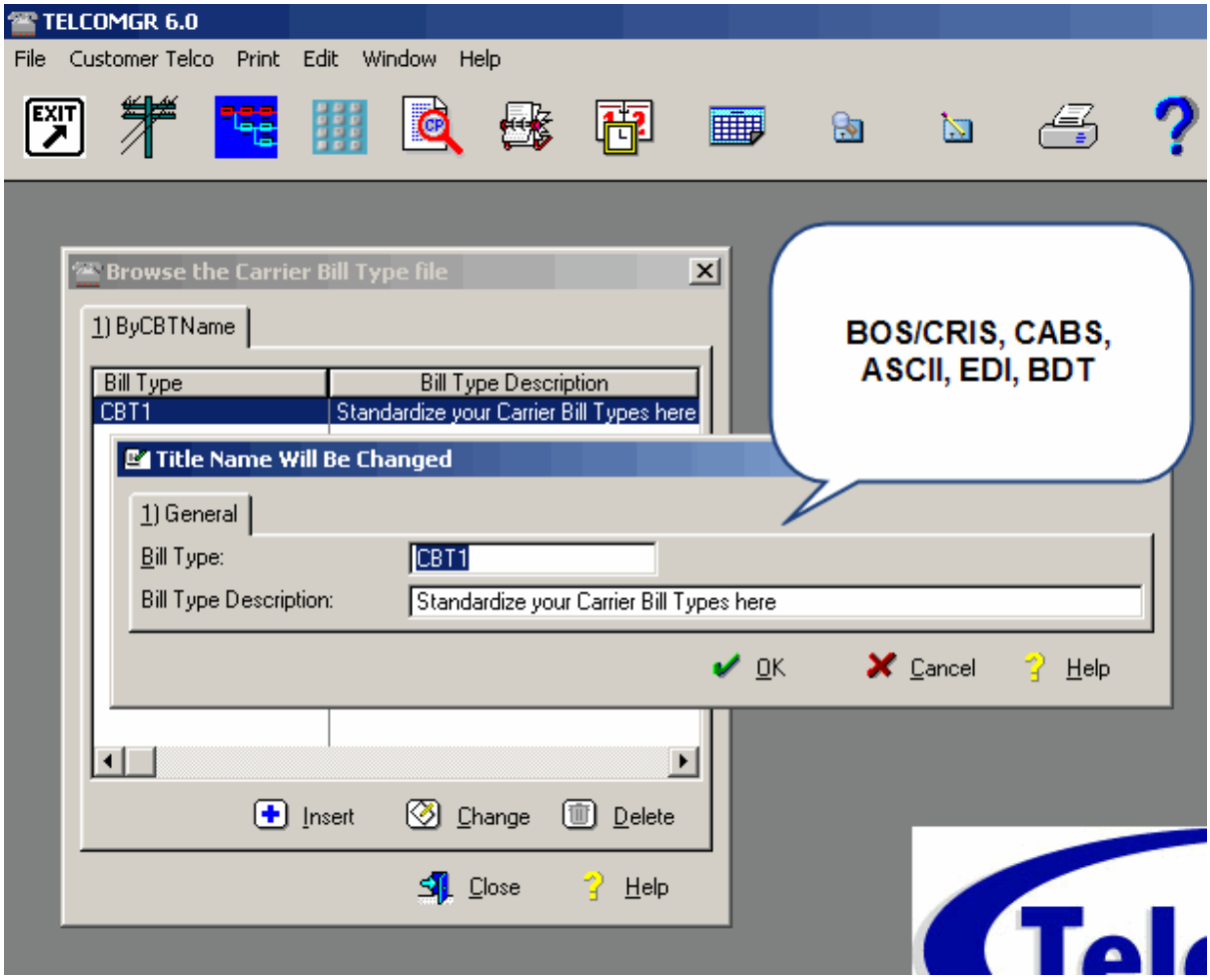
- A Locations
- Bill Types
- Carrier Group Numbers
- Carrier Names (in addition to IEC, LEC, & OEC Names)
- Facility Types (User Defined)
- Network Platforms
- UNE-P
- Z Locations

1.3.3.1 A Locations



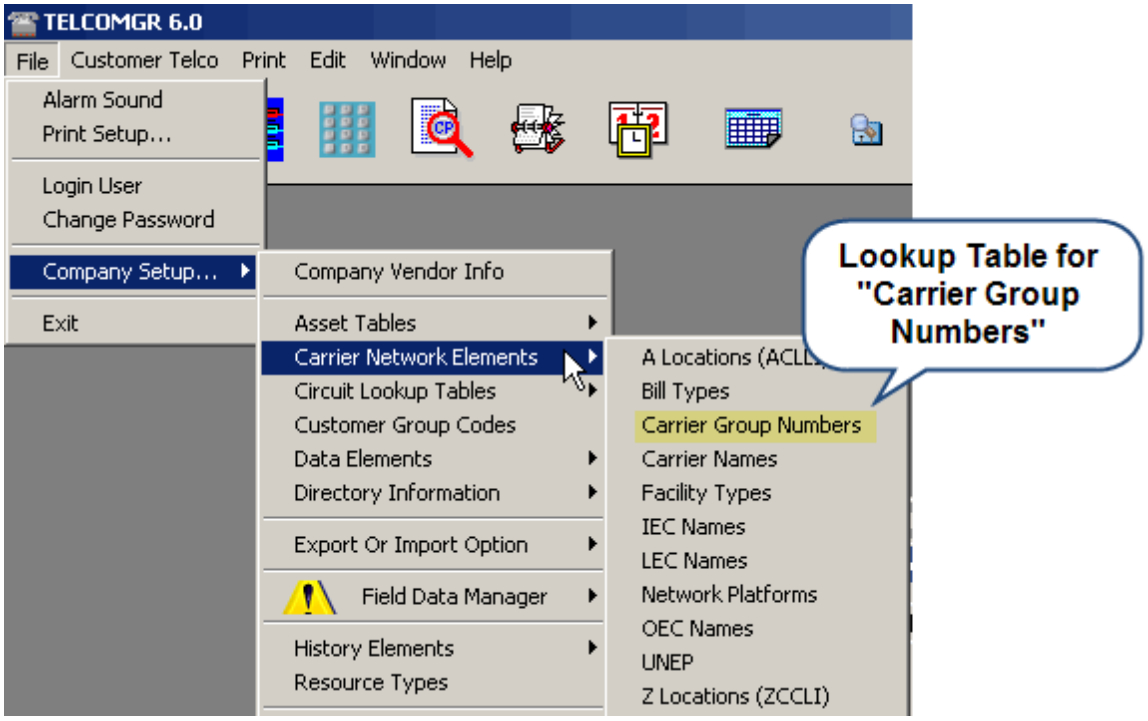
A and Z Location Identifiers may be stored in a Lookup Table for repetitive use and standardizing your database.

1.3.3.2 Bill Types



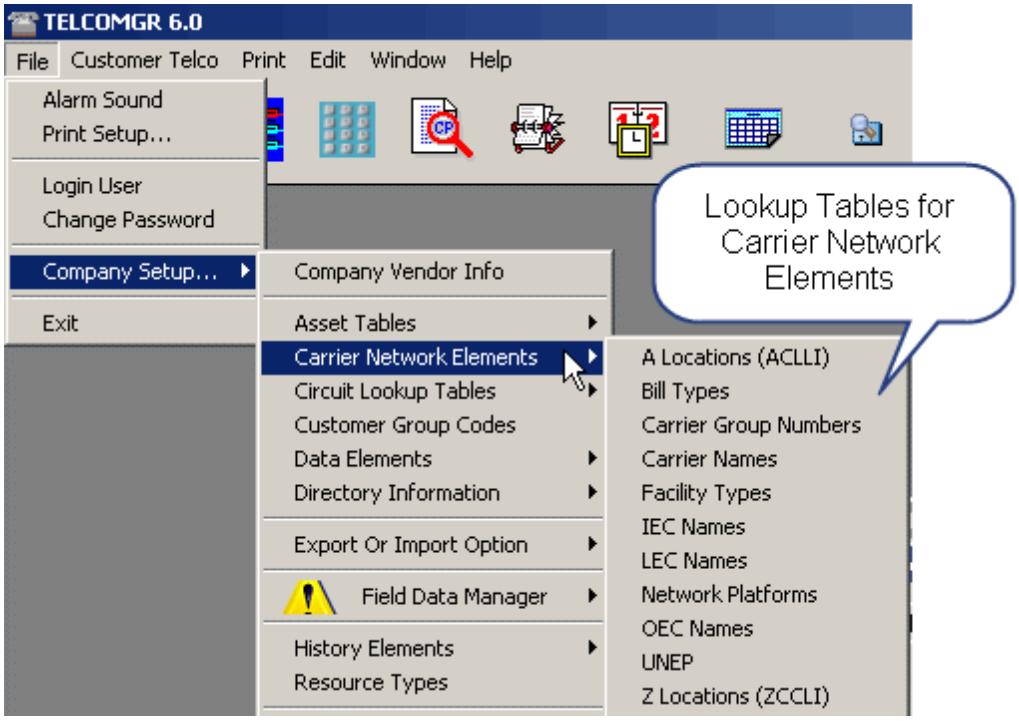
Maintain a list of **Carrier Bill Types** (**CBT**) for lookup.

1.3.3.3 Carrier Group Numbers



Lookup Table for Facility Designation (**Channel Group Number**): A one to five character portion of a Carrier Facility Circuit ID. The Facility Designation is always the first entry.

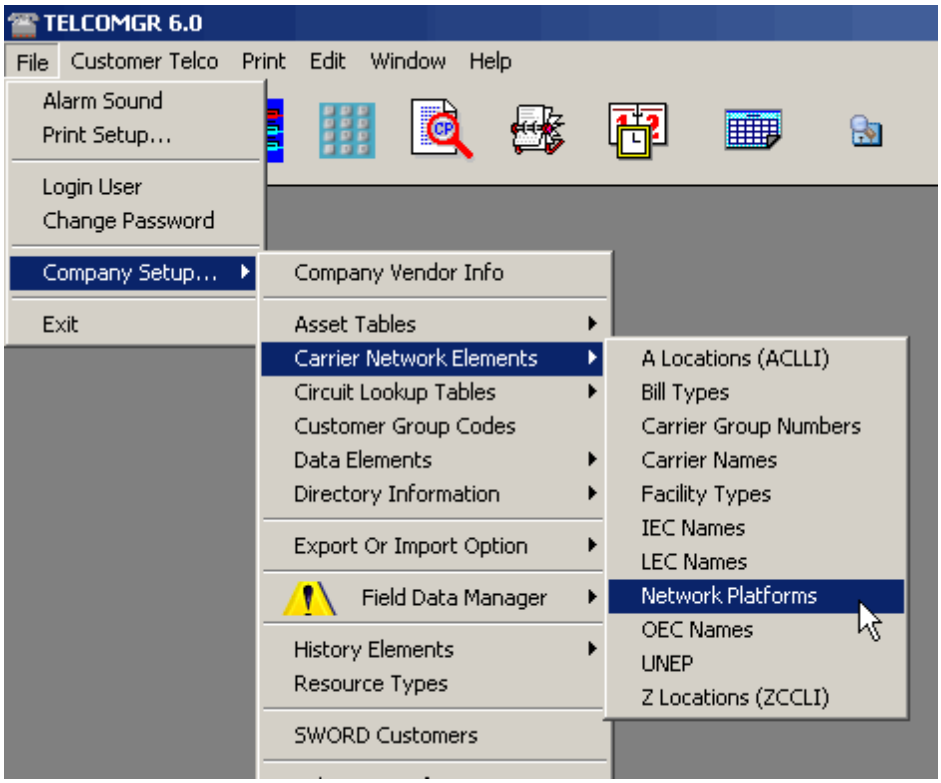
1.3.3.4 Facility Types



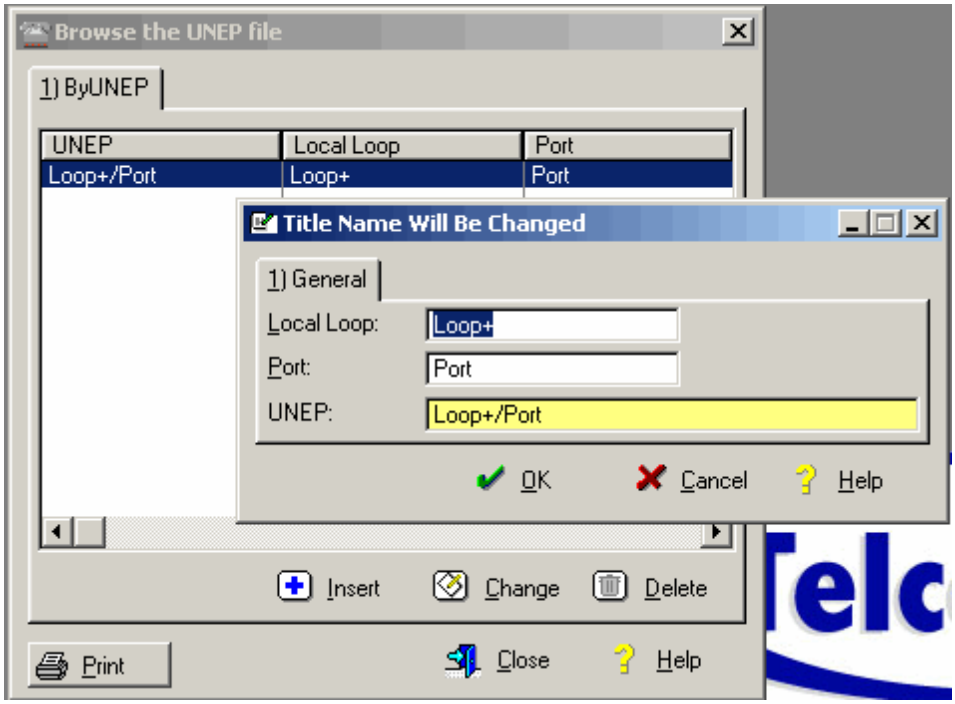
Lookup Table for **Facility Types**.

1.3.3.5 Network Platforms Required

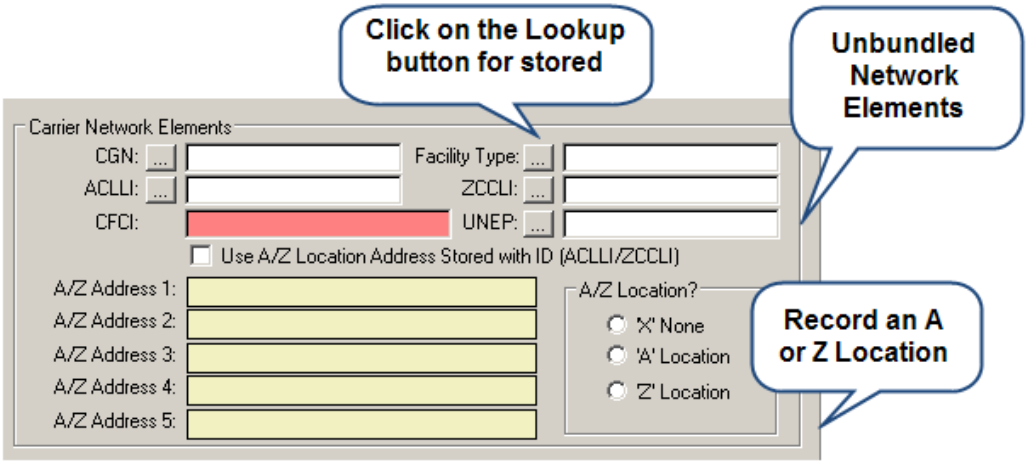
Lookup Table for **Network Platforms** required (**NPR**).



1.3.3.6 UNE-P



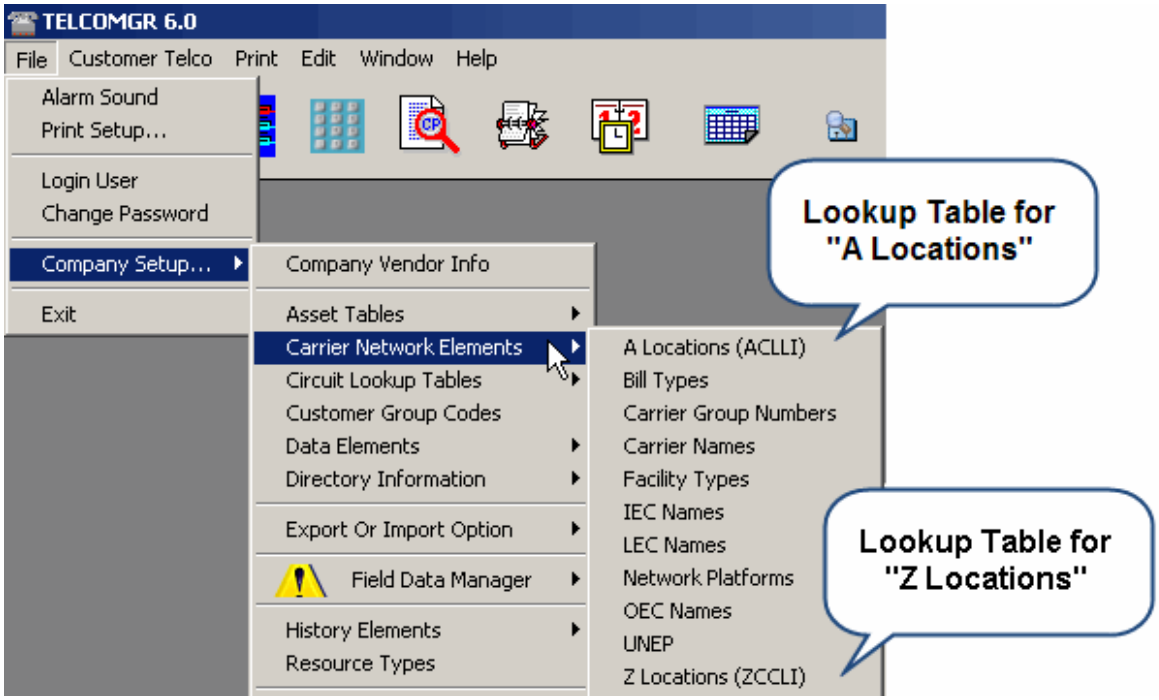
UNEP Lookup Table for the Circuits Table, UNEP field.



Lookup Table for Unbundled Network Elements Platform field: UNE-Platform (also known as UNE-P) is a combination of UNEs (loop + port is AT&T's definition, port involves switching which is bought per minute at a "cost" rate from the RBOCs) that allow end to end service delivery without ANY facilities. Despite not involving any CLEC facilities, it still requires facilities-based certification from the PUC to deliver services via UNE-P. The new TelcoMgr UNEP field will include a UNE-P Lookup Table.

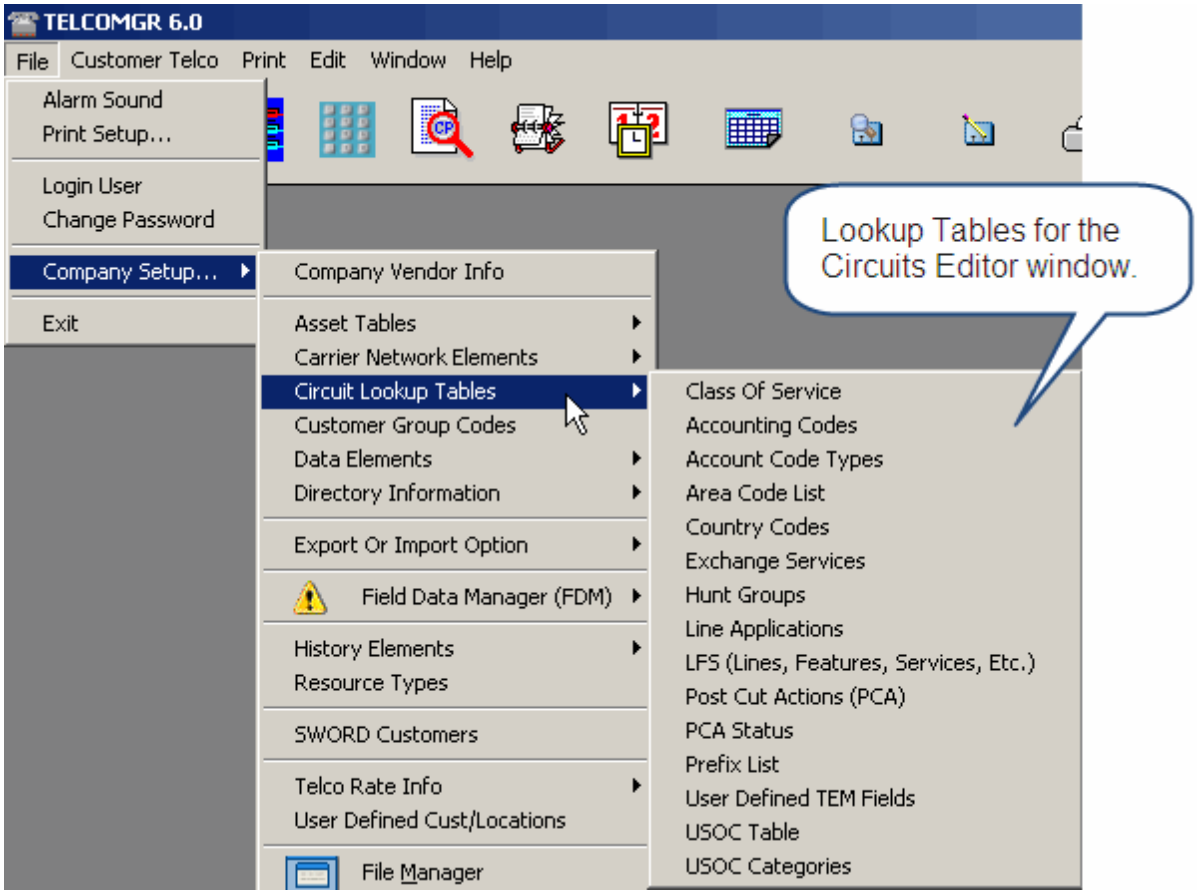
© Access Business Communications, Inc.

1.3.3.7 Z Locations



A and Z Location Identifiers may be stored in a Lookup Table for repetitive use and standardizing your database.

1.3.4 Circuit Lookup Tables



Many of the fields in the Circuit Table and related windows are supported by lookup tables to help standardize database entry.

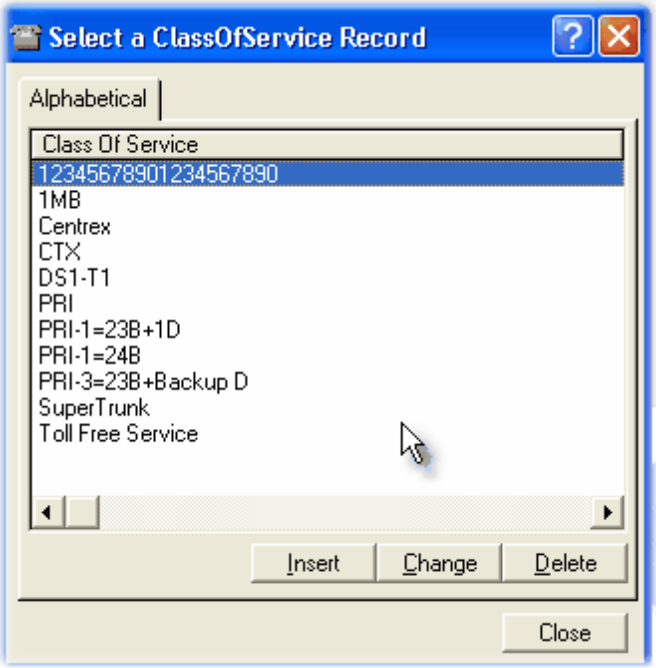
Related Topics:

- Circuits Editor
- Country Codes
- Area Codes
- Prefix Codes

1.3.5 Class of Service Lookup Table

Tutorial Example

Select the [**Class Of Service**] option.



Select [Insert] to add a new item. Use [Change] to edit any of the existing information. Select [Delete] to remove an item from the list.

Repeat this process for the remaining files.

1.3.6 Copy to Excel

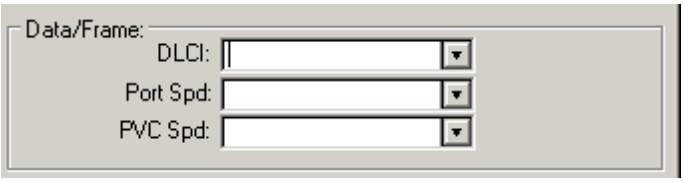
The Copy [**To Excel**] button will transfer the record contents of the active browse table to a new Excel workbook and spreadsheet tab. The process performs a column for column copy of the records that you can see in the browse table or that you may have tagged. If you do not tag any records, then all records in the file will be copied to an **Excel spreadsheet**.

More advanced export features are available by using the TelcoMgr IMPEX utility.

1.3.7 Data Network

See Data Network Elements

1.3.8 Data Network Elements



Data Network Elements may be recorded with each Circuit (**Frame**) record. Frame relay is a synchronous HDLC protocol based network. Data is sent in HDLC packets, referred to as "frames". The diagram below of an HDLC frame may be familiar, since without adding specific definitions of how the Address, Control and CRC is used, the diagram is applicable to IBM's SDLC, to X.25, to HDLC, to Frame Relay, as well as other protocols.

The following lookup tables are provided to normalize or standardize entries.

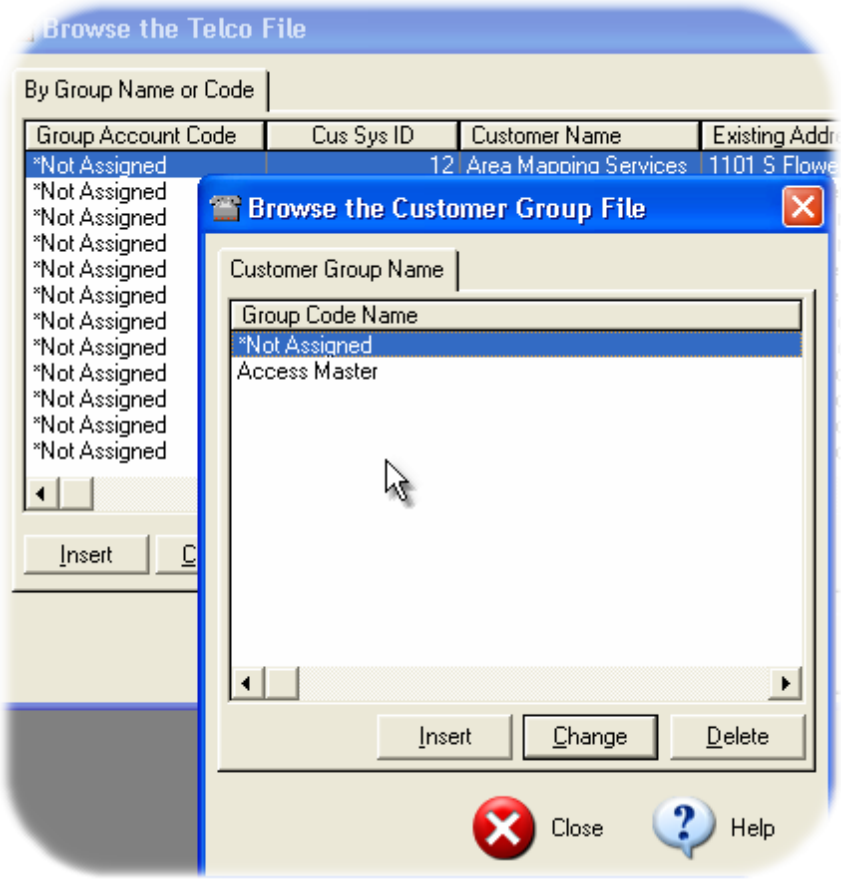
DLCI

Port Speed

PVC Speed

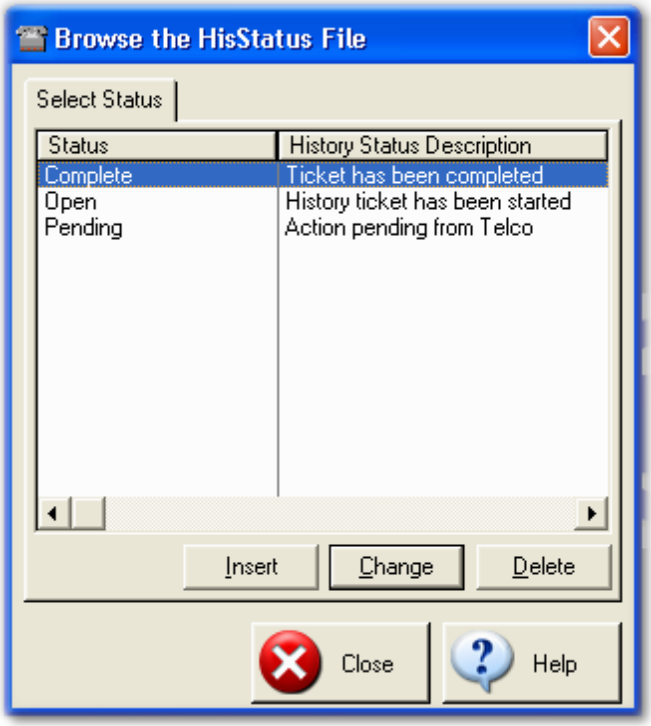
1.3.9 Group Names

TelcoMgr sorts information a **Global** or All basis, plus by specific user defined **Group Names** and by individual **Customer/Location Name**.



Use a **Group Name** to group similar **Customer/Locations** together for printing of specialized reports.

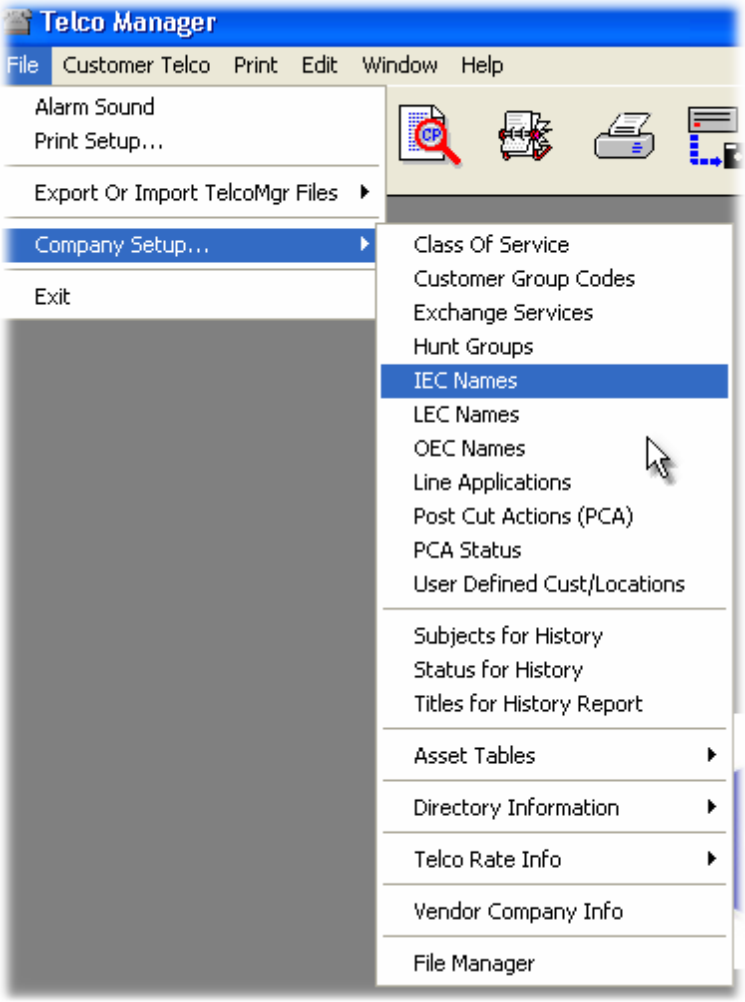
1.3.10 History Status Table



The **History Status** table relates to the Telco History help desk file. The [**Status**] field provides a **user defined record identifier** for the status of the history or help desk entry.

© Access Business Communications, Inc.

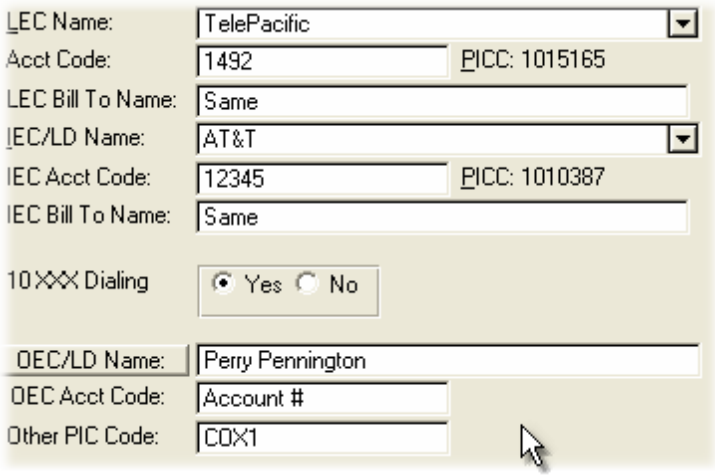
1.3.11 LEC, IEC and OEC Names



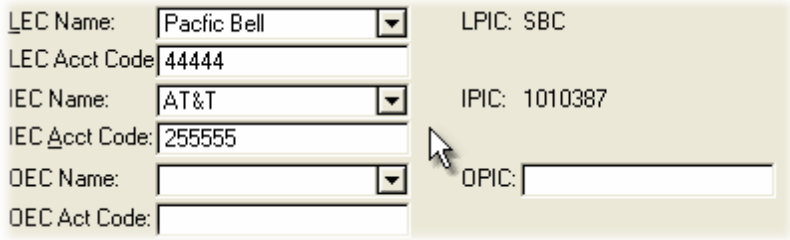
The **Carrie Names** files include the name data and the **Pre-subscribed Interstate Carrier Codes** (**PICC**).

- **Interstate Exchange Carrier** (**IEC**)
- **Local Exchange Carrier** (**LEC**)
- **Other Exchange Carrier** (**OEC**)

Customer Location Record:



Circuit Record:

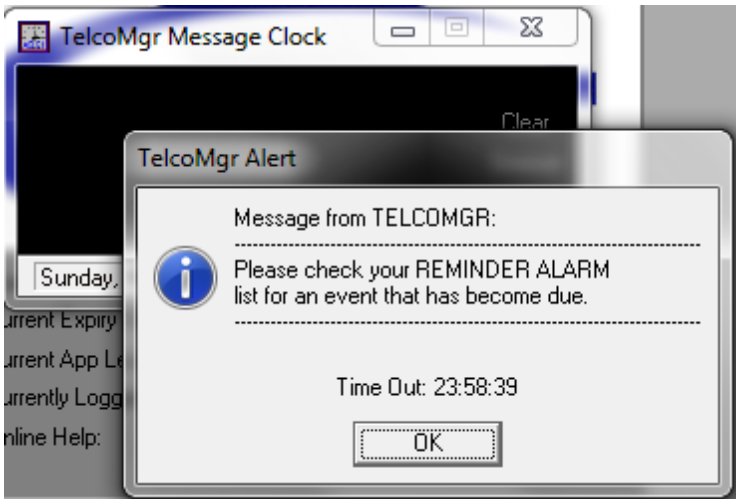


1.3.12 Message Clock

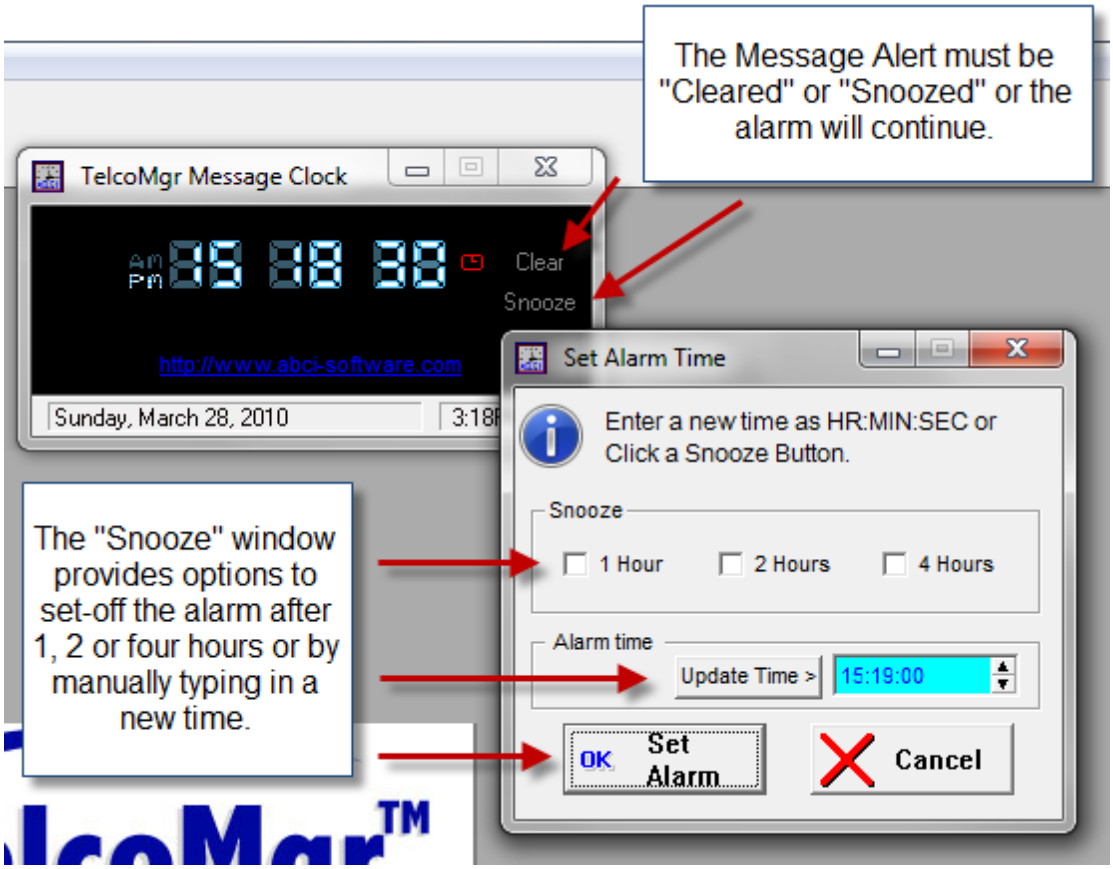
- **TelcoMgr Message Clock (msgclock.exe) application is supplied as an external Alarm Clock with an alarm snooze control. This application can be replace with a "user-defined" application like a "macro maker/player" that can be used to send an email message or SMP message to a cell phone.**

a) Once the reminder alarm is triggered then TelcoMgr can automatically launch **TelcoMgr Message Clock** which can send an audio visual message that is external to TelcoMgr.

b) This external alert method is considered to be more passive than the TelcoMgr built in alarms.



Once the "Message" window is closed a new message alert is set by the Message Clock until the "**Alarm**" is "**Clear**" and a new time is set by the "**Snooze button**."



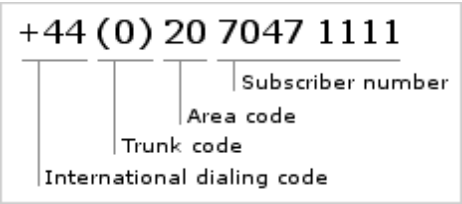
a) To use the [**Snooze**] button click on one of the checkbox option or type in a new time using the time format of hour:minutes:seconds.

b) You can use the backspace key to clear the existing time.

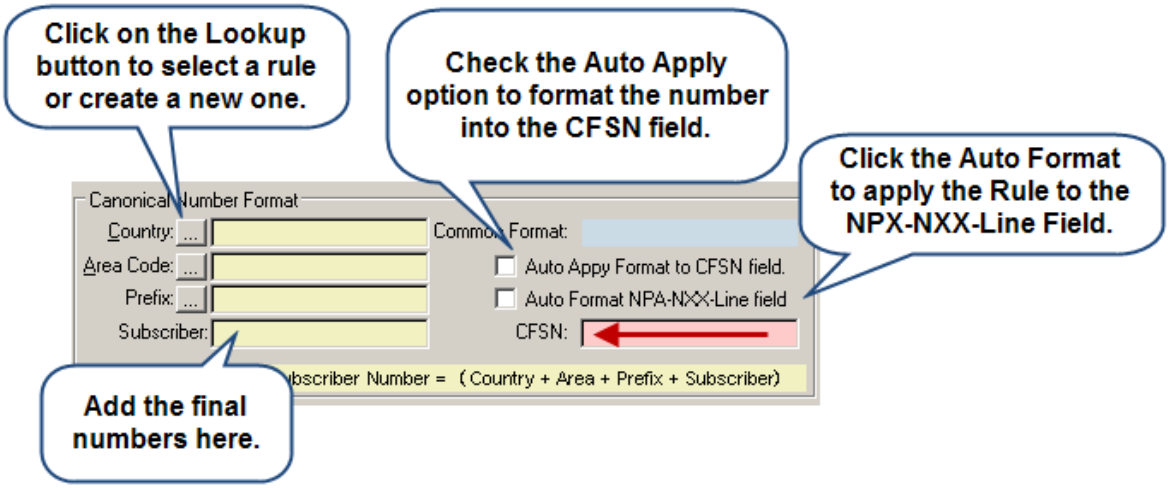
c) Also, you can click on the up or down arrows to increment the time.

1.3.13 Phone Numbers: Canonical Formats

TelcoMgr supports (T6) Canonical (rule based) formats of telephone numbers: The NPA-NXX-Line [CIR:Line] field has been reformatted so telephone numbers may be accepted in various formats, such as +1 (555) ###-#### or (01) ### ######, plus other international number patterns and emerging ISO formats. The Microsoft TAPI canonical address format is a universal phone number format that is both standardized and widely recognized by many different software systems. The format explicitly identifies the components of a phone number and includes Country or Region Code, Area Code and the subscriber number. The canonical format is +Country/RegionCode (AreaCode) SubscriberNumber. For example, this is how you would enter a number for a subscriber in the United States of America in canonical format [+1 (425) 555-0100].



Inside the Circuits Editor window (see image below), phone numbers may be formatted according to the rules that are set for a specific Country, Area Code and Prefix Code.



Phone Number Format Options

Phone number fields may be updated in mass by using the Field Data Manager.

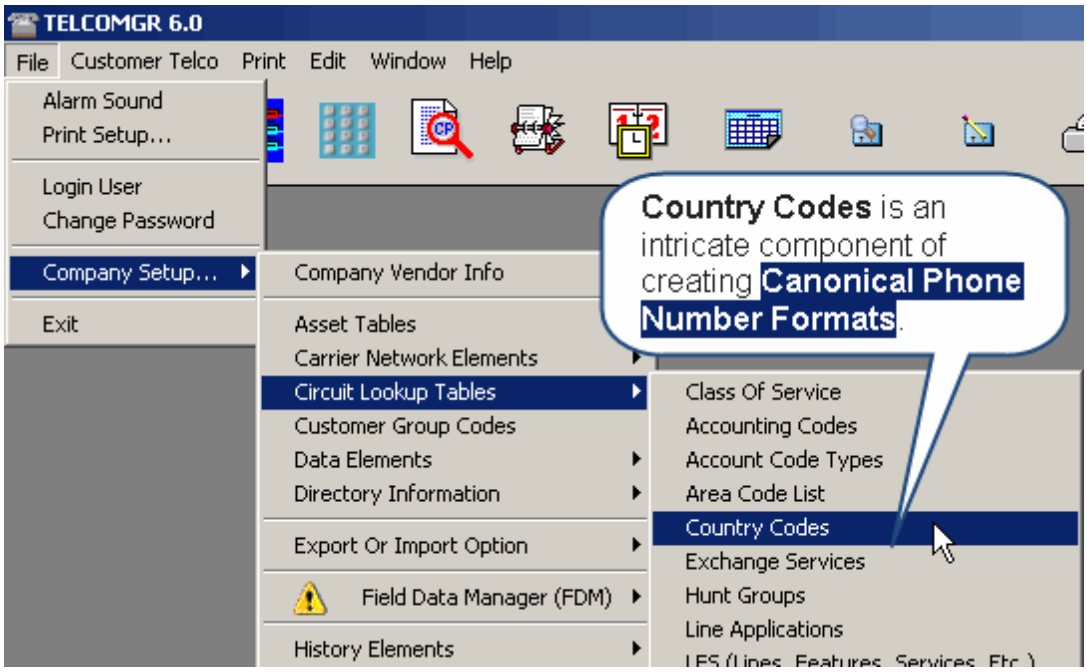
- Standard NPA-NPX-LINE format
- Common business format (###) ###-####

- Microsoft TAPI format +1 (###) ###-####

Related Topics:

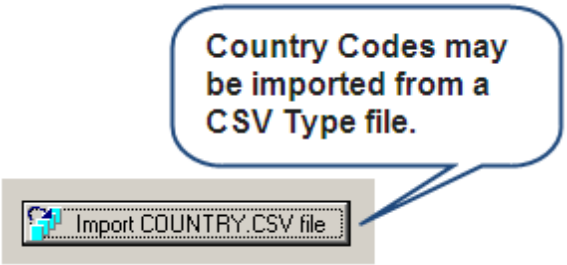
- Country Codes
- Area Codes
- Prefix Codes

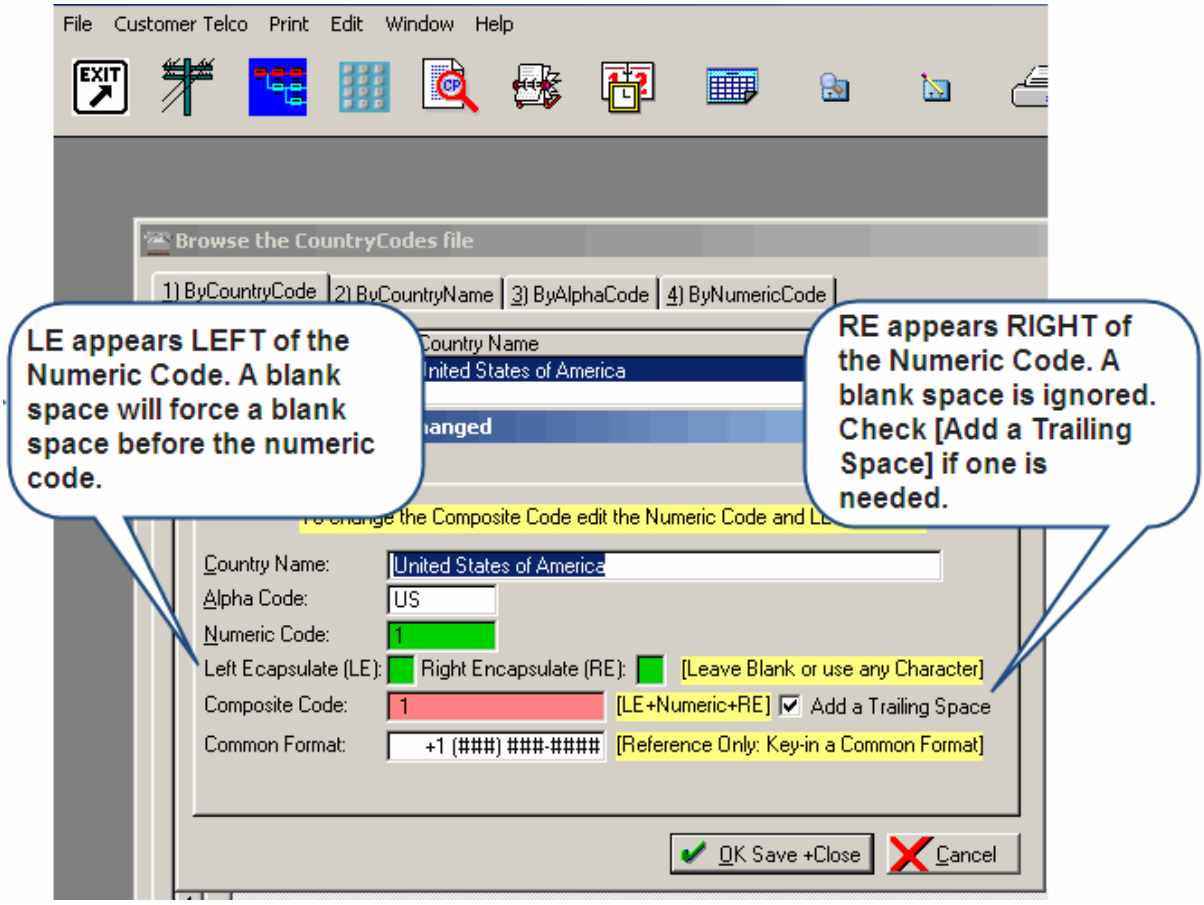
1.3.13.1 Country Codes



Select Country Codes and the **Country Code Table** will open.

Add Country Codes or import from an CSV type file.





Notes:

LE appears LEFT of the Numeric Code. A blank space will force a blank space before the numeric code.**RE** appears RIGHT of the Numeric Code. A blank space is ignored. Check [Add a Trailing Space] if one is needed.

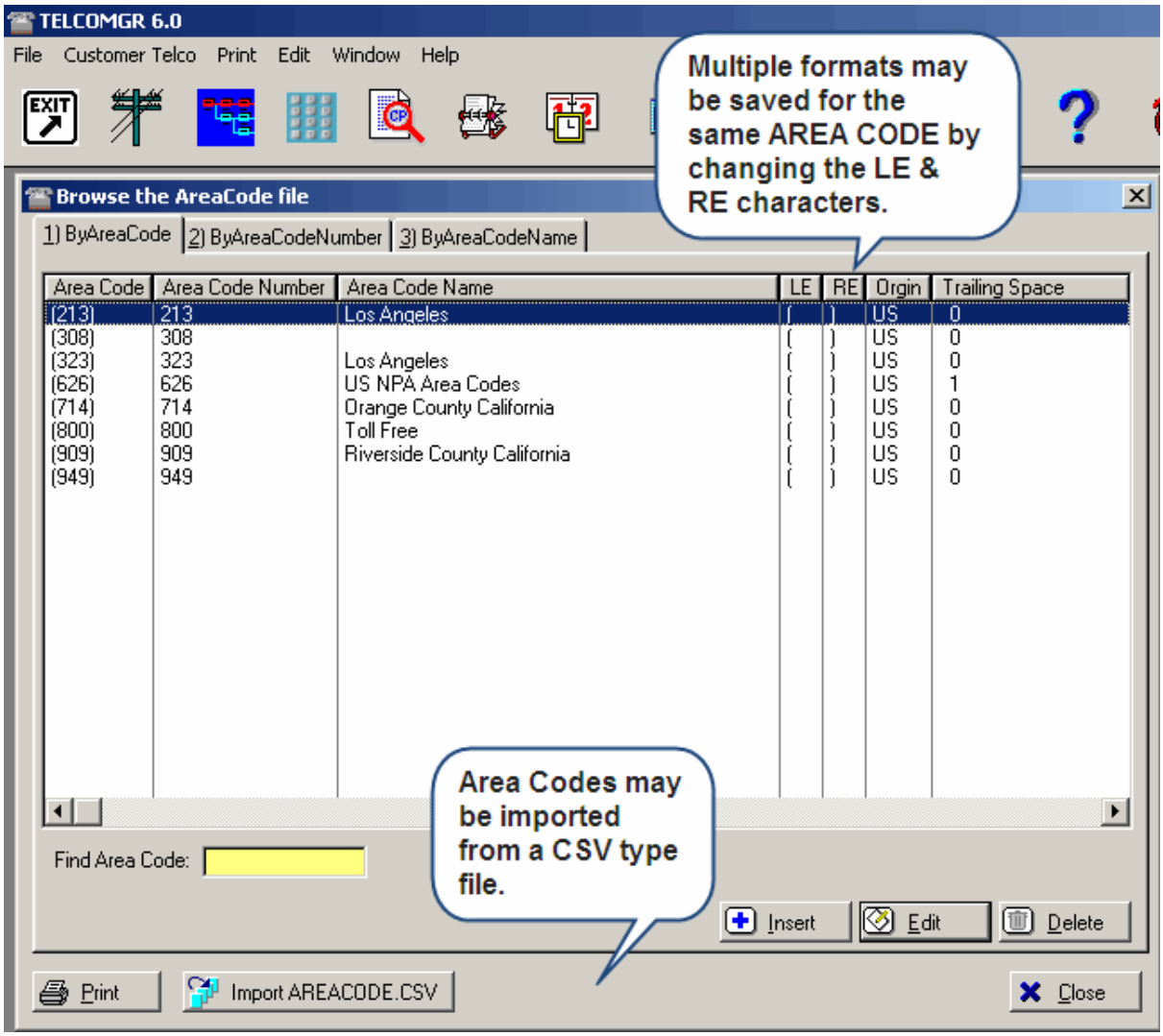
The **Composite Code** = a concatenation of the LE+Numeric Code+RE.

Common Format: This field is used to record the reference format.

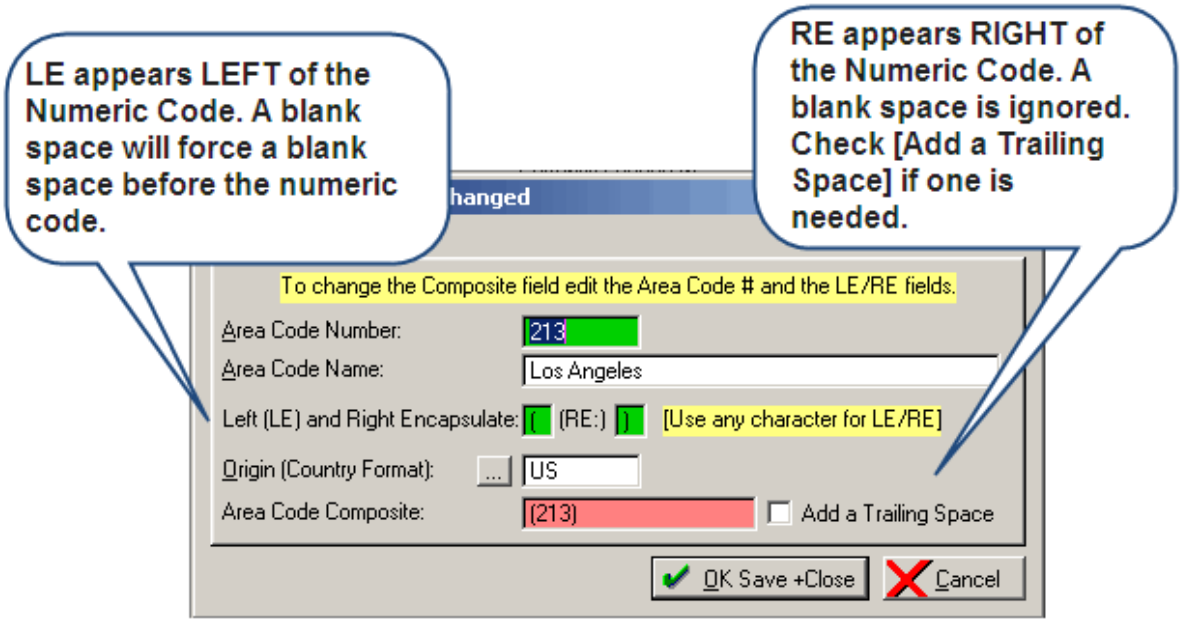
Related Topics:

- Area Codes
- Prefix Codes

1.3.13.2 Area Codes



Enter **AREA CODES** or import from a CSV type file.



Notes:

LE appears LEFT of the Numeric Code. A blank space will force a blank space before the numeric code.**RE** appears RIGHT of the Numeric Code. A blank space is ignored. Check [Add a Trailing Space] if one is needed.

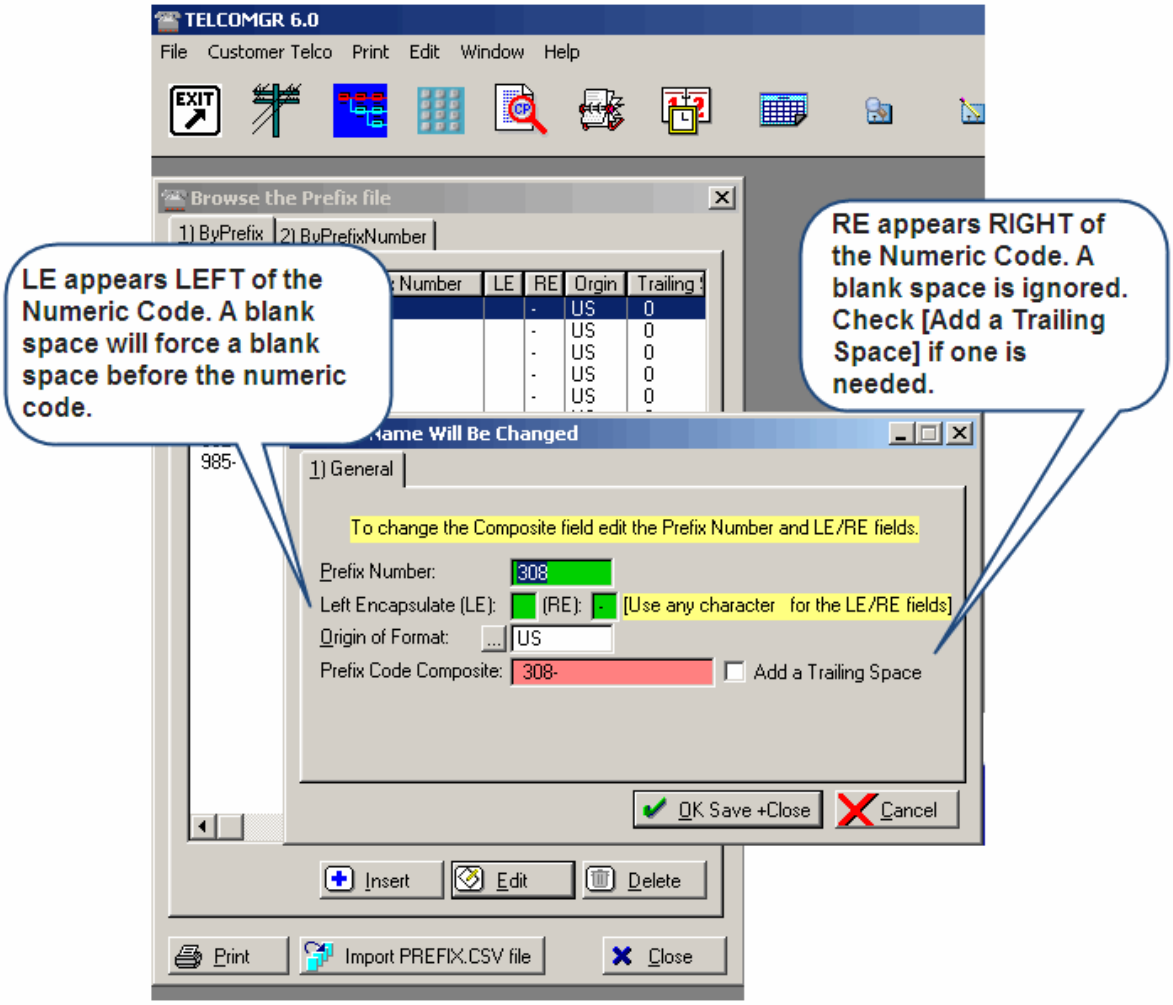
The **Composite Code** = a concatenation of the LE+Numeric Code+RE.

Common Format: This field is used to record the reference format.

Related Topics:

- Country Codes
- Prefix Codes

1.3.13.3 Prefix Codes



Enter **PREFIX CODES** or import from a CSV type file.

Notes:

LE appears LEFT of the Numeric Code. A blank space will force a blank space before the numeric code.**RE** appears RIGHT of the Numeric Code. A blank space is ignored. Check [Add a Trailing Space] if one is needed.

The **Composite Code** = a concatenation of the LE+Numeric Code+RE.

Common Format: This field is used to record the reference format.

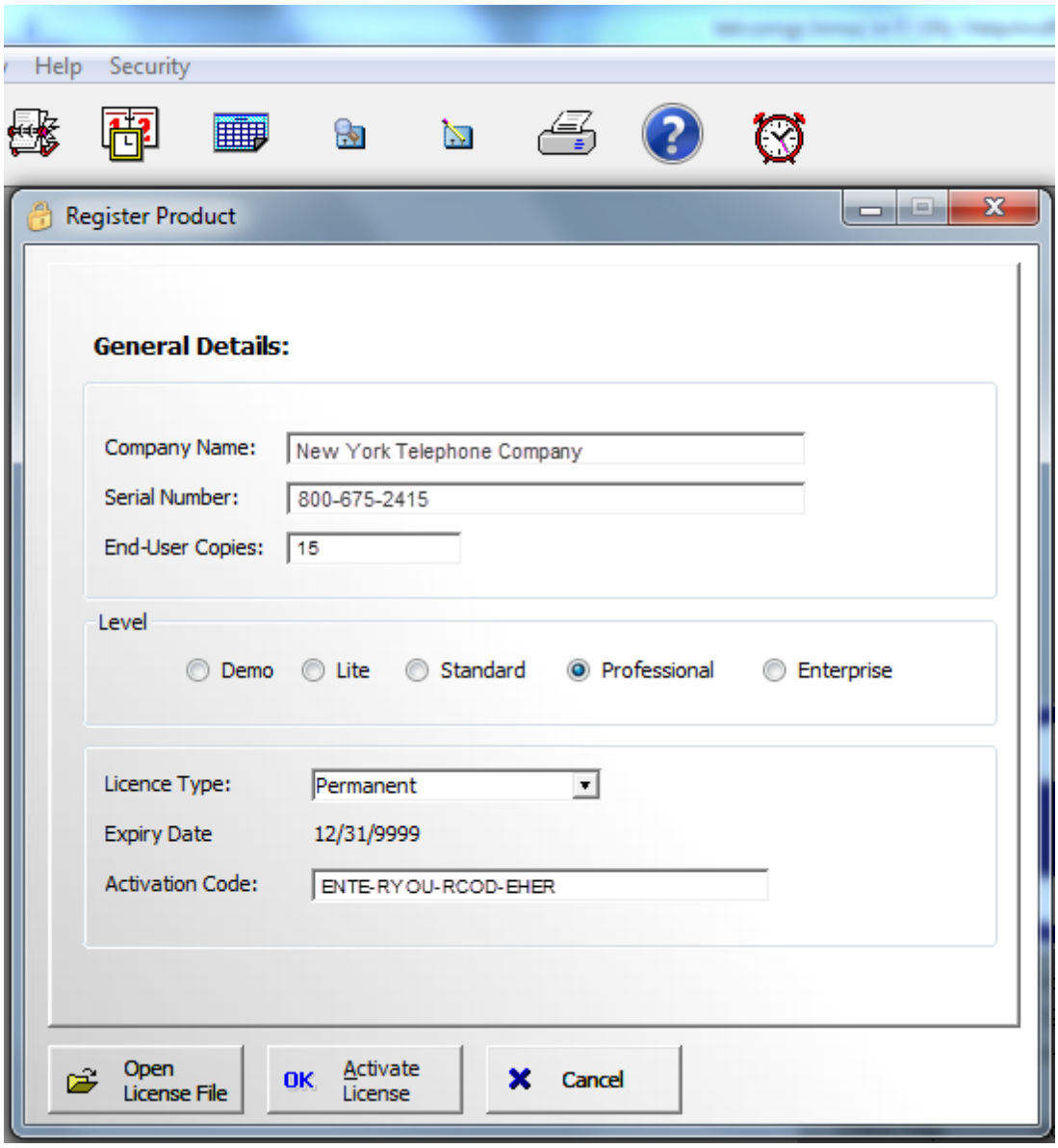
Related Topics:

- Country Codes
- Area Codes

1.3.14 Registering TelcoMgr

Select [Security] from the Main Menu Window.

Select the Register Product option.



Enter your Company Name as recorded with ABCI-software.com copy the name from the registration email sent from sherlock@abci-software.com.

Enter the Serial Number assigned to your registration.

Enter the End-User Copies or quantity of simultaneous user licenses.

Enter the License Activation Code

The information that you key-in must be identical with the information that is used to create the activation code.

Alternately, you may open the license.xml file, which is attached to the registration email sent from sherlock@abci-software.com.

© Access Business Communications, Inc.

Related Topics: Activating License

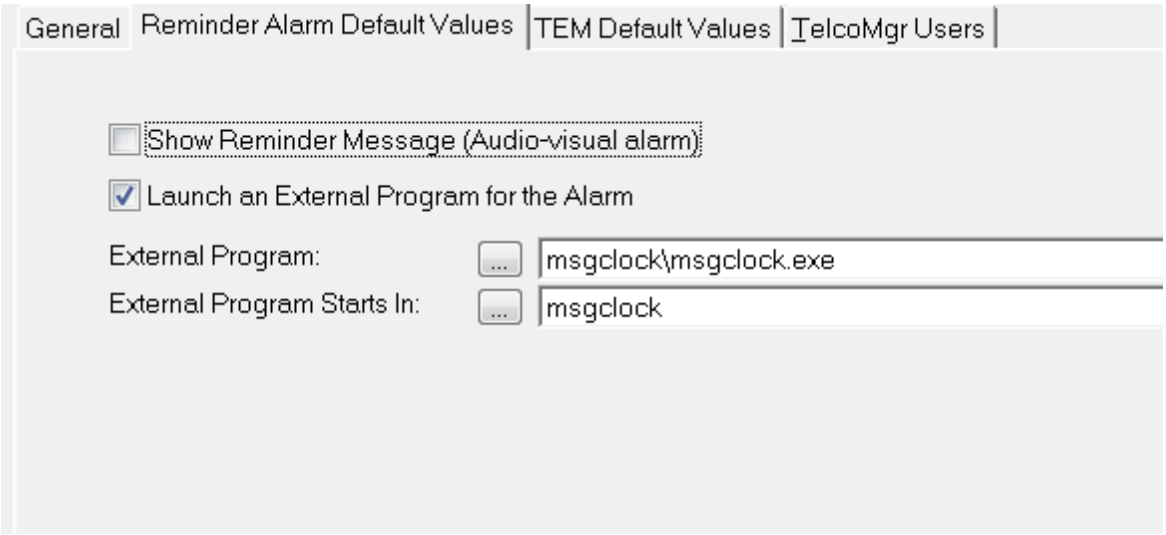
1.3.15 Reminder Alarm Default Settings

- **Administrator Users have a choice for Reminder Alarm default settings:**

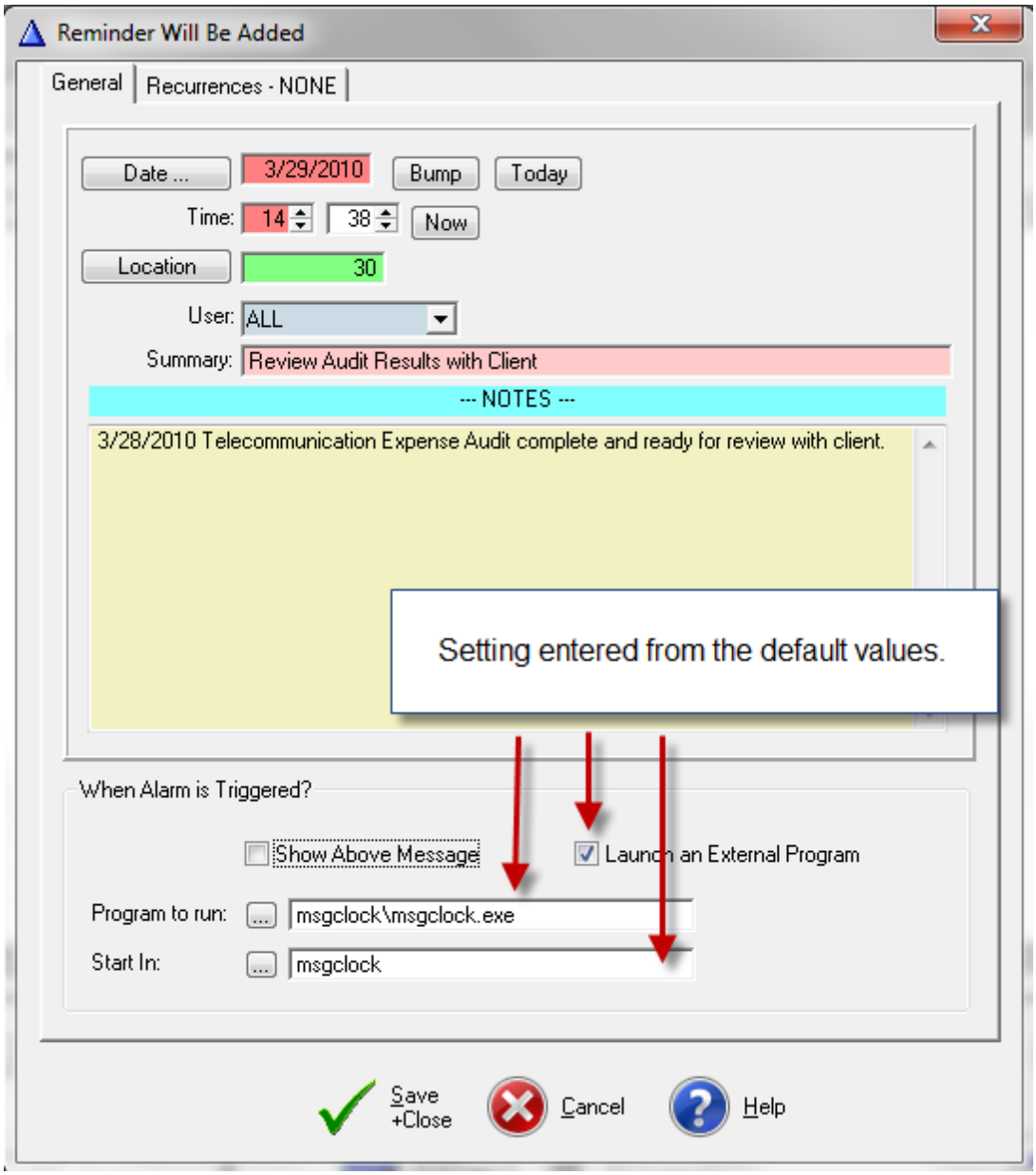
a) Select FILE > Company Setup ... > Company Vendor Info > click on the [Change] button > click on the Reminder Alarm Default Values TAB.

b) Select the **Show Reminder Message** checkbox, which provides an audio and visual alarm built into TelcoMgr;

c) Or select **Launch an External Program** checkbox to notify the users when TelcoMgr triggers a message in connection with a Reminder Alarm inside TelcoMgr.



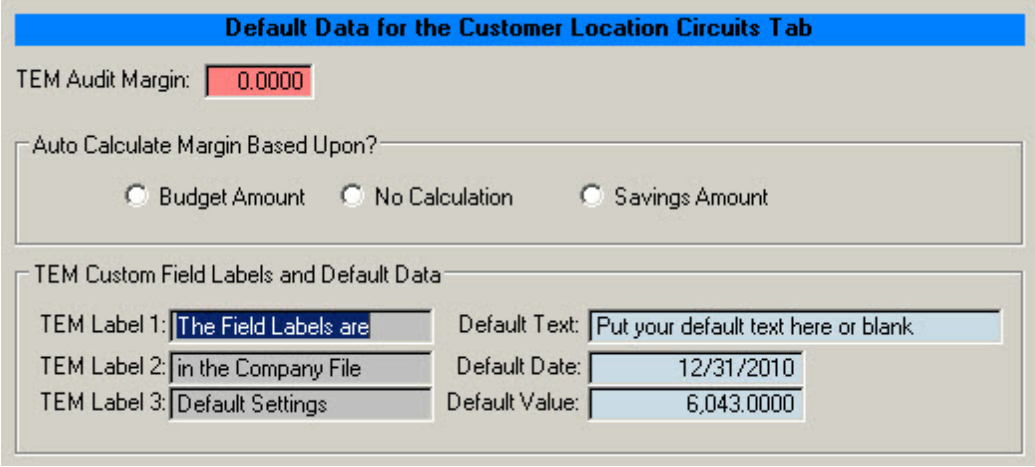
The screen above is from the update form for the Company Defaults file. These default values are set inside a new Reminder Alarm window as shown below.



1.3.16 User Defined TEM Field Defaults

1) User-definable fields (UDF) for Telecom Expense Management.

a) Default Values are stored in the Company Default Table or Vendor Company file.



TEM Fields Default Values

b) The TEM Audit Margin is used to populate a derived TEM Audit Margin field in the Customer Location table.

c) The Auto Calculate Margin Based Upon {Budget Amount/No Calculation/Savings Amount} radio option field is used to populate a Auto Calculate Margin Based Upon field in the Customer Location table.

d) Both of these default values may be updated or custom for each Customer Location record and are used to initialize information in the Rate Comparison Table and Expense Logging Table.

e) The following 3 three fields and field labels are the default values for derived fields in the Circuits window and table.

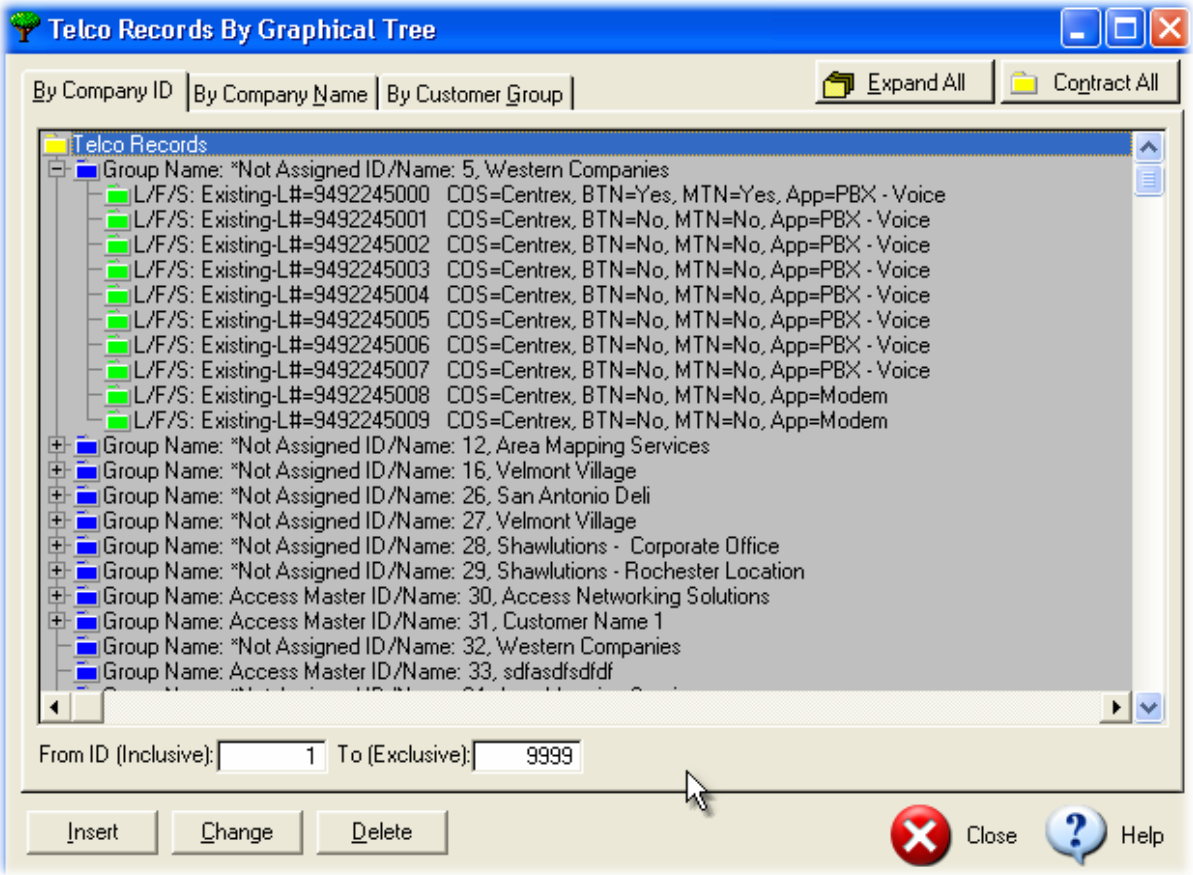
f) TEM Field 1 is a UDF for text and the field label is also user-definable.

g) TEM Field 2 is a UDF for a date and the field label is also user-definable.

h) TEM Field 3 is a UDF for a numerical value and the field label is also user-definable.

1.4 Browse Graphical Tree

The **Graphical Tree** window displays all of the **Customer Telco Records** by **Company ID**, by **Company Name** and by **Group Name**.



The window has three sorted and filtered views or tabs, [**By Company ID**], [**By Company Name**] and **[By Group Name]**.

The **Blue Folders** represent **Company Master Telco** record. The **Green Folders** represents **Lines, Features or Service**.

You may narrow the view or selection of projects by using the **[From ID] character field and the [To] character field**.

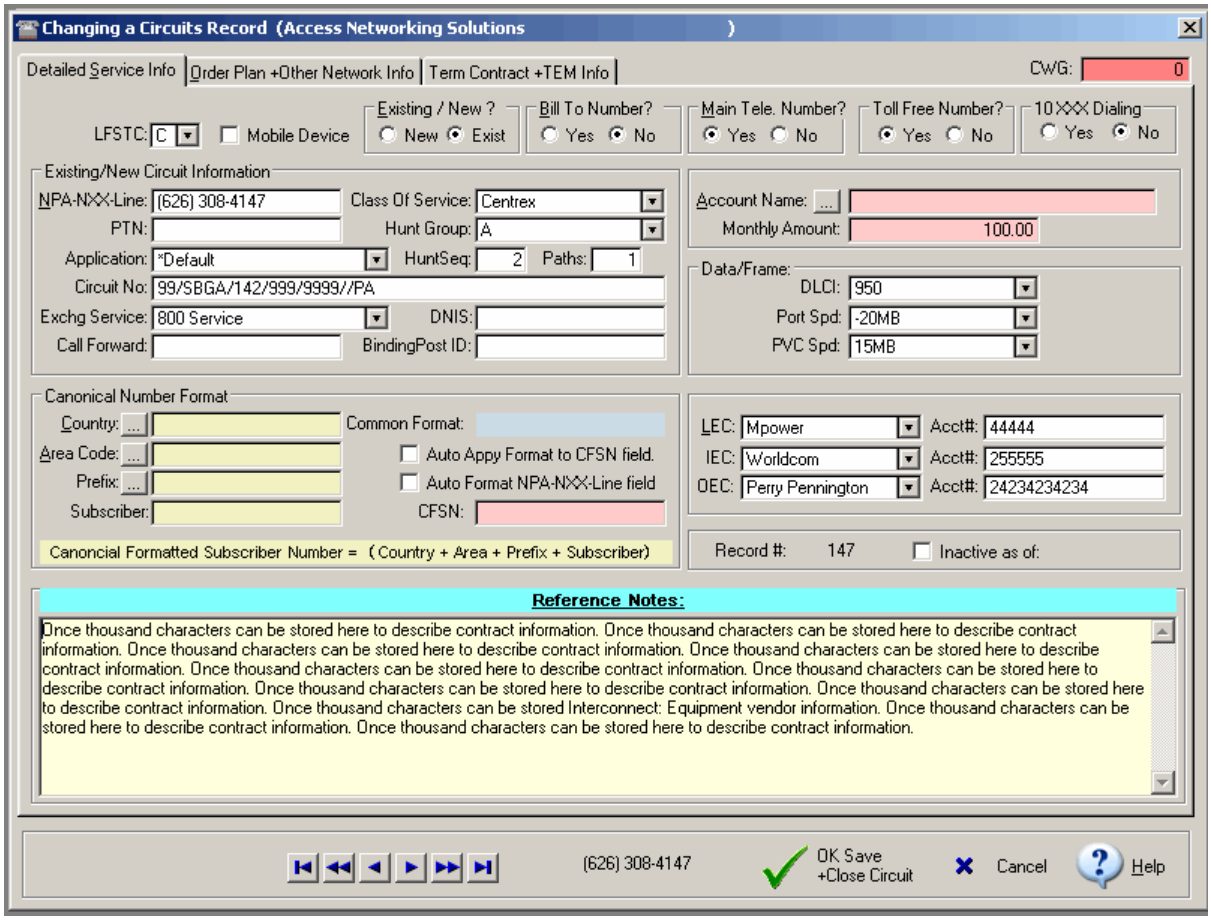
Use the [**Expand All**] and/or [**Contract All**] buttons to expand or collapse the tree.

Use the highlight bar to select the appropriate **Master Telco record** (with the blue folder icon) for printing. Click on the [+] icon to make sure the desire record is selected for printing. Also, you can verify which record will be printed by the Project # just above the [**Print Record**] button.

User Tip: Only the records with the 'Blue Folder' icons may be printed. To print a project position the 'highlight bar' on [+ or -] icon to 'open' the record. Select the [Change] button to make any changes to the Telco information.

1.5 Circuit Record: Detailed Information Tab

Enter the appropriate information for each field. If you have entered the LEC and IEC information on the **Master Telco record**, the **LEC** and **IEC** information will be automatically populated into the **Circuits record**.



Circuit Tabs: Detailed Service Info | Order Plan +Other Network Info | Term Contract +TEM Info

Detailed Service Info Tab:

- LFSTC - TelcoMgr's user-defined shorthand designation. The letter (L) should be reserved for LINES.
- [**v**] **Mobile Device** indicator
- Existing / New defaults as 'Existing'.
- **Bill To Number** (BTN) defaults as 'No'. Usually you only have one **BTN**, however, you may enter multiple BTNs.
- Main Tele. Number (**MTN**) defaults as 'No'. Select 'Yes' in the number is the starting/pilot number of a hunting group.
- The Local and Long Distance Carrier information group is automatically populated by the values in your **Master Account** record. You may over-ride the Master information if you wish.
- The Existing/New Circuit Information group is used to described specific details about the line/circuit, service, or feature.
- [**NPA-NXX-LINE**] is used to record the Area Code, Local Exchange, and the Line Number.
- **Class of Service** is used to record the type of line/circuit, service, or feature. Use the drop-down list to view previously entered Class of Services.
- [**PTN**] or **Point-To-Number** is used for many Class of Services. For example, often times a 'toll free' number is pointed to another number such as a main number of a specific hunt group.
- **Hunt Group** is used to identify which numbers/services belong to each other.
- **Application** is used to describe the primary purpose of use of each line/service.
- **Path** is used to determine the quantity of speech paths that the line provides. The following is a list of examples:
    1. Standard business lines = 1
    2. Centrex line = 1
    3. Basic Rate ISDN (BRI) = 2
    4. Primary Rate ISDN = 23
    5. T1 = 24
    6. DS0 = 1
    7. DS1 = 24

Related Information:

Account Codes

Canonical Phone Numbers

Carrier Network Elements

Circuit User-Definable TEM Fields

TEM Default Settings

© Access Business Communications, Inc.

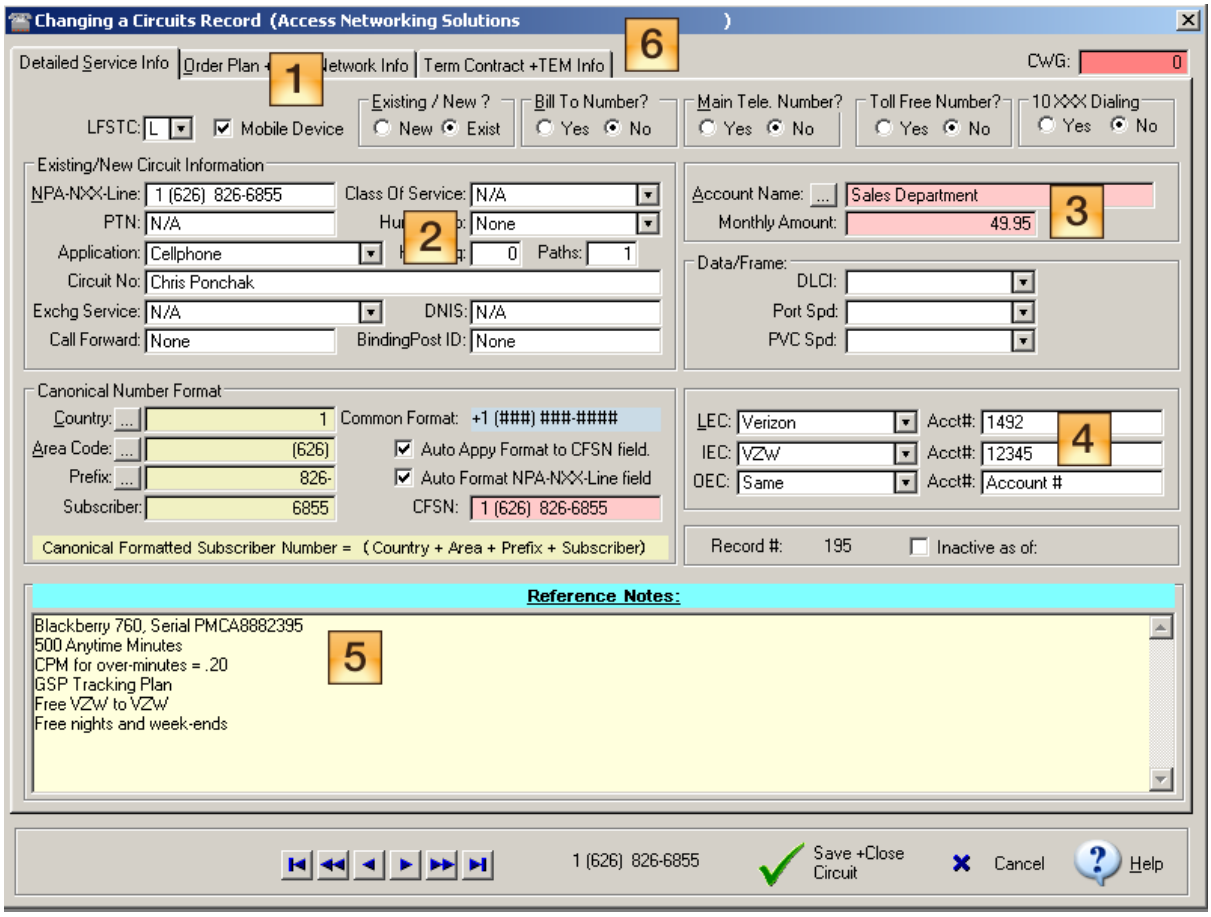
1.5.1 Cellular Telephones

Cellular telephones are typically viewed as:

- Subscriber line;
- Calling/data term plan;
- PDA
- Equipment

TelcoMgr provides the end-user a great deal of flexibility to choose where and how the data about **cell phones** or **mobile telephone** gets recorded.

User Tip: Recording Cellular Telephone Devices



The numbers in the gold boxes appearing in the image above are explained below:

[1] Check the [X] **Mobile Device check box**. This field is useful to specifically filter browse tables, generate reports and/or copy to Excel information that is specific for mobile devices.

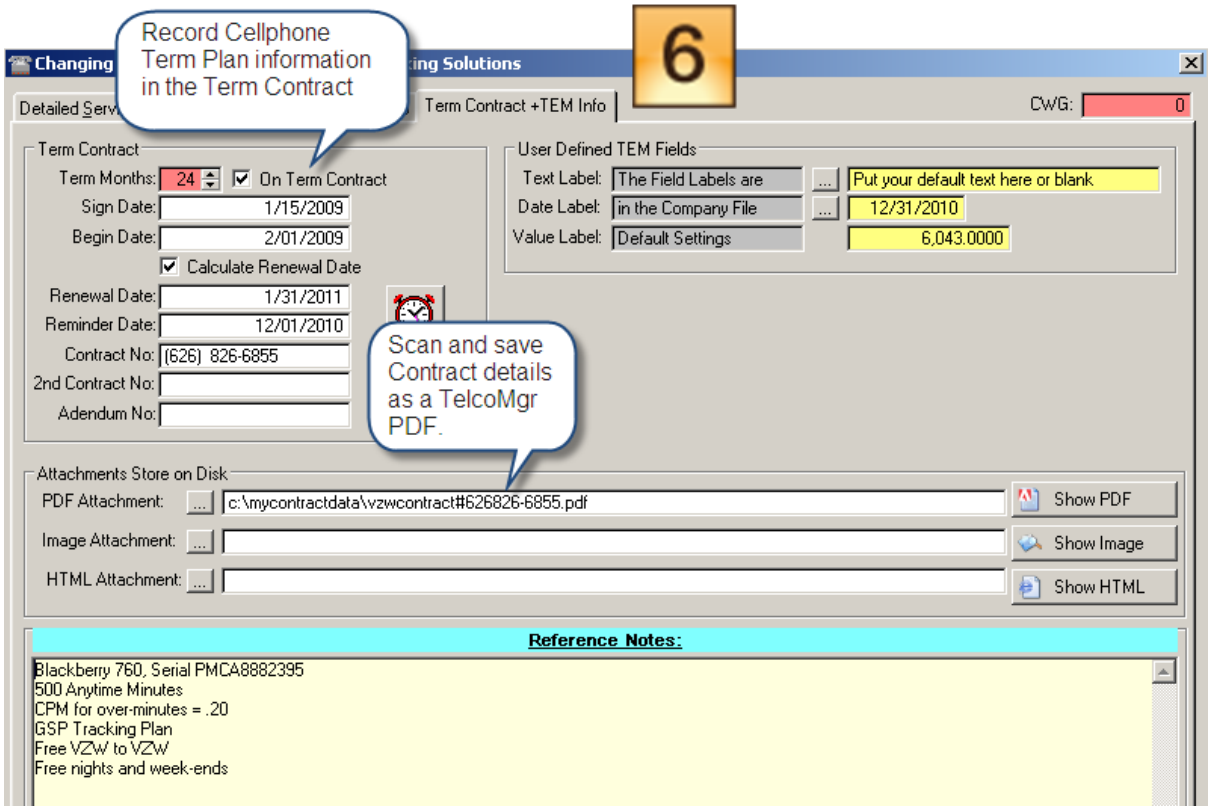
[2] Of course, record the mobile telephone subscriber number in the **NPA-NXX-LINE** field. The application is known as Cellphone, Cellular or similar names. Typically TelcoMgr end-users record the name of the end-user that uses the mobile device as the Circuit No. The users name will appear in browse tables and reports design for the Circuit No.

[3] The Expense of the Mobile Device can be recorded as any other recurring summary charge.

[4] The Carrier information and account codes remain applicable in the use of mobile devices.

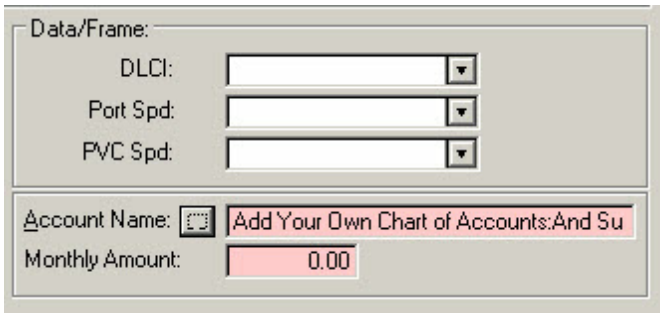
[5] The reference notes offers an excellent place to record specific characteristics of the mobile device and features available.

[6] The Cellular Term Plan information may be easily recorded in the TERM CONTRACT +TEM Tab as shown below.



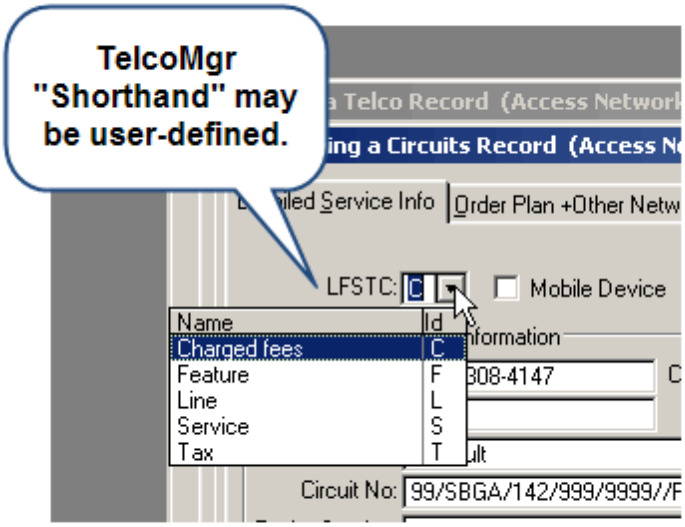
1.5.2 Circuits Account Code

Use the Accounting Code field in the Circuit Table and a Accounting Code lookup table for database standardization are used to assign or distribute cost within a Company or Enterprise.



User Definable Account Code field

1.5.3 LFSTC Field Designation

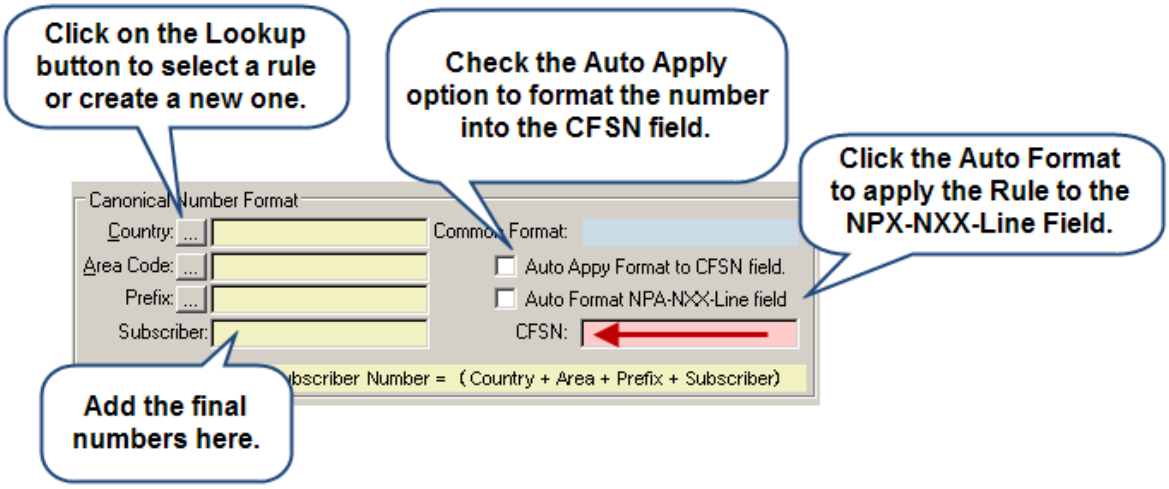


TelcoMgr's shorthand field [LFS], also displayed as **LFSTC** (Lines, Features, Service, Tax, Charge) in the Circuits table has been opened to allow the full alphabetical range for user-defined shorthand notations of Lines, Features, Services, Taxes, Charges, Mobile, etcetera.

Example for the Single Character short-hand:

- M = Mobile Phone
- P = PDA & Phone
- G = Gateway for Internet

1.5.4 NPA-NXX-LINE



Canonical Formatted Subscriber Number (CFSN)

The Rules for formatting are stored into three lookup tables:

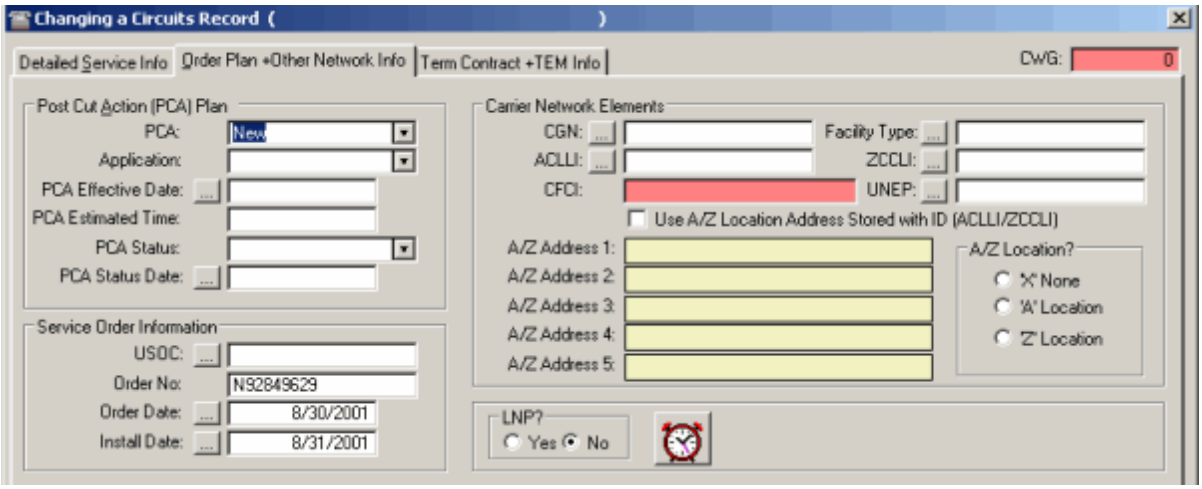
- Country Codes
- Area Code (aka Region)
- Prefix (Optional)

Phone number fields may be updated in mass by using the Field Data Manager.

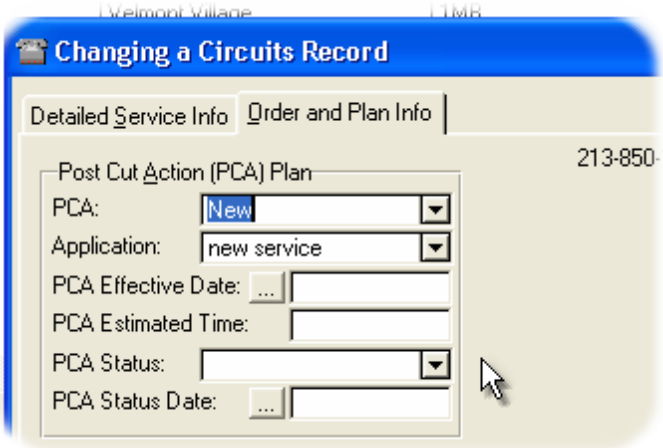
- Standard NPA-NPX-LINE format
- Common business format (###) ###-####
- Microsoft TAPI format +1 (###) ###-####

1.5.5 Order Plan +Other Network Info Tab

Circuit Tabs: Order Plan +Other Network Info

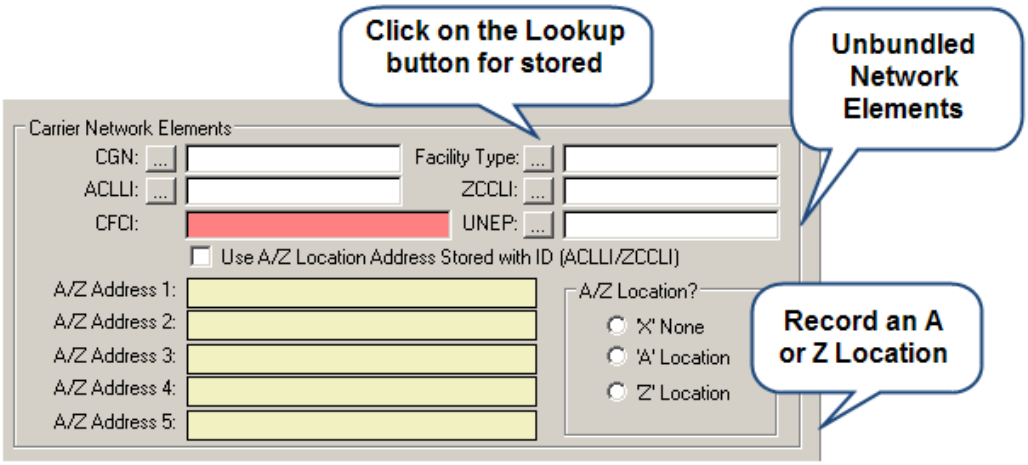


- The **Post Cut Action** (**PCA**) Plan group is used to identify what you plan to do with the line/service and when the change should become effective.
- The **Service Order** Information is used to save Telco order information for new services that you are planning to implement.
- We leave **Reference Notes** to your imagination.

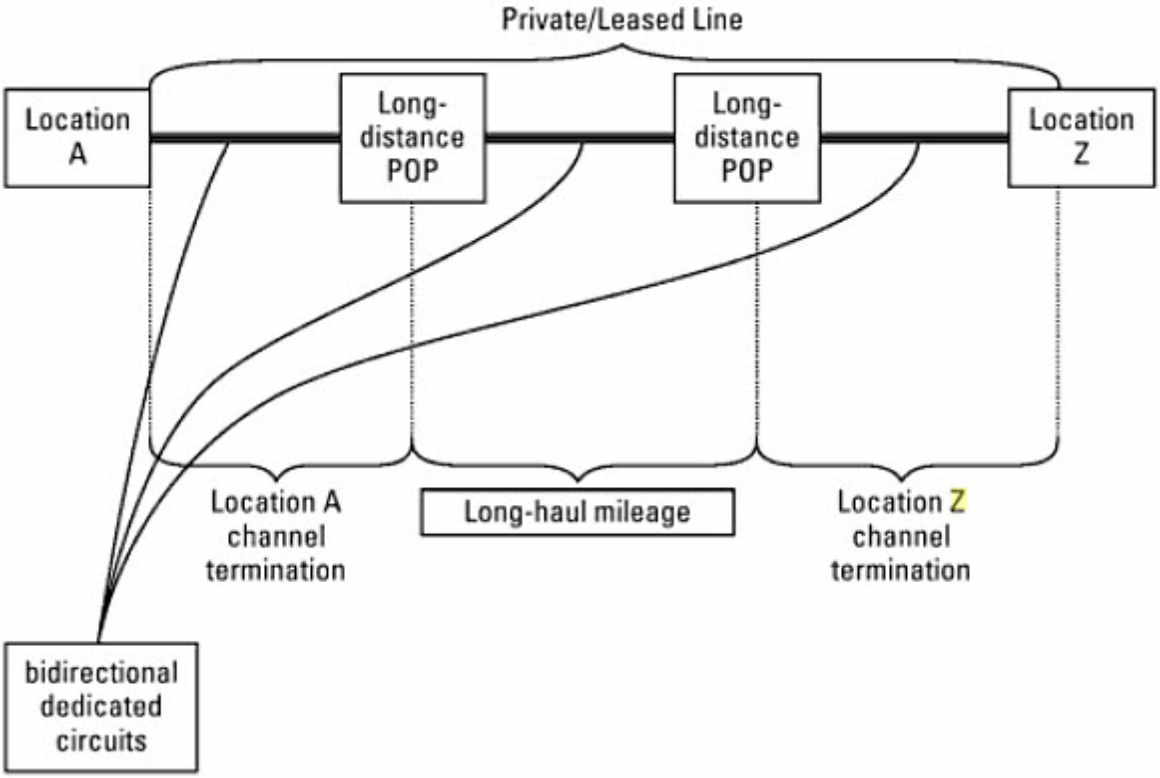


- **[PCA Status]** is used to record the **Status** of **Post-Cut-Actions**. Use the **[PCA Status Date]** to record the date of the **Status** change.
- [**LNP**] OptionThe default value of Local/line Number Portable (**LNP**) is No. Check with your **LEC** to determine if your local numbers can be moved/ported to a competitive LEC (CLEC).

© Access Business Communications, Inc.



1.5.5.1 A Location & Z Location Records

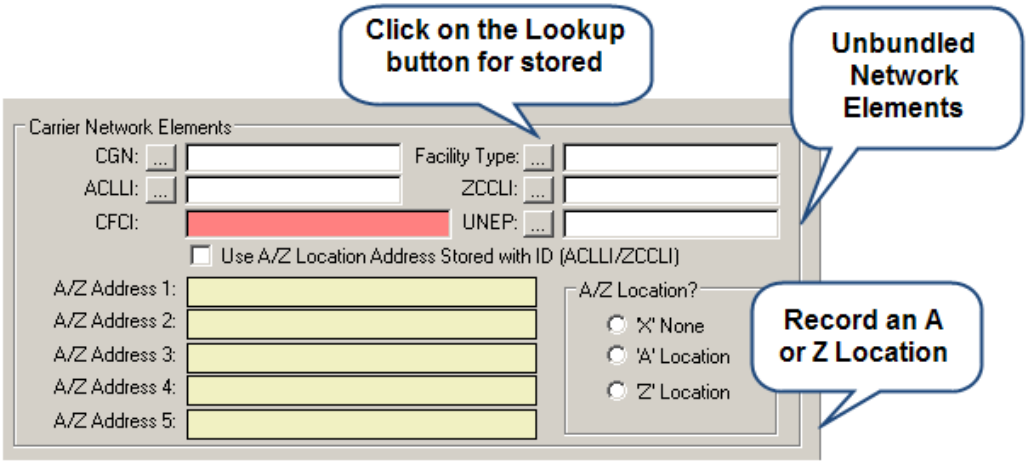


You may record A/Z Location address (5) fields for each Circuit Records. Essentially, we have added to the Circuits Record a Carrier Facility Circuit ID field block, which incorporates the "A Location code" & "Z Location code.

Add Circuit field for **USOC** and provide a lookup table.

TelcoMgr's shorthand field [**LFS**] in the Circuits table has been opened to allow the full alphabetical range for shorthand notations of Lines, Features, Services, Taxes, Charges, Mobile, etcetera.

1.5.5.2 Carrier Facility Circuit ID



A **Carrier Facility Circuit ID** format consists of the following components:

Facility Designation (Channel Group Number): A one to five character portion of a Carrier Facility Circuit ID. The Facility Designation is always the first entry.

Facility Type: A one to six character portion of a Carrier Facility Circuit ID. This is a drop down box containing the valid facility types. This field follows the facility designation field.

A Location CLLI Code: An eight (8) - or eleven (11) - character portion of a Carrier Facility Circuit ID. The "A" Location Common Language Location Identification (CLLI) Code that identifies one of the two locations where a circuit resides and follows the Facility Type.

Z Location CLLI Code: An eight (8) - or eleven (11) - character portion of a Carrier Facility Circuit ID. The Z Location Common Language Location Identification (CLLI) Code, that identifies one of the two locations where a circuit resides and follows the “A” Location CLLI Code.

Fields added in TelcoMgr Circuits:

[**ChannelGroupNumber**], +Dropdown Table;

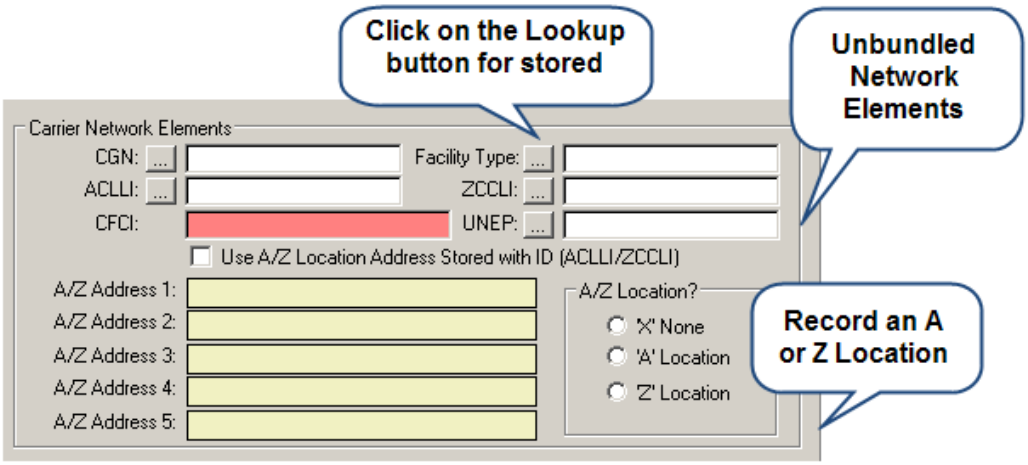
[**FacilityType**] +Dropdown Table;

[**ACLLI**] (A Location Common Language Location Identification (CLLI) Code) +Dropdown Table;

[**ZCCLI**] (Z Location Common Language Location Identification (CLLI) Code) +Dropdown Table;

[**CFCI**] (Carrier Facility Circuit Identification) Concatenated from 1-4 above, which looks like: 1009/T3Z/TAMPFLXAHZZ/TAMPFLXAKAA;

1.5.5.3 UNE-P

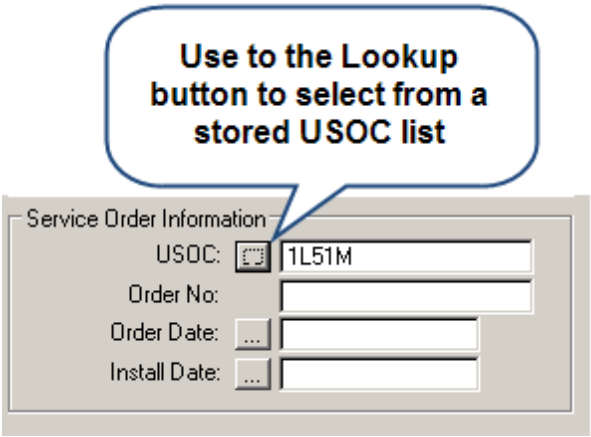


Unbundled Network Elements Platform field: UNE-Platform (also known as UNE-P) is a combination of UNEs (loop + port is AT&T's definition, port involves switching which is bought per minute at a "cost" rate from the RBOCs) that allow end to end service delivery without ANY facilities. Despite not involving any CLEC facilities, it still requires facilities-based certification from the PUC to deliver services via UNE-P. The new TelcoMgr UNEP field will include a UNE-P Lookup Table.

1.5.5.4 USOC Lookup Table

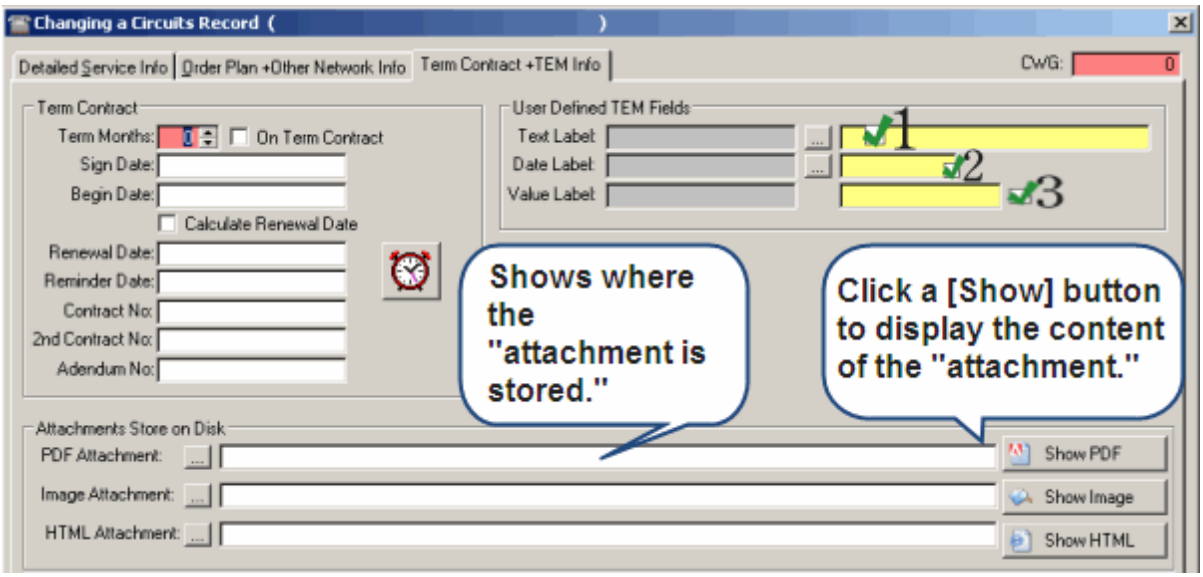
Universal Service Order Codes

Today, **USOCs** or ISOCs and/or Codex are used by many Network Carriers as a short-hand schema to uniquely identify a component of the network or a service, which may be delivered via the network. There are thousands of USOCs, many are unique to specific carriers, and many still remain universal or a uniform standard for the world-wide network.



1.5.6 Term Contract +TEM Info Tab

Circuits Tab: Term Contract +TEM Info



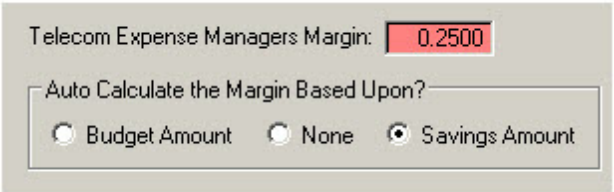
1. **TEM Field 1** is a UDF for text and the field label is also user-definable.
2. **TEM Field 2** is a UDF for a date and the field label is also user-definable.
3. **TEM Field 3** is a UDF for a numerical value and the field label is also user-definable.

1.5.6.1 TEM Defaults Settings

The TEM Audit Margin is used to populate a derived TEM Audit Margin field in the Customer Location table.

The Auto Calculate Margin Based Upon {Budget Amount/No Calculation/Savings Amount} radio option field is used to populate a Auto Calculate Margin Based Upon field in the Customer Location table.

Both of these default values may be updated or custom for each Customer Location record and are used to initialize information in the Rate Comparison Table and Expense Logging Table.



Customer Location TEM Calculation Methods

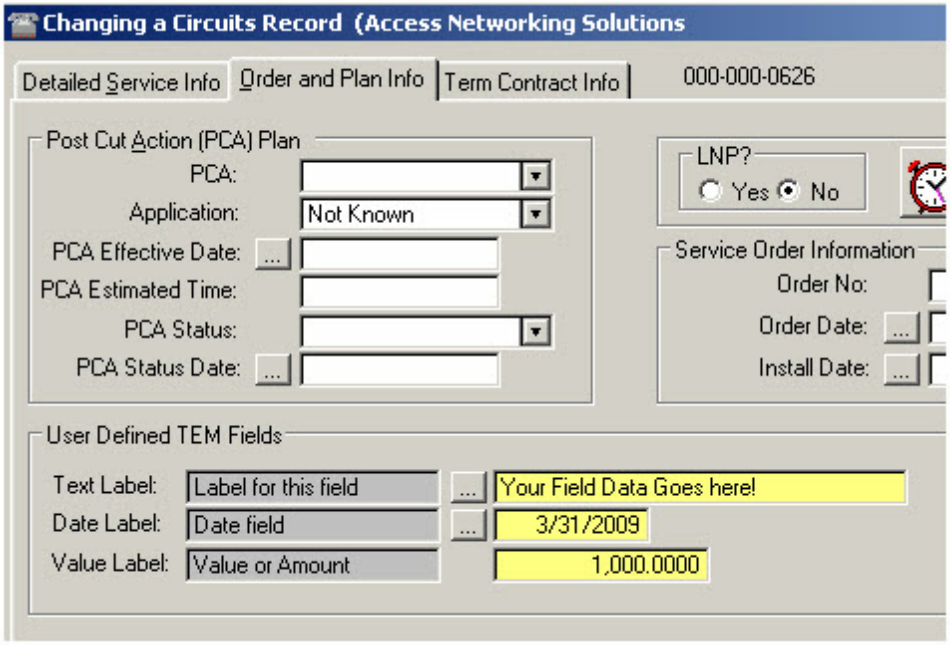
1.5.6.2 User Definable TEM Fields

a) The following 3 three fields and field labels are the default values for derived fields in the Circuits window and table.

b) TEM Field 1 is a UDF for text and the field label is also user-definable.

c) TEM Field 2 is a UDF for a date and the field label is also user-definable.

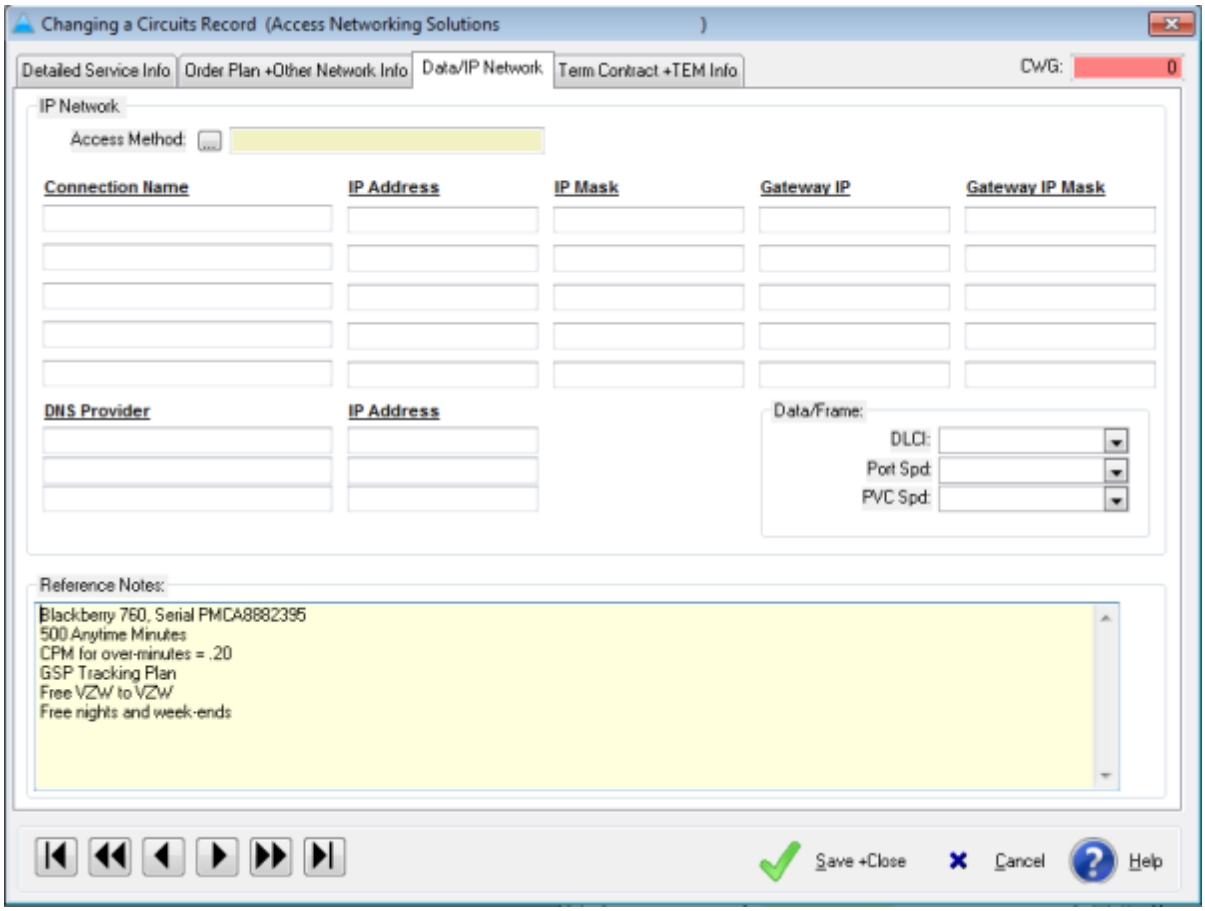
d) TEM Field 3 is a UDF for a numerical value and the field label is also user-definable.



Circuit User-Definable TEM Fields

1.6 Data and IP Network

The Data and IP Network field group was added to v6.11.2 and the v7 Beta version. This field group is intended to be finite and user definable.



1.6.1 TCP/IP Access Method

The **Access Method field** and user defined lookup table may be used to describe the type of telecommunications circuit

Uniform Resource Locators (URLs) use a general syntax that describes the location and method for accessing a TCP/IP resource. Each access method, called a scheme, has its own specific URL syntax, including the various pieces of information required by the method to identify a resource.

1.6.2 IP Mask

A subnet allows the flow of network traffic between hosts to be segregated based on a network configuration. By organizing hosts into logical groups, sub netting can improve network security and performance.

© Access Business Communications, Inc.

Subnet Mask

Perhaps the most recognizable aspect of sub netting is the subnet mask. Like IP addresses, a subnet mask contains four bytes (32 bits) and is often written using the same "dotted-decimal" notation. For example, a very common subnet mask in its binary representation:

11111111 11111111 11111111 00000000

... is typically shown in the equivalent, more readable form 255.255.255.0

Applying a Subnet Mask

A subnet mask neither works like an IP address, nor does it exist independently from them. Instead, subnet masks accompany an IP address and the two values work together. Applying the subnet mask to an IP address splits the address into two parts, an "extended network address" and a host address.

For a subnet mask to be valid, its leftmost bits must be set to '1'. For example,

00000000 00000000 00000000 00000000

... is an invalid subnet mask because the leftmost bit is set to '0'.

Conversely, the rightmost bits in a valid subnet mask must be set to '0', not '1'. Therefore,

11111111 11111111 11111111 11111111

... is invalid.

All valid subnet masks contain two parts: the left side with all mask bits set to '1' (the extended network portion) and the right side with all bits set to '0' (the host portion), such as the first example above.

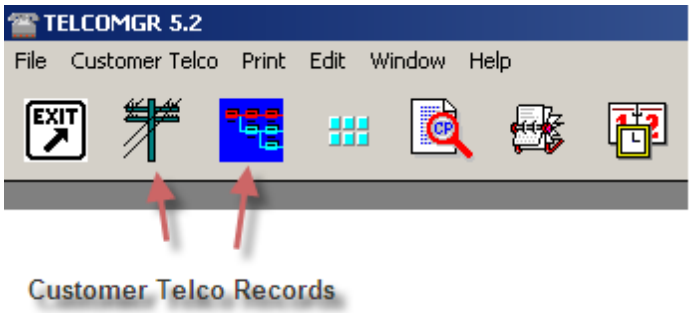
1.6.3 Gateway IP

The IP address 10.0.0.1 is a default for some types of network routers, which may also be used by network servers.

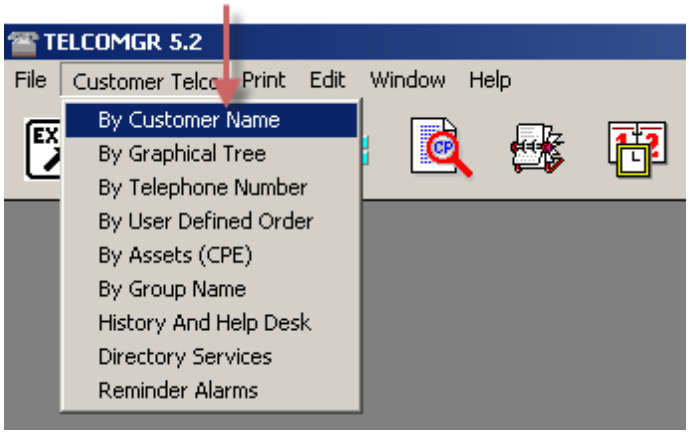
10.0.0.1 is sometimes called a default gateway address as it typically represents the local side of a router's connection to the Internet. 10.0.0.1 is more commonly found in business networks than in homes, which tend to use routers having default addresses in the 192.168.x.x series. Both the 10.x.x.x and 192.168.x.x series are private IP address ranges.

© Access Business Communications, Inc.

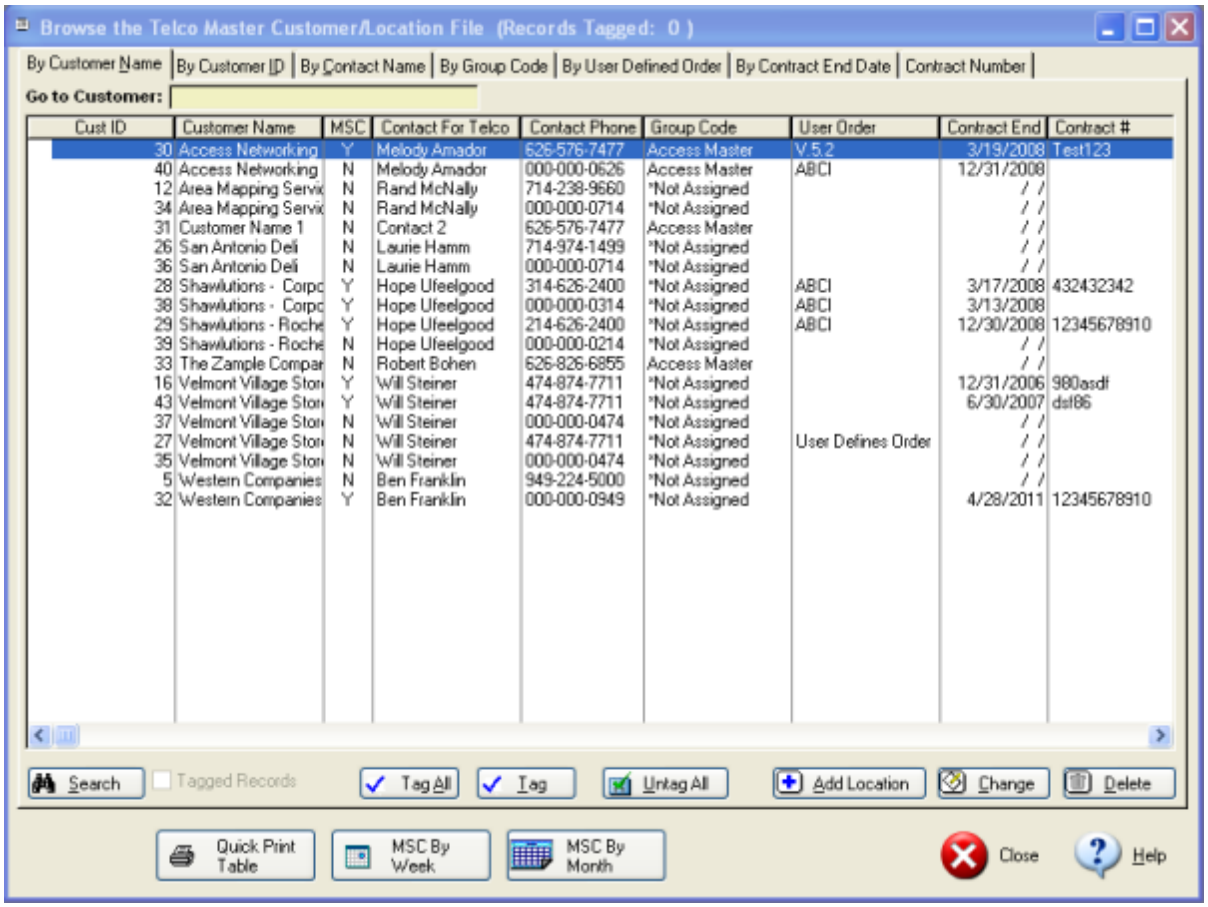
1.7 Customer Location Record



The **Customer Location** records may be accessed through the Main > Customer Telco menu option.



Alternately, the Customer Location record table can accessed using the menu bar icons and Customer Telco records by the **Graphical Tree**.

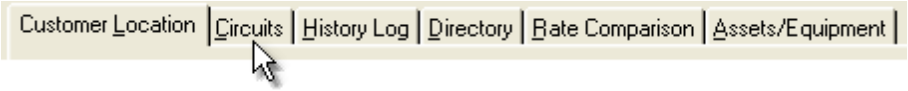


Select the [**Add Location**] button or press the **INSERT** key and the Telco File editor window will open.

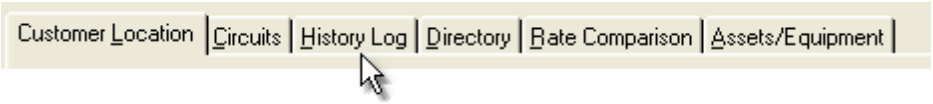
Note to TelcoMgr Demo Users: This [**Add Location**] button is disabled in the TelcoMgr Demo Version.

1.7.1 Customer/Location Tabs Overview

Customer Managed Services Info TabOverview of Customer/Location Telco Record Tabs

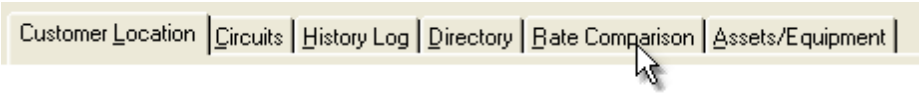


The **Circuits** tab is used to record detailed information about lines, circuits and features.

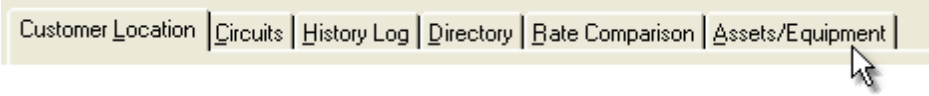


Use the **History Log** tab to record all relative transactions and conversations about a specific telco record.

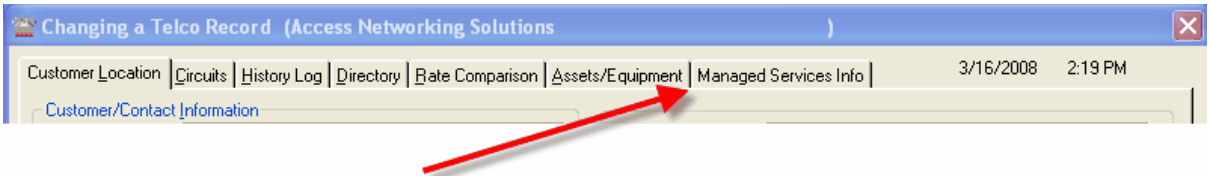
The **Directory** tab is designed to construct a Telephone Directory.



The **Rate Comparison** tab or module is designed to record expense comparisons. Also, an Expense Log is incorporated into this module.



The **Assets/Equipment** tab or module contains a relational database for many types of equipment, systems and sub-components.



The **Managed Services Info tab** is designed to help capture vital information about management contracts that may be required or setup between your management company

and a client or between a Carrier and your company and/or your customer.

We also refer to this module as the **Managed Service Contract** (**MSC**); all of these terms are referred to interchangeably.

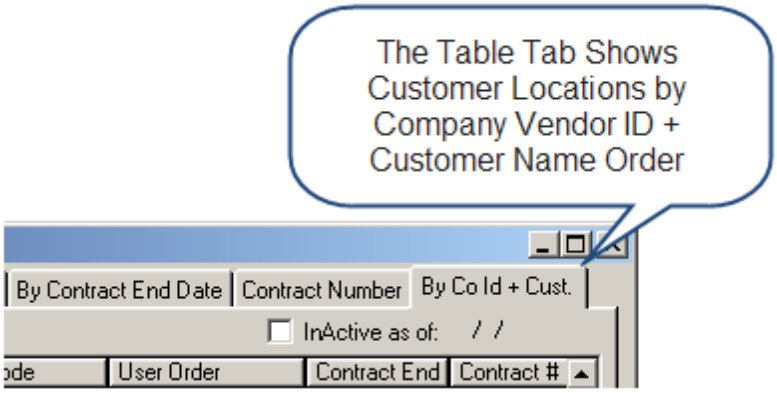
© Access Business Communications, Inc.

1.7.1.1 Company Id

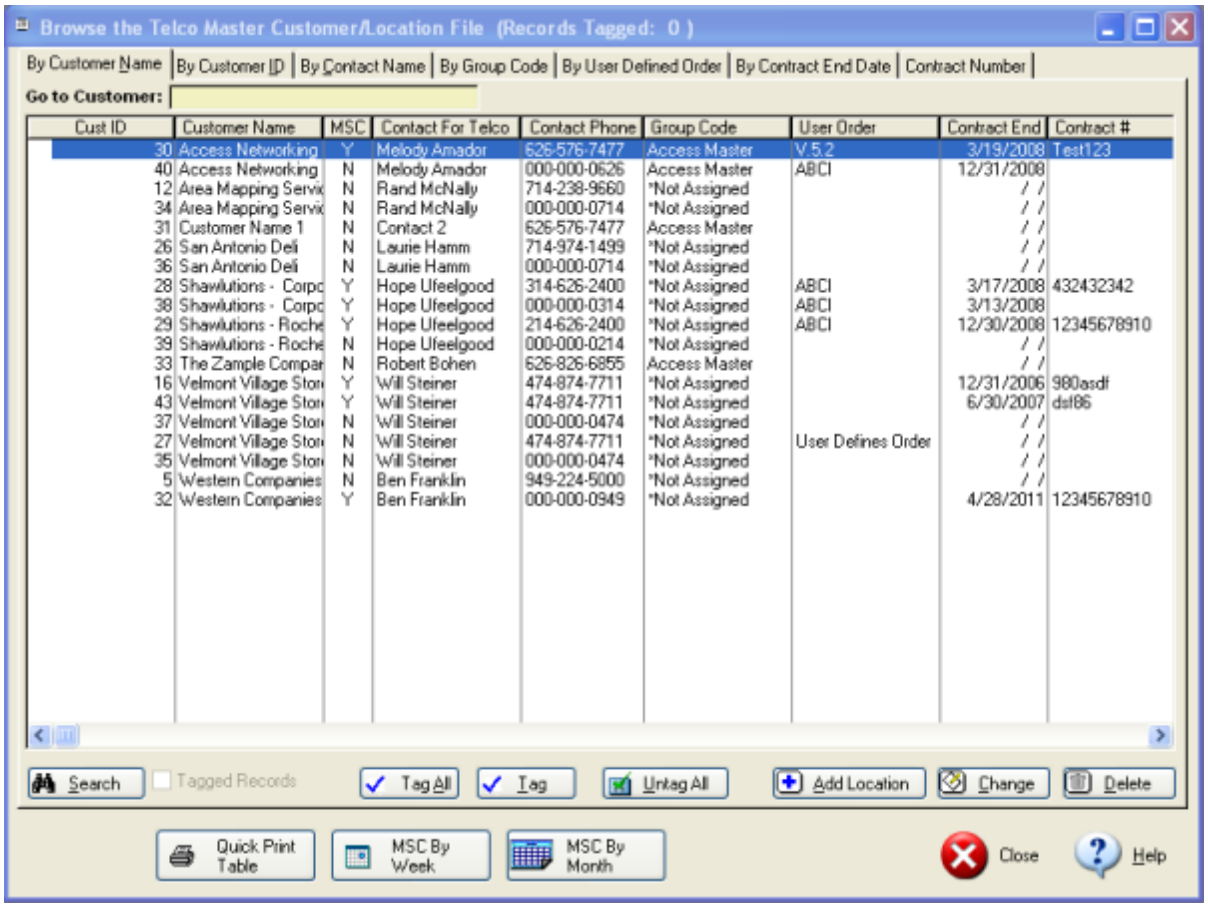
Tutorial

The database may be browsed by the **Customer Name**, by the **Customer ID** or by the **Contact Name**.

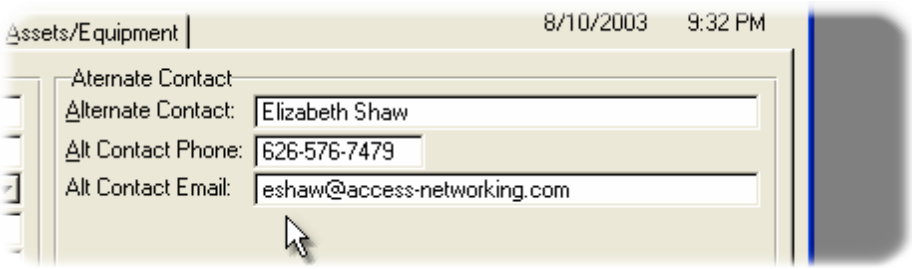
The **By Co Id + Cust. Tab** has been added to the Customer Location Browse window and table, which shows the Customer Locations ordered by the Company File Vendor ID (should be 1, null records show 0) plus the Customer name.



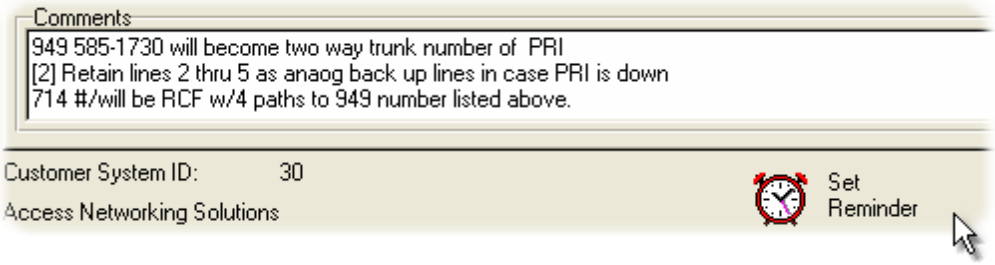
Select and click on the [Add Location] or the [Change] button and the Telco File editor window will open.



This window is used to record/edit your **Master Telco record** for a customer/location. The file saves each record in alphabetical order according to the Customer Name field. Enter the appropriate sample information. Select the [OK] button to save the master account information.

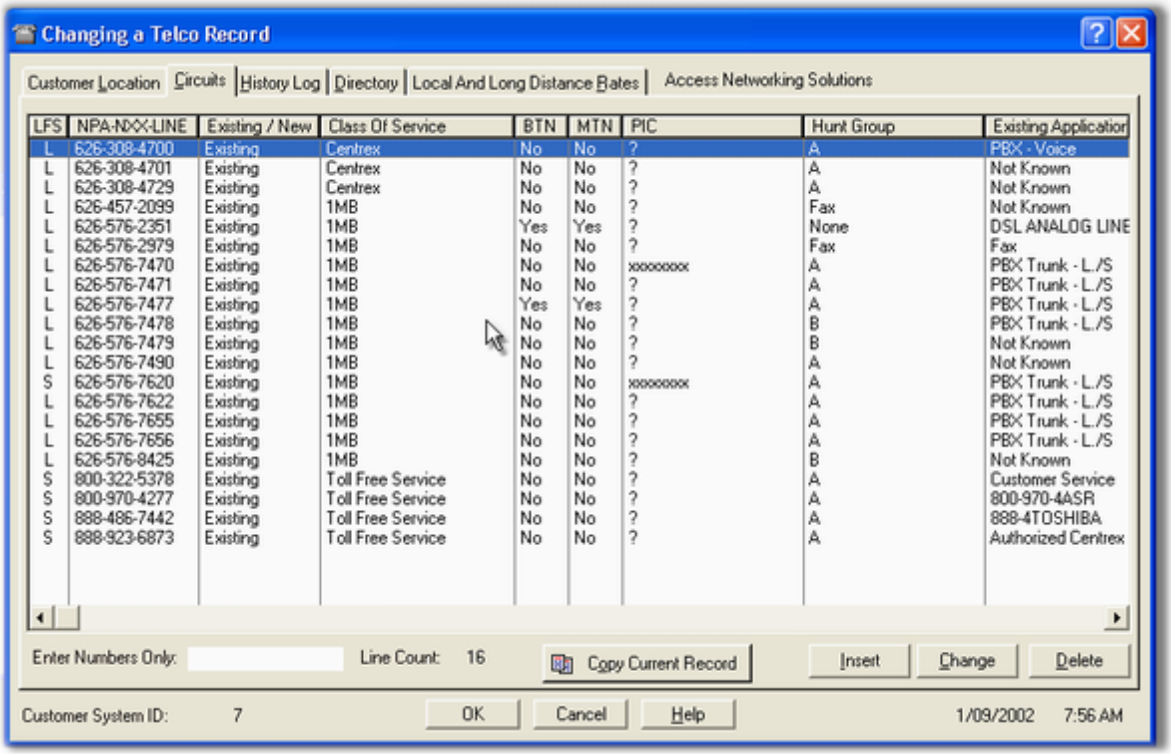


Alternate Contact information is available for an additional contact record.



A **Telco Reminder** may be set directly from the current Telco record.

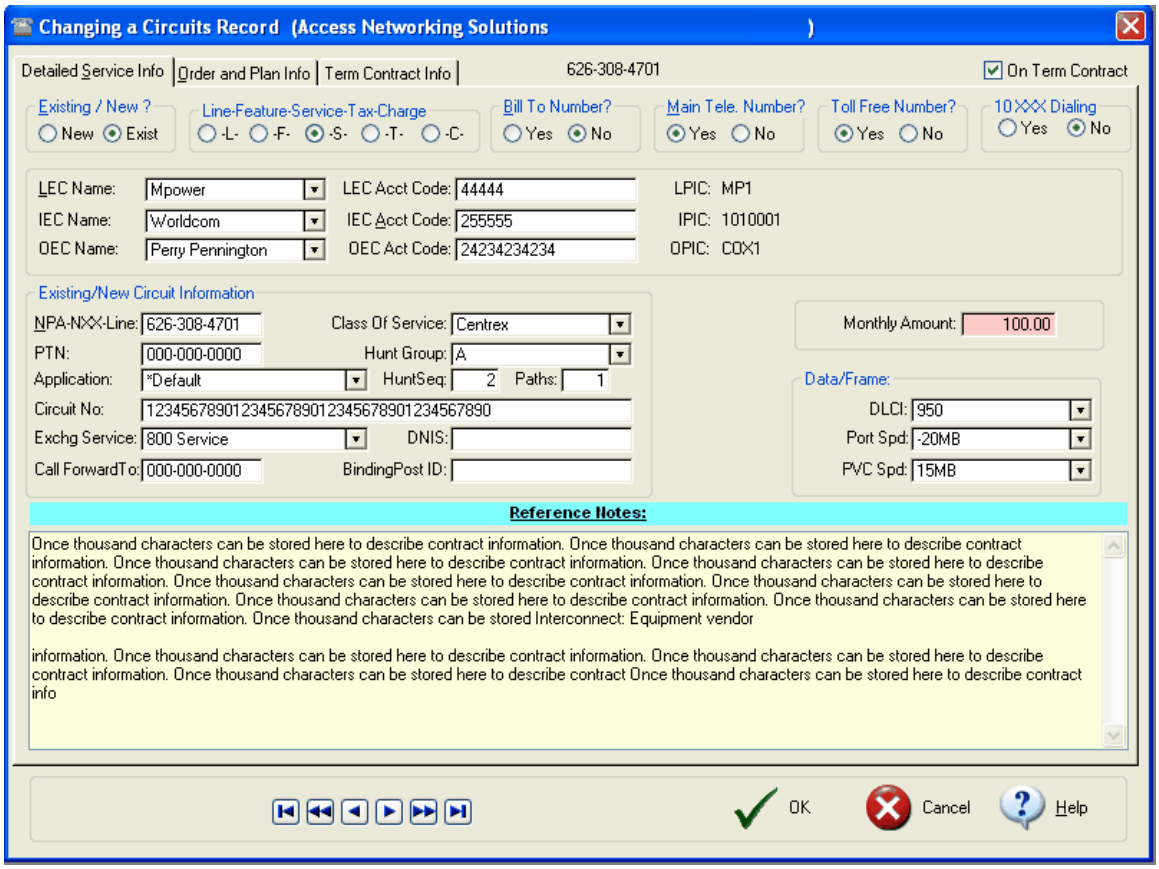
Open your sample record again by selecting the [Change] button and select the [Circuits] Tab.



LFS	NPA-NXX-LINE	Existing / New	Class Of Service	BTN	MTN	PIC	Hunt Group	Existing Application
L	626-308-4700	Existing	Centrex	No	No	?	A	PBX - Voice
L	626-308-4701	Existing	Centrex	No	No	?	A	Not Known
L	626-308-4729	Existing	Centrex	No	No	?	A	Not Known
L	626-457-2099	Existing	1MB	No	No	?	Fax	Not Known
L	626-576-2351	Existing	1MB	Yes	Yes	?	None	DSL ANALOG LINE
L	626-576-2979	Existing	1MB	No	No	?	Fax	Fax
L	626-576-7470	Existing	1MB	No	No	xxxxxxxx	A	PBX Trunk - L./S
L	626-576-7471	Existing	1MB	No	No	?	A	PBX Trunk - L./S
L	626-576-7477	Existing	1MB	Yes	Yes	?	A	PBX Trunk - L./S
L	626-576-7478	Existing	1MB	No	No	?	B	PBX Trunk - L./S
L	626-576-7479	Existing	1MB	No	No	?	B	Not Known
L	626-576-7490	Existing	1MB	No	No	?	A	Not Known
S	626-576-7620	Existing	1MB	No	No	xxxxxxxx	A	PBX Trunk - L./S
L	626-576-7622	Existing	1MB	No	No	?	A	PBX Trunk - L./S
L	626-576-7655	Existing	1MB	No	No	?	A	PBX Trunk - L./S
L	626-576-7656	Existing	1MB	No	No	?	A	PBX Trunk - L./S
L	626-576-8425	Existing	1MB	No	No	?	B	Not Known
S	800-322-5378	Existing	Toll Free Service	No	No	?	A	Customer Service
S	800-970-4277	Existing	Toll Free Service	No	No	?	A	800-970-4ASR
S	888-486-7442	Existing	Toll Free Service	No	No	?	A	888-4TOSHIBA
S	888-923-6873	Existing	Toll Free Service	No	No	?	A	Authorized Centrex

Select the [Insert] button to add the details of the first telephone line and the Circuit editor window shall open. Of course, you can enter telephone lines, data circuits, various features and other services.

© Access Business Communications, Inc.



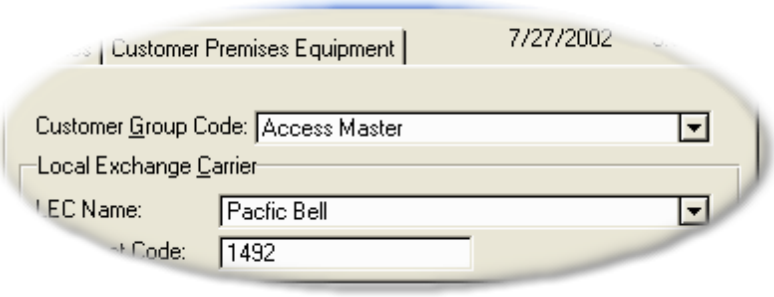
Enter the appropriate information for each field.

Notes:

- Existing / New defaults as 'Existing'.
- **Bill To Number** (**BTN**) defaults as 'No'. Usually you only have one BTN, however, you may enter multiple BTNs.
- **Main Tele. Number** (**MTN**) defaults as 'No'. Select 'Yes' in the number is the starting/ pilot number of a hunting group.
- The default value of Local/line Number Portability (**LNP**) is No. Check with your LEC to determine if your local numbers can be moved/ported to a competitive **LEC** (**CLEC**).
- The Local and Long Distance Carrier information group is automatically populated by the values in your Master Account record. You may over-ride the Master information if you wish.
- The Existing/New Circuit Information group is used to described specific details about the line/circuit, service, or feature.
- [NPA-NXX-LINE] is used to record the Area Code, Local Exchange, and the Line Number.
- **Class of Service** is used to record the type of line/circuit, service, or feature. Use the drop-down list to view previously entered Class of Services.
- [**PTN**] or **Point-To-Number** is used for many Class of Services. For example, often times a 'toll free' number is pointed to another number such as a main number of a specific hunt group.

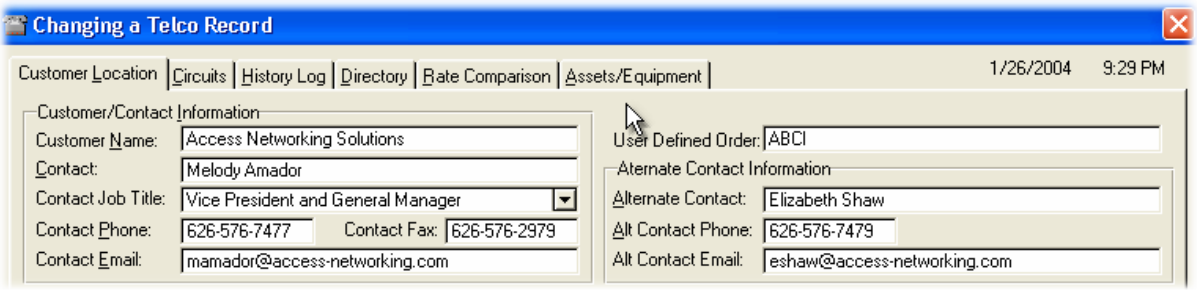
- **Hunt Group** is used to identify which numbers/services belong to each other.
- Application is used to describe the primary purpose of use of each line/service.
- Path is used to determine the quantity of speech paths that the line provides. The following is a list of examples:
    1. Standard business lines = 1
    2. Centrex line = 1
    3. Basic Rate ISDN (BRI) = 2
    4. Primary Rate ISDN = 23
    5. T1 = 24
    6. DS0 = 1
    7. DS1 = 24
- The **Post Cut Action** (**PCA**) Plan group is used to identify what you plan to do with the line/service and when the change should become effective.
- The Service Order Information is used to save Telco order information for new services that you are planning to implement.
- We leave **Reference Notes** to your imagination.

Group Company Name or Code



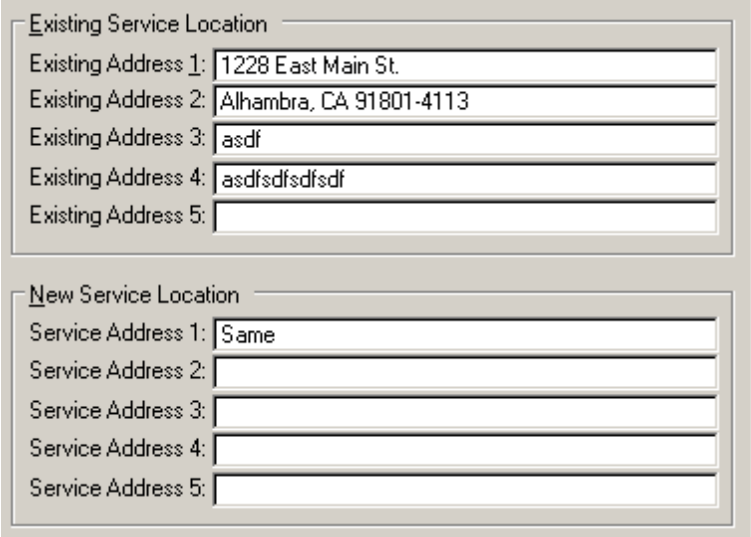
Beginning with version 3.0, TelcoMgr includes a **Customer Group Name/Code**. The **Customer Group Name/Code** is a user defined field, which is used to group multiple Customer locations or entities into a logical group for History/Help desk reporting.

1.7.2 Customer Location Tab

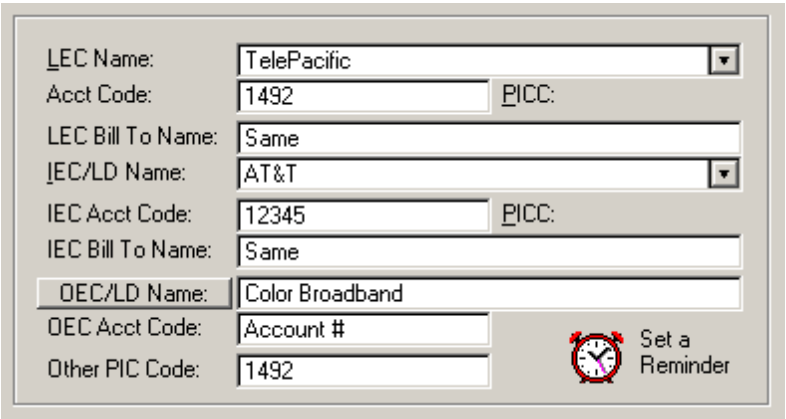


This window is used to record/edit your **Master Telco record** for a customer/location. The

file saves each record in alphabetical order according to the Customer Name field. Enter the appropriate sample information. Select the [OK] button to save the master account information.



The Address Fields are generically named so they can be used in a variety of situations.

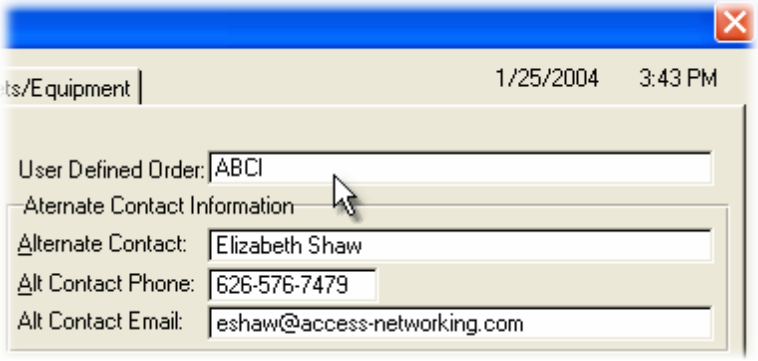


If the **Carrier Account fields** are entered they will auto-populate a new Circuit record.

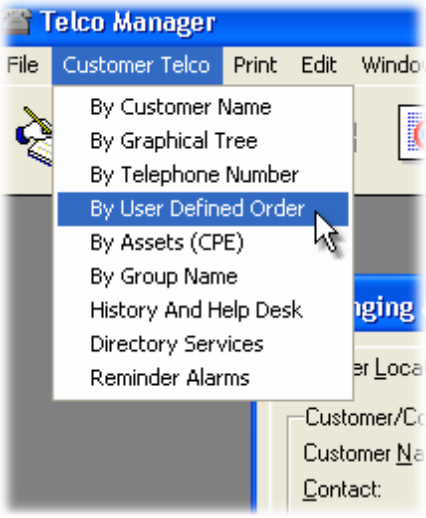
Related Topics

•

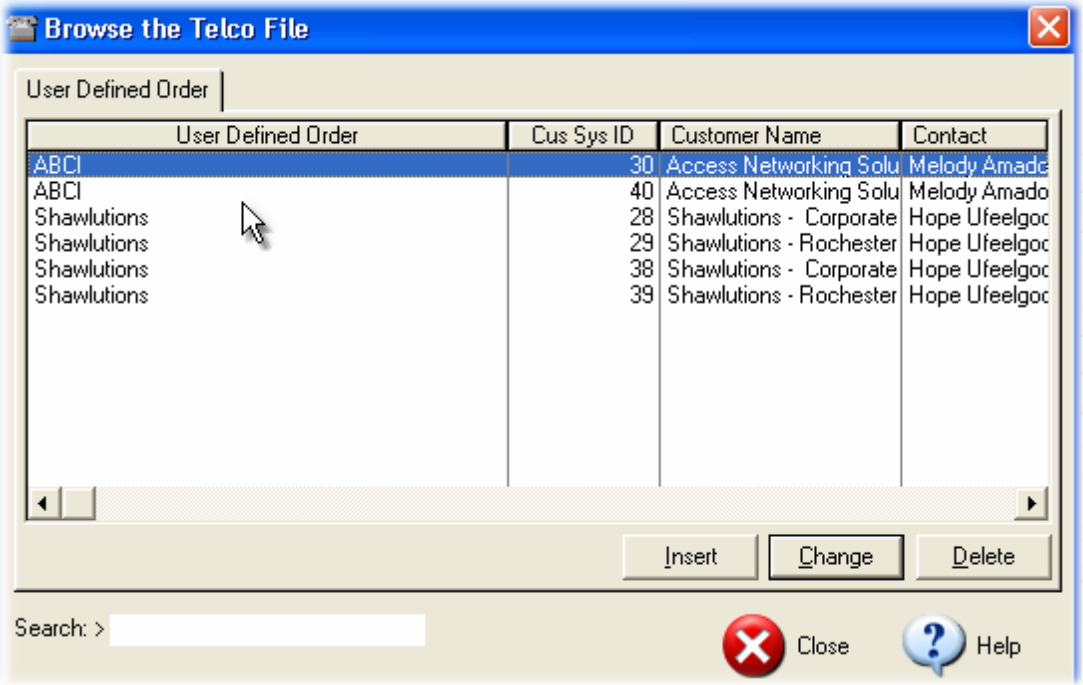
1.7.2.1 User Defined Order Field



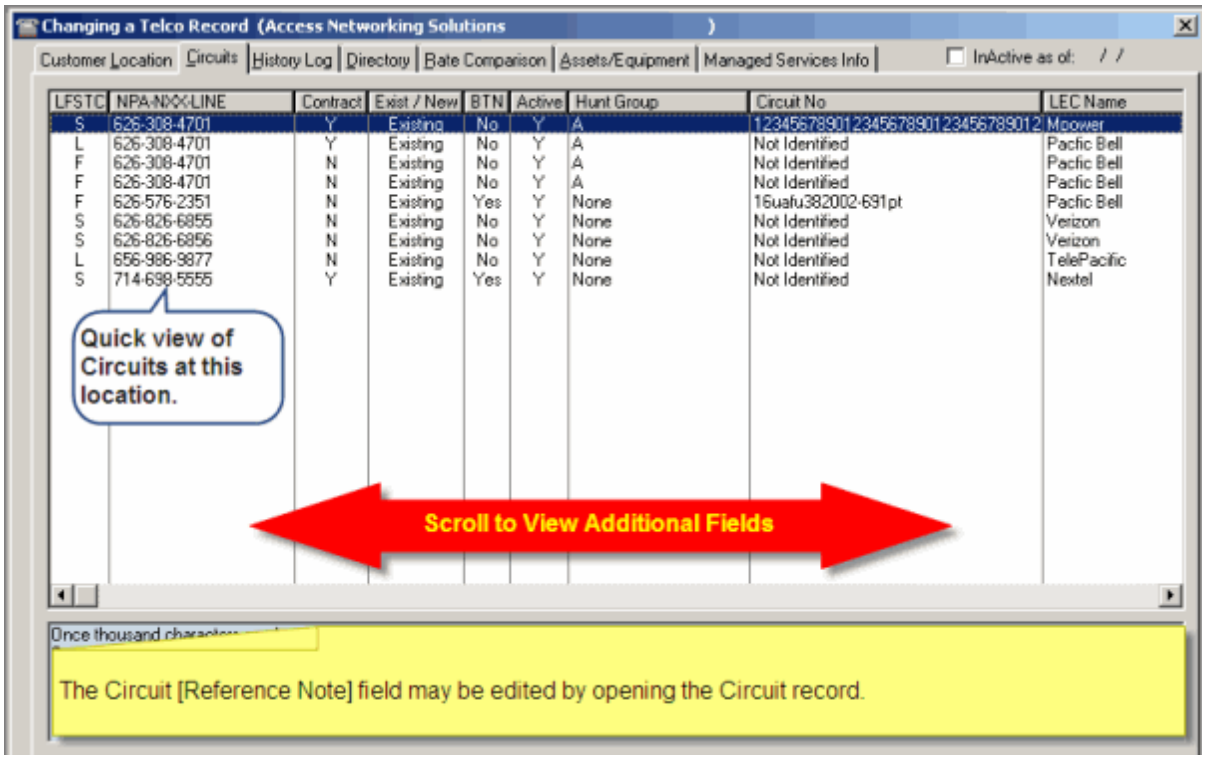
The **[User Defined Order:] field** is for end-users to define a sort order for the **Customer/ Location Master record** file.



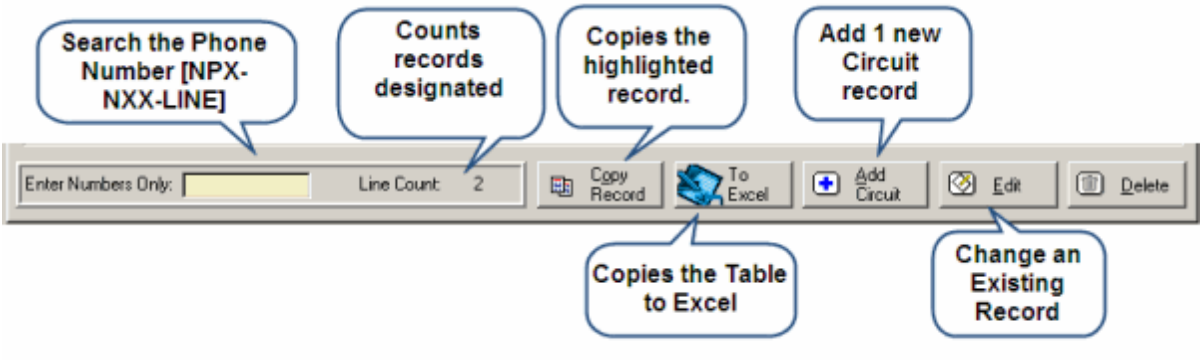
The **[User Defined Order:]** can be viewed by selecting the **User Defined Order Browse Table**.



1.7.3 Customer Circuits Tab



The **Circuits Tab** shows a **Browse Table of Circuits** for the currently opened Customer.



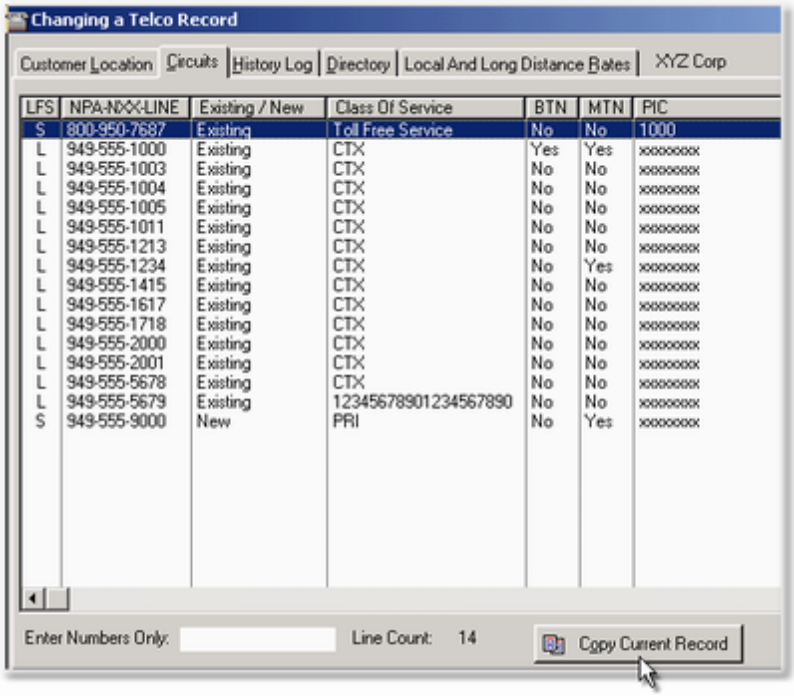
Related Topics

•

1.7.3.1 Copying A Circuit Record

The [Copy] button is an excellent time saver because much of the information is alike from one circuit to the next. Typically only the telephone number changes.

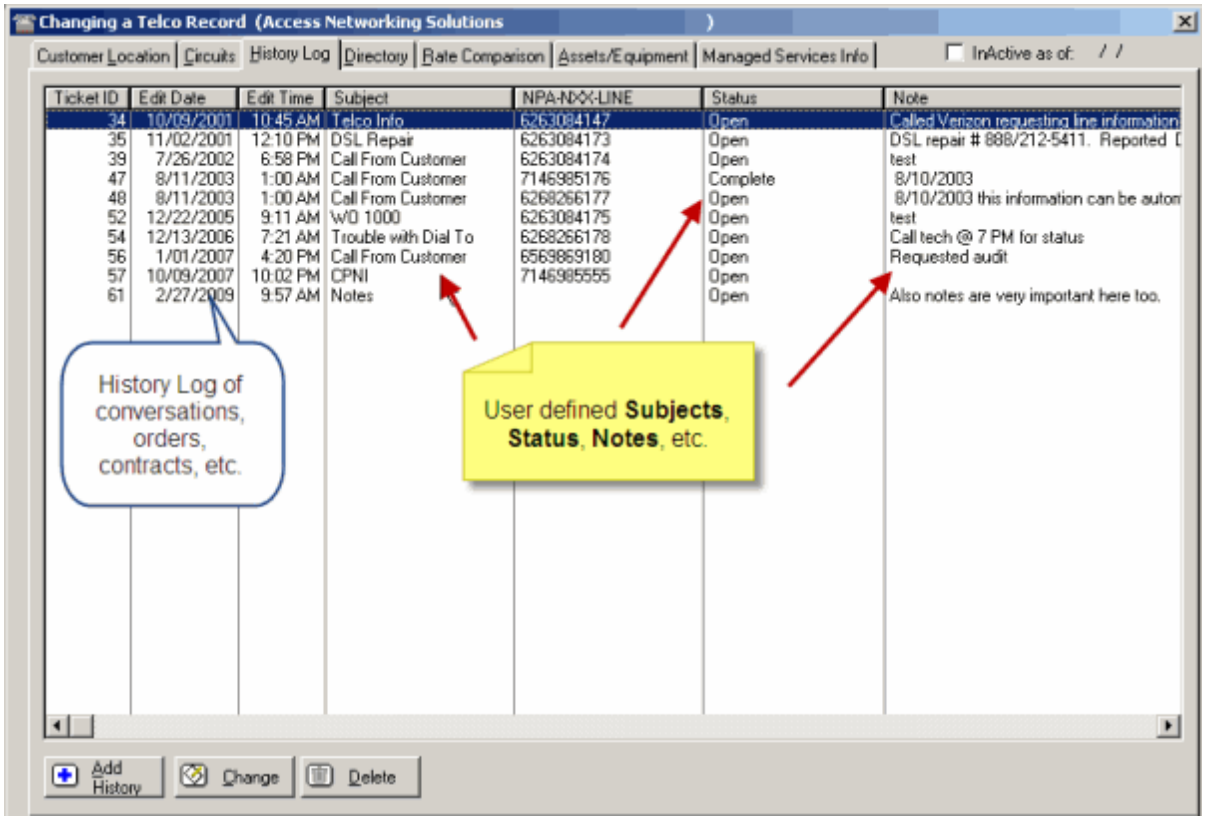
To copy a 'Circuits' record position the highlight bar on the appropriate record and select the [Copy Current Record] button.



LFS	NPA-NXX-LINE	Existing / New	Class Of Service	BTN	MTN	PIC
S	800-950-7687	Existing	Toll Free Service	No	No	1000
L	949-555-1000	Existing	CTX	Yes	Yes	xxxxxxxx
L	949-555-1003	Existing	CTX	No	No	xxxxxxxx
L	949-555-1004	Existing	CTX	No	No	xxxxxxxx
L	949-555-1005	Existing	CTX	No	No	xxxxxxxx
L	949-555-1011	Existing	CTX	No	No	xxxxxxxx
L	949-555-1213	Existing	CTX	No	No	xxxxxxxx
L	949-555-1234	Existing	CTX	No	Yes	xxxxxxxx
L	949-555-1415	Existing	CTX	No	No	xxxxxxxx
L	949-555-1617	Existing	CTX	No	No	xxxxxxxx
L	949-555-1718	Existing	CTX	No	No	xxxxxxxx
L	949-555-2000	Existing	CTX	No	No	xxxxxxxx
L	949-555-2001	Existing	CTX	No	No	xxxxxxxx
L	949-555-5678	Existing	CTX	No	No	xxxxxxxx
L	949-555-5679	Existing	12345678901234567890	No	No	xxxxxxxx
S	949-555-9000	New	PRI	No	Yes	xxxxxxxx

Once the copy has completed a confirmation will appear.

1.7.4 Customer History Log Tab

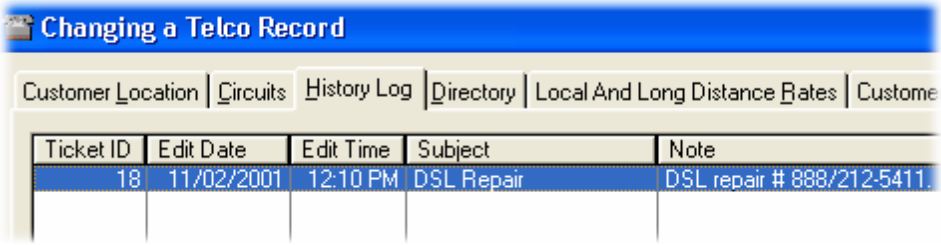


The **History Log Tab** is design for the chronological logging of events, orders, conversations, contracts and other relative information.

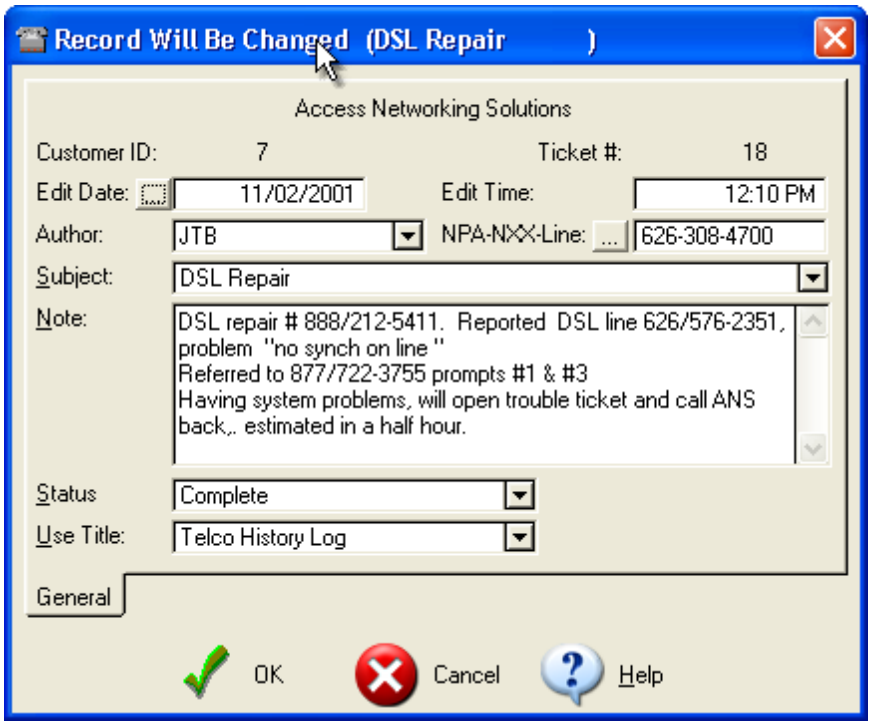
Related Topics

- **Follow-up Fields**
- **Help Desk**
- **History Report Titles**

1.7.4.1 Adding a Telco History Record



Each TelcoMgr account record includes a **History Log**. The History record is used for **Help Desk notes** and **Trouble Tickets**.



The **Date and Time** are automatically entered, modify these as needed.

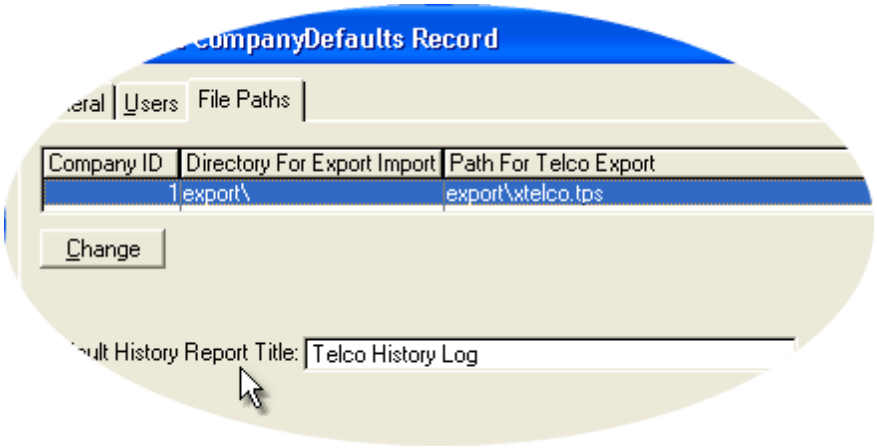
[**Author]** identifies the person recording the history.

[**Subject**] identifies the primary subject/topic of the history.

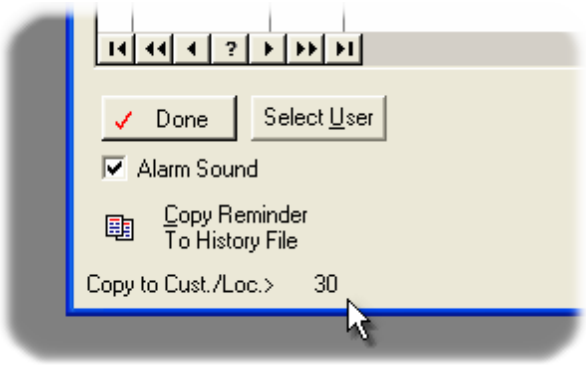
[**Note**] is used to record more details. The [Note] field may include up to 2,000 characters and/or 350 words.

[**Status**] is used to distinguish the general state of the history entry.

[**Use Title**] is used to enter/select a report title for each history entry. The default setting for the report title is located in the Company File screen.



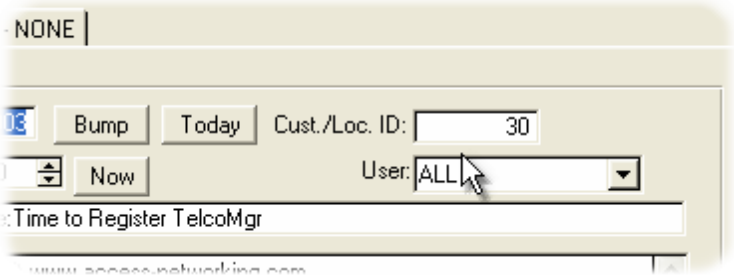
History entries can be created from the **Set Reminder Alarms Browse** window.



NOTE: The **Reminder** will be copied to the **Customer/Location record** that appears below the **[Copy Reminder to History File]** button.

The **Customer/Location ID** can be entered by editing the reminder or selecting a Telco record from the browse window.

© Access Business Communications, Inc.

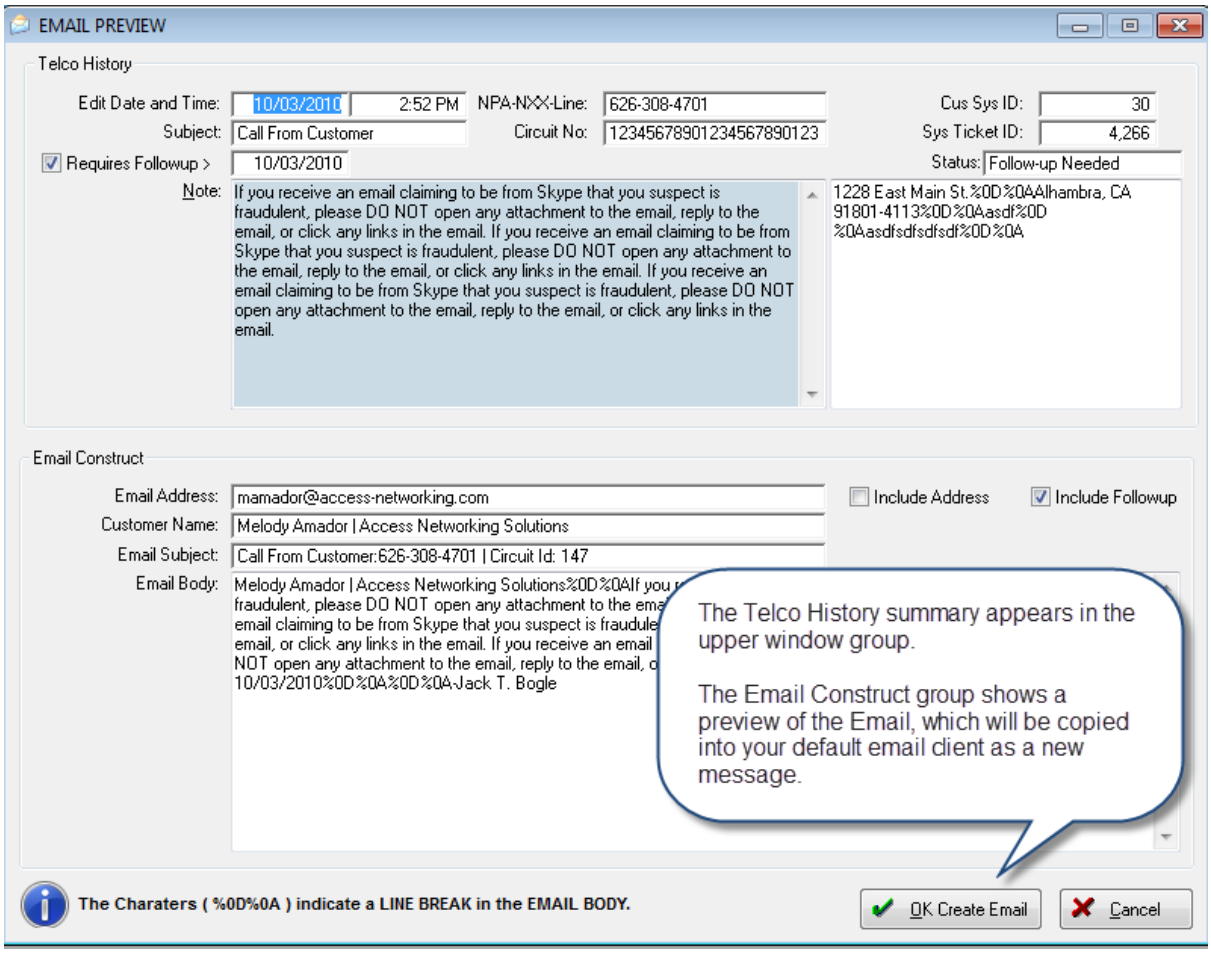


1.7.4.2 Create Email with Telco History

Email Construct Button

The [**Create Email**] button will construct an **Email Message** from the data entered into the Telco History.

- The Email Preview window opens and loads the active or highlighted Telco History record.
- A preview of the Email as constructed from the Telco History is shown in the example below.



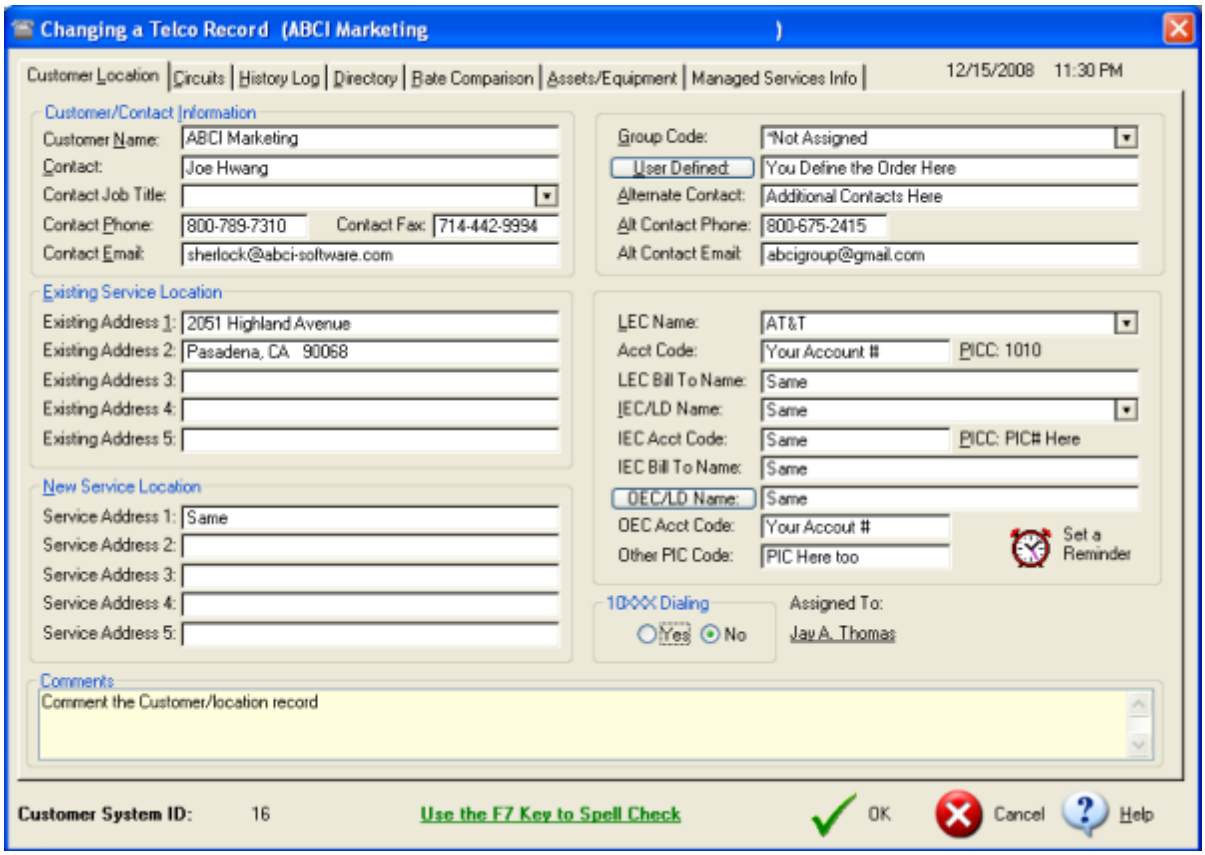
- The Email Preview is a "read only" window and the contents must be edited inside the Telco History.
- Click on the [**OK Create Email**] button to copy the Email Construction into your computer's default Email Client.

USER TIP: The Email construct may be edited once your Email Client is opened, or;

[**Cancel**] the Email construct and edit the fields inside the TelcoMgr History record. You may repeat the process as many times as you deem necessary, Email Construct text is not stored.

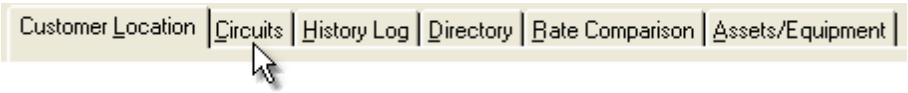
1.7.5 Customer/Location: Add, Change or Delete

Select and click on the [Add Location] or the [Change] button and the Telco File editor window will open.

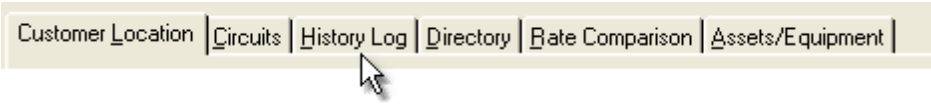


This window is used to record/edit your **Master Telco record** for a customer/location. The file saves each record in alphabetical order according to the Customer Name field. Enter the appropriate sample information. Select the [OK] button to save the master account information.

Descriptions and Purpose of Telco Record Tabs

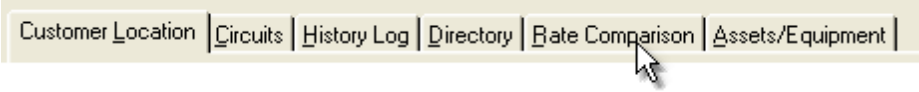


The **Circuits** tab is used to record detailed information about lines, circuits and features.

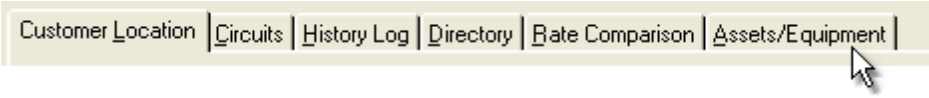


Use the **History Log** tab to record all relative transactions and conversations about a specific telco record.

The **Directory** tab is designed to construct a Telephone Directory.



The **Rate Comparison** tab or module is designed to record expense comparisons. Also, an Expense Log is incorporated into this module.



The **Assets/Equipment** tab or module contains a relational database for many types of equipment, systems and sub-components.

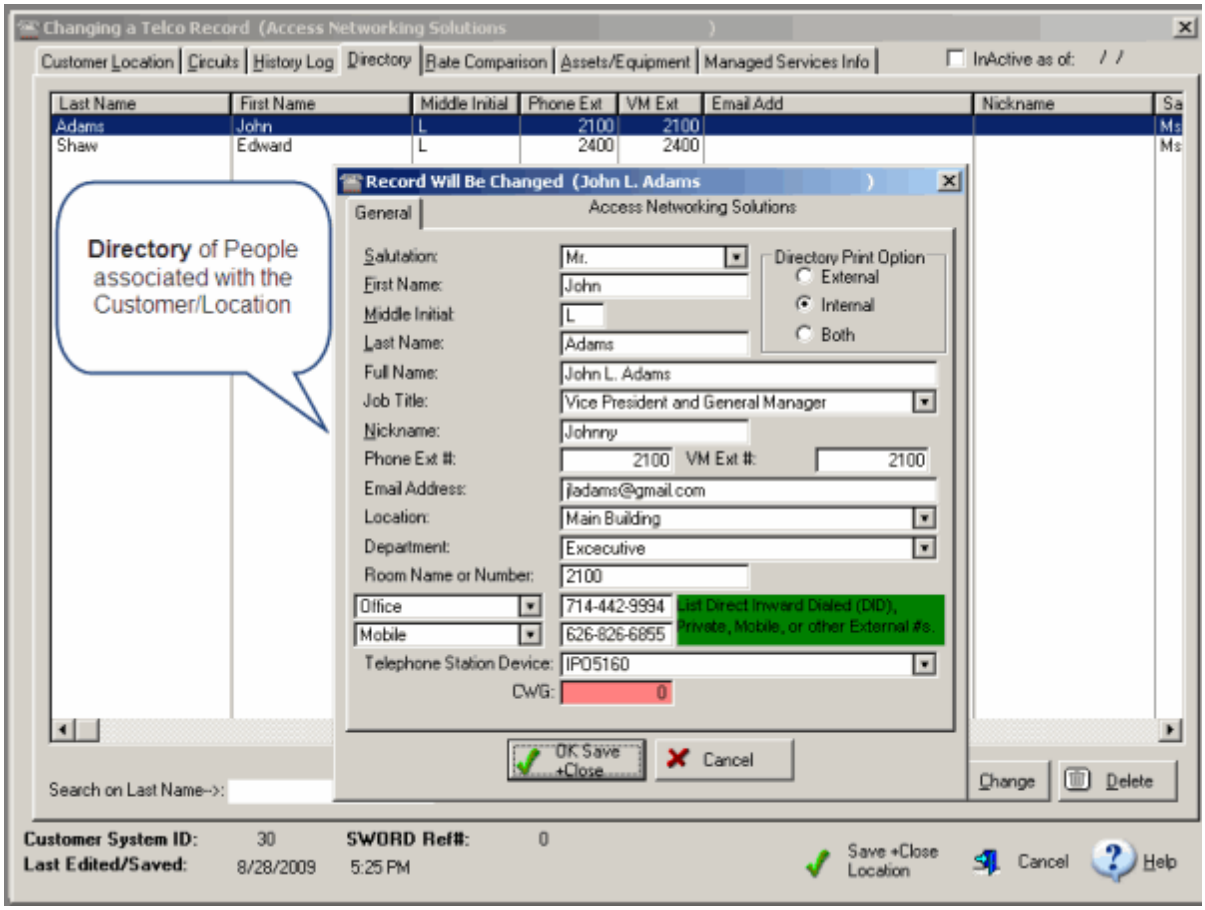
The Copy [**To Excel**] button will transfer the record contents of the active browse table to a new Excel workbook and spreadsheet tab. The process performs a column for column copy of the records that you can see in the browse table or that you may have tagged. If you do not tag any records, then all records in the file will be copied to an **Excel spreadsheet**.

More advanced export features are available by using the TelcoMgr IMPEX utility.

1.7.5.1 Carrier Contract Attachments

Carrier Network contracts can easily attached or associated with a **TelcoMgr Location Record** or a **Circuit Record**.

1.7.6 Customer Directory Tab

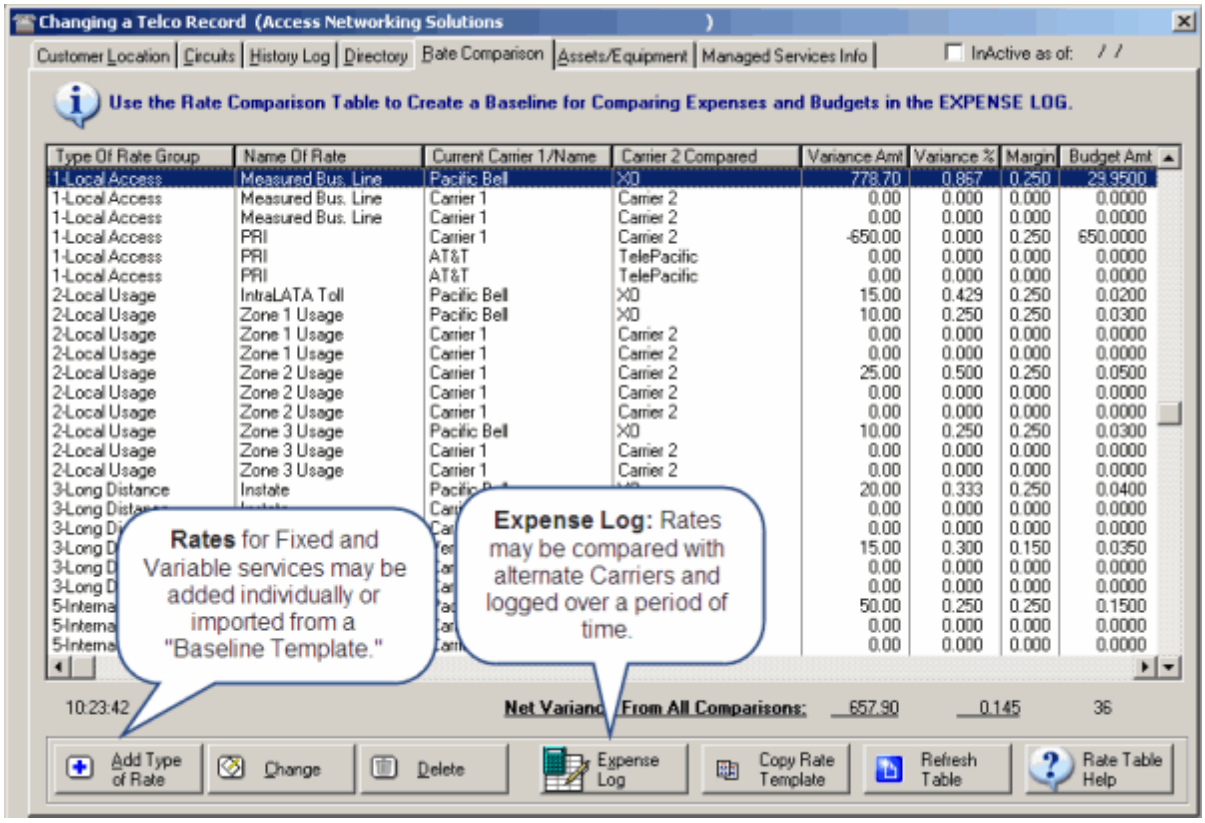


The **Customer Directory Tab** contains a table of people, phone numbers and end-point devices, which are directly related to the **Customer/Location**. The database is designed for printing of **internal or external directories**.

Related Topics

- Telephone Directory

1.7.7 Customer Rate Comparison Tab



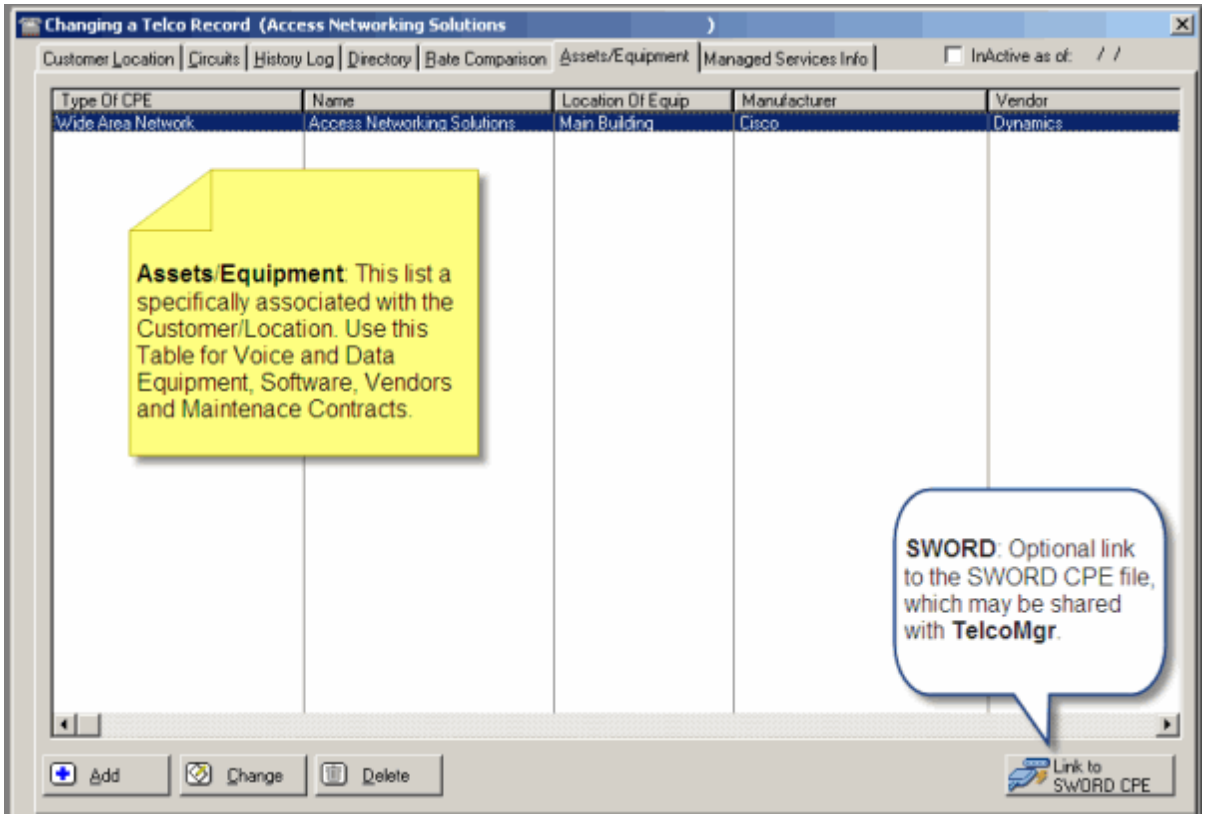
The **Rate Comparison Tab** contains a table of Rates (Usage based and Reoccurring), the Carrier and a one-to-one comparison with an alternate provider. The table is directly related to the **Customer/Location**. The database is designed for virtually unlimited quantity of Rate Names and Rate Groups, Carriers and comparison. The table serves a baseline for **telecom auditing**.

Related Topics

- Expense Log
- Expense Management Tutorial
- Rate Comparisons
- Rate Comparison Templates

© Access Business Communications, Inc.

1.7.8 Customer Asset/Equipment Tab

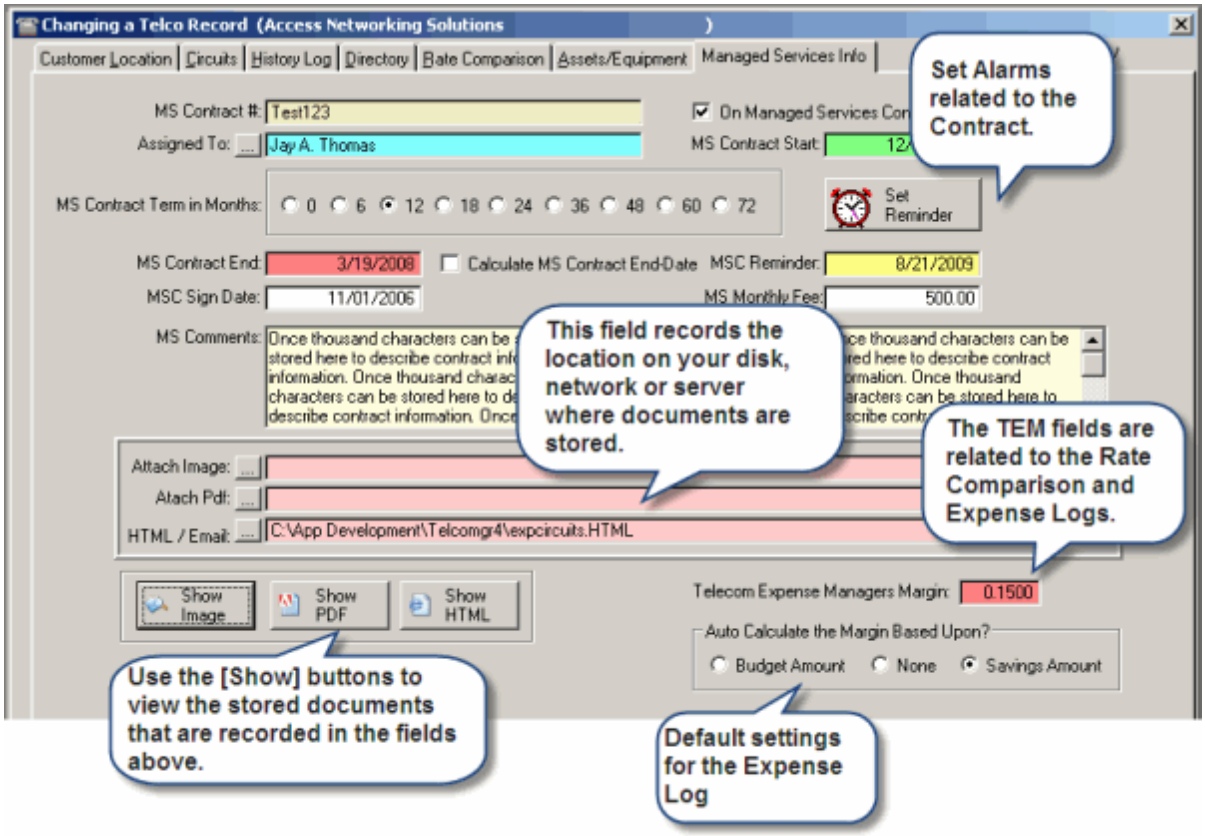


The **Assets/Equipment Tab** contains a table for **Customer Premises Equipment** (**CPE**). The database is generically designed to accept virtually any type of voice or data equipment.

Related Topics

- Asset Reports
- CPE
- Global Assets Database

1.7.9 Customer Managed Services Info Tab



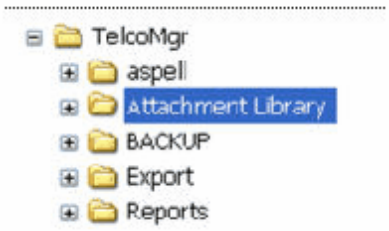
The **Managed Services Info Tab** holds Term Contract information and repository links to stored documents (image, PDF or HTML).

Related Topics

- MSC Document Attachments
- MSC Dynamic Calendars
- Carrier Contract Attachments
- TEM Margin and Calculations

1.7.9.1 Attachment Documents

First of all create a **shared folder** for all relative **attachments**, which can be accessed by all



TelcoMgr users. We call ours, "**Attachment Library**."

On a Customer/Location record, go to the Managed Services Info Tab:

Store attachments, which are related to management contracts for each Customer/Locaton. File Types Supported:
PDF, HTML, HTM, HyperText, Image (.jpg, .gif, .bmp)

Open a Circuit Record & Select the Term Contract Info Tab:

Store attachments, which are related to Telco/Carrier contracts for each Circuit. File Types Supported: PDF, HTML, HTM, HyperText, Image (.jpg, .gif, .bmp)

Open or Insert a History Log Record:

Store attachments, which are related to Account Management History for each History Entry. File Types Supported: PDF, HTML, HTM, HyperText, Image (.jpg, .gif, .bmp), Excel

The TelcoMgr database engine will automatically index the stored document names and the path to where they are stored on your network drive. Use the Query By Example process to quickly locate any **attached document**.

1.7.9.2 MSC Dynamic Calendars

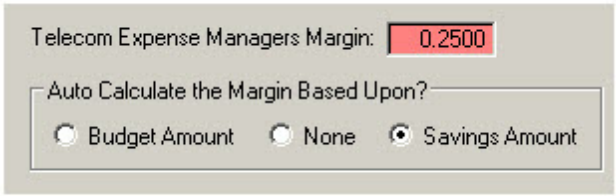
Managed Service Contracts can be easily tracked in **TelcoMgr's Dynamic Calendars**.

1.7.9.3 MSC Document Attachments

Managed Service Contracts can be easily tracked by attaching or associating the appropriate documents as an image file or PDF.

© Access Business Communications, Inc.

1.7.9.4 TEM Margin and Calculation Methods



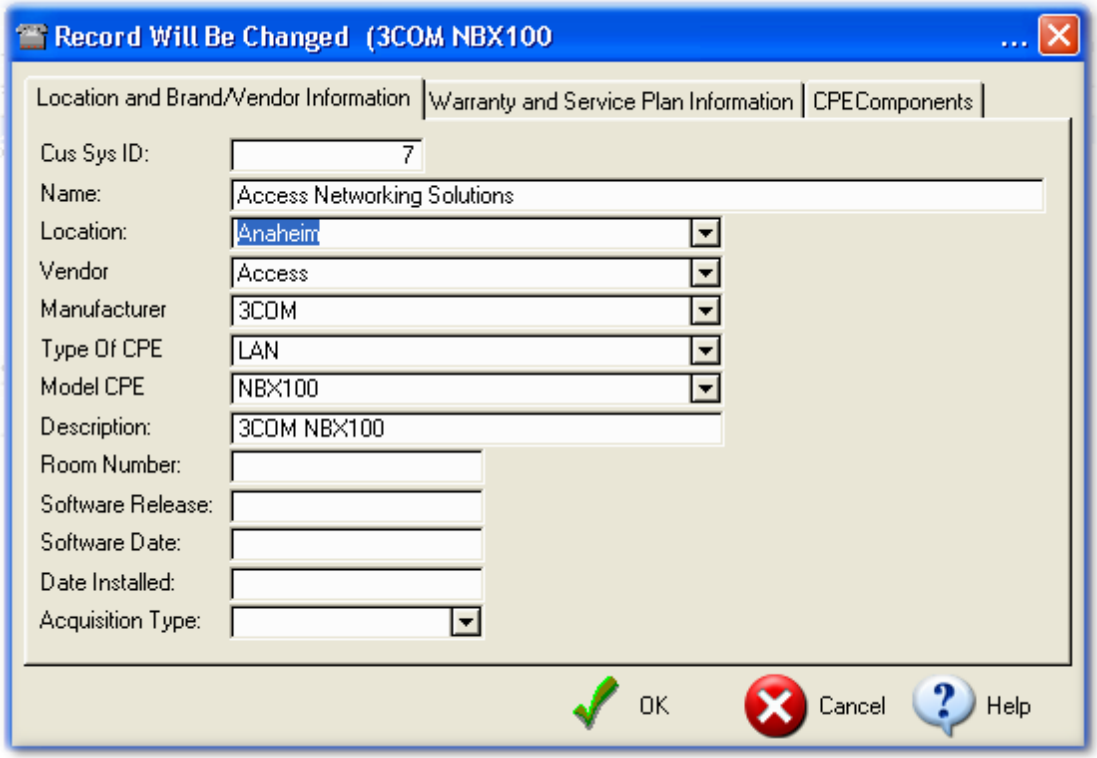
Customer Location TEM Calculation Methods

a) The TEM Audit Margin is used to populate a derived TEM Audit Margin field in the Customer Location table.

b) The Auto Calculate Margin Based Upon {Budget Amount/No Calculation/Savings Amount} radio option field is used to populate a Auto Calculate Margin Based Upon field in the Customer Location table.

c) Both of these default values may be updated or custom for each Customer Location record and are used to initialize information in the Rate Comparison Table and Expense Logging Table.

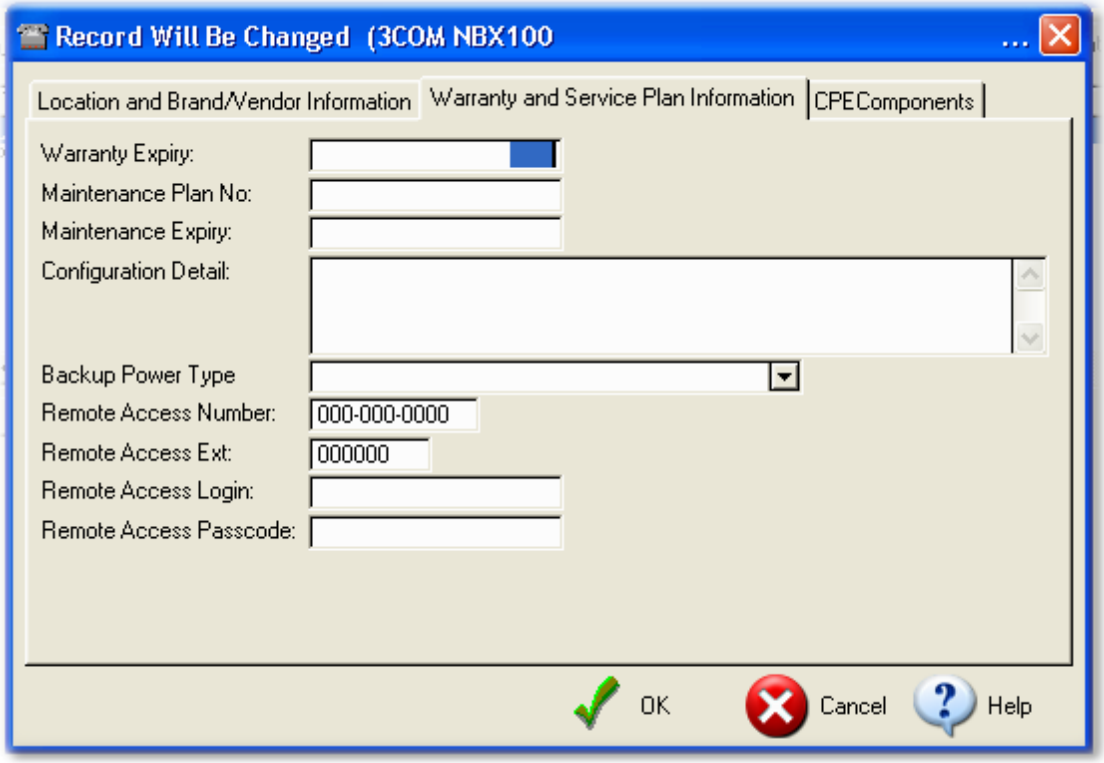
1.8 Customer Premises Equipment (CPE)



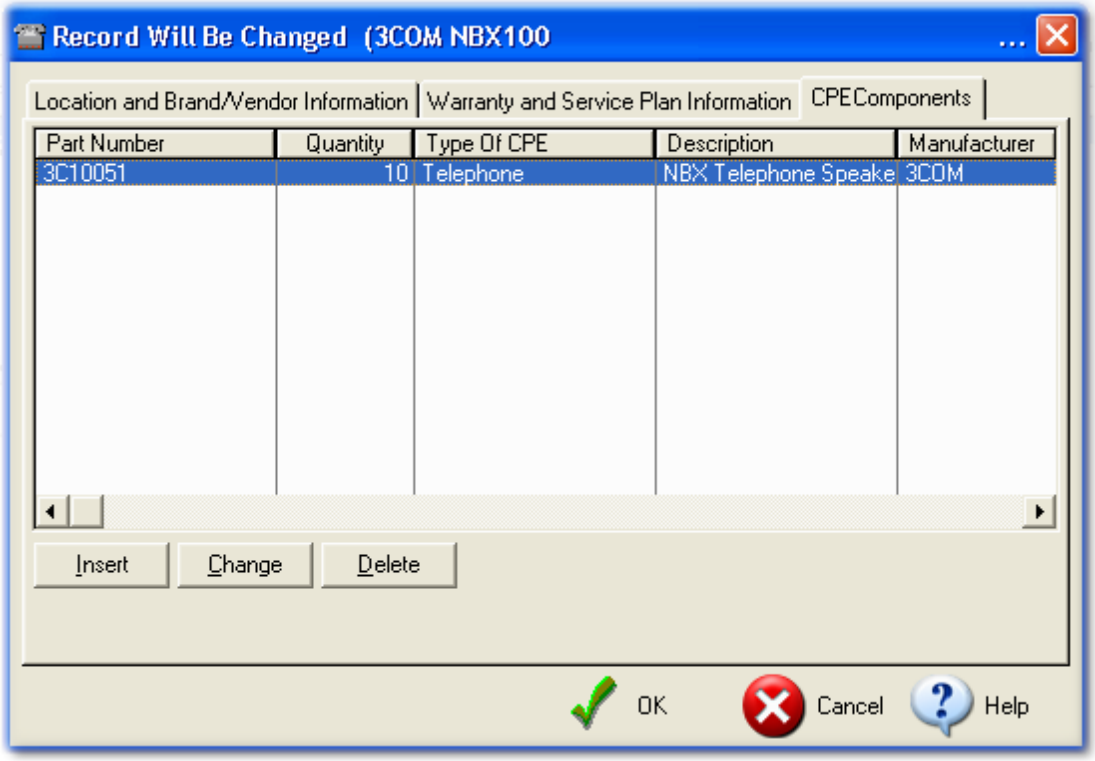
The **CPE** or **Customer Premises Equipment** table is designed for a variety of equipment

types and system groups. Therefore, you may record information about telephone equipment, data communications systems or other types of equipment. In addition, you may record detailed information about sub-components of each system group.

The [**Location and Brand/Vendor Information**] tab is designed for recording vendors, manufacturers and system group information.

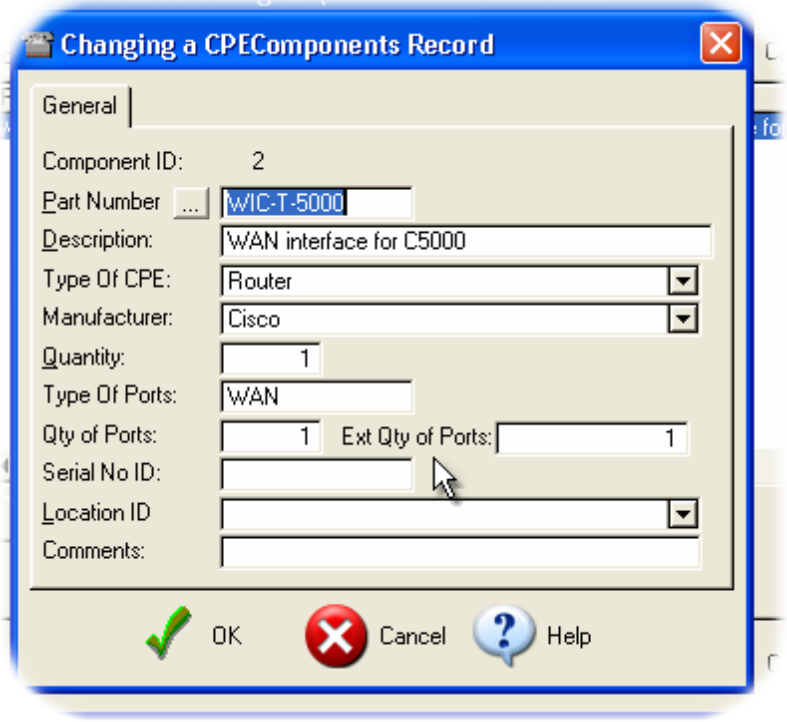


The [**Warranty and Service Information**] tab is designed for recording warranty/ maintenance coverages and remote administration information.



The [**CPE Components**] tab shows a database table designed for recording detailed information about related sub-components.

1.8.1 CPE Components



[**Component ID**] is automatically created by TelcoMgr.

[Part Number] may be entered or 'looked-up' by using the [...] button. [**Part Number**] is user defined.

[Description] is added from the the [Part Number].

[**Type of CPE**] is user defined.

[**Manufacturer**] is user defined.

[**Quantity**] allows you to bundle a group of components that are alike or you may enter an individual record for each item.

[Type of Ports] applies to components that provide network or **CPE** access interface points.

© *Access Business Communications, Inc.*

[Qty of Ports] applies to the Type of Ports component.

[**Serial No ID**] is user defined.

[**Location ID**] is user defined.

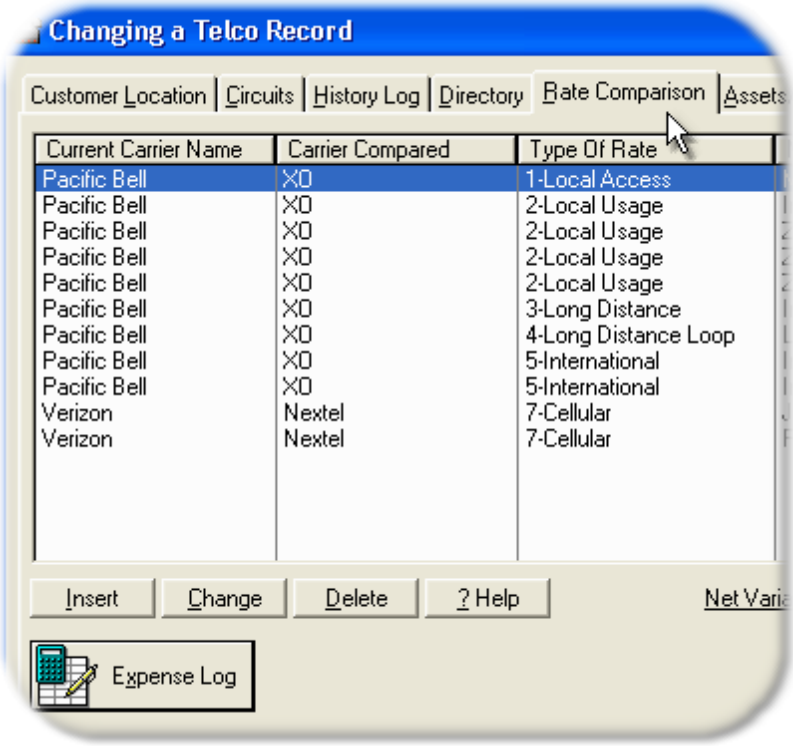
[Comments] applies to free form data.

1.9 Expense Log

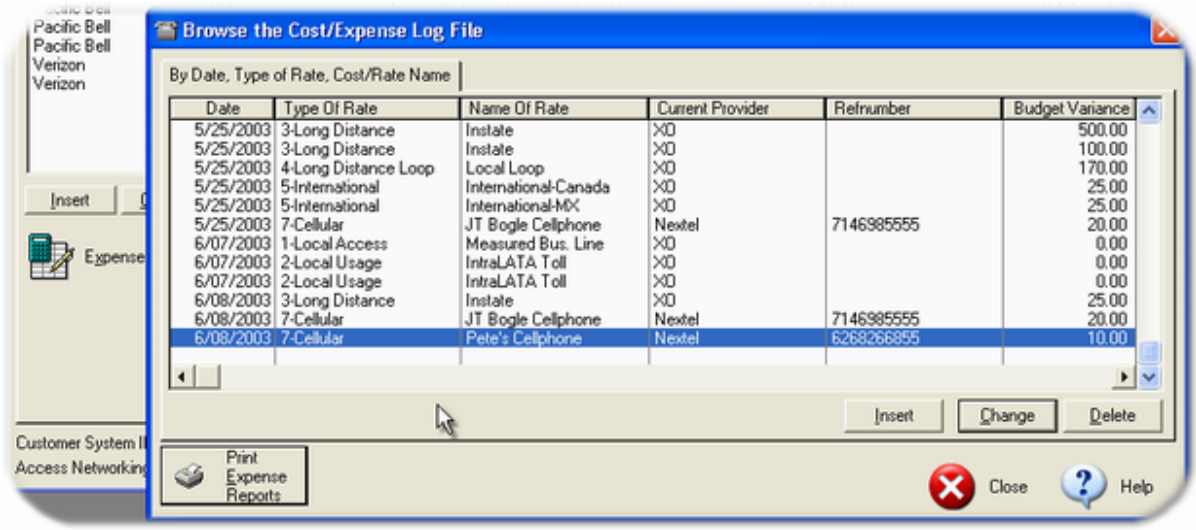
The **Expense Log** can only be opened from an individual Customer/Location's **Rate Comparison** tab. The **Expense Log** is used to log expenses in chronological order. In addition, the **Expense Log** is designed to compare the current actual expense amount against a budget amount.

NOTE: *Only the **Type of Rates** that appear in the **Rate Comparison** table may be entered into the **Expense Log**.*

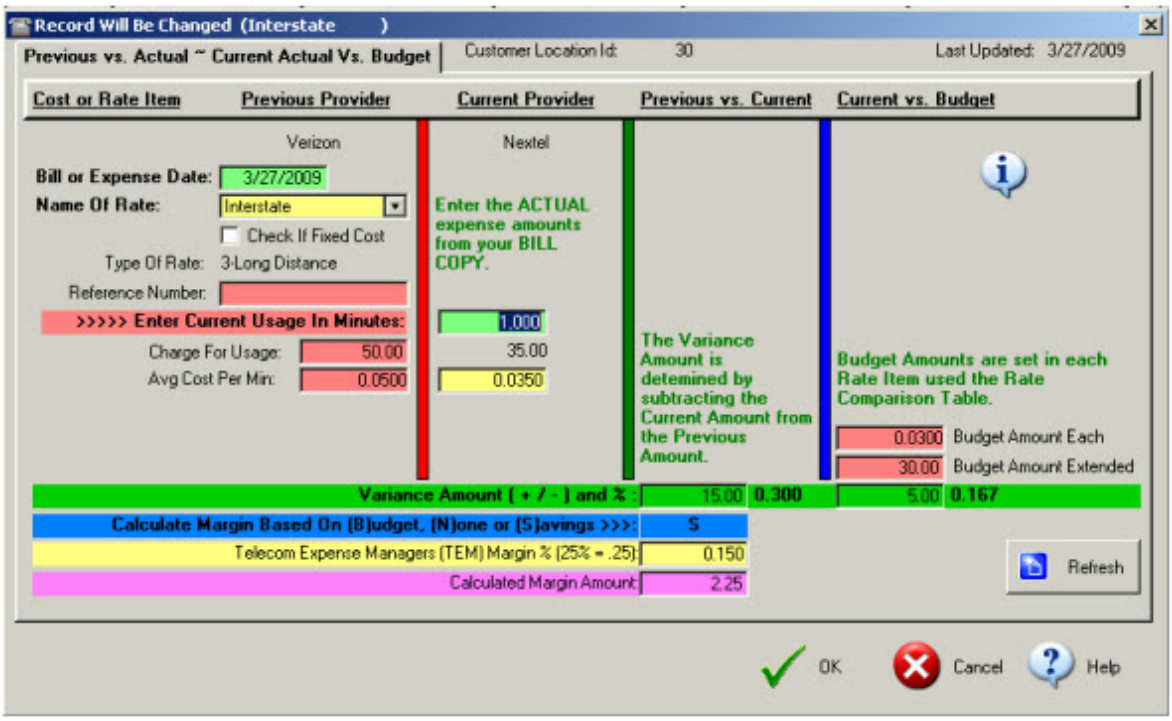
© Access Business Communications, Inc.



The [**Expense Log**] button open the browse table showing expenses that have been logged.



The **Expense Log** table is displayed in **Date, Type of Rate** and **Name of Rate** order.



Expense Log Edit Window

The **Expense Log Editor** and calculation window is very similar to the **Rate Comparison** calculator. *Only the **Type of Rates** that appear in the **Rate Comparison** table may be entered into the **Expense Log**.*

The **Previous Provider** column data is merged from the **Rate Comparison** entry. The user must enter the **minutes of usage** or the **Qty of Fixed** in the **Current Provider** column.

The **Budget** column is computed according to the **minutes of usage** or **Qty of Fixed** amount entered and multiplied by the **Budget** amount entered into the **Rate Comparison** table for a particular expense.

The **Budget Variance Amount** is automatically computed by the following formula:

(Extended Budget Amount - Extended Current Provided Amount)

The **Budget Variance Percent** is automatically computed by the following formula:

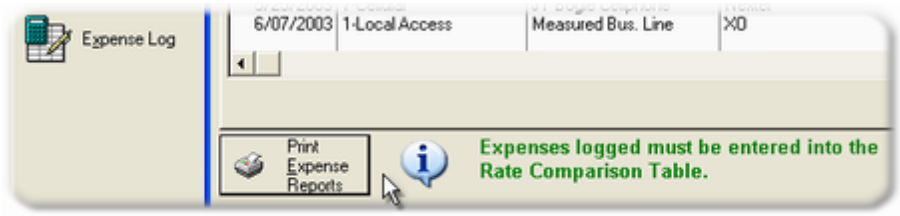
(Budget Variance Amount/Extended Budget Amount)

The **Margin %** must be entered into the **Rate Comparison** table.

The **Margin Amount** is computed by the following formula:

(Budget Variance Amount * Margin %)

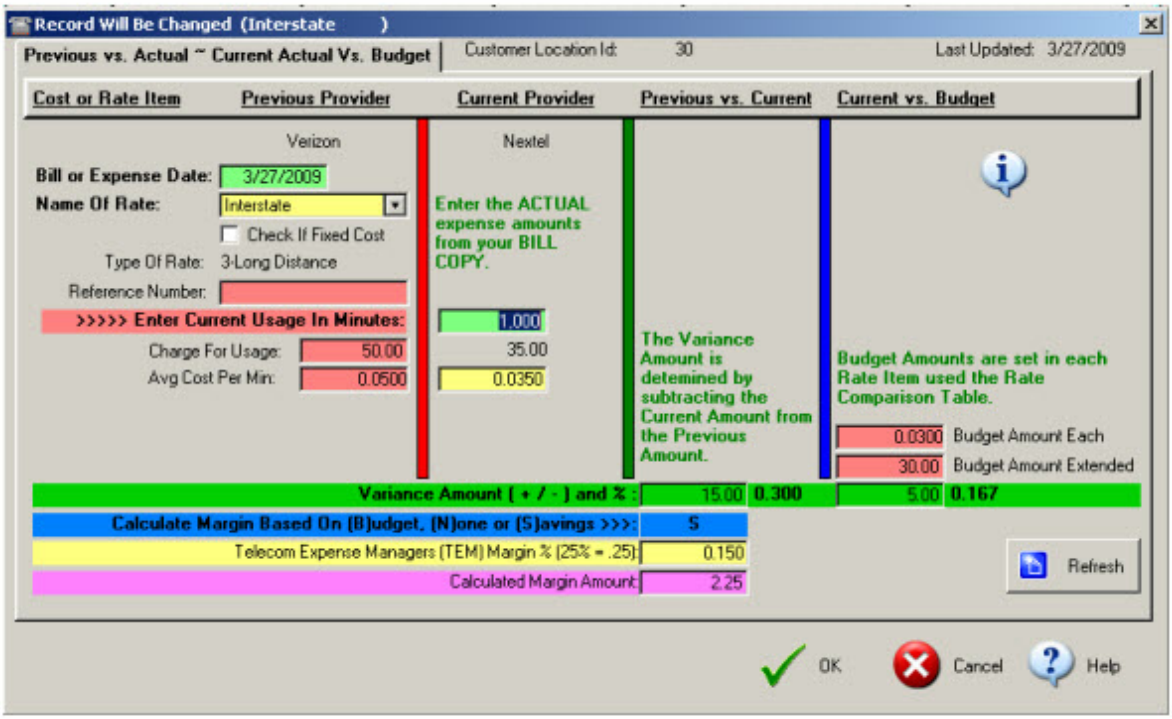
The **Expense Reports** can only be called from the **Browse the Expense Log table**.



The Copy [**To Excel**] button will transfer the record contents of the active browse table to a new Excel workbook and spreadsheet tab. The process performs a column for column copy of the records that you can see in the browse table or that you may have tagged. If you do not tag any records, then all records in the file will be copied to an **Excel spreadsheet**.

More advanced export features are available by using the TelcoMgr IMPEX utility.

1.9.1 Update Expense Log



Expense Log Edit Window

The **Expense Log Editor** and calculation window is very similar to the **Rate Comparison** calculator. *Only the **Type of Rates** that appear in the **Rate Comparison** table may be entered into the **Expense Log**.*

The **Previous Provider** column data is merged from the **Rate Comparison** entry. The user must enter the **minutes of usage** or the **Qty of Fixed** in the **Current Provider** column.

The **Budget** column is computed according to the **minutes of usage** or **Qty of Fixed** amount entered and multiplied by the **Budget** amount entered into the **Rate Comparison** table for a particular expense.

The **Budget Variance Amount** is automatically computed by the following formula:

(Extended Budget Amount - Extended Current Provided Amount)

The **Budget Variance Percent** is automatically computed by the following formula:

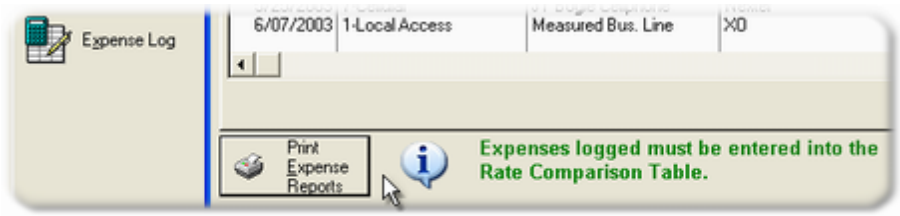
(Budget Variance Amount/Extended Budget Amount)

The **Margin %** must be entered into the **Rate Comparison** table.

The **Margin Amount** is computed by the following formula:

(Budget Variance Amount * Margin %)

The **Expense Reports** can only be called from the **Browse the Expense Log table**.



1.10 Expense Management and Tracking: Tutorial

Telecommunications Expense Management (TEM) is the methodology by which organizations can best manage some of their most critical strategic assets, which the telecommunications network often times represents. **TEM** encompasses people, the network technology, processes, policy, and financial review. **TEM** threads together people, technology, data, and financial review into one centralized and collaborative management systems. Also, TEM may include standardized set of best practices for acquisitions, implementation, contracting, and technology standardization.

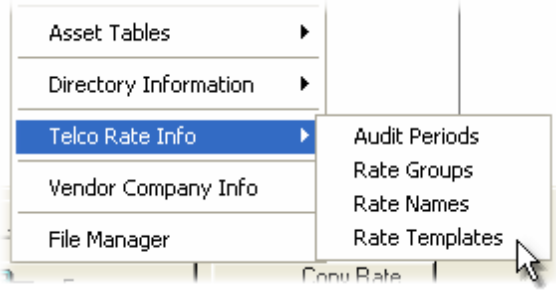
More about TEM ...

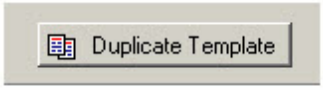
Cut the Cost!© How to Guide in E-Book Format with two editions: Professional Edition | Corporate Manager Edition

Many Telecom Professionals consider the Rate Comparison as an important part of the "Savings or Reduction Plan" that may be offered to a client. In this section, the focus is on recording and tracking telecom expenses, which all begins with a baseline or Rate Comparison. It is important that you become familiar with the following TelcoMgr features, terminology and concepts:

- Rate Comparison the practice of comparing telecommunication services with one or more competitive Carriers. The comparison may include fixed or monthly recurring charges and/

or charges that are incurred on a per usage basis.

- Each Customer/Location contains a Rate Comparison Tab and an Expense Log.
- Rate Comparison Templates are a set of telecommunications expense categories for services that should be compared or base-line for expense tracking or comparison over a period of time. The TelcoMgr Template Set simply makes the set or group of expense categories portable from one customer/location to another. TelcoMgr includes features that allow:
- 

- a) A Template set to be duplicated so it can then be modified for a particular customer or group; the original stays intact.
- 

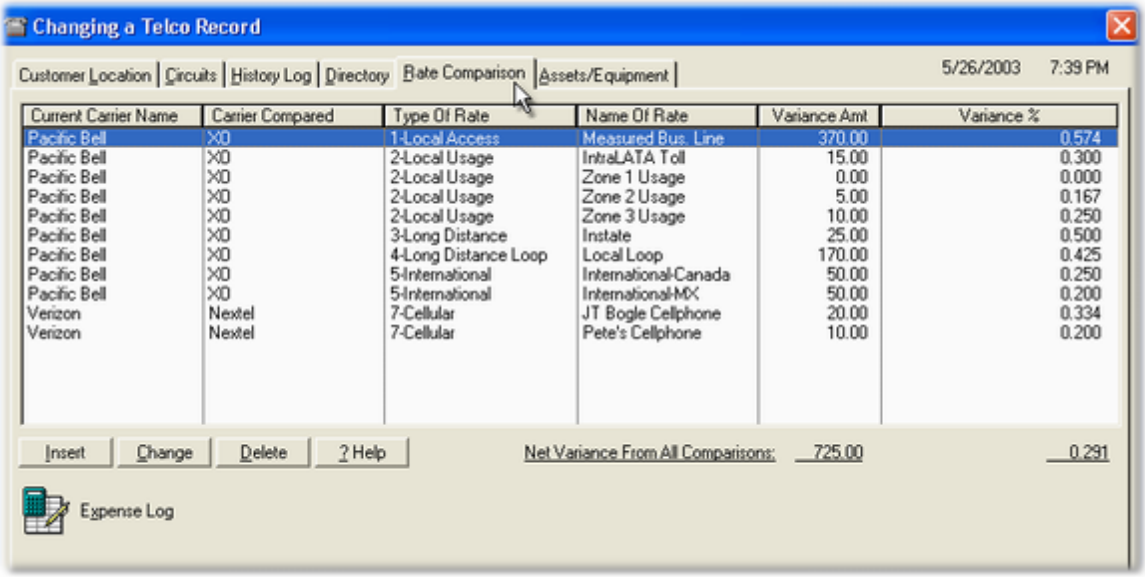
Use the [Duplicate Template] button to duplicate the highlighted record in the Rate Comparison Template table.
- b) A Rate Comparison Template may be copied from the Template Set Table to the Rate Comparison Tab in a Customer/Location record.
- c) Also, a Rate Comparison Template Set may be copied from the Customer/Location **Rate Comparison Tab** to the Expense Log as many times as needed in order to track expenses over a period of time.

Go to Outline for Tracking Expenses

1.10.1 Budget

TelcoMgr can provide a means to create and track a **budget** for many telecommunication expenses, including **fixed or reoccurring expense** and expenses charged by **minutes of usage**.

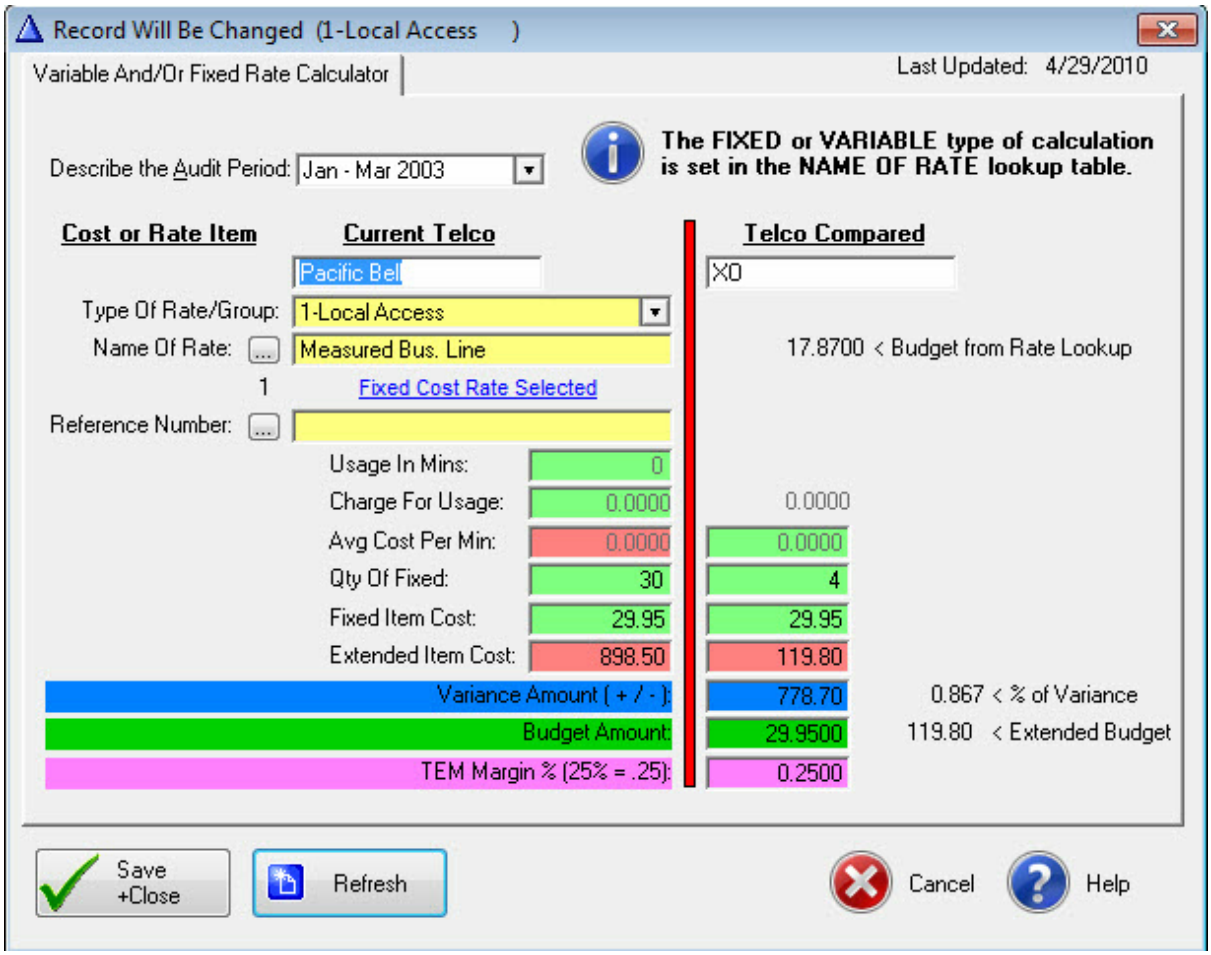
A **Budget items** must be entered into the **Rate Comparison** table for each expense item to be tracked.



Current Carrier Name	Carrier Compared	Type Of Rate	Name Of Rate	Variance Amt	Variance %
Pacific Bell	XO	1-Local Access	Measured Bus. Line	370.00	0.574
Pacific Bell	XO	2-Local Usage	IntraLATA Toll	15.00	0.300
Pacific Bell	XO	2-Local Usage	Zone 1 Usage	0.00	0.000
Pacific Bell	XO	2-Local Usage	Zone 2 Usage	5.00	0.167
Pacific Bell	XO	2-Local Usage	Zone 3 Usage	10.00	0.250
Pacific Bell	XO	3-Long Distance	Instate	25.00	0.500
Pacific Bell	XO	4-Long Distance Loop	Local Loop	170.00	0.425
Pacific Bell	XO	5-International	International-Canada	50.00	0.250
Pacific Bell	XO	5-International	International-MX	50.00	0.200
Verizon	Nextel	7-Cellular	JT Bogle Cellphone	20.00	0.334
Verizon	Nextel	7-Cellular	Pete's Cellphone	10.00	0.200

The **Budget Amount** must be entered into the [**Budget Amount**] field located on the **Telco Rate Calculator** or **Rate Edit window.**

© *Access Business Communications, Inc.*



Rate Comparison Edit Window handles Fixed or Variable Charges

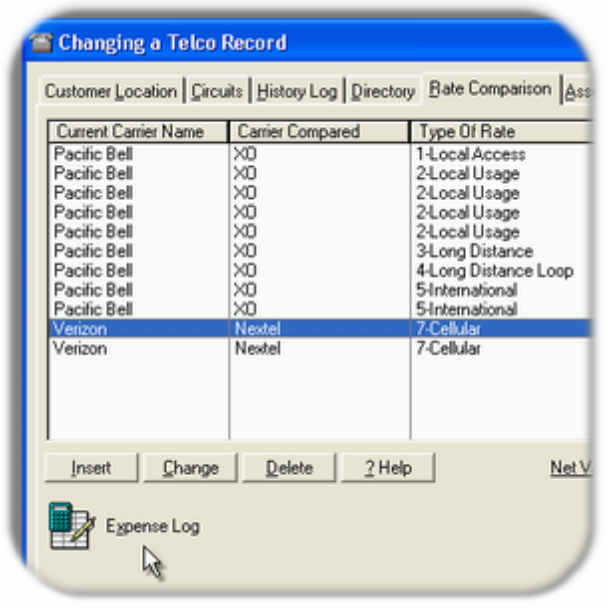
The **Budget Amount** is the *quantity one amount* of each expense type. Here are some examples of **Budget Amounts:**

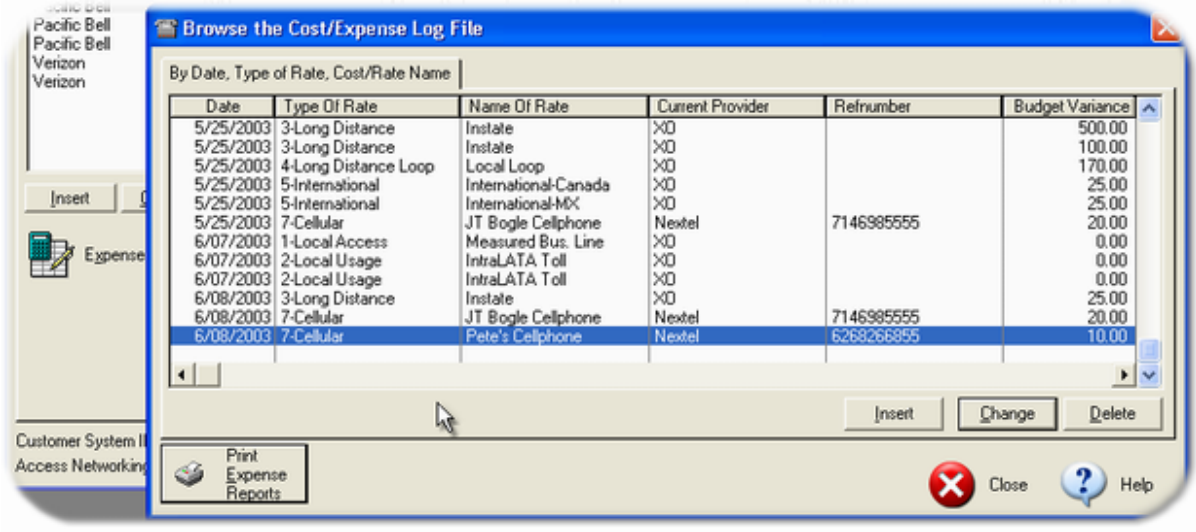
1. **Business Line Monthly Amount $25.0000**
2. **InterState Usage $00.0650**
3. **Cellphone Monthly Amount $49.9500**

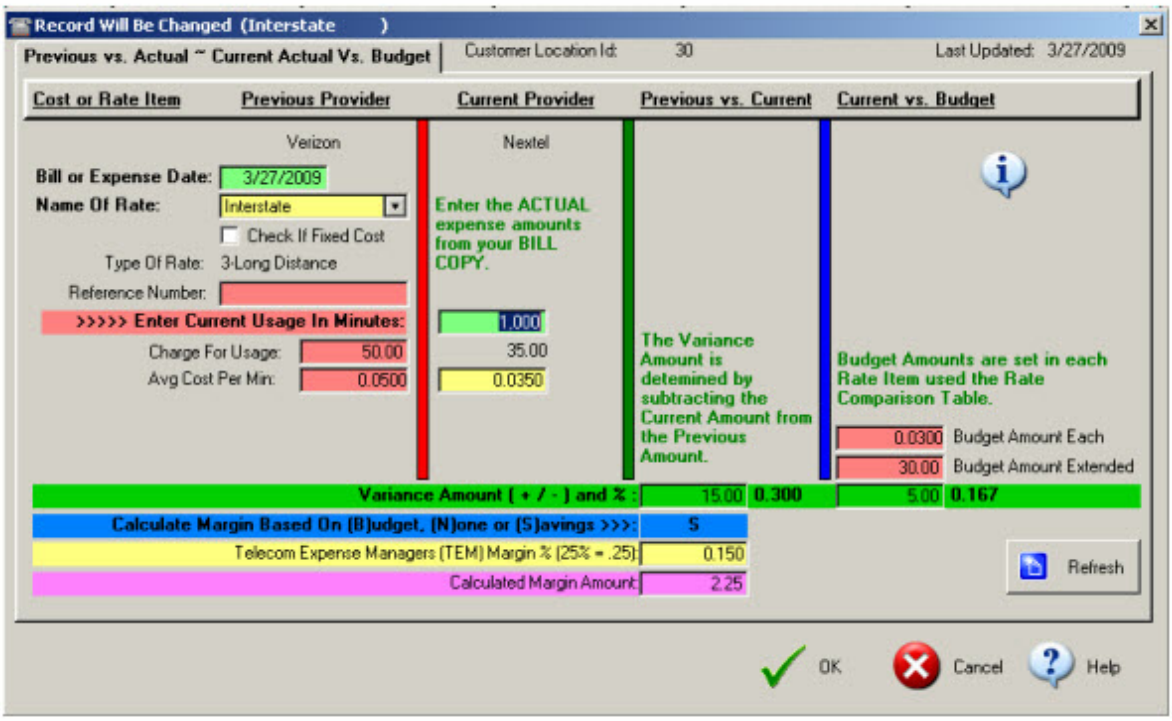
The **Margin Amount** is a percentage that may be used as an *incentive or commission* for staff members to find ways to reduce telecommunications expenses.

Budget tracking may be accomplish by logging the expenses into the **Expense Log**.

© Access Business Communications, Inc.


Changing a Telco Record
Customer Location
Circuits
History Log
Directory
Rate Comparison
Current Carrier Name
Carrier Compared
Type Of Rate
Pacific Bell XO 1-Local Access
Pacific Bell XO 2-Local Usage
Pacific Bell XO 2-Local Usage
Pacific Bell XO 2-Local Usage
Pacific Bell XO 2-Local Usage
Pacific Bell XO 3-Long Distance
Pacific Bell XO 4-Long Distance Loop
Pacific Bell XO 5-International
Pacific Bell XO 5-International
Verizon Nextel 7-Cellular
Verizon Nextel 7-Cellular
Insert
Change
Delete
? Help
Expense Log


Pacific Bell
Pacific Bell
Verizon
Verizon
Insert
Expense
Customer System
Access Networking
Browse the Cost/Expense Log File
By Date, Type of Rate, Cost/Rate Name
Date
Type Of Rate
Name Of Rate
Current Provider
Refnumber
Budget Variance
5/25/2003 3-Long Distance Instate XO 500.00
5/25/2003 3-Long Distance Instate XO 100.00
5/25/2003 4-Long Distance Loop Local Loop XO 170.00
5/25/2003 5-International International-Canada XO 25.00
5/25/2003 5-International International-MX XO 25.00
5/25/2003 7-Cellular JT Bogle Cellphone Nextel 7146985555 20.00
6/07/2003 1-Local Access Measured Bus. Line XO 0.00
6/07/2003 2-Local Usage IntraLATA Toll XO 0.00
6/07/2003 2-Local Usage IntraLATA Toll XO 0.00
6/08/2003 3-Long Distance Instate XO 25.00
6/08/2003 7-Cellular JT Bogle Cellphone Nextel 7146985555 20.00
6/08/2003 7-Cellular Pete's Cellphone Nextel 6268268855 10.00
Insert
Change
Delete
Print Expense Reports
Close
Help



Expense Log Edit Window

The **Expense Log Editor** and calculation window is very similar to the **Rate Comparison** calculator. *Only the **Type of Rates** that appear in the **Rate Comparison** table may be entered into the **Expense Log**.*

The **Previous Provider** column data is merged from the **Rate Comparison** entry. The user must enter the **minutes of usage** or the **Qty of Fixed** in the **Current Provider** column.

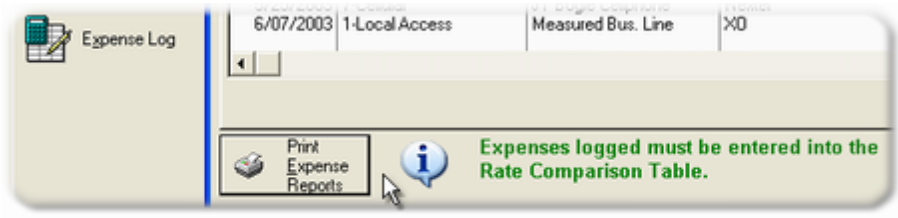
The **Budget** column is computed according to the **minutes of usage** or **Qty of Fixed** amount entered and multiplied by the **Budget** amount entered into the **Rate Comparison** table for a particular expense.

The **Margin %** must be entered into the **Rate Comparison** table.

The **Margin Amount** is computed by the following formula:

(Budget Variance Amount * Margin %)

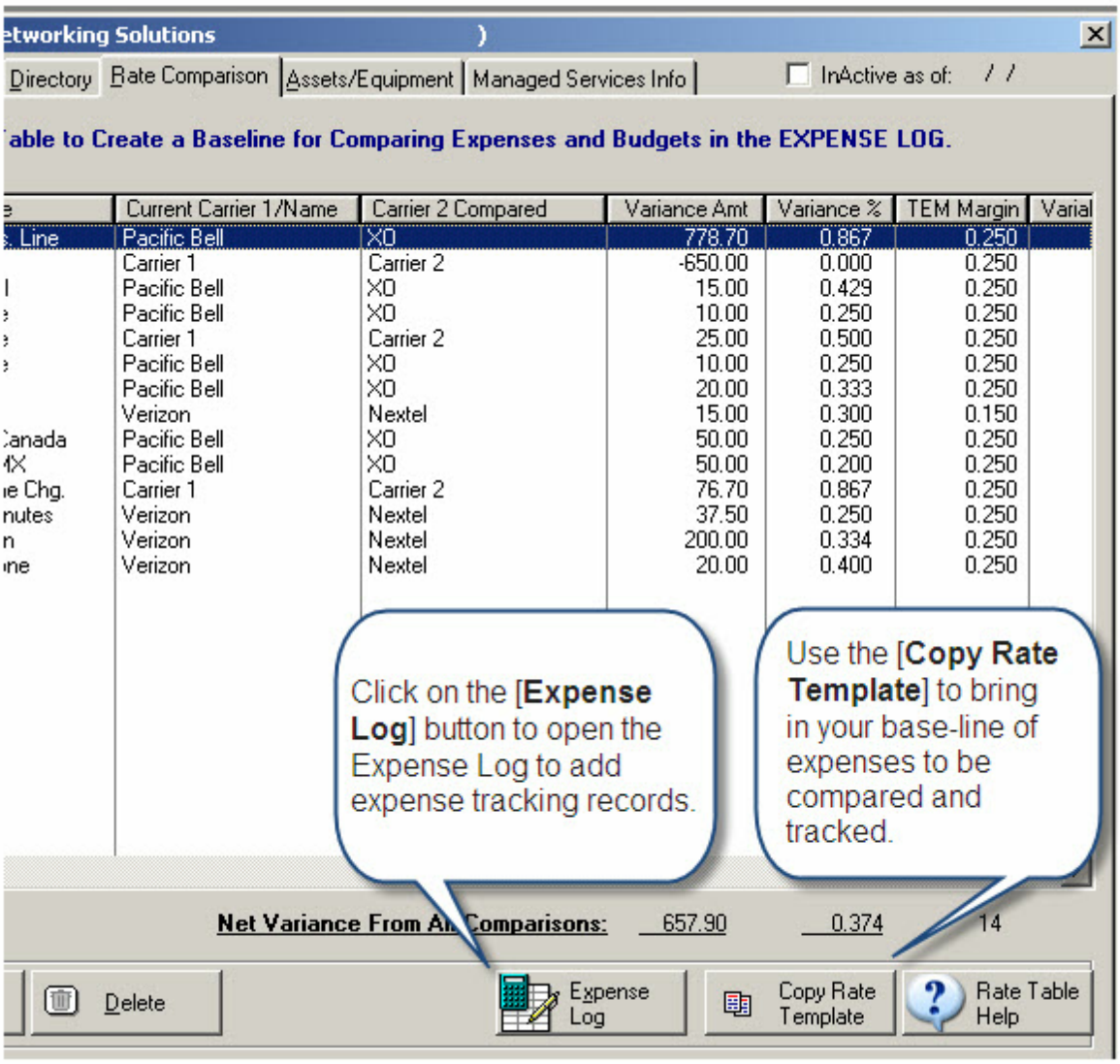
The **Expense Reports** can only be called from the **Browse the Expense Log table**.



Related Topics: TEM Fields, TEM Margin and Calculation Methods

1.10.2 Creating a Baseline of Expenses

Before you begin tracking expenses it is important and necessary to create a **baseline of expenses** by entering all of the Telecom expense categories called Rate Groups and Rate Names that you wish to follow. You can build the table item by item or you can create a Rate Comparison Template that can be used over and over again on multiple Customer/Location records.



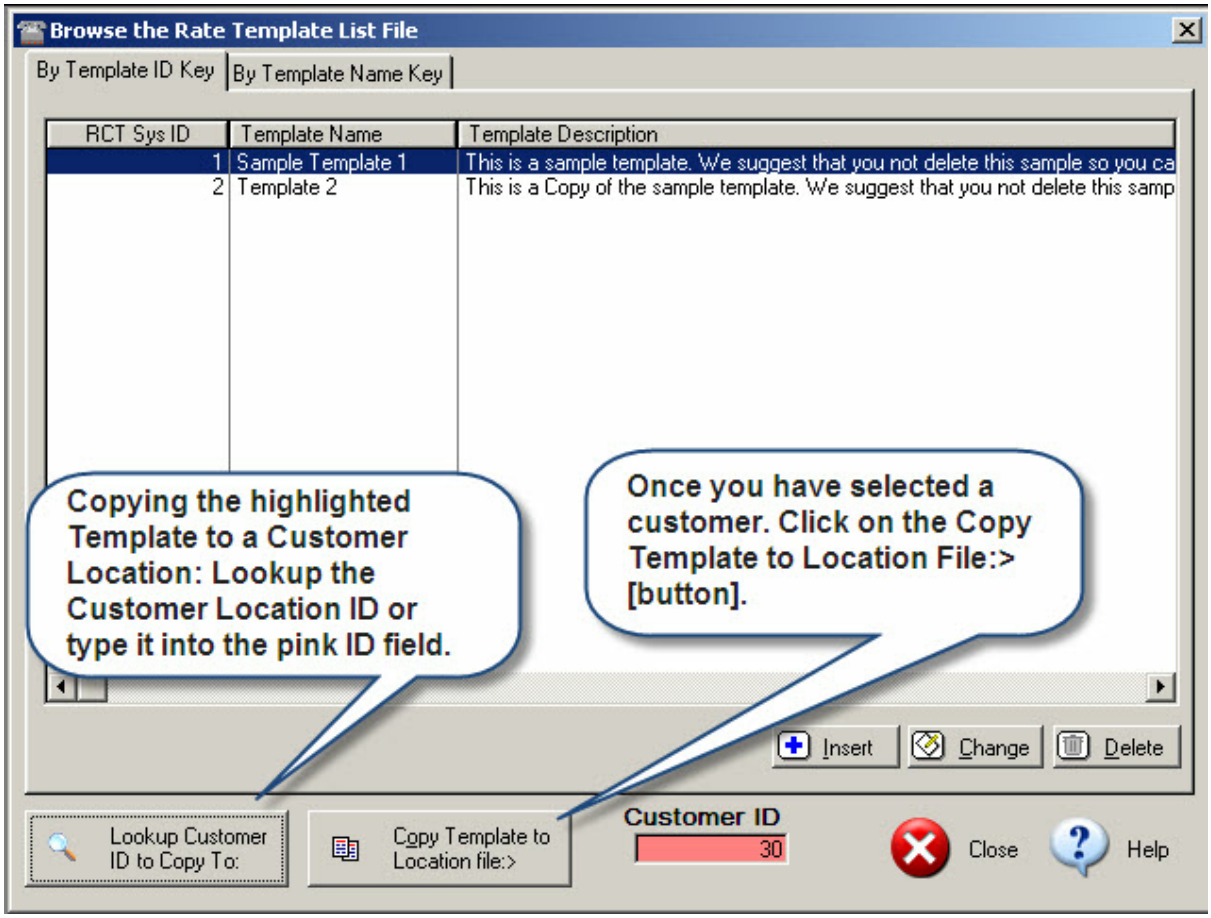
1.10.3 Outline for Tracking Expenses

You must create a baseline for tracking expenses in the Rate Comparison Table for each respective Customer/Location. In other words you must identify what will be tracked and how it will be compared. In TelcoMgr this information is recorded in what is called the Rate Comparison Table and the baseline for Expense Logging.

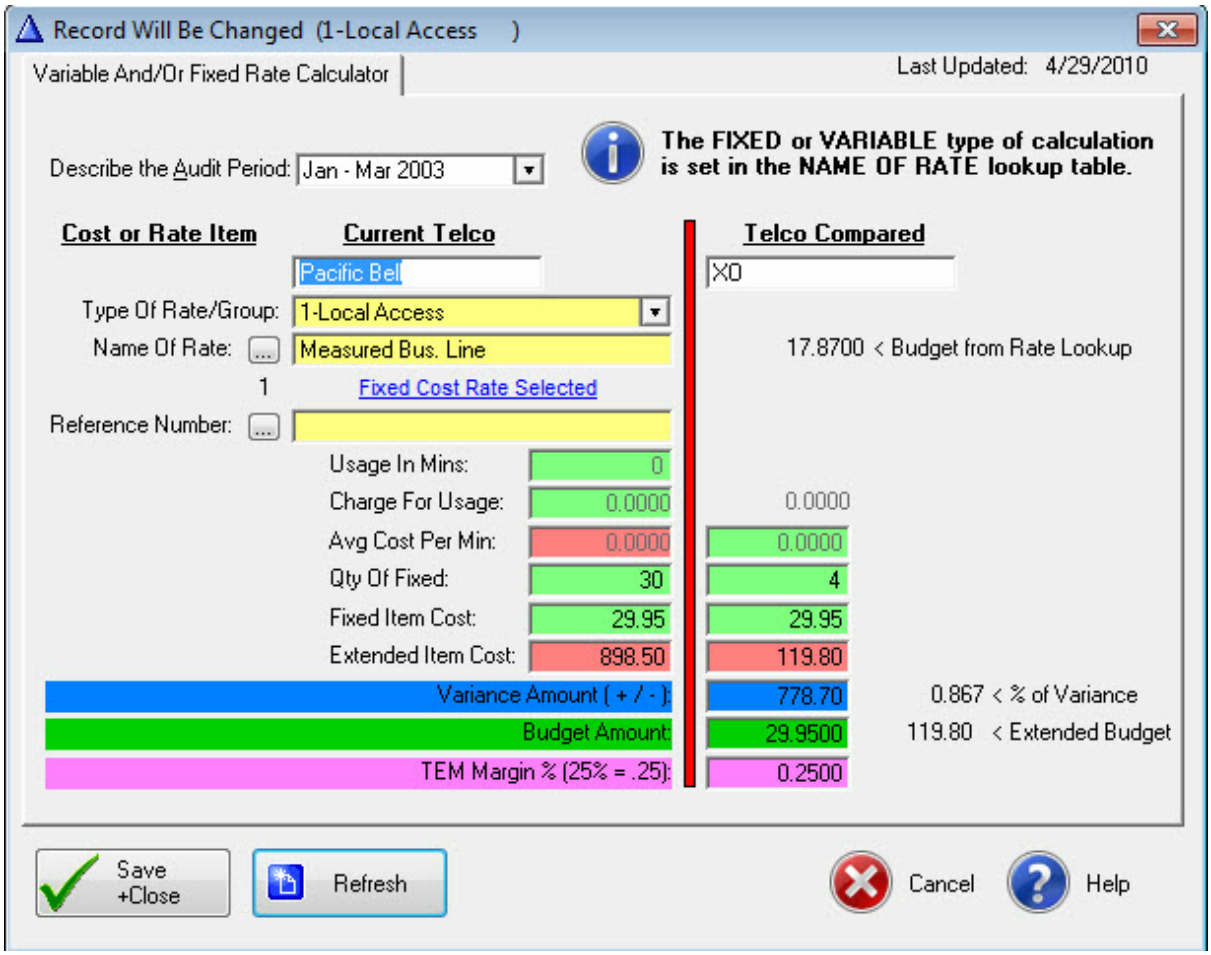
1) Create a Rate Comparison Template that can be used as your **Baseline of Expense**. Include whatever expenses that you wish to log or track, which may include recurring charges and usage based charges.

2) Copy your Baseline template to as many Customer/Location records as needed. The Baseline template will appear in the Customer/Location's Rate Comparison Tab after the

copy process completes.



3) Go to the **Rate Comparison Tab** of the appropriate customer and complete the Rate Comparison between the Current Carrier Expense with the New Carrier Expense.



Rate Comparison Edit Window handles Fixed or Variable Charges

4) Each item in the Rate Comparison table is either a FIXED (recurring) or Variable (based on usage) expense.

5) Your Baseline Template should include the Current Telco, Telco Compared, whether FIXED or not, Type of Rate Group, and the Rate Name. Many Telecom Professionals consider the Rate Comparison Template as an important part of the "Savings or Reduction Plan" that may be offered to a client.

6) In the left column, enter the Current Charges (Fixed or Variable). In the example above, enter the minutes and the charge; the Average Cost Per Minute is automatically calculated.

7) Optionally add the Reference Number from the **CIRCUITS** Table.

8) In the right column enter the new rate that is expected.

9) The Variance Amount and Percentage are auto-calculated.

10) **User Tip:** Use the Budget Amount field as a goal marker of what you expect. Therefore, enter the new carrier (right column) expected rate as the **Budget Amount**. In the Expense Log the Current is compared to the New and the New is compared to the Budget.

11) Enter the appropriate Margin. The Margin Percentage Amount is a percentage that may be used as an incentive for independent Telecom Expense Managers or bonus for staff members to find ways to reduce telecommunications expenses.

12) **Related Topics:** TEM Fields, TEM Margin and Calculation Methods.

13) In the example above, the NEW shows a 30% or $15 savings over the CURRENT. The TEM manager earns 15% of the SAVINGS, or $15.00 x 15% = $2.25 x 12 Months/$27.00.

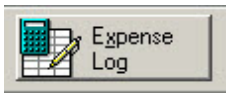
14) Compete the steps 6 through 12 for each item in your baseline template.

15) Print the **Telco Rate Comparison report** and proof read the Rate Comparison Table.

16) Make any necessary changes and/or corrections in the Rate Comparison Table that were found in the report.

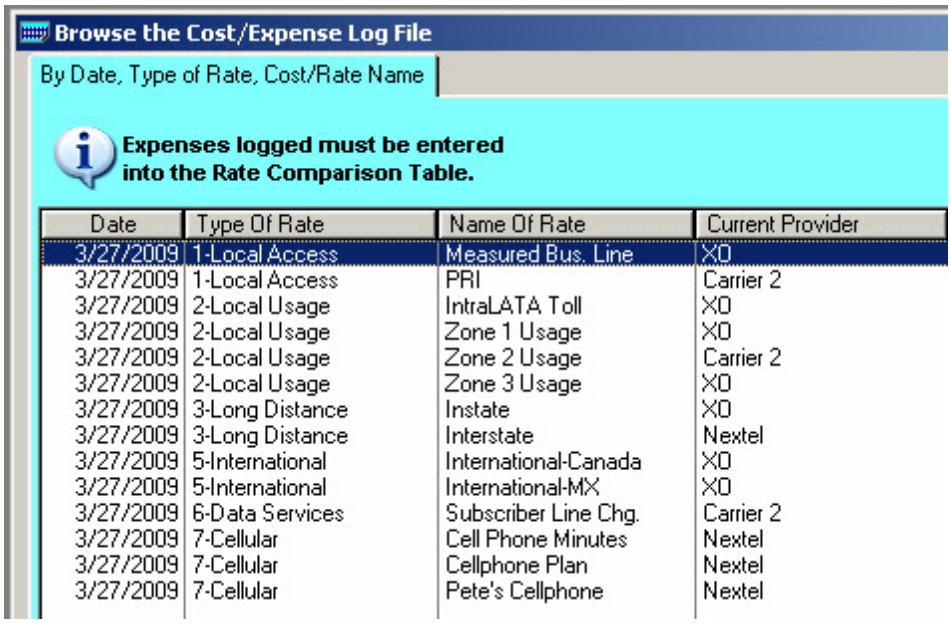
17) Now you are ready to begin creating an Expense Log for all of the line items that appear in your Rate Comparison Table

18) Click on the **Expense Log button**.



19) The Expense Log window will open and show a table of expenses, if previously entered.

© Access Business Communications, Inc.



Date	Type Of Rate	Name Of Rate	Current Provider
3/27/2009	1-Local Access	Measured Bus. Line	XO
3/27/2009	1-Local Access	PRI	Carrier 2
3/27/2009	2-Local Usage	IntraLATA Toll	XO
3/27/2009	2-Local Usage	Zone 1 Usage	XO
3/27/2009	2-Local Usage	Zone 2 Usage	Carrier 2
3/27/2009	2-Local Usage	Zone 3 Usage	XO
3/27/2009	3-Long Distance	Instate	XO
3/27/2009	3-Long Distance	Interstate	Nextel
3/27/2009	5-International	International-Canada	XO
3/27/2009	5-International	International-MX	XO
3/27/2009	6-Data Services	Subscriber Line Chg.	Carrier 2
3/27/2009	7-Cellular	Cell Phone Minutes	Nextel
3/27/2009	7-Cellular	Cellphone Plan	Nextel
3/27/2009	7-Cellular	Pete's Cellphone	Nextel

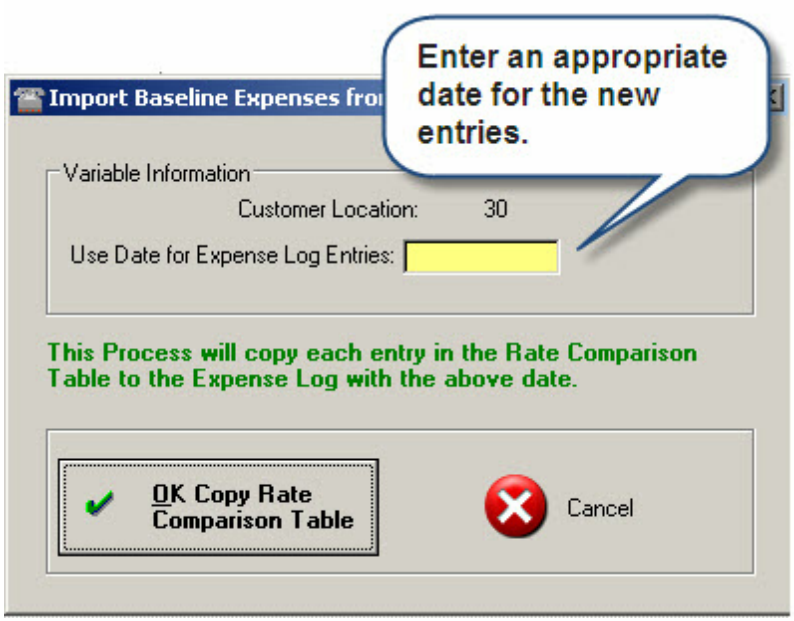
20) **User Tip:** Expenses that are logged/tracked must be entered into the Rate Comparison Table (the baseline control for tracking expenses).

21) You may enter each Type of Rate one by one into the Expense Log Table or click on the **Import Baseline Set button**.

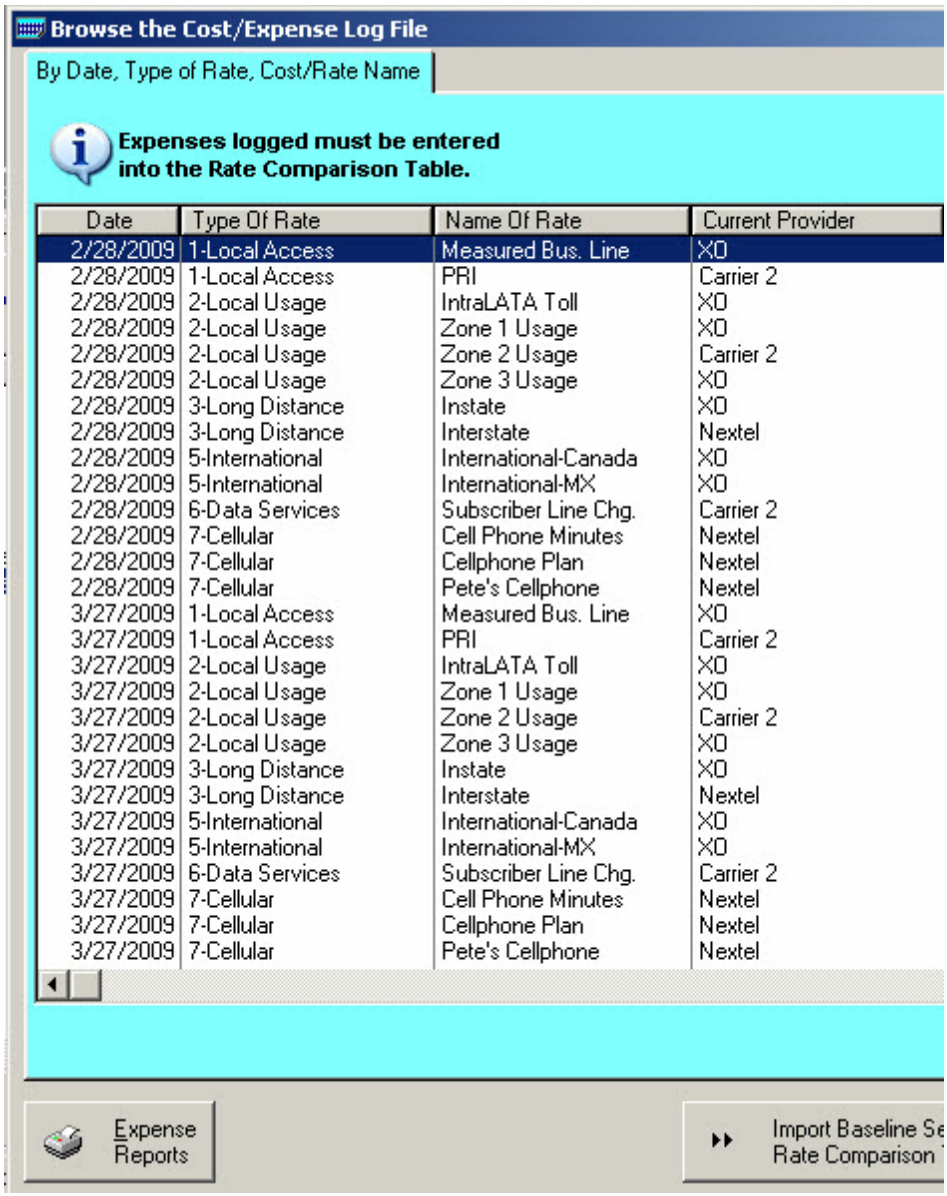
22) The **Import Baseline Set button** will copy the entire Rate Comparison Table into the Expense Log for the specific Customer/Location.

23) When the **Import Baseline Set button** is clicked a small window will open so an appropriate date may be automatically added to each new record.

© Access Business Communications, Inc.



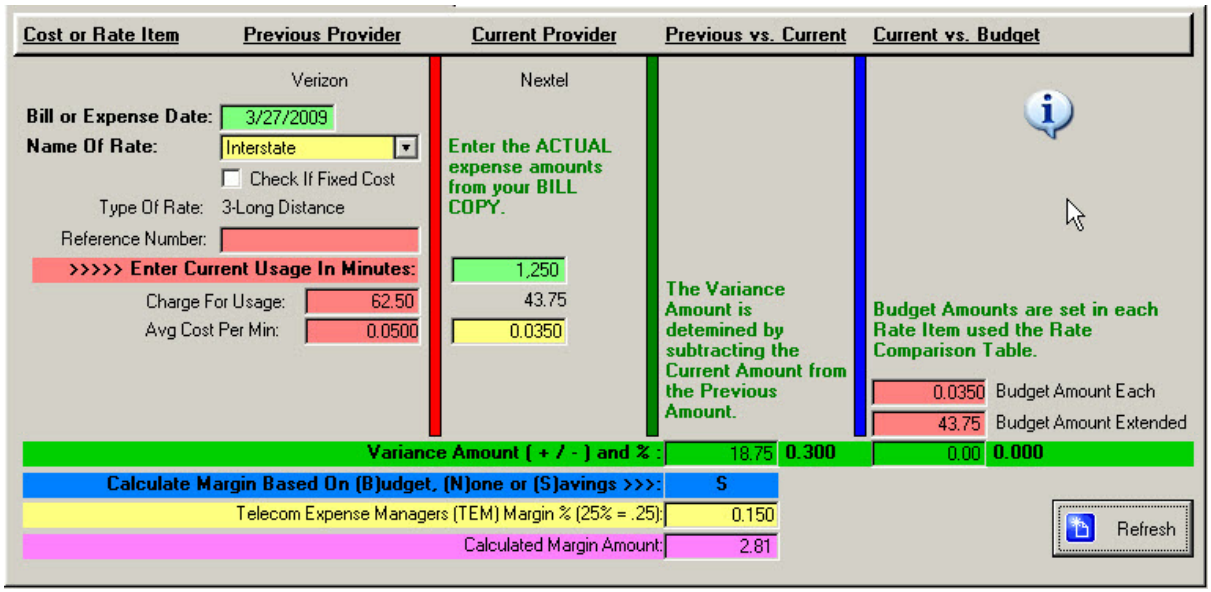
24) The new records are added in order of the DATE + TYPE OF RATE (GROUP) + NAME OF RATE



Date	Type Of Rate	Name Of Rate	Current Provider
2/28/2009	1-Local Access	Measured Bus. Line	XO
2/28/2009	1-Local Access	PRI	Carrier 2
2/28/2009	2-Local Usage	IntraLATA Toll	XO
2/28/2009	2-Local Usage	Zone 1 Usage	XO
2/28/2009	2-Local Usage	Zone 2 Usage	Carrier 2
2/28/2009	2-Local Usage	Zone 3 Usage	XO
2/28/2009	3-Long Distance	Instate	XO
2/28/2009	3-Long Distance	Interstate	Nextel
2/28/2009	5-International	International-Canada	XO
2/28/2009	5-International	International-MX	XO
2/28/2009	6-Data Services	Subscriber Line Chg.	Carrier 2
2/28/2009	7-Cellular	Cell Phone Minutes	Nextel
2/28/2009	7-Cellular	Cellphone Plan	Nextel
2/28/2009	7-Cellular	Pete's Cellphone	Nextel
3/27/2009	1-Local Access	Measured Bus. Line	XO
3/27/2009	1-Local Access	PRI	Carrier 2
3/27/2009	2-Local Usage	IntraLATA Toll	XO
3/27/2009	2-Local Usage	Zone 1 Usage	XO
3/27/2009	2-Local Usage	Zone 2 Usage	Carrier 2
3/27/2009	2-Local Usage	Zone 3 Usage	XO
3/27/2009	3-Long Distance	Instate	XO
3/27/2009	3-Long Distance	Interstate	Nextel
3/27/2009	5-International	International-Canada	XO
3/27/2009	5-International	International-MX	XO
3/27/2009	6-Data Services	Subscriber Line Chg.	Carrier 2
3/27/2009	7-Cellular	Cell Phone Minutes	Nextel
3/27/2009	7-Cellular	Cellphone Plan	Nextel
3/27/2009	7-Cellular	Pete's Cellphone	Nextel

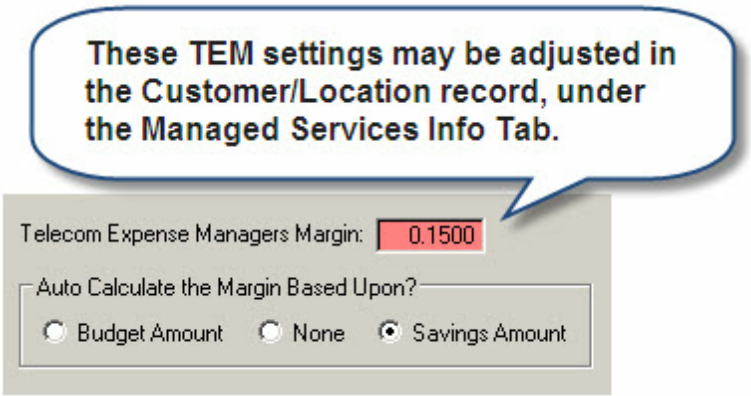
25) Delete any Rate Template items that you do not wish to log or track.

26) Open each record with the appropriate date and update the information from the billing records.



27) In the **Expense Log Calculator** window example above a user only needs to enter the Actual or Current Usage In Minutes or 1,250.00 and confirm the Average Cost Per Minute that was copied from the Rate Comparison Table. The Date and Name of Rate are automatically filled. The Charge For Usage of 62.50 was calculated based upon the Previous Provider's rate or the old rate. Therefore, **VARIANCE AMOUNT and %** shows a reduction or savings of $18.75 or 30% and the PLAN is on BUDGET.

28) The TEM Margin is calculated on the (S) SAVINGS method and may be adjusted in the Customer/Location record (see image below).



29) The Calculated Margin Amount = Savings x Margin %

30) Repeat the steps 26 through 28 for each expense item that is to be logged or tracked for the specific period.

31) When all Expense Items have been update print the **Expense Report** by clicking on the **Expense Report button**.

32) The **Expense Report button** will open a Report Option window as shown below.

33) You have the option of selecting or creating an Expense Report title.

34) Enter or select the appropriate dates for your report.

35) Select from two reports. One includes the Margin Amounts and the other excludes the Margin Amounts.

36) Proof read your report for any corrections that may be needed in the Expense Log.

© Access Business Communications, Inc.

My TelcoMgr Expense Tracking Report

From: 2/28/2009 Through: 3/31/2009

Access Networking Solutions
14535 Valley View Ave.
Suite H
Santa Fe Springs, CA 90670

Account Information

Access Networking Solutions
1220 East Main St.
Alhambra, CA 91801-4113
asdf
asdfsdfsdfsdf

Account ID#: 30
Contact Name: Melody Amador
Contact Job Title: Vice President and General Manager
Contact Phone #: 626-576-7477
Contact Fax #: 626-576-2979

Cost Group	Carrier Name	Expense Type	Usage In Minutes	CPM	Usage Cost	Recurring Quantity	Cost Each	Recurring Extended	Variance Previous Vs. Current	Variance Current Vs. Budget	Savings Margin
1-Local Access											
2/28/2009	XO	Measured Bus. Line				4	29.95	119.80	778.70		194.68
3/27/2009	XO	Measured Bus. Line				4	29.95	119.80	778.70		194.68
2/28/2009	Carrier 2	PRI				1	650.00	650.00	-650.00		0.00
3/27/2009	Carrier 2	PRI				1	650.00	650.00	-650.00		-162.50
			Group Subtotals:					**1,539.60**	**257.40**	**0.00**	**226.86**
2-Local Usage											
2/28/2009	XO	IntraLATA Toll	1,000	0.0200	20.00				15.00		0.00
3/27/2009	XO	IntraLATA Toll	1,000	0.0200	20.00				15.00		3.75
2/28/2009	XO	Zone 1 Usage	1,000	0.0300	30.00				10.00		0.00
3/27/2009	XO	Zone 1 Usage	1,000	0.0300	30.00				10.00		2.50
2/28/2009	Carrier 2	Zone 2 Usage	500	0.0500	25.00				25.00		0.00
3/27/2009	Carrier 2	Zone 2 Usage	500	0.0500	25.00				25.00		6.25
2/28/2009	XO	Zone 3 Usage	1,000	0.0300	30.00				10.00		0.00
3/27/2009	XO	Zone 3 Usage	1,000	0.0300	30.00				10.00		2.50
			Group Subtotals:		**210.00**				**120.00**	**0.00**	**15.00**
3-Long Distance											
2/28/2009	XO	Instate	1,000	0.0400	40.00				20.00		0.00
3/27/2009	XO	Instate	1,000	0.0400	40.00				20.00		5.00
2/28/2009	Nextel	Interstate	2,000	0.0350	70.00				-20.00		0.00
3/27/2009	Nextel	Interstate	1,250	0.0350	43.75				18.75		2.81
			Group Subtotals:		**193.75**				**38.75**	**0.00**	**7.81**
5-International											
2/28/2009	XO	International-Canada	1,000	0.1500	150.00				50.00		0.00
3/27/2009	XO	International-Canada	1,000	0.1500	150.00				50.00		12.50
2/28/2009	XO	International-MX	1,000	0.2000	200.00				50.00		0.00
3/27/2009	XO	International-MX	1,000	0.2000	200.00				50.00		50.00

37) Only DATA that was recorded within the DATE RANGE option shall be reported.

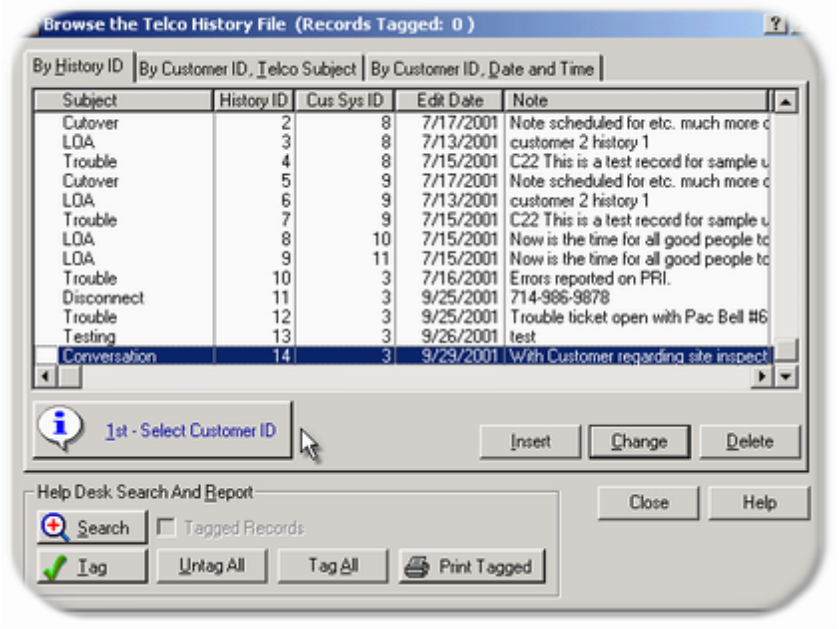
38) The **Expense Report** is SORTED by TYPE OF RATE GROUP + DATE + NAME OF RATE. Therefore, the report will show a "running total" for each TYPE OF RATE GROUP and GRAND TOTALS.

		1	29.95	29.95	20.00		0.00
		1	29.95	29.95	20.00		5.00
Group Subtotals:	**225.00**			**858.90**	**515.00**	**0.00**	**64.38**
Grand Totals:	**1,328.75**			**2,422.10**	**1,284.55**	**0.00**	**358.23**

1.11 Help Desk

Tutorial

From the main menu select the [**Telco History & Help Desk**] option.

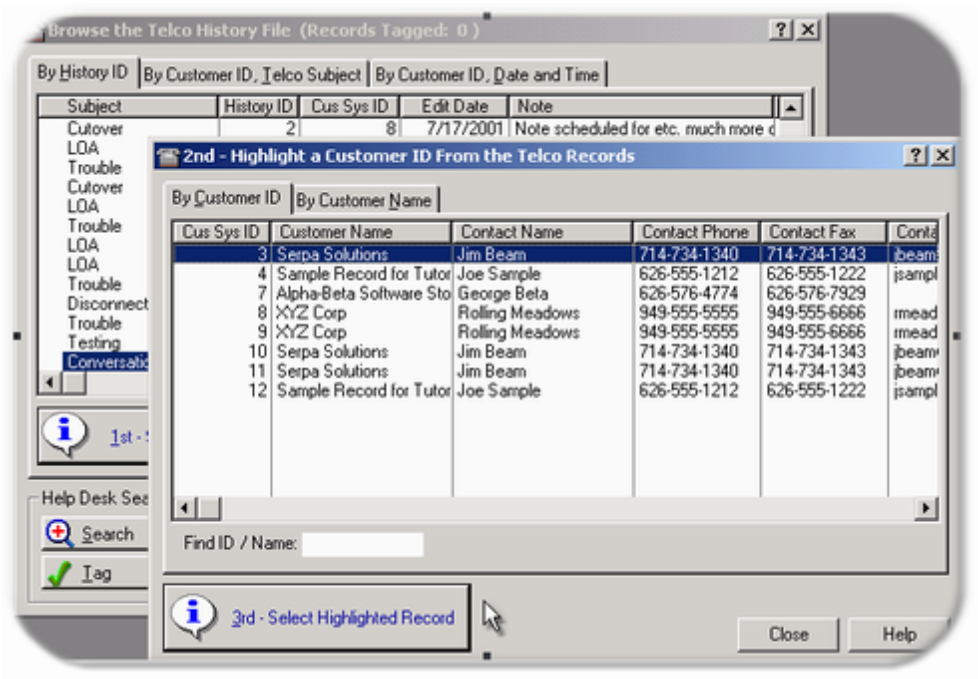


[**By History ID**] Tab is a 'Global' listing of all histories that have been recorded in your database. This listing is ordered by the History ID field.

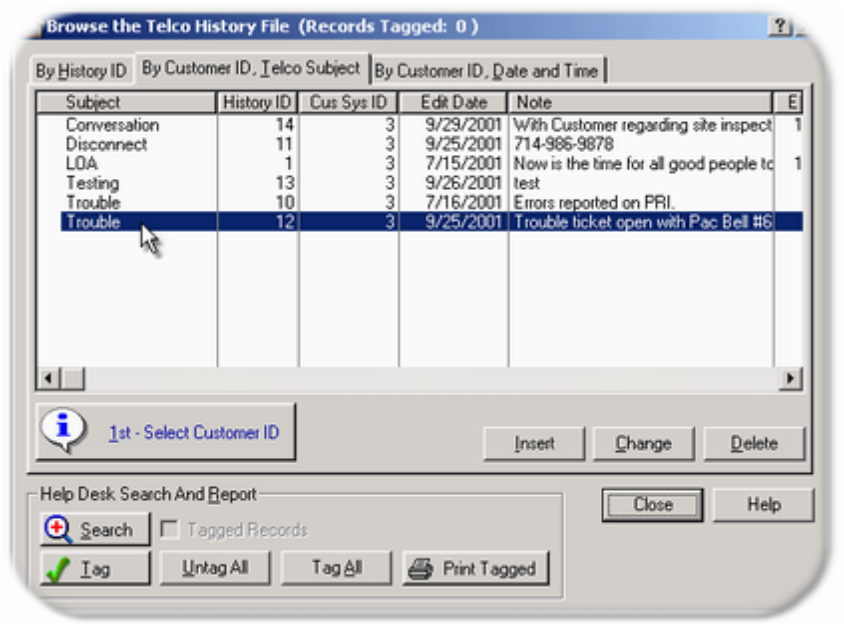
[**By Customer ID**, **Telco Subject**] Tab is a 'selected' listing of a particular account that you have selected by clicking on the [1st - Select Customer ID] button.

[**By Customer ID**, Date and Time] is also controlled by the account that you have selected.

Click on the [**1st - Select Customer ID**] button and the Customer/account selection window will open.

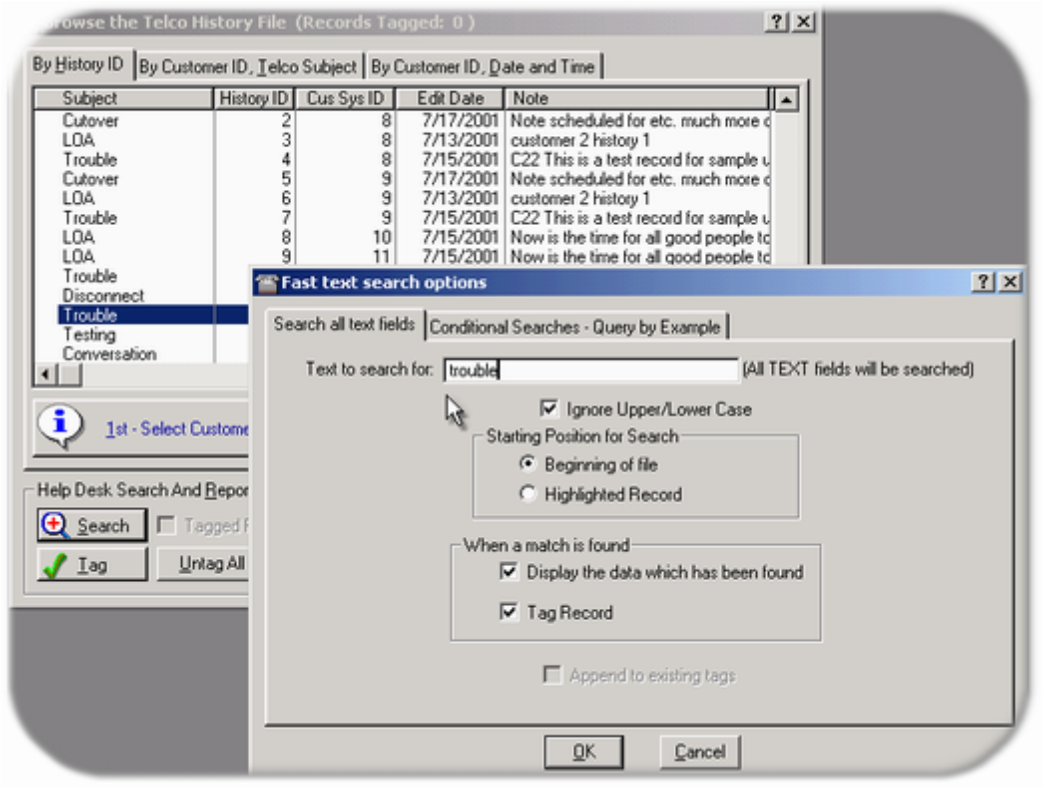


Use the highlight bar to select a record and then click on the [**3rd - Select Highlighted Record**].

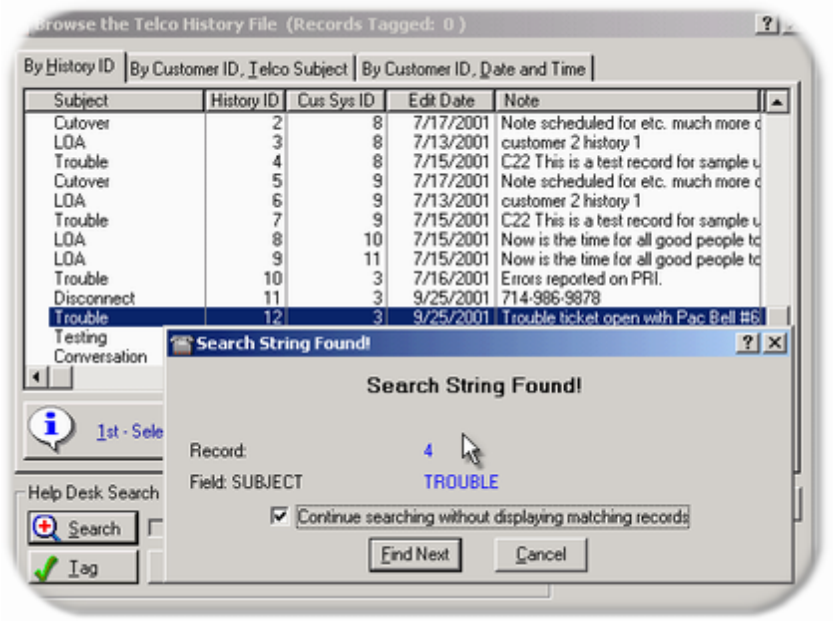


The Telco History browse window returns only with the selected records. Optionally you may use the [**Search**] button to find alpha numeric strings. The search function is dynamic and it will compare your entry to every history that has been entered into the history file.

Click on the [**Search**] button and enter a search string to find.

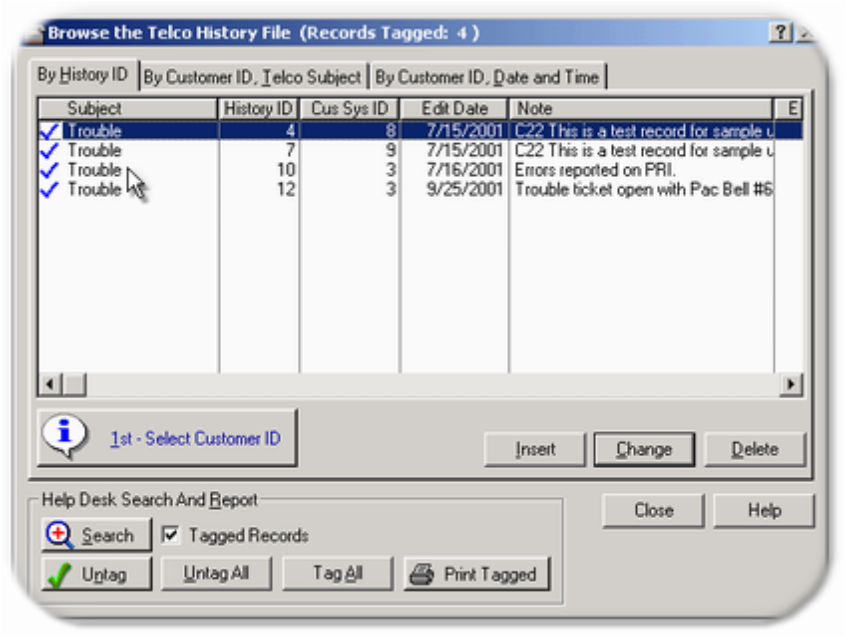


In the example above the search engine will scan for the word 'trouble' and will show a list of each instance.



Check the field [Continue searching without displaying matching records] to keep the search engine from stopping on each 'find'.

Once the search process has been completed the history browse window will return with a list of all of the records that were found. You may repeat the process as desired.



In addition, you may print a report that will show only the records that were found or that have been 'checked'.

Report Date: 9/29/2001

TelcoMgr

Help Desk Report

Primary Search Value:trouble

Sys ID	Subject Note	Cus Sys ID	Edit Date
4	Trouble C22 This is a test record for sample use only. This is a test record for sample use only. This is a test record for sample use only. This is a test record for sample use only. This is a test record for sample use only. This is a test record for sample use	8	7/15/2001
7	Trouble C22 This is a test record for sample use only. This is a test record for sample use only. This is a test record for sample use only. This is a test record for sample use only. This is a test record for sample use only. This is a test record for sample use	9	7/15/2001
10	Trouble Errors reported on PRI.	3	7/16/2001
12	Trouble Trouble ticket open with Pac Bell #611-93047	3	9/25/2001

1.11.1 Follow-up Fields

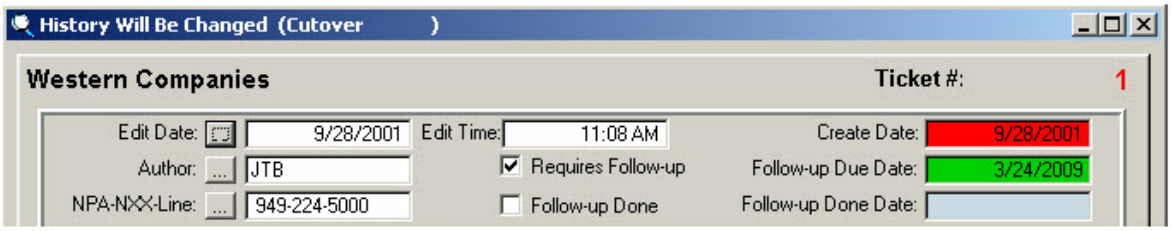
1) Added new "Follow-up" fields to the History Table in version 5.4:

a) **Requires Follow-up** [X] Checkbox

b) **Follow-up Due Date**

c) **Follow-up Done [X] Checkbox**

d) **Follow-up Done Date**



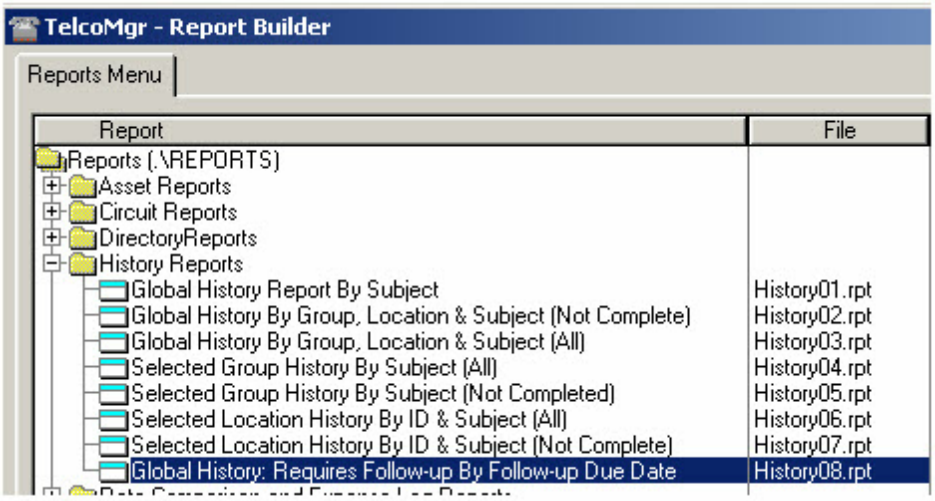
History Follow-up Checkboxes and Date Stamps

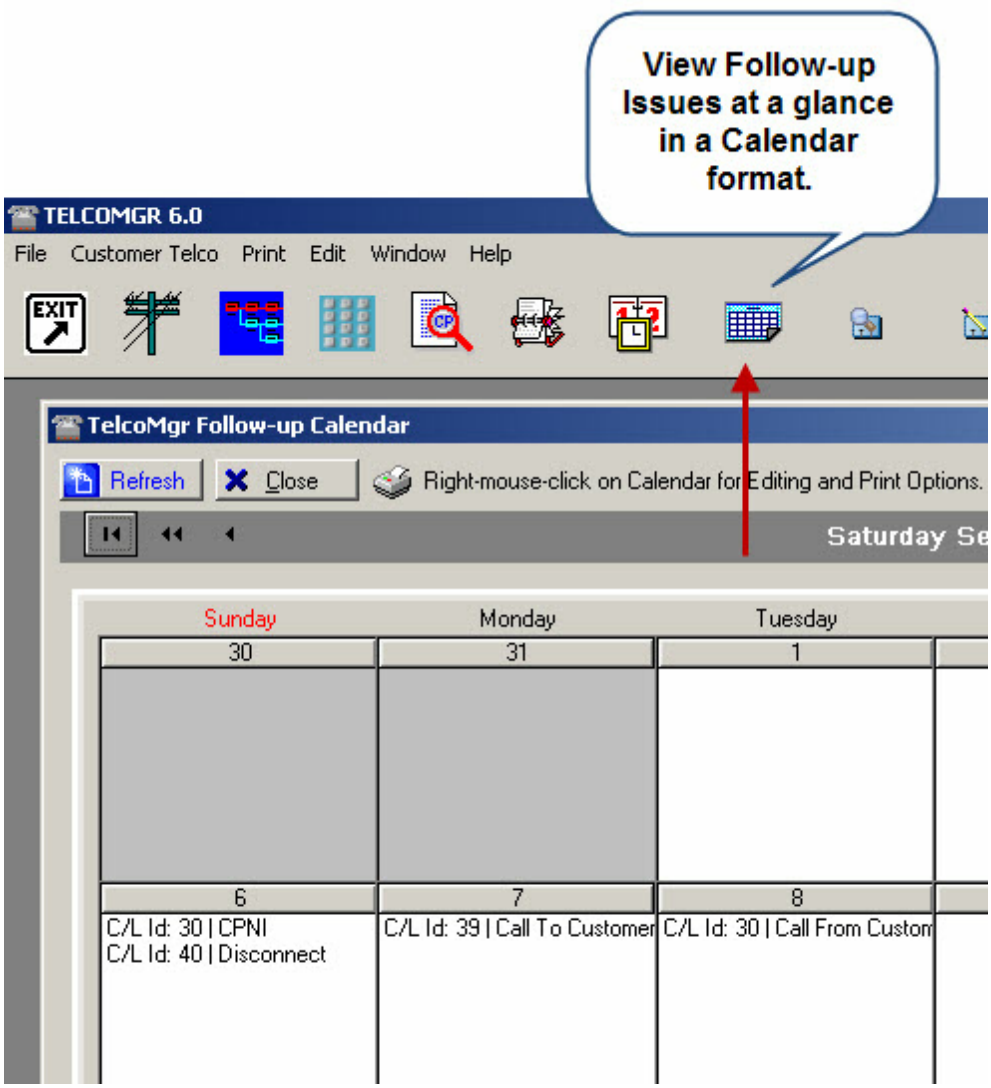
The Checkbox for Requires Follow-up and Follow-up Done toggle between checked and unchecked. The Due Date remains static and the Done Date is stamped with the date that the Follow-up Done checkbox is saved as checked.

© Access Business Communications, Inc.

Report for Histories that require Follow-up

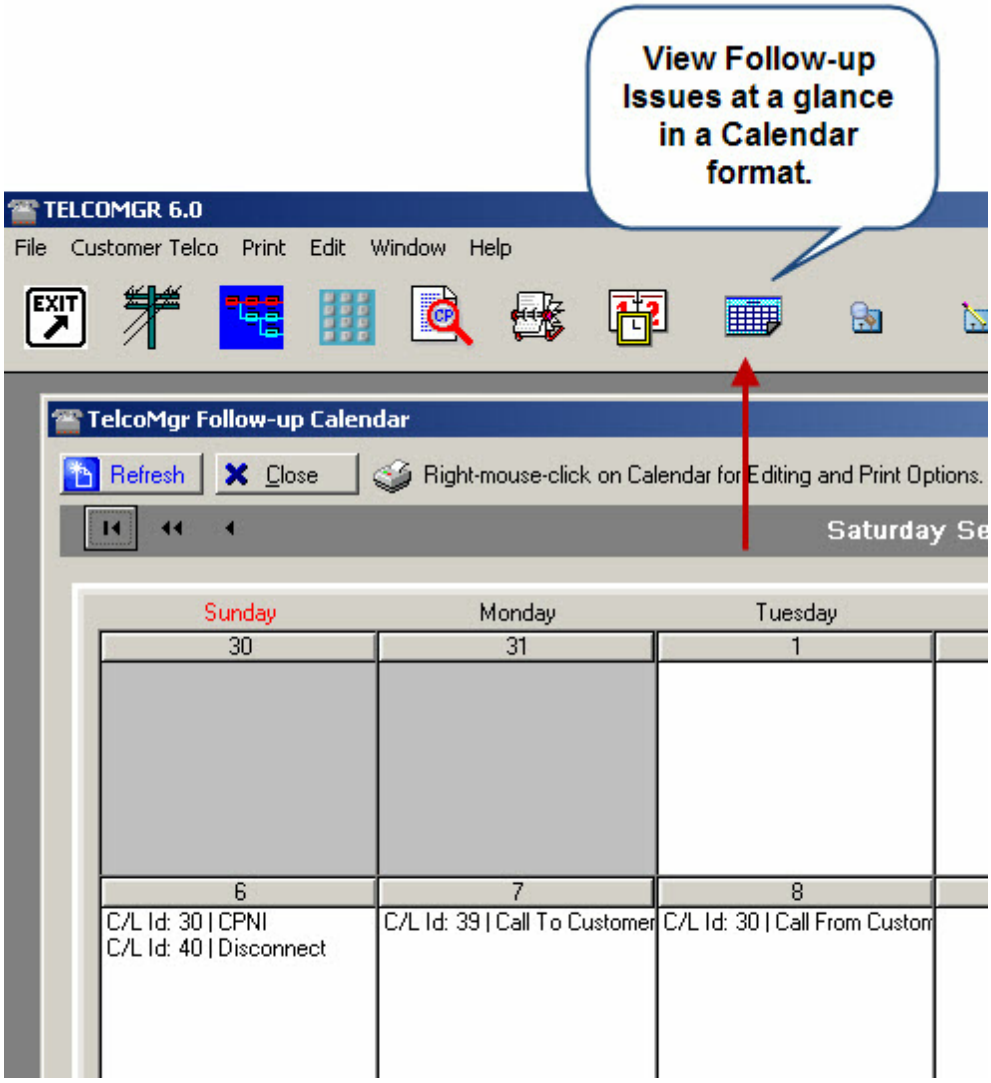
a) Global History: Requires Follow-up By Follow-up Due Date





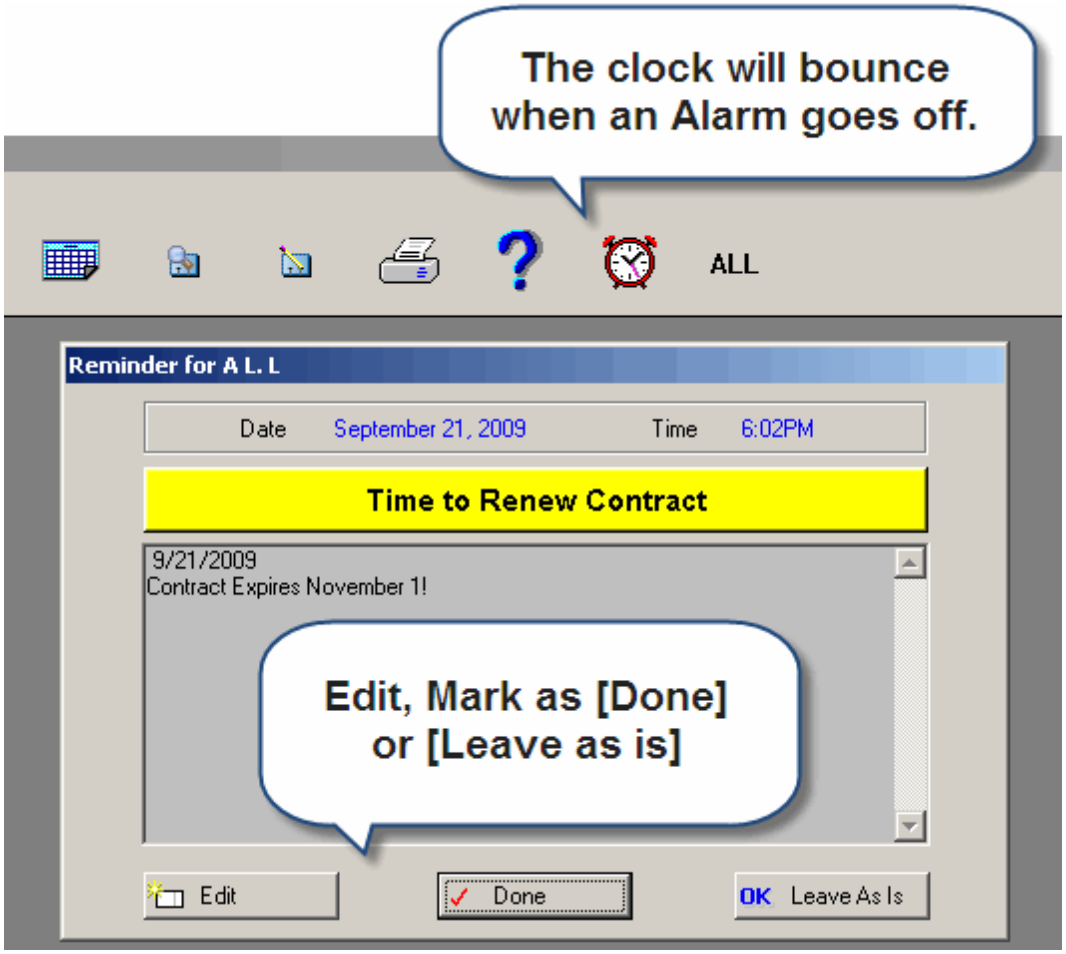
Follow-Up Calendar

1.11.1.1 Follow-up Calendar (Month)



The **History Follow-up Calendar** (Month) is dynamic and allows drag-and-drop rescheduling.

1.11.2 Clear or Set an Alarm



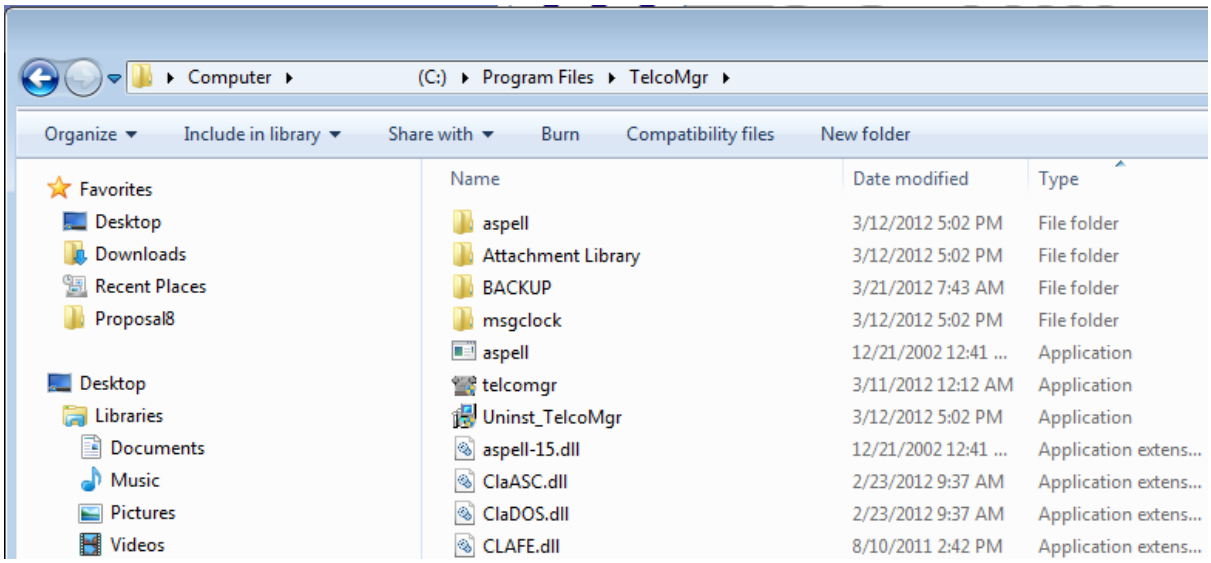
The **Alarm Clock Icon** will open the Reminder Table. The **Alarm Clock Icon** will *bounce* when an **Alarm goes off**. To clear the Alarm or edit the date or time click on the **Alarm Clock Icon**.

1.12 Installation Tips

Essentially, the TelcoMgr binary libraries and data files may be installed on any drive provided that you allow the OS security system to execute programs; plus read and write data to the selected folder. The default installation paths for binary libraries and data files are shown below.

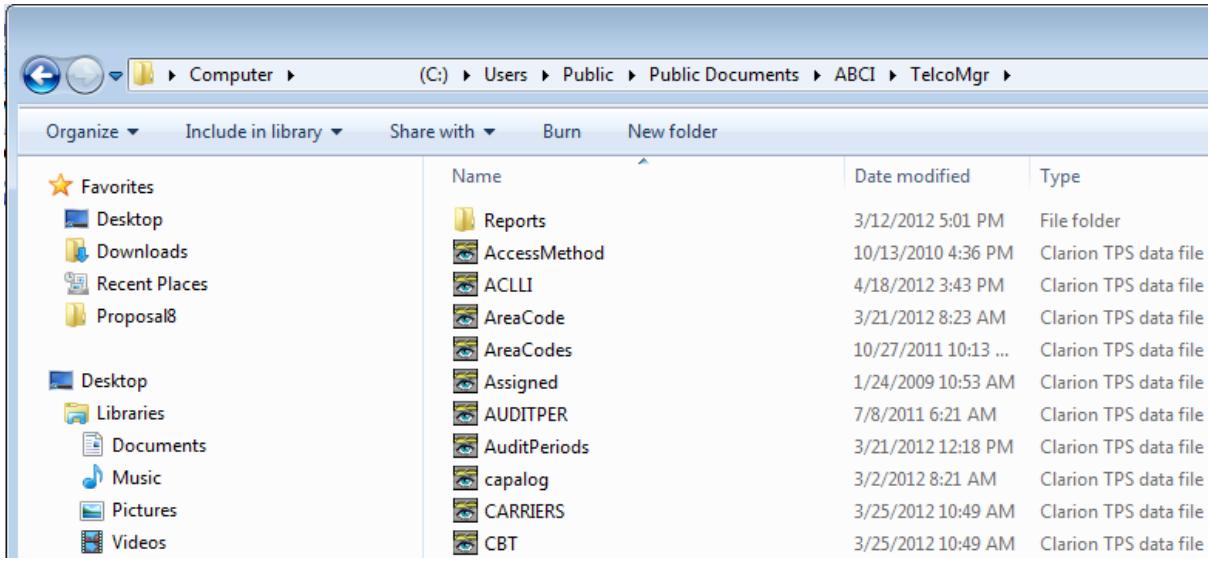
Default installation on a single computer for executable files and DLLs:

Path to TelcoMgr program folder: Computer > Drive Name & Letter > Program Files > TelcoMgr



Default installation on a single computer for data files, images and reports:

Path to TelcoMgr data folder:Computer > Drive Name & Letter > Users > Public > Public Documents > ABCI > TelcoMgr



1.12.1 Common Practices for Multiple Users

If you wish to have more than one simultaneous user of TelcoMgr you will need a license/ copy for each user and a shared drive/folder in Local Area Network. The following configuration is suitable for up to five users, that are running the same Windows operating system. The Microsoft LAN Manager on XP and Vista or Windows 7/8 could be problematic.

Simple Installation

In this scenario the TelcoMgr executable binary libraries and the data files coexist in the same share drive/folder in a central computer or server. None of the files are installed on the local computers

(1) First decide which computer will serve as your main computer or file server where TelcoMgr's databases will be kept. We refer to this main computer as your Server. We refer each additional computer as the Client.

(2) Install TelcoMgr on your main computer or file server. First-time or New users must install the SAMPLE DATA. Make a note of the literal file path and directory name (i.e. c:\telcomgr\) on your Server where you install TelcoMgr.

(2) Apply your new multi-license activation code as described above.

(3) On each Client computer that you wish to run TelcoMgr, map a drive letter to the literal path name on your main computer or file server for TelcoMgr. For example, you can create a folder named c:\telcomgr on your main computer. This must be the same directory name and file path where TelcoMgr has been installed on your Server. Then, using your Windows File Explorer on your Client computer you can map this folder as drive T:\telcomgr\ on your Client computer.

(4) On each Client computer that you wish to install the software, run the installation program from the Client computer and select the mapped drive or directory name of your Server where TelcoMgr was installed. Alternately, you can create or send a short cut from the telcomgr.exe to the client desktop.

(5) Add a HTML and/or PDF version of the User Guide to each Client Computer if desirable.

Client to a Network Shared Drive or Server

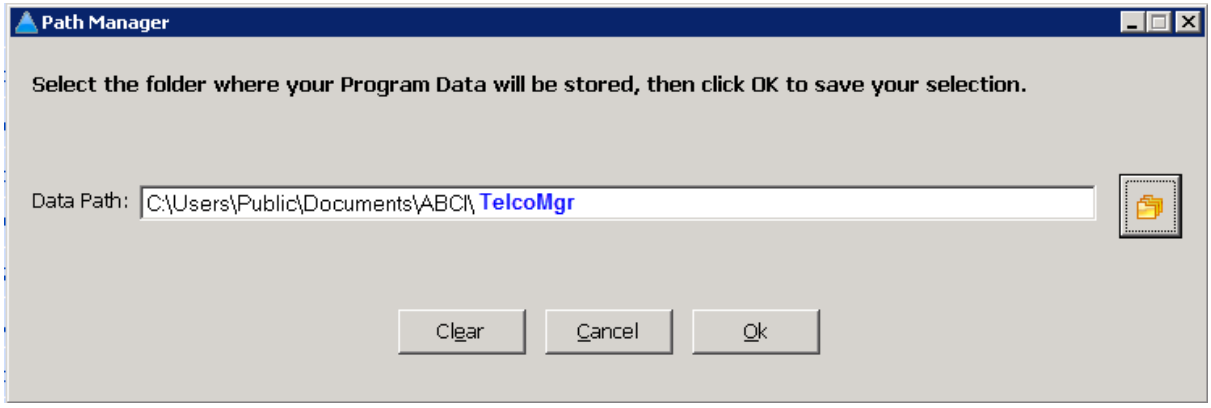
In this scenario the TelcoMgr executable binary libraries are installed on each client computer and the TelcoMgr are installed on a Server shared folder.

(1) Install the entire TelcoMgr system on to the Server, the default installation will save the executable files under the Windows Program folder and the data files into a public share folder.

(2) Repeat this process on each client computer. However, during the installation process the identical data path to the shared folder on the Server must be selected. Typically mapping the TelcoMgr shared folder as a 'mapped drive' simplifies the install process on the client computer.

User Note: For installations that require more than five users we recommend running TelcoMgr on a Windows Server through Terminal Services or Remote Desktop Connection.

1.12.2 Set or change the default data path



New first-time users may need to navigate to the TelcoMgr data folder.

The default setting is **C:\Users\Public\Documents\ABCI\TelcoMgr;**

Of course, if you are installing TelcoMgr on a server or shared drive you will need to set the appropriate shared folder privileges for one or more users.

The default location for the TelcoMgr.EXE file is:

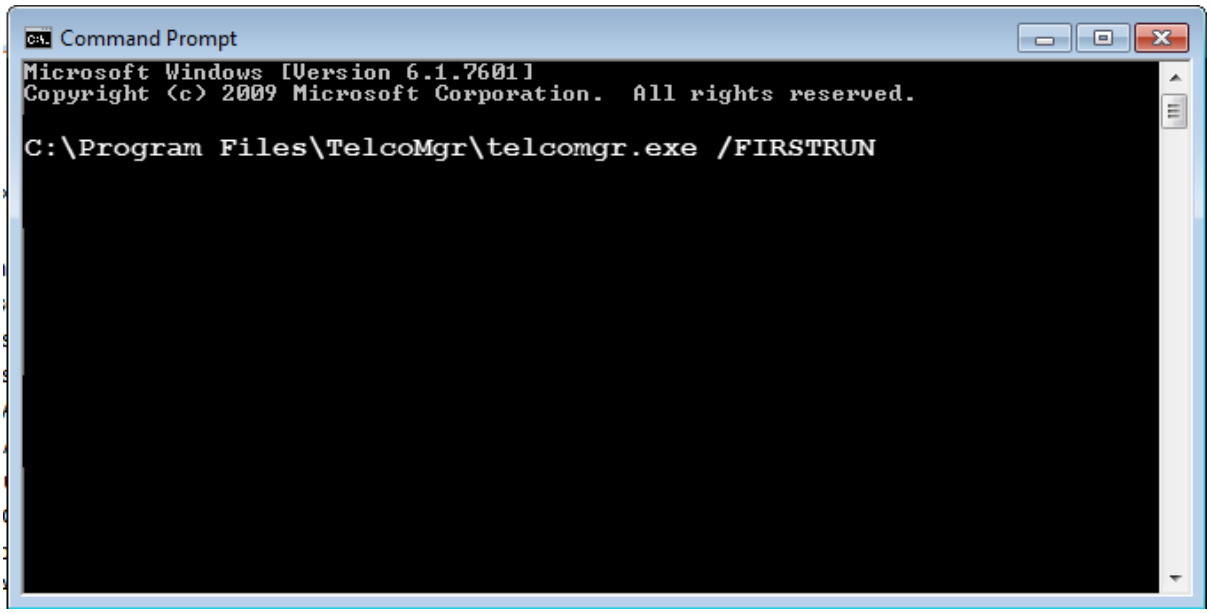
c:\Program Files\TelcoMgr\

Note about the FIRST RUN option and the Path Manager window

If you move the TelcoMgr data folder you will need to reset the path for the TelcoMgr data folder from the "Windows OS Command Prompt" on every computer where TelcoMgr is installed.

c:\Program Files\TelcoMgr\TelcoMgr.exe /FIRSTRUN

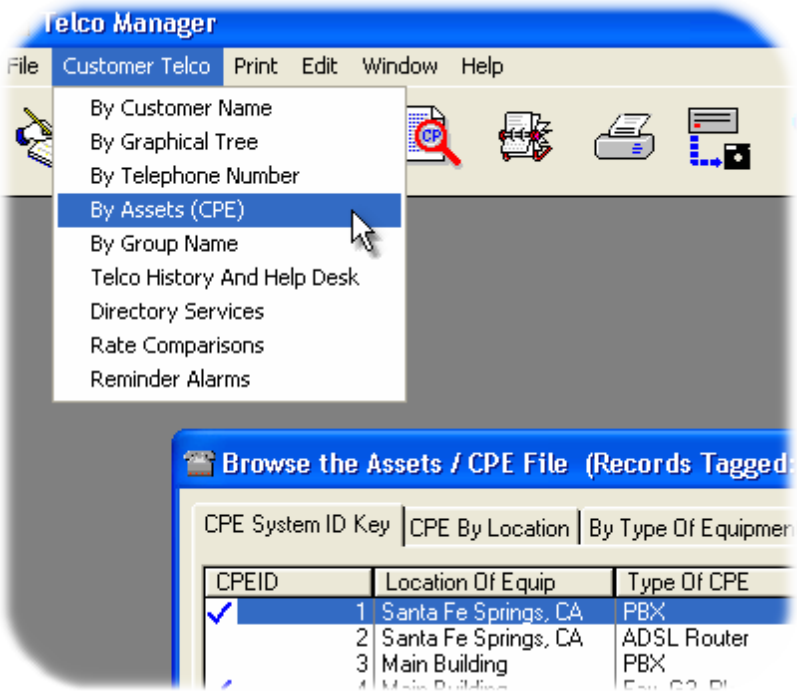
© Access Business Communications, Inc.



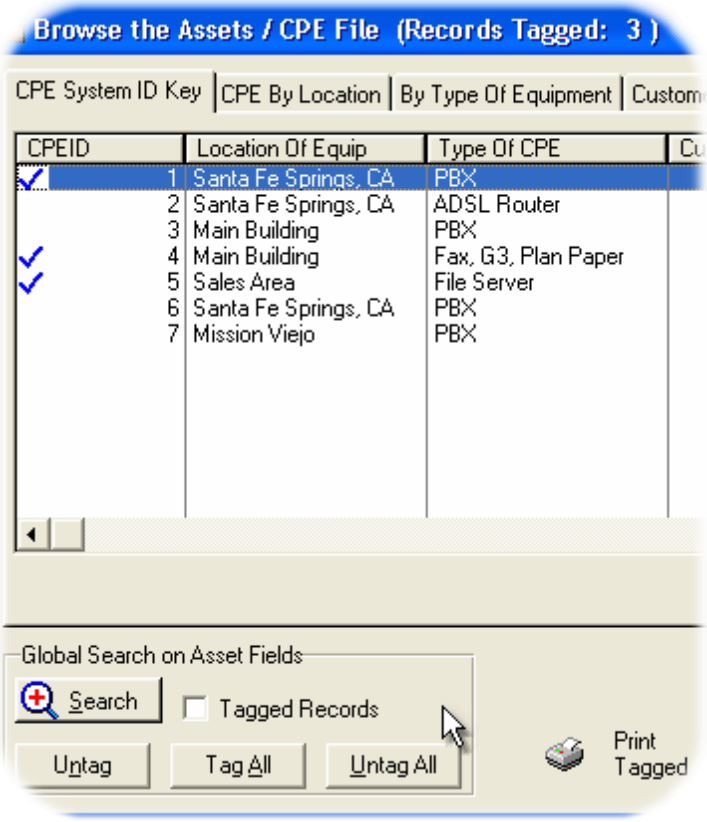
The FIRSTRUN option will launch TelcoMgr and open the Path Manager window.

1.13 Global Assets Database

TelcoMgr provides a global database tool for tracking Assets across all Customers and Locations.



Use the [**Search**] button to identify assets according to your own search criteria.



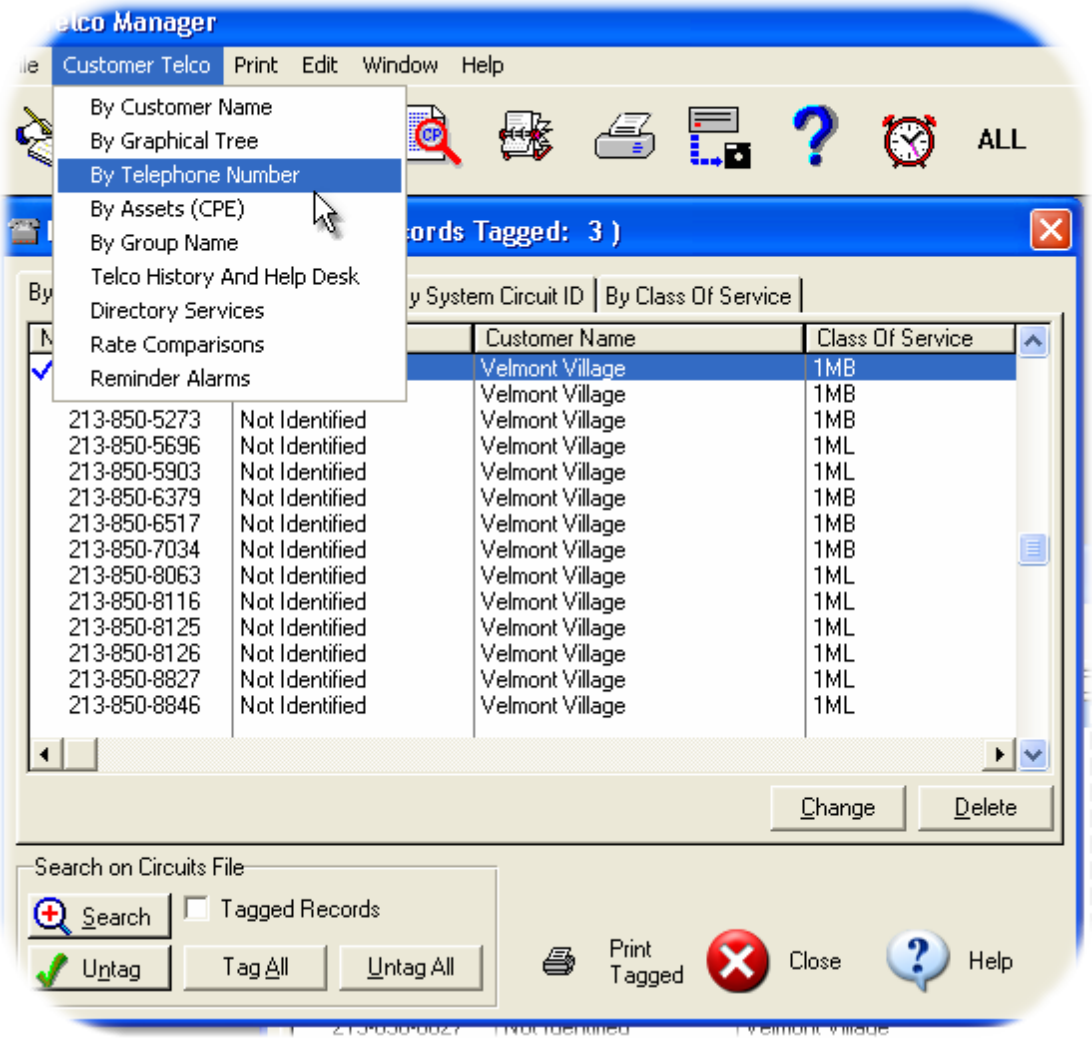
© Access Business Communications, Inc.

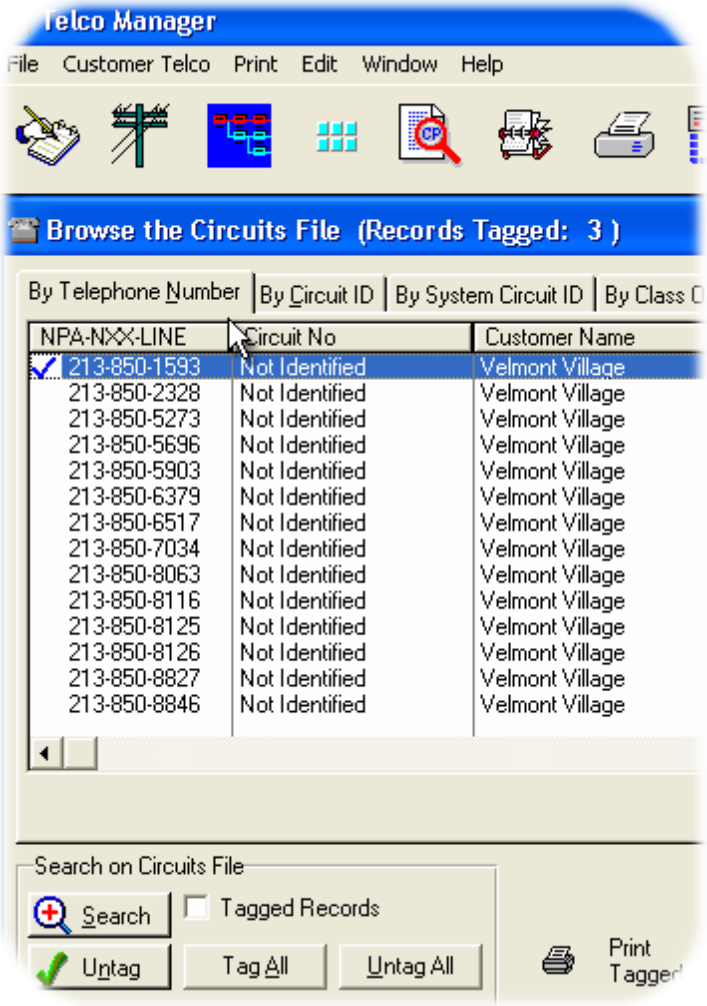
Related Topics

Search button Query By Example

1.14 Global Telco Circuits Database

The **Global Telco Circuits Database** is a tool that provides for search and lookup capabilities for all Customer and Location records, plus Circuits, Lines, Features and Services.





The **Search** query feature supports Boolean logic, including

1. Contains
2. Equal to
3. Greater than
4. Less than
5. Greater than or equal to
6. Less than or equal to
7. Not equal to

Related Topics

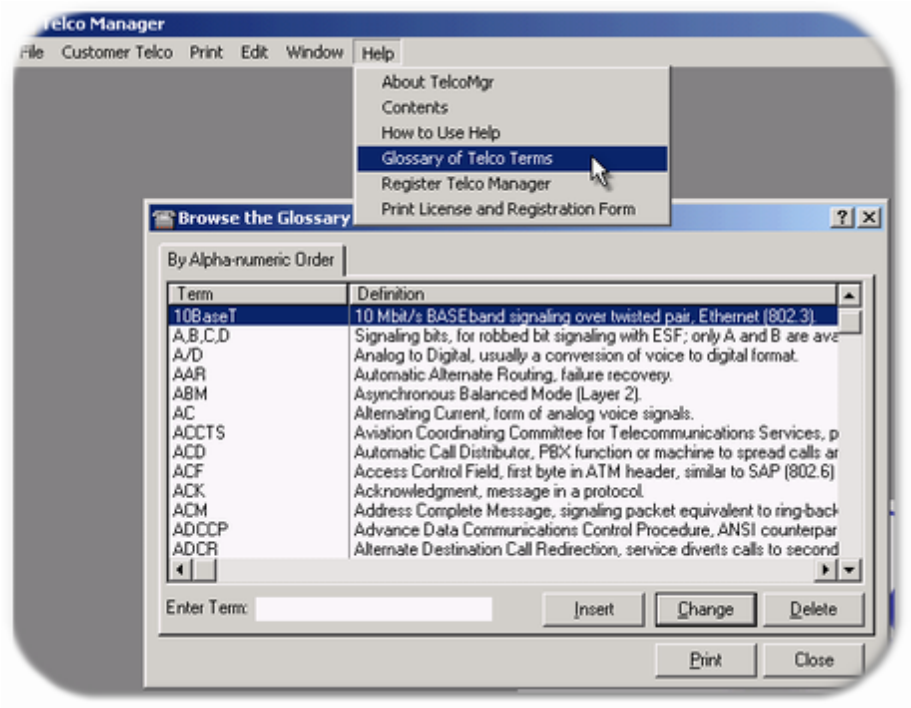
Search button Query By Example

The Copy [**To Excel**] button will transfer the record contents of the active browse table to a new Excel workbook and spreadsheet tab. The process performs a column for column copy of the records that you can see in the browse table or that you may have tagged. If you do not tag any records, then all records in the file will be copied to an **Excel spreadsheet**.

More advanced export features are available by using the TelcoMgr IMPEX utility.

1.15 Glossary

TelcoMgr includes a built-in Glossary of Telco, Computer, and industry terms. You may add, delete or change the glossary to fit your needs. In addition, the Glossary may be printed to a standard Windows printer. From time to time **ABCI Software** will update the glossary and make it available to you for installation on your local computer.



The Glossary can be found under the [Help] option on the Main Menu Window.

1.16 Main Icon Menu Bar

The following Browse Tables may be accessed from the **Main Icon Menu Bar**:

- Global (Master) Customer or Location records
- Global Circuit (Lines, Feature, Taxes, Fees, Etc.) records
- Global Directory of Devices, People and Numbers
- Resources Directory (Carrier, Consultants, Vendors, etc.)
- USOC Database

Also accessible from the Icon Bar:

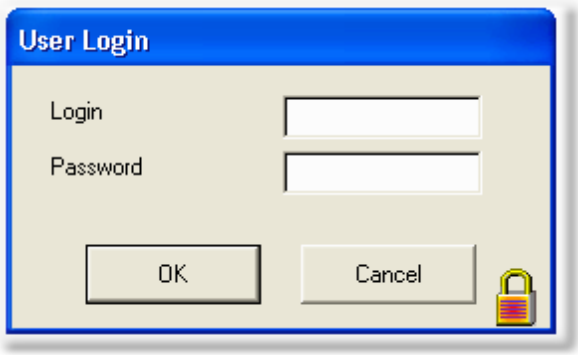
- Calendar of Alarms and Reminders
- Calendar of History Entries, which require follow-up
- Report Builder menu of customizable reports
- Clear or Set a Reminder Alarm

© Access Business Communications, Inc.

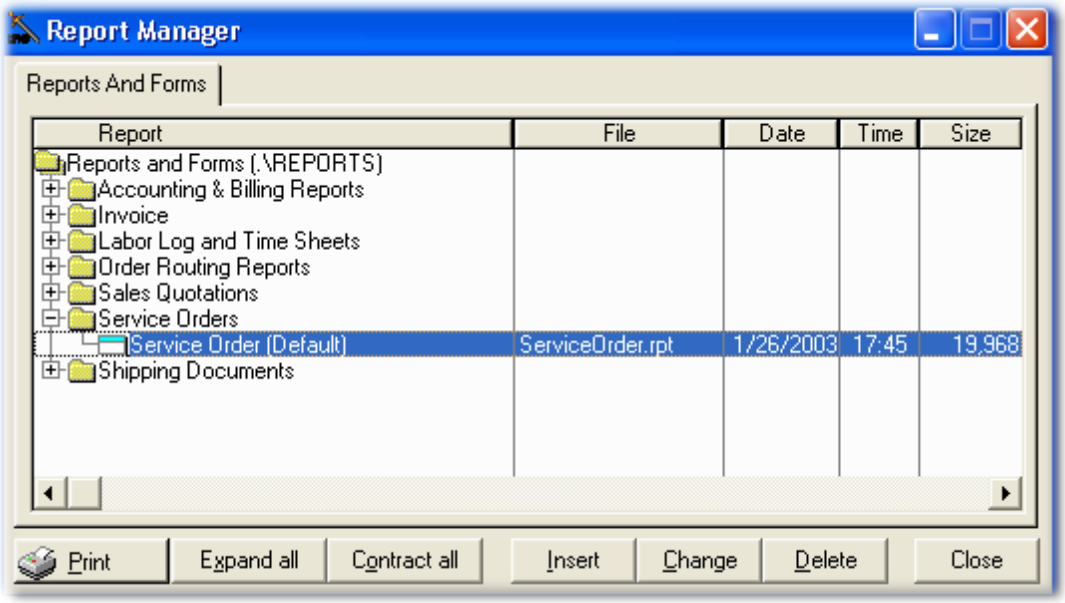
1.17 Optional Modules

TelcoMgr has some advanced options that are not included in the **Standard Licensed** version. The following options are available as part of the **Professional Licensed** version:

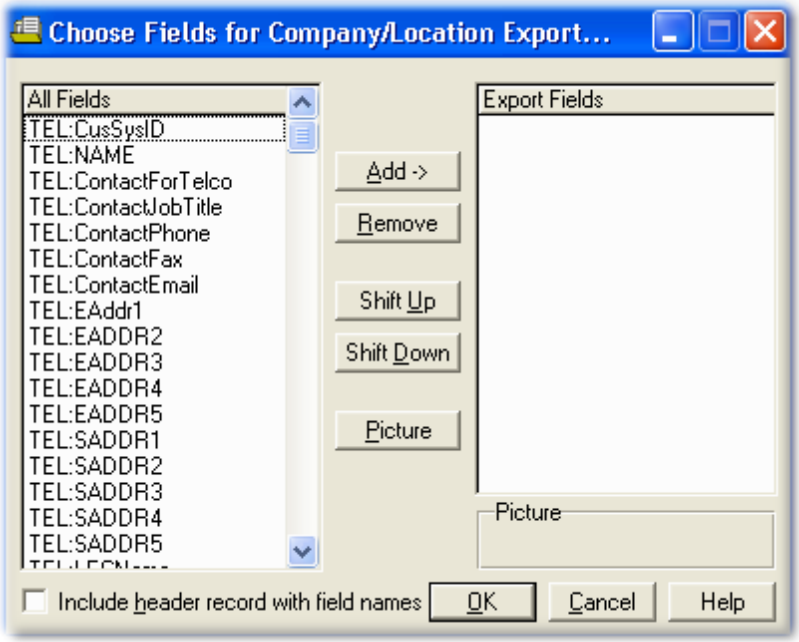
User Security



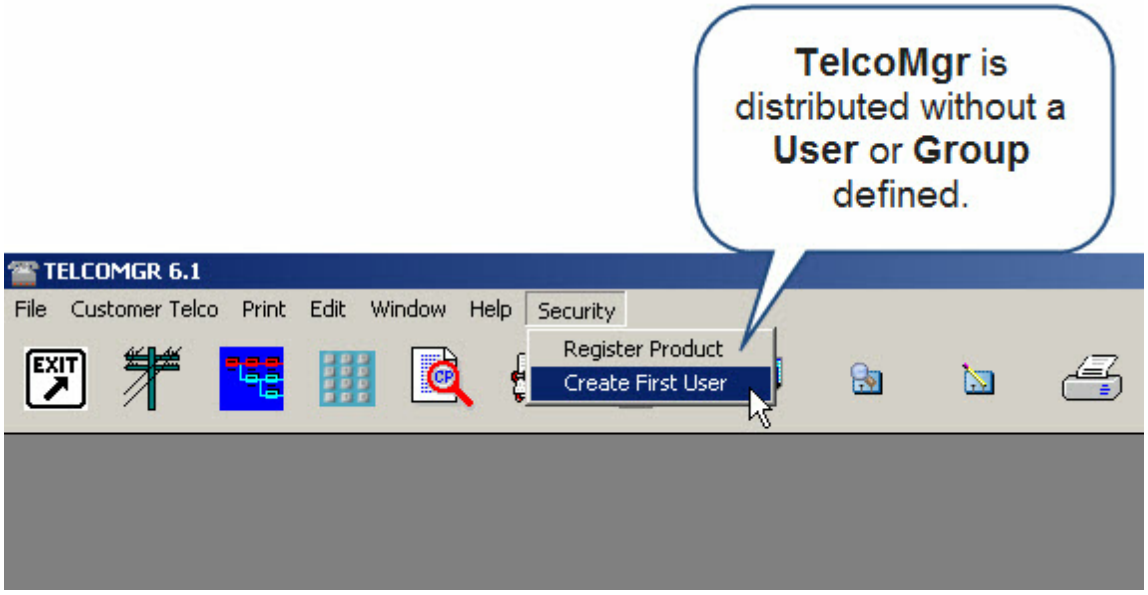
User Report Builder



IMPEX for TelcoMgr, A User File Export/Import Utility (Optional Program)

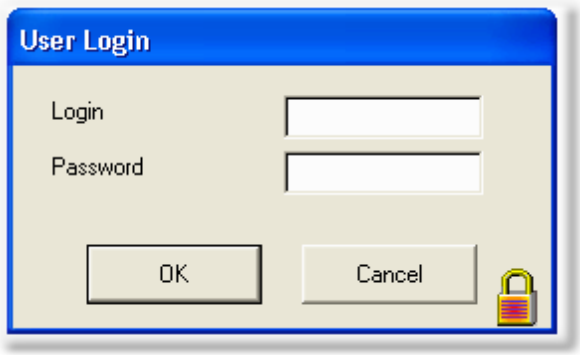


1.17.1 Admin and User Security



About Security

Security will always be a balancing act. The opposite of security is convenience, foolproof security is almost impossibly inconvenient, while simplifying it almost always leads to lower levels of security.



When a user is created in TelcoMgr they can be classified into one of 3 possible *Levels*. The level with all the power is called a ***Supervisor***. The Level with no power (in fact they will be denied access) is called *No Access*. In between, where a user has potentially limited power, they are allocated a Level called ***Operator***. The difference between a ***Supervisor***, and an ***Operator*** is obviously a significant one. Simply put, a ***Supervisor*** is allowed to change the security access rights of other Users. An ***Operator*** can not change either their own, or anyone else's, Access rights.

Ordinarily TelcoMgr is distributed without its **Security** option enabled. When the Security option is enabled and the program is run the User is asked to enter a ***Login*** and a ***Password*** . A User's information is made up of a First Name, Last Name and ***Login*** code. When you ***first add*** a user the ***Password*** is automatically set to be the same as the ***Login*** code. After you have finished entering the first user, then you can use the ***Login***, and ***Password*** (which will be the same at this point) to log in.

Security Tutorial

1.17.1.1 Getting Started with User Security

Adding Users for Security

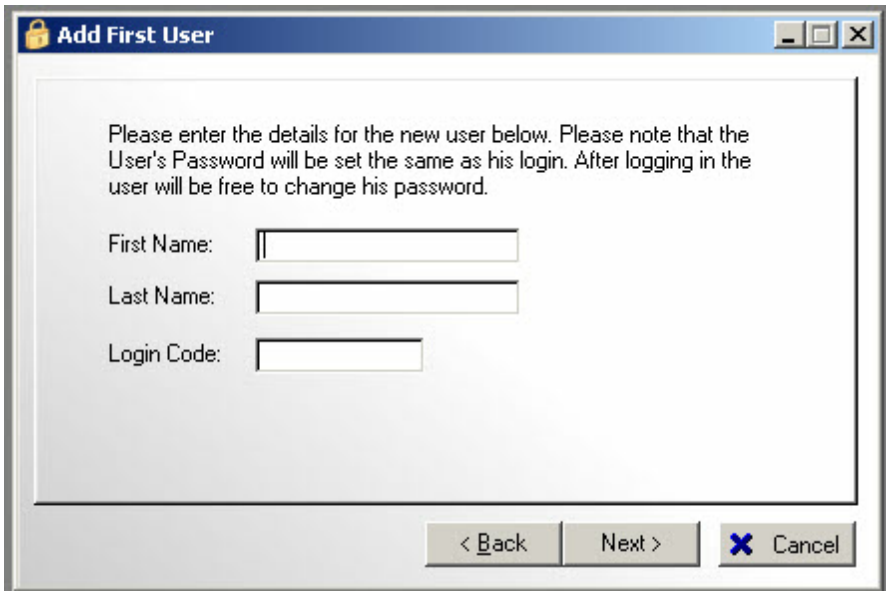
Three things must be done to implement security in TelcoMgr.

- First, set up your user groups. Take some time to organize groups of users by department or job function.
- Second, add your users. Assign every user a Login and Password.
- Third, define screen access levels.

Setting the First User

TelcoMgr is distributed with a User or Group defined. Therefore, Login is optional until the First User is created. Once a First User is created then TelcoMgr will demand a valid Login. Therefore, it is very important that you retain the appropriate information about your First User. The process may not be reversed and Login shall no longer be optional to TelcoMgr Users.

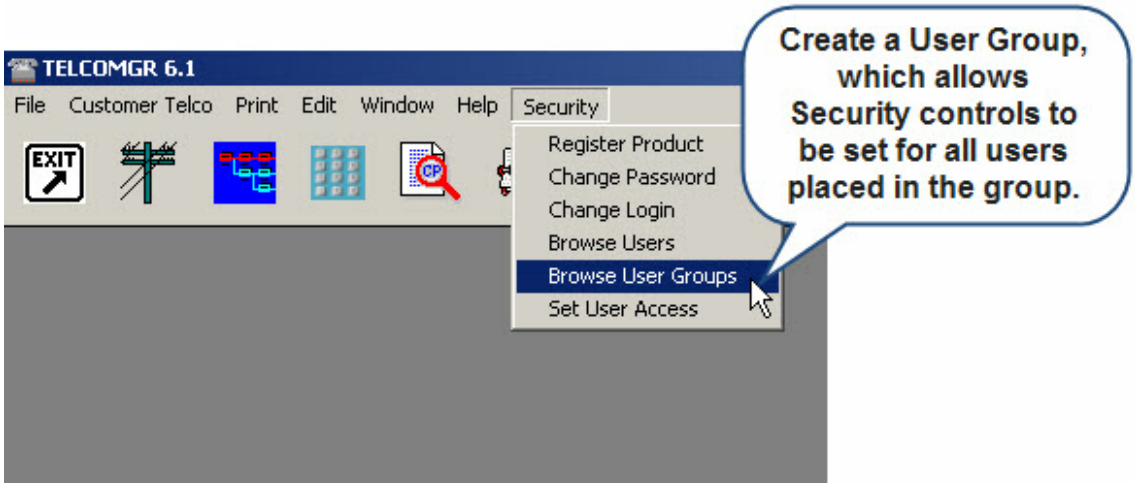
The "Create First User Wizard" may be found under the Security main menu option and through a couple of mouse clicks your first user may be created.



After setting up your **First User**, and writing down your First User Login Code (and password) then quit and restart TelcoMgr to login for the first time.

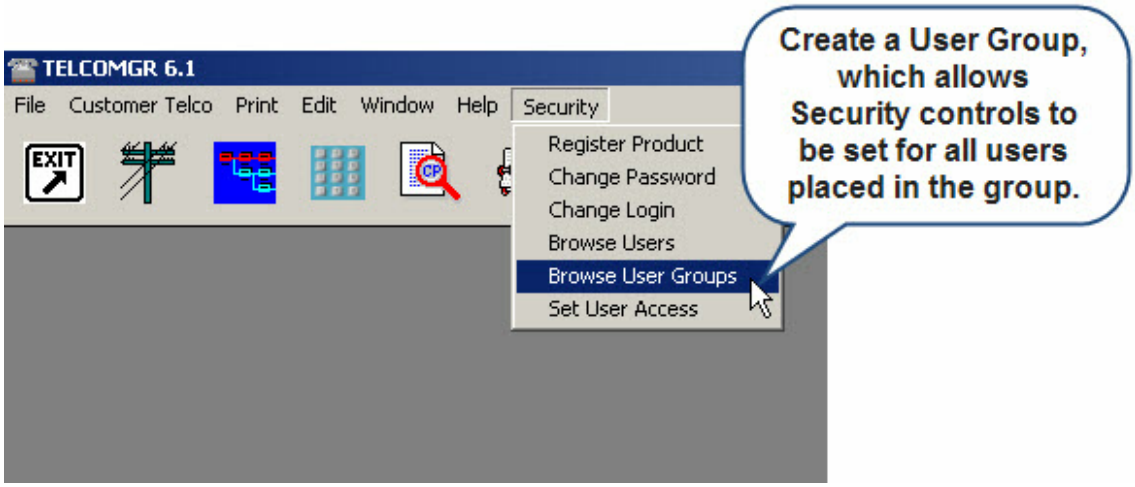
Setting-up User Groups

If you have previously setup your security options, you must login as a Supervisor to edit the User Security file.

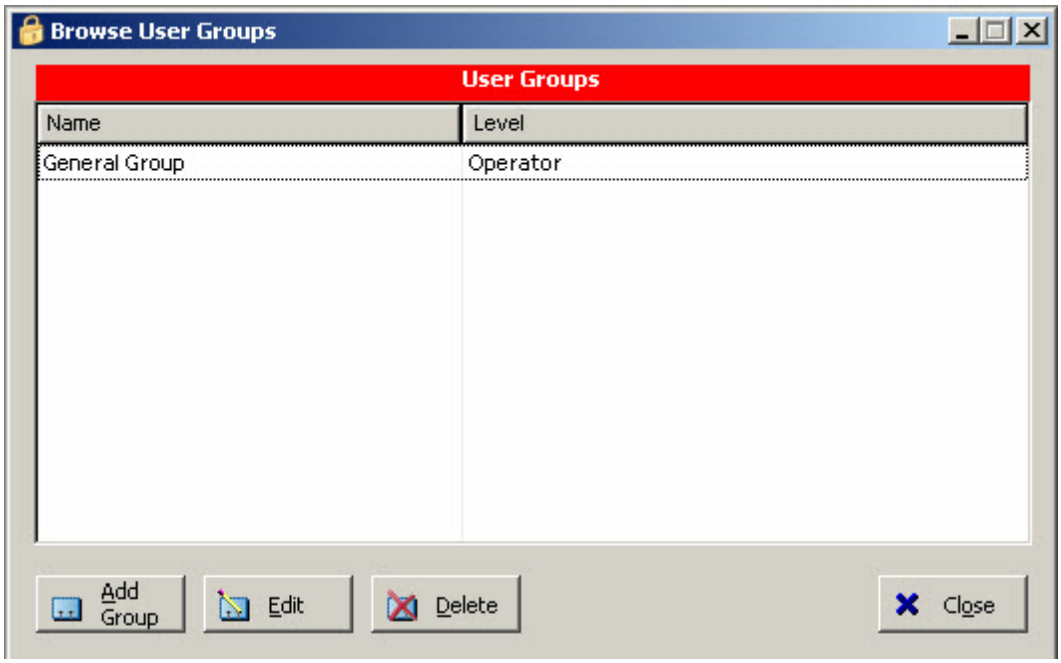


Security Menu
Register Product
Change Password
Browse Users
Browse User Groups
Set User Access

1.17.1.2 Setting-up Groups



Select the [**Security**] menu option. The **User Security** menu option window will open and select the **Browse User Groups** options.



You will see a list box, probably empty, so press the [**Add Group**] button.

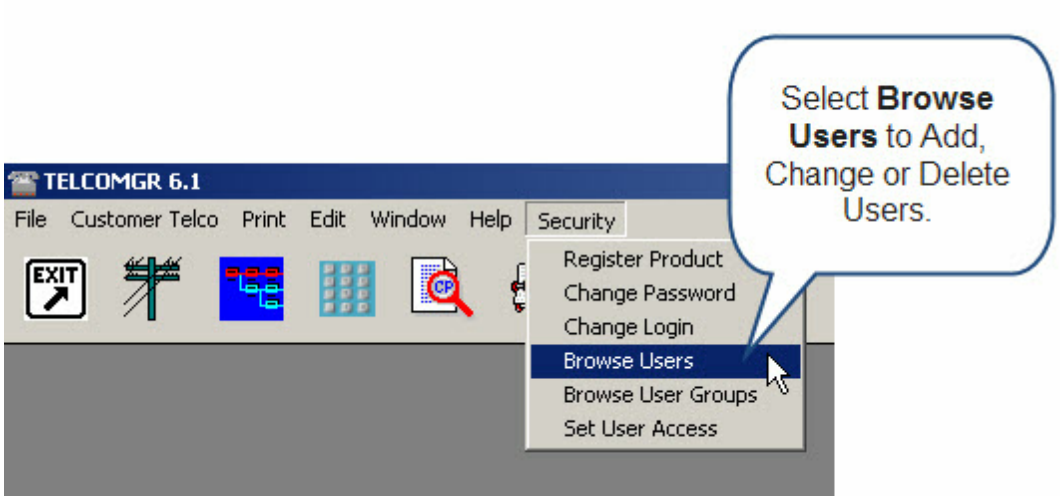
You will see a form that asks for a User group name, and default access. Type in the name of the new user group and set the **Level** to "**Operator**." Set the **Initial Access** to "**All Access**" for the default access. You may easily modify the **Access** for individual **Operators** later using the **Browse Users** option.

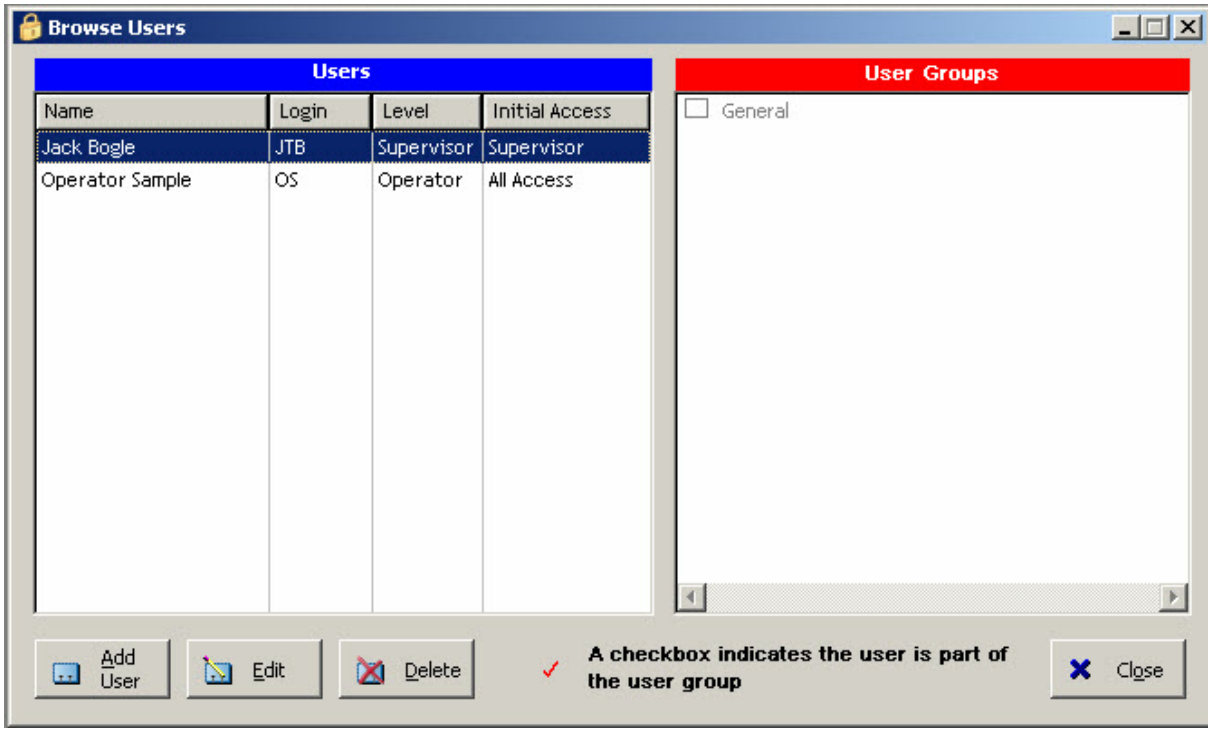
The next User Group you enter will allow you to select a previously defined user group for a default access. User groups can inherit other user groups access privileges.

User Groups make it simple to set up access to various portions of the system. Instead of setting individual access rights for every user on every screen (which you can do... if you want) set up **User Groups** for the different levels of security and assign security levels to those groups. Then you can simply assign users to a **User Groups** and all of their access rights will be set accordingly.

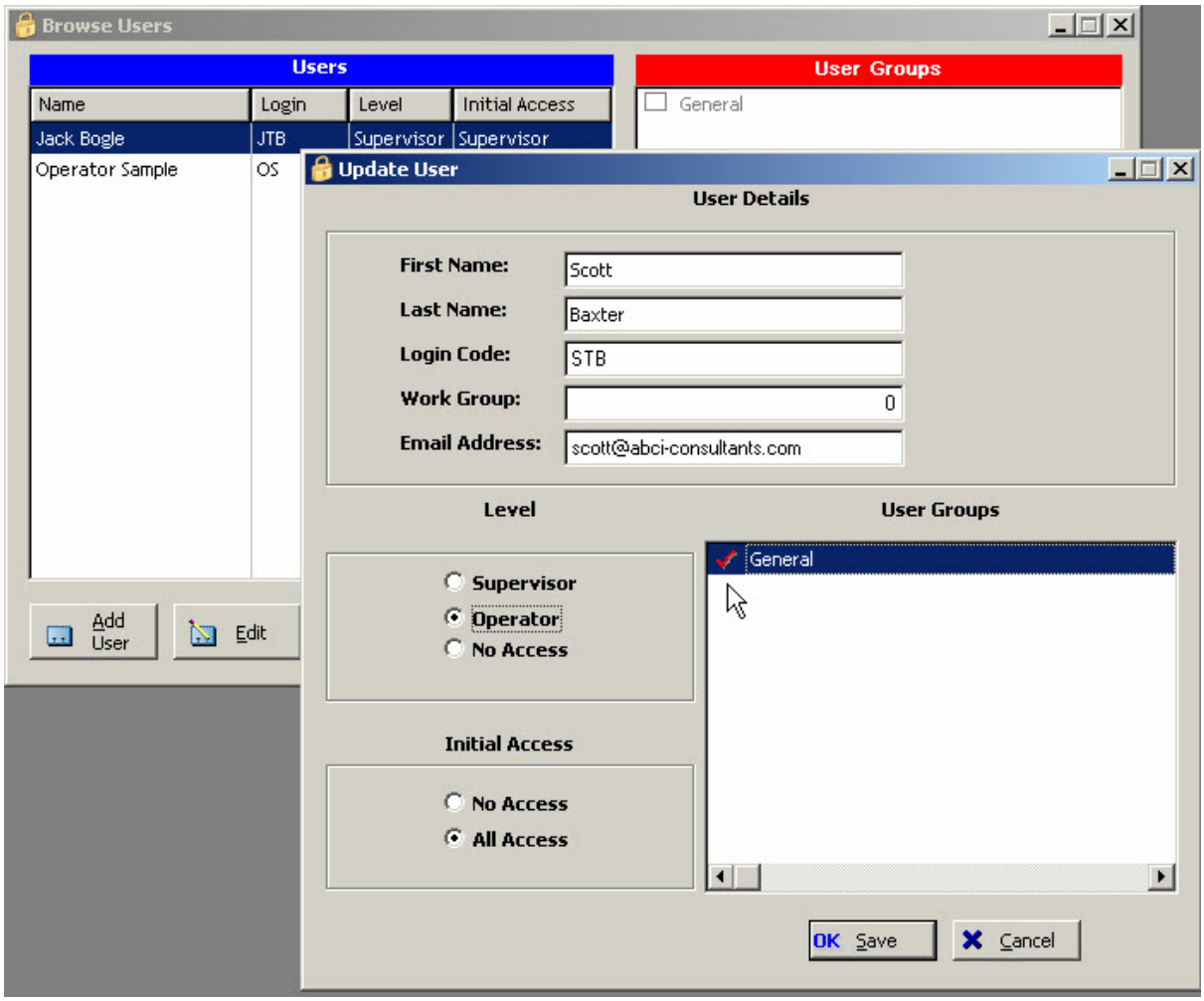
1.17.1.3 Adding Users for Security

Once you have created your User groups, return to the Security menu and select the Browse Users option.





The **Browse Users table** will open (it may be empty). Click on the [Add User] button to create a new user. You will see a form with First Name, Last Name and Login fields.



Enter your first user, using there first and last name, and give them a **Login code**. The Login should be short and easy to type in. For access level, select Operator, unless you want this user to have Supervisor privileges too.

Keep or set the **Work Group Code** to 0 (zero). Please read more about Work Groups before changing this setting.

Set the default access to "All Access". Users can also inherit other users access levels. Next, select the User Group for this user.

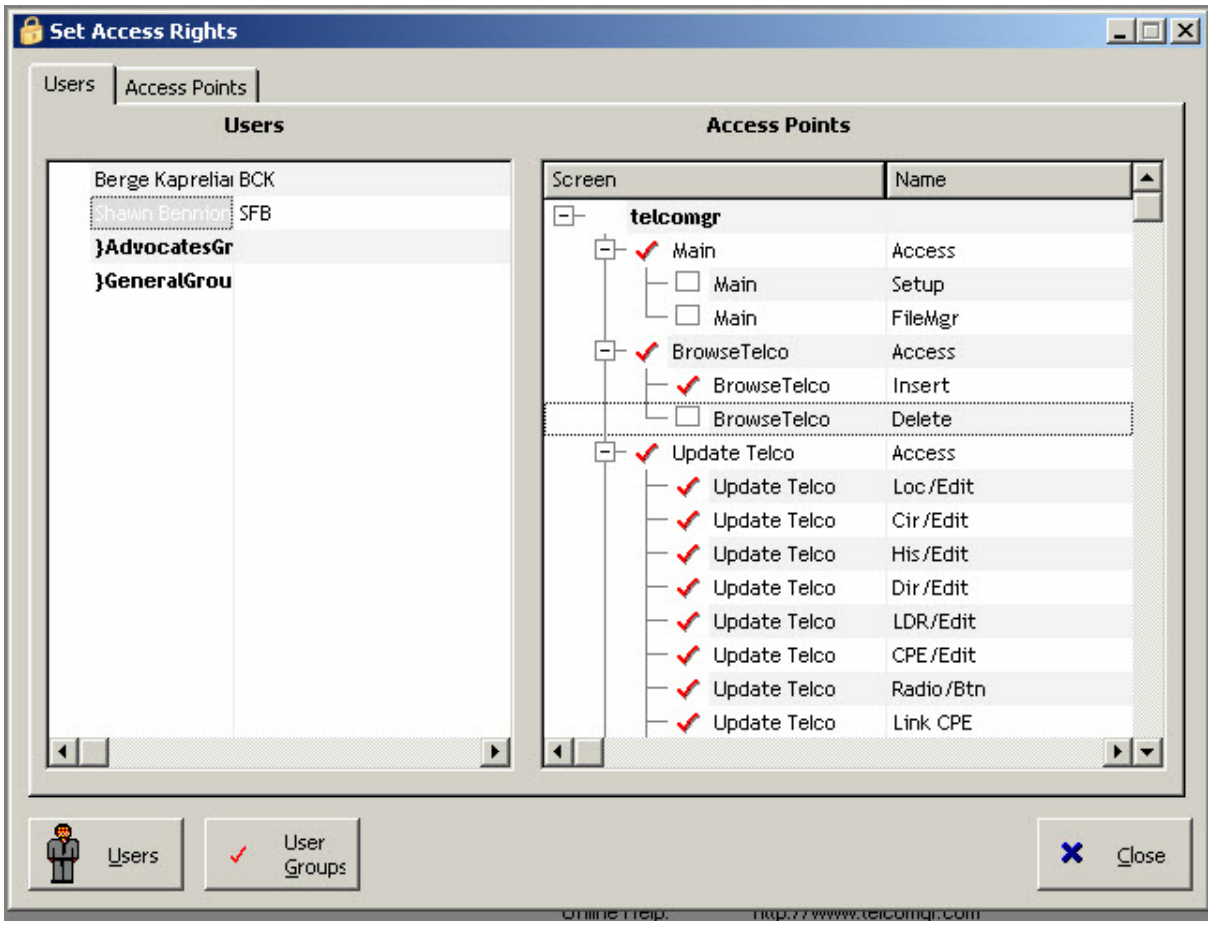
User Login

Every time the application is started you must Login as a user. Access to the various parts of

the program are controlled by your Login name. Only a Supervisor can set up Logins and assign security levels.

1.17.1.4 Assigning Access Levels

Security Access to the various tables and window forms may be controlled by the TelcoMgr **Set Access Rights** module, which may be accessed under the Security main menu option.

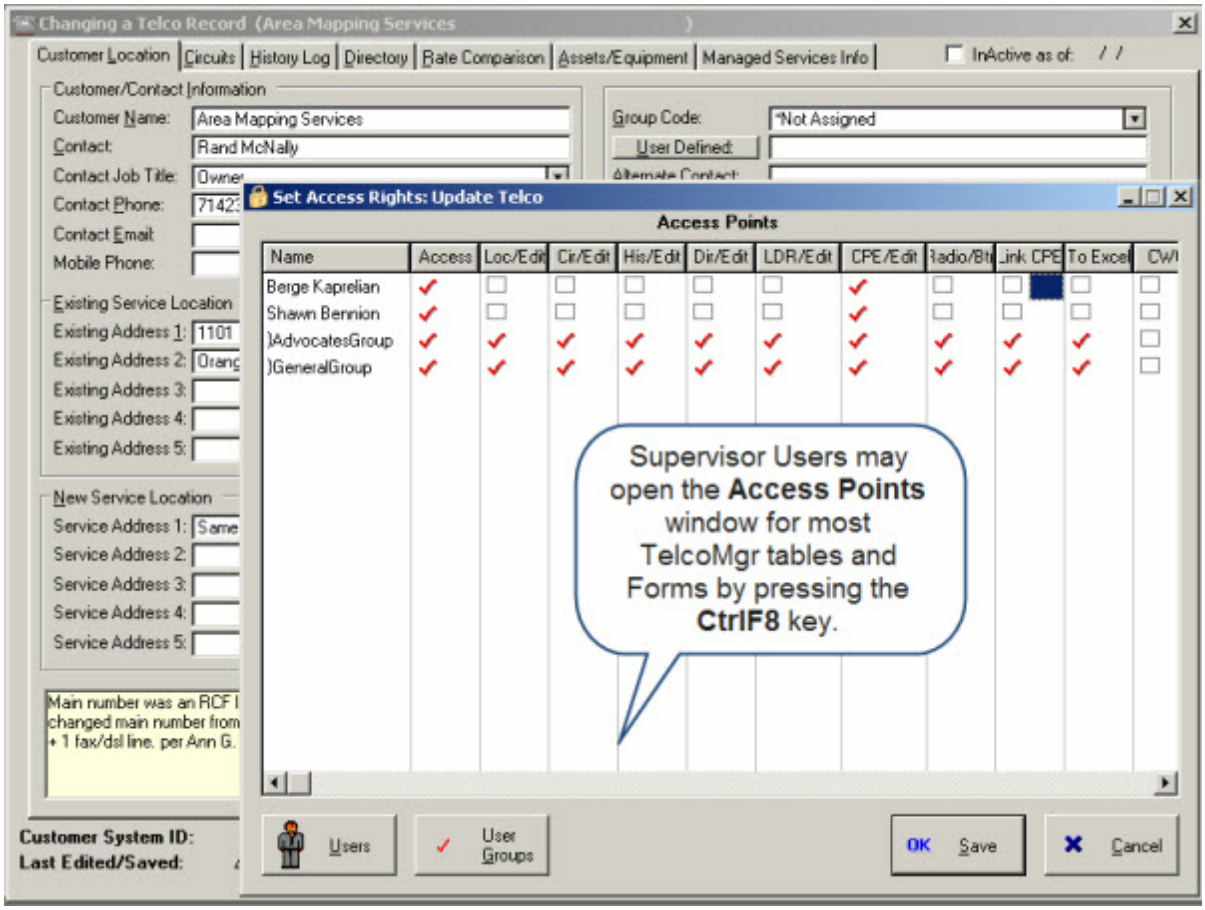


In the image example above the user Shawn Bennion is not a member of a Group and may not access the TelcoMgr Setup and FileManager screens.

Users may be setup as individuals or members of one or more groups. Security Access may be set or controlled at the individual **User or Group Level**.

Tutorial for Set Access Rights Users and Access Points:

1. Click on an User or Group Name inside the User table and the User/Group's privileges are show in the Access Point table-tree on the right-hand side of the window as shown above.
2. Click on the [check box] to modify the User/Group's setting. The **red check** indicates that the privilege is granted and the empty box indicates the privilege is denied.



Alternately, Security Privileges may be set or altered by a Supervisor user by using the **CTRL-F8 key**. When logged in as Supervisor, you must go into every screen and press

CTRL-F8. This will bring up the **Set User Access screen**. You will see a list of your User & Groups, and a list of protected controls that are initially all set for access. Double-clicking on a **red check** or empty box will cause it to toggle. For each user group, turn off the controls you do not want that user group to have access to in the current screen.

USER TIP: If you give a user **ALL ACCESS** in the [Default Access] field then you must manually reset the controls that you wish to restrict in each module or TelcoMgr screen. Conversely, if you set the field to **NO ACCESS** you must manually reset the controls that you wish to enable for the user or group.

1.17.1.5 User Login

The first time TelcoMgr is run, depending upon your type of installation (new or upgrade) and License type, you may be asked to add the first user. A User's information is made up of a First Name, Last Name and **Login code**. When you add a user the password is automatically set to be the same as the Login code. The "**first user**" is automatically set to be a "**Supervisor user**"; after you have finished entering the first user, then you can use the Login code, and Password (which will be the same at this point) to log in.

Change Password : This allows your end user to change his password. He will need to enter both the old password and the new password.

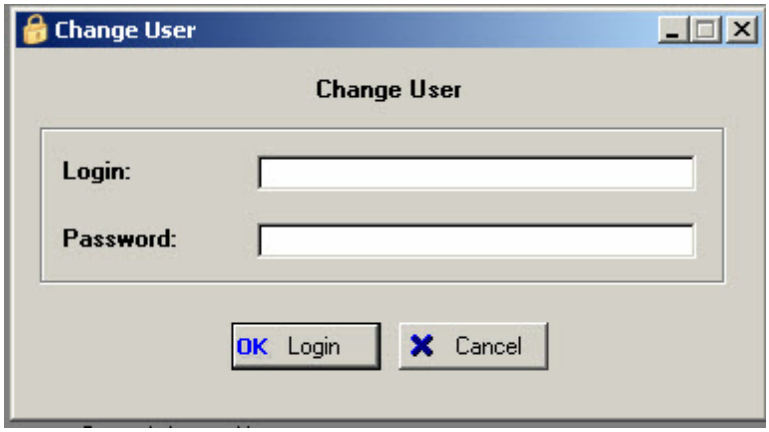
The Login window may vary.

1.17.1.5.1 Change Passw ords

Change Password: This allows your users to change passwords. Both the old password and the new password must be entered to complete the change.

1.17.1.5.2 Change User

The **Change User option** allows a user to Login with another identity.



1.17.1.6 Work Groups

The **Work Group** applies to Work Group filtering, which is only applicable if you are using the TelcoMgr Enterprise and/or Site License.

The Group or user can be assigned a unique code which may be applied to:

- Customer/Location table
- Circuits table
- History table
- CPE table

- Directory table

Each of these file tabless contains a Current Work Group (**CWG**) code. Therefore, when the CWG field is completed in each of the TelcoMgr databases with the appropriate Work Group code, only the records that match the User Group or User's Workgroup Code (CWG) will appear in the various browse tables.

1.17.2 IMPEX for TelcoMgr

The **TelcoMgr File Import / Export Utility, IMPEX,** is a standalone application, not included with TelcoMgr, that is designed to export selected TelcoMgr databases as text or comma separated value (CSV) and **Excel** files. **CSV** files are compatible with most versions of Microsoft's Excel(r) spreadsheet application.

The following files are available for **export**:

- Company or Location file
- Circuits file
- Rate Comparison file
- Directory file
- CPE and the CPE Components

The entire file or tagged records are exported. The user may select specific fields for export. The field order from top to bottom relates to the export files left to right columns in Excel.

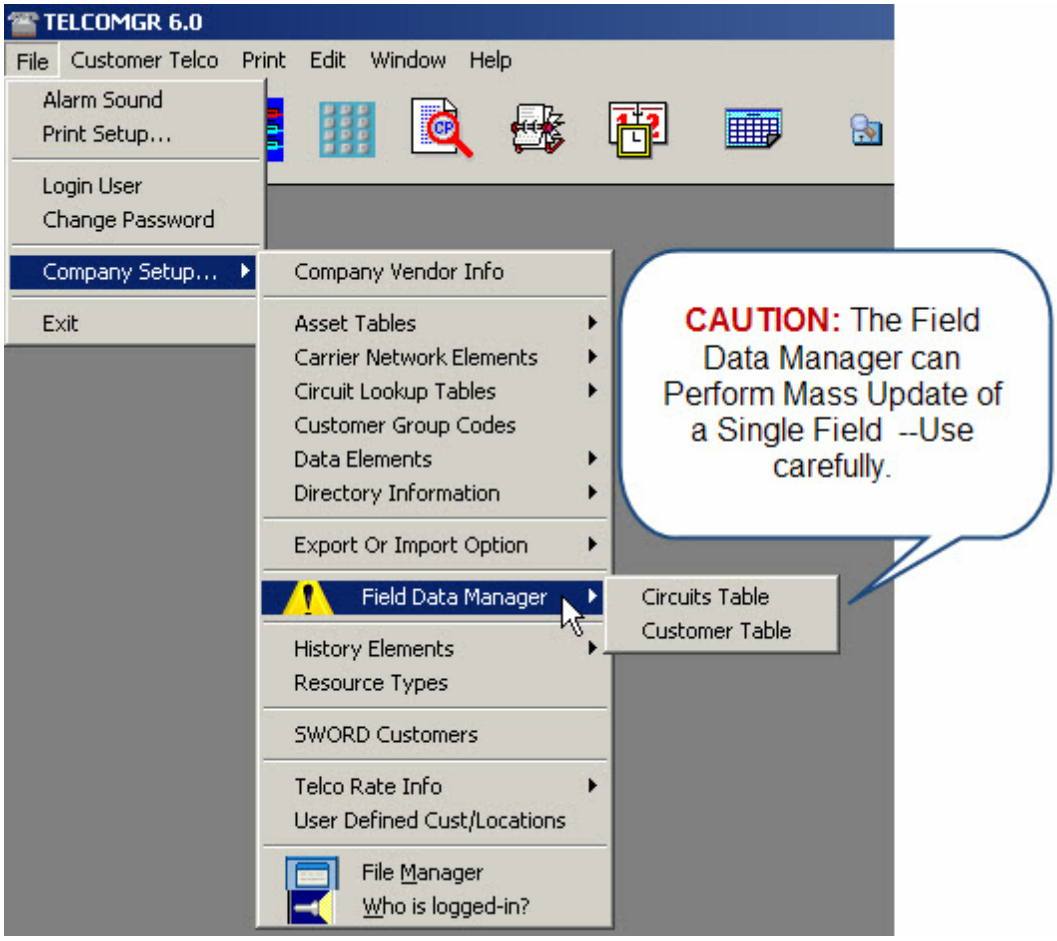
The following files may be **imported**:

- Company or Location file
- Circuits file
- CPE and the
  o CPE Components
- Directory file

For more information about **IMPEX** for TelcoMgr please visit on the web at http://impex.telcomgr.com

1.17.3 Field Data Manager

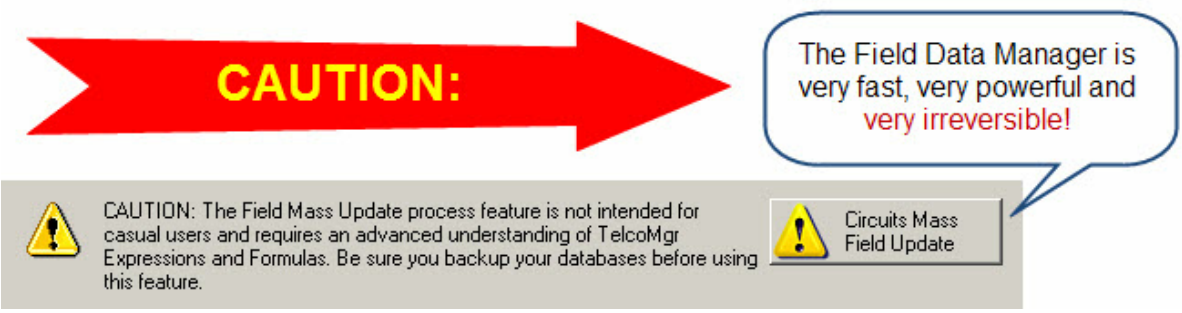
A **Field Data Manager** for the **Customer/Location** and **Circuits** file is available from the Browse Customer Table and Browse Circuits Table.



How many times have you been asked to make a mass update like change the format of the NPA-NXX-Line field for the Circuits table? Our new **Field Data Manager** provides end-users the possibility to alter the data as much as you wish. Thousands of phone numbers can be changed from the standard TelcoMgr format of [###-###-####] to [+1 (###) ###-####] within a couple of minutes. Also, by using Boolean expressions, data changes may be applied to records that belong to a specific customer group or your User-Defined field. You can even store mass update routines for future use.

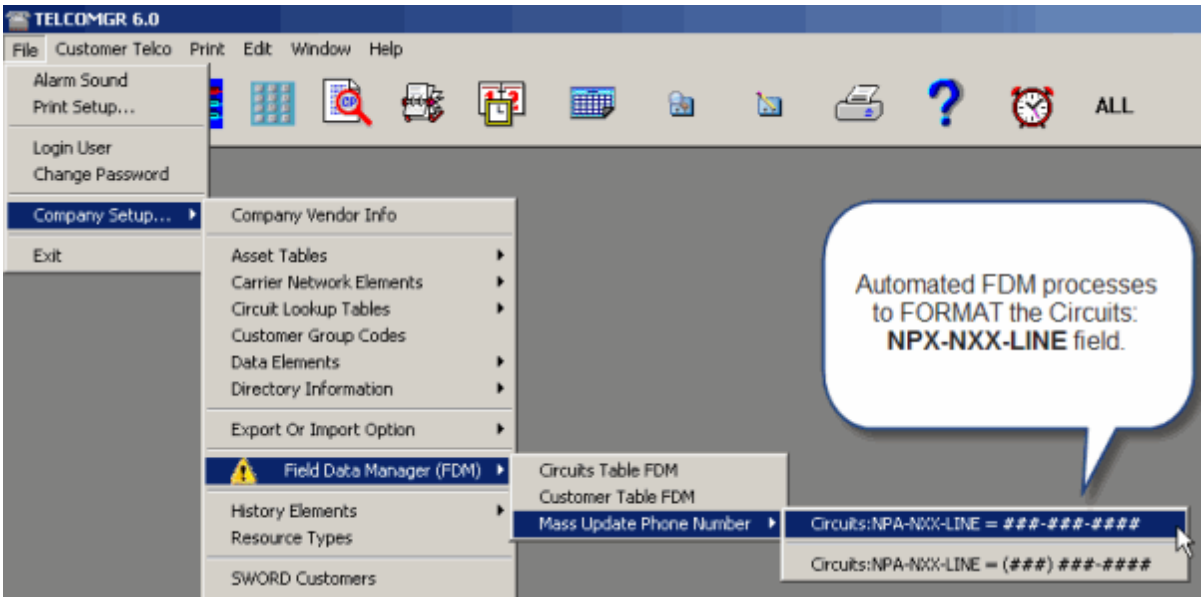
Use caution when using the **Field Data Manager** because some of the changes that you apply may not be reversible. Therefore, backup your TelcoMgr folders before attempting to use this feature. Also, a strong understanding of how to use **TelcoMgr Expressions** and **Formulas** is essential to use this feature.

"The Field Data Manager is very fast, very powerful and very irreversible!"

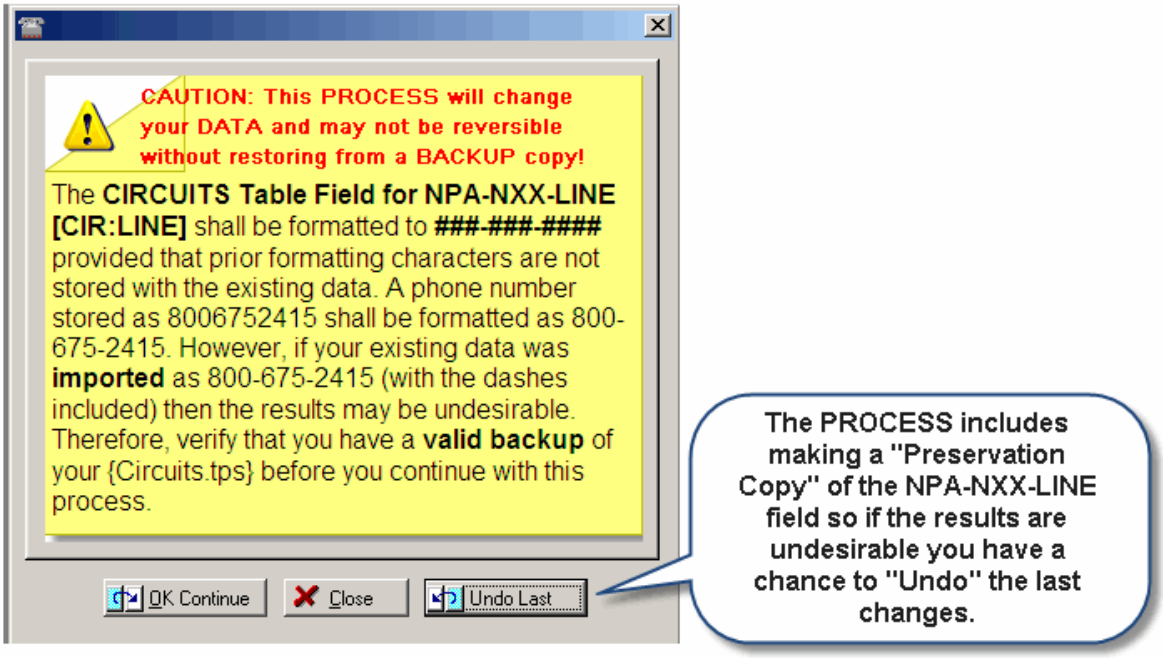


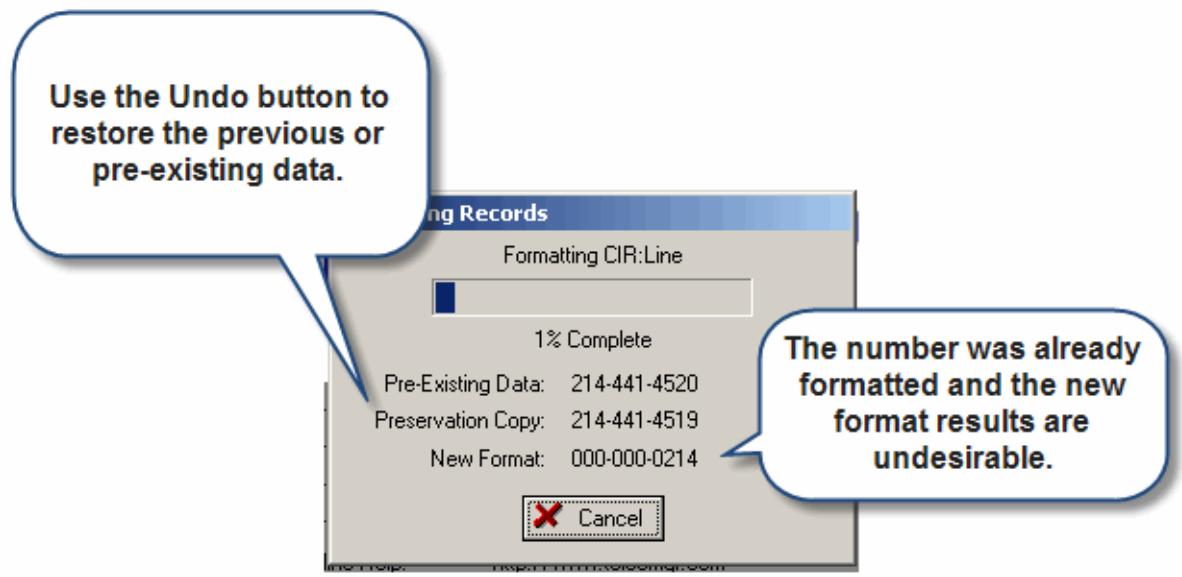
1.17.3.1 Automated FDM Process

1. Several **Field Data Manager** (**FDM) processes** have been automated to format the **Circuits:NPA-NXX-LINE field**.



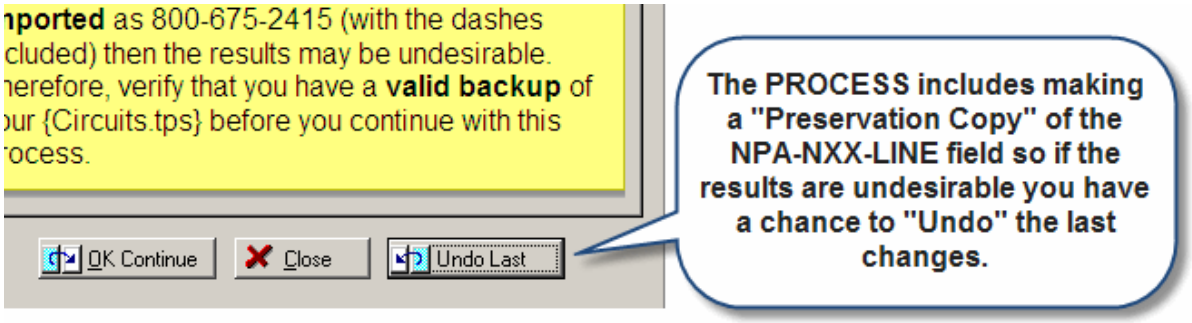
2. Two **Automated FDM Processes** are included with TelcoMgr 6 to restore the formatting of the data in the **NPA-NXX-Line** field.





3. Were any of your existing CIRCUITS records imported using IMPEX? If yes, you may not able to use the Automated FDM Processes. The FDM process for formatting the [CIR:Line] will only work properly if the field contains numbers only. **IMPEX** allows the import of CIRCUIT records from EXCEL or CSV type files, which include the "dashed format" or ###-###-####. Therefore, some of your records may be already formatted and if you try to apply a new format to an already correctly formatted phone number, then the results may be undesirable.

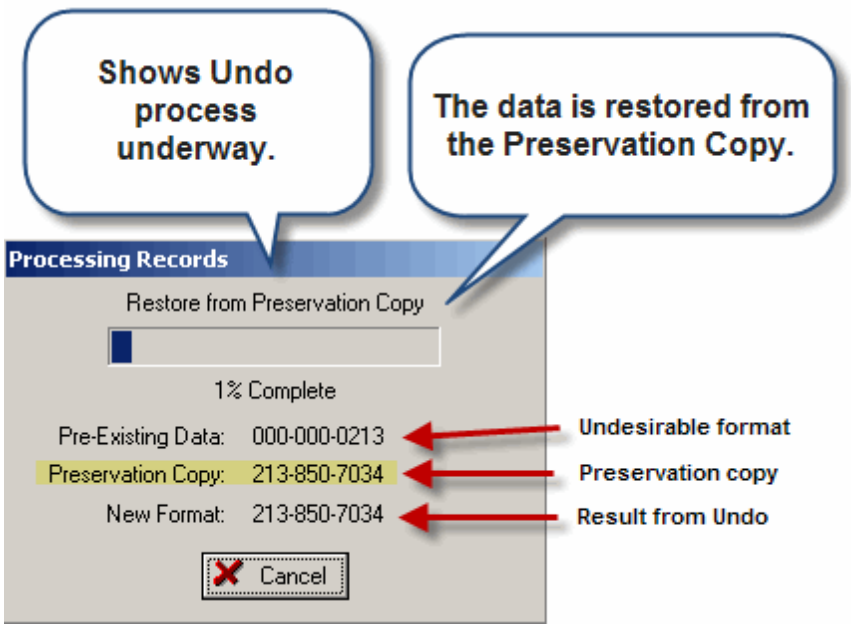
1.17.3.1.1 Automatic FDM Undo Process



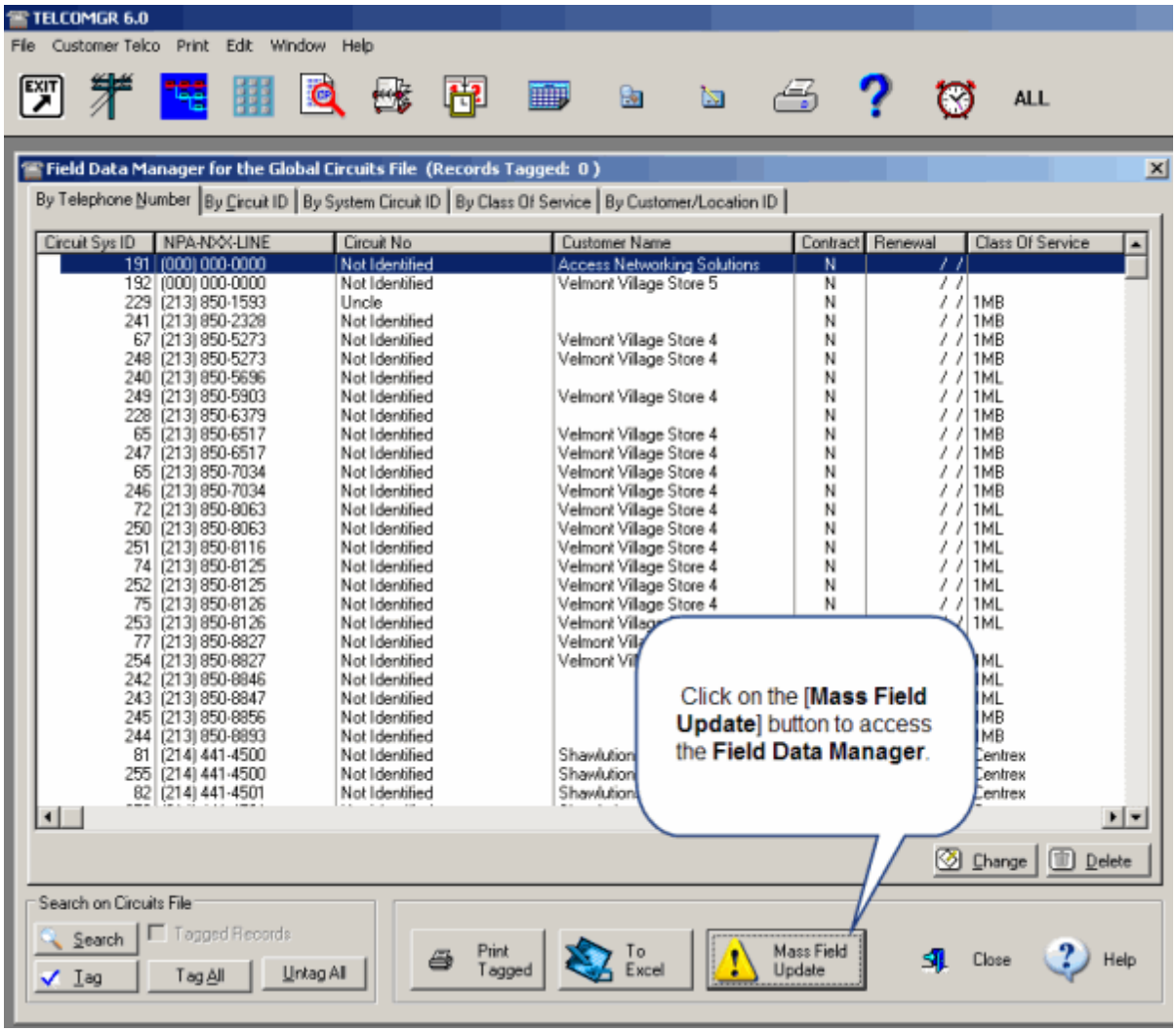
The **Automated FDM Process** for updating the [**CIR:LINE**] field has an Undo feature, which allows the Format to be applied and then restored if the results are undesirable.

During the copy process, right before the [**CIR:LINE**] is change to the "new" format, a copy is

place in a field named [**CIR:LinePc**] in the same record. Therefore, when the [**Undo button**] is accepted the process moves the data from [**CIR:LinePc**] back to [**CIR:LINE**] restoring the data as it was prior to running the automated FDM process.

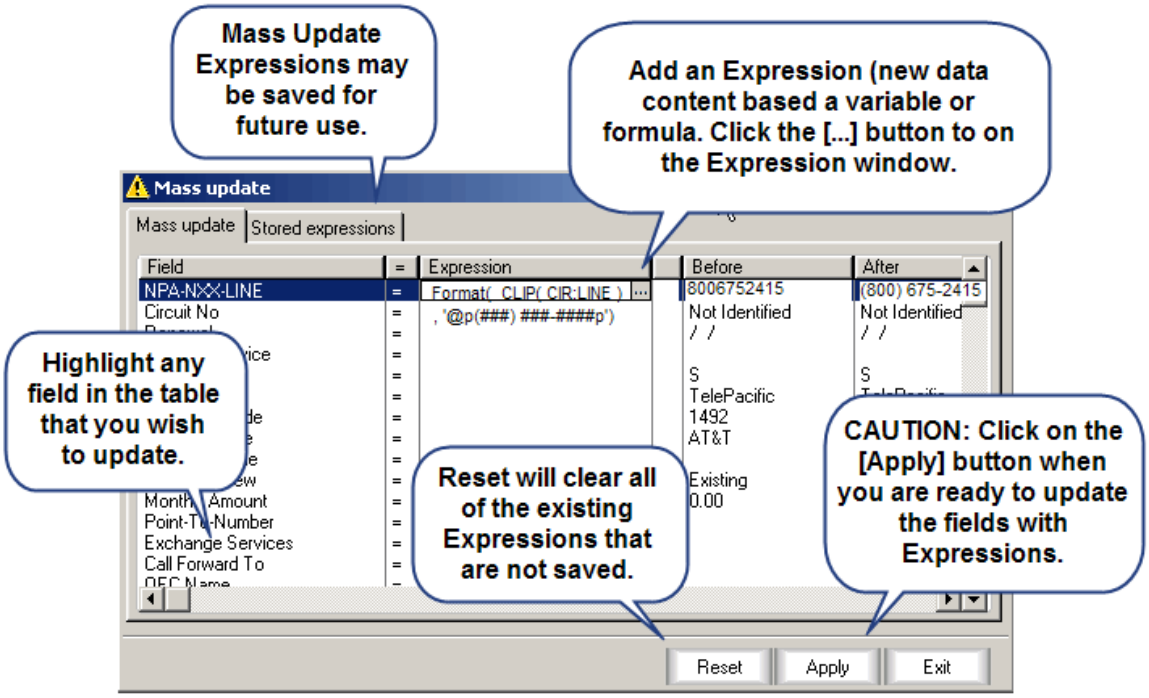


1.17.3.2 Circuits Table FDM



The **Field Data Manager** will allow a user to mass-update any field, which appears in the Browse Table.

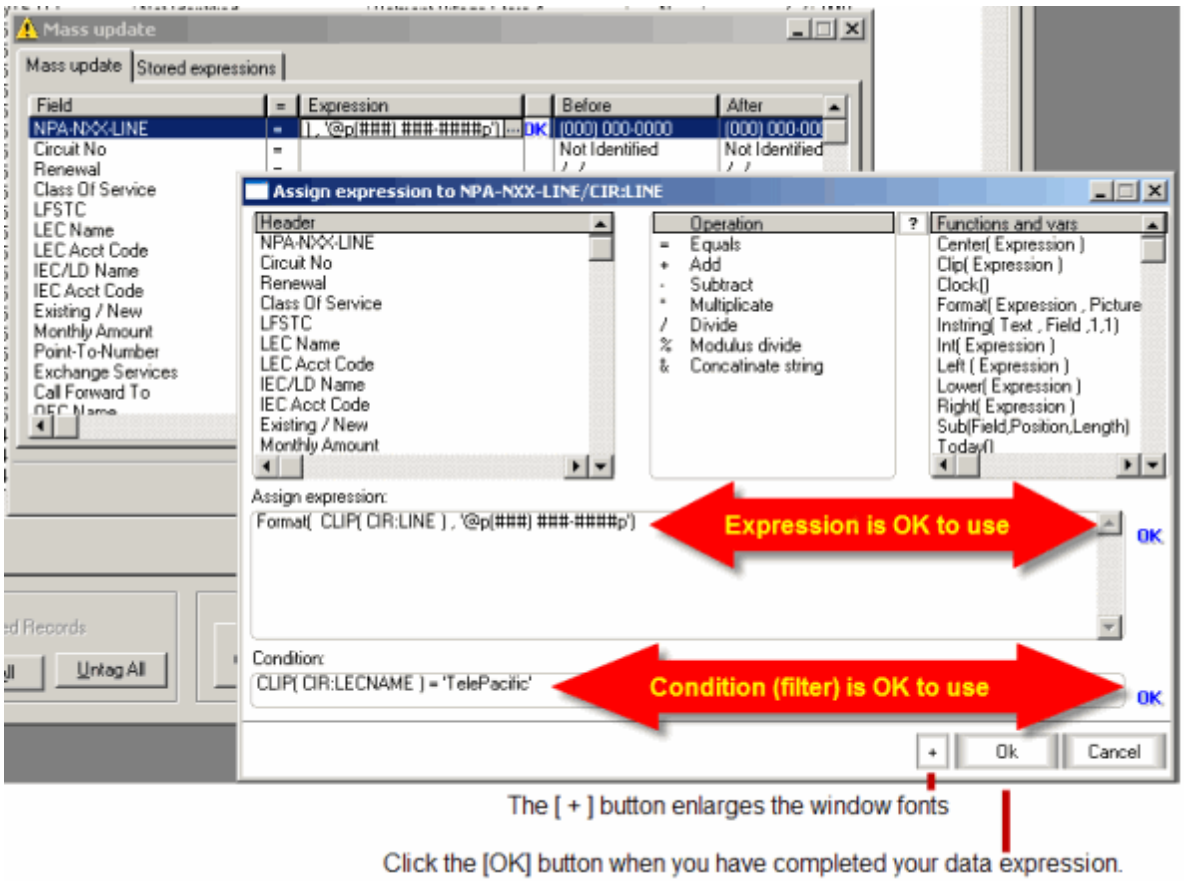
1.17.3.2.1 Field Data Manager Brow se Table



The **Field Data Manager Browse Table for Circuits** in shown in the image above.

- **Field** Column: This is a list of fields, which may be mass updated by the new content that you enter or that is formulated by an Expressions.
- **Expression** Column: This column shows the Expression that will be applied to the selected fields.
- Expression Lookup **Button**: The [...] button will open the **Expression Editor** window (shown below).
- **Before** Column: The field contents **Before** an Expression or Formula is applied
- **After** Column: The field contents once an Expression is applied

1.17.3.2.1.1 Field Data Manager Expression Editor



TUTORIAL:

TelcoMgr's NPA-NXX-LINE fields were originally stored as a alpha-numerical string. For example the actual number, which was shown on the TelcoMgr "user window" as 800-###-####, was stored in the file as **8006752415.** Therefore, since the window controlled the format or look of the number displayed this method restrict the number from appearing in any other format. However, with the "window" formatting removed, virtually any format arrange can be applied to the NPA-NXX-LINE field or the Canonical Formatted Subscriber Number [**CFSN**] field. To apply a format to the **8006752415** to the ###-###-#### format follow the steps below.

1. In the Field Data Manager Browse Table select the NPA-NXX-LINE field;
2. Click on the Express [...] button to the right of the Expression Column, the Assign Expression Editor window opens;
3. In the Fuctions and Vars (for Variable) Column select the **Format(Expression, Picture)** option by double-clicking the word Format;

4. Format(Expression , Picture) with appear in the **Assign expression field**;

5. Inside the **Assign expression field** highlight the word Expression so it appears like this >> Format(Expression , Picture);

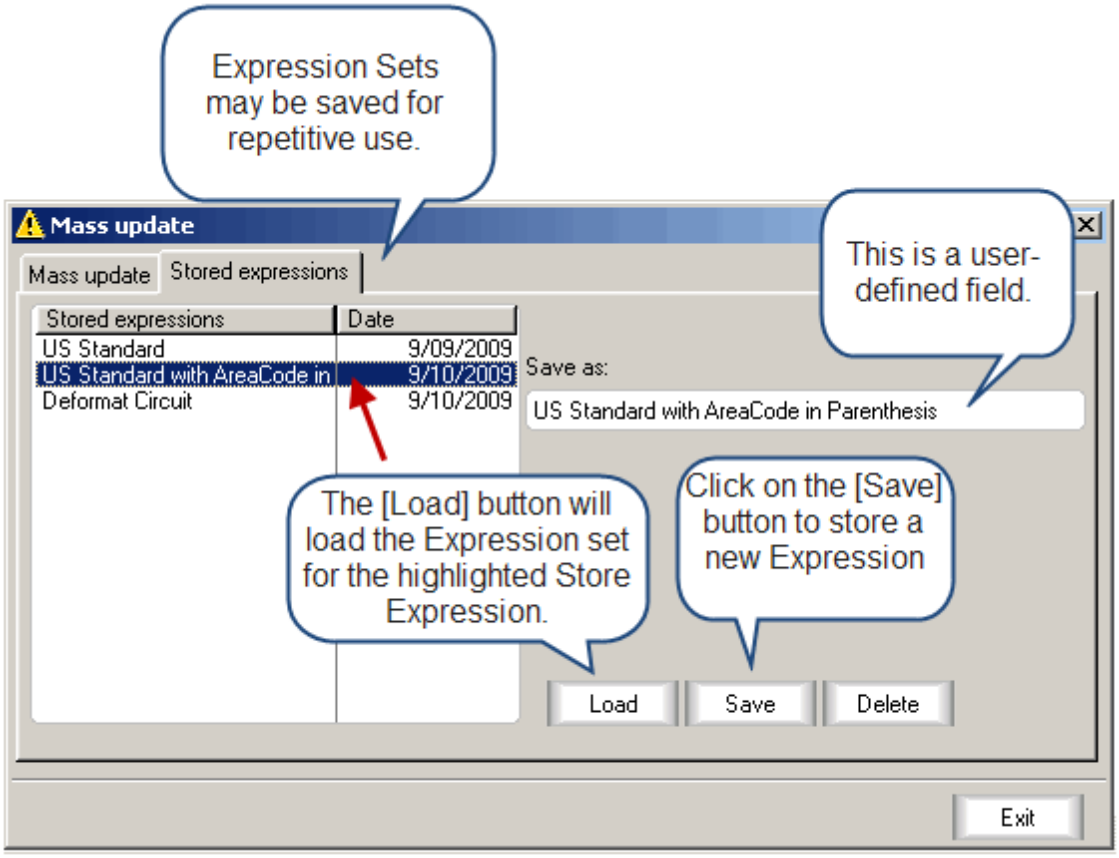
6. With the word Expression still highlighted double-click the **Header Column** NPA-NXX-LINE and your **Assign expression field** should look like this >> Format(CLIP(CIR:LINE) , Picture);

7. Next, highlight the word Picture so it appears like this >> Format(CLIP(CIR:LINE) , Picture);

8. Replace the highlighted word Picture; with exactly @p###-###-####p so your complete Formatted Expression looks like the line below:

9. **Format(CLIP(CIR:LINE) , @p### ###-####p) ;(The semicolon is not included)**

10. Tab or click outside the **Assign expression field** and if you have correctly entered the information you should see the blue **OK** to the right of the field.



Many Expressions Set (Expression applied to more than one field) may be stored into a local or central **INI** file named **massupdate.ini**, which usually is saved in the **TelcoMgr installation folder**.

1.17.3.2.1.2 Expression for Phone Number Format (###) ###-####

The **Expression for Phone Format (###) ###-####:** The literal Expression to change the format of the [CIR:Line] field from **8006752415** to the format **(800) 675-2415** is;

Format(CLIP(CIR:LINE) , '@p(###) ###-####p')

Note the addition of the 'single quotes.'

1.17.3.2.1.3 Expression for Phone Number Format ###-###-####

The **Expression for Phone Format ###-###-####:** The literal Expression to change the format of the [CIR:Line] field from **8006752415** to the format **(800) 675-2415** is;

Format(CLIP(CIR:LINE) , @p### ###-####p)

Note the absence of the the 'single quotes.'

1.17.3.3 Field Data Manager Expressions

Expressions are evaluated in the standard algebraic order of operations. The precedence of operations is controlled by **operator** type and placement of parentheses. Each operation produces an (internal) intermediate value used in subsequent operations. Parentheses may be used to group operations within expressions. Expressions are evaluated beginning with

the inner-most set of parentheses and working through to the outer-most set.

Precedence levels for expression evaluation, from highest to lowest, and left-to-right within each level, are:

Level 1	( )	Parenthetical Grouping
Level 2	-	Unary Minus (Negative sign)
Level 3	procedure call	Gets the RETURN value
Level 4	^	Exponentiation
Level 5	* / %	Multiplication, Division, Modulus Division
Level 6	+ -	Addition, Subtraction
Level 7	&	Concatenation
Level 8	= <>	Logical Comparisons
Level 9	NOT, AND, OR/XOR	Boolean expressions
Level 10	Single quotes (apostrophe) 'myexpression'	Used for absolute data pictures

Expressions may produce numeric values, string values, or logical values (true/false evaluation). An expression may contain no operators at all; it may be a single variable, constant value, or procedure call which returns a value.

Sting Constants

A string constant is a set of characters enclosed in single quotes (apostrophes). The maximum length of a string constant is 255 characters. Characters that cannot be entered from the keyboard may be inserted into a string constant by enclosing their ASCII character codes in angle brackets (<>). ASCII character codes may be represented in decimal, hexadecimal, binary, or octal numeric constant format. In a string constant, a left angle bracket (<) initiates a scan for a right angle bracket. Therefore, to include a left angle bracket in a string constant requires two left angle brackets in succession. To include an apostrophe as part of the value inside a string constant requires two apostrophes in succession. Two apostrophes (''), with no characters (or just spaces) between them, represents a null, or blank, string. Consecutive occurrences of the same character within a string constant may be represented by repeat count notation. The number of times the character is to be repeated is placed within curly braces ({ }) immediately following the character to repeat. To include a left curly brace ({) as part of the value inside a string constant requires two left curly braces ({{) in succession.

The **ampersand** (&) is always valid in a string constant. However, depending on the

assignment's destination, it may be interpreted as an underscore for a hot letter (for example, a **PROMPT** control's display text). In this case, you double it up (&&) to end up with a single ampersand in the screen display.

Example:

'string constant' !A string constant

'It''s a girl!' !With embedded apostrophe

'<27,15>' !Using decimal ASCII codes

'A << B' !With embedded left angle, A < B

'*{20}' !Twenty asterisks, repeat-count notation

'' !A null (blank) string

Data Formatting or **Pictures**

@P All pattern pictures begin with the @P delimiter and end with the P delimiter. The case of the delimiters must be the same.

< Specifies an integer position that is blank for leading zeroes.

Specifies an integer position.

x Represents optional display characters. These characters appear in the final result string.

P All pattern pictures must end with P. If a lower case @p delimiter is used, the ending P delimiter must also be lower case.

B Specifies that the format displays as blank when the value is zero.

Pattern pictures contain optional integer positions and optional edit characters. Any character other than < or # is considered an edit character which will appear in the formatted picture string. The @P and P delimiters are case sensitive. Therefore, an upper case "P" can be included as an edit character if the delimiters are both lower case "p" and vice versa.

Pattern pictures do not recognize decimal points, in order to permit the period to be used as an edit character. Therefore, the value formatted by a pattern picture should be an integer. If a floating point value is formatted by a pattern picture, only the integer portion of the number will

© Access Business Communications, Inc.

appear in the result.

Example:

Picture	Value	Result
@P###-##-####P	215846377	215-84-6377
@P<#/##/##P	103159	10/31/59
@'P(###)###-####P'	3057854555	(305)785-4555
@P###/###-####P	7854555	000/785-4555
@p<#:##PMp	530	5:30PM
@P<#' <#"P	506	5' 6"
@P<#lb. <#oz.P	902	9lb. 2oz.
@P4##A-#P	112	411A-2
@PA##.C#P	312.45	A31.C2

1.17.3.4 Field Data Manager Operators

Logical Operators

A **logical operator** compares two operands or **expressions** and produces a true or false condition. There are two types of logical operators: conditional and Boolean. Conditional operators compare two values or expressions. Boolean operators connect string, numeric, or logical expressions together to determine true-false logic. Operators may be combined to create complex operators.

Conditional Operators

=	Equal sign
<	Less than
>	Greater than

Boolean Operators

NOT	Boolean (logical) NOT

~	Tilde (logical NOT)
AND	Boolean AND
OR	Boolean OR
XOR	Boolean eXclusive OR

Combined operators

<>	Not equal
~=	Not equal
NOT =	Not equal
<=	Less than or equal to
=<	Less than or equal to
~>	Not greater than
NOT >	Not greater than
>=	Greater than or equal to
=>	Greater than or equal to
~<	Not less than
NOT <	Not less than

During logical evaluation, any non-zero numeric value or non-blank string value indicates a true condition, and a null (blank) string or zero numeric value indicates a false condition.

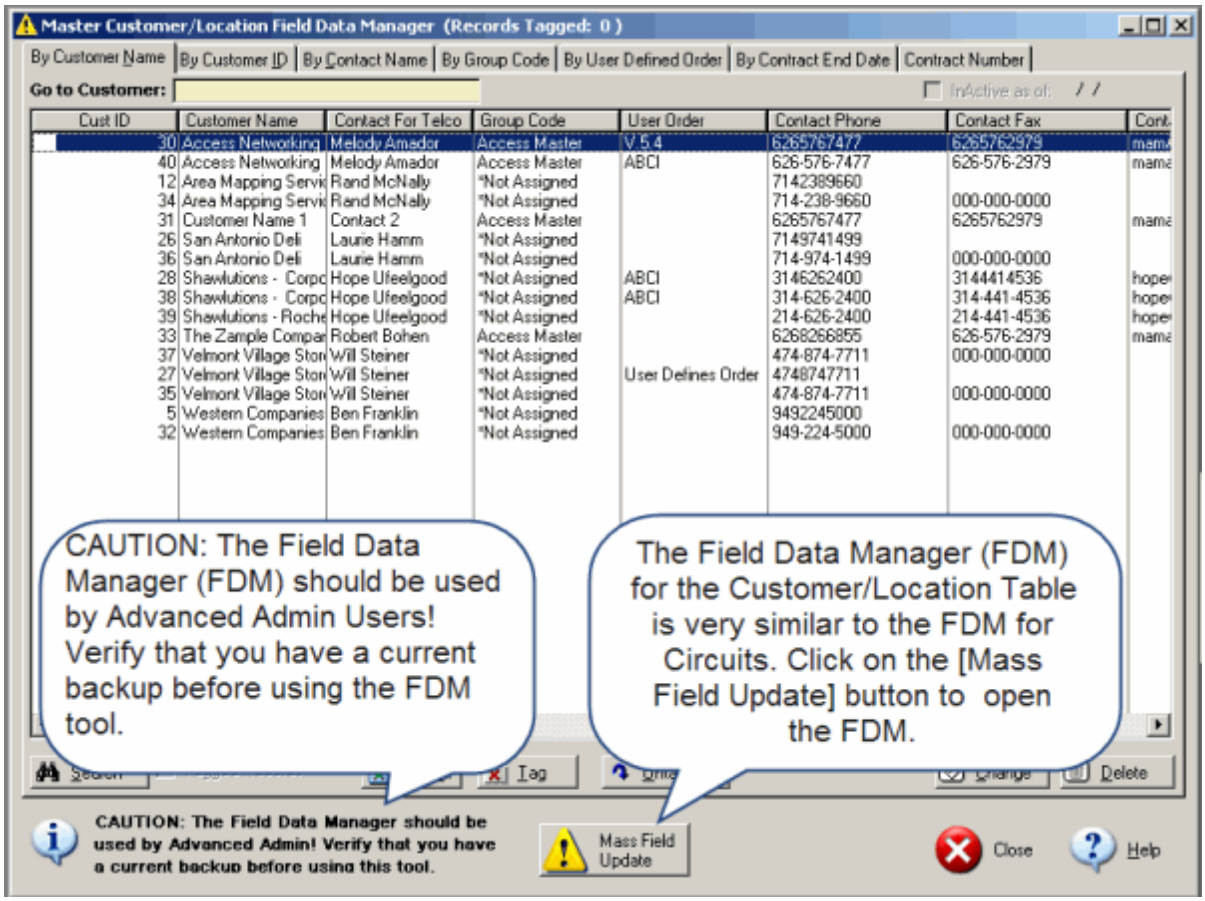
Example:

Logical Expression	Result
A = B	True when A is equal to B
A < B	True when A is less than B
A > B	True when A is greater than B
A <> B, A ~= B, A NOT = B	True when A is not equal to B
A ~< B, A >= B, A NOT < B	True when A is not less than B
A ~> B, A <= B, A NOT > B	True when A is not greater than B

© Access Business Communications, Inc.

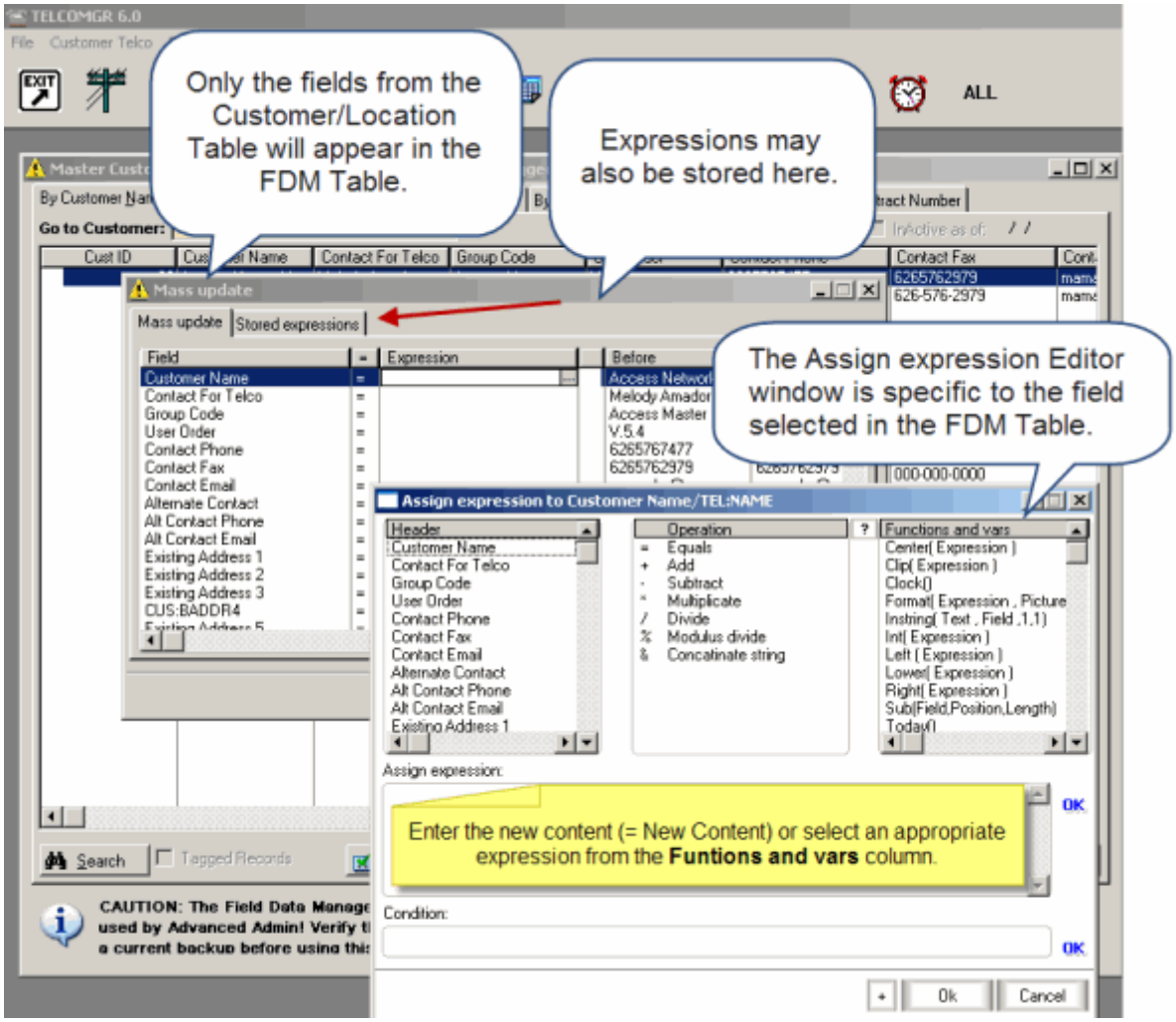
~ A, NOT A	True when A is null or zero
A AND B	True when A is true and B is true
A OR B	True when A is true, or B is true, or both are true
A XOR B	True when A is true or B is true, but not both.

1.17.3.5 Customer Table FDM



A Field Data Manager (**FDM**) is also available for the Customer/Location Table. To access the FDM click on the [**Mass Field Update**] button.

1.17.3.5.1 Customer FDM Expression Editor



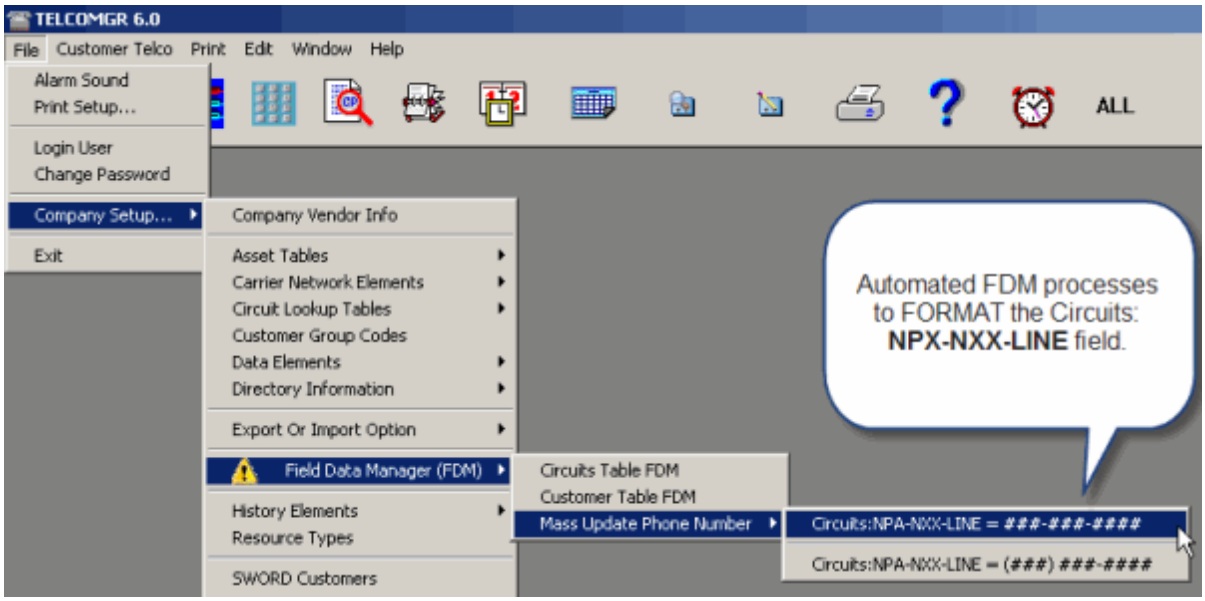
TUTORIAL:

TelcoMgr's Contact Phone or other phone number fields were originally stored as a alpha-numerical string. For example the actual number, which was shown on the TelcoMgr "user window" as 800-###-####, was stored in the file as **8006752415.** Therefore, since the window controlled the format or look of the number displayed this method restrict the number from appearing in any other format. However, with the "window" formatting removed, virtually any format arrange can be applied to the NPA-NXX-LINE field or the Canonical Formatted Subscriber Number [**CFSN**] field. To apply a format to the **8006752415** to the ###-###-#### format follow the steps below.

1. In the Field Data Manager Browse Table select the NPA-NXX-LINE field;

2. Click on the Express [...] button to the right of the Expression Column, the Assign Expression Editor window opens;
3. In the Fuctions and Vars (for Variable) Column select the **Format(Expression, Picture)** option by double-clicking the word Format;
4. Format(Expression , Picture) with appear in the **Assign expression field**;
5. Inside the **Assign expression field** highlight the word Expression so it appears like this >> Format(Expression , Picture);
6. With the word Expression still highlighted double-click the **Header Column** NPA-NXX-LINE and your **Assign expression field** should look like this >> Format(CLIP(CIR:LINE) , Picture);
7. Next, highlight the word Picture so it appears like this >> Format(CLIP(CIR:LINE) , Picture);
8. Replace the highlighted word Picture; with exactly @p###-###-####p so your complete Formatted Expression looks like the line below:
9. **Format(CLIP(CIR:LINE) , @p### ###-####p) ;(The semicolon is not included)**
10. Tab or click outside the **Assign expression field** and if you have correctly entered the information you should see the blue **OK** to the right of the field.

1.17.3.6 Auto Format Process



Several **FDM processes** have been automated to format the **Circuits:NPA-NXX-LINE field**.

1.17.4 Enterprise License Features

The **Enterprise** and **TelcoMgr Site Licenses** provides the following additional features:

- ✓TelcoMgr can be linked or integrated with our service management software application SWORD, which allows Customer Location records to be created from the SWORD Master Customer Records.
- ✓Also, SWORD can share the CPE records that are created in SWORD or TelcoMgr.
- ✓**Work Group filtering** on Telco, Circuits, History, Directory and CPE files.

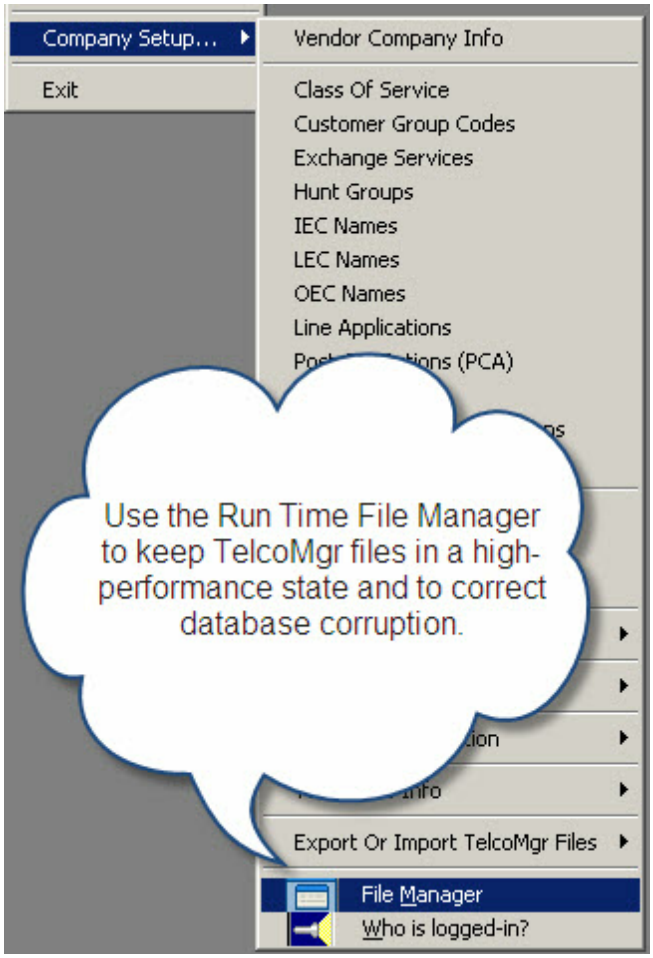
1.17.5 File Manager

CAUTION: The **FILE MANAGER** should only be used by a **SYSTEM MANAGER** as a **SINGLE USER.**

Navigate to FILE > COMPANY SETUP > FILE MANAGER.

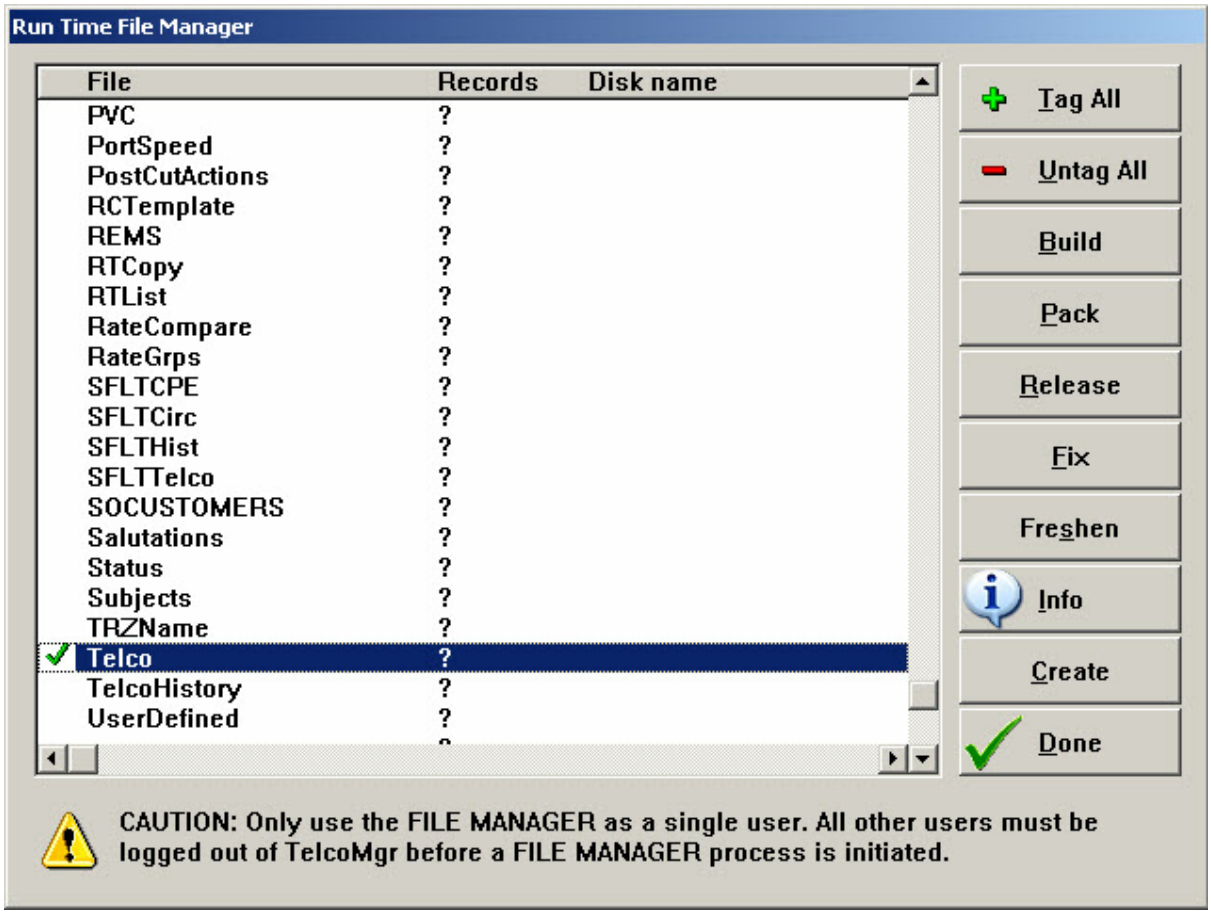
USER TIP: [**Freshen**] is used to create a new file and copy all the old records out the old file and put them in the new file. Freshen is the best for fixing files, for getting rid of deleted records, and re-building keys all in one. This effectively removes all duplicate entries (which might be causing the Build to fail) and also can act as an effective fixing of possibly corrupted files.

© Access Business Communications, Inc.



TelcoMgr Runtime File Manager Option

The FILE MANAGER is a utility for the purpose of condensing the TelcoMgr databases, or repairing a damaged file.



The File Manager is used to keep files in good working order in the event that your computer is improperly shutdown.

[Tag All] is used to select all files.

[UnTag All] is used deselect all files.

Use the Mouse Pointer select or deselect a specific file.

The Check Mark indicates the file has been selected.

[**Build**] is used to 'Re-index' the selected file(s).

[**Pack**] is used to remove previously 'deleted' records from the selected file(s).

[**Fix**] is used to repair the selected file(s). Fix must only be used if the file doesn't come right with Freshen. Don't use Fix on working files, as it can sometimes corrupt them. Fix is your last resort.

[**Freshen**] is used to create a new file and copy all the old records out the old file and put them in the new file. Freshen is the best for fixing files, for getting rid of deleted records, and re-building keys

all in one. This effectively removes all duplicate entries (which might be causing the Build to fail) and also can act as an effective fixing of possibly corrupted files.

[**Info**] is to look-up the quantity of records in the selected file(s) and show the File Path.

[**Create**] is used to create a non-existent file.

[**Done**] closes the File Manager.

File Access Error

If TelcoMgr ENCOUNTERS **FILE ACCESS Error** message and TelcoMgr closes down?

Unfortunately, magnetically stored data files can get tweaked and or damaged due to break-downs of hardware and network interruptions.

1. Make sure that you are the only user in TelcoMgr when you attempt to correct a file access problem.

2. Identify the offended file name, which typically appears in a window similar to the one that appears to below.

3. Navigate to FILE > COMPANY SETUP > FILE MANAGER.

4. Locate the offended file file name in the File Manager browse table and mouse-click or check in the empty space left of the file name.

4. Click on the [**FRESHEN**] button, which will launch a utility application that will compare the file and attempt to recover and/or correct it. The process make take a few moments to a few minutes depending upon the size of the file and the type of corruption that may have occurred. Please wait until the process is complete.

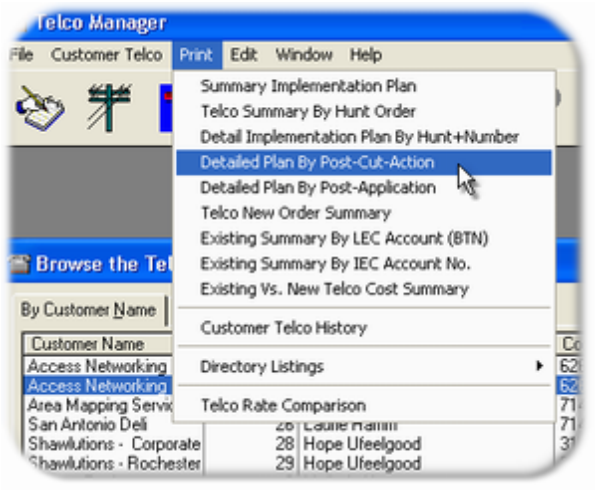
5. Resume using TelcoMgr to learn if the problem reoccurs. If the problem persist return to the File Manager and repeat the steps above but using the [**FIX**] button.

© Access Business Communications, Inc.

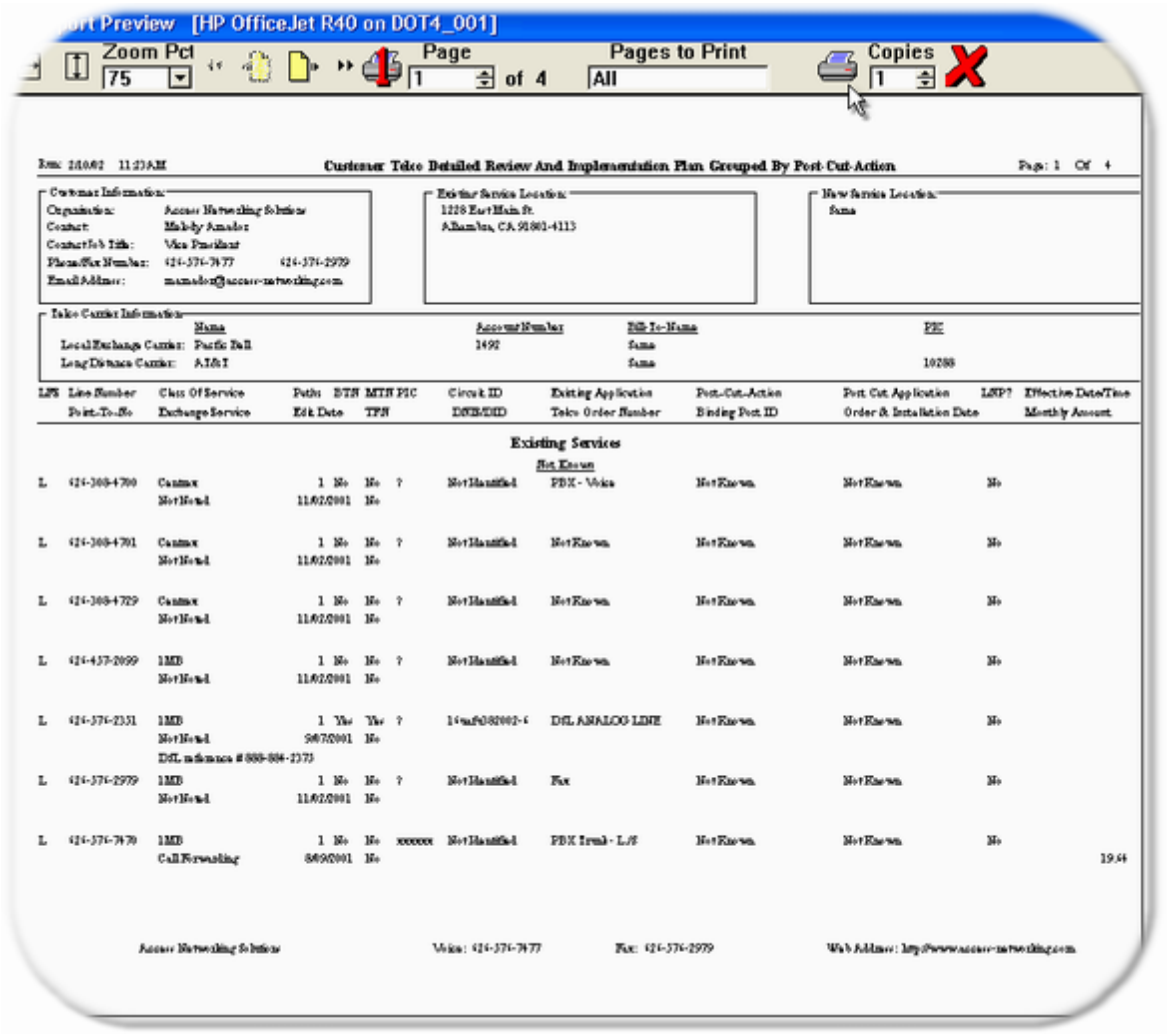
Note: Some descriptions and images in this publication may not be the same in the current version of TelcoMgr.

1.18 Printing Reports

To Print a record open the **Customer Telco Browse** window and select or highlight the record that you wish to print. From the Main Menu window select the [**Print**] option and the appropriate Report name from the menu drop-down list.



From the example above, the [**Detailed Plan By Post-Cut-Actions**] for Access Networking Solutions shall be printed. You are given the option to print to your screen or directly to your default printer. A screen printed example appears below:



[Report Headings]

1.18.1 Report Headings

Binding Post ID - How/where has the Telephone Company identified the line is connected

BTN - Bill To Number

Circuit ID - Some services have a circuit ID number instead of a working telephone number

DNIS/DID - Dialed Number Id or Direct Inward Dialed number

Edit Date - The last date the Telco Manager record was saved

Effective Date/Time - The estimated or planned date/time for post cut actions

Exchange Service - Additional features or services that are added to a telephone number or circuit

Existing Application - The primary use of the line, feature or service

HS# - Hunt Sequence Number

LFS - Line, Feature or Service

Line Number - Telephone number

LNP - Local number portability (yes or no)

Long Distance PIC - The long distance carrier's primary interexchange code

Monthly Amount - A summary amount of the Telco charges for the current record

MTN - Main Telephone Number or pilot number of a hunt group

Order & Install Date - If orders are pending what are the appropriate dates for the order and the installation

Paths - The quantity of speech paths or the quantity of single voice communications that are possible on a given line

© Access Business Communications, Inc.

Point-To-Number - When one number is dialed and it is automatically redirected to another number or point-to-number

Post Cut Application - How will the existing line, service or feature be used

Post-Cut-Action - What action is planned for the current line, feature or service

Reference - General comments about a single record

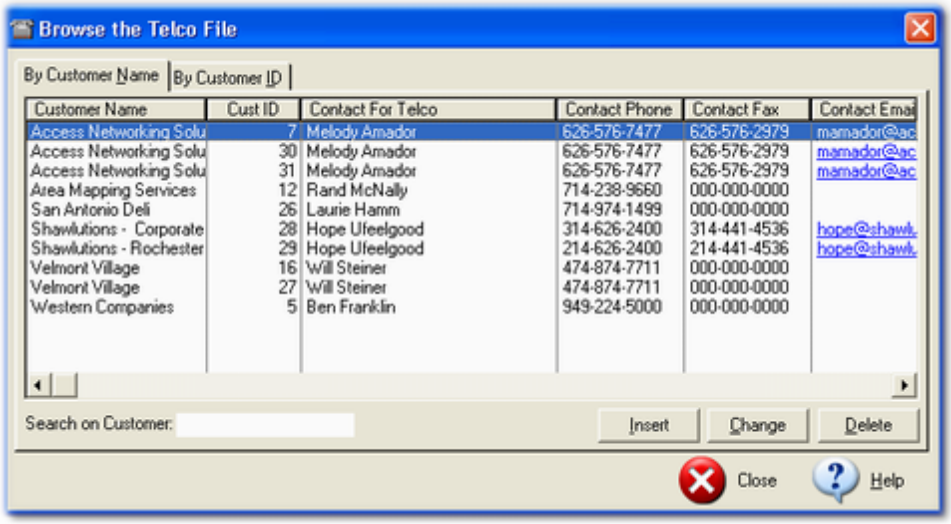
Telco Order Number - A past or pending order number regarding the current record

TFN - Toll Free Number

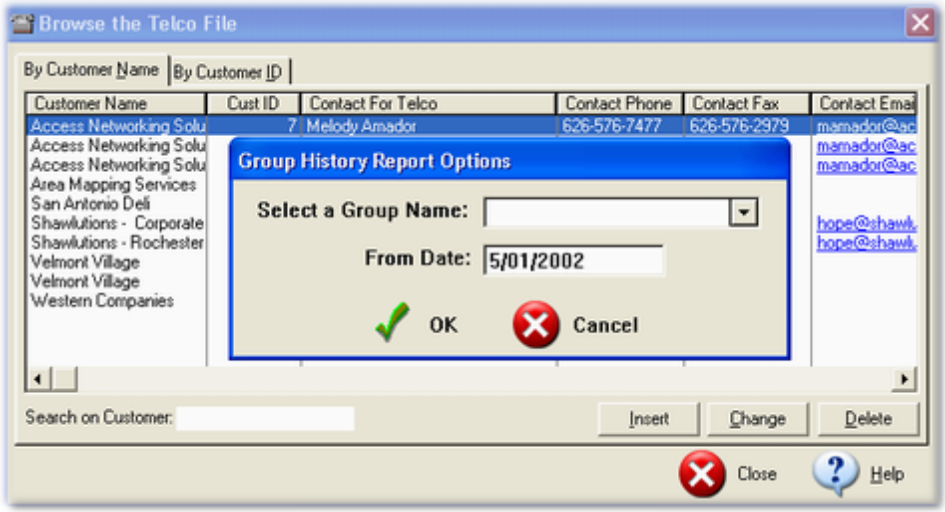
1.18.2 Help Desk & History Reports

[**Customer Telco History Report**]

The Customer Telco History Report shows all history or help desk entries for a selected account. To print this report, first select the appropriate record in Browse the Telco file window.

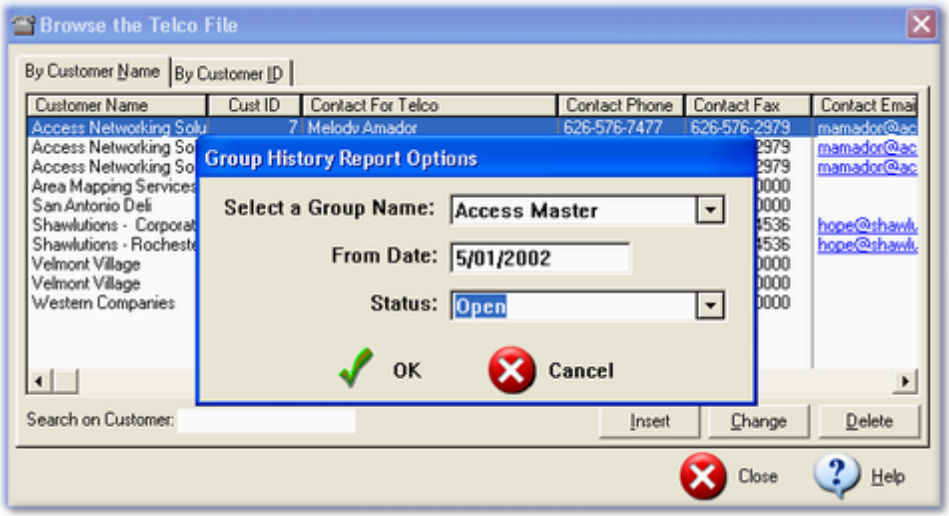


[**Group History Report**]



The Group History Report is filtered by a user defined Group Name. To print this report, first select the appropriate record in Browse the Telco file window. Next, enter the appropriate Group Name in the Group selection window.

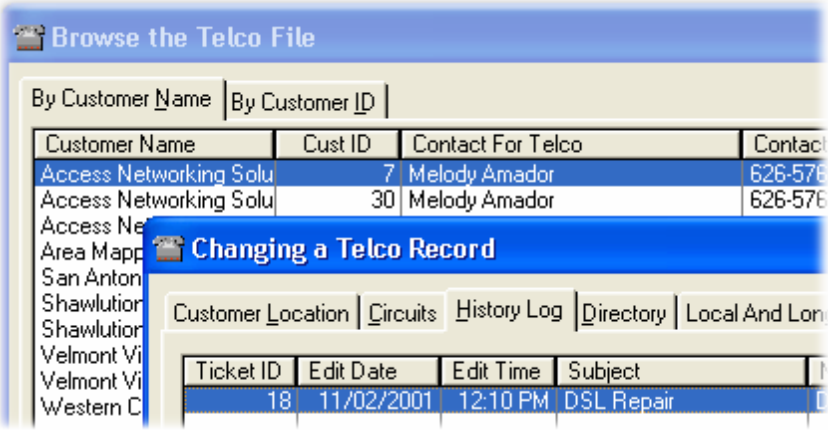
[**Group History Report By Status**]



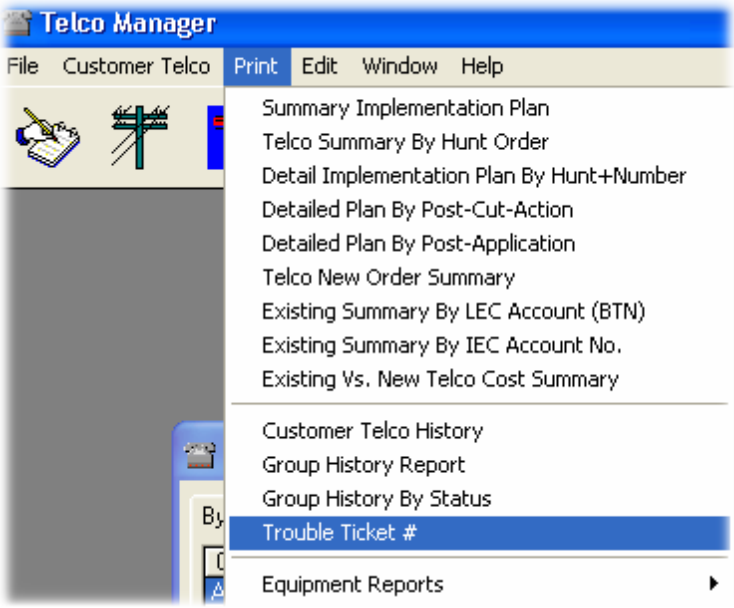
The **Group History By Status Report** is filtered by a user defined Group Name and ticket status. To print this report, first select the appropriate record in Browse the Telco file window. Next, enter the appropriate Group Name and the desired status in the Group selection window.

1.18.3 Trouble Ticket Report

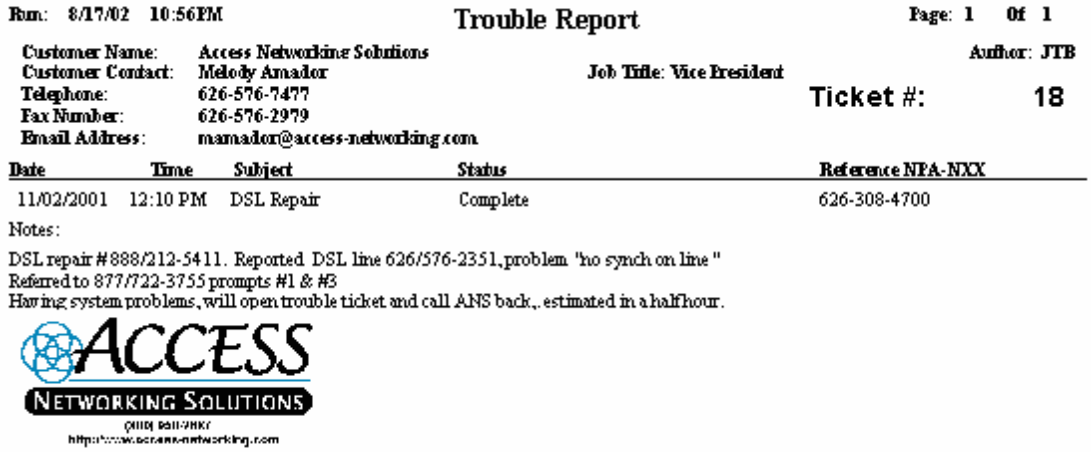
To print a **Trouble Ticket** first select a Telco Account.



Next select the **Print > Trouble Ticket#** print option.



Sample Trouble Ticket appears below:



Run: 8/17/02 10:56PM **Trouble Report** Page: 1 Of 1

Author: JTB

Customer Name: Access Networking Solutions
Customer Contact: Melody Amador
Job Title: Vice President
Telephone: 626-576-7477
Fax Number: 626-576-2979
Email Address: mamador@access-networking.com

Ticket #: 18

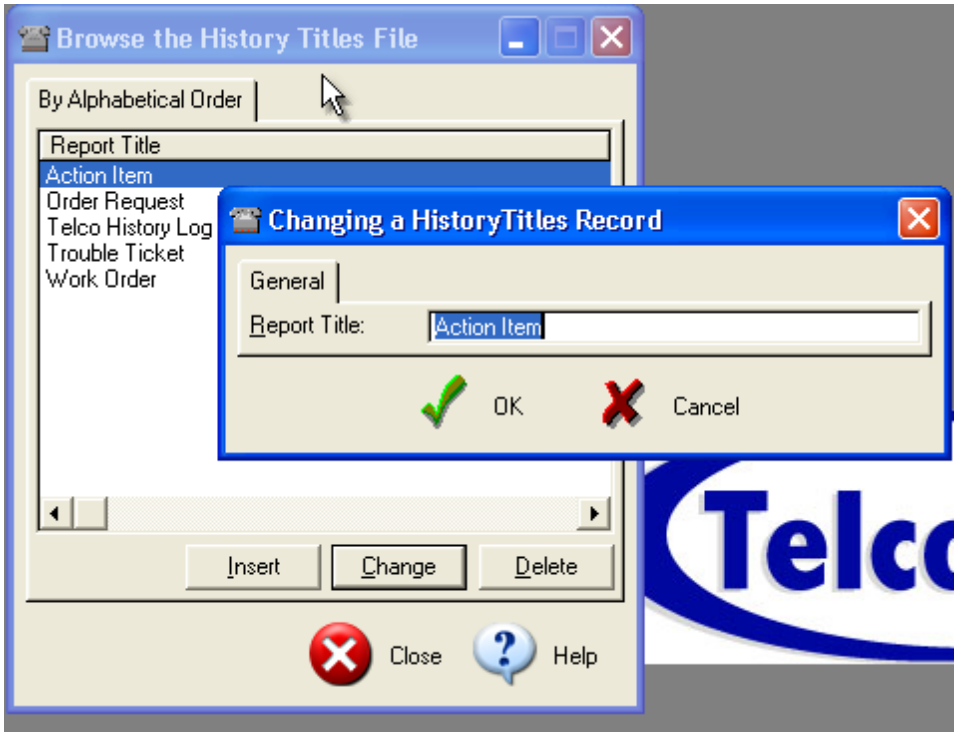
Date	Time	Subject	Status	Reference NPA-NXX
11/02/2001	12:10 PM	DSL Repair	Complete	626-308-4700

Notes:

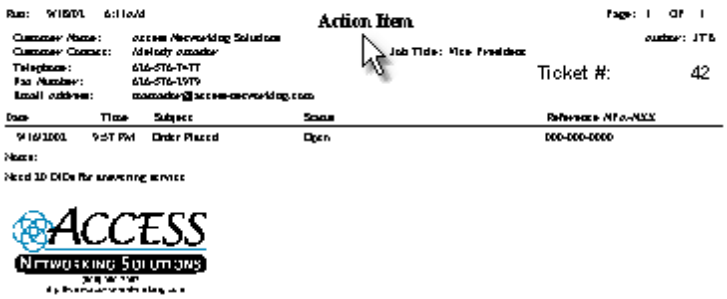
DSL repair # 888/212-5411. Reported DSL line 626/576-2351, problem "no synch on line"
Referred to 877/722-3755 prompts #1 & #3
Having system problems, will open trouble ticket and call ANS back,. estimated in a half hour.

ACCESS NETWORKING SOLUTIONS

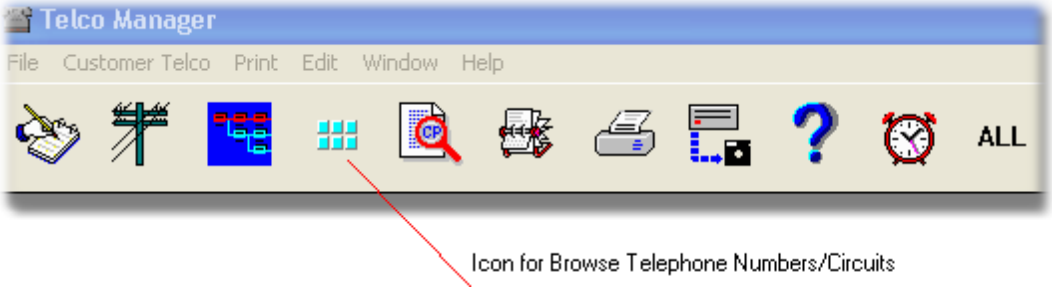
1.18.4 History Report Titles



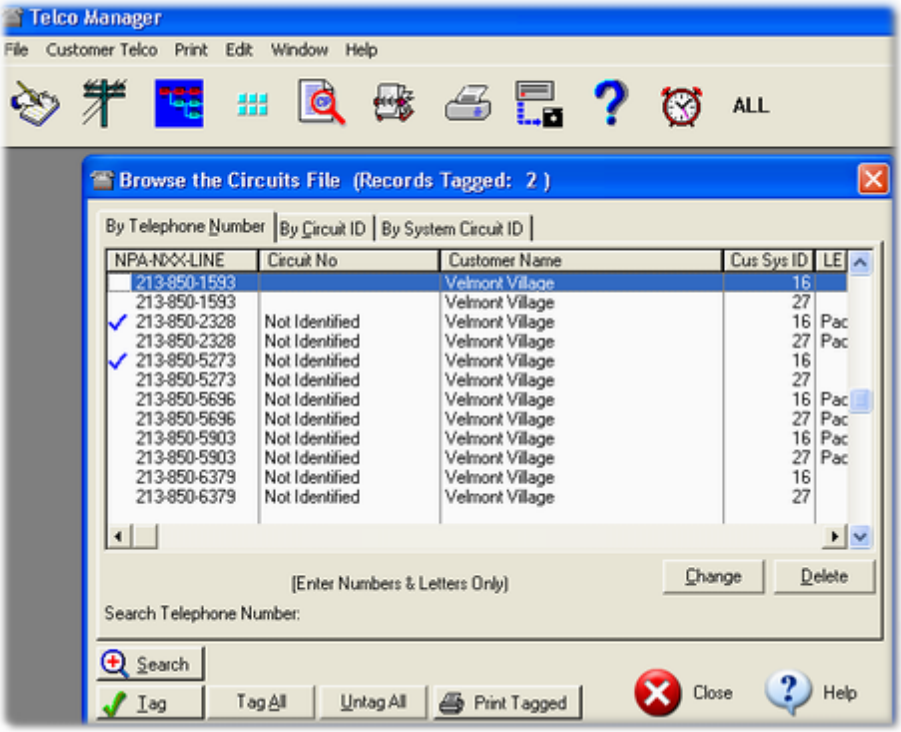
The History/Help Desk Tickets may be customized with a more suitable title.



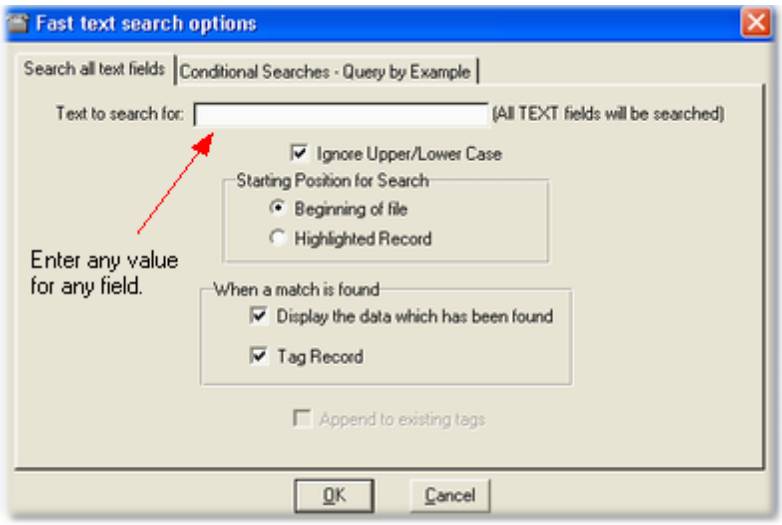
1.18.5 Telephone and Circuit ID Reports



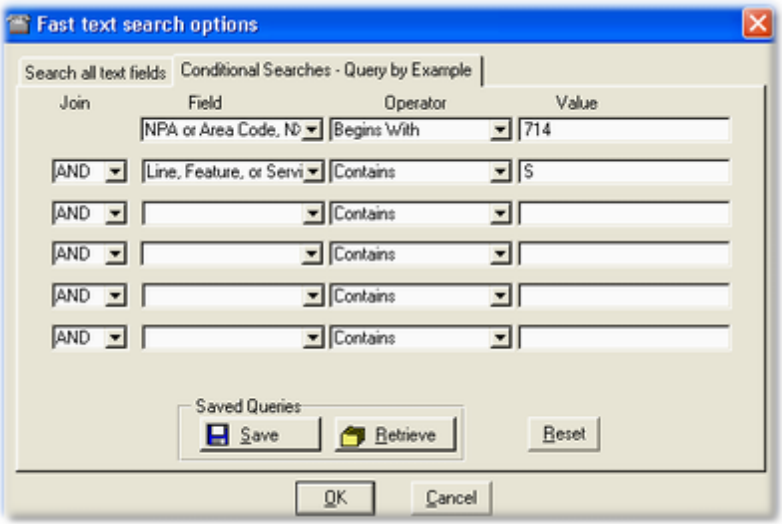
Use the Telephone Number and Circuit ID browse window to create a report for user defined report criteria.



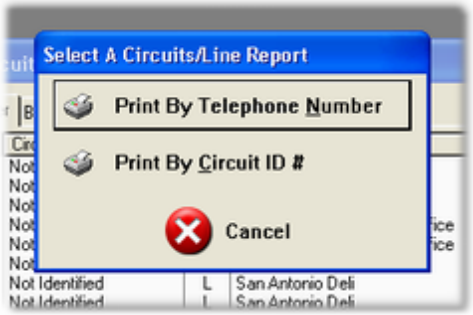
Use the [Search] button to query the **Circuits File** for your own criteria.



Use the [**Text to search for**:] field find a particular telephone number or circuit ID. An entry in this field can be used to search the value in any field in the Circuits File.



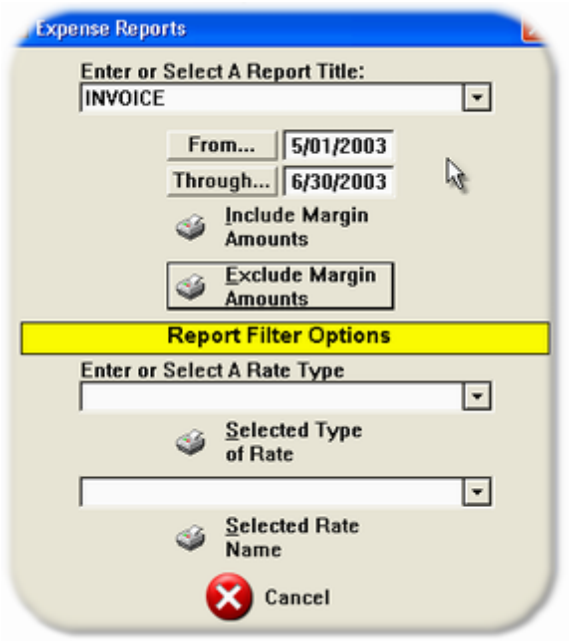
Select the [**Conditional Searches** - Query by Example] to narrow your **tagged browse**.



The records tagged may be printed in order of the telephone number or the circuit ID number.

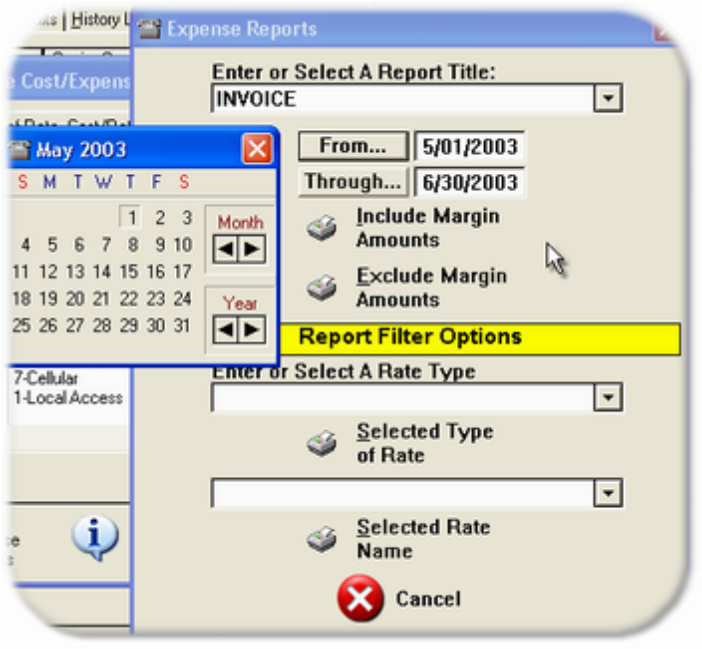
1.18.6 Expense Report

Expense Reports may be printed with **user-defined report titles.**



The **Expense Report** may be printed according to a **user-defined date range.**

Optionally, the [**From...**] or [**Through...**] buttons open a **Calendar** for a date selection.



Optionally, the **end-user** may print the report with or with the **Margin Amounts**. The following sample report with the title **Invoice** shows the **Margin** computed for each **Rate Type**, **Margin subtotals** and **Margin grand totals** are also shown.

ACCESS NETWORKING SOLUTIONS
(800) 950-2687
http://www.access-networking.com

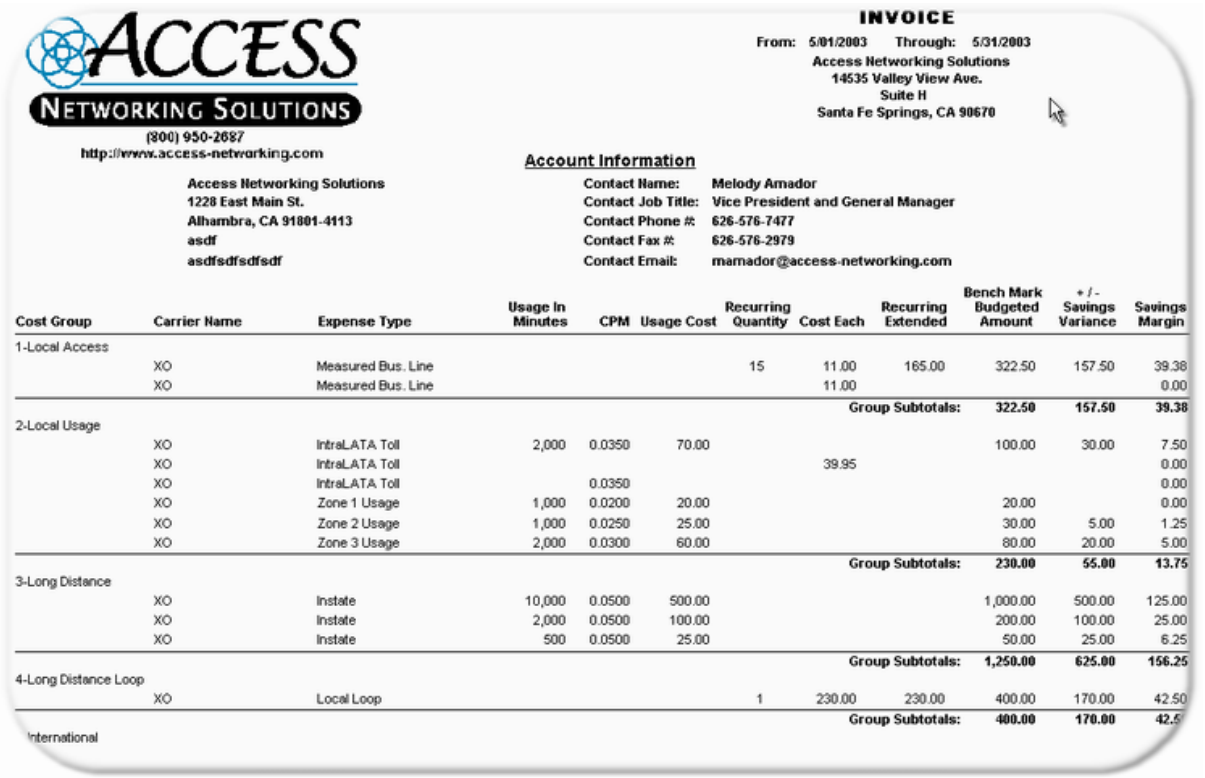
INVOICE
From: 5/01/2003 Through: 5/31/2003
Access Networking Solutions
14535 Valley View Ave.
Suite H
0, 0 1269380

Account Information

Access Networking Solutions
1228 East Main St.
Alhambra, CA 91801-4113
asdf
asdfsdfsdfsdf

Contact Name: Melody Amador
Contact Job Title: Vice President and General Manager
Contact Phone #: 626-576-7477
Contact Fax #: 626-576-2979
Contact Email: mamador@access-networking.com

Cost Group	Carrier Name	Expense Type	Usage In Minutes	CPM	Usage Cost	Recurring Quantity	Cost Each	Recurring Extended	Bench Mark Budgeted Amount	+ / - Savings Variance	Savings Margin
	XO	International-Canada	500	0.1500	75.00				100.00	25.00	6.25
	XO	International-MX	500	0.2000	100.00				125.00	25.00	6.25
								Group Subtotals:	225.00	50.00	12.50
7-Cellular											
	Nextel	JT Bogle Cellphone				1	39.95	39.95	59.95	20.00	5.00
	Nextel	JT Bogle Cellphone				1	39.95	39.95	59.95	20.00	5.00
	Nextel	Pete's Cellphone				1	39.95	39.95	49.95	10.00	2.50
								Group Subtotals:	169.85	50.00	12.50
								Grand Totals:	2,597.35	1,107.50	276



ACCESS NETWORKING SOLUTIONS
(800) 950-2687
http://www.access-networking.com

INVOICE
From: 5/01/2003 Through: 5/31/2003
Access Networking Solutions
14535 Valley View Ave.
Suite H
Santa Fe Springs, CA 90670

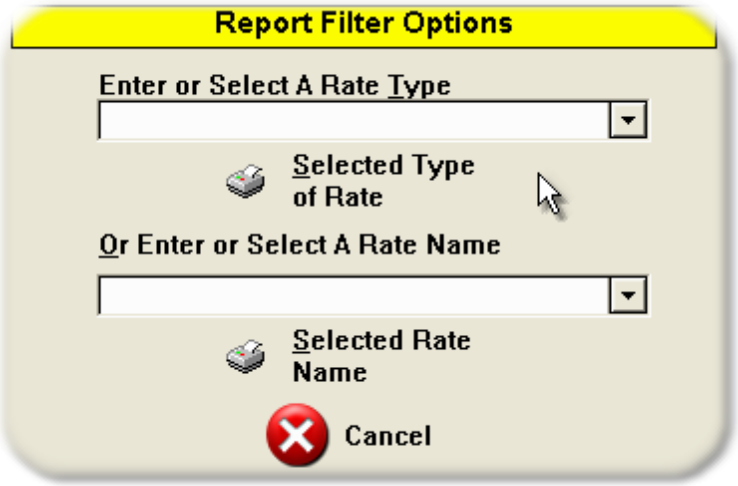
Account Information

Access Networking Solutions
1228 East Main St.
Alhambra, CA 91801-4113
asdf
asdfsdfsdfsdf

Contact Name: Melody Amador
Contact Job Title: Vice President and General Manager
Contact Phone #: 626-576-7477
Contact Fax #: 626-576-2979
Contact Email: mamador@access-networking.com

Cost Group	Carrier Name	Expense Type	Usage In Minutes	CPM	Usage Cost	Recurring Quantity	Cost Each	Recurring Extended	Bench Mark Budgeted Amount	+ / - Savings Variance	Savings Margin
1-Local Access											
	XO	Measured Bus. Line				15	11.00	165.00	322.50	157.50	39.38
	XO	Measured Bus. Line					11.00				0.00
								Group Subtotals:	322.50	157.50	39.38
2-Local Usage											
	XO	IntraLATA Toll	2,000	0.0350	70.00				100.00	30.00	7.50
	XO	IntraLATA Toll					39.95				0.00
	XO	IntraLATA Toll		0.0350							0.00
	XO	Zone 1 Usage	1,000	0.0200	20.00				20.00		0.00
	XO	Zone 2 Usage	1,000	0.0250	25.00				30.00	5.00	1.25
	XO	Zone 3 Usage	2,000	0.0300	60.00				80.00	20.00	5.00
								Group Subtotals:	230.00	55.00	13.75
3-Long Distance											
	XO	Instate	10,000	0.0500	500.00				1,000.00	500.00	125.00
	XO	Instate	2,000	0.0500	100.00				200.00	100.00	25.00
	XO	Instate	500	0.0500	25.00				50.00	25.00	6.25
								Group Subtotals:	1,250.00	625.00	156.25
4-Long Distance Loop											
	XO	Local Loop				1	230.00	230.00	400.00	170.00	42.50
								Group Subtotals:	400.00	170.00	42.5
International											

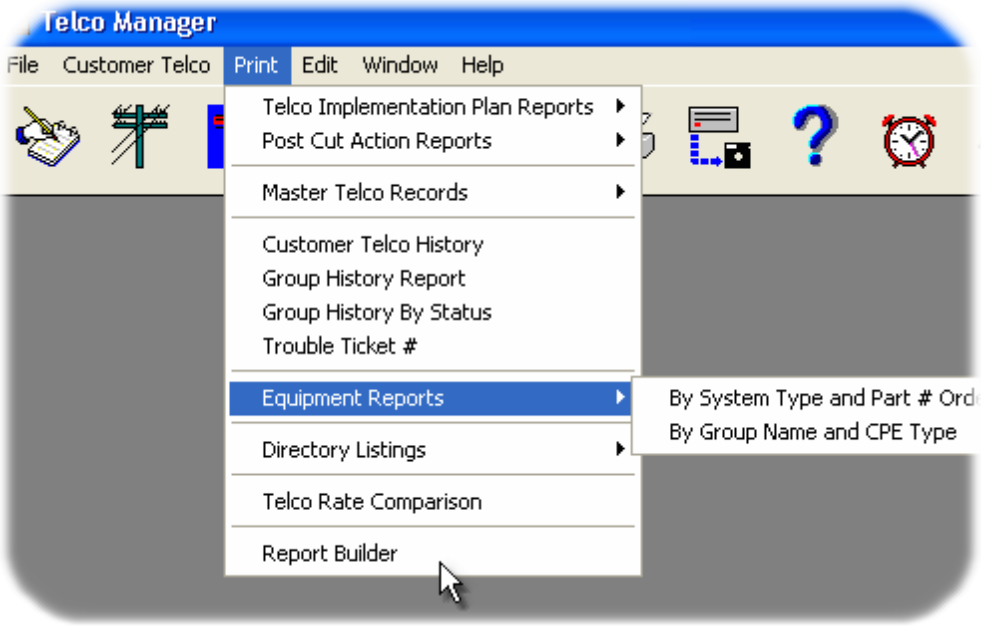
Expense Report Filter Options



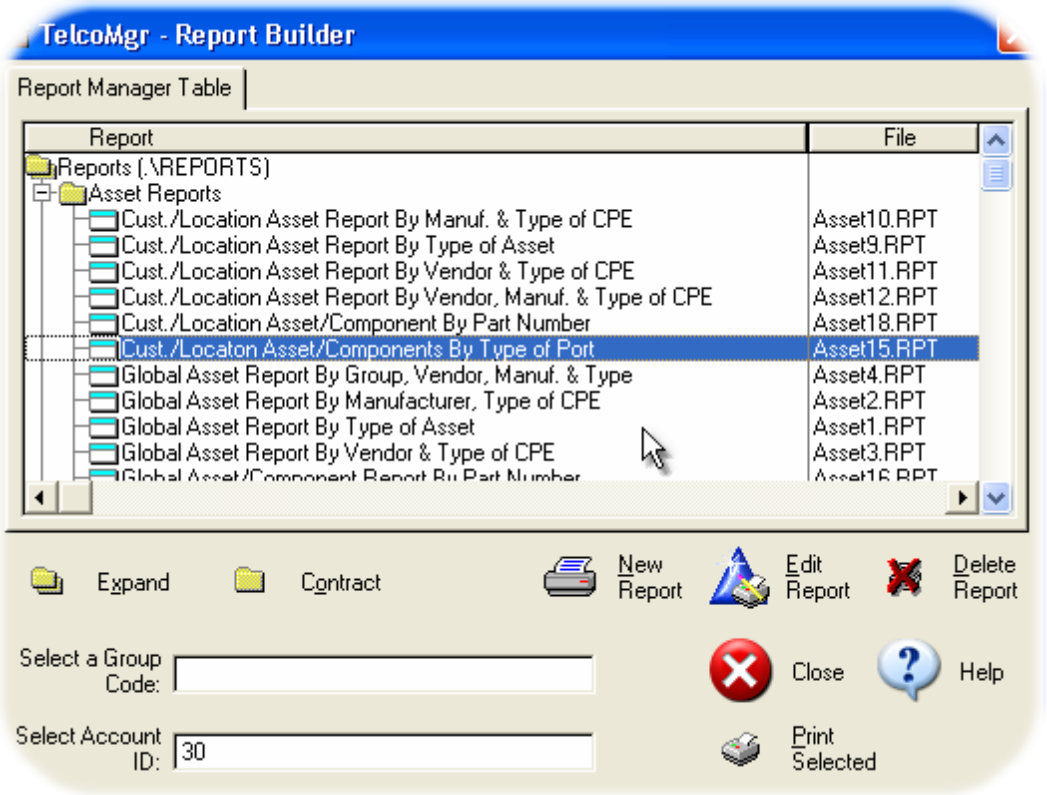
The **Expense Reports** may be filtered by the **Rate Type** or the **Rate Name.**

1.18.7 Asset Reports

TelcoMgr provides serveral detailed **Asset Reports**.



Additional **Assets Reports** are available in the **TelcoMgr Professional Site License** version.



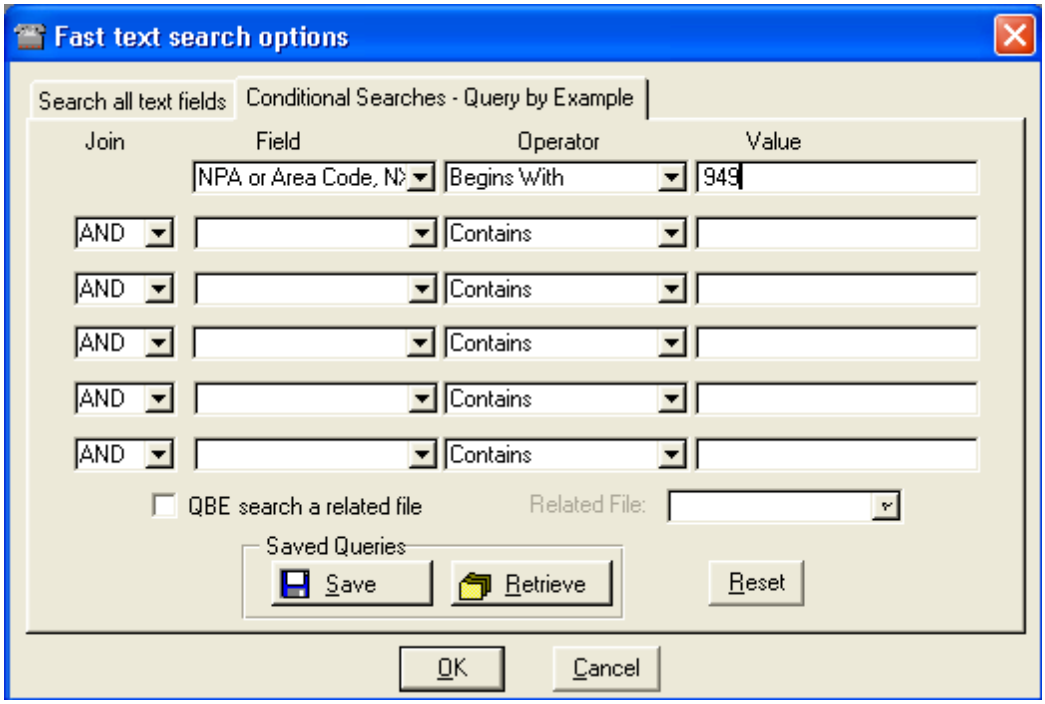
1.19 Query By Example

Support for **query by example** (**QBE**) is provided for the following databases:

- Circuits file
- History file

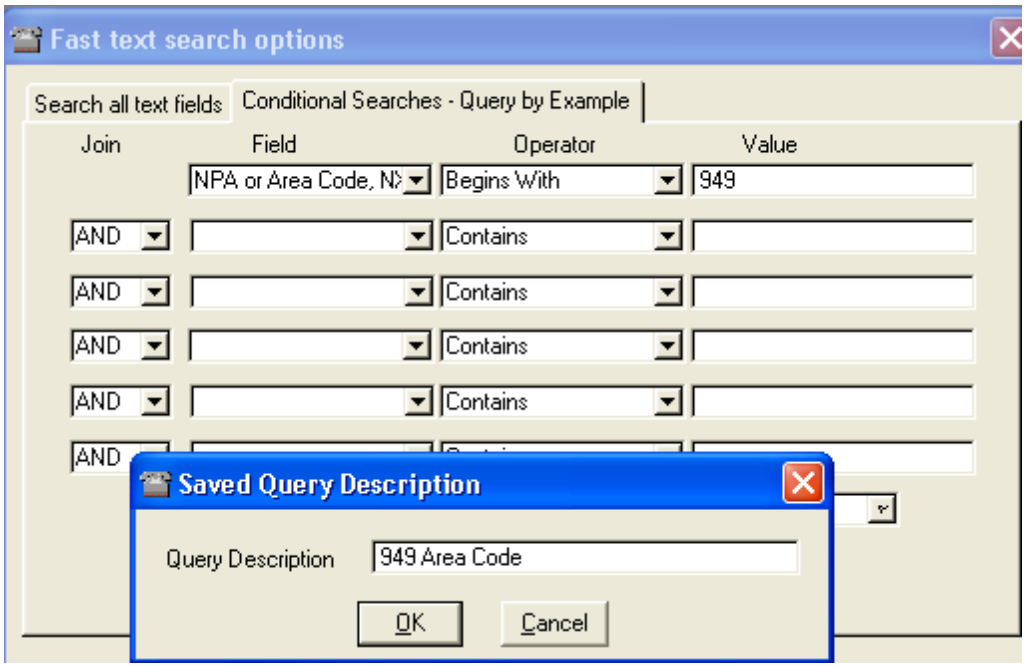
The **QBE** window is opened by selecting one of the **TelcoMgr** [**Search**] buttons that appears in the example below:

By selecting the [**Search**] buttons the **QBE criteria** the window will open as shown below:

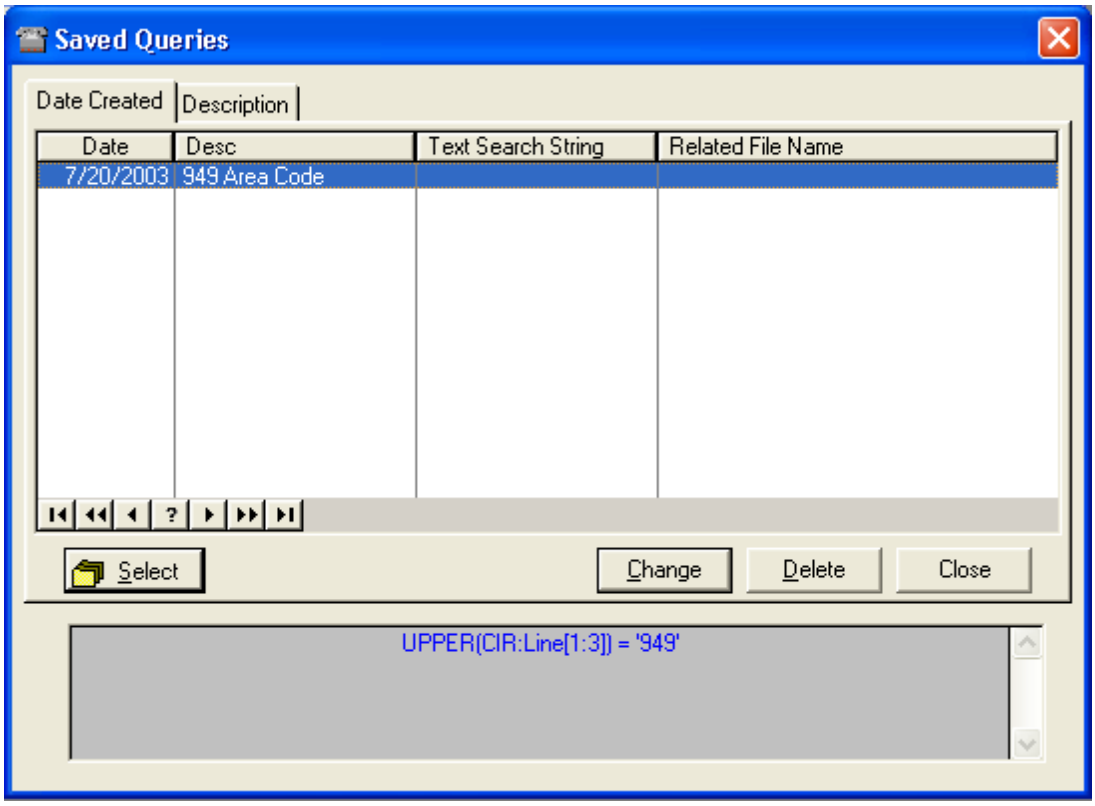


Use the [**Search all text fields**] tab to look for general alpha or numeric values. The [**Conditional Searches - Query by Example**] tab may be used to narrow the data by the criteria entered into the **Field, Operator or Value fields**.

QBE criterias may be saved for repetitive use by selecting the [**Save**] button as shown in the example below:



QBE criterias may be retrieved for by selecting the [**Retrieve**] button that opens the **Saved Queries** as shown in the example below:



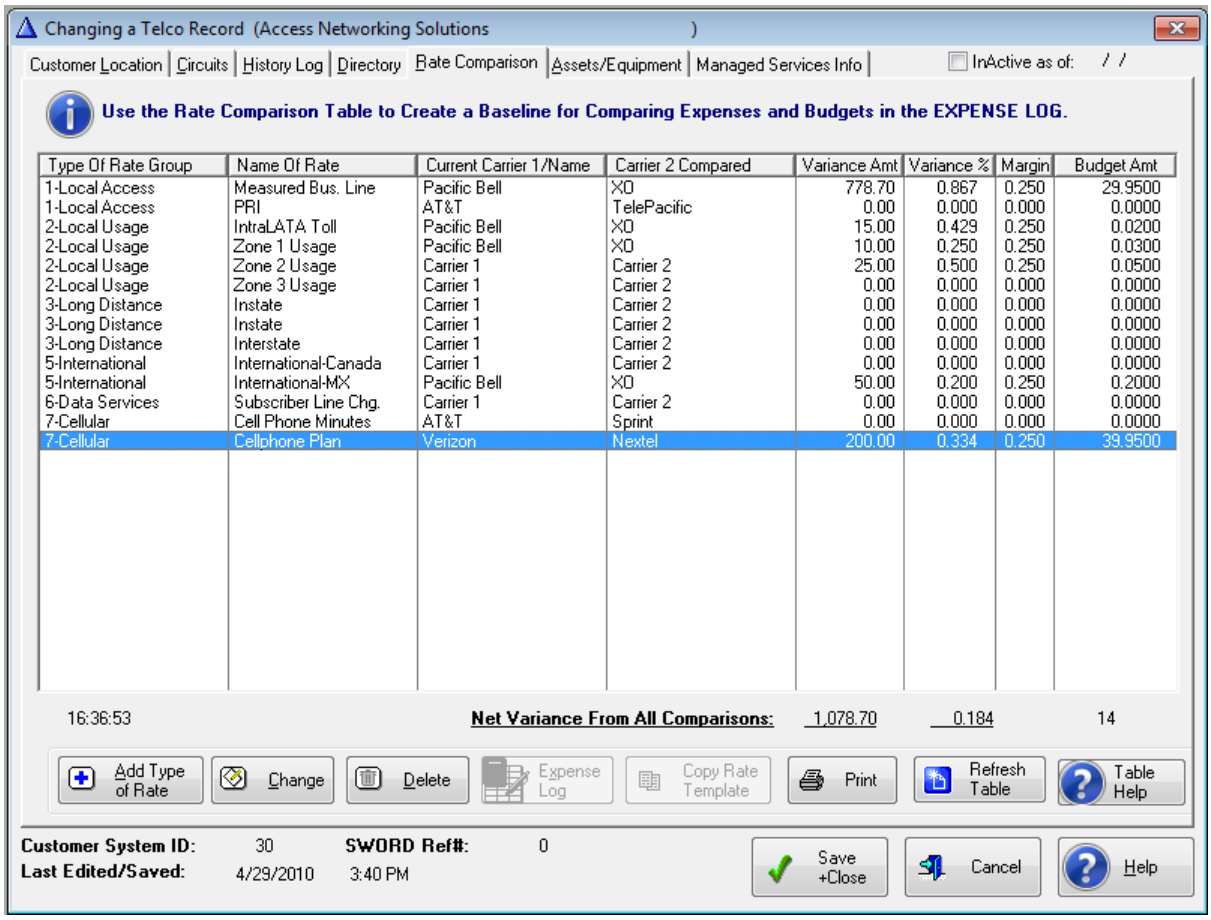
User Tip: Use the [**Reset**] button to clear all fields.

1.20 Rate Comparisons

Tutorial

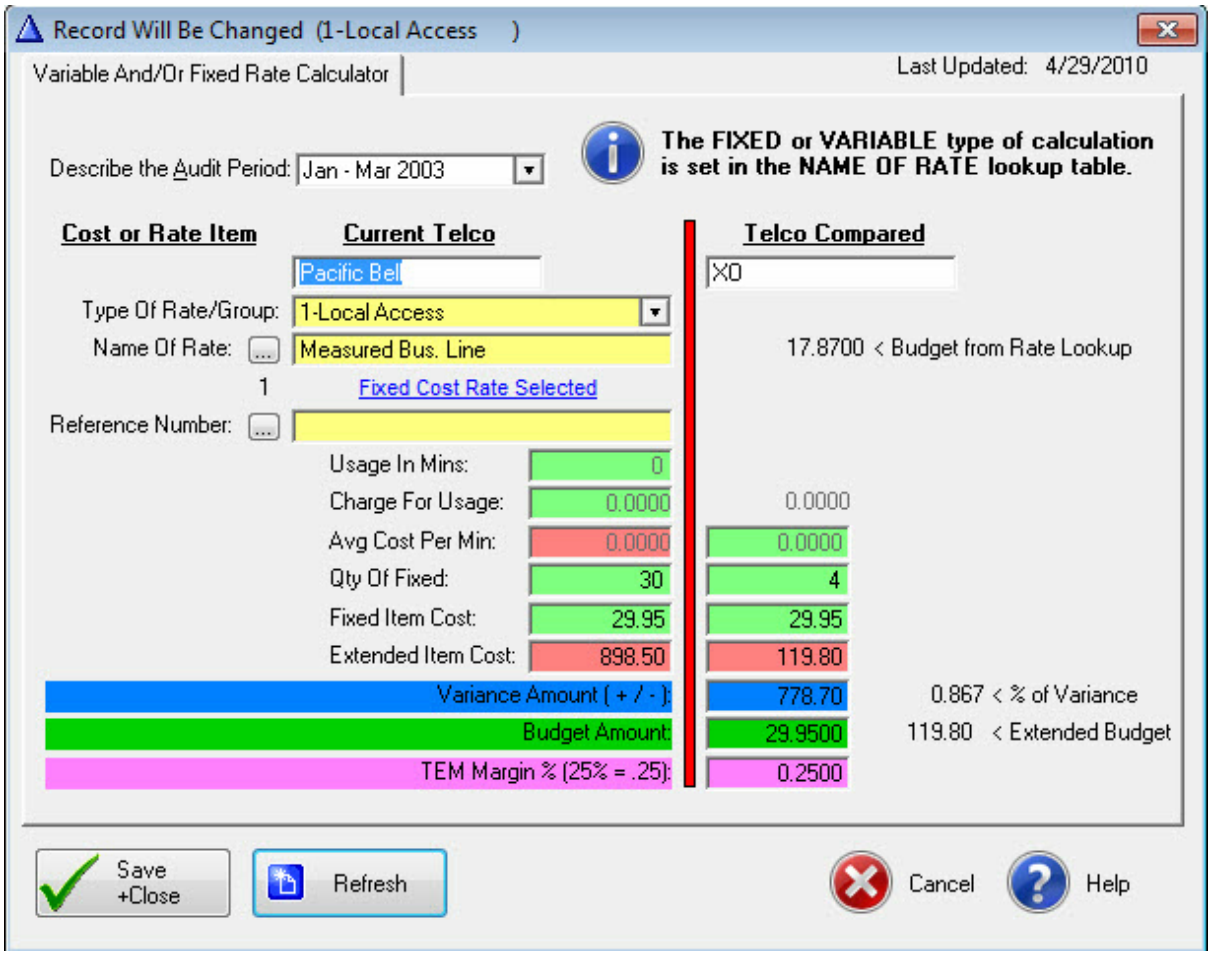
Select the [**Rate Comparison**] Tab.

A **Rate Comparison** can be constructed in this window or a pre-built **Rate Comparison Template** can be copied from the **Rate Comparison Template library**.



Type Of Rate Group	Name Of Rate	Current Carrier 1/Name	Carrier 2 Compared	Variance Amt	Variance %	Margin	Budget Amt
1-Local Access	Measured Bus. Line	Pacific Bell	XO	778.70	0.867	0.250	29.9500
1-Local Access	PRI	AT&T	TelePacific	0.00	0.000	0.000	0.0000
2-Local Usage	IntraLATA Toll	Pacific Bell	XO	15.00	0.429	0.250	0.0200
2-Local Usage	Zone 1 Usage	Pacific Bell	XO	10.00	0.250	0.250	0.0300
2-Local Usage	Zone 2 Usage	Carrier 1	Carrier 2	25.00	0.500	0.250	0.0500
2-Local Usage	Zone 3 Usage	Carrier 1	Carrier 2	0.00	0.000	0.000	0.0000
3-Long Distance	Instate	Carrier 1	Carrier 2	0.00	0.000	0.000	0.0000
3-Long Distance	Instate	Carrier 1	Carrier 2	0.00	0.000	0.000	0.0000
3-Long Distance	Interstate	Carrier 1	Carrier 2	0.00	0.000	0.000	0.0000
5-International	International-Canada	Carrier 1	Carrier 2	0.00	0.000	0.000	0.0000
5-International	International-MX	Pacific Bell	XO	50.00	0.200	0.250	0.2000
6-Data Services	Subscriber Line Chg.	Carrier 1	Carrier 2	0.00	0.000	0.000	0.0000
7-Cellular	Cell Phone Minutes	AT&T	Sprint	0.00	0.000	0.000	0.0000
7-Cellular	Cellphone Plan	Verizon	Nextel	200.00	0.334	0.250	39.9500

To construct a **Rate Comparison Table** select the [Insert Button] a the **Telco Rate Calculator** or **Rate Edit window** will open. We recommend for users to create the Type of Rate (aka Rate Group Names) and the Name of Rate (aka Telco Rate/Zone Name, Rate Name) lookup tables before creating the first Rate Comparison for a Customer/location.



Rate Comparison Edit Window handles Fixed or Variable Charges

Describe the [**Audit Period**] for the comparison.

Enter the [**Current Telco**] name and the name [**Telco Compared**].

In the [**Type Of Rate**] field enter '1-Local Access'. Alternately you may select from the drop-down box. The number 1 is entered before the Group Name to 'group' or list rate items together on the Rate Comparison report and the previous browse window.

In the [**Name of Rate**] field enter 'Measured Bus. Line' Enter '20' into the [**Qty of Fixed**] cost items. Enter $20.00 in the [**Fixed Item Cost**] field. The [**Extended Item Cost**] field is automatically calculated.

Use the [**Refnumber**] field to further identify a specific service. The [**Select**] button will open a window of the **Lines**, **Features** and **Services** associated with the Account.

The [**Variance Amount (+/ -)**] is computed by the formula (**Current Telco Extended Usage or Extended Item Amount - Telco Compared Extended Usage or Extended Item Amount)**. A positive number represents a savings and negative (-) number represents an increase over the Current Amount.

The [**Variance Percent (+ / -)**] is computed by the formula (**Variance Amount/Current Telco Extended Usage or Extended Item Amount.**

The [**Budget Amount**] field should represent the quantity one cost of an entry; the cost of one minute if a variable cost or the cost of one item or service if a fixed, or recurring cost.

The **Extended Budget** (not shown) amount equals the **Budget Amount** multiplied times the quantity of fixed items or times the usage in minutes.

The [**Margin**] represents a percentage amount of the formula ((**Extended Budget Amount** - **Extended Actual Amount)** * **Margin))**. **Margin** amounts are computed in the **Expense Log** window and reported on the **Expense Reports**. The **Margin** can be used as an incentive for an individual, or team bonus, or commission for an independent consultant.

Tutorial Summary

Under the [**Telco Compared**] column enter $21.50 into the [**Fixed Item Cost**] field. The [**Extended Item Cost**] field under the [**Telco Compared**] column is automatically calculated. The Variance Amount and the Variance Percent are automatically computed. The formula for the Variance is the Current Extended Cost - Compared Extended Cost. A positive number represents a savings to you and a negative number represents a cost increase.

Select [Save +Close] to save the record.

Select the [**Insert**] button again to add the next rate comparison. When the Rate Calculator window opens you will notice that the [Current Telco] and [Telco Compared] fields have been automatically entered. These may be changed if necessary.

1. From the drop-down list select '1-Local Usage'.
2. Enter 'IntraLATA Toll' in the [Name of Rate] field.
3. Enter '800' in the [Usage In Mins] field.
4. Enter '40.00' in the [Charge For Usage] field.
5. The [Avg. Cost Per Min] is automatically computed.
6. In the [Telco Compared] column in the [Avg. Cost Per Min] field enter '.045'. Essentially, this should be the amount that has been offered/quoted by the Telco that is being Compared. Note that the [Charge For Usage] under the [Telco Compared] column is automatically computed. The formula is the Current Telco [Usage in Mins] times the Compared Telco [Avg. Cost Per Min].
7. The Variance Amount and Percent are automatically computed.

Repeat the process for each Type Of Rate and Name of Rate that you wish to compare. A complete Rate Comparison Table is shown below:

To print your completed **Rate Comparison Table** select the [Print] option from the Main Menu.

A sample Telco Rate Comparison Report is shown below:

Run: 7/04/03 4:04PM

Customer Telco Rate Comparison

Page: 1 Of 2

Customer Information:

Organization:	Access Networking Solutions
Contact:	Melody Amador
Contact Job Title:	Vice President and G
Phone/Fax Number:	626-576-7477 626-576-2979
Email Address:	mamador@access-networking.com

Existing Service Location:
1228 East Main St.
Alhambra, CA 91801-4113
asdf
asdfdfdfdfdf

New Service Location:
Same

Telco Carrier Information:

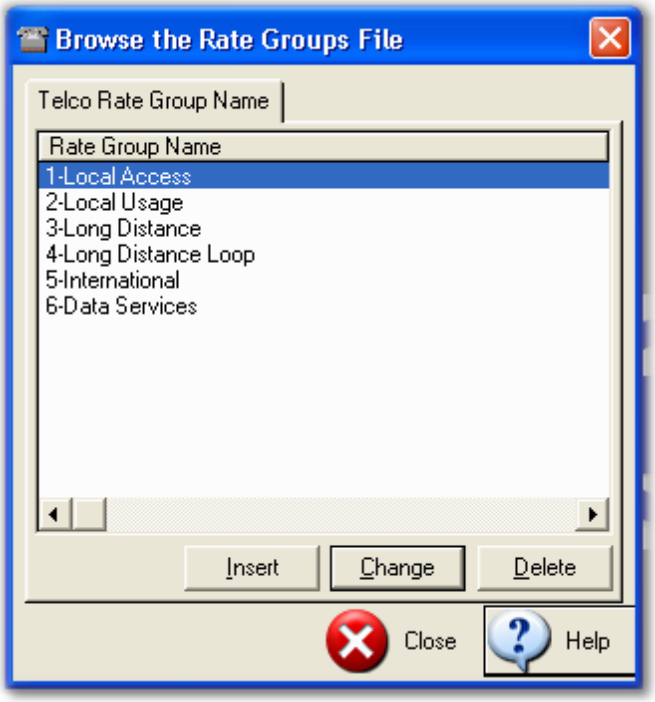
	Name	Account Number	Bill-To-Name	PIC
Local Exchange Carrier:	Tele Pacific	1492	Same	1015145
Long Distance Carrier:	AT&T		Same	1010387

Telco Rate Name	Updated	Type	Current Carrier					Carrier Compared				Variance $& %
1-Local Access - Rate Group												
				Quantity	Amt.Each	Extended			Quantity	Amt.Each	Extended	
Measured Bus. Line	7/04/2003	F	Pacific Bell	30	21.5000	645.00	NO		25	11.0000	275.00	370.00 0.574
			Subtotal for Group:	30		645.00			25		275.00	370.00 0.574
2-Local Usage - Rate Group												
				Minutes	—CPM—	Usage Charge			Minutes	—CPM—	Usage Charge	
IntraLATA Toll	5/25/2003	V	Pacific Bell	1,000	0.0500	50.00	NO		1,000	0.0400	35.00	15.00 0.300
Zone 1 Usage	7/04/2003	V	Pacific Bell	1,000	0.0400	35.00	NO		1,000	0.0200	20.00	15.00 0.429
Zone 2 Usage	7/04/2003	V	Pacific Bell	1,000	0.0300	30.00	NO		1,000	0.0300	25.00	5.00 0.167
Zone 3 Usage	7/04/2003	V	Pacific Bell	1,000	0.0400	40.00	NO		1,000	0.0300	30.00	10.00 0.250
			Subtotal for Group:	4,000		155.00			4,000		110.00	45.00 0.290
3-Long Distance - Rate Group												
				Minutes	—CPM—	Usage Charge			Minutes	—CPM—	Usage Charge	
Instate	7/04/2003	V	Pacific Bell	500	0.1000	50.00	NO		500	0.0500	25.00	25.00 0.500
			Subtotal for Group:	500		50.00			500		25.00	25.00 0.500
4-Long Distance Loop - Rate Group												
				Quantity	Amt.Each	Extended			Quantity	Amt.Each	Extended	
Local Loop	5/25/2003	F	Pacific Bell	1	400.0000	400.00	NO		1	230.0000	230.00	170.00 0.425
			Subtotal for Group:	1		400.00			1		230.00	170.00 0.425
5-International - Rate Group												
				Minutes	—CPM—	Usage Charge			Minutes	—CPM—	Usage Charge	
International-Canada	5/25/2003	V	Pacific Bell	1,000	0.2000	200.00	NO		1,000	0.1500	150.00	50.00 0.250
International-MX	5/25/2003	V	Pacific Bell	1,000	0.2500	250.00	NO		1,000	0.2000	200.00	50.00 0.200
			Subtotal for Group:	2,000		450.00			2,000		350.00	100.00 0.222

Access Networking Solutions Voice: 626-576-7477 Fax: 626-576-2979 Web Address: http://www.access-networking.com

Related Topics: [Expense Management and Tracking: Tutorial](#) [Outline for Tracking Expenses](#)

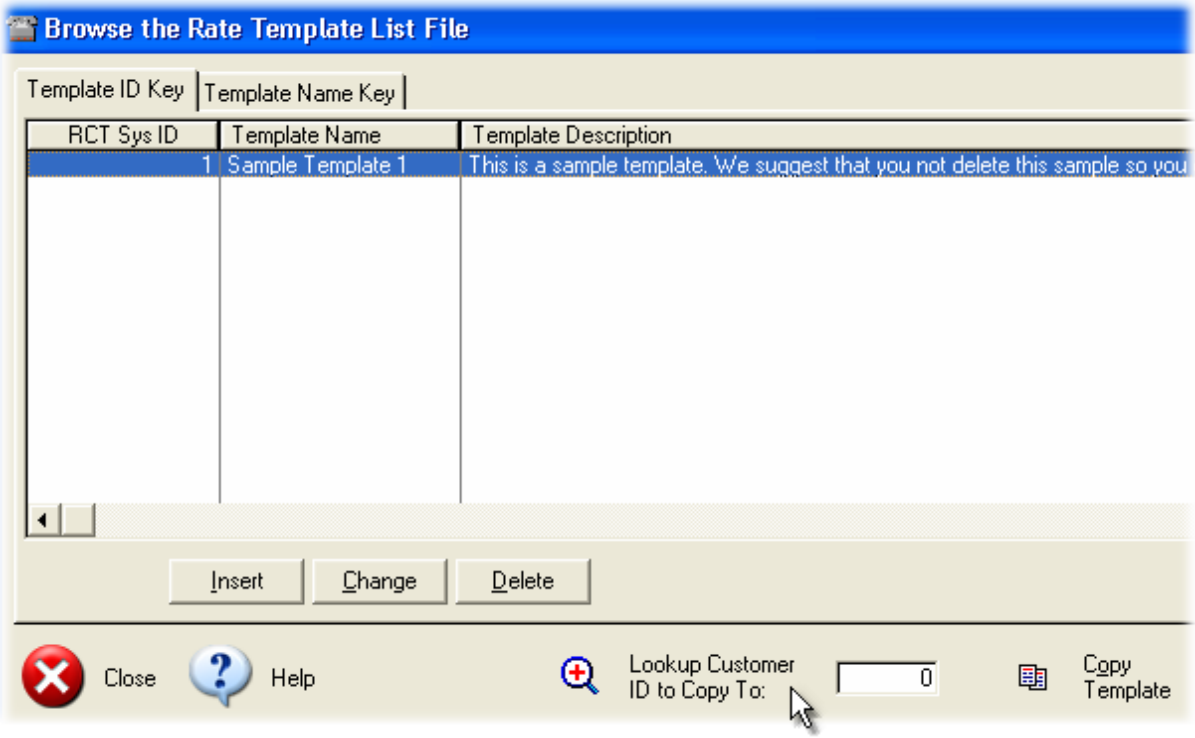
1.20.1 Browse Group Rates Types



Group Rate Types is related to the type of charges or rates that a Telephone Company **Carrier bills** for its services. The **Group Rate Name** is sorted by alpha/numeric order. Therefore, you may customize the Rate Name in order to display the list and rate comparison reports in a specific order.

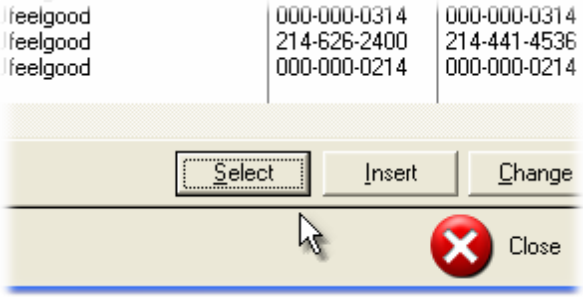
1.20.2 Copying A Rate Comparison Template

A **Rate Comparison Template** may be copied from the **Rate Template Table** window or the **Location - Rate Comparison** window.

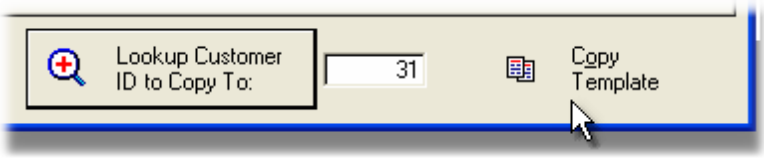


Steps to Copy an RCT from the RCT list window:

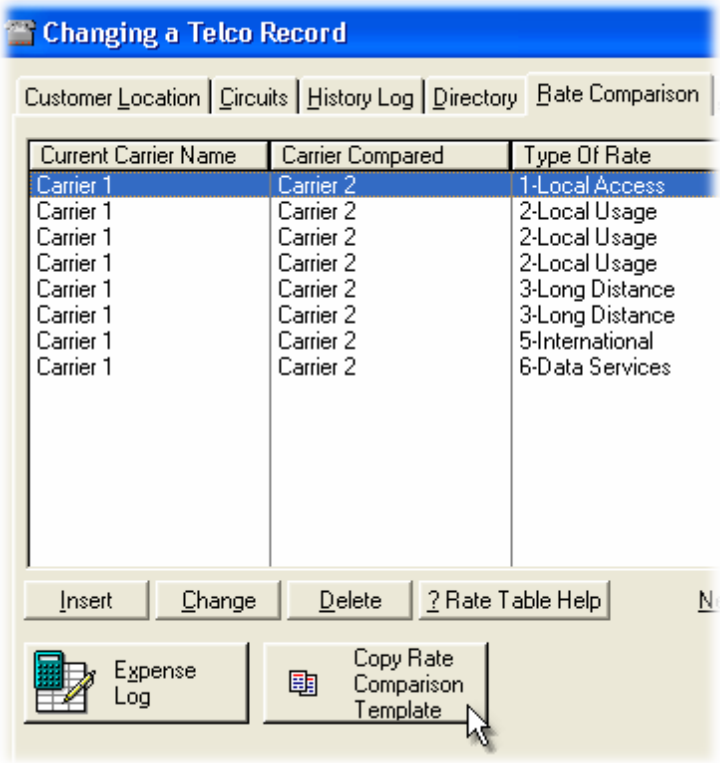
1. Select the Template with the highlight or scroll bar.
2. Select the [**Lookup Customer ID to Copy To:**] button.
3. Using the highlight bar or scroll bar, select the appropriate Customer/Location record.



4. Select the [**Copy Template**] button.

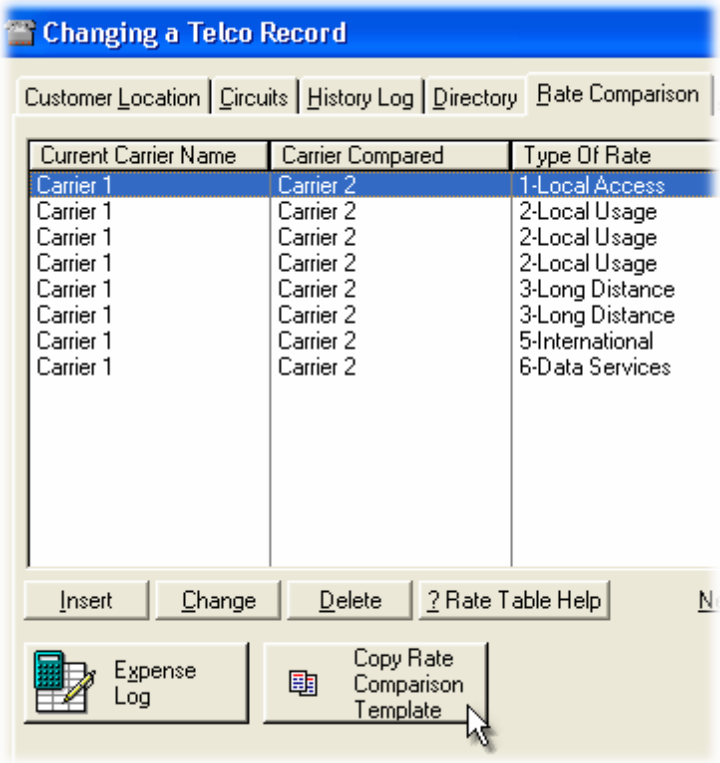


5. The **Template Items** are copied to the Customer/Location Rate Comparison Table.

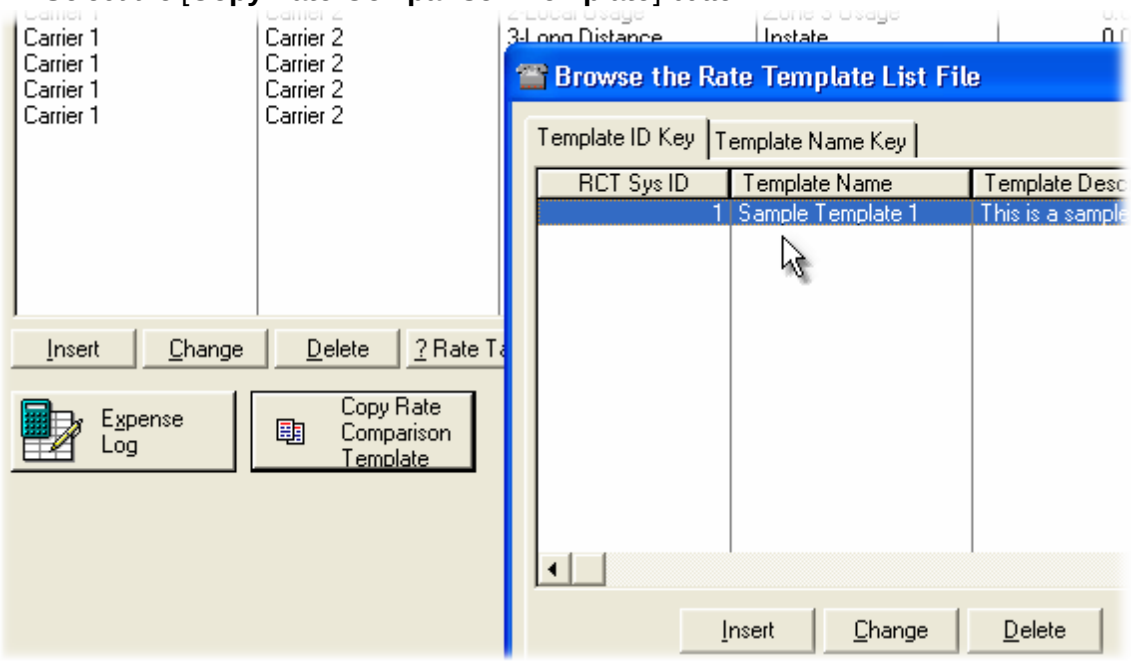


1.20.3 Copying an RCT from a Customer/Location

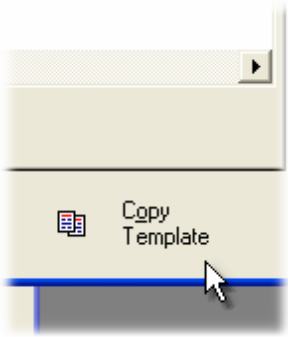
To copy a **Rate Comparison Template** from the Customer/Location record and **Rate Comparison Table**, follow the steps below:



1. Open the appropriate Customer/Location record and the **Rate Comparison tab**.
2. Select the [**Copy Rate Comparison Template**] button.

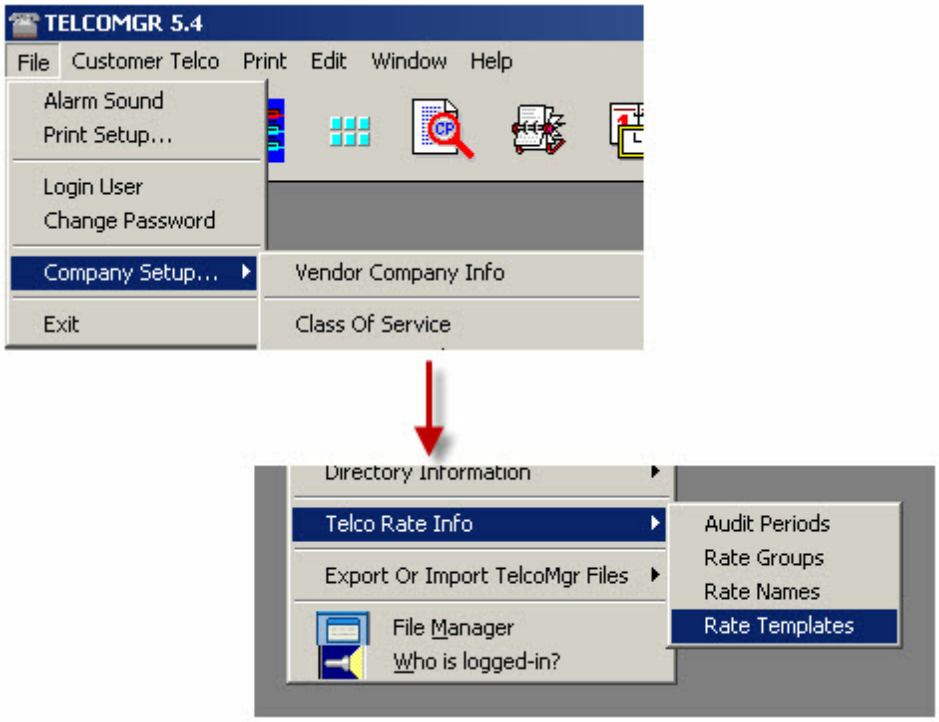


3. Select the appropriate RCT by using the highlight or scroll bar.
4. Select the [**Copy Template**] button.



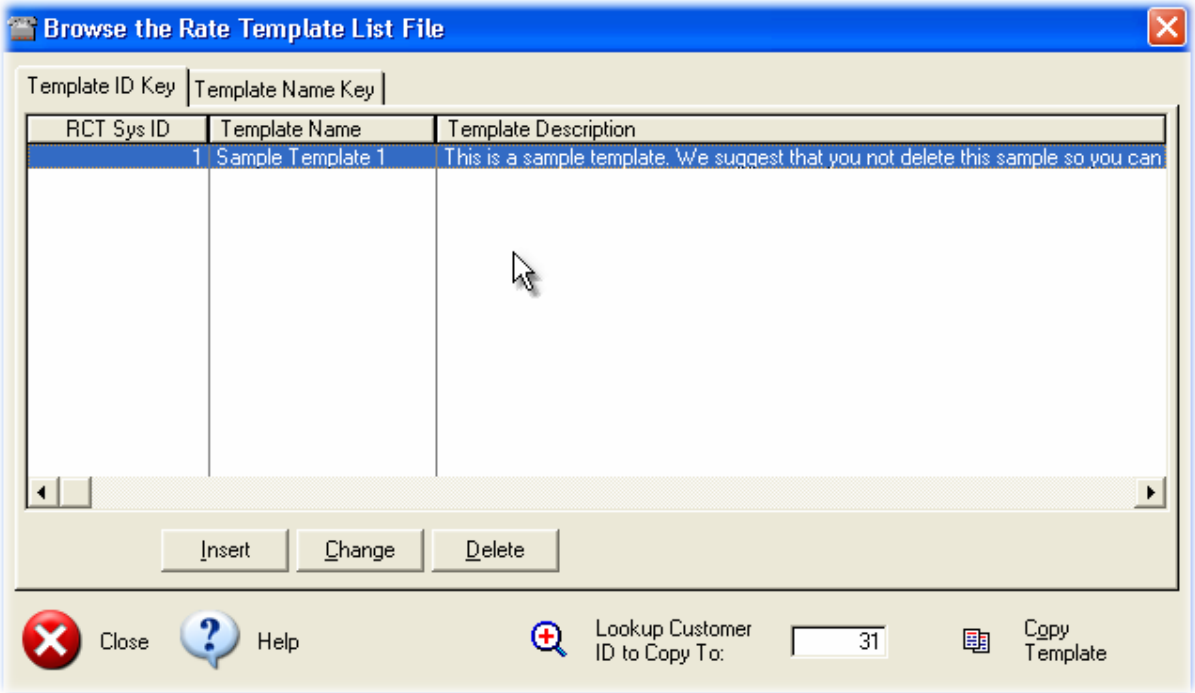
1.20.4 Rate Comparison Templates

Rate Comparison Templates (**RCT**) may be found under the **File Menu** and **Company Setup ...** options.



File Menu

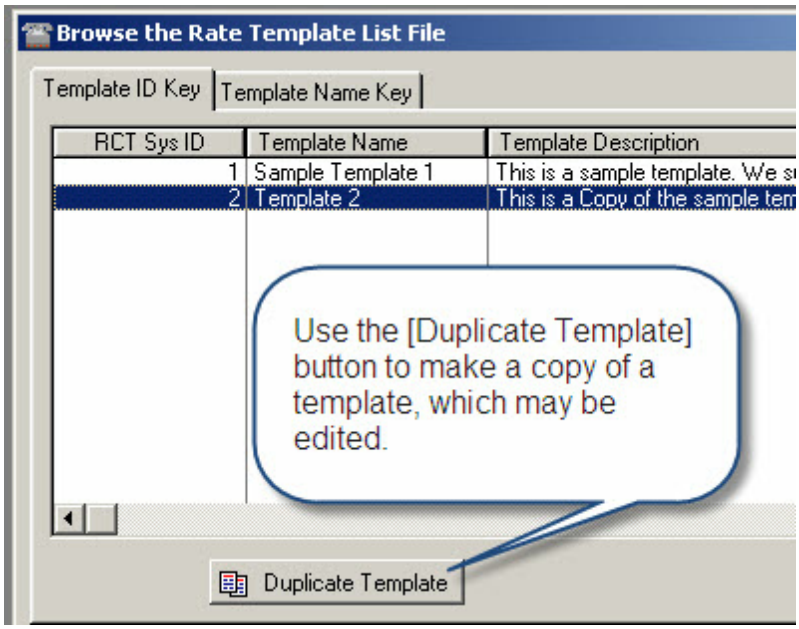
RCT are pre-built rate comparison templates that are stored in a special database library and can be easily retrieved and copied to a **Customer Location** master record.



The **RCT Library** can store hundreds of template variations. The **Browse the Rate Template List** window can display the Template list by the ID order or by the user defined **Template Name**.

USER TIP: If you intend to log or track expenses over a period of time, create your BASELINE EXPENSE TEMPLATE here so it can be used on as many Customer/ Locatons as needed. Copying a Rate Comparison Template into a Customer/Location Rate Comparison Table is typically a "one-time" event.

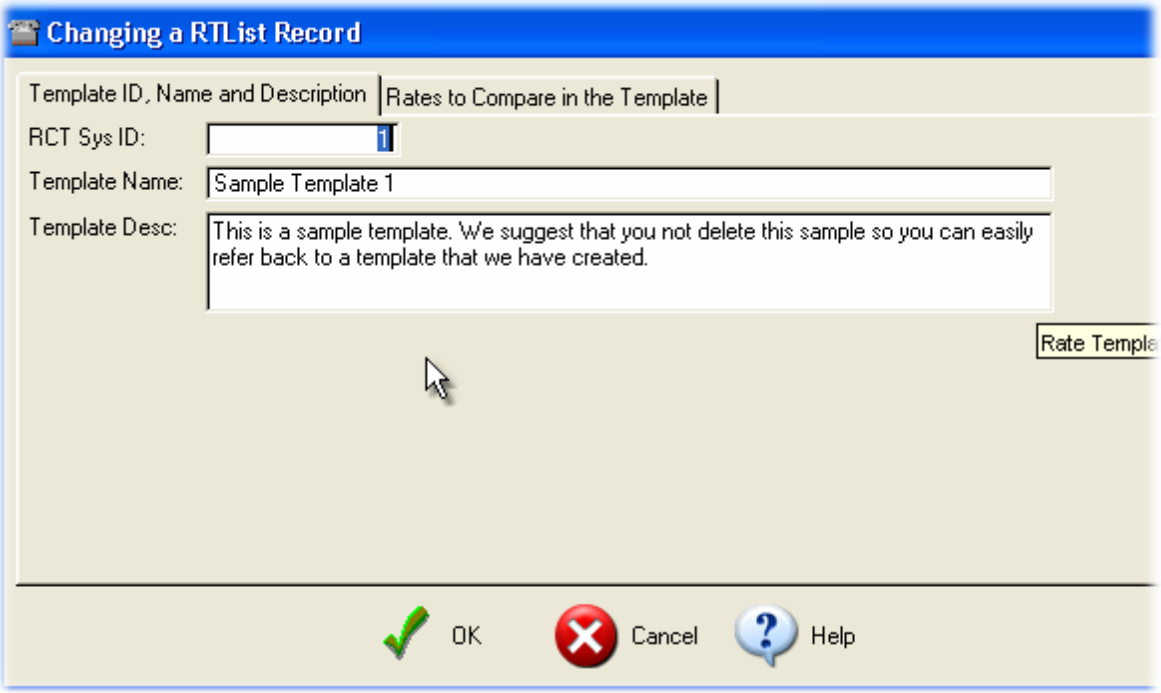
Use the [**Insert**] button to add a new **RCT**. Use the [**Change**] button to edit an existing **RCT.**



Each item in the Rate Comparison table is either a FIXED (recurring) or Variable (based on usage) expense. Your **Baseline Template** should include the Current Telco, Telco Compared, whether FIXED or not, Type of Rate Group, and the Rate Name.

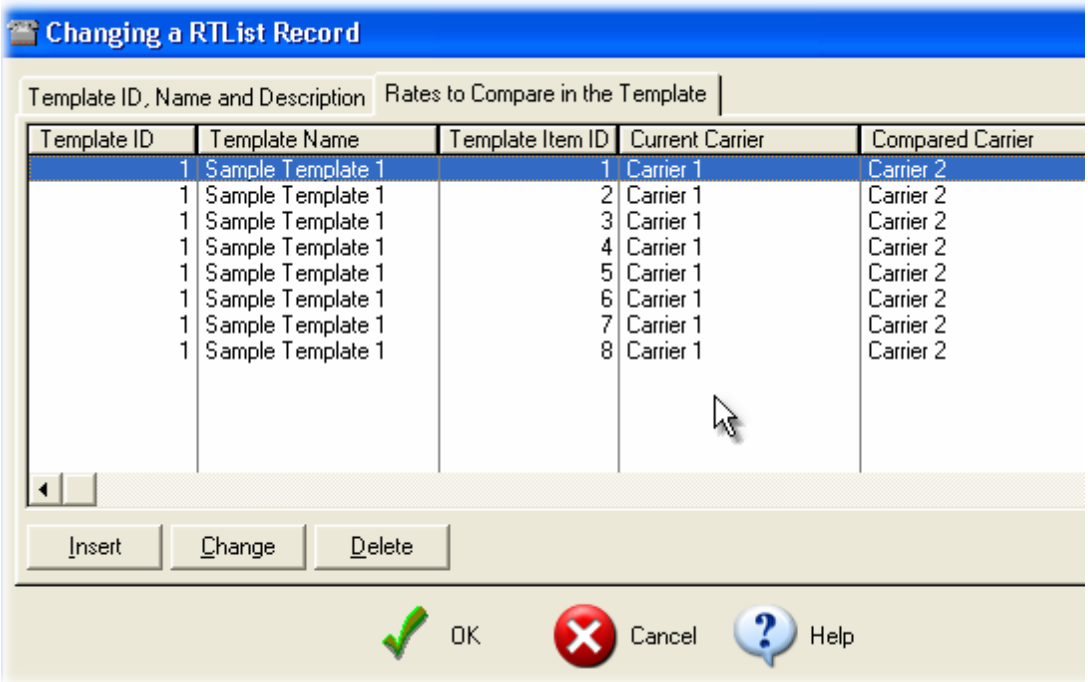
1.20.4.1 Editing Rate Comparison Templates

The **RCT editor window** is opened from the **Browse the Rate Template List** window.

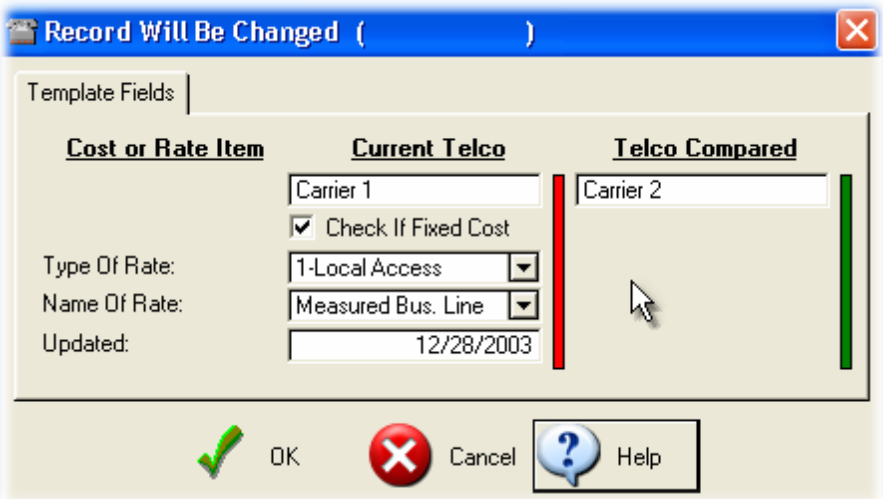


The **RCT editor window** contains two tabs. The **Template ID, Name and Description** tab contains the master information about the **RCT.**

The **Rates to Compare in the Template** tab contains a list of specific items that are to be included in the **RCT.**

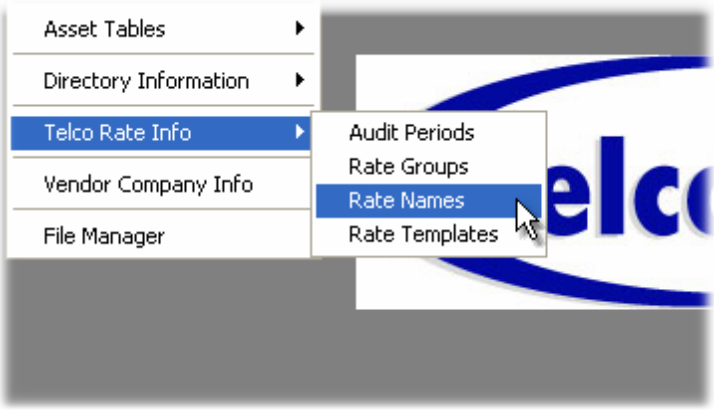


Use the [**Insert**] button to add a new **Rate Item Entry**. Use the [**Change**] button to edit an existing **Rate Item Entry.**



Type of Rate or Rate Groups names and the **Name of Rate** names can be added or edit using the appropriate Company Setup table.

1.20.5 Rate Names within a Rate Group

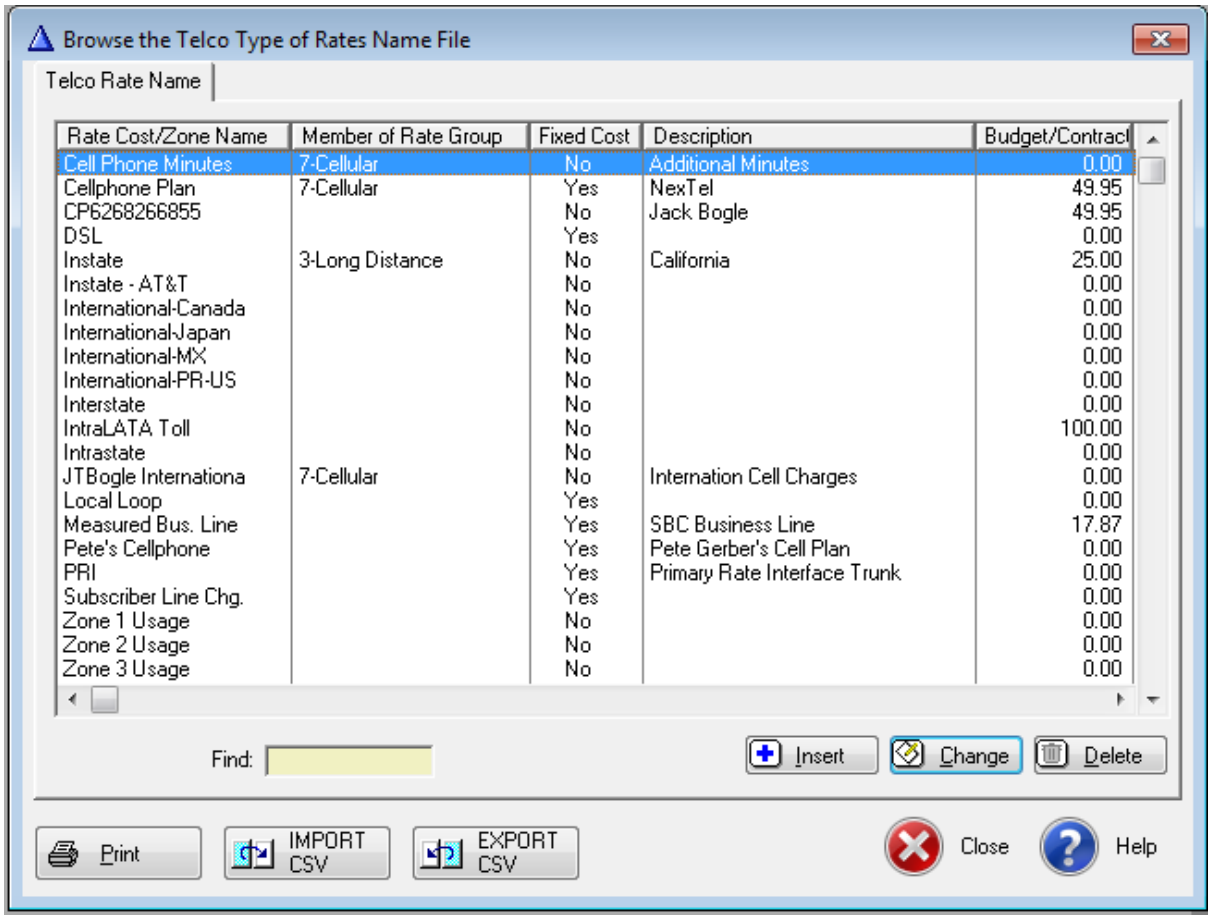


Rate Names are used to describe specific types of rates within major **rate type groups**. Rate Names are also referred to as **Rate Cost Names** and/or **Rate Cost/Zone Names**.

Examples of **Rate Names** within **Rate Groups**:

- 1-Local Access Lines
  - Business Line
  - PRI Local Loop
- 2-Local Usage
  - Zone Usage
  - Toll Usage
- 3-Long Distance
  - Instate
  - Interstate
  - International
- 4-Data Services
  - DSL
  - Local Loop

© Access Business Communications, Inc.

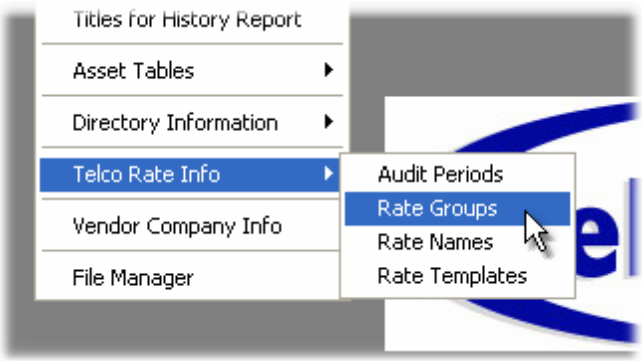


Rate Cost/Zone Name	Member of Rate Group	Fixed Cost	Description	Budget/Contract
Cell Phone Minutes	7-Cellular	No	Additional Minutes	0.00
Cellphone Plan	7-Cellular	Yes	NexTel	49.95
CP6268266855		No	Jack Bogle	49.95
DSL		Yes		0.00
Instate	3-Long Distance	No	California	25.00
Instate - AT&T		No		0.00
International-Canada		No		0.00
International-Japan		No		0.00
International-MX		No		0.00
International-PR-US		No		0.00
Interstate		No		0.00
IntraLATA Toll		No		100.00
Intrastate		No		0.00
JTBogle Internationa	7-Cellular	No	Internation Cell Charges	0.00
Local Loop		Yes		0.00
Measured Bus. Line		Yes	SBC Business Line	17.87
Pete's Cellphone		Yes	Pete Gerber's Cell Plan	0.00
PRI		Yes	Primary Rate Interface Trunk	0.00
Subscriber Line Chg.		Yes		0.00
Zone 1 Usage		No		0.00
Zone 2 Usage		No		0.00
Zone 3 Usage		No		0.00

- The Rate Name must be a member of Rate Group.
- Each Rate Name contains default values, which controls whether or not the Rate has a Variable or Fixed Cost when it is used in a Rate Comparison Template or an actual Rate Comparison Table.

See Rate Groups

1.20.6 Type of Rate Groups



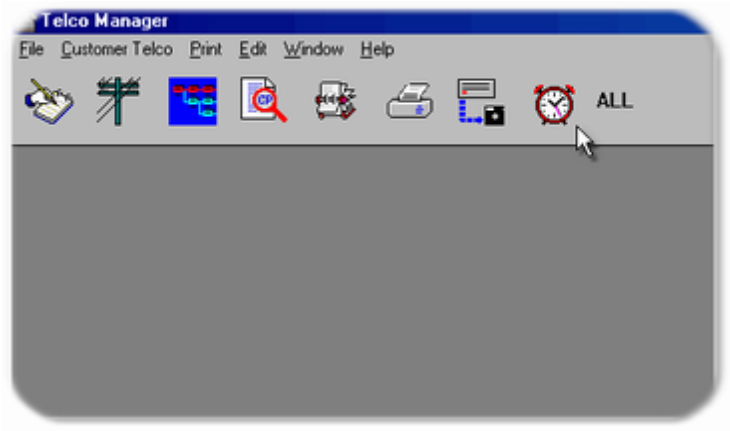
Rate Groups or Rate Group Types are used to describe major rate type groups.

Examples of Rate Groups:

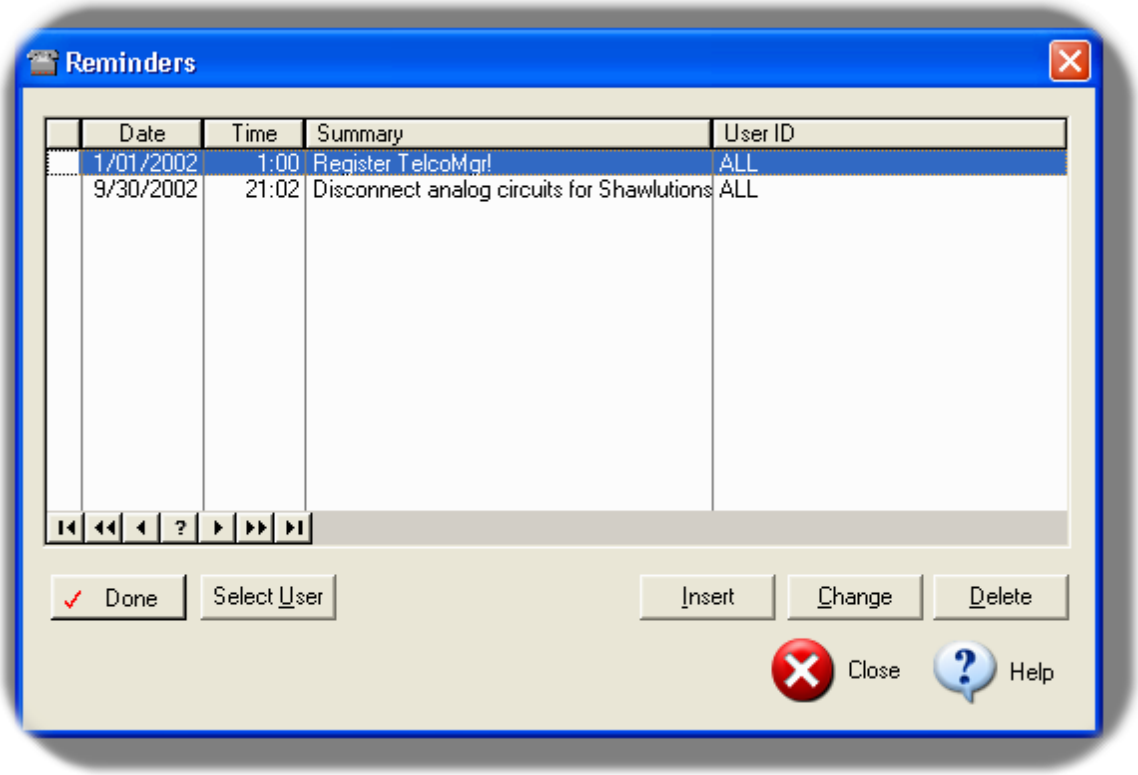
- 1-Local Access Lines
- 2-Local Usage
- 3-Long Distance
- 4-Data Services

1.21 Reminders

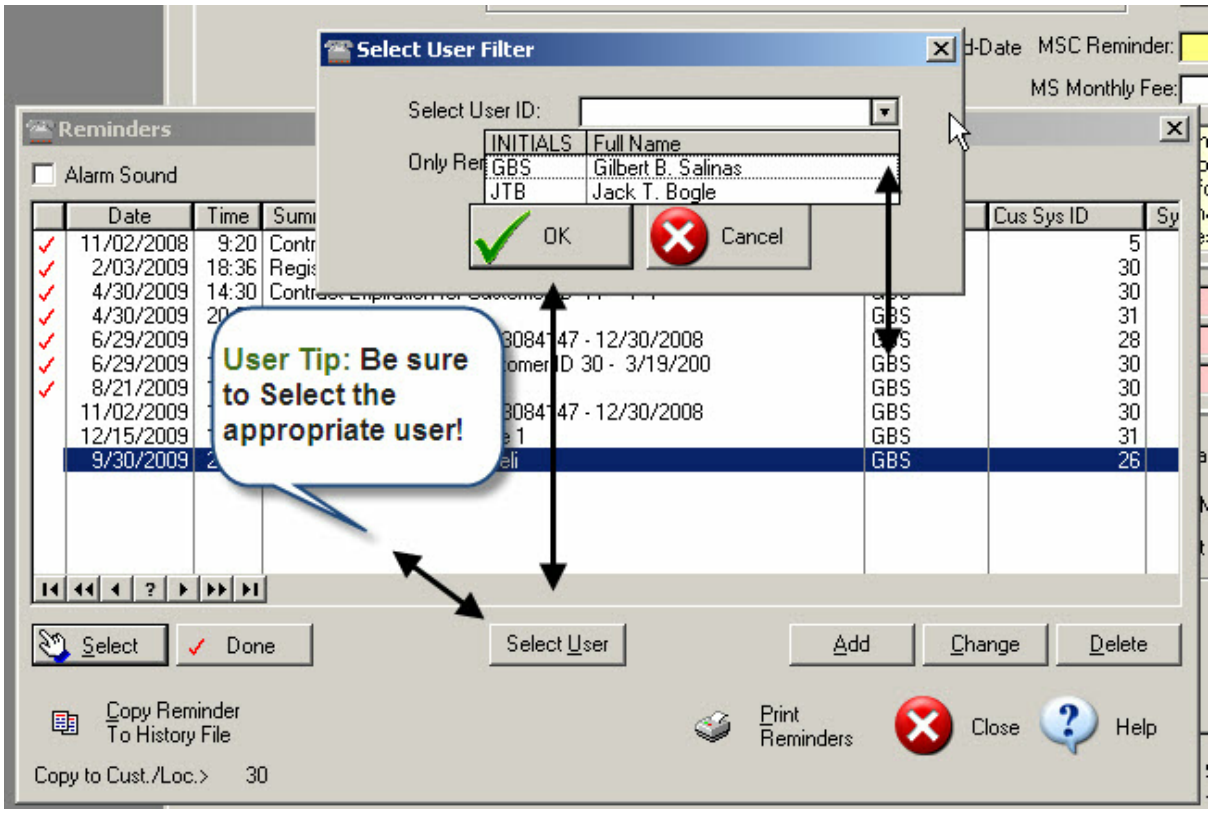
TelcoMgr provides an efficient means to set electronic reminders and alarms for 'to do list'. The **Reminder Alarms** are ideal for adds, moves, changes and Telco orders.



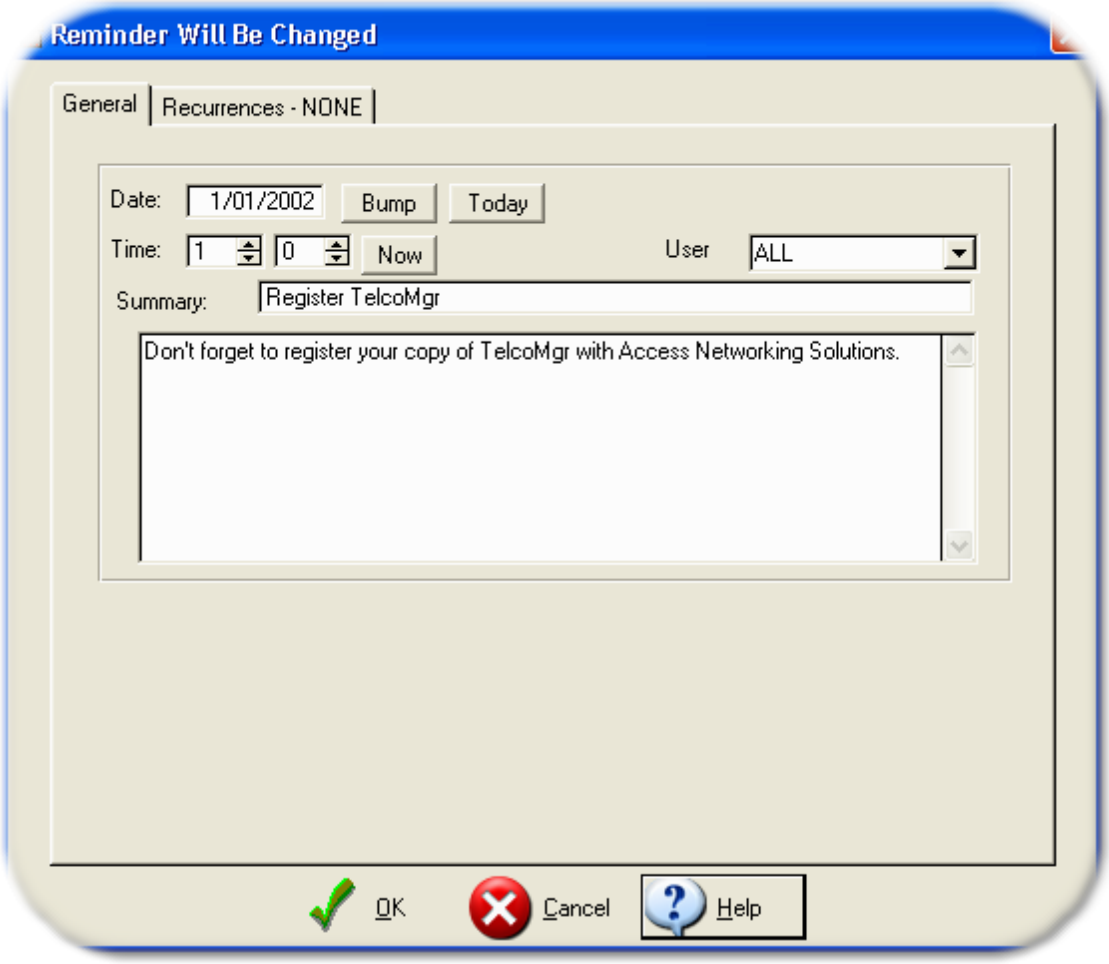
Select the 'Alarm Clock' to open the hot messages or reminders that have been added to the reminder database/queue. 'ALL' indicates 'All Users'. The **Reminders Browse Table** below will only show the Reminders set for a specific User. However, the Print Reminders option will allow all Reminder entries to be printed.



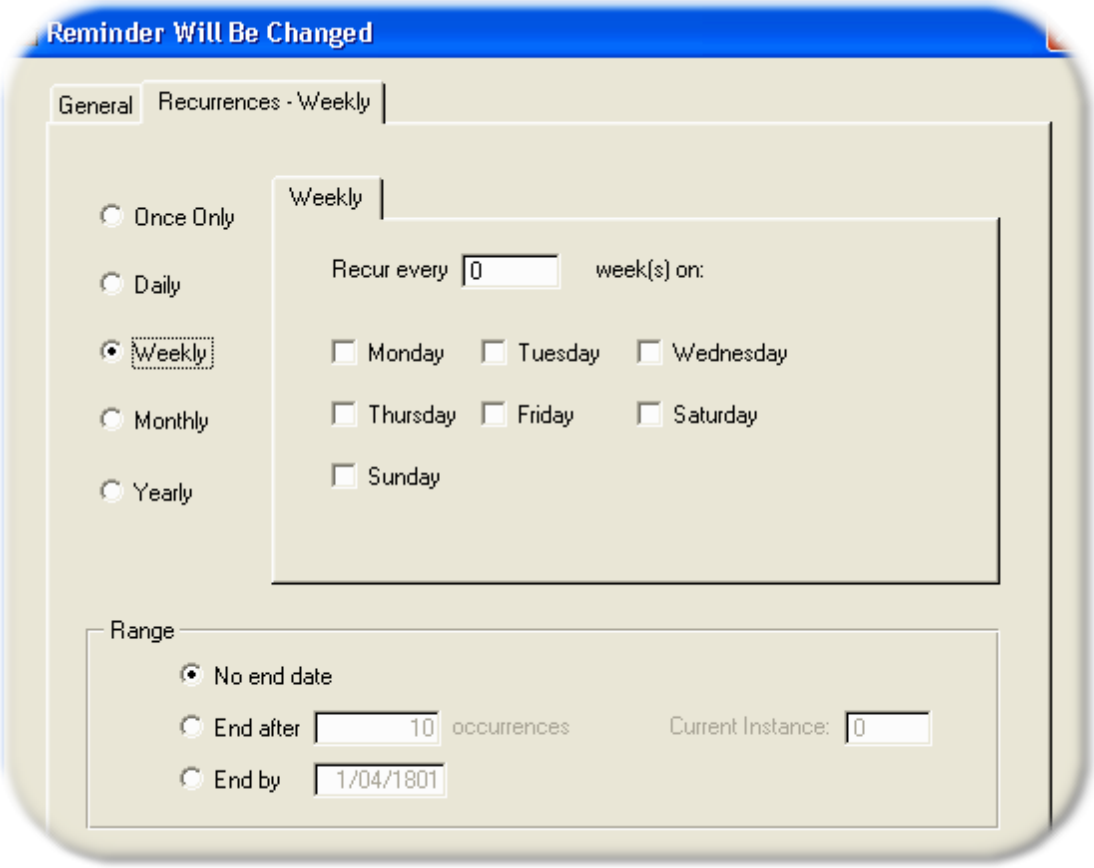
Alternately, Reminder/Alarms may be entered for a specific User.

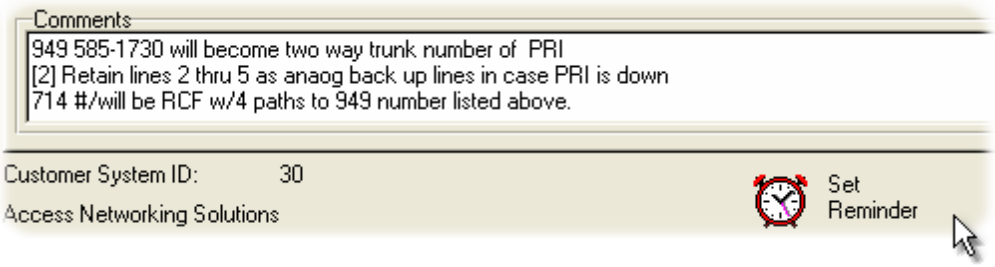


Reminder Alarms may be created or edited the same as other database entries. Select [Change] to edit the existing 'Reminder'.

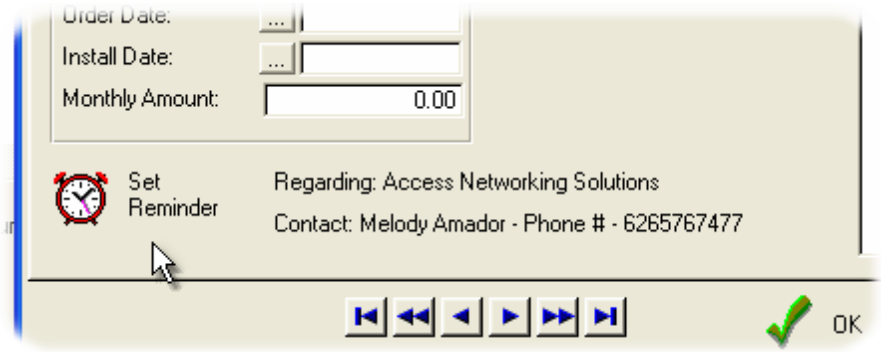


Optionally you may add **reoccurring reminders** Daily, Weekly, Monthly or Yearly. To set a reoccurring reminder simply complete all of the fields on the appropriate screen.



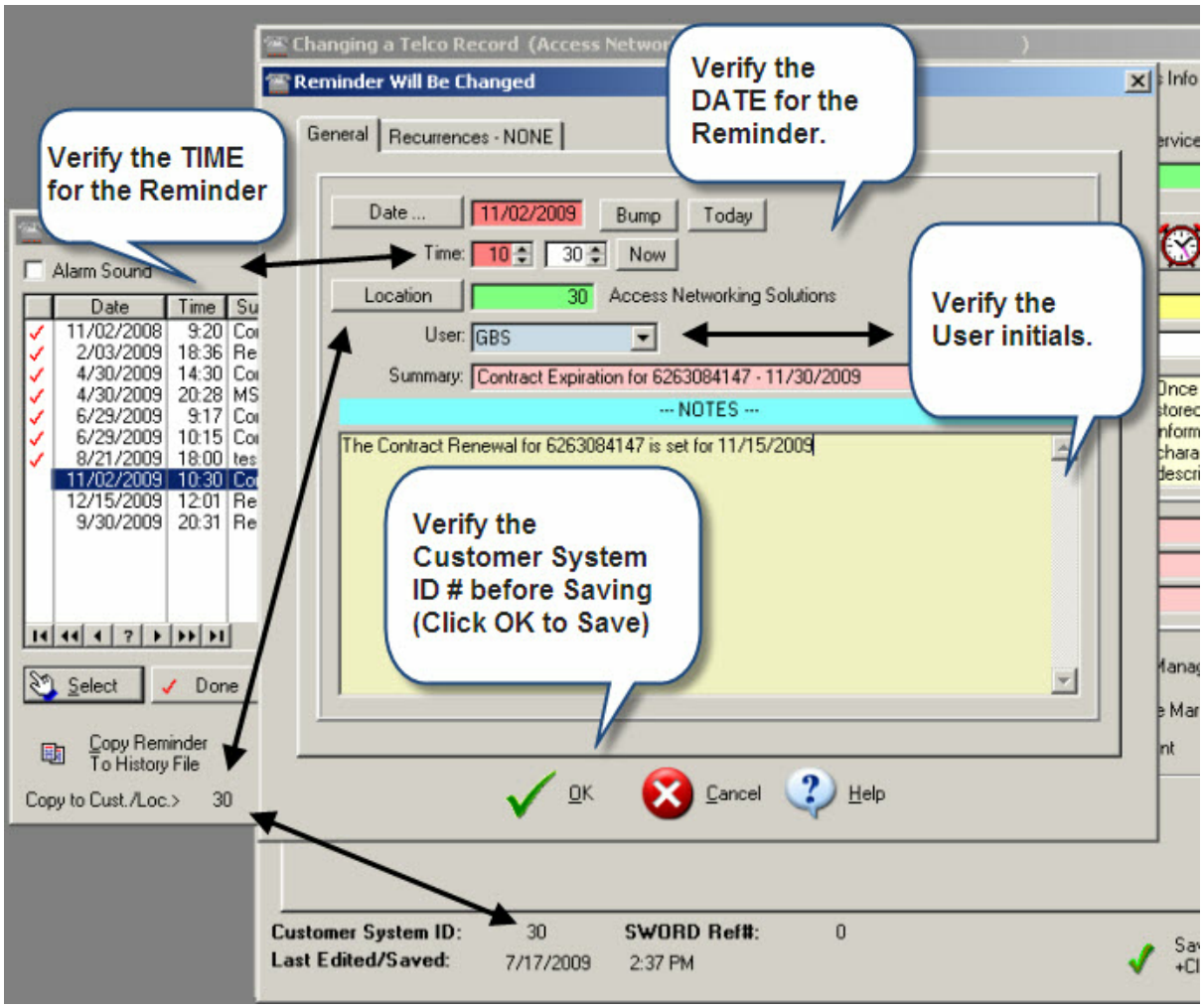


A **reminder** can also be set from the **Telco Customer/Location** main window and the **Circuits PCA tab**.

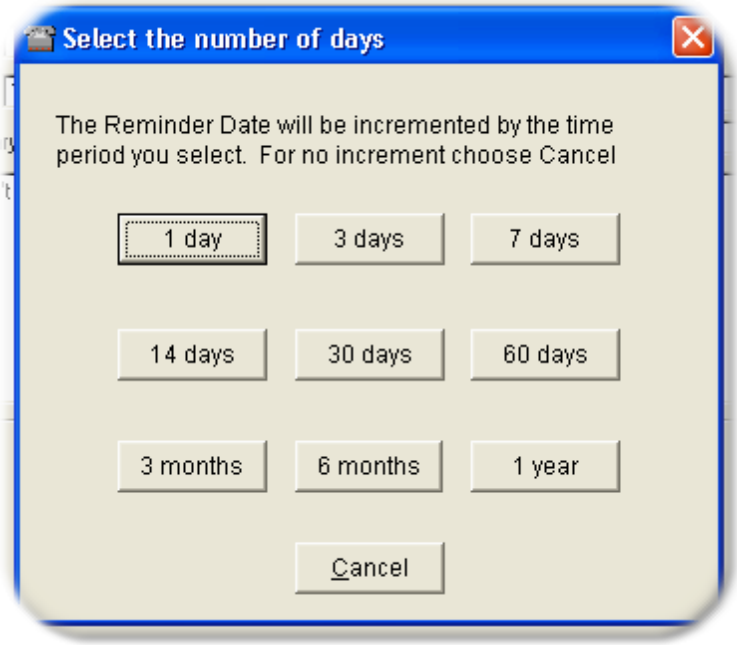


1.21.1 Add or Edit Reminders

Setting an Alarm for a Reminder.



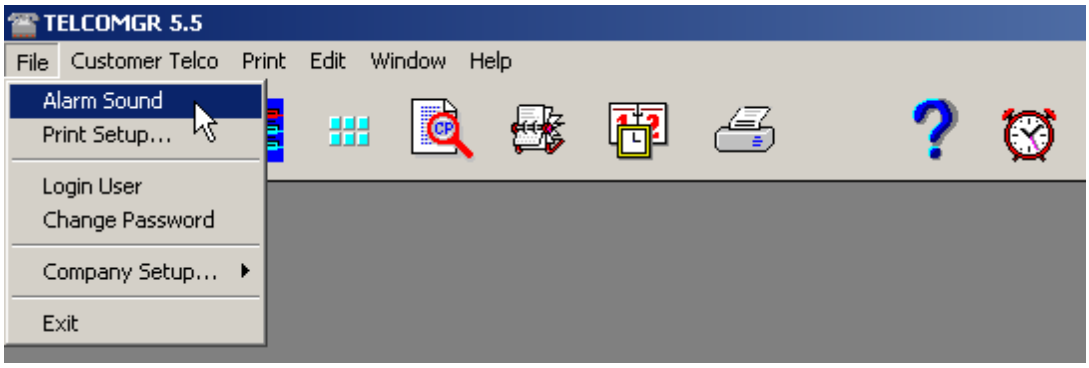
Select the [Bump] button to move the 'Reminder Alarm' forward by one month.



Select the [30 Days] button and 30 days are added to the date field.

1.21.2 Alarm Sound

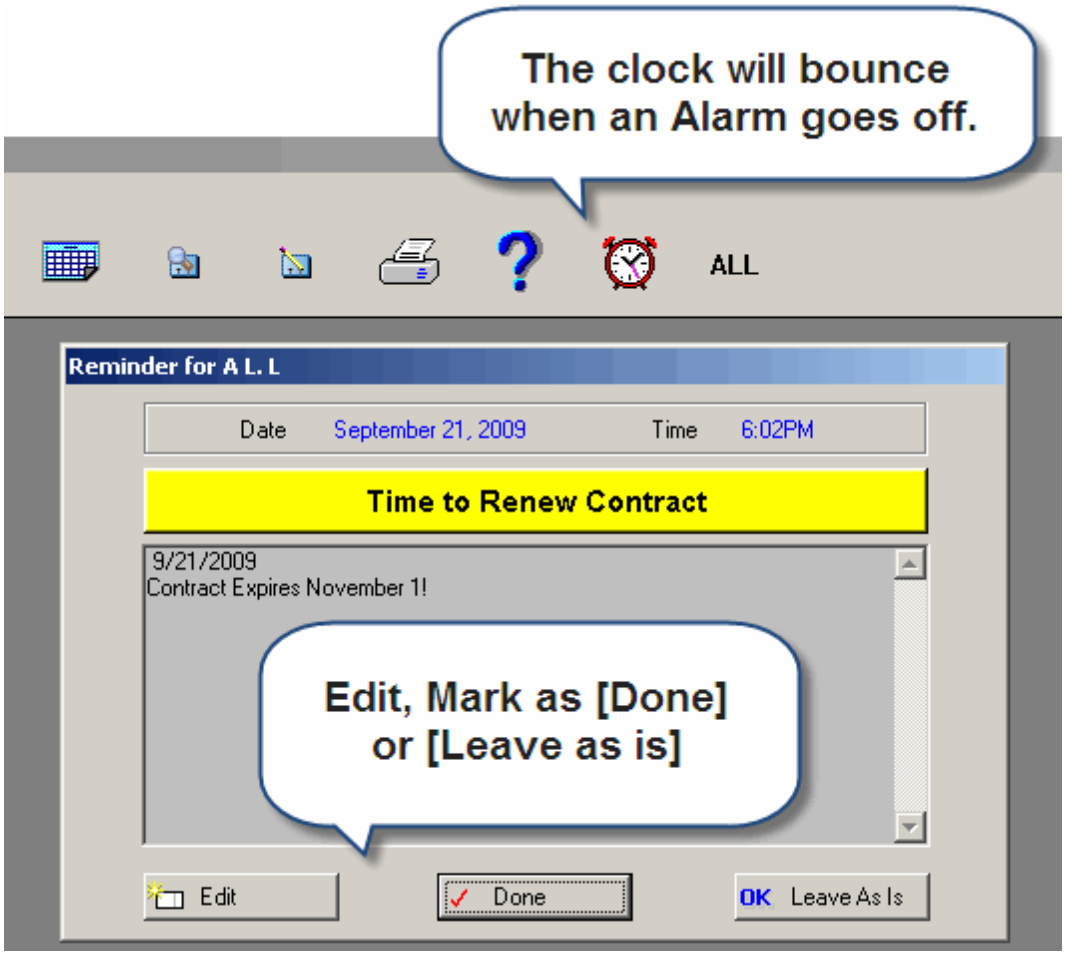
The 'Reminder Alarm' sound can be toggled on/off by using the Main Menu option:



Note About Server Based Application Installations:

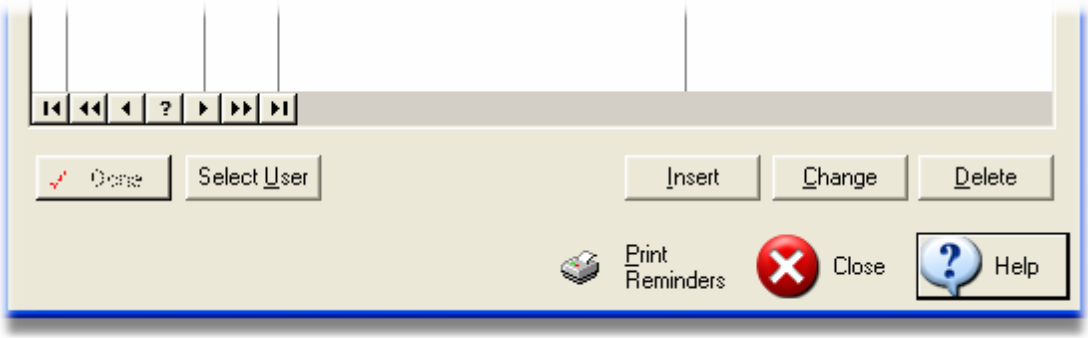
If the TelcoMgr executable file has been installed on a Windows Terminal Server, then then Terminal Server must be configured to provide the sound functionality in TelcoMgr.

1.21.3 Clear or Set an Alarm



The **Alarm Clock Icon** will open the Reminder Table. The **Alarm Clock Icon** will *bounce* when an **Alarm goes off**. To clear the Alarm or edit the date or time click on the **Alarm Clock Icon**.

1.21.4 Print Reminders

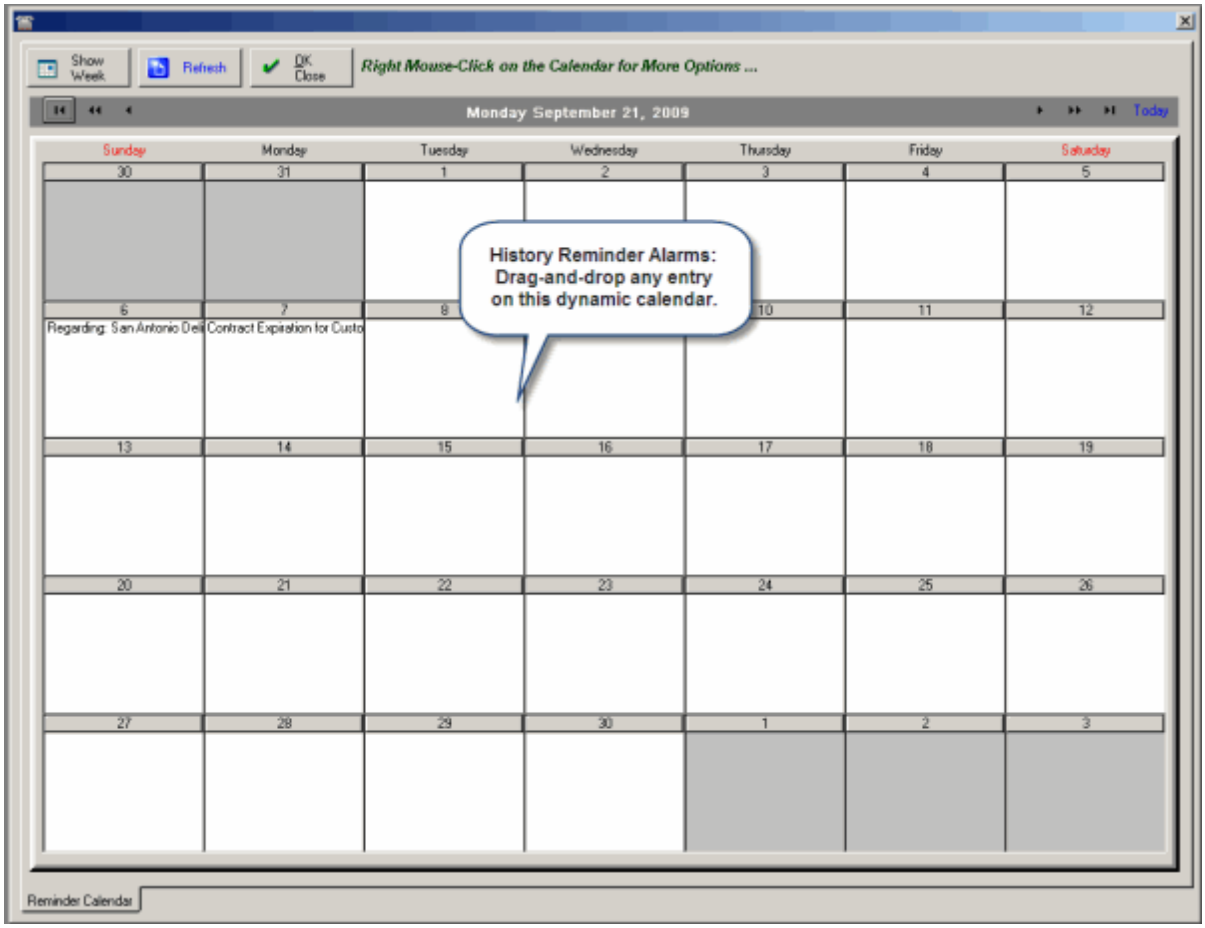


The [**Print Reminders**] button will generate a report showing all 'reminders' that have not been '**checked**' as '**done**'.

Run: 8/17/02 10:43PM **TelcoMgr Reminder Report** **Page: 1**
By Due Date

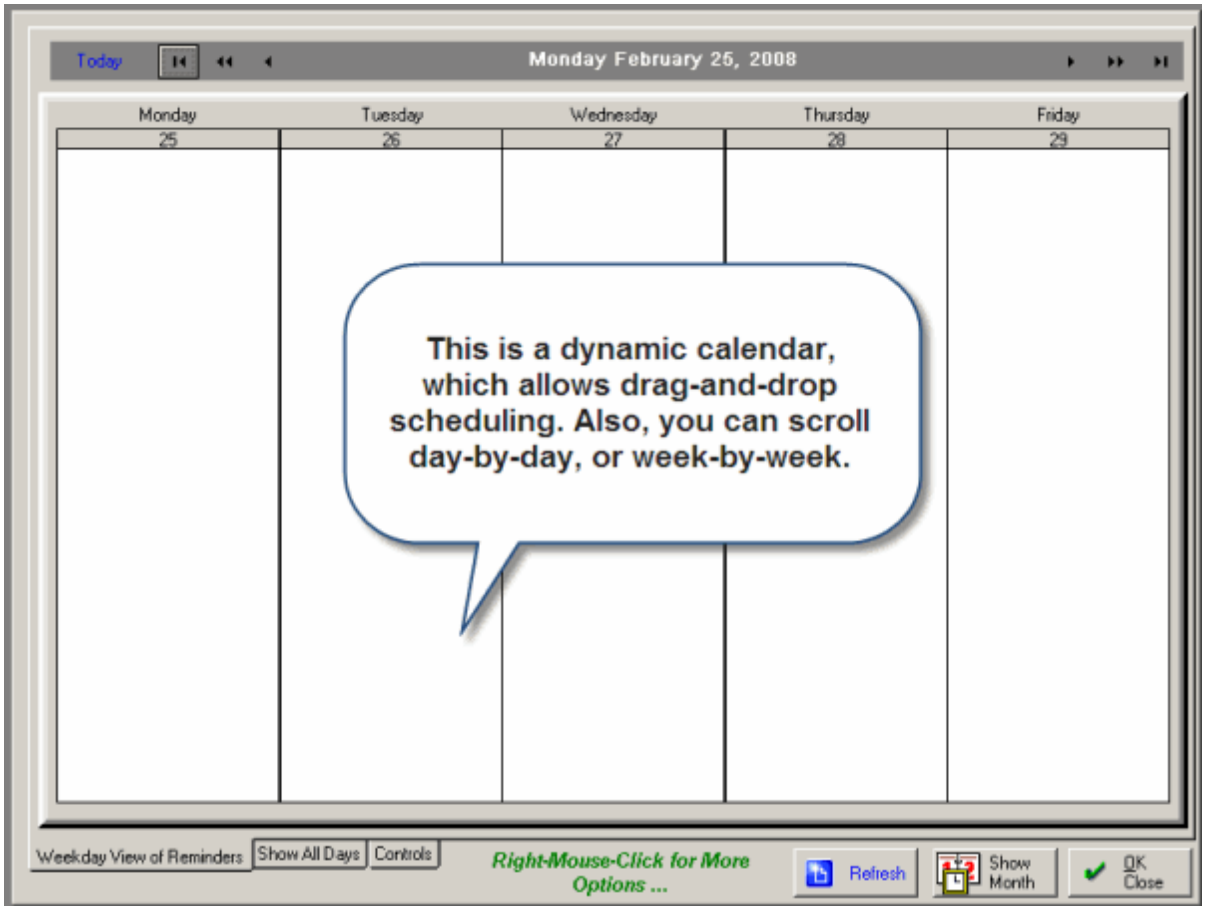
Due Date	Time	User ID	Summary
8/17/2002	12:00	ALL	Time to register TelcoMgr
			Welcome to Telco Manager, the Help Desk for telecommunication professionals. Telco Manager (TelcoMgr) is a computer software application designed to help you accurately record your business telephone and data services. The program includes a database that can be used for multiple customers such as a vendor may wish to maintain or for a single end-user with multiple locations.

1.21.5 Reminder Calendar (Month)



The **Reminder Calendar** shows **Alarms**, which are currently active. The Calendar is dynamic and allows drag-and-drop rescheduling.

1.21.5.1 Reminder Calendar (Week)



The **Reminder Calendar Week** shows weekdays or all days.

1.21.6 Verifying Reminders

TelcoMgr **Reminders** or **Set Alarms** may be dynamically created for many types of records, including the following:

- Customer Locations
- Circuits
- History/Trouble Ticket
- Contracts

USER TIP: Before saving a Reminder/Alarm it is important to verify the following information

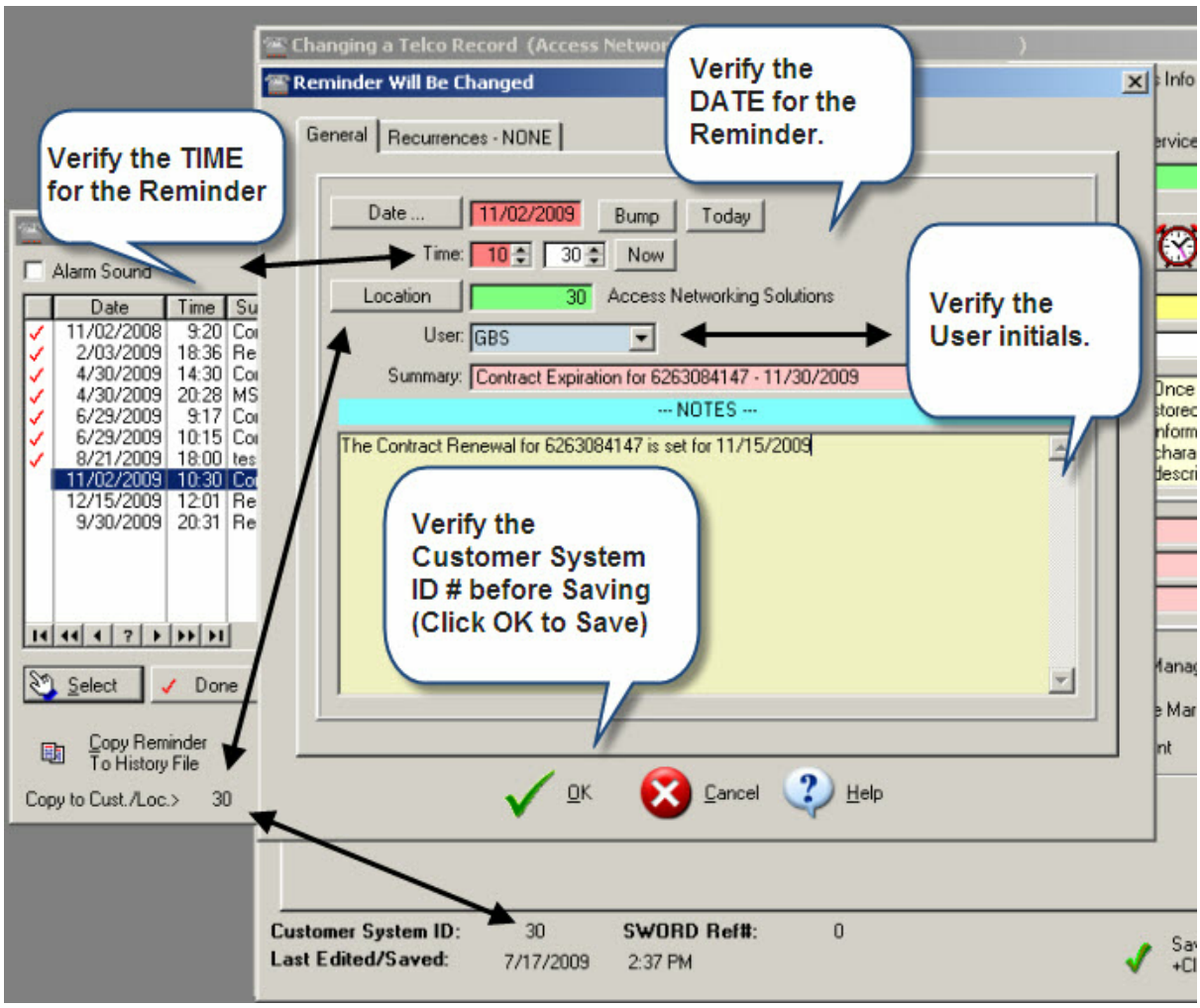
to make sure you are recording the information for the appropriate record.

a) Be sure you have selected a date in the future;

b) Be sure that you have entered the appropriate time. The time is represented in a 24-hour clock (ISO 8601).

c) Be sure that you have selected the appropriate Customer Location System ID.

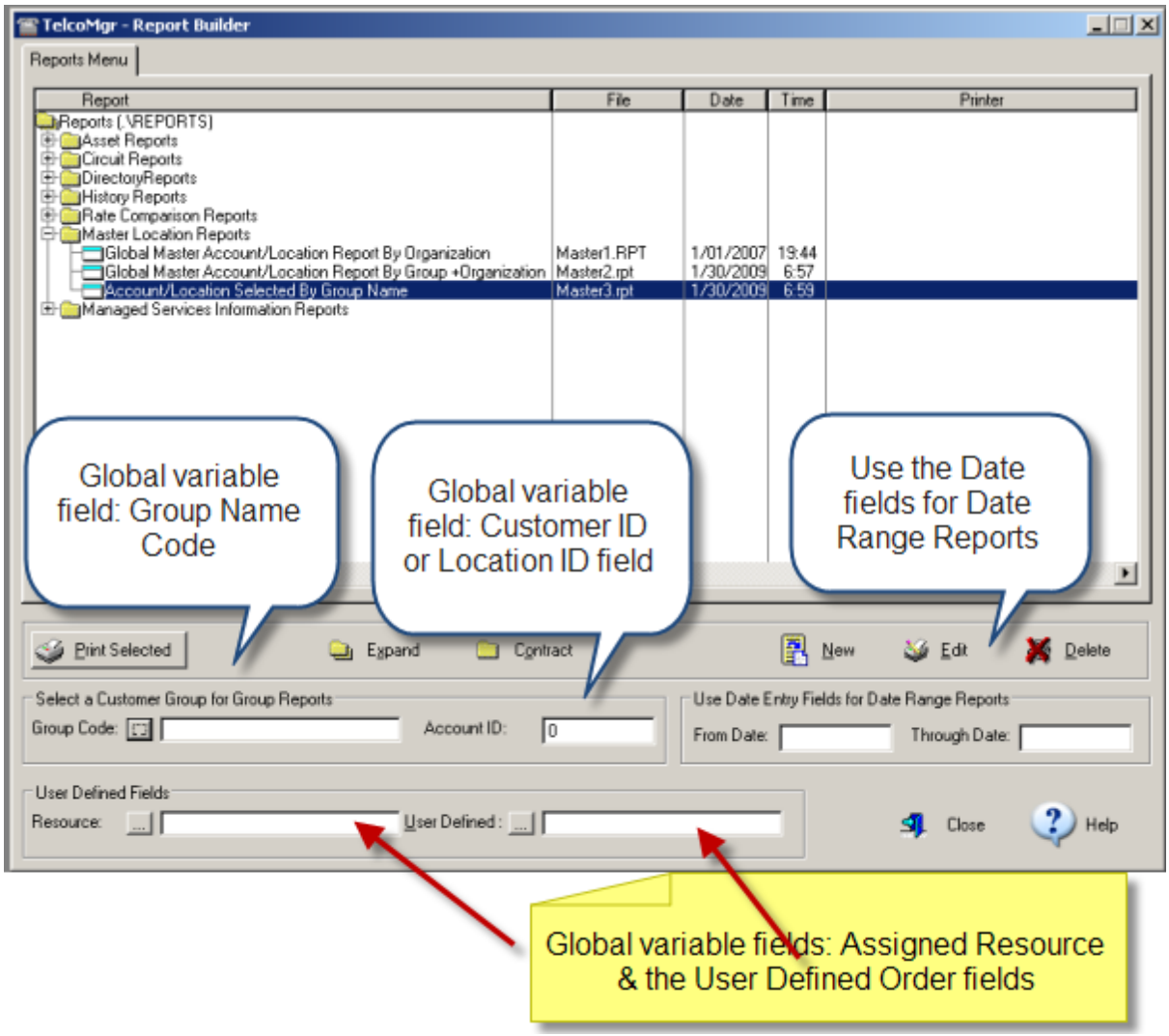
d) Be sure that you have selected the appropriate User ID. TelcoMgr allows one user to set a reminder for another user. The User ID is also used to filter the **browse table for Reminders/Alarms**.



1.22 Report Builder

A **Report Builder** is an end-user report writer tool for extracting information from a TelcoMgr

database in a highly structured manner. Reporting styles can vary from simple columnar output to extravagant form letters and sales invoices. Some reports extract and/or manipulate data from a single database, while other reports may require several databases and complex formulae to generate information in the desired manner. (Report Builder is available with the Professional and Enterprise Licenses).



TelcoMgr contains menu options made available to the user for pre-defined reports. While these reports can usually fulfill the majority of end-user needs, times arise when a custom report has to be created. If the means to create/modify reports has not been included in an application, the programmer has to be hired to create the report for the user (usually at a substantial cost). The TelcoMgr Report Builder puts the power of creating/modifying reports into the users hands.

As with any new tool there is a learning curve involved. However, a willingness to experiment can pay huge dividends to yourself and/or firm. You can create as many new reports as you want without paying a programmer to create them for you.

This **Report Builder** is an extremely powerful tool, comparable in features to software costing hundreds of dollars. Practically any type of report that you require can be created with this simple, yet highly effective tool.

Report Builder is an optional feature of TelcoMgr that requires a **Professional License** version of **TelcoMgr**.

Report Builder Overview

- What is a report builder?
- What are some features of this report builder
- Database fundamentals
- Database filters
- Database variables
- Expression and Formulas

Quick Tour

- The report manager screen - managing reports you create
- The report creation screen - Get acquainted!
- Bands- An overview on how they process database information
- Frames - How they print text and database information on reports
- Dictionaries - Stores database field information and other useful data
- Pictures - How to change data appearance on a report page

1.22.1 What is a report builder?

A **Report Builder** is a tool for extracting information from a **database** in a highly structured manner. Reporting styles can vary from simple columnar output to extravagent form letters and sales invoices. Some reports extract and/or manipulate data from a single database, while other reports may require several databases and complex formulae to generate information in the desired manner.

Many computer applications have menu options made available to the user for pre-defined reports. While these reports can usually fulfill the majority of end-user needs, times arise when a custom report has to be created. If the means to create/modify reports has not been

© Access Business Communications, Inc.

included in an application, the programmer has to be hired to create the report for the user (usually at a substantial cost). A report writer puts the power of creating/modifying reports into the users hands.

As with any new tool there is a learning curve involved. However, a willingness to experiment can pay huge dividends to yourself and/or firm. You can create as many new reports as you want without paying a programmer to create them for you.

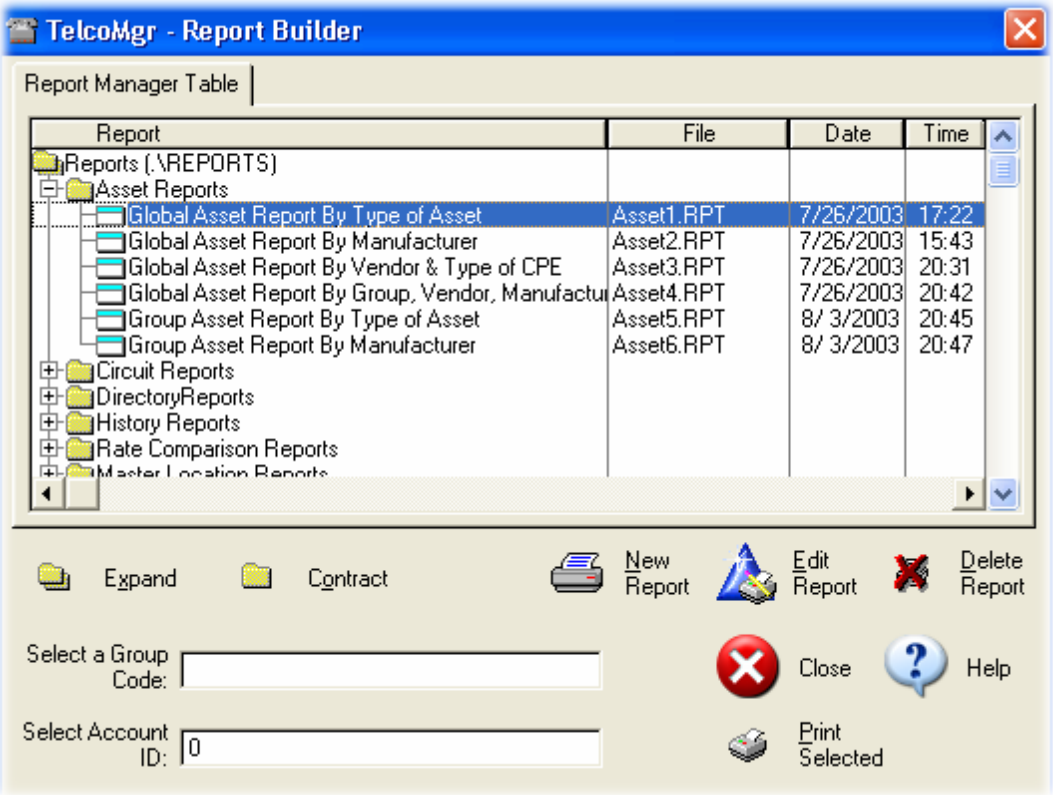
This **Report Builder** is an extremely powerful tool, comparable in features to software costing hundreds of dollars. Practically any type of report that you require can be created with this simple, yet highly effective tool.

1.22.2 Features Of Report Builder

Report Builder can do a lot more than simply print columns of data. While that would certainly meet the needs of a lot of users, there are times when specific detail is necessary to accomplish your task. Here is a short list of features you can use:

Accessing/Saving Report(s)

- Tree-styled Report Manager screen will help you to arrange your reports by means of classifying and grouping them by type and using several folders to store report files.
- You can create and manage an unlimited number of reports.



- Quickly create reports that are similar to an existing report by opening a file, then saving the report to a new file name.
- You can use Windows styled long filenames when saving reports.

Caution: Do Not Use the TelcoMgr Report File Names to Save Your Report Changes!

TelcoMgr Report File Names

The TelcoMgr Report Builder will attempt to save your new reports with a name similar to "RPT00001.RPT." The second report that you save will be named "RPT00002.RPT" and the

third will be named "RPT00003.RPT" and so on for additional reports. Therefore, end-users are recommended to **save report file names** using the automatic schema with the built-in serialized report file name.

If you makes changes to one of the TelcoMgr standard reports which are installed with the application, then you should save the changes using "**SAVEAS**" and let TelcoMgr suggest the appropriate name with the serialized naming schema as described above. If you save your changes with the same name as used by TelcoMgr to store its standard reports, then your changes will be overwritten each time TelcoMgr is upgraded.

Optionally, you may create your own report file names. If you elect to save your reports with your own naming convention, for example "MyTelcoMgrReport01" then it is not necessary to add the ".**RPT suffix**" at the end of the file name. The Report Builder will append the suffix to your custom file name. Once again, end-users should not use the TelcoMgr report file naming convention to save new or modified reports.

Data Creation/Manipulation

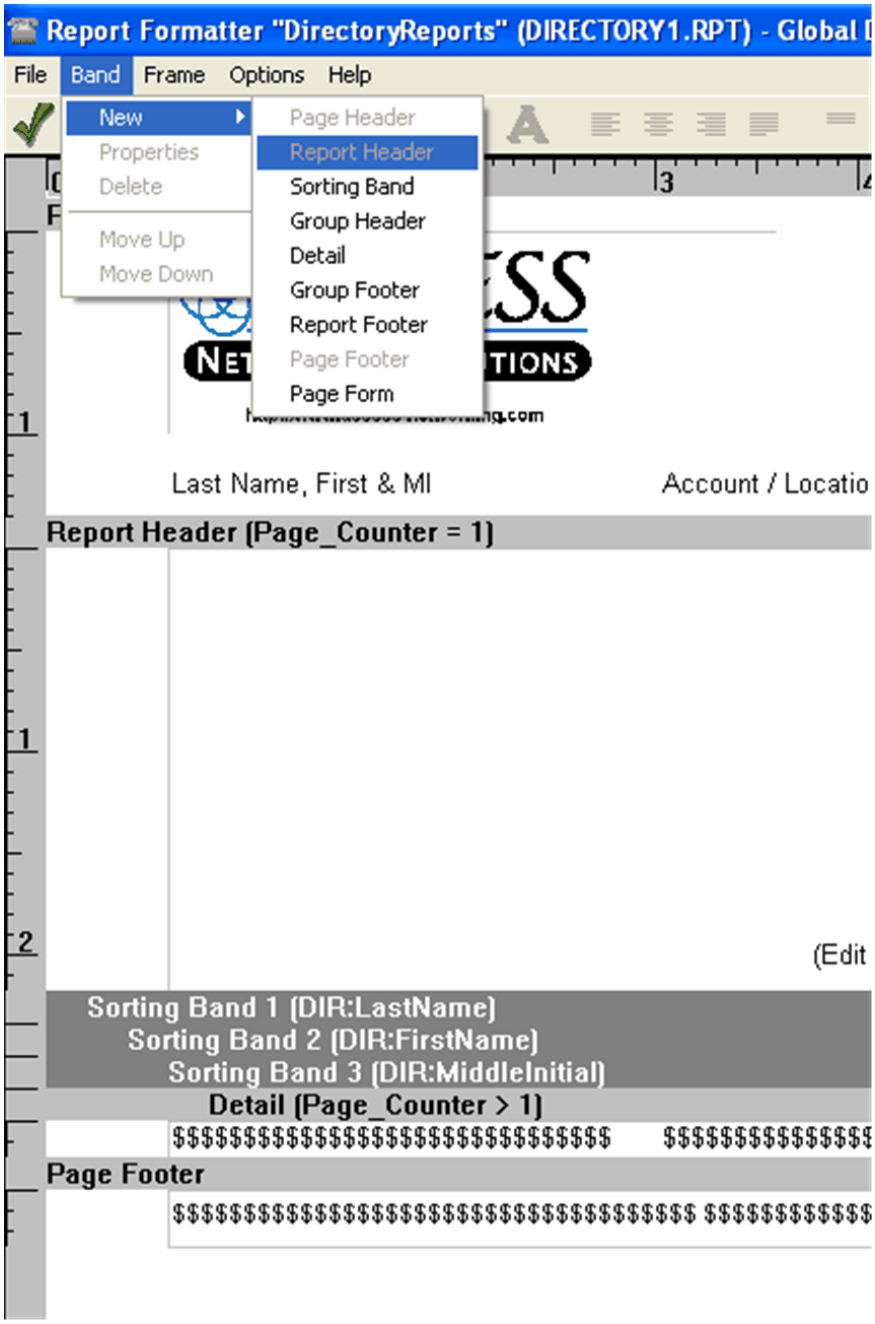
- Simultaneous processing of several data tables joined in an integrated structure
- Effective and high speed filters for records using any available fields from applications database file(s), including expressions and functions of the Report Builder's native programming language
- Sort data using any available fields, including expressions and functions of the Report Builder's native programming language
- You can easily build complex expressions with help of the built in Data Dictionary. The Dictionary contains all the field names, functions, operators, built-in variables and user defined total variables/calculated fields which are allowed for use in an expression. The Dictionary also shares a tree-style hierarchical structure.
- Supports end-user creation of total variables of type Sum, Counter, Average, Minimum, Maximum, Evaluate. Total variables can be reset on the end of appropriate sorting group as well as on the end of each page. These variables can be set up to be evaluated at the start of report, at the each record, at the end of a sorted group, at the end of page, at the end of report.
- Supports end-user creation of "Calculated fields". They are very similar to "Total variables" but always use the Evaluate type and never being reset. You can accomplish very complicated computations using any number of Total variables and Calculated fields.
- Print the current date and time on a page. The Picture can change the format of a date or time field to any desired format. For example, you can change 02/21/00 to read "21 February, 2000" at report runtime.

© Access Business Communications, Inc.

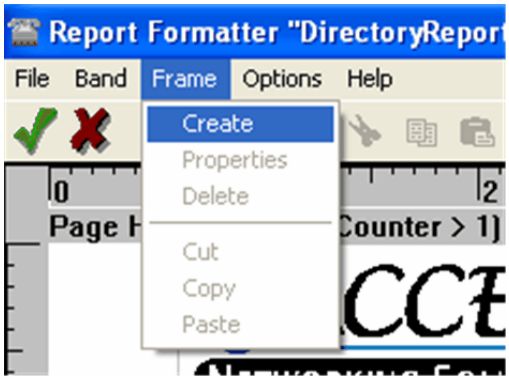
1.22.3 Report Builder - User Interface

User Interface

- The **report formatter** or painter uses a word processing-styled interface, with buttons commonly found for formatting text (right align, left align, center align, etc)



- Supporting report sections (**bands**): Page header, Report header, Group break, Group header, Detail, Group footer, Report footer, and Page footer. Each band can contain an unlimited number of **Frames** to represent information.



- Frame contents may be a text string(s), or a formula. This is similar to Microsoft Excel usage: if the frame contents begins with the equal sign "=" then it means the rest is the formula to evaluate. In that way you can reference the only one variable as well as the expression containing as many variables and functions as you want.
- Use borders around the Frames to make them standout. For example, you can place a border around dollar totals at the bottom of reports. You can also use all the Frames with borders and join Frames side-by-side to get grid-style report. Frame borders may have varying thickness and color. Also the whole frame can be filled by selected color.
- You may select a font typeface, size, style and color for the whole report or report section as well as for individual frame. Use different fonts and font types to make key data stand apart from other data.
- You can select multiple Frames at the same time for repositioning or alignment operations.
- Frame contents are placed and aligned both vertically and horizontally.
- Print the current page number as well as the total number of pages on each page header/ footer.
- Print the number of database records printed on the current page (useful for page footer information).
- Ability to export report pages in WMF format to Microsoft Word for Print Preview, Edit, Save as *.doc format file, Printing purposes, etc.
- Add graphics to a report that are stored on your computer.
- Save one or more versions of a report for unique output and/or results.

Caution: Do Not Use the TelcoMgr Report File Names to Save Your Report Changes!

TelcoMgr Report File Names

The TelcoMgr Report Builder will attempt to save your new reports with a name similar to "RPT00001.RPT." The second report that you save will be named "RPT00002.RPT" and the third will be named "RPT00003.RPT" and so on for additional reports. Therefore, end-users are recommended to **save report file names** using the automatic schema with the built-in serialized report file name.

If you makes changes to one of the TelcoMgr standard reports which are installed with the application, then you should save the changes using "**SAVEAS**" and let TelcoMgr suggest the appropriate name with the serialized naming schema as described above. If you save your changes with the same name as used by TelcoMgr to store its standard reports, then your changes will be overwritten each time TelcoMgr is upgraded.

Optionally, you may create your own report file names. If you elect to save your reports with your own naming convention, for example "MyTelcoMgrReport01" then it is not necessary to add the ".**RPT suffix**" at the end of the file name. The Report Builder will append the suffix to your custom file name. Once again, end-users should not use the TelcoMgr report file naming convention to save new or modified reports.

1.22.4 Databases

As simple to use as this report builder is, there are some **database** fundamentals that you should be comfortable with in order to get the most out of this powerful tool. It is one thing to blindly type information into a computer, but empowering yourself as to how a database program really works will greatly enhance the reports that you create.

© Access Business Communications, Inc.

A database is nothing more than a collection of information that is somehow related. A common phone book is a wonderful example of a database. A basic definition of a phone book would be a collection of names, addresses, phone number(s) for people and businesses in one physical area (usually a city, or a common area code number). So, a database would be all the names, addresses and phone numbers contained in a phone book.

A database file is comprised of two new terms: database records and database fields. going back to the phone book once again, each persons name listed in the phone book would be a database record - it contains all the information for one person or business (their name, address, phone number(s), etc). The next name shown in the phone book would be a separate database record, and so on.

A database record is made up of database fields. Using the phone book again as an example, we would have separate database fields for the following information:

- Individuals/business name
- Street address
- Phone number

A database can have only one field, or can have hundreds of fields - whatever it takes to store all the information required for one database record entry.

A phone book is usually sorted on the name of the individual/business, beginning with the number 0, and ending with the letter Z. This type of sort is known as ASCENDING sequence. If you started at the back of a phone book and worked your way to the front (going from the letter Z to the number 0) this sort is called DESCENDING sequence. Sorting a database requires the creation of a second type of file known as a database index, which can also be called a database key.

A database index is a file used by a database application to change the appearance of information stored by the database. Going back to the phone book example - every day the phone company creates phone numbers as people and businesses move into the city. Their name(s) are obviously not going to be in alphabetical order when the clerk creates their new phone number - a person named Jones may be first, then Joe-Bob's Barbeque is next, then Alpha-Beta Drugs may be third, and so on. Without a way of sorting this information a printed phone directory would be a total mess - names would jump around the alphabet! The index file's job is to regain some structure and order to the information being input into the database.

© Access Business Communications, Inc.

A database index file can be created using one database field, or several database fields. These file(s) are normally opened when the database is opened, and as each database record is added/deleted an identical action is performed on the index file. For the phonebook example, the desired sort would be the individual/business name to be sorted in ascending alphabetical sequence. The fieldname used for the index would be the individual/business name. If your phone company were really customer-oriented they could perhaps create section(s) in their phone book that were sorted on the street address - a new index created on that database field would be created/used to print this new section of the phone book.

Index file(s) are most commonly used in browse screens (a screen where all the database records are displayed in columns, sorted alphabetically for easy location of information) and reports.

Index file(s) are also used to relate two or more database files together, which store different pieces of information that belong together. This type of database application is known as a relational database - two or more database file(s) relate to each other by means of a common database field, and an index file that links the two separate files together.

An example of a relational database could be your bank account. When you first joined your bank you filled out a form with your name, address, work history, etc. The clerk typed this information into the computer, handed you a bundle of blank checks and thanked you for joining their bank. All this "initial" information is stored in a database. As you start writing checks to pay for things a transaction is created for the date it was written, the dollar amount, the date the transaction was posted to your account, the check number, etc. These transactions are stored in a separate database file.

In the example above, we have one database that stores customer information (name, address, etc) and another database that stores transactions for each check cashed. In both database files is a field that contains the account number, and an index file is created for each database on this field. The two database files are related to each other by these index files created on the account number.

Not all database applications require a relational setup - if the information being tracked is simple then a single database file will contain all the data being monitored. However, all business type database systems rely on the relational database structure in order to keep track of a large quantity of information. Relational databases greatly reduce the amount of information being kept in database files, which keeps the size of the database file(s) small and increases the speed of the program in retrieving data.

This Report Builder can create reports from single database programs or relational database programs.

© Access Business Communications, Inc.

1.22.5 Fields

A database record is made up of database fields. Using the phone book again as an example, we would have separate database fields for the following information:

- Individuals/business name
- Street address
- Phone number

A database can have only one field, or can have hundreds of fields - whatever it takes to store all the information required for one database record entry.

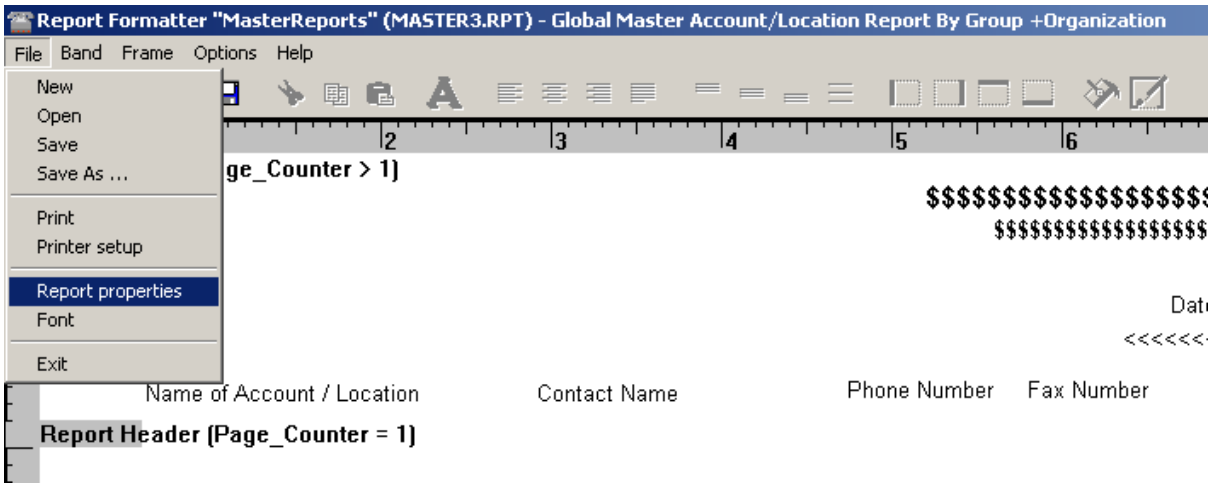
1.22.6 Database filters

A **database filter** enables you to extract information from database file(s) that you want to print on the report. The ability to use filters in database programs has always been one of the strongest features of database applications (dBase, Foxpro, Access, etc). While they can be a little confusing at first, if you understand some basic concepts of how to create a database filter you will find them to extremely helpful in creating useful reports.

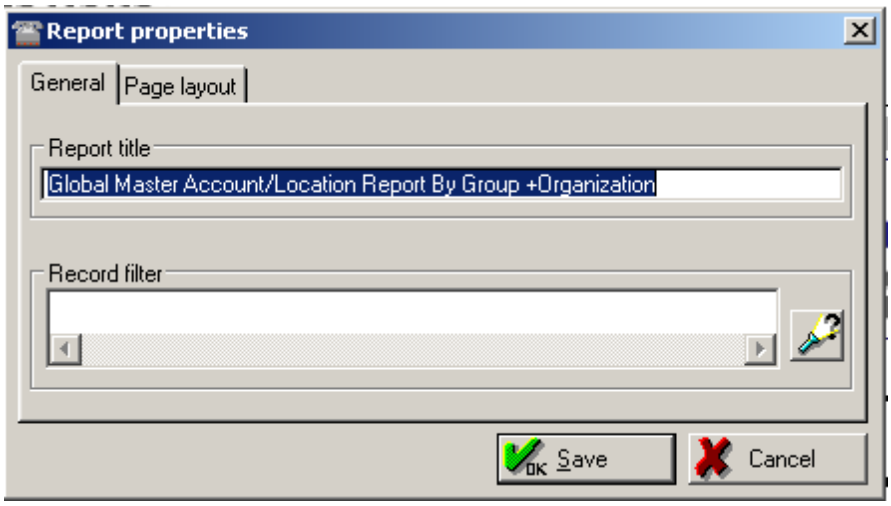
Filters do not change any information contained in database file(s); they don't copy information to another file either. A filter simply "hides" information that you don't want to see, which explains why they are called "Filters". No matter how many times you create or use a database filter, you are guaranteed that they will NEVER harm your database information. Hopefully this will give you the confidence to try creating filters for various purposes.

Reports may be filtered on the Report Property level and/or on a Report Band level. In the example below, the **Report Properties** are found inside the Report itself under the FILE > REPORT PROPERTIES menu option.

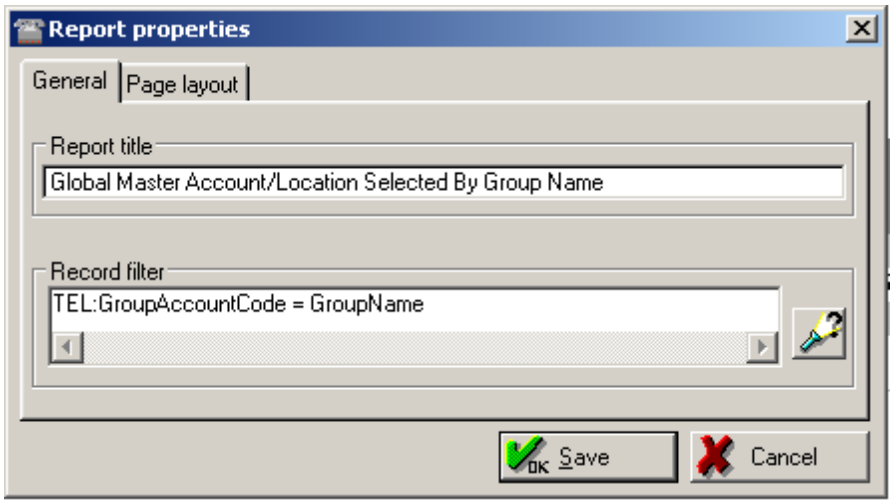
© Access Business Communications, Inc.



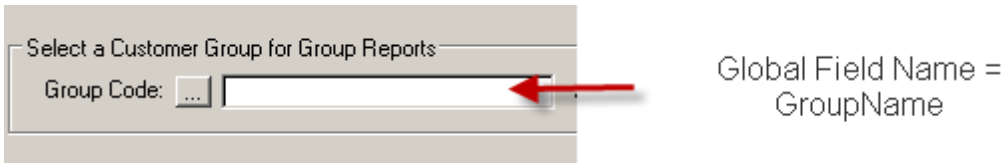
The **REPORT PROPERTIES** contains the master **Page layout** information, plus a field to store the **Report Builder Menu information and a Record filter.**



Again, in the example below the Report Title has been changed to indicate that the Report will show only the records for a 'Group Name' that will be entered into a **Global Field** that we have named 'GroupName.'



Therefore, in this example the Report will only show records with a **'Group Name'** that appears in the Telco Customer/Location record that is 'EQUAL TO' the **'Group Name'** that is entered into the Group Code field of the Report Builder Filter fields.



Related Topic: Expressions and Formulas

Database Filters Tutorial

1.22.7 Expressions and Formulas

Expressions

An expression is made up of two types of components: operands and operators. Operators perform an operation (such as addition, subtraction, etc.) on one or more operands of the expression. Operands are the components on which operations are performed. Operands either contain or return a value. Constants, data dictionary columns, memory variables, and functions are examples of operands. An operand can be made up of more than one component, such as a function and its parameters.

The Frame Editor lets you choose operators and operands, and then insert them into the Statement line.

The sections below lists all the components used in Clarion expressions.

Math Operators

+ Plus sign: Adds two operands together.

- Minus sign: Subtracts one operand from another.

* Asterisk: Multiplies one operand by another.

/ Slash: Divides one operand by another.

% Percent sign: Returns the remainder from a division operation (modulus division).

^ Caret: Raises one operand to the power of the other.

( ) Parentheses: Groups components together within an expression.

Logical (Boolean) Operators

= Equal: Evaluates whether one expression is equal to the other.

< Less Than: Evaluates whether one expression is less than the other.

> Greater Than: Evaluates whether one expression is greater than the other.

<> Not Equal: Evaluates whether one expression is not equal to the other.

>= Greater or Equal: Evaluates whether one expression is greater than or equal to the other.

<= Less or Equal: Evaluates whether one expression is less than or equal to the other.

AND Connects two logical expressions together. For an expression containing an AND to be true, both expressions of the AND must be true.

OR Connects two logical expressions together. An expression containing an OR is true if either expression of the OR is true.

XOR Connects two logical expressions together. An XOR expression is true if either expression is true, but not both.

NOT Reverses the evaluation of an expression.

~ Reverses the evaluation of an expression.

© Access Business Communications, Inc.

String Operators

& Ampersand: Appends one text string to another.

Operands

Data ~Includes data dictionary columns, global, and local memory variables.

Functions ~All of the built-in functions of the Clarion language. These functions all perform some operation on parameters (other operands) and return a value.

User ~Any FUNCTION in your application. These functions perform some operation on parameters (other operands) and return a value.

Constant Text ~You can type constant text surrounded in single quotes (‘A’) on the Statement line.

Constant Number ~You can type constant numbers on the Statement line. Constant numbers can be represented in any valid format, such as Decimal (1 or 1.2345), Scientific Notation (22e4), Binary (0101b), or Hexadecimal (1AFFh).

Example Expressions

Lastname & ‘, ‘ & FirstName	!concatenated string constants & variables
ABS(Amount) * 100	!function, numeric variable & constant
TaxCode = True AND Amount > .25	!Boolean with variables & constants

1.22.8 Database Filters Tutorial

A database filter enables you to extract information from database file(s) that you want to print on the report. The ability to use filters in database programs has always been one of the strongest features of database applications (dBase, Foxpro, Access, etc). While they can be a little confusing at first, if you understand some basic concepts of how to create a database filter you will find them to extremely helpful in creating useful reports.

Filters do not change any information contained in database file(s); they don't copy information to another file either. A filter simply "hides" information that you don't want to see, which explains why they are called "Filters". No matter how many times you create or use a database filter, you are guaranteed that they will NEVER harm your database information. Hopefully this will give you the

confidence to try creating filters for various purposes.

Understanding database filters is crucial to printing useful reports. Once you learn some basics of database filters you will find them extremely useful in building your reports.

Some database programs may provide a "wizard" that enables you to easily create / use / save database filters. If this is the case with this database application then please consult it's documentation on how to use this feature.

This help file breaks down database filters into smaller pieces to help you in understand what a filter is, and how to create increasingly complex filters. It is recommended that you at least glance over each topic; if you get stuck you can always reference these help topics when creating your database filter.

Filters 101 Part 1 - What is a database filter?

Filters 101 Part 2 - What are the components of a database filter?

Filters 101 Part 3 - Simple filters to get started

Filters 101 Part 4 - Stopping common filter problems before they start

Filters 101 Part 5 - Combining multiple conditions into one filter

1.22.8.1 Filters 101 - Part 1

A **database filter** enables you to extract information from database file(s) that you want to print on the report. The ability to use filters in database programs has always been one of the strongest features of database applications (dBase, Foxpro, Access, etc). While they can be a little confusing at first, if you understand some basic concepts of how to create a database filter you will find them to extremely helpful in creating useful reports.

Filters do not change any information contained in database file(s); they don't copy information to another file either. A filter simply "hides" information that you don't want to see, which explains why they are called "Filters". No matter how many times you create or use a database filter, you are guaranteed that they will NEVER harm your database information. Hopefully this will give you the confidence to try creating filters for various purposes.

Goto the next help topic

© Access Business Communications, Inc.

1.22.8.2 Filters 101 - Part 2

A filter relies on 3 pieces of information to work:

- A field name from the database
- An operator symbol
- The text string or number to compare the database field against
-
- Let's examine each of these 3 pieces a little more closely:
-
- The database field name is defined in the the database structure. If you haven't read up on databases and what they are made of, click HERE for more in-depth information. The Report Builder doesn't assume that you haven't memorized the structure of each database file in your application; the Dictionary window allows you to choose the database field from a list of every database field, making this step very painless to complete. For this small example, let's assume that you have a database field named "City"; it is 2 positions long, and contains only text ("az", "ca", "tx", etc) abbreviations of the 50 states of the United States.
- An operator symbol tells the Report Builder what you want to do with the database field that you've chosen from the dictionary. Again, the Dictionary helps you by displaying a list of every operator that are available for building filters. You select an operator symbol based upon the type of information contained in the database file. Some operators are used only on text (such as "="); some are only used on numeric information (such as ">", "<"). For this example we have chosen a text field, so we will use the equal sign for the operator symbol.
- The last piece of the filter is one that you provide; only you know what information you want to extract from the database! For this example let's assume we want to print a report of only those customers living in Texas; the abbreviation for Texas is "tx", so we will use "tx" as the last piece of the filter.

So, our first filter resembles this:

INV:State = 'tx'

Granted, this is a very simple filter, but clearly shows all 3 filter components. Let's modify the filter to use a numeric field and a numeric operator. Let's assume that we want to print a report of all customers who have at least a $5000 line of credit with our company. A sample

filter would resemble this:

CUS:LOC > 5000

Again, this is a very simple filter that basically shows the structure of a filter.

Goto the next help topic

1.22.8.3 Filters 101 - Part 3

In part 2 some simple filters were shown to help you understand the components of a database filter. A database filter can be very simple, or fairly complex - it depends on the type of report that you are attempting to create.

In it's most simple form database filters can be used for three different situations:

You are extracting information based on text

You are extracting information using numbers

You are extracting information based on a logical condition

Here are some situation descriptions and a simple database filter for each:

Customers who drive a BMW

CUS:CarType = 'bmw'

Products made by MierWater

ITM:Company = 'mierwater

Items with an onhand quantity greater than 20

ITM:QtyOnhand > 20

Children who are too young to be in Kindergarten

© Access Business Communications, Inc.

Nam:Age < 7

Customers who have pets

NAM:Pets = 1

Items with no detailed information available

ITM:Detailed = 0

The 6 example filters above are very simple in structure, but some interesting details quickly become apparent:

The first 2 filters for Text-type filters require a quote symbol (') before and after the text string that you are comparing against the database field

The next 2 filters for Integer-type filters don't use a quote symbol; that would make them a text string!

The last 2 filters for Logical-type filters use either a 0 (False) or 1 (True) to indicate true or false. This is because the information for this database field is stored as a one position integer in the database. For those of you with dBase experience this is quite different than what you are used to. dBase stores a value of true as "Y" or "T", and a negative value as "N" or "F".

Goto the next topic

1.22.8.4 Filters 101 - Part 4

In the previous help topic some very simple filters were displayed. While structurally correct, they could use some modification to make them 100% reliable. You never know exactly how database information is stored; some database programs have very strict safeguards incorporated in them to ensure data is highly structured. Even then it is better to think defensively and create database filters that will work correctly in any situation.

Let us assume that a database program tracks customer sales. The data entry screen allows you (or your sales staff) to type in the customer name, their address, etc. Naturally the customer information is text information (A-Z, a-z); let us assume that the boss wants a report printing all customers living in Burbank; a simple filter should work:

CUS:City = 'Burbank'

© Access Business Communications, Inc.

The filter above looks correct, and would work IF the data entry clerk ALWAYS typed in the city 'Burbank' the same way every time. What would happen if the CapsLock key was turned on and the clerk instead typed in 'BURBANK'?

If you guessed that the filter wouldn't work you would be correct! That is because the comparison of the database field CUS:CITY must EXACTLY match the text string 'Burbank'!

There are several ways of fixing this common problem. If you wanted to create a lot of work for yourself you could define the filter like this:

CUS:City = 'Burbank' or CUS:City = 'BUrbank' or CUS:City = 'BURbank' or CUS:City = 'BURBank' or CUS:City = 'BURBAnk' or CUS:City = 'BURBANk' or CUS:City = 'BURBANK'

Thankfully there is a much easier way of fixing it than this!! By using the functions UPPER() or LOWER() you can define the filter like this instead:

upper(CUS:City) = 'BURBANK'

-or-

lower(CUS:City) = 'burbank'

Either way is guaranteed to work 100% of the time. You will also greatly increase the operational speed of the filter by using the upper() or lower() functions instead of using the very long filter example. To learn more about the built in functions in the Report Builder click HERE.

The important thing to consider here is this - never take for granted that database information will be typed in exactly as you think it is. The Capslock key can cause a great deal of problems when you assume!

Goto the next topic

1.22.8.5 Filters 101 - Part 5

As mentioned before, database filters can be very simple or complex; it depends on the situation. To accomodate this situation the database language has created what is called

© Access Business Communications, Inc.

BOOLEAN OPERATORS. These are used to "join" together multiple database filter conditions (also known as Expressions). As you may have guessed, it is important to know how to use a BOOLEAN OPERATOR properly to achieve the desired result.

There are only a handful of BOOLEAN OPERATORS; you will use only 4 of these to create complex filter conditions. These are

AND

OR

NOT

XOR

Let's use some example situations and display what a sample filter for each would be:

Customers from Texas that make over $50000 a year

upper(CUS:State) = 'TX' AND CUS:Income > 49999

People who like ice cream or truffles

CUS:IceCream = 1 OR CUS:Truffles = 1

Cars that can be any color except orange

upper(INV:Color) NOT = 'BLACK'

Notice that every time we are comparing a text string (such as the state field) the function UPPER() is used. This is a good practice to get into; whenever your filters are using/ comparing text use the UPPER() or LOWER() functions.

Notice that the CUS:IceCream and CUS:Truffle fields are true/false fields; a value of one means that the field is TRUE (zero would mean false).

Notice that the NOT operator is used with the equal sign; this BOOLEAN OPERATOR is most commonly used with another CONDITIONAL OPERATOR (greater than, less than,

© Access Business Communications, Inc.

equal to).

It is important to understand that there is an order of precedence involved when combining two or more expressions into one filter. A simple definition for "precedence" can be "what the computer will look for first in the database". There are five levels of precedence:

Level 1: Parenthesis characters that surround a portion of a filter expression

Level 2: Conditional operators (<, >, =, etc)

Level 3: NOT

Level 4: AND

Level 5: OR

When the filter expression is evaluated the precedence order will determine the result of the filter. The filter always returns a value of either TRUE or FALSE; either the database field(s) matches what you are checking for or it doesn't! There is no other result that a filter can return. Keeping this in mind here are some additional filter examples:

upper(CUS:Car) = 'FERRARI'

Above we are checking for customers who own cars made by Ferrari; if their car is a Honda then the filter condition returns a value of FALSE, and won't be selected for printing on the report.

Let's modify the filter to check for 'Ferrari' and 'Lotus' automobiles by using a BOOLEAN OPERATOR:

upper(CUS:Car) = 'FERRARI' AND upper(CUS:Car) = 'LOTUS'

In this example the BOOLEAN OPERATOR of AND is being used. However, let's examine what is happening, and why the above example will fail. The BOOLEAN OPERATOR of AND means that both expressions MUST return a value of TRUE for that database record to be selected. There is no way a car can be both a Ferrari AND an Lotus, so that database record will be skipped!

© Access Business Communications, Inc.

We need to change the BOOLEAN OPERATOR to the OR operator so the filter looks like this:

upper(CUS:Car) = 'FERRARI' OR upper(CUS:Car) = 'Lotus'

If the car isn't a Ferrari the OR BOOLEAN OPERATOR will continue evaluating the filter expression, since a value of TRUE isn't required for the first part of the expression. Therefore if the car is a Ferrari or Lotus that database record will be selected for printing.

You can create very long filters by using BOOLEAN OPERATORS; some examples:

Male customers over 30 who drive a Lincoln or Cadillac automobile

upper(CUS:Sex) = 'M' and CUS:Age > 30 AND upper(CUS:Car) = 'Lincoln' or upper(CUS:Car) = 'Cadillac'

Clients between the ages of 30 and 40

CUS:Age > 29 AND CUS:Age < 41

1.22.9 Global Variable Fields

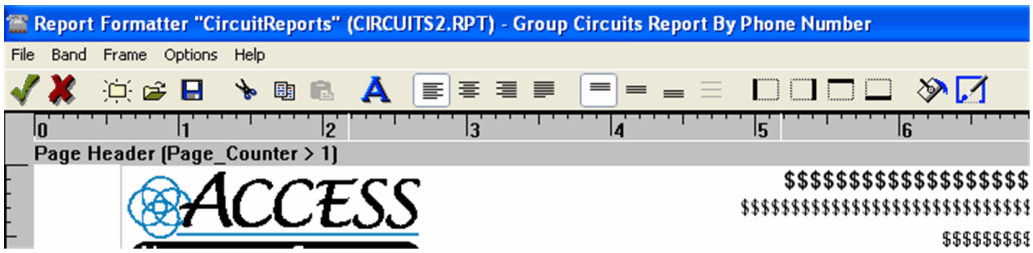
Global Variables fields are a temporary fields stored in memory or space reserved in computer memory that can store information. Variables used in the Report Builder are visible on certain windows or screens and within the Report Builder itself - other areas of this software application cannot use variables that you create for use with reports, and are deleted from computer memory once the report has been generated. Global Variable fields are typically used for report or database filtering.

The following are examples of a Global Variable fields which match the fields used in TelcoMgr to filter **browse windows** or report contents:

- **Customer/Locaton ID** - Used to select a specific account;
- **NPA-NXX-Line #** - Used to select a specific line;
- **Group Name Code** - Used to select records that are part of a specific group;
- **From Date** - Beginning of a date range;
- **Through Date -** The ending of a date range;
- **User Defined Field** - Located on the Customer/Location main Tab;
- **Assigned to Resource Field** - Located on the Customer/Location Managed Services Info TAB.

© Access Business Communications, Inc.

1.22.10 Report Formatter Screen



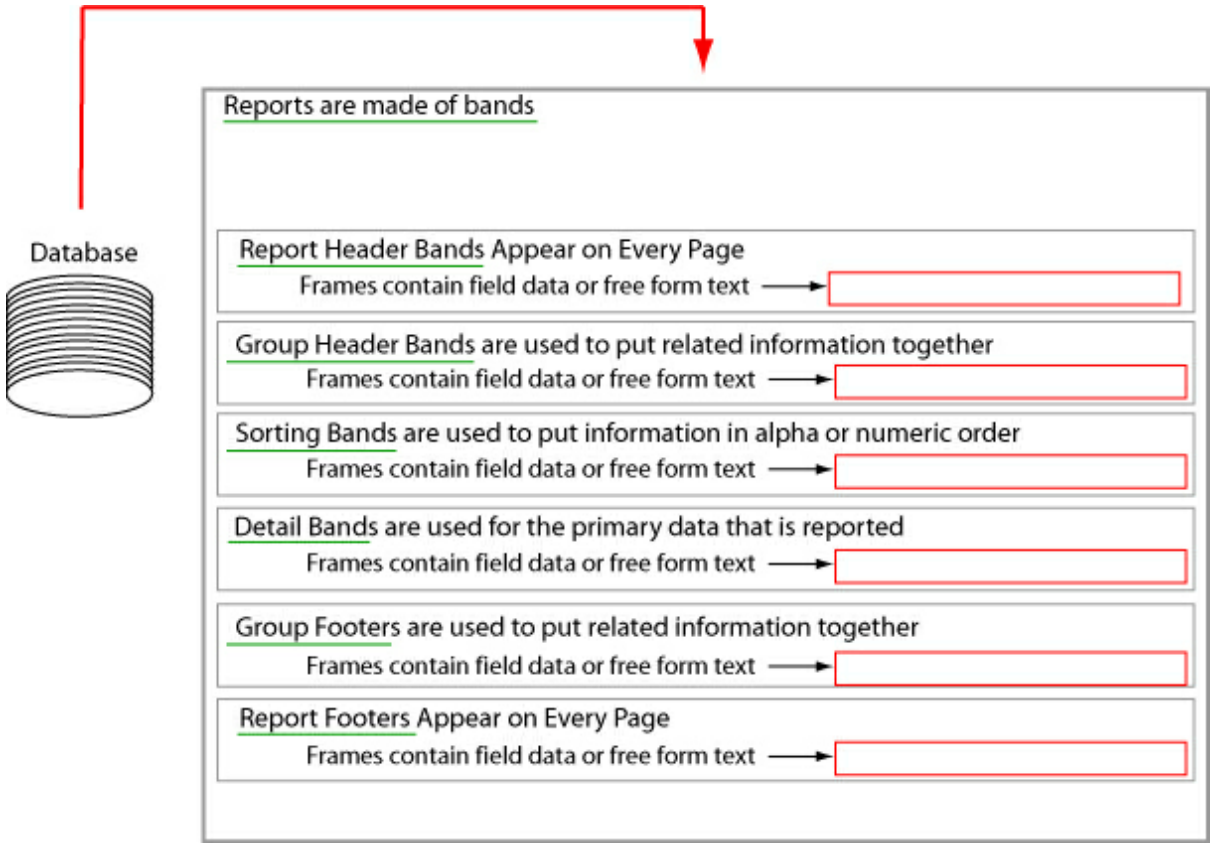
Whenever you create a new report or modify an existing report you will be using a report formatter or "painter" to place item(s) in the desired location. The screen is very easy to use, with a toolbar of commonly used commands, a pulldown menu, and use of the right mouse button to modify item(s) on the screen. Here is a sample screen "painter"; place the mouse button over an item - if the mouse cursor changes to a hand you can left click the mouse to see what the item does:

1.22.11 Report Bands

There are 8 types of report bands, plus **frames**, that can be defined in a report:

1. **Page Header** - Your report can contain only one page header. This report band is printed at the top of the output on each generated report page.
2. **Report Header** - Your report can contain only one report header. This report band is printed at the top of the output on only the FIRST generated report page.
3. **Sorting Band** - Your can have multiple Sorting Band details on a report. A sorting band may contain it's own header, footer and/or additional breaks. A sorting band is the mechanism for SORTING a report.
4. **Group Header** - This band is printed at the top of each page when the group break value has changed.
5. **Detail** - You can have multiple DETAIL bands in a report. A detail band is responsible for retrieving database information required for the report and printing the data onto the report.
6. **Group Footer** - This band is printed at the bottom of each page when the group break value has changed.
7. **Report Footer** - This band is printed at the bottom of the last generated page in the report.
8. **Page Footer** - This band is printed at the bottom of each page in the generated report.

© Access Business Communications, Inc.



1.22.12 Sorting Bands

This band is used to print a header above a group. Let's examine a real world situation for using a sort band header.

Let's use a mailing list as an example. Your organization has members all over the United States in each of the fifty states. When your mailing list prints you want the output to be nicely formatted with a title above each state to be make locating people in a specific state very quick and easy. An example output without a group header may resemble:

AL Bob McKinley

AL Chuck Connors

AL David Spinley

AZ Alan Sockworth

AZ Frank Sputz

AZ Henry Rollins

© Access Business Communications, Inc.

And an example output with a fancy sort band header:

_____

State: AL

_____

AL Bob McKinley

AL Chuck Connors

AL David Spinley

_____

State: AZ

_____

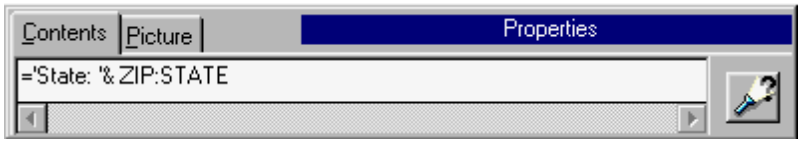
AZ Alan Sockworth

AZ Frank Sputz

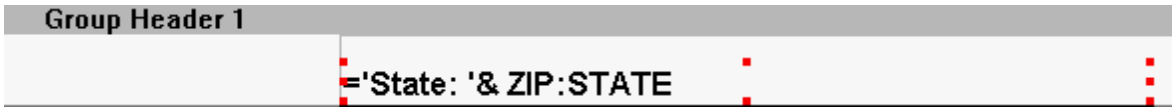
AZ Henry Rollins

Obviously a group header can be as simple or fancy as required. Different font types and colors can be used to help separate groups of data as needed. Aside from bring far more visually appealing for the user, they also aid in locating data that is grouped together much more efficiently.

A group header can contain a mixture of text and database field information. Use the frame charactistics dialogue box to help you build the group header. The above example frame contents would resemble:



The actual report band would resemble:



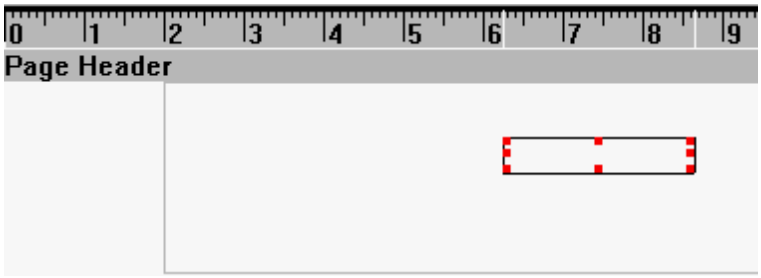
1.22.13 Frames

Frames are used to mark the boundaries of an object placed in a report band. A better explanation in "laymans terms" would probably be best described as a "box that will contain something". Frames are usable on certain report bands that you add to a report.

To define a new frame, you will:

- Left click inside the report band that you want something to be printed; this will select the report band to receive the empty frame
- Right click the mouse to display a popup menu; from this menu select 'New Frame'

A new empty frame is now displayed inside the report band where you had previously left clicked the mouse:



As shown above an empty frame was placed inside the Page Header Report Band; red blocks outline the frame, indicating that you can stretch any of the corners to meet your printing size requirement. You can also drag the empty frame to a different location inside the report band by left clicking inside the empty frame, then drag the empty frame to the desired location. When dragging the empty frame the border will turn completely red - release the left mouse button after moving the frame to set it's position.

A useful ruler bar to aid in positioning frames for the report. You can toggle the ruler bar style between the English system and Metric system by selecting the main menu option OPTIONS, then METRIC SYSTEM. If a checkmark is displayed to the left of the menu entry the ruler bar is displayed using the metric system, and vice versa.

© Access Business Communications, Inc.

Once you have moved and/or resized the frame you need to define what you want printed in this location. A frame can contain many things:

- A database field used in the application
- A text string (such as a report header, column header, etc)
- A calculated field that is generated at runtime
- A page counter
- The current date or time
- Total fields (such as total expenditure, dollar total, etc)

Frames can also contain MULTIPLE items - this is handy when you want to format database information to look a certain way. Here are some examples of combining multiple items inside a frame:

- Two or more fields: CUS:Fname &' ' &CUS:Lname [The &' ' places a blank space between the first and second name]
- Two or more fields; remove empty space at end of each field: clip(CUS:Fname) & ' ' & clip (CUS:Lname)
- Two or more fields; highly formatted: clip(CUS:Lname) & ', ' & clip(CUS:Fname)
- Fields and text: '* ' & clip(ITE:Description) & ' *'

Notice that the function clip() was used with text information (remember to ALWAYS surround any text information with the ' symbol). Any of the report builder functions may be used to format database information (such as the Upper() and Lower() functions).

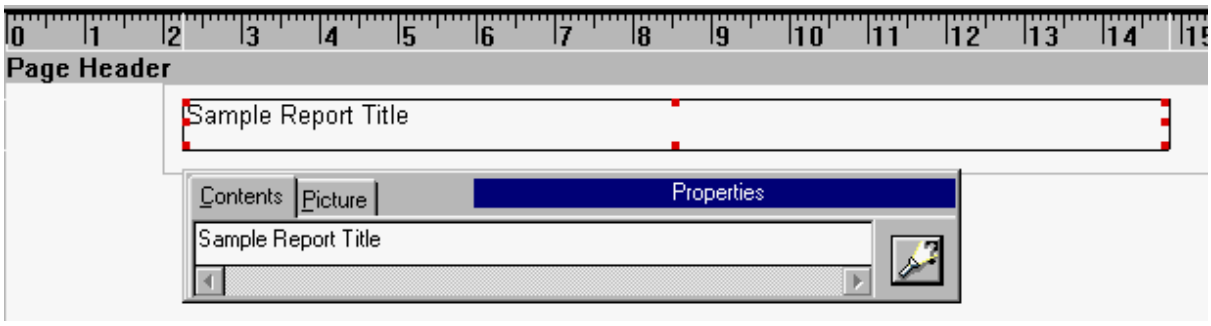
To change the contents of a frame and/or it's properties you will use the Report Formatter Frame Edit Box.

Related Topic: Expressions and Formulas

1.22.14 Adding Text Frame

After text to a frame is very easy; it is the default action for a new frame. As soon as the frame is added to the report band you can immediately start typing:

© Access Business Communications, Inc.



The above screen capture shows a report band with a Page Header report band; created inside is one frame, and the text string "Sample Report Title" has been entered. As you type information into the entry field for 'Contents' the screen is updated to reflect the information.

You can right click on the frame to change the characteristics of the information (in this case, the text string "Sample Report Title") will be printed.

Because the frame contains only a text string (Sample Report Title) you don't have to worry about the Picture tab, or the Picture pushbutton, since you are typing the text string as you want it printed.

1.22.15 Concatenation Symbol

Concatenation is a fancy word that means "join together"; it is most often used in the computer programming world, which is why you've probably never heard of it.

The ampersand symbol (&) is used to join together one string field or string variable to another. The length of the resulting string is the sum of the lengths of the two strings. Numeric data types may be concatenated with strings or other numeric variables or constants. In many cases, the CLIP() function should be used to remove any trailing spaces from a string being concatenated to another string.

Examples: clip(NAM:Lastname) & ', ' & clip(NAM:Firstname)

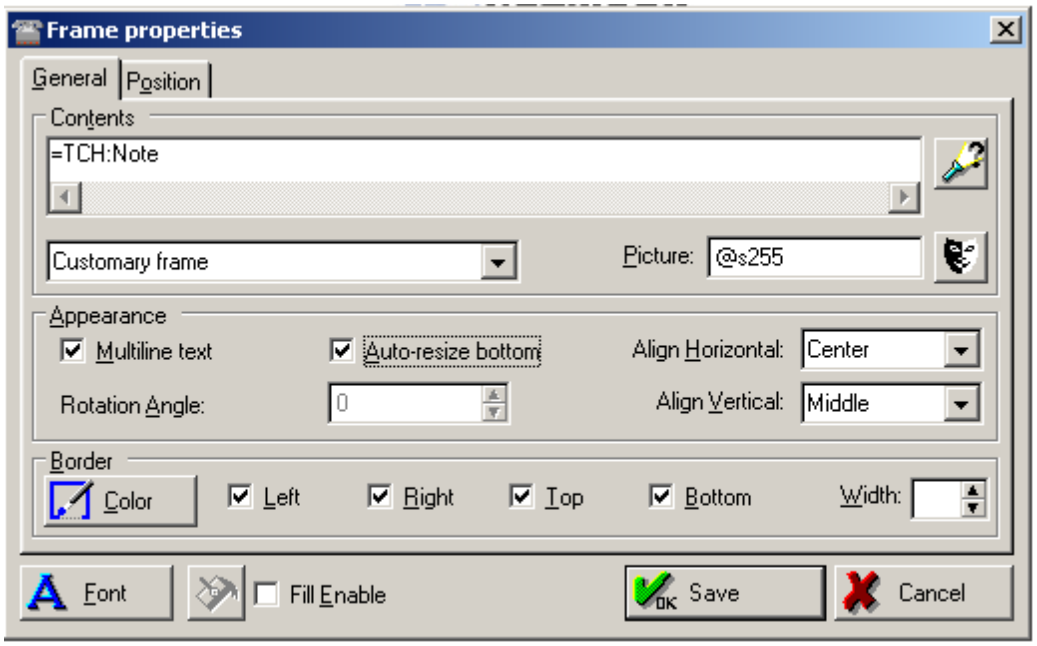
'$' & ITM:UnitCost

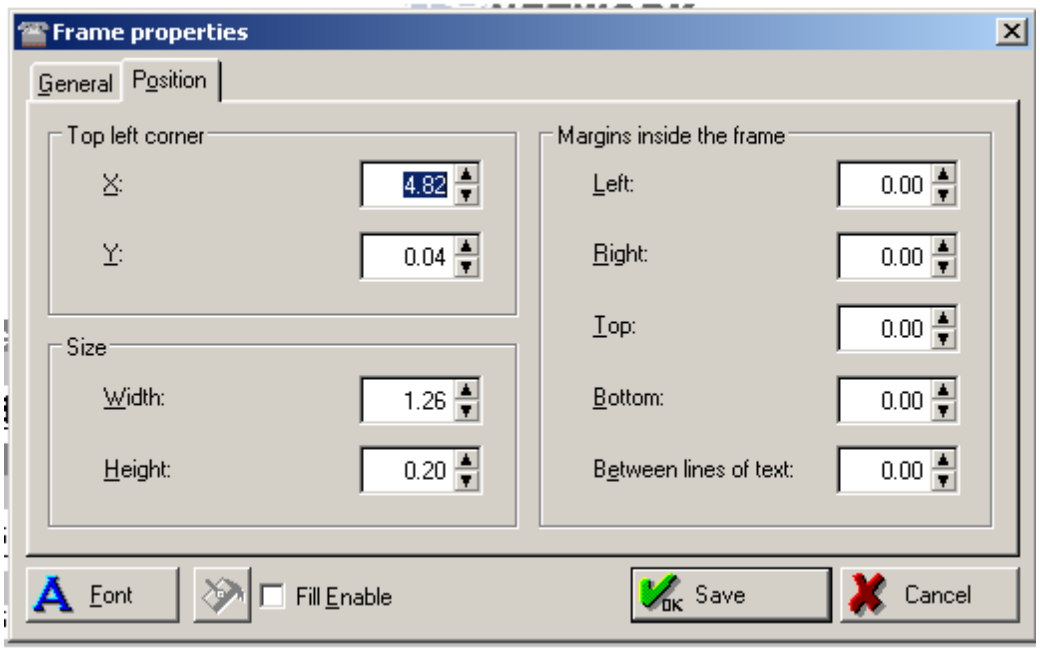
Related Topic: Expressions and Formulas

1.22.16 Frame Properties

In many ways, a **FRAME** is very much like a **CELL** inside a spreadsheet. However, a **FRAME** may be placed at any position inside a **BAND** and is not constrained by a ROW or COLUMN in a spreadsheet. This dialogue box allows you to modify the appearance of information stored inside a frame. You can display this popup window by double clicking on a frame, or right click on the frame and select from the popup menu the choice titled Properties:

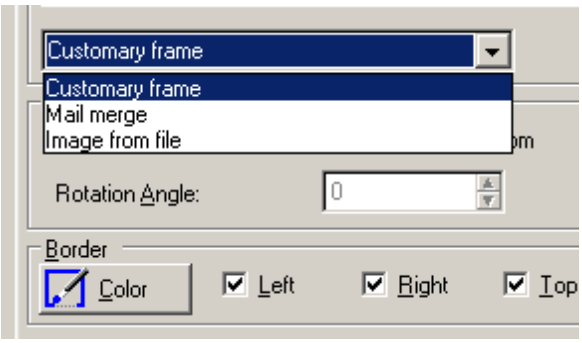
© Access Business Communications, Inc.





You can change any aspect of the frame contents by using this dialogue box. Here is a breakdown of the various options:

- Contents: If you are going to use the frame to contain text you can simply type it into this entry field. If you want the frame to contain database information click on the Dictionary button to select a database field, or alternatively format the information using the built in functions. You can modify the contents at any time by selecting the frame and re-editing.
- **FRAME TYPES**: A frame type can be **CUSTOMARY**, **MAIL MERGE** OR **IMAGE FILE**.



- **CUSTOMARY FRAME**: Use the CUSTOMARY FRAME for most fixed length data fields and field report labels.

- **MAIL MERGE:** Use the MAIL MERGE FRAME to place multiple fields with various sizes into a particular BAND.

- Contents - **Image File** Name: Include the Path and the Image file name (frameproperties, jpg or logo.bmp)
- Picture: If using database information inside the frame you can use a "picture" to modify it's appearance. Optionally, for large text fields leave the picture token blank.
- Appearance Group:

1. [ ] **Multiline Text** (Use this option if you want to wrap text content inside the FRAME. The contents of the field will conform to the size of the FRAME.
2. [ ] **Auto Resize Bottom** (Use this option to flow text from fields with large contents that may vary is size. This feature works best when the FRAME is placed alone on the last line of the BAND. Therefore, the FRAME may be set to .20 but with this feature enabled the FRAME will automatically adjust to a height that is needed for the inflow of text.
3. **ROTATION ANGLE:** Use the **ROTATION ANGLE** on a CUSTOMARY Frame to show field variable data or text on a slant.

- Align Horizontal: A drop list of different positions that the frame contents are aligned horizontally inside the frame.
- Align Vertical: A drop list of different positions that the frame contents are aligned vertically inside the frame.
- Left Margin: Define in increments of 0.5mm the gap between the edge of the frame and it's contents from the left edge of the frame.
- Right Margin: Define in increments of 0.5mm the gap between the edge of the frame and it's contents from the right edge of the frame.
- Top Margin: Define in increments of 0.5mm the gap between the edge of the frame and it's contents from the top edge of the frame.
- Bottom Margin: Define in increments of 0.5mm the gap between the edge of the frame and it's contents from the bottom edge of the frame.
- Between Margin:
- Border Color: Displays a standard Windows color selection box to choose a color for the border drawn around the frame.
- Left Border: A checkbox that allows for displaying (checkbox is check marked) or not displaying (checkbox is empty) a border on this side of the frame. The default setting for the report builder is to display a solid black border around the contents of the frame.
- Right Border: A checkbox that allows for displaying (checkbox is check marked) or not displaying (checkbox is empty) a border on this side of the frame. The default setting for the

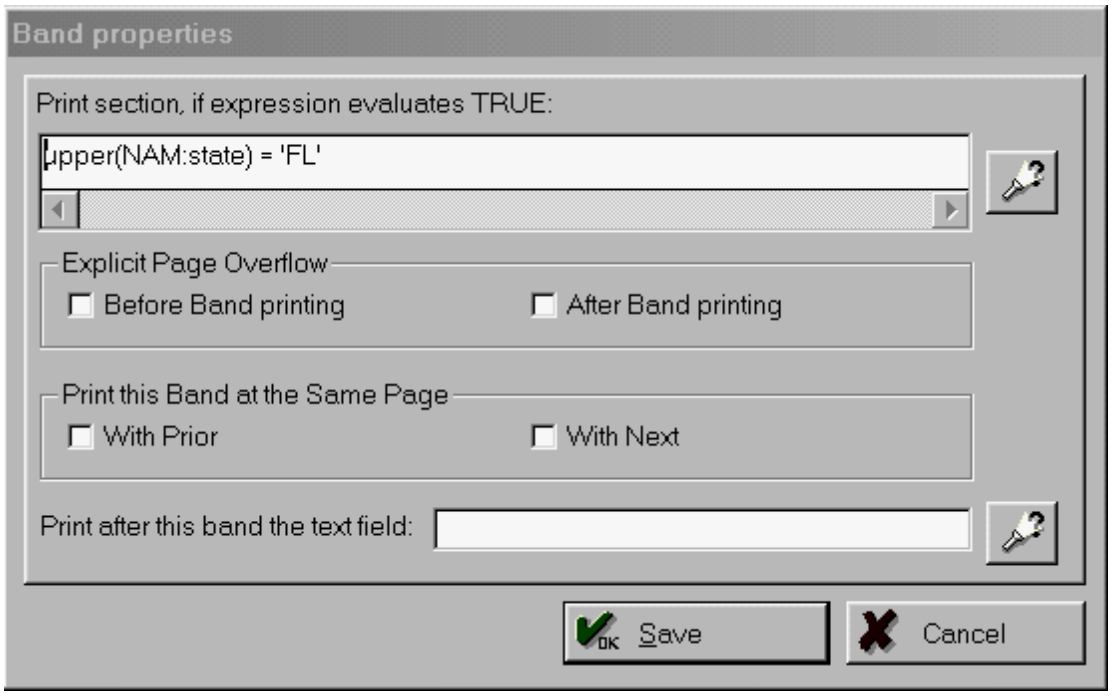
© Access Business Communications, Inc.

report builder is to display a solid black border around the contents of the frame.

- Top Border: A checkbox that allows for displaying (checkbox is check marked) or not displaying (checkbox is empty) a border on this side of the frame. The default setting for the report builder is to display a solid black border around the contents of the frame.
- Bottom Border: A checkbox that allows for displaying (checkbox is check marked) or not displaying (checkbox is empty) a border on this side of the frame. The default setting for the report builder is to display a solid black border around the contents of the frame.
- Border Width: This is a spin box with a range of 0-9 which changes the border line width.
- Font: Displays a standard Windows dialogue box to change the font characteristics of the frame contents.
- Fill Enable: A checkbox allowing you to fill in a frame with a solid color. When check marked the button to the left of the checkbox is made available to select a color from a standard Windows color selection dialogue window.
- Save: Save changes made to the selected frame.
- Cancel: Abandon all changes made to the selected frame.

1.22.17 Group Band Properties

Properties:



Sample Output:

Customer Database - ACME Sales

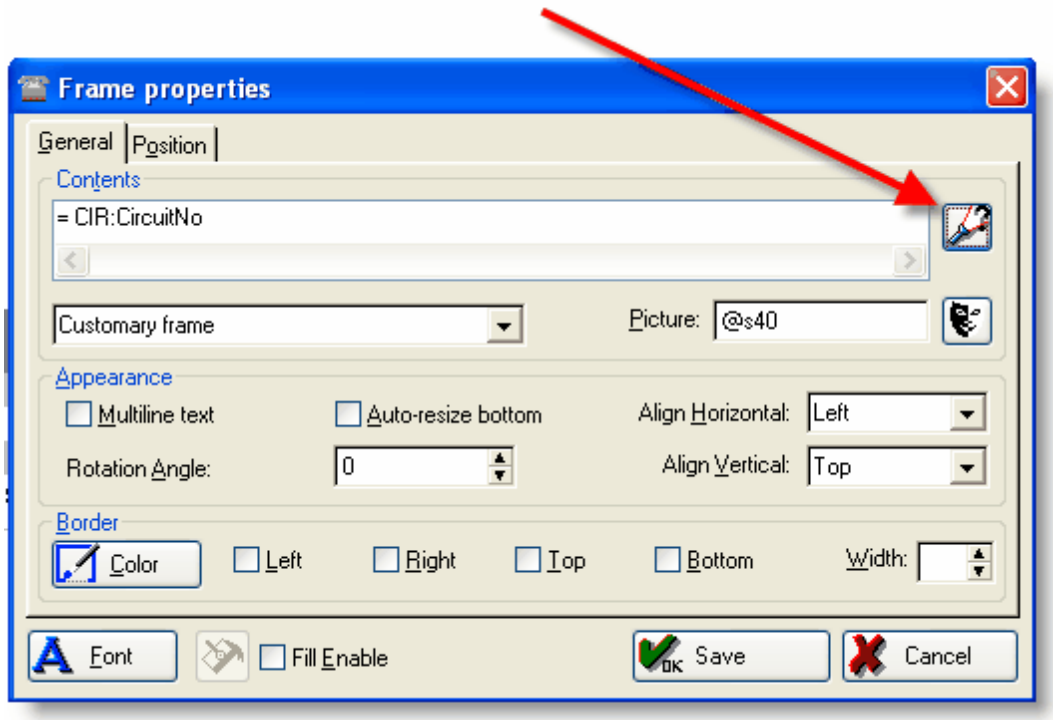
Name	Mailing Address	City / State / Zip Code
Ferrigno, Lou A	419 Anger Management Lane	Green, FL 21393 United States
Dillet, Paul J	210 Dumbbell Plaza	Oakland, FL 12981 United States
Zane, Frank K	200 Buff Place Suite 106	Oakland, FL 12398 United States
Draper, Dave P	900 Elm Street	Tampa, FL 29381 United States
State Code: FL		
Willis, Bruce Y	200 Die Hard Street	Gore, NM 21389 United States
Hurt, William D	319 Poplar Drive	Portland, OR 21839 United States
Presley, Elvis A	100 Rock N Roll Lane	Memphis, TN 91231 United States

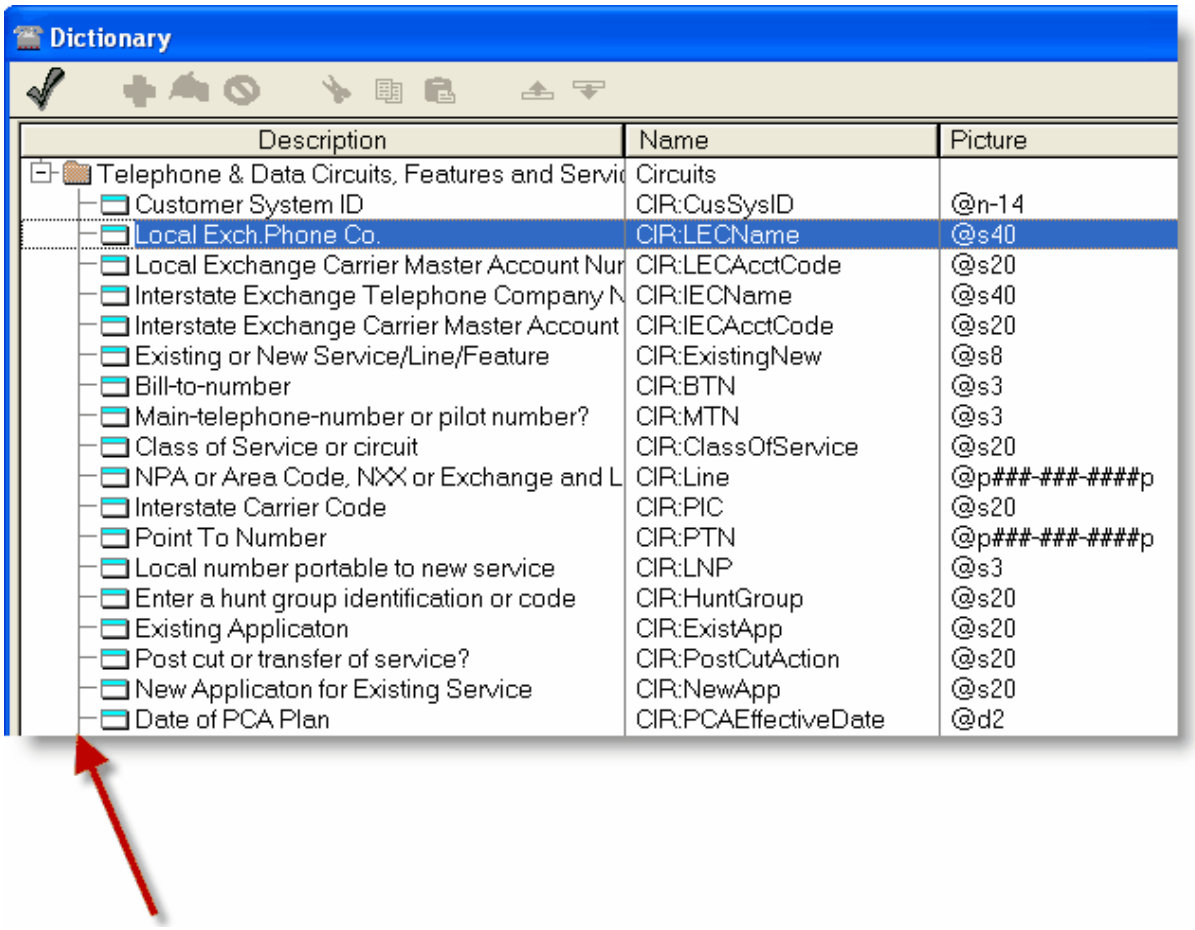
Notice that the Group Footer was printed only after the state code changed from FL!

USER TIP: To force the FL data to begin printing on a new page click on the **Explicit Page Overflow** checkbox [ ] **Before Band Printing, which forces a New Report Page.**

1.22.18 Dictionary

The dictionary is the "heart" of the report builder - it contains information on all the database fields used by your program, as well as internal variables and functions that you can use to customize your output. The **dictionary** may be accessed through a **FRAME**. Here is a sample dictionary:


Frame properties
General
Position
Contents
= CIR:CircuitNo
Customary frame
Picture:
@s40
Appearance
Multiline text
Auto-resize bottom
Align Horizontal:
Left
Rotation Angle:
0
Align Vertical:
Top
Border
Color
Left
Right
Top
Bottom
Width:
Font
Fill Enable
Save
Cancel



Shown above is a sample dictionary. The dictionary uses an expandable "tree" format to access the different types of information that can be placed inside a frame. The tree above is shown in collapsed form for a better overall view. To gain insight into what the different dictionary categories are, left click on one of the following items in the above screen capture:

- Processed Files
- Functions
- Built-In Variables
- Standard Operators
- Standard Functions
- Calculated Fields
- Gather Totals

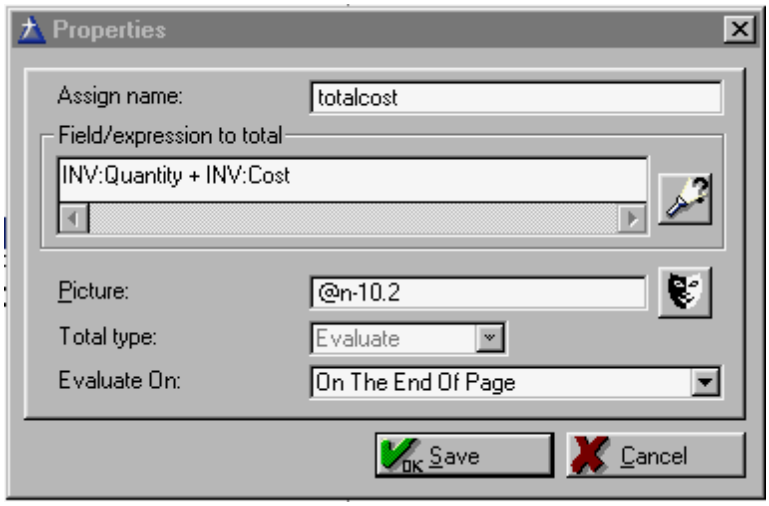
A dictionary stores all the data used in this application in an easily accessed format. It also provides access to powerful tools for manipulating data required for fancier reports. You can

even create new variables to contain data that is extracted at report generation time!

1.22.18.1 Dictionary - Built in Variables

As shown above there are 4 available built-in variables that can be used in a report. Double left click an entry to select the choice to insert the value into the Contents window of the FRAME properties entry field.

1.22.18.2 Dictionary - Calculated Fields



The screen capture above shows a new calculated field being added to the dictionary. A new variable named "TotalCost" is being created that will contain the sum of two database fields (INV:Quantity + INV:Cost). The evaluation process is performed at the end of the page.

The new variable was created by clicking the blue '+' button after highlighting Calculated

Fields.

Calculated fields can be looked upon as temporary storage in the computers memory to perform calculations on one or more database fields. This is primarily used for (but not restricted to) calculating invoice totals, inventory balances, etc. By changing the Picture you can have the output modified to better suit your needs. For example, if you are calculating a dollar total you could use the picture @N$-10.2 to display a dollar sign in front of the calculated field.

You can also change where the evaluation process occurs. There are 4 different methods to how fields are calculated:

- On the start of the report
- On each record
- On the end of the report
- On the end of the page

Related Topics: Expression and Formulas

1.22.18.3 Dictionary - Funtions

These functions are different than those found in the Standard Functions. These functions are designed by the programmer especially for this pc application. The screen above may be totally blank, with no functions developed at all. Or, it could contain a dozen or more specialized functions that perform a specialized task.

The above screen shows four functions available to this application. You could select one of these functions for your report from this dictionary location.

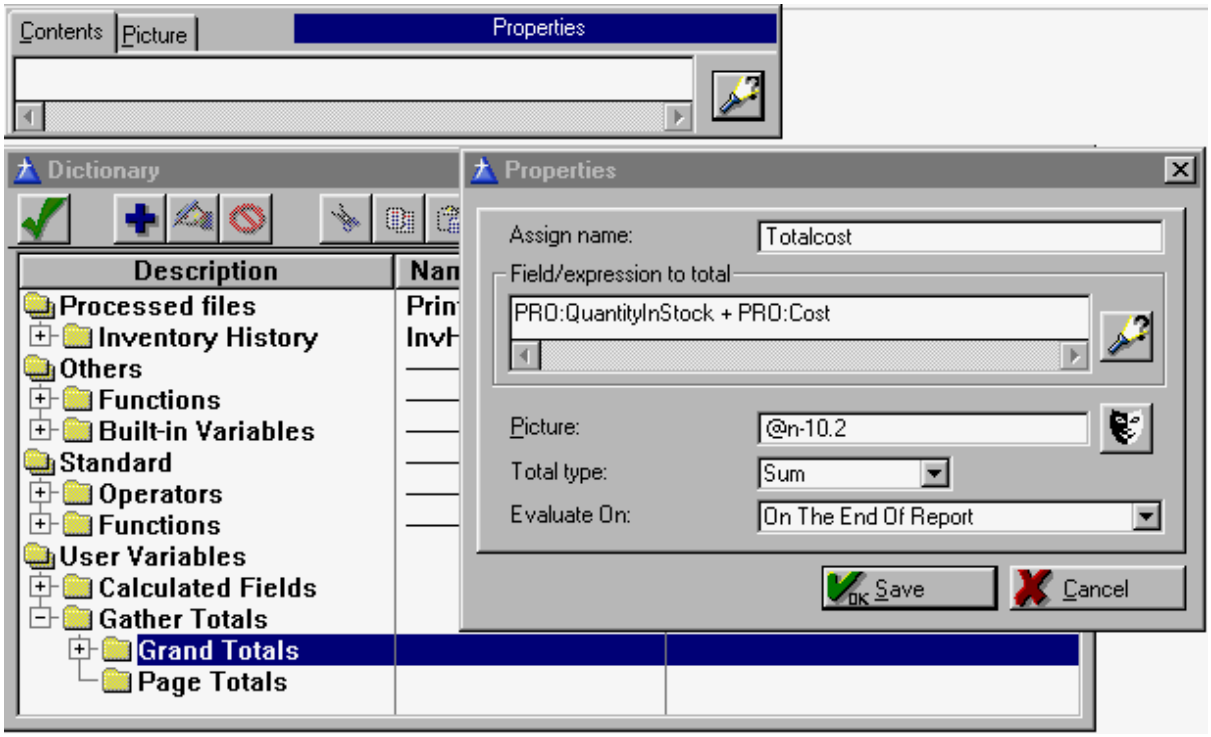
Some examples of different functions that a programmer could create and store here would be:

- Convert a text string to a propercase statement
- Calculate true cost of an item, to include it's sales tax

© Access Business Communications, Inc.

- Calculate tariff costs for outbound sales
- Convert a standard date (mm/dd/yy) to a julian formatted date (yyyyddd)

1.22.18.4 Dictionary - Gather Totals



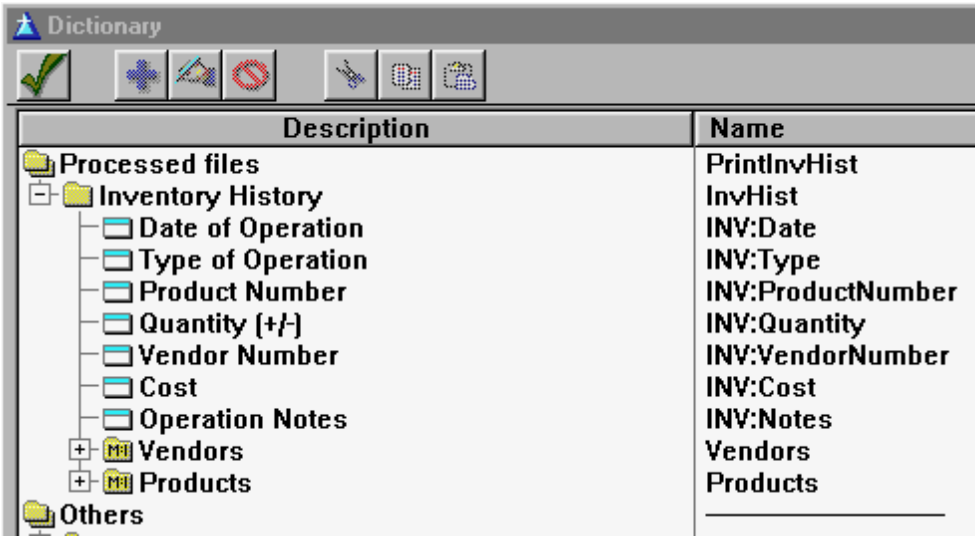
The screen capture above shows a new variable (Totalcost) being created that will contain the sum of two database fields (PRO:QuantityInStock and PRO:Cost). The total is evaluated at the end of the report. This option is used primarily to obtain and print grand total(s) from information contained in the database.

The new variable was created by clicking the blue '+' button after highlighting Grand Totals.

If you need totals printed on each page the option 'Page Totals' will better suit your purpose, as it will gather the information when each page is generated and properly insert the value on the output.

1.22.18.5 Dictionary - Processed Files

This section of the Dictionary will be the most heavily used section by you - it contains references to all the databases and their fields. Depending on your application you may have only one database listed under "Processed Files" or many entries. The screen capture below shows three database files (Inventory History, Vendors and Products):



The above screen capture shows the Processed Files section of the dictionary. In this example there are three databases in this application:

- Inventory History
- Vendors
- Products

For each database you can expand the "tree" to view the database fields that it is made up of. The above example shows the Inventory History tree expanded to show it's database fields. The description for the field is shown under the database name - it is a more "english" looking name for the database field name, which is shown in the second column titled 'Name'. Notice that the database fields shown in the Name column have a prefix (INV:); this prefix is used to identify the database field at it's lowest level. Prefixes allow a programmer to use the same database field name in other database(s) used by this application.

The Processed Files section of the dictionary is used to select database field(s) for use in frames, calculated fields, etc. To select a field simply double click the desired field to insert it into the frame or calculated field.

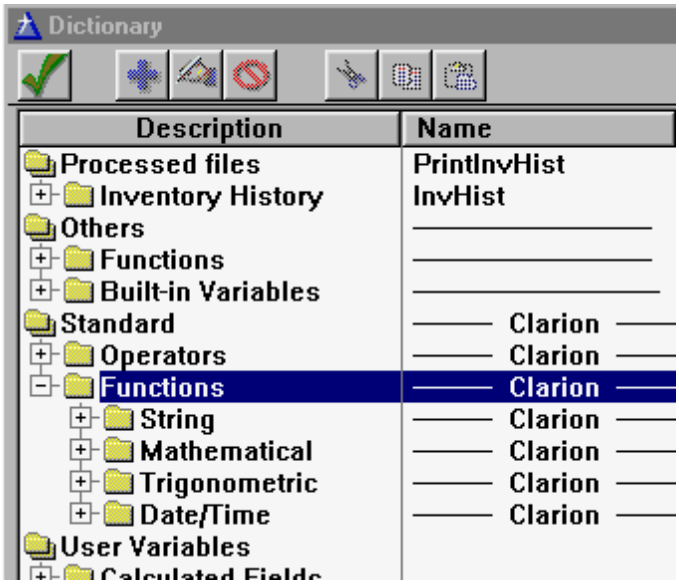
© Access Business Communications, Inc.

1.22.18.6 Dictionary - Standard Functions

The language used to create this Report Builder has some extremely useful "functions" that programmers use to generate applications. Some of these functions are made available to you to use with your reports.

A function could be described as a means of converting something to something else. Data is manipulated using a function to generate a desired result. Kind of like a car going through a carwash - it looks one way going in, and another way coming out.

Functions are broken into four "groups":



Here is a more detailed breakdown of the categorized function types:

String Functions

- ALL() - Returns a text string that replicates itself a defined number of times. For example, ALL('A',5) would return the text string 'AAAAA'.
- CAPITALIZE() - Returns a text string with the first letter in uppercase and the remainder in lowercase.
- CHR() - Returns the ANSI character from an ASCII code. For example, CHR(122) would return 'z'
- CLIP() - Returns a string with the trailing spaces removed. Commonly used to properly

format names and addresses into a more aesthetic appearing text string; multiple database fields are combined together using the concatenation symbol (&) to form a formatted string. For example, the database field ADR:City that contains the city name 'Tucson' could be combined with the ADR:State field that contains 'Az'. Because the ADR:City database field has 30 spaces allocated to it, and only 6 positions were used for 'Tucson', you would normally have 24 blank spaces:

Tucson Az

not exactly appealing! Using the CLIP() function and the concatenation symbol you

can convert this to: Tucson, Az

EX: CLIP(ADR:City) & ', ' & CLIP(ADR:State)

Note that there is a blank space after the comma to "push" the state over one

position to avoid crowding the comma character.

- DEFORMAT() - Returns a string that contains the unformatted characters of a numeric string. For example DEFORMAT('999-53-9954') returns 999539954
- FORMAT() - Returns a formatted string; knowledge of the PICTURE command is mandatory to make best use of this function. For example SSN = FORMAT(Emp:SSN, @P###-##-####P), which would properly format the database field EMP:SSN to a standard social security number.
- INLIST() - Returns the position of an item in a comma delimited list. For example, INLIST ('D','A','B','C','D','E') returns a value of 4
- LEN() - Returns the length of a string. For example, LEN('Scott Daughtry') would return a value of 14.
- LOWER() - Returns the lowercase version of a string. For example LOWER('SCOTT Daughtry') would be returned as 'scott daughtry'.
- NUMERIC() - Returns a true or false. If a string contains only numbers a true is returned. For example NUMERIC('123') would be true, and NUMERIC('1,23') would be false.

SUB() - Returns a portion of a string. You define where the starting and stopping positions are in the string. For example, SUB('Scott Daughtry', 1, 5) would extract positions 1-5 of the string, returning 'Scott'. SUB('Scott Daughtry', 7, 3) extracts 'Dau' - the starting position is 7, and the next 3 positions are extracted from that starting point. You can also work backwards on a string by assigning a negative starting position. For example, SUB('Scott Daughtry', -1, 3) would return 'try'.

- UPPER() - Returns an uppercase version of a text string. For example, UPPER('scoTT') is returned as 'SCOTT'.
- VAL() - Returns the ASCII character numeric equivalent for an ANSI entry. For example, VAL('A') would return 65.

Mathematical Functions

- ABS() - Returns an absolute value from an expression. The absolute value of a number is always a zero. For example, C = ABS(A-B). C would contain the absolute value of the difference of B subtracted from A

- INRANGE() - Compares a numeric expression for an inclusive range of numbers. Returns a value of true if the scope is met, and false otherwise. For example, INRANGE (variablename, 1, 5) would check if the variablename is with the numbers 1-5, and return true if so. The starting number is 1, and ending number is 5.
- INT() - Returns an integer value from a numeric expression. For example, INT(8.5) would return a value of 8.
- LOGE() - Returns the natural algorithym. The natural logarithm of a value is the power to which e must be raised to equal that value. The value of e used internally for these calculations is 2.71828182846. For example LOGE(2.71828182846) returns 1; LOGE(1) returns 0
- LOG10() -Returns base 10 logarithm. If the value of the expression is zero or less, the return value will be zero. The base 10 logarithm is undefined for values less than or equal to zero. The LOG10 procedure returns the base 10 logarithm of a numeric expression. The base 10 logarithm of a value is the power to which 10 must be raised to equal that value. For example, LOG10(10) returns 1; LOG10(1) returns 0
- RANDOM() - Returns random integer.Returns a random integer between the low and high values, inclusively. The low and high parameters may be any numeric expression, but only their integer portion is used for the inclusive range. For example, RANDOM(22, 80) would return a random number between the numbers 22 and 80.
- ROUND() - Returns a rounded number. For example, ROUND(5163, 100) would return the rounded number of 5163+100 (which is 5200); ROUND(657.50,1) returns 658; ROUND (51.63594,.01) returns 51.64
- SQRT() - Returns the square root of a number.

Trigonometric Functions

- SIN() - Returns the trigonometric sine of an angle measured in radians. The sine is the ratio of the length of the angle's opposite side divided by the length of the hypotenuse. For example, eturns the trigonometric cosine of an angle measured in radians. The cosine is the ratio of the length of the angle's adjacent side divided by the length of the hypotenuse. For example, sineAngle = SIN(45 * 3.142498712
- COS() - Returns the trigonometric cosine of an angle measured in radians. The cosine is the ratio of the length of the angle's adjacent side divided by the length of the hypotenuse. For example, cosineAngle = COS(45 * 3.142498712)
- TAN() - Returns the trigonometric tangent of an angle measured in radians. The tangent is the ratio of the angle's opposite side divided by its adjacent side. For example, TanAngle = TAN(45 * 3.142498712)

ACOS() - Returns the inverse cosine. The inverse of a cosine is the angle that produces the cosine. The return value is the angle in radians. p is a constant which represents the ratio of the circumference and radius of a circle. There are 2p radians (or 360 degrees) in a circle. For example, acos = ACOS(45 * 3.142498712)
ASIN() - Returns the inverse sine. The inverse of a sine is the angle that produces the sine. The return value is the angle in radians. p is a constant which represents the ratio of the circumference and radius of a circle. There are 2p radians (or 360 degrees) in a circle. For example, asine = ASIN(45 * 3.142498712)
ATAN() - Returns the inverse tangent. The inverse of a tangent is the angle that produces the

tangent. The return value is the angle in radians. p is a constant which represents the ratio of the circumference and radius of a circle. There are 2p radians (or 360 degrees) in a circle. For example, TanAngle = ATAN(45 * 3.142498712)

Date/Time Functions

- TODAY() - Returns the operating system date as a standard date. The range of possible dates is from January 1, 1801 (standard date 4) to December 31, 2099 (standard date 109,211). You can use a picture command to change the appearance of the return value. For example, cToday = format(TODAY(), @d01B)
- CLOCK() - Returns the current time based upon your pc bios time.
- DATE() - Returns a standard date for a given month, day, and year. The month and day parameters do allow positive out-of-range values (zero or negative values are invalid). A month value of 13 is interpreted as January of the next year. A day value of 32 in January is interpreted as the first of February. Consequently, DATE(12,32,97), DATE(13,1,97), and DATE(1,1,98) all produce the same result. The century for a two-digit year parameter is resolved using the default "Intellidate" logic, which assumes the date falls in the range of the next 20 or previous 80 years from the current operating system date. For example, assuming the current year is 1998, if the year parameter is "15," the date returned is in the year 2015, and if the year parameter is "60," the date returned is in 1960. For example, HireDate = DATE(Hir:Month,Hir:Day,Hir:Year); FirstOfMonth = DATE(MONTH(TODAY()),1, YEAR(TODAY())) would compute the first day of month
- DAY() - Returns day of month. Computes the day of the month (1 to 31) for a given standard date. For example, OutDay = DAY(TODAY()) to get the day from today's date; DueDay = DAY(TODAY()+2) to calculate the return day
- MONTH() - Returns the month of the year (1 to 12) for a given standard date. For example, PayMonth = MONTH(DueDate) to get the month from the date
- YEAR() - Returns a four digit number for the year of a standard date (1801 to 9999). For example, YEAR(today())
- AGE() - Returns a string containing the time elapsed between two dates. The age return string is in the following format: 1 to 60 days - 'nn DAYS'; 61 days to 24 months - 'nn MOS'; 2 years to 999 years - 'nnn YRS'. For example, nAge = AGE(EMP:Birthday, TODAY()) would compare the database field EMP:Birthday against the computer date to return the persons age.

1.22.18.7 Dictionary - Standard Operators

The language used to create this Report Builder allows you to use 'operators' to create and/or compare values stored in your database file(s). Operators are broken into two different groups:

Arithmetic

Addition - Add two variables together to produce a value. The addition sign (+) is used.
Subtraction - Subtraction one variable from another to produce a value. The minus sign

(-) is used.

Multiplication - Multiply one variable against another to produce a value. The asterisk symbol (*) is used.

Division - Divide one variable into another to produce a value. The slash character is used (/).

Exponentiation - Raises one variable to the value of a second variable. The carat symbol (^) is used.

Modulus Division - Returns the remainder of one variable divided by another variable. The percentage character (%) is used.

Logical

Choose() - This function is used to perform a logical evaluation and return a value based upon the result. When a condition is evaluated to true the first return value is returned. If a condition is evaluated to false the second return value is returned. For example, CHOOSE(1 > 2, 'A', 'B') would return 'B'; CHOOSE(INV:Sex = 'M', 'Male', 'Female') would return the text string 'Male' if the database field INV:Sex contained a value of 'M'.

And - A boolean operator; used to combine 2 or more logical statements together. Used when you need/want multiple logical expressions to equal TRUE in order for something to occur. For example: INV:Sex = 'M' AND INV:State - 'Az' would require the database field INV: Sex to equal 'M' AND the INV:State database field to equal 'Az' for a value of true to be returned. If either database field did not contain these values then a return value of false is returned. The expressions are evaluated from left to right; if a value of false is returned then the subsequent expressions are skipped over, since a value of false has already been reached. If the INV:Sex database field did not contain a value of 'M' then the INV:State field wouldn't be processed at all - a value of false has already been returned. If the INV:Sex database field contained an 'M', but the INV:State database field contained something other than 'Az', then a value of false is returned, since both items must return a value of true. You can a very long expression with the AND operator. For example: INV:Sex = 'M' AND INV:State = 'Az' AND INV:Birthdate > '01/01/60'.

Or - A boolean operator; used to combine 2 or more logical statements together. Used when a condition can evaluate to a value of false but processing is still desired. For example: INV:Sex = 'M' AND Inv:State = 'Az' OR INV:State = 'Ak' would evaluate INV:Sex; if it equals a 'M' the INV:State field is evaluated. If it contained 'Az' an overall return value of true is reached. If it didn't contain 'Az' it is then checked for a value of 'Ak'. If it did, a an overall value of true is reached.

Not - A boolean operator. Used in conjunction with the Greater Than, Equal To or Less Than operators. For example, INV:State NOT = 'Az'; INV:Age NOT < 45; INV:Income NOT > 30000.

Xor - A boolean operator. Used when an expression can evaluate to true on one side of the equation, but not both. For example: A XOR B; true is returned if A is true OR B is true, but not both.

Greater Than - The symbol (>) is used for this operator. When you want the left side of an equation to return a value of true. For example, INV:Quantity > 5 would return a true if the INV: Quantity database field was greater than 5.

Lesser Than - The symbol (<) is used for this operator. When you want the right side of an equation to return a value of true. For example, INV:Age < 15 would return true if the database field INV:Age is less than 15.

Equal To - The symbol (=) is used for this operator. When you want an exact match in an

equation for a value of true to be returned. For example, INV:State = 'Az' would return a value of true if the database field INV:State contained 'Az'

Not Equal To - The symbol (<>) is used for this operator. When you want a value of true returned when a variable does NOT contain a particular value. For example, INV:State <> 'Az' would return a value of true when it did not contain 'Az'

Greater Than Or Equal To - The symbol (>=) is used for this operator. When you want a value to be equal to or greater than something. For example: INV:Sold >= 325 would return a value of true if the INV:Sold database field was equal to or greater than 325.

Less Than Or Equal To - The symbol (<=) is used for this operator. When you want a value to be equal to or less than something. For example, INV:Sold <= 325 would return a value of true if the INV:Sold database field was equal to or less than 325.

Standard operators can be used to build complicated expressions when you want to "drill down" to highly specific data (which is normally the case). Make sure that the most important criteria is placed first that would (in theory) eliminate the majority of data when the database is scanned. This will speed up the remainder of the operational string when they are executed. Some expression examples:

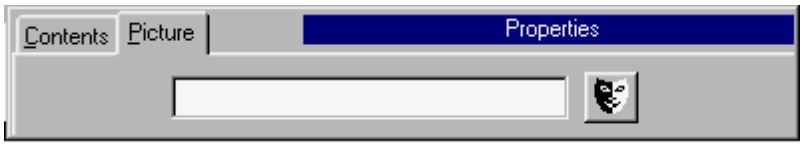
EMP:Sex = 'M' AND LOC:State = 'Az' OR Loc:State = 'Nv' AND EMP:Haircolor = 'Brown'

STO:Location = 'Iowa' AND PAR:Vendor = 'Hasbro' AND PAR:Onhand <= 100

SAL:Total = INV:Itemprice * SAL:Quantity * SAL:Salestax

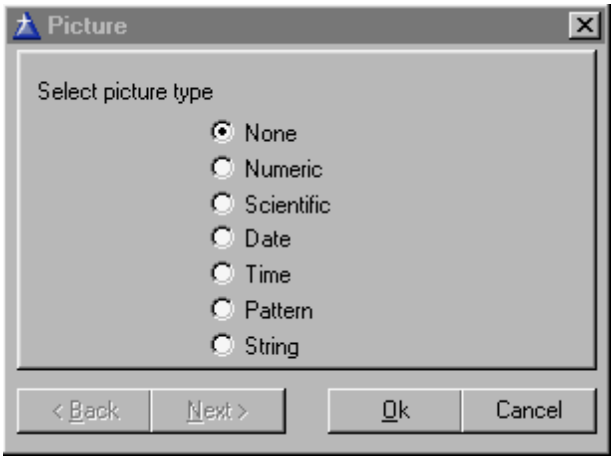
1.22.19 Data Picture

A picture is a way of converting information from it's original format to a different format. On the frame characteristics dialogue box is a tab for the picture:



It is assumed that you have already selected the contents for the frame. Keep in mind that you don't have to fill anything in for a picture; if the contents of the frame is going to be a date field it IS recommended that you use an appropriate date picture (otherwise the date will be generated as the number of days that have elapsed since January 1, 1801).

If you already know the picture that you want to use (out of familiarity) you can simply type in the picture; otherwise click on the mask button shown above to display the Picture Wizard to assist you in generating an appropriate picture:



The default choice is NONE; radiobuttons are provided for each different type of picture that is available. If you select a radiobutton different than NONE you will be led through a series of screens that will assist you in creating the appropriate picture for your needs.

You can change a picture at any time - remember that a picture MANIPULATES data - it won't change/delete any database information. If you decide you don't like the picture for a frame you can change it to something else, then use the print preview screen to see the resultant output.

Here are some sample pictures that are commonly used. Each picture has sample data, and the resultant output listed by category:

NUMERIC

@N9	4,550,000	Nine digits, group with commas (default)
@N_9B	4550000	Nine digits, no grouping, leading blanks if zero
@N09	004550000	Nine digits, leading zero

@N*9	***45,000	Nine digits, asterisk fill, group with commas
@N9_	4 550 000	Nine digits, group with spaces
@N9.	4.550.000	Nine digits, group with periods
@N9.2	4,550.75	Two decimal places, period decimal separator
@N_9.2B	4550.75	Two decimal places, period decimal separator, no grouping, blank if zero
@N_9'2	4550,75	Two decimal places, comma decimal separator
@N9.'2	4.550,75	Comma decimal separator, group with periods
@N9_'2	4 550,75	Comma decimal separator, group with spaces,
@N-9.2B	-2,347.25	Leading minus sign, blank if zero
@N9.2-	2,347.25-	Trailing minus sign
@N(10.2)	(2,347.25)	Enclosed in parens when negative
@N$9.2B	$2,347.25	Leading dollar sign, blank if zero
@N$10.2-	$2,347.25-	Leading dollar sign, trailing minus when negative
@N$(11.2)	$(2,347.25)	Leading dollar sign, in parens when negative
@N12_'2~ F~	1 5430,50 F	France
@N~L. ~12'	L. 1.430.050	Italy
@N~£~12.2	£1,240.50	United Kingdom
@N~kr~12'2	kr1.430,50	Norway
@N~DM~12'2	DM1.430,50	Germany
@N12_'2~ mk~	1 430,50 mk	Finland
@N12'2~ kr~	1.430,50 kr	Sweden

Scientific

@E9.0	1,967,865	.20e+007

@E12.1	1	,967,865	1.9679e+006
@E12.1B	0		
@E12.1	-	1,967,865	-1.9679e+006
@E12.1		.000000032	3.2000e-008
@E12_.4	1,967,865	1 967.865e+003	

Date

@D1	mm/dd/yy	10/31/59
@D1>40	mm/dd/yy	10/31/59
@D01	mm/dd/y	59/10/31
@D10	yyyy/mm/dd	1959/10/31
@D11	yymmdd	591031
@D12	yyyymmdd	19591031
@D13	mm/yy	10/59
@D14	mm/yyyy	10/1959
@D15	yy/mm	59/10
@D16	yyyy/mm	1959/10
@D17	Windows Control Panel setting for Short Date	
@D18	Windows Control Panel setting for Long Date	

Time

@T1	hh:mm	17:30
@T2	hhmm	1730
@T3	hh:mmXM	5:30PM
@T03	hh:mmXM	05:30PM
@T4	hh:mm:ss	17:30:00
@T5	hhmmss	173000
@T6	hh:mm:ssXM	5:30:00PM
@T7	Windows Control Panel setting for Short Time	

© Access Business Communications, Inc.

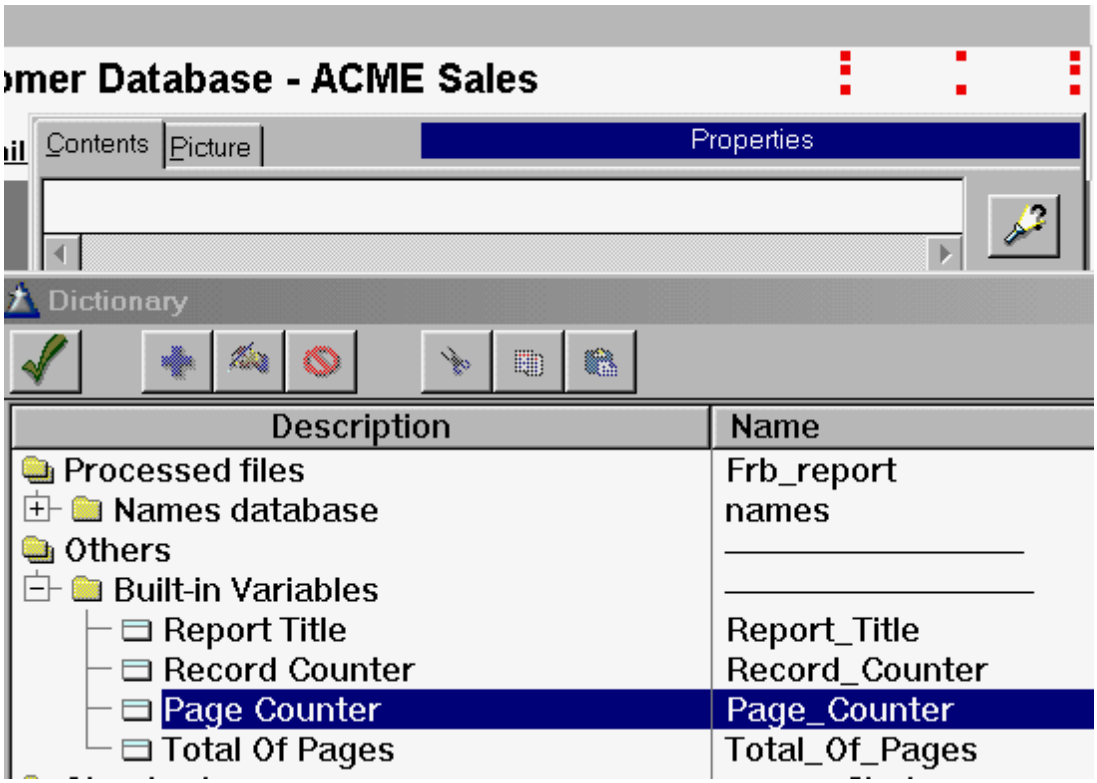
@T8	Windows Control Panel setting for Long Time	

Pattern		
@P###-##-####P	215846377	215-84-6377
@P<#/##/##P	103159	10/31/59
@P(###)###-####P	3057854555	(305)785-4555
@P###/###-####P	7854555	000/785-4555
@p<#:##PMp	530	5:30PM
@P<#' <#"P	506	5' 6"
@P<#lb. <#oz.P	902	9lb. 2oz.
@P4##A-#P	112	411A-2
@PA##.C#P	312.45	A31.C2

1.22.20 Page Counter

A page counter adds a professional appearance to your report, and is very easy to add. Normally a page counter is added to the top or bottom of a page; a good place is the Page Header location.

The Report Builder has a built in variable named Page_Counter that keeps track of how many pages have been generated. This variable is accessible from the Dictionary. To add the page counter to a page create a new empty frame inside the desired report band, then select the page counter variable from the Dictionary:



Shown above is a new frame with a Page Counter added to it. The picture button (the one with a flashlight icon) was clicked to show the dictionary. Underneath the "Others" topic 'Built-In Variables' the entry named 'Page Counter' will be double clicked, which inserts the '=Page_Counter' string into the contents entry field.

You can also manually type in the "=Page_Counter" into the entry field; the dictionary simply provides an easier access to that variable that contains the page counter.

1.22.21 Report Builder Tutorial

This tutorial will explain how to design a very simple report, then gradually add new features to the same report to show how to create reports. Even though the database files used in the tutorial are different than yours, the steps involved are still the same.

The database file structure for the tutorial database is very simple:

FIELD NAME	DESCRIPTION
NAM:Lastname	name
NAM:Firstname	name
NAM:Middle	Initial
NAM:Adrs1	Line 1
NAM:Adrs2	Line 2
NAM:City	
NAM:State	
NAM:Zipcode	Code
NAM:Country	

Later in the tutorial a report using 2 database files that are related to each other will be used to show how to create advanced reports.

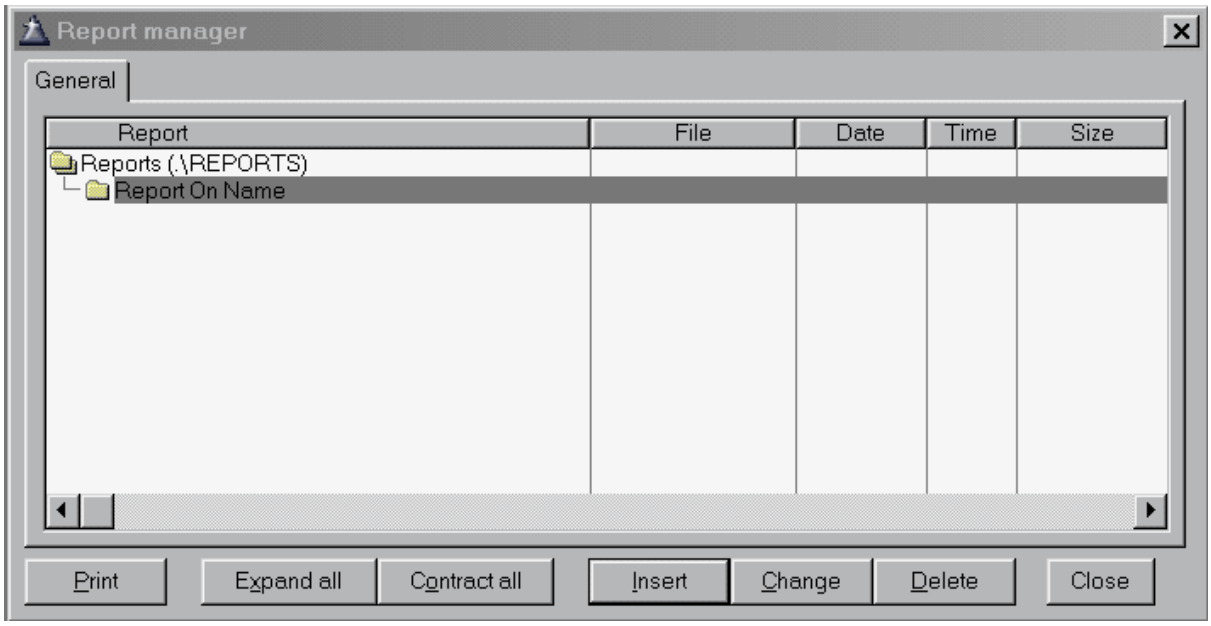
GOTO PAGE 1

1.22.21.1 Tutorial - Page 1

On the previous page the database structure was described - only 9 fields are in this small database. Most likely the program you are using right now will have many more fields, but 9 fields are enough to learn with.

It is assumed that you have your database program open at this point, and have selected the reports manager from it's pulldown menu. This will display a screen similar to this:

© Access Business Communications, Inc.



This is the "Reports Manager" screen. It keeps track of all the reports that have been designed for/by you for this database program. As shown above the reports are saved in a subfolder named REPORTS; the category for this report is "Report On Name". The category name will be different for your program, but the remainder of the screen will look the same.

Reports you create are saved as individual files with a file extension of *.RPT in the \REPORTS folder where your database program is installed to. The display above will show detailed information about the reports (date/time of creation, file size).

Depending on the complexity of your database program there may be several categories displayed above, with multiple reports created for each category. Because the Reports Manager uses a "tree" style browse you can easily expand/contract the "tree" branch to locate the desired report.

Beneath the browse area are various buttons that allow you to print the highlighted *.RPT report file, expand/contract the reports "tree", create a new report, change the highlighted report, delete the highlighted report and close the Reports Manager window.

To create a new report click the INSERT button. This will display the Report Formatter screen

that allows you to create/modify the actual report.

Caution: Do Not Use the TelcoMgr Report File Names to Save Your Report Changes!

TelcoMgr Report File Names

The TelcoMgr Report Builder will attempt to save your new reports with a name similar to "RPT00001.RPT." The second report that you save will be named "RPT00002.RPT" and the third will be named "RPT00003.RPT" and so on for additional reports. Therefore, end-users are recommended to **save report file names** using the automatic schema with the built-in serialized report file name.

If you makes changes to one of the TelcoMgr standard reports which are installed with the application, then you should save the changes using "**SAVEAS**" and let TelcoMgr suggest the appropriate name with the serialized naming schema as described above. If you save your changes with the same name as used by TelcoMgr to store its standard reports, then your changes will be overwritten each time TelcoMgr is upgraded.

Optionally, you may create your own report file names. If you elect to save your reports with your own naming convention, for example "MyTelcoMgrReport01" then it is not necessary to add the ".**RPT suffix**" at the end of the file name. The Report Builder will append the suffix to your custom file name. Once again, end-users should not use the TelcoMgr report file naming convention to save new or modified reports.

GOTO PAGE 2

1.22.21.2 Tutorial - Page 2

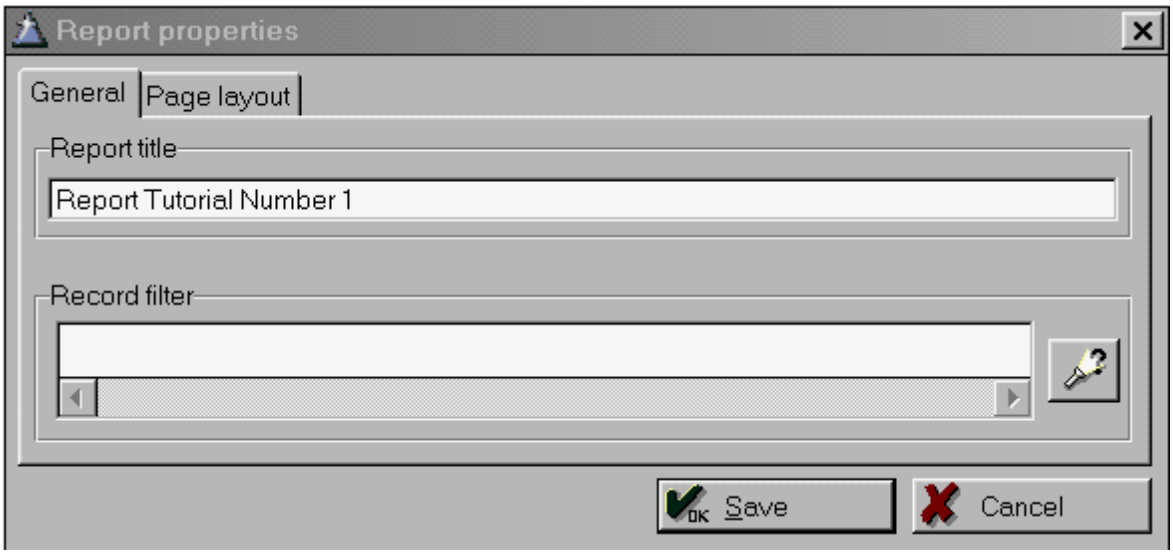
If you've not familiarized yourself with the Report Formatter you need to right now.

There are two goals for any report that you create: properly extract information that you need, and try to make it visually pleasing. The second goal is sometimes elusive; everyone has their own opinion as to how reports should look like. The first goal is much simpler, once you understand how the Report Builder "engine" works.

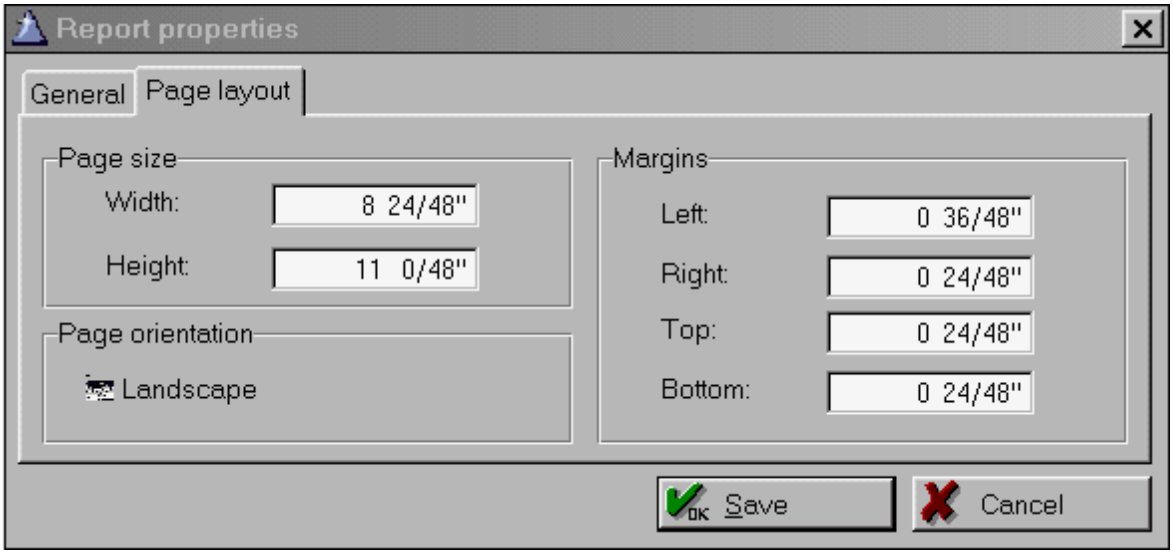
It helps some users to think of a Report Builder as a big circle. Inside the circle is the information that you (or your users) have input into the database. Using a DETAIL BAND in the report will start at the top of that circle (at the first database record), then loop through all the inputted information until the last database record is reached, bringing you back to the top of the circle once again. A DETAIL BAND is responsible for doing the "grunt work" of accessing the database, retrieving the database information and printing the database field in the area that you tell it to.

Every report that you create will have a DETAIL band in it. While there are many different types of report "bands" that you can use, a DETAIL band is mandatory - without it the information in your database will never be processed. Before adding a DETAIL band let's go ahead and define some basic information about the report.

Click the main menu option titled FILE, then select REPORT PROPERTIES from the dropdown menu. A window will appear asking you for the Report Properties. The Report Title is the description that will be displayed in the Reports Manager window - you want to give a meaningful description that others can understand in this entry field. The Record Filter entry field allows you to use the Dictionary to assist in creating a filter condition. Record Filters will be described in much more detail in later lessons - in a nutshell a filter allows you to print ONLY the information that you desire (such as: print all names for customers living in Hawaii). Here is what the screen looks right now:



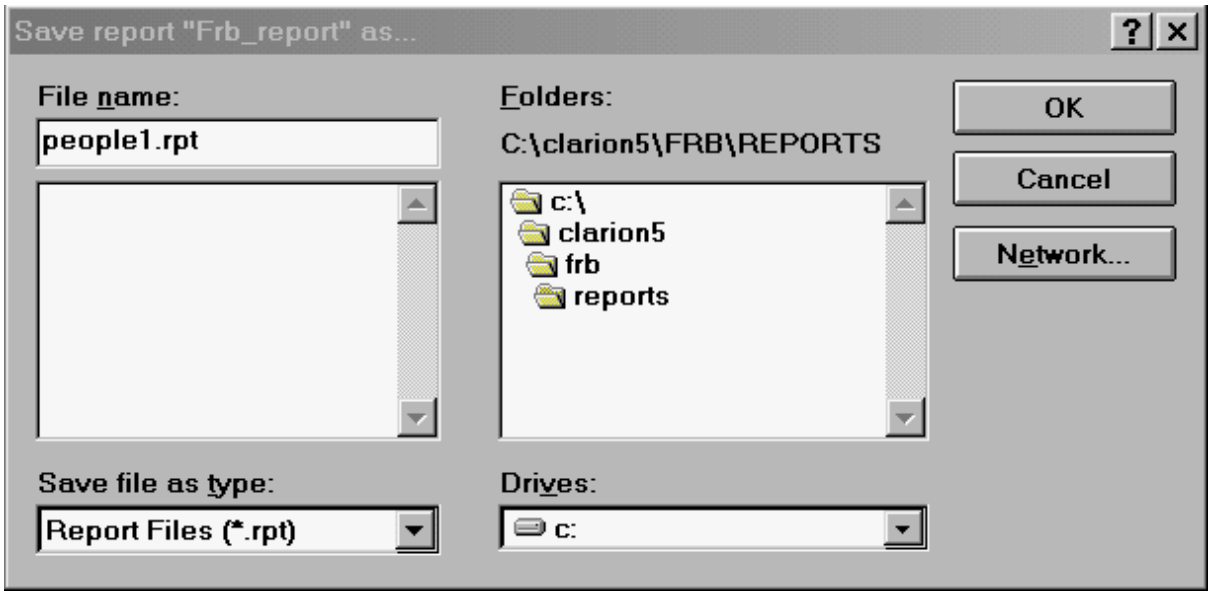
Click on the second tab labeled "Page layout"; on this tab you can override the default settings for the generated report. The default settings are for 8.5x11 portrait output, with small margins on all 4 sides of the generated report page. You can also change the report orientation to landscape by clicking on the Landscape checkbox. For now the default settings will be used. Here is the screen:



We'll go ahead and click the SAVE button to save the report page information. At this point we need to save the report to the *.RPT file that is stored in the \REPORTS directory. Click the FILE main menu option, the select the SAVE AS menu option. A window will appear onscreen that you've seen in other Windows applications - you are being prompted for a location to save the file, and a filename for the file. The default folder will be the \REPORTS folder located directly "underneath" the location where your database program is installed to. This is the desired location for ALL reports that you create, so go ahead and leave the location alone. For the filename you want to create a unique filename for all new reports. You can use the Windows 95/98/NT long filenames if you want, or give it a 8 character filename - the choice is yours. Leave the *.RPT file extension alone - you do NOT want to use a file extension different that *.RPT!!

For this report a filename of PEOPLE1 will be given, with the screen resembling:

© Access Business Communications, Inc.



Now that the filename is input the OK button is clicked to save the report file. The file c:\clarion5\frb\reports\people1.rpt is now saved to the hard drive. Each report that you create will be saved to a DIFFERENT *.RPT file.

Caution: Do Not Use the TelcoMgr Report File Names to Save Your Report Changes!

TelcoMgr Report File Names

The TelcoMgr Report Builder will attempt to save your new reports with a name similar to "RPT00001.RPT." The second report that you save will be named "RPT00002.RPT" and the third will be named "RPT00003.RPT" and so on for additional reports. Therefore, end-users are recommended to **save report file names** using the automatic schema with the built-in serialized report file name.

© Access Business Communications, Inc.

If you makes changes to one of the TelcoMgr standard reports which are installed with the application, then you should save the changes using "**SAVEAS**" and let TelcoMgr suggest the appropriate name with the serialized naming schema as described above. If you save your changes with the same name as used by TelcoMgr to store its standard reports, then your changes will be overwritten each time TelcoMgr is upgraded.

Optionally, you may create your own report file names. If you elect to save your reports with your own naming convention, for example "MyTelcoMgrReport01" then it is not necessary to add the ".**RPT suffix**" at the end of the file name. The Report Builder will append the suffix to your custom file name. Once again, end-users should not use the TelcoMgr report file naming convention to save new or modified reports.

You will also notice that the top of the Report Formatter window now displays some of the information that was just entered above:

To recap: on this page you learned:

- Every report needs a DETAIL band to extract/print database information
- How to create a new report file and save it to your computer's hard drive
- How to change the dimensions of a report (from portrait to landscape, etc)
- How and where report files (*.RPT) are saved

GOTO PAGE 3

1.22.21.3 Tutorial - Page 3

Now we are ready to define the DETAIL band for this sample report. To recap, the DETAIL band performs the data retrieval from the database and inserts it in the desired location in your report. Sometimes it is a good idea to draw the sample report on a piece of paper to help you "visualize" how the report needs to look when it is generated. If you are creating report(s) for other people you definitely need to discuss with them how their report should look like, and what information it needs to extract from the database file(s).

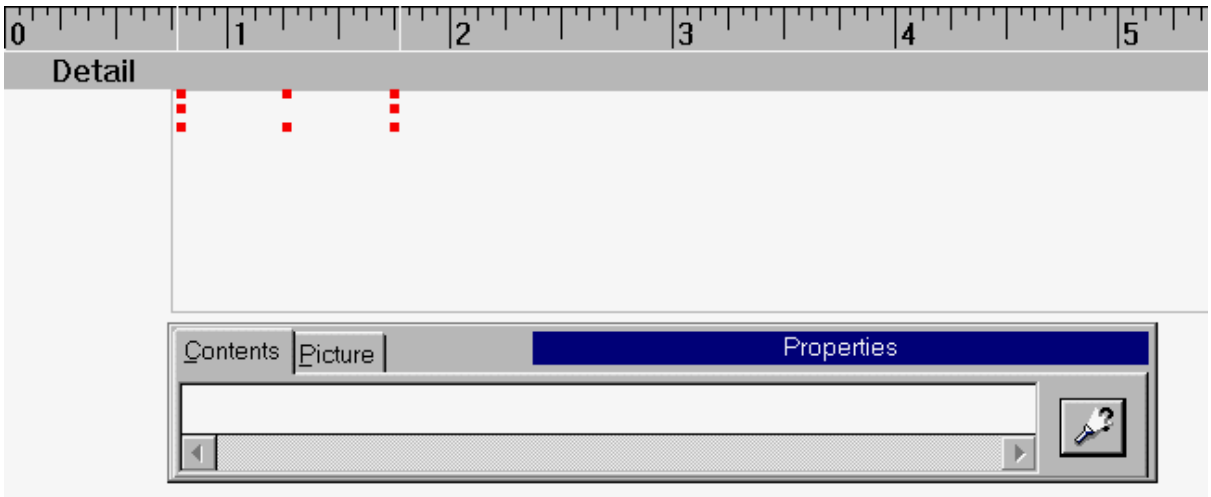
© Access Business Communications, Inc.

If you haven't familiarized yourself with FRAMES you need to - click HERE to read about FRAMES.

Right now the work area inside the Report Formatter is completely blank, with only the top menu and toolbar buttons visible. Click on the BAND main menu option, then select NEW, then select DETAIL from the options. Notice that the screen now has a rectangular box with red boxes at each corner and the top/bottom middle. A ruler bar is displayed to the left of the rectangular box also. The red rectangles allow you to resize the size of this report band - we'll leave it alone for now.

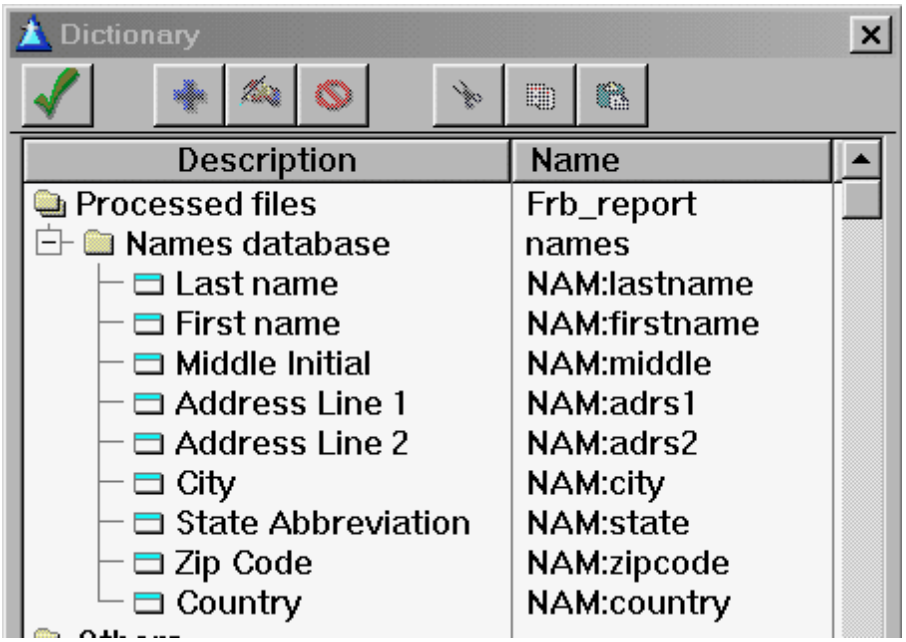
Now we need to add some database fields to the DETAIL band. Database fields will be placed inside of FRAMES - a FRAME tells the Report Builder engine how and what to print in the location where the FRAME is located. There are two ways of adding a FRAME to the DETAIL band - you can select from the main menu "Frame", then "Create" - an empty FRAME is automatically created inside the DETAIL band at the top left of the DETAIL band. An easier way is to place the mouse in the area where you want to print the database field, then right click the mouse to display a popup menu; select the menu option titled "New Frame", and an empty frame will be created in the exact location where the mouse was at inside the DETAIL band.

You can choose to move the empty frame to a better location right now, or wait until you define the information that will be inside the frame. To move the frame with the mouse you left click anywhere inside the frame, and while holding down the left mouse button you drag the rectangle to the desired location. You can also use the keyboard to move the frame by holding down the CTRL key, and use the arrow keys to move the frame. Here is what the screen looks like for now:

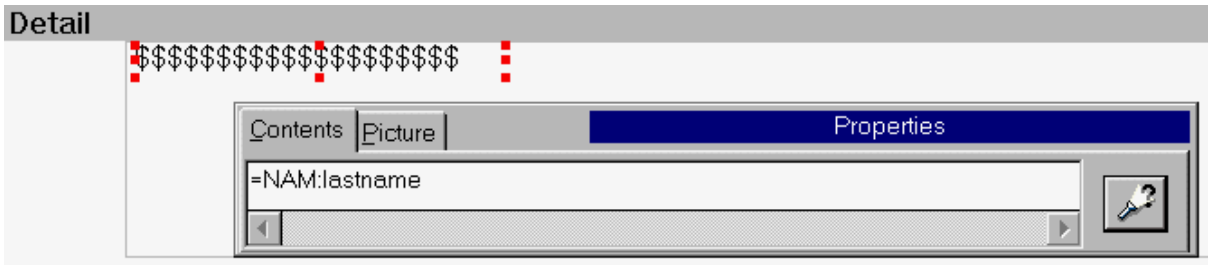


To add text to a frame you left click the mouse once inside the CONTENTS entry field in the FRAME properties box; as you type the information will be displayed inside the FRAME. If the length of the text is longer than the frame you can easily resize the frame by clicking on the right middle red box, and while holding down the left mouse button drag the box to it's new size. You will notice that the mouse cursor will change shape from an arrow to a double arrow, which is telling you that you can resize the FRAME in the directions of the arrow by left click-dragging the mouse.

For now we are just adding the fields to the DETAIL band; left click on the button with the flashlight inside it to display the dictionary When the dictionary appears onscreen click the tree expand box directly underneath the 'Processed Files' description. A list of all database fields is displayed onscreen for you to choose from:

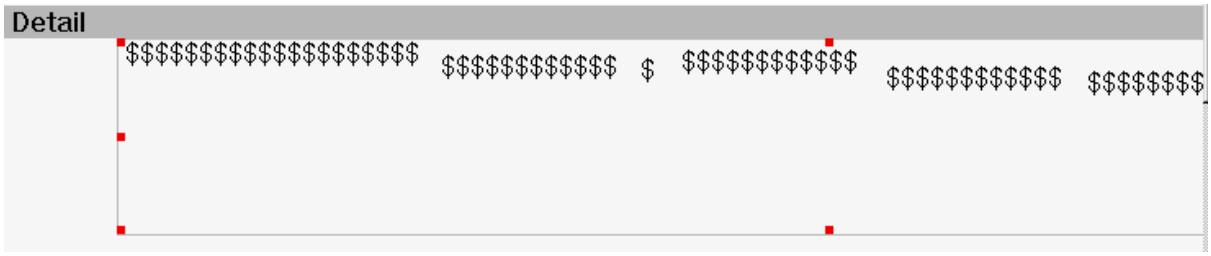


To select a field simply double left click on the field name description; for this example the "Last name" tree choice is double left clicked. The dictionary window will disappear, and the FRAME box is now updated:



Notice that an equal sign (=) is displayed in front of the field name (NAM:lastname) Also notice that the inside of the frame is displaying dollar signs ($). This helps you in properly resizing the frame size for this database field.

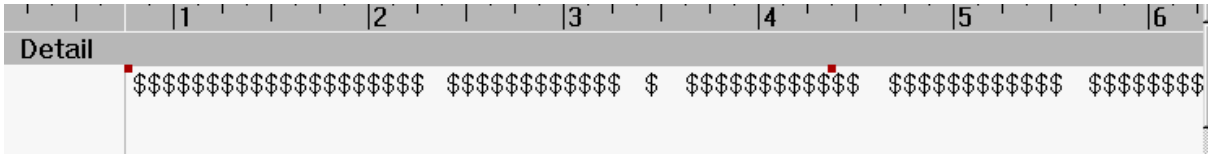
At this point the steps for adding a new frame and populating the frame are repeated for each of the remaining fields in the database. After moving the mouse to the desired location inside the DETAIL band I am right clicking the mouse, selecting "New Frame", then select the desired database field, then dragging the frame to be to the right of the last added frame. All frames will be located at the top of the DETAIL band. For the Middle Initial field I resized the frame, since it is a lot larger than it needed to be. There is not sufficient space to have all the frames at the top, so the COUNTRY field had to be left off of the report. Here is what the screen looks like:



Not too pretty, huh? We need to move the frames so they are aligned at the top for a nice looking report. The Report Builder features a very easy way of aligning frames in many different ways. You can choose to move each frame yourself using the mouse, or the keyboard, but this can be very time consuming - there is a much easier way! The first thing to do is select all the frames on an imaginary line that you want the data to be printed on. To do this you will left click the leftmost frame, the while holding down the CTRL key you will left click on each frame located on that imaginary line. After doing this to the last frame you will have multiple frames displaying the resize rectangles at each corner, but they will be blue in color.

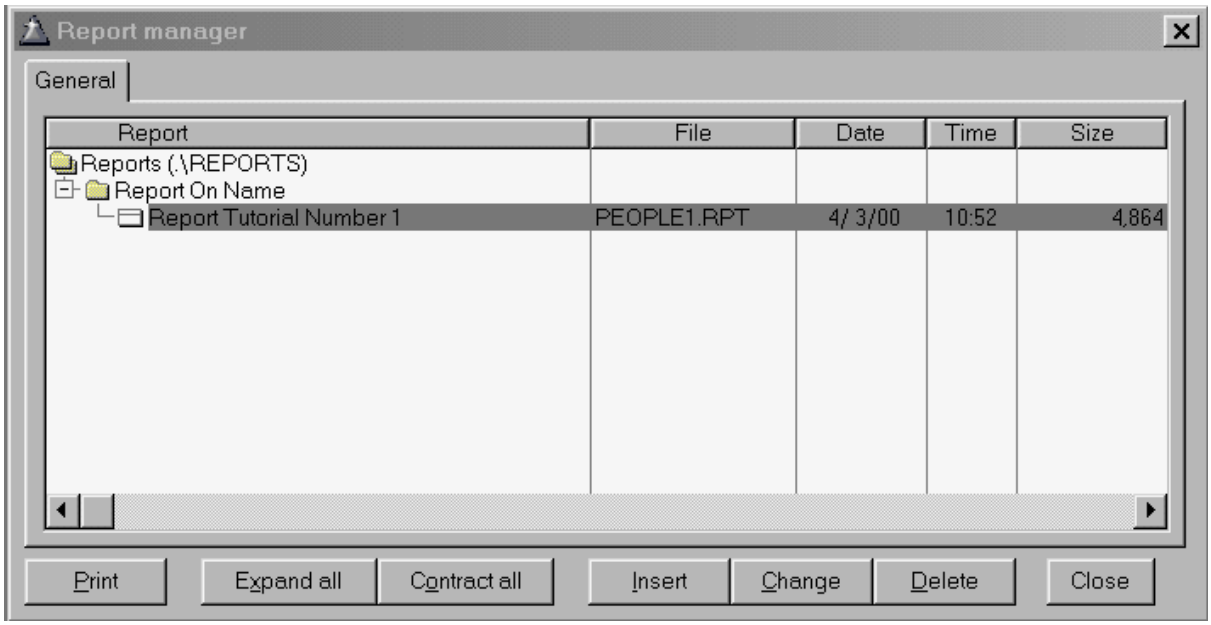
Right click the mouse to display a popup menu - this menu will display various options to aligning multiple frames. The easiest choice is ALIGN TOP; after selecting it from the menu

all the frames are now aligned in a more pleasing way:



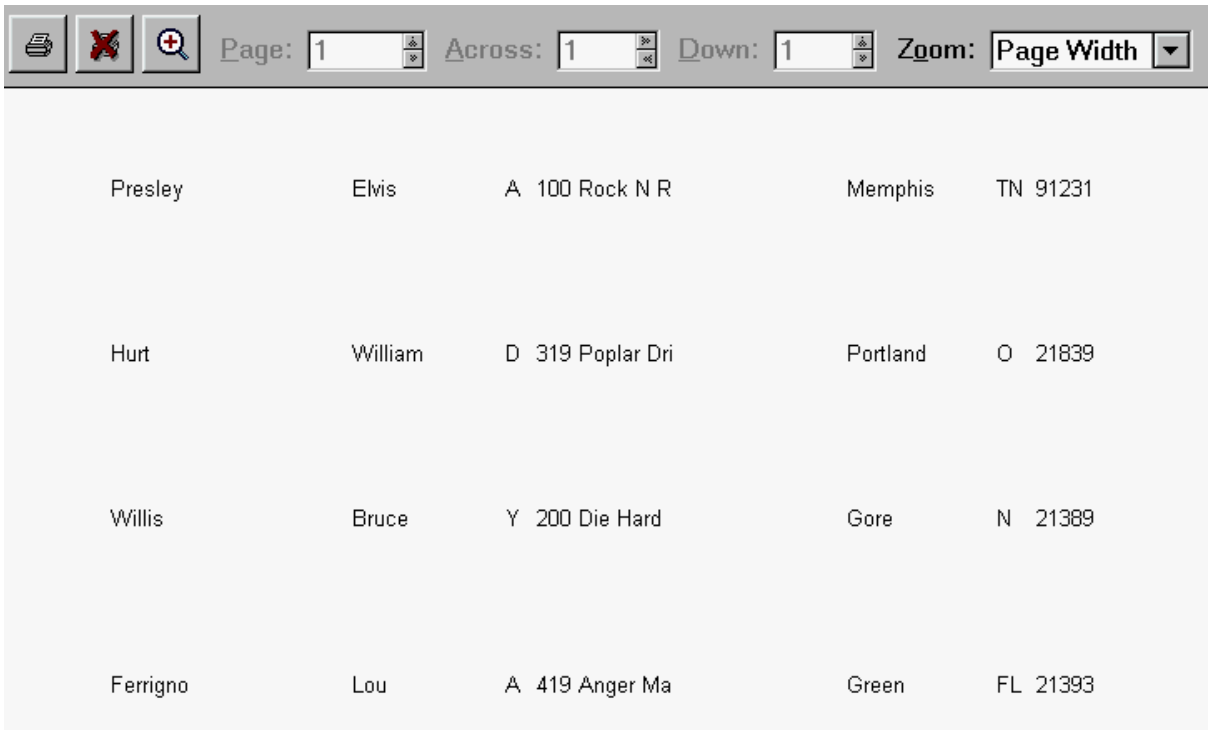
So far we have one DETAIL band, with 8 frames containing database fields. We'll save the report right now by clicking the floppy disc button located on the toolbar. You can also save the report by clicking FILE from the main menu, then select SAVE. It is a good idea to periodically save your work as you change the report.

Now we need to test the report to see how it looks. Go ahead and click FILE from the main menu, then select EXIT from the pulldown menu. You will notice that the Reports Manager screen is different now:



The newly created report is displayed onscreen, with the filename / date / time / size information about this report file. To print the report click the PRINT button; the report will be sent either to the screen (print preview) or to the printer, depending on how the programmer designed the application. For this example the report was generated to the screen; the database only contained 4 database records, so the output was very small:

© Access Business Communications, Inc.



Chances are excellent that the print preview screen will be different than the one displayed above; this screen capture is from a very simple print preview engine. The important things to notice here is the layout of the information to detect problems. Using the above information we can see these problems:

- There is too much space between each line of information - this would waste a lot of paper
- The street address field is getting chopped off (ex: 419 Anger Ma)
- The country field is missing since insufficient space existed for it on the DETAIL band
- The name fields could be formatted a lot more attractively
- There is no sorting being done on the database; would be nice if sorted on last name

One of this Report Builders most attractive features is it's flexibility - you can change ANYTHING you want to for your reports. The problems identified above with the first report are very easily fixed. We will be fixing these things in the next tutorial step.

GOTO PAGE 4

1.22.21.4 Tutorial - Page 4

Time to clean up the report and make it more presentable for yourself and/or your customers. Remember you can move FRAMES with either the keyboard OR the mouse - the choice is yours. For moving a FRAME in very small increments the keyboard will be more precise and easier; use the mouse to select multiple FRAMES (hold down the CTRL key, then left click on each desired frame to select them individually), then use the keyboard to move the selected FRAMES (while holding down the CTRL key, use the arrow keys to move the selected frame (s) up/down/left/righ) sto where they need to go (yes, you can move multiple objects at one time!). Also note that the TAB key on the keyboard will select the next FRAME for you; shift-tab will select the previous FRAME (just as in other Windows programs that you use).

We are going to reopen the report that was just created from the Reports Manager by highlighting it inside the Report Manager screen, then click the CHANGE button. This will display the Report Formatter screen once again, with everything just as we saved it.

The first thing to change is the default font; some fonts used in Windows are more attractive than others. The Verdana font was designed specifically for readability, and makes an excellent choice for printed reports. You can easily (and quickly) change the font used inside ALL frames in the report by clicking FILE, then select the FONT menu option. You will see a standard Windows font selection window onscreen, allowing you to select the font, it's style and size. Once you select a font and click the OK button you will notice that all of the FRAMES in the DETAIL band will change their font. Be aware that some fonts print larger than other fonts, so if you are tight on space select a font that is narrower than other fonts. For now we'll select Verdana-Regular-8.

Located on the toolbar is a button with a blue "A" inside it - this font button will change the font ONLY for a single FRAME that is currently selected (i.e. has the red resizing boxes on the corners). It will NOT change the font used for the entire report!

Now we click the FRAME that contains the LAST NAME field from the database - we want to display it with BOLD text to make it stand out on the report. After left clicking that frame click the blue "A" button, select Bold then click OK. The contents of that frame will now be boldfaced - you may need to resize this frame, since bold text requires a little more space.

Each FRAME in a report can print in a different font; they can even print in different colors! Try not to use too many different types of fonts in your report, as it can become a distraction and make reading it more difficult. Stick with common fonts that are loaded on everyone's machine; otherwise Windows will substitute the font you chose (but isn't installed on another computer) with a font that will cause printing problems (such as a column bleeding into the next colum, improper spacing, etc).

© Access Business Communications, Inc.

GOTO PAGE 5

1.22.21.5 Tutorial - Page 5

To fix the report problem of a large gap between the printed lines we need to resize the DETAIL band. Left click once on the DETAIL band border line (should be displayed as a light grey box) to make the resize boxes appear. Select the middle resize box on the bottom of the DETAIL band, and drag it upwards until it is flush with the bottom of the Frames. The report builder will not allow you to resize the DETAIL band smaller than required, so you'll only be reduce it's size to a certain point.

At this point go ahead and save the report (click the floppy disc on the toolbar), then exit the report (FILE -> EXIT), then test print the report to see how it looks now. Here is what my sample information now looks like:

Presley	Elvis	A	100 Rock N Roll	Memphis	TN	91231
Hurt	William	D	319 Poplar Driv	Portland	OR	21839
Willis	Bruce	Y	200 Die Hard St	Gore	NM	21389
Ferrigno	Lou	A	419 Anger Man	Green	FL	21393

Notice that the last name is BOLD; the huge amounts of blank space after each line are much smaller now, and the information on each line is aligned horizontally now. But, there is still work to do on this report before calling it a day!

GOTO PAGE 6

1.22.21.6 Tutorial - Page 6

This time around we are going to add a Page Header, which will print the title to our new report, and also print column header information at the top of each page. We've already reopened the report into the Report Formatter screen.

A Page Header is another REPORT BAND that is generated at the top of each page. The

report engine keeps track of how much data can be printed on a page; when it's time for the printer to eject the page after printing as much information as it can the Page Header is created, then printed at the top of the report. Each page of the report will have the Page Header information printed at the top of each page.

We are going to select BAND from the pulldown menu, then NEW, then PAGE HEADER. A new empty band named Page Header is inserted ABOVE the DETAIL band automatically.

The first order of business is thinking of a title that you and your customer(s) will easily understand. For this report title we'll use "Customer Database - ACME Sales". Any and all text that you add to a report is inserted into a FRAME, so we need to create a new frameinside the new Page Header frame. So, right click inside the Page Header band - an empty frame appears. Most reports have a centered title, so here is an easy way of ensuring that the report title is always centered onscreen:

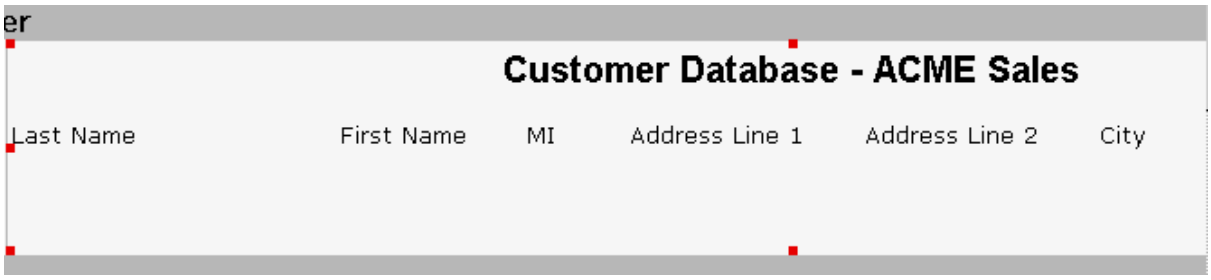
- Place the mouse on the right middle resize box on the empty frame
- Resize the box until you reach the right side of the report
- Make sure the gaps are the same for the left and right sides of the frame
- Type the title inside the FRAME characteristics box
- Click the center align button on the toolbar
- Click the blue "A" for font type. Select ARIAL, BOLD, 12, then OK
-
- That was easy wasn't it?!? You now have a title that will always be properly centered, and slightly larger than the rest of the report to make it stand out. You don't have to create your title like this - if you want it left or right aligned, or a different size then feel free to do so! You can also create multiple line titles if you want/need to - the choice is up to you!

Now we are going to create headers for each of the fields that are printed. To ensure they are printed at the top of each page they also need to be located in the Page Header band. Create a new frame inside the Page Header band directly above the leftmost column, then type in the header name (in this case, LAST NAME).

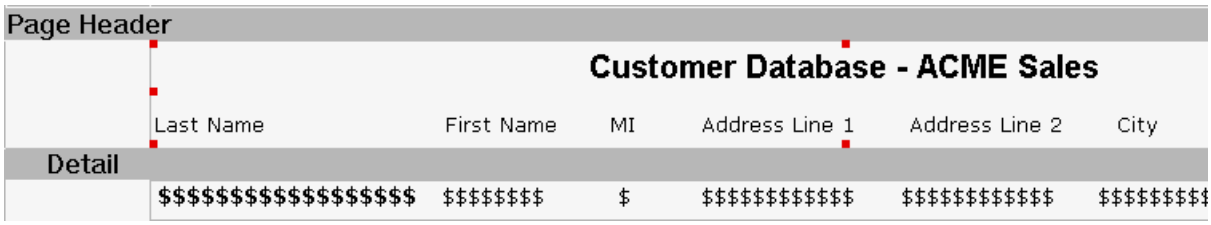
After adding all the frames and their header text you will want to resize their frames to be as small as possible. After doing that you need to align the frames so they are even - Ctrl-Leftclick each frame to select them all, then right click to display the alignment popup menu. then select Align Top. Now they are horizontally aligned with each other. Go ahead and move

© Access Business Communications, Inc.

the entire line of selected frames until they are roughly 1/4 inch below the report title. Here is what we have so far:



We can see from the above screen capture that the Page Header band needs to be reduced in height - otherwise the printed output will have a huge gap between the column headers and the database information printed in the DETAIL band. Go ahead and resize the Page Header band (left click-drag the center red resize box until it can't be reduced in height anymore. Here is what we now have:



Looking pretty good now. However, the column headers would look better if they were BOLD and UNDERLINED, so go ahead and change each FRAME for the headers. You may need to resize a frame if some of the column text is cut off.

Now we need to left align the column headers with the data information that is printed beneath it. An easy way is to first click the header frame, then Ctrl-Leftclick the field frame underneath it inside the DETAIL band. Once the two frames are selected click the right mouse button, then select "Align Left" from the popup menu. Repeat this process for each column until they are left aligned. Remember that you can move the two selected objects in case they overlap other information by holding down the CTRL key, then tap the left or right arrow button to move the frames sideways. The final result now looks like this:

Customer Database - ACME Sales

Last Name	First Name	MI	Address Line 1	Address Line 2	City
$$$$$$$$$$$$$$$$$$	$$$$$$$$	$	$$$$$$$$$$$$	$$$$$$$$$$$$	$$$$$$$$$

Once satisfied with the results save your work (click the blue floppy disc), then print a sample report to the screen to see how it looks.

Customer Database - ACME Sales

Last Name	First Name	MI	Address Line 1	Address Line 2	City	State	Zip Code
Presley	Elvis	A	100 Rock N Roll		Memphis	TN	91231
Hurt	William	D	319 Poplar Driv		Portland	OR	21839
Willis	Bruce	Y	200 Die Hard St		Gore	NM	21389
Ferrigno	Lou	A	419 Anger Man		Green	FL	21393

Not bad! There is still room for improvement, but we are well on our way to a nice report. Remember, the Report Builder will print information the way you tell it to - YOU control how the reports look, so don't be afraid to experiment. Reports will NEVER change information in your database file(s) - they are completely safe to experiment with.

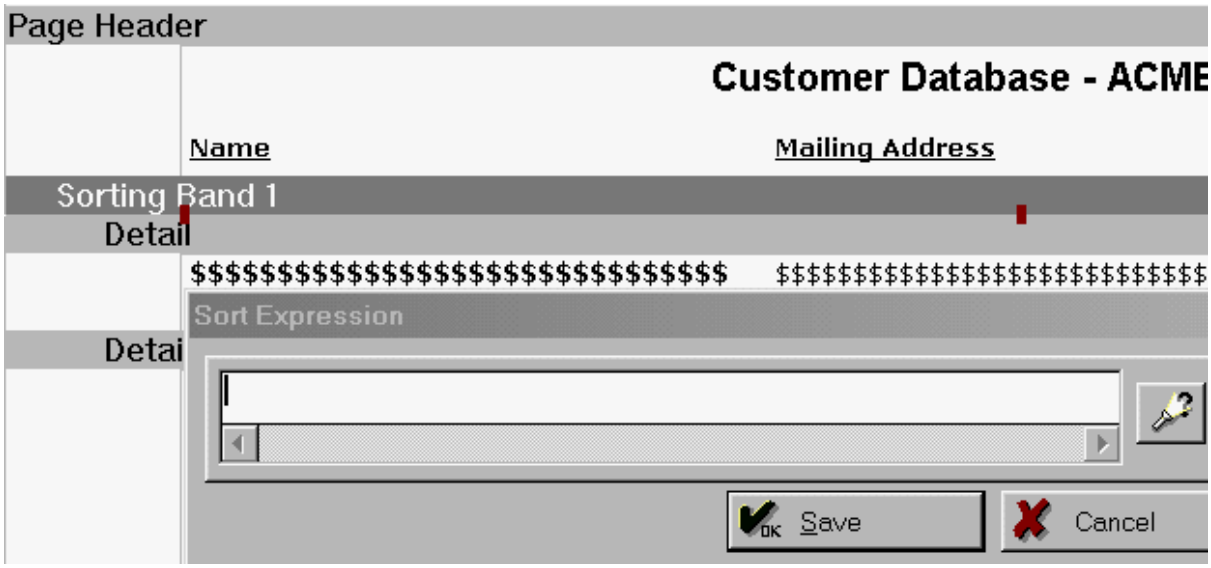
GOTO PAGE 7

1.22.21.7 Tutorial - Page 7

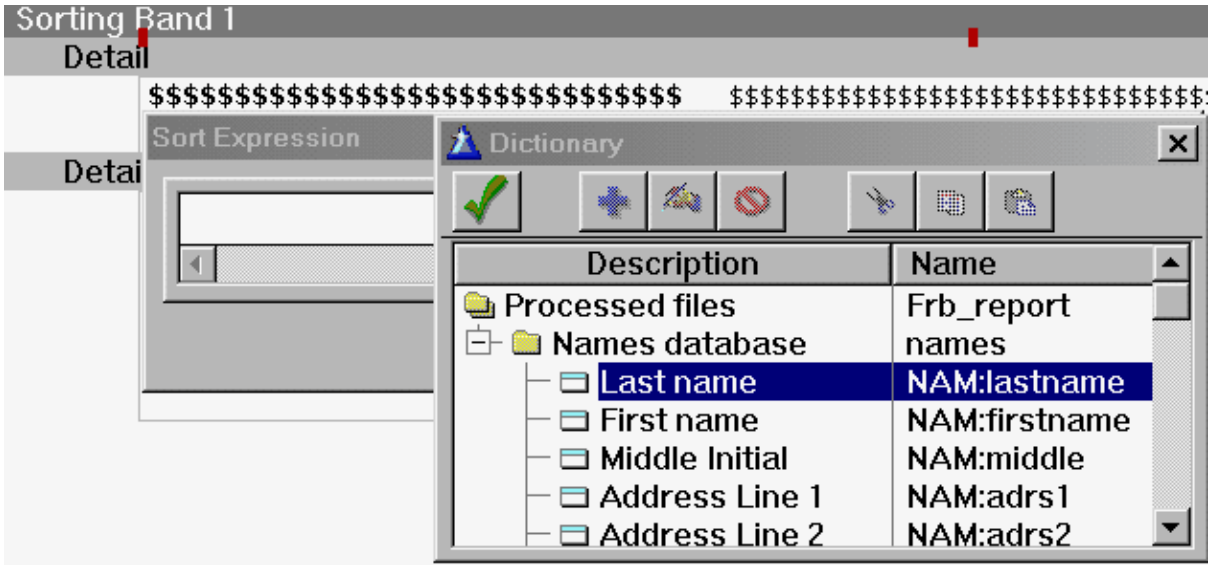
Sorting information on a report is crucial for locating information - can you imagine using your phone book if the names of everyone inside weren't sorted by last name? The Report Builder allows you to sort information how YOU want it to be sorted. Reopen the report so it is displayed in the Report Formatter screen once again.

The Report Builder engine uses a Sorting Band to sort data the way that you want it to. To add a Sort Band to your report to enable sorting on a database field (in this example, the last name) select BAND, then NEW, then SORTING BAND. You'll notice that the cursor changed to a pointed hand. Move the hand until the tip of the finger is on top of the word DETAIL in the

detail band, then left click the mouse. Your report will now look like this:

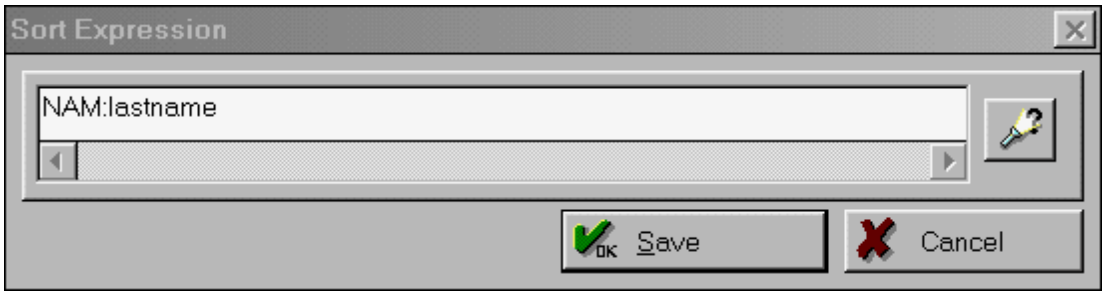


Notice that above the DETAIL band is a new entry named "Sorting Band 1", and a dialogue box titled "Sort Expression" is displayed below it; the Report Builder is asking you how to sort the database information. You will be using the dictionary to select the database field as the primary sort - click the button with the flashlight to display the dictionary onscreen:



We wanted this report to be sorted on the Last Name field of the database, so we expand the

"tree" for "Names Database" to display all the field names for the database. Double left click on the Last Name field to enter the field name into the entry field for the Sort Expression box:



Notice that the field name is now entered into the entry field; click the SAVE button. The information displayed in the Sorting Band detail is now changed to this:

This let's you know how this Sorting Band will be sorting information. Go ahead and test the sort by saving the report, then exit the Report Formatter screen and print a sample report. Here is what the report looks like now:

Customer Database - ACME Sales

Last Name	First Name	MI	Address Line 1	Address Line 2	City	State	Zip Code
Ferrigno	Lou	A	419 Anger Man		Green	FL	21393
Hurt	William	D	319 Poplar Driv		Portland	OR	21839
Presley	Elvis	A	100 Rock N Roll		Memphis	TN	91231
Willis	Bruce	Y	200 Die Hard St		Gore	NM	21389

Notice that the Last Name field entries are now sorted alphabetically.

© Access Business Communications, Inc.

GOTO PAGE 8

1.22.21.8 Tutorial - Page 8

The Report Builder allows you to manipulate database information before it is generated to a report page - this is very handy for the next "trick" that is next.

Our report so far has three columns that break apart the name (last name, first name, middle initial). While this is acceptable, we can make it look much better by formatting the database information before it is printed. Instead of printing information inside 3 FRAMES we will instead print a formatted name inside of 1 FRAME. Not only will it look better, but may also take up less space on the report!

Here is an example of how the report used to print name information:

PRESLEY ELVIS A

and here is how we want it to look:

PRESLEY, ELVIS A

Go ahead and open up the report again; the Report Formatter screen should be displayed. Delete the two frames for First Name and Middle Initial, and also delete the header information for those two columns (to delete a FRAME you right click it, then select DELETE from the popup menu).

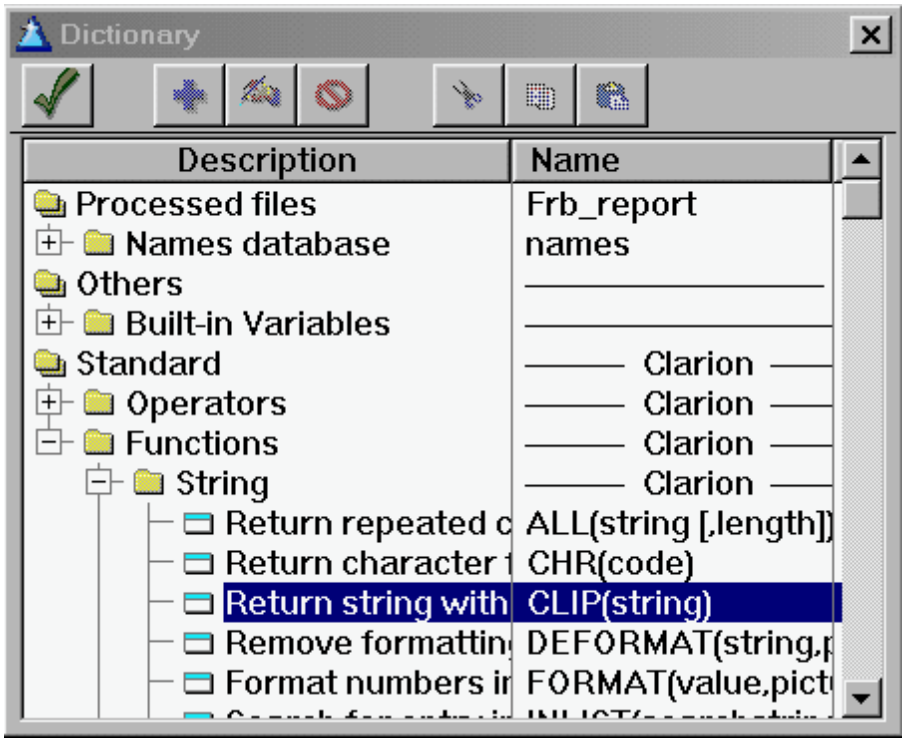
Left click the Last Name FRAME inside the DETAIL band; the properties box for that frame should look like this:

[PICTURE _bm38.bmp]

If you examine the old report you will notice that there is a LOT of blank space after the last name. We need a way to clip the empty spaces out of the database field. This is achieved by

digging deeper into the Report Builder's bag of tricks, and use a built in function that CLIPs off blank space at the end of a database field. The function called CLIP() does exactly this for us, and here is how to use it.

Go ahead and delete the Contents information inside the "Properties" box for the frame, making it completely blank. Click the button with the flashlight (this is the Dictionary access button). This will display the DICTIONARY onscreen. Not only does the DICTIONARY maintain the database field information for your program, but is also a centralized place for accessing/using the different built in functions that the Report Builder has to offer. Here is screen capture showing where the CLIP() function is located inside the Dictionary:



Go ahead and double click the CLIP(string) entry, which inserts it into the FRAME properties:

[PICTURE _bm40.bmp]

Obviously we aren't manipulating a database field called (string); this is simply telling you that the CLIP() function is used against text strings - you can't use this function on numeric fields. Go ahead and remove the word "string" from inside the '()' symbols, thus leaving you with = CLIP() inside the contents entry field. Left click once inside the '()' characters, then click the

DICTIONARY button again to select the Last Name field from the dictionary. Double click the Last Name field, which changes the above screen to look like this:

[PICTURE _bm41.bmp]

Now our frame is going to print the contents of the Last Name field from the database, BUT it will remove all the blank spaces from the end of the field!

We've solved one piece of the puzzle; now we need to combine the last name field with a comma character, and a blank space after the comma. To combine two or more strings together we use the Ampersand (&) character; any text that we want to combine with a database field has to be enclosed in single quotes. So, here is what the Contents entry field looks like now:

[PICTURE _bm42.bmp]

So far so good. We have the last name (with all blank spaces removed), and the comma character added directly after it, with a blank space after the comma. Now it's time to add the First Name field; however, remember that the first name field can also have blank spaces at the end, so we need to CLIP() that field to. We are combining the First Name field tothe existing information, so we also need the Ampersand character to join them together. Go ahead and type in this information:

& clip()

then click inside the '()' symbols where the First Name field will be inserted, then click the DICTIONARY button to display the database fields. Here is our revised screen:

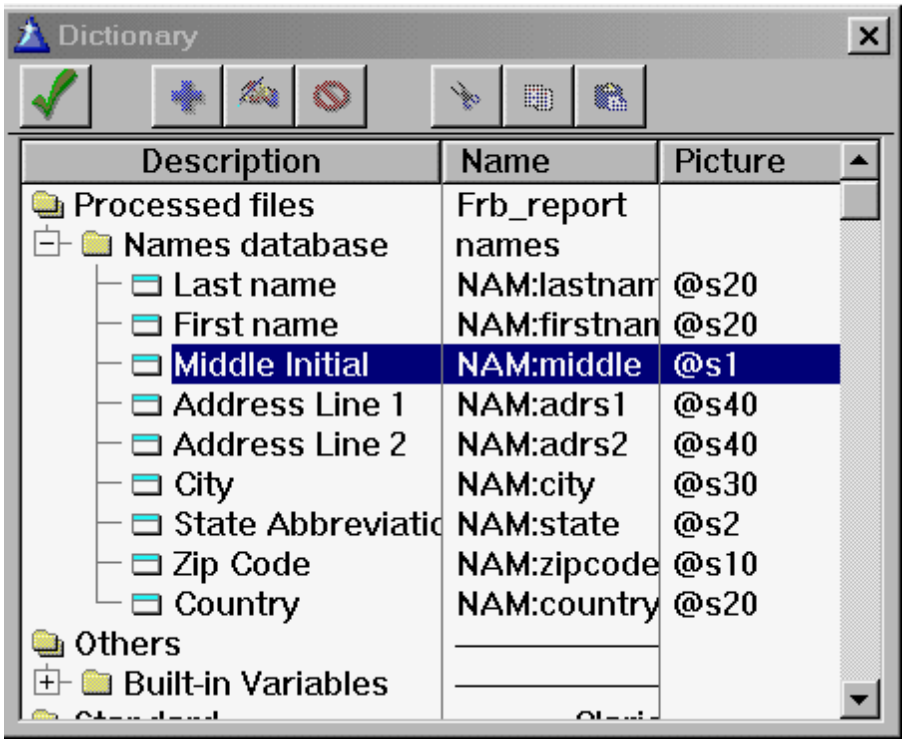
[PICTURE _bm43.bmp]

Now for the last part - adding the Middle Initial. This database field is only one position in length, so we don't need to CLIP() that field - we just need to append it to the rest of the information. We do need a blank space after the last name field though. So, go ahead and type in the ampersand (&) symbol at the end of the Contents string, then add a blank space between two quotes, then click on the DICTIONARY button; select the Middle Initial field to make the Contents look like this:

© Access Business Communications, Inc.

[PICTURE _bm44.bmp]

Now we need to change the PICTURE for this FRAME; originally it was as long as the Last Name field allowed, which was 20 places. We want to extend this to be as long as all the fields and blank spaces require for the 3 fields. To see how long the database fields are you can use the DICTIONARY:



You can use the right arrow to scroll the list to the right in case the PICTURE column doesn't display on your screen. The number after the @S is the length of the field; based on the above information we need to extend the frame to 20 + 2 + 20+ 1 + 1 = 44 spaces. It is doubtful that both the last name and first name would fully occupy 20 spaces apiece, so it is up to you if you want to make the picture shorter.

Click on the tab titled 'Picture'; right now the picture is @S20; go ahead and type in @S34 If you find that some names are being truncated you can increase the length of the picture to accommodate the longer length.

Resize the last name FRAME to accommodate the increased length; you may need to move

© Access Business Communications, Inc.

some FRAMES to the right to accommodate the extra length. Don't forget to change the column header, since it now is the full name -vs- just the last name! Once you have the FRAMES properly aligned save the report, then run it to see how it looks. Here is what the sample report looks like now:

Customer Database - ACME Sales

Name	Address Line 1	Address Line 2	City	State	Zip Code
Ferrigno, Lou A	419 Anger Man		Green	FL	21393
Hurt, William D	319 Poplar Driv		Portland	OR	21839
Presley, Elvis A	100 Rock N Roll		Memphis	TN	91231
Willis, Bruce Y	200 Die Hard St		Gore	NM	21389

Much better!

GOTO PAGE 9

1.22.21.9 Tutorial - Page 9

Our sample report is shaping up nicely; how about we clean up the city, state and zipcode information so it prints nicer on the page?

We've opened up the report so the Report Formatter is onscreen:

Customer Database - ACME Sales

	Address Line 1	Address Line 2	City	State	Zip Code
$	$$$$$$$$$$$	$$$$$$$$$$$	$$$$$$$$$$$	$$	$$$$$$$$$

Notice that the two address lines are being truncated; the city Fields is also being cut short. To combine the City/State/Zip code information we'll need to eliminate the blank spaces after

two of the fields (city and state), insert a comma between the City and State fields, and a blank space before the zip code is printed. This will change the output from: TUCSON AZ 85730

to: TUCSON, AZ 85730

We'll also have to play with the column headers abit, since there will no longer be 3 individual columns of information. However, armed with the tricks presented on Page 8 of this tutorial this will be very easy to achieve.

Here is one way to achieve the desired results:

Resize the DETAIL band to give yourself some room to maneuver in

Select the City/State/Zip Code FRAMES together and drag them downward to give yourself room to manuever in

Create a new FRAME where the City/State/Zip Code FRAMES used to be

Click the Dictionary button to display all the functions for the Report Builder

Select CLIP() from the functions relating to Strings

This will insert '=CLIP(string)' inside the Contents entry field; delete the word 'string' from inside the '()' characters or make the word 'string' highlighted, , then click on the Dictionary button again

Select the field for City from the Dictionary; the Contents entry field now shows =CLIP(NAM:City)

Now we need to add a comma character after the CLIPped City field; change the Contents entry field to show =CLIP(NAM:City) & ', ' &

Click the Dictionary button again and select the CLIP() function again, then remove the word 'string' from inside the '()' characters.

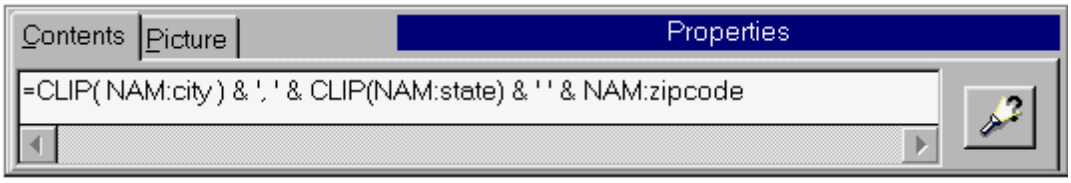
Click on the Dictionary button and select the State field.

Now the Contents entry field shows =CLIP(NAM:city) & ', ' & CLIP(NAM:state) &

We need to add a blank space after the State field is printed; after the last Ampersand (&) character add a single space surrounded by quote characters: ' '

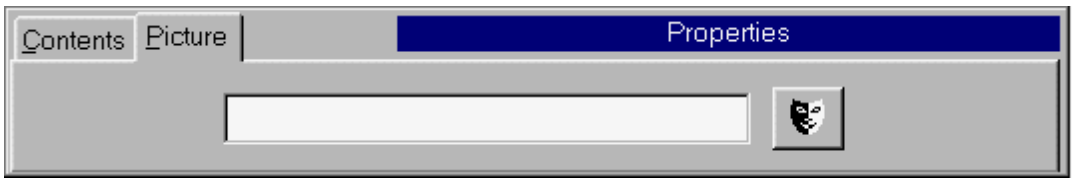
Click on the Dictionary button and select the ZipCode field. This completes cleaning up the City/State/Zipcode information, and our FRAME Contents look like this:

© Access Business Communications, Inc.

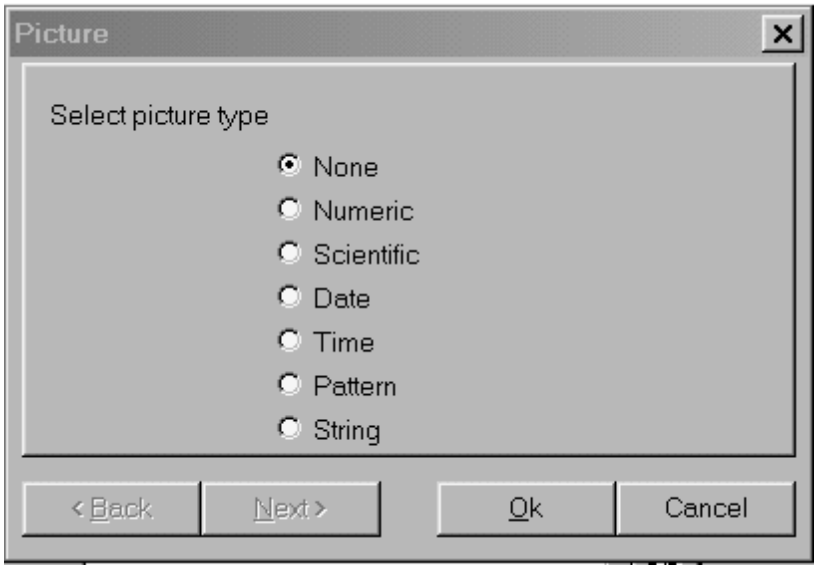


Now we need to change the Picture to accomodate the combined length of the three fields, plus the comma and space characters between the fields. If you don't know the length of the fields you can click on the Dictionary button to retrieve their lengths. For this example we have 30+2+2+1_10 = 45; chances are high that the length will be MUCH shorter than this, so it is up to you if you want to shorten this up abit to save space on the output.

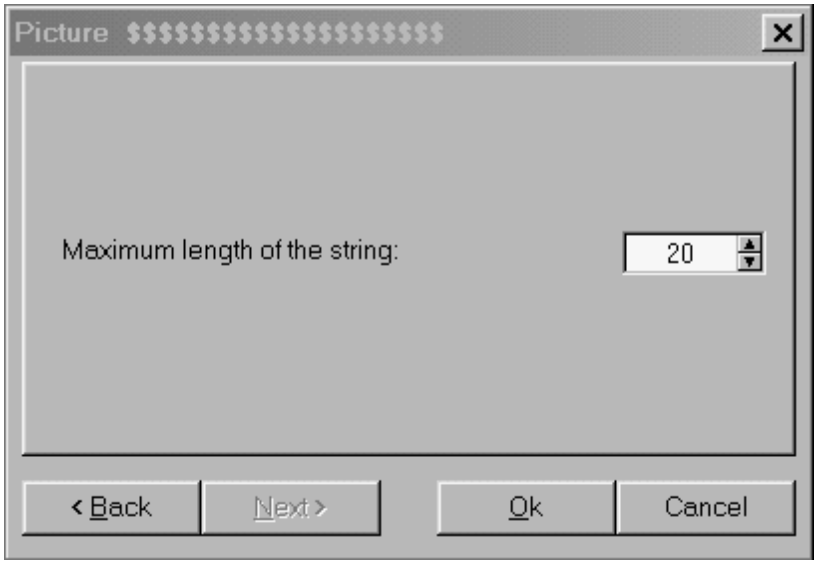
Go ahead and click the Picture tab on the FRAME properties box. Right now the picture entry field is completely blank:



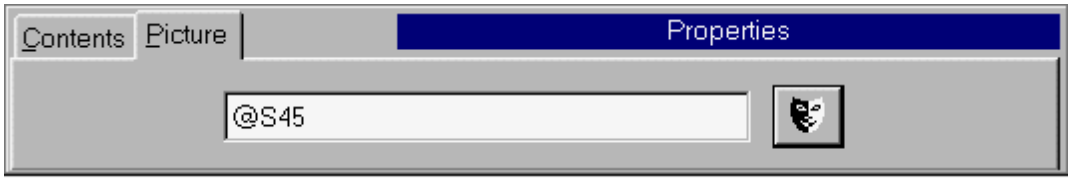
Click on the "face" icon to display the Picture formatter. Information on Pictures are explained in detail elsewhere in this help file, so we'll rush through this section, and you can read up on Pictures at your convenience. A popup window of picture types is shown onscreen:



The FRAME that we created for the 3 combined fields contains a String, so choose the String readiobutton and click NEXT. You are prompted for the maximum length of this string:



The default value is 20 positions; we'll change this to 45, then click OK. Now our Picture entry field in the Frame properties box looks like this:



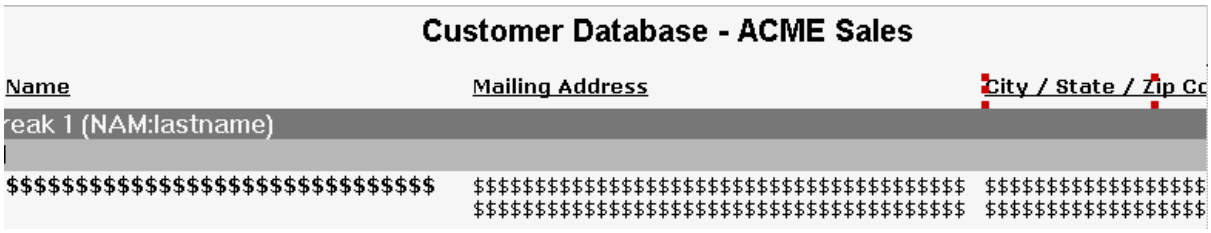
You will also notice that the FRAME contents in the DETAIL band have changed to dollar ($) signs. Go ahead and resize the new FRAME to the correct length, then align it to be lined up horizontally with the other FRAMES in the DETAIL band.

Now we can delete the headers for Zip Code and State (right click the FRAME, then select DELETE from the popup menu to remove that header FRAME). Now we have one header FRAME left for City; we can modify that Header to reflect a more fitting description. We'll need to resize that header FRAME after changing the text, then left align it with the associated FRAME in the DETAIL band so everything lines up.

© Access Business Communications, Inc.

Go ahead and delete the original City/State/Zip Code FRAMES that we moved downward inside the DETAIL band, since they are no longer needed. We'll also move the new FRAMES for the combined City/State/Zip Code database fields as far to the right as possible - we need to free up space for the Address lines that are being chopped off.

While we're at it, we can add back in the Country field that we originally didn't have room for. We'll make the DETAIL band print 2 lines for each database entry. Here is what the final DETAIL band looks like:


Customer Database - ACME Sales
Name
Mailing Address
City / State / Zip Cc
reak 1 (NAM:lastname)
$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$
$$$$$$$$$$$$$$$$$$$

Now that our sample report is looking pretty good let's explore some tricks that you can use for your reports. A common report obstacle is printing information that is sorted more than one time. In this module we are going to change the report from printing in Last Name sequence to printing a report sorted first on the State, then the City, then the Last Name database fields.

Back on PAGE 7 of the tutorial we sorted the report on the Last Name field of the report by creating a Sorting Band. We will still use a Sorting Band to perform the sorting - we'll just be using more of them to perform the sorting that we want for the report!

It is important to figure out the correct sequence of events BEFORE you start adding Report Sorting bands to your report. Take a good look at your database information and plan on paper how you want the report to be sorted. This will save you time in the long run, and prevent frustration later on. For the example above we want the report sorted on three different database fields. The most important sort is on the STATE field; within the STATE information we want it to be sorted by the CITY. Within the CITY we want the names sorted alphabetically by the LAST NAME.

The first order of business for this example is deleting the existing Sorting Band that we have created in our sample report. To delete a Sorting Band you place the mouse cursor directly over the words Sorting Band, then click the right mouse button. From the popup menu select 'Delete Band' - the sorting Band is now gone, and the report is unsorted for the moment.

NOTE

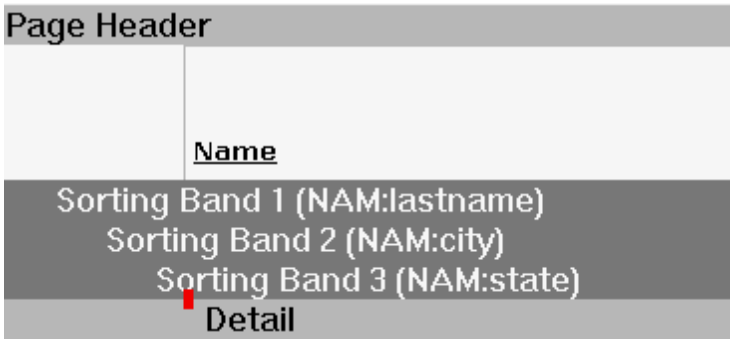
If you are modifying your report that already has a Sorting Band created, and have also created associated Header and Footer bands for this Sorting Band you DO NOT want to delete the band! If you want to change the existing sort for a Sorting Band you only need to right click once on that Sorting Band, select PROPERTIES from the popup menu, then modify the field to sort by!

NOTE

We will be adding Sorting Bands in the same sequence as their order of importance - the primary sort on the STATE field is first, then CITY, then LASTNAME. From the menu select BAND, then NEW, then SORTING BAND. The mouse cursor changes to the hand cursor; place it inside the DETAIL band and left click the mouse. Inside the Sort Expression box you click the Dictionary button, then select the STATE field from the Dictionary, then click SAVE.

Repeat the above steps two more times for the CITY, then the LAST NAME database fields, adding a Sorting Band for each field. The final result will look like this:

© Access Business Communications, Inc.



You can continue adding more Sorting Bands if you need to; for example, if you wanted the names to be sorted by Last Name, then the First Name you could add a fourth Sorting Band with the database field NAM:firstname selected. Once you are done adding Sorting Bands save the report, then print a sample report to see if the output is what you expected:

Customer Database - ACME Sales

Name	Mailing Address	City / State / Zip Code
Ferrigno, Lou A	419 Anger Management Lane	Green, FL 21393 United States
Dillet, Paul J	210 Dumbbell Plaza	Oakland, FL 12981 United States
Zane, Frank K	200 Buff Place Suite 106	Oakland, FL 12398 United States
Draper, Dave P	900 Elm Street	Tampa, FL 29381 United States
Willis, Bruce Y	200 Die Hard Street	Gore, NM 21389 United States
Hurt, William D	319 Poplar Drive	Portland, OR 21839 United States
Presley, Elvis A	100 Rock N Roll Lane	Memphis, TN 91231 United States

Looking at the information above we see four names of people living in FL; within those 4 names it is sorted alphabetically by the City, and within the 2 people living in Oakland, .Fl the last names are sorted alphabetically. Perfect!

It may take some trial and error to get the information sorted exactly as you want it to print. Remember that you can cause no damage to the database file(s) using the Report Builder, so experiment as much as you want.

© Access Business Communications, Inc.

An important point to remember about multiple sorts - they will slow down the report generation, as more work has to be done to get the data as you want it to appear. If you have fairly small database file(s) you won't experience much (if any) of a delay; on large database file(s) you will need some patience for the report to be created.

GOTO PAGE 11

1.22.21.1 Tutorial - Page 11

Depending on how the person/company designed your database program, you may or may not be able to create FILTERS by using a separate module that is called prior to printing a report. Either way you can still create your own FILTERS for your reports.

A database FILTER is a means of extracting only a portion of information that you want. For example, if you only want to know the names of people living in France in your address book why would you print a list with EVERYONE's names? The list could be huge, and take forever to read through and extract only the information you want.

A database FILTER can be very simple (ex: Color = 'blue'), or complex (ex: Race = 'Caucasian' AND Income > 25000 AND (Status = 'Single' OR Status = 'Divorced') - it depends on what the situation requires. A FILTER is saved inside the report, so you don't need to create it each time that you want to print the report. There are some basic concepts that you need to understand before creating a filter; some knowledge of some of the Report Builder functions will also prove handy for creating filters.

If the person/company that designed your database program provides a Query By Example (QBE) module that is displayed before you print a report, you are in luck. Most of the QBE modules that are used are MUCH easier to use for generating a database filter; if this is the case then you can basically ignore this tutorial page, since I recommend using the QBE module instead of manually creating a filter. This page is only for those situations where a QBE module is not being used.

A simple definition of a FILTER could be described as comparing database information against something else. Some simple examples could resemble:

STATE = 'Ca'

PRICE > $300

© Access Business Communications, Inc.

AGE < 30

As shown above there are 3 parts to a filter:

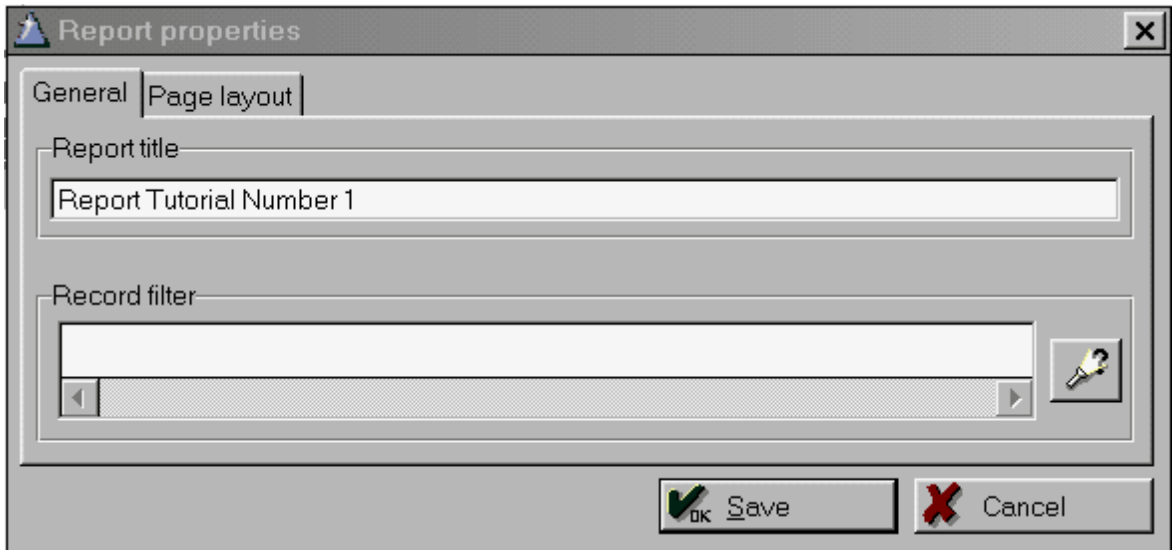
The database field starts the filter

An operator symbol that describes what is being done with the database field

A text string or number that the database field is being compared against

You can retrieve the database field name from the Dictionary; the same goes for the different operators that you can use. The third part of the filter is up to you to decide - remember that if you are comparing database information against textual information you need to make it a string (enclosed in quote symbols); if comparing against a number you don't add the quote symbols.

Report FILTERS are created by selecting FILE from the pulldown menu; select Report Properties from the menu to display the Report Properties screen:



On the bottom of the screen is an entry field for the Record Filter; to the right of the entry field is the Dictionary pushbutton. The record filter is entered in this location, and once the SAVE button is clicked the FILTER is saved with the report.

© Access Business Communications, Inc.

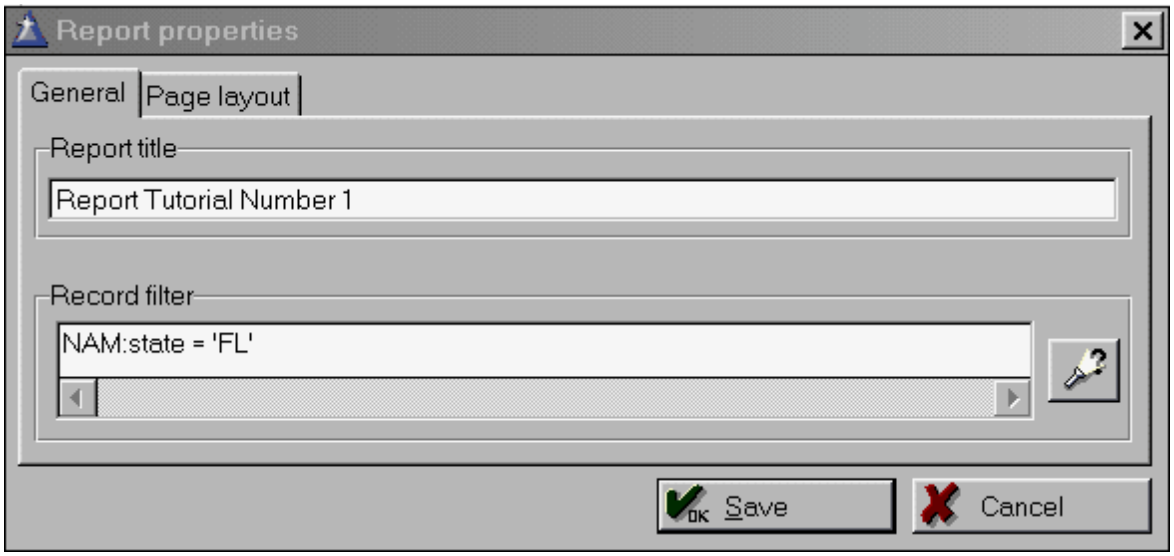
Until you learn the different functions and operators that are built into the Report Builder you will rely heavily on the Dictionary for assistance in creating report filters. Let's start with a simple filter to show how to use the Dictionary to build the filter for us:

With your report open, and the Report Properties window visible (as shown in the above screen capture) click on the Dictionary button to display the list of database fields. We are going to select the STATE field in the dictionary, which inserts it into the entry field above. This completes step one of the filter building process

We now need to decide how we are going to compare the State field in the database. For this example we want to print out database entries for people living in Florida. To compare information we use an OPERATOR, which tells the computer how to manipulate information. After inserting a blank space after the field name we click on the Dictionary button again, and choose the entry titled "Equal To" from the long list of Standard Operators. This inserts an equal sign (=) after the field name, which completes step 2 of the filter.

Now we have to manually type in how we are going to compare the State database field. We wanted to print only those entries for Florida; the state database field is 2 positions in length, and stores the abbreviated state instead of the spelled out version. We will be comparing "FL" against the database field

Here is what the completed filter appears in the Report Properties screen:

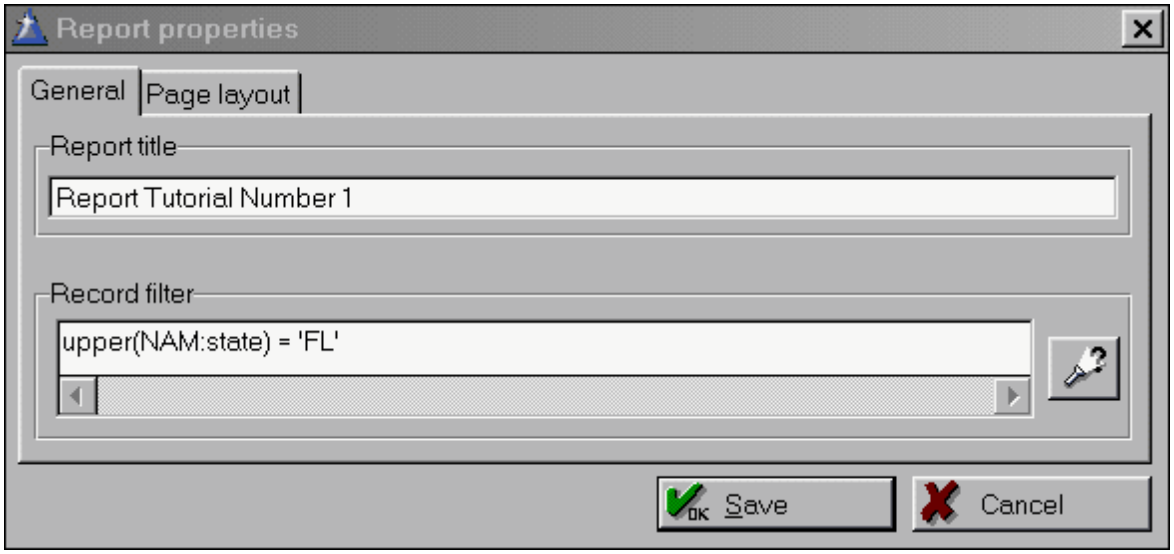


In theory this filter is 100% correct; structurally it IS correct, but there exists a problem. The problem is how the State database field is stored in the database - when the user inputs the State information it is capitalized as "Fl", with the "l" being lowercase. The filter shown above is all uppercase. Because computers do EXACTLY what YOU tell them to do, the result will

be that NO database entries will be found, even though there are 4 entries in this database that have people living in Florida!

Before throwing your hands in the air take a minute to compose yourself while we dig a little deeper into how filters work. The filter statement shown above is structurally correct: we have a database field, an operator and the text string for what it is being compared against. The problem is that we are telling the computer to make sure that the State field EXACTLY matches "FL". Computers are stupid - they don't understand that it should have checked for "Fl" instead. WE have to tell it to do that!

There are several ways to fix this problem; here is probably the easiest way of ensuring that a filter dealing with text strings will always work. It uses the upper() function in the Report Builder to convert the database information to uppercase temporarily, which will always accurately compare the database information against the text string. Armed with this knowledge we change the filter to look like this:



Caution: Do Not Use the TelcoMgr Report File Names to Save Your Report Changes!

TelcoMgr Report File Names

The TelcoMgr Report Builder will attempt to save your new reports with a name similar to "RPT00001.RPT." The second report that you save will be named "RPT00002.RPT" and the third will be named "RPT00003.RPT" and so on for additional reports. Therefore, end-users are recommended to **save report file names** using the automatic schema with the built-in serialized report file name.

If you makes changes to one of the TelcoMgr standard reports which are installed with the application, then you should save the changes using "**SAVEAS**" and let TelcoMgr suggest the appropriate name with the serialized naming schema as described above. If you save your changes with the same name as used by TelcoMgr to store its standard reports, then your changes will be overwritten each time TelcoMgr is upgraded.

Optionally, you may create your own report file names. If you elect to save your reports with your own naming convention, for example "MyTelcoMgrReport01" then it is not necessary to add the ".**RPT suffix**" at the end of the file name. The Report Builder will append the suffix to your custom file name. Once again, end-users should not use the TelcoMgr report file naming convention to save new or modified reports.

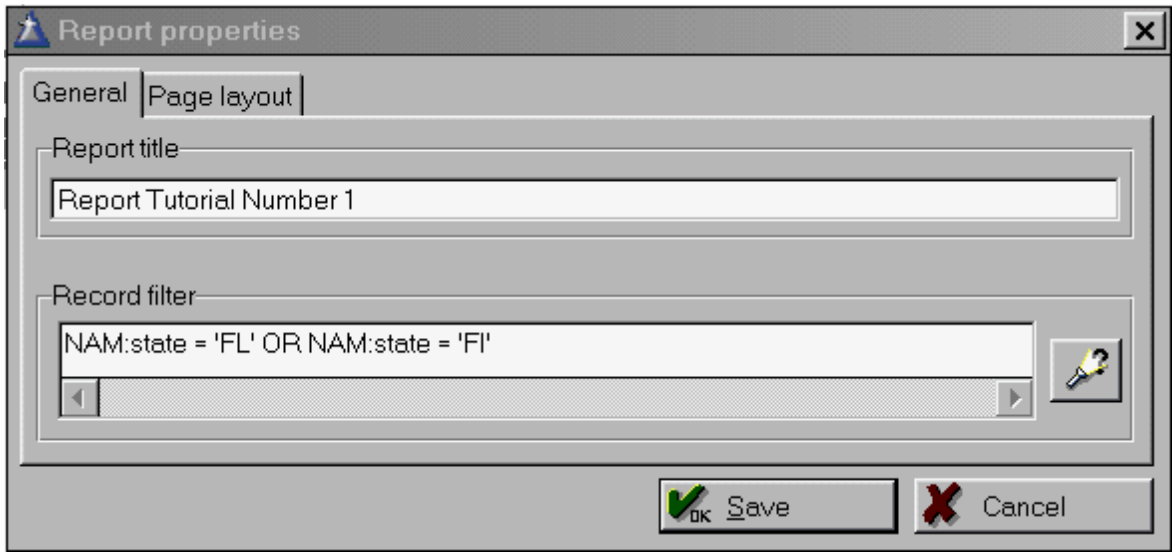
Now we can click the SAVE button, then run the report to see how the information looks:

© Access Business Communications, Inc.

Customer Database - ACME Sales

Name	Mailing Address	City / State / Zip Code
Ferrigno, Lou A	419 Anger Management Lane	Green, FL 21393 United States
Dillet, Paul J	210 Dumbbell Plaza	Oakland, FL 12981 United States
Zane, Frank K	200 Buff Place Suite 106	Oakland, FL 12398 United States
Draper, Dave P	900 Elm Street	Tampa, FL 29381 United States

Perfect! As mentioned before there is another way of changing the report filter to make sure that the data printed is correct. We would change the filter to perform two comparisons of the State database field against "FL" AND "Fl". You would piece together two different filters by using a CONDITIONAL OPERATOR out of the Report Builders dictionary. Here is what the revised filter would look like:



You may be asking yourself why even bother checking for database entries where the State database field is "FL", since the database program is supposedly capitalizing the information as the person types it in. The reason is simple - Murphies law! You never take for granted that information typed in by someone else is how you would type it in. The safest route is to check for all the possible ways that information could be typed in.

© Access Business Communications, Inc.

GOTO PAGE 12

1.22.21.1.1 Tutorial - Page 12

The previous page got your feet wet on creating a filter; here we are going to dig a bit deeper in creating some more filters.

As mentioned before, you can use the Dictionary (or this help file) to see what the different functions and operators are that can be used in creating a filter for your reports. Some functions will be used more often than others; here is a short list of them:

Clip() - remove blank space from the end of text

Upper() - convert text to all uppercase

Lower() - convert text to all lowercase

Sub() - retrieve a portion of a text string for comparison

Instring() - check for text inside a larger piece of text

We already covered how to compare a database field containing text against a text string. However, there are some more tricks that you can do to spruce up your reports. For example, let's assume that you need to print a report of all customers with a last name starting with the letter "F". You would use the sub() function to test the value of the first letter of the last name; to be safe you would also use the upper() function to make sure that letter was uppercase (also makes the filter simpler, and run abit faster too). Here is what that filter would look like:

UPPER(SUB(NAM:state ,1,1)) = 'F'

Notice that we used two functions at the same time, one inside the other with the field in the middle.

Here's another good example; in this case trying to locate information inside a large memo field. The situation is your database has a memo field that contains information about hardware. You are trying to print a report for any references to SONY brand equipment.

© Access Business Communications, Inc.

Remember that you can't trust that people typed in SONY in capital letters; they may have spelled it Sony or sony, so we have to convert the memo field first to UPPER case, then check for the word SONY. Here is what the filter would look like:

INSTRING('SONY', UPPER(NAM:Notes))

Again, we are using a function inside a function (the function UPPER() inside of the function INSTRING())..

GOTO PAGE 13

1.22.21.1.1 Tutorial - Page 13

A common reporting need is printed graphic image(s) on a report. Most commonly this is used by businesses for company logos, or for customized letterhead for memos. It is also a nice way of sprucing up drab reports into a more eye-catching design. The Report Builder makes it very easy to add graphic image file(s) to your report.

Image files are normally placed in the Report Header band, but you can placed in other Report Bands as desired.

After opening the report into the Report Formatter screen create a new frame in the desired location. Right click on the new frame to display the Frame Properties window. Underneath the Contents entry field is a checkbox titled 'Contents - image file name'. Go ahead and check the checkbox, then click the Dictionary button (looks like a flashlight):

Because the 'Contents - image file name' is checked the Dictionary button works like a standard windows file selection box instead of displaying the Dictionary. From the popup file selection box you can choose the desired graphic image file of these formats:

*.Bmp

*.Gif

*.Jpg

*.Pcx

*.Wmf

* NOTE *

If the selected image file does not have the path defined the Report Writer will search for the file in this order:

The current folder

The folder where your *.Rpt report files are saved

All directories from the PATH environment variable defined in your Autoexec.Bat file

* NOTE *

Some image file formats lend themselves better for resizing than others; if possible stick with .Wmf (Windows Meta Files), as they resize the best. After selecting the file it's filename will be displayed inside the new frame:

And here is a sample of the new report header:

Remember that you can use the placement buttons to define the placement of the image inside the frame (top / middle / bottom aligned). You can also choose to place a visible frame around the image file (on one or more sides), and optionally change the coloring used in the frame.

GOTO PAGE 14

1.22.21.14 Tutorial - Page 14

Knowing how many database records have been selected for printing can be a useful addition to many reports. The Report Builder makes it very easy to print this information:

- Create a Report Footer band (from the main menu select BAND, then NEW, then REPORT FOOTER). An empty Report Footer band is made available inside the Report Formatter screen.
- Create an empty frame in the new Report Footer band in the desired location; with the new frame selected click the Dictionary button on the Frame Properties box..
- From the Dictionary popup tree menu select the entry for OTHERS; under this entry open up "Built In Variables", then select "Record Counter". This will insert this information into the Frame Contents: =Record_Counter
- That's it! You can also manually type in the (=Record_Counter) information without having to go through the Dictionary.

You may choose to make this information print a little fancier by adding a frame to the left of where the record counter is printed:

As shown above two frames have been created; the first has the text string "Records Selected" inserted. The second frame contains the built in variable for the Record Counter.

To recap: on this page you learned:

- How to print a counter of matching database record(s) for a group of related information
- How to create a box effect by resizing frame borders

GOTO PAGE 15

1.22.21.1 Tutorial - Page 15

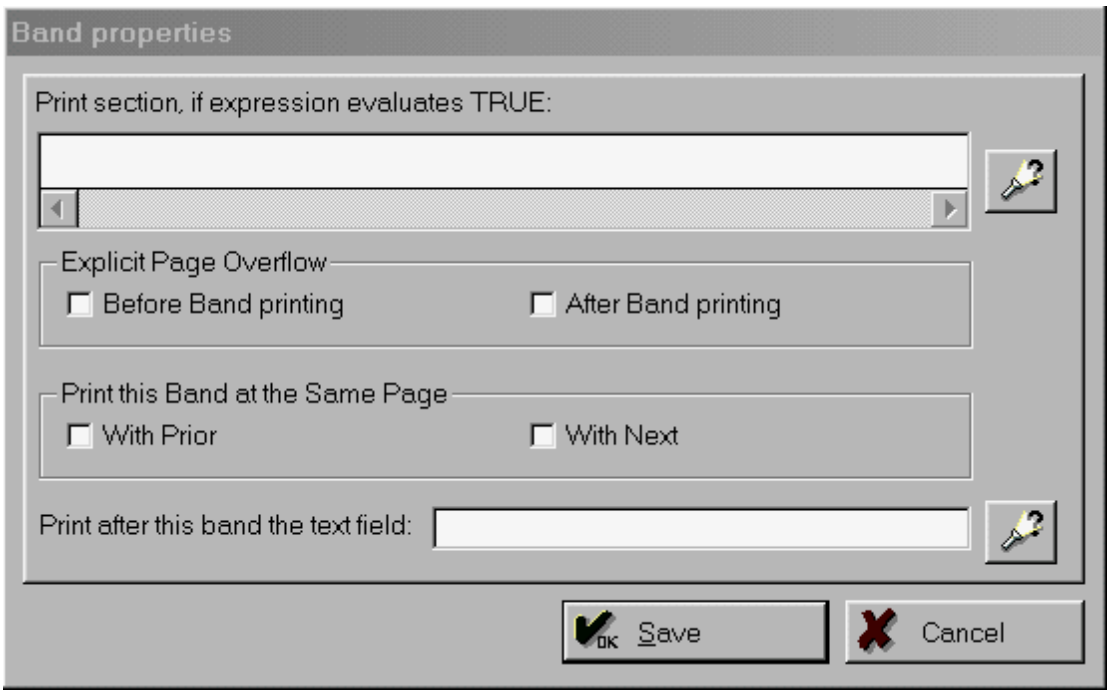
There are times when you want to force a page break in a report to make it more visually appealing, or when you need to physically separate different sections of a report for mailing or workload requirements. The Report Builder makes this very easy and straightforward to accomplish.

The first step is adding a Sorting Band to your report; the first sort (or primary sort) should be on the database field that you want to perform the page break with. For example, if you want to separate a report based on the state field, where the start of a new state abbreviation code starts a new page you would create that Sorting Band on the state database field. You can have additional Sorting Bands if you desire, but the FIRST Sorting Band needs to be created using the database field that will be be broken into sections on the printed report.

After adding the Sorting Band you will create either a Group Header or Group Footer detail band in the report. Either band will work as desired; the difference is where contents of that report band are printed. A Group Header band is printed at the top of the page; a Group Footer band is printed at the bottom of the report page.

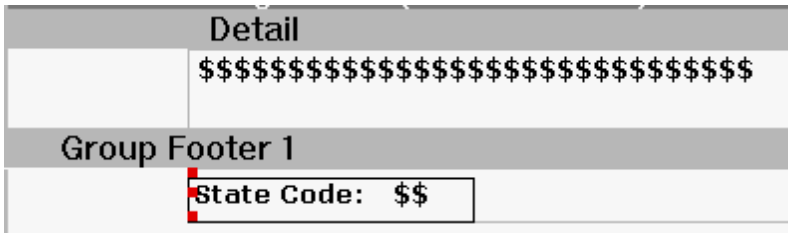
To create a Group Header or Group Footer band select from the main menu the BAND menu option, then NEW, then the desired Group band. The mouse cursor will change to the hand icon; place the hand icon directly on the first Sorting Band and left click the mouse. A new band (Group Header or Group Footer) is created inside your Report Formatter screen.

Right click on the new Group report band that is newly created, then select the Band Properties popup menu entry. A popup dialogue window appears with various options available to you:



As you can see, the Report Builder gives you a LOT of control on how to print information in the new Group header/footer report band. By default no setup checkboxes are selected

To see how different settings affect the final output let's start with a Group Footer band:



As shown above a frame was created with the text of "State Code: " entered inside it, with the frame borders enabled on all 4 sides of the frame. This will create a nice box effect around the information when printed. Another frame was created that contains the state database field with no frame border. This frame was then moved INSIDE the first frame, which gives an illusion of one large box surrounding both frames!

*** NOTE ***

Another way of creating a nice box effect around two or more frames that are side by side: for each frame go ahead and set the border to be displayed (use the border buttons that are displayed in the toolbar); for the leftmost frame don't display the rightside border; for the second frame don't display the leftside border.

*** NOTE ***

Using the default report (used throughout this tutorial) and the above Group Footer information here is how the report output would change based on different settings:

- **Print Selection, if expression evaluates TRUE:** You can elect to only print information contained in the new report band when a specific condition evaluates to TRUE; for example, you may want to make information stand out for customers who are late on a payment; if you have a database field that tracks if their payment is late you could check for this; if late you can create a fancy text warning to draw attention to the account. Naturally you would use the Dictionary to help define the database condition that evaluates to TRUE for this action to occur.
- **Explicit Page Overflow Before Band Printing:** Print the Group Footer band when the selected database field data changes at the beginning of the next group of information (i.e. ALWAYS print this band when the selected field data changes at the BEGINNING of the next group of information). For example, if you have 10 database records and the first 3 equal "AZ", when the state database field changes value to "CA" the Group Footer is printed on the next page before database records containing State=CA are printed to the page.
- **Explicit Page Overflow After Band Printing:** Print the Group Footer band when the selected database field data changes at the end of that group of information (i.e. ALWAYS print this band when the selected field data changes at the END of that group of information). The next page that prints will contain new database field information.
- **Print This Band At The Same Page With Prior:** This attribute specifies that the Detail, or Group Header/Group Footer structure (contained within a Sorting Band) is ALWAYS printed on the same page as the band immediately preceeding it in the Report Formatter screen. This ensures that the structure is never printed on a page by itself, thus eliminating "orphan" bands. An "orphan" band in this case is defined as a Group Footer, or last detail item in a related group of items, that are printed on the following page separated from the rest of it's related items.
- **Print This Band At The Same Page With Next:** This attribute specifies that the Detail, or Group Header/Group Footer structure (contained within a Sorting Band) is ALWAYS printed on the same page as the band immediately following it in the Report Formatter screen. This ensures that the structure is never printed on a page by itself, thus eliminating "orphan" bands. An "orphan" band in this case is defined as a Group Header, or last detail item in a related group of items, that are printed on the previous page separated from the rest of it's related items.
- **Print After This Band The Text Field:** This attribute is used whenever you wish to print a database field that is a large MEMO type database field, which are commonly used to contain large amounts of text (such as notes). A normal Frame will be unable to print a memo database field within it's defined space; by checking this feature the selected database field will be printed after the report band in it's entirety without truncation. If there is insufficient space to print all of the information the remainder of the field information will continue printing on the next page.

To recap: on this page you learned:

- How to force a page break when database field information changes for the current database sort
- How to create a Group Header and Group Footer report band, and the differences of the two
- How to restrict printing a Group Header / Group Footer report band based upon a specific database condition evaluating to TRUE
- How to create an illusion of one frame border surrounding two or more Frames
- How to print a database MEMO field that contains a large amount of information without truncating it's information

GOTO PAGE 16

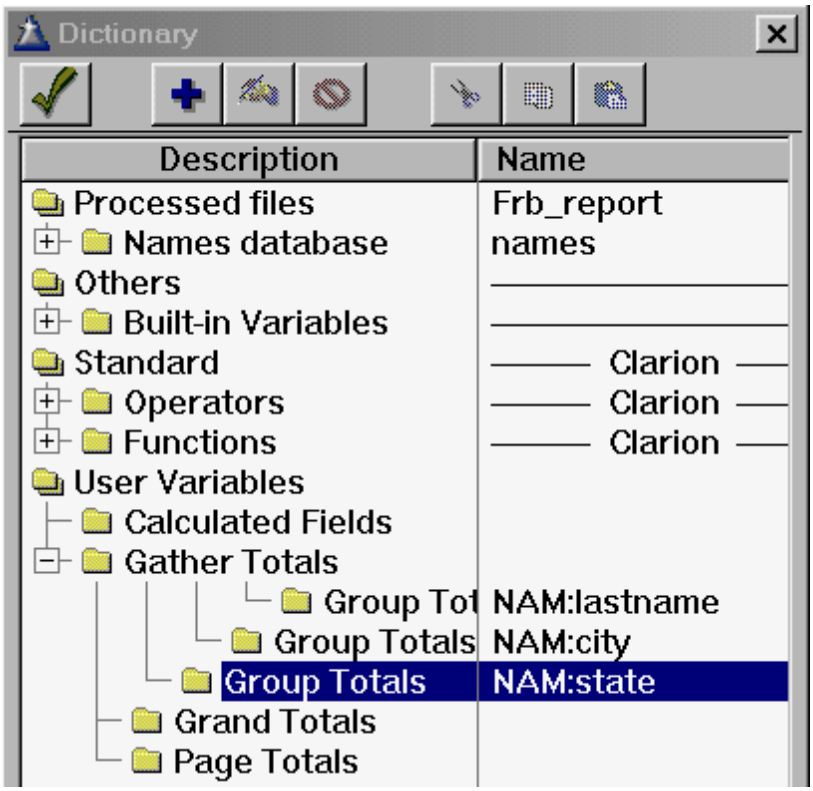
1.22.21.1 Tutorial - Page 16

A common addition to many reports (especially financial reports) is printing total fields (such as total sales) or the number of matching database entries for a group of information. This information is normally placed within a Group Footer report band, so it prints at the end of that related group of database information.

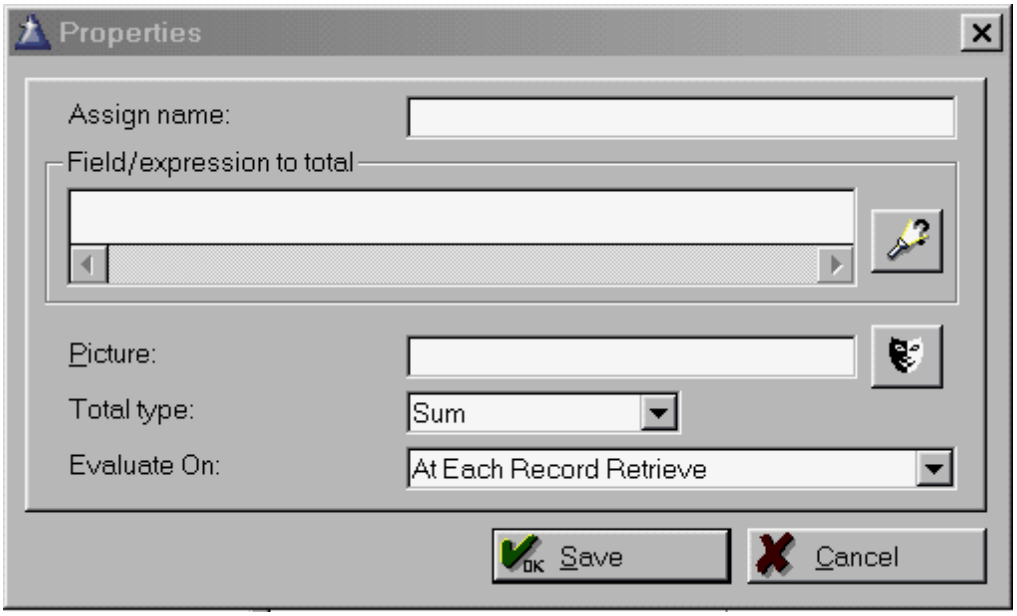
For this example let's assume that we want to print the total number of database record(s) for each state. This information will print at the last page of that group of information as a summary; here's how to do it:

- Create a Sorting Band on the STATE database field (if one doesn't already exist)
- Create a Group Footer report band (if one doesn't already exist) on the STATE database field
- Add a new frame inside the new Group Footer report band
- Click on the Dictionary button for the new Frame
- Underneath the 'User Variables' section of the dictionary will be an entry labeled 'Gather Totals'. Each of the Group Header / Group Footer report bands that you have defined will have an entry here titled 'Group Totals'. Highlight the entry for the STATE database field:

© Access Business Communications, Inc.



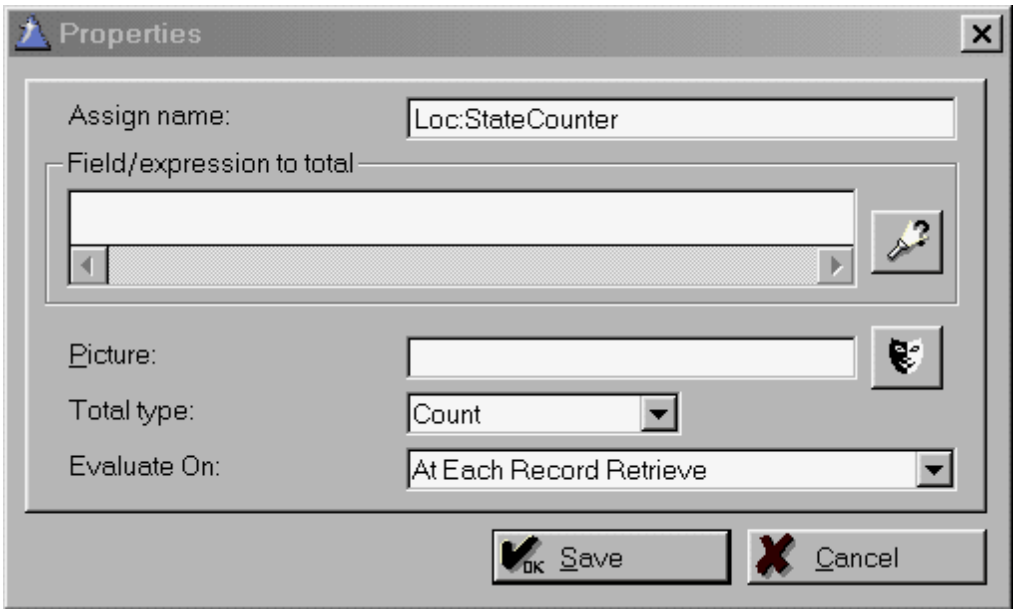
- Click the '+' button at the top of the Dictionary dialogue window
- A new dialogue box appears to create a new variable based on the selected database field:



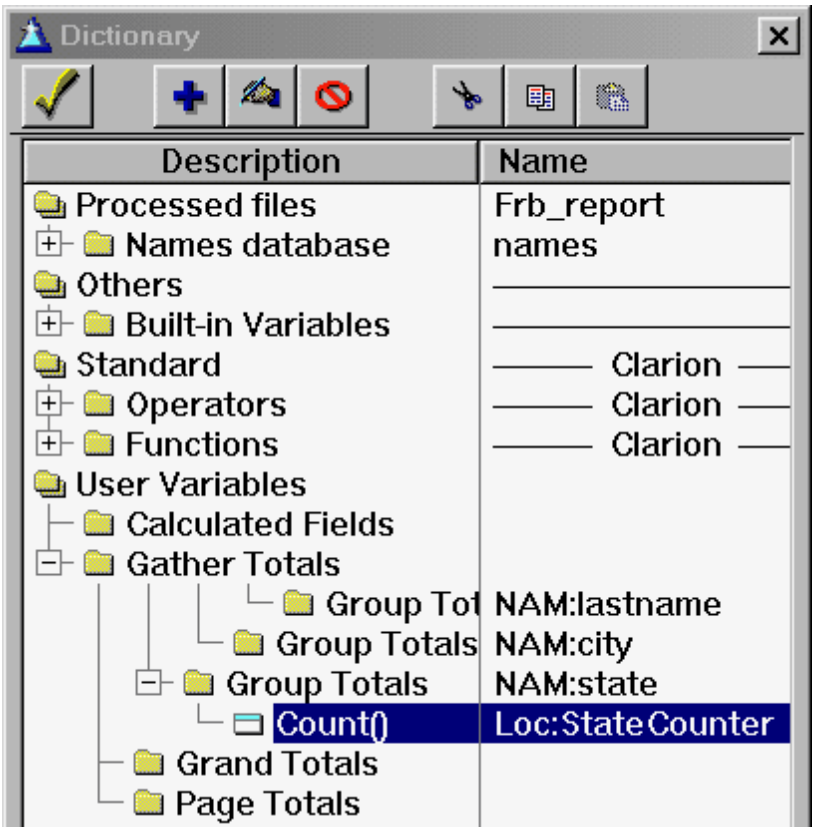
As displayed above, there are many different ways of manipulating the information to be stored in the new variable. Here is a breakdown of each item:

- **Assign Name:** Enter the desired name of the variable here. This name MUST be unique; do NOT use the same name as the database field! An easy way of keeping the name unique is by using a prefix, such as LOC; for example, for the database field NAM:STATE a good variable name would be LOC:STATE
- **Field/expression to total:** Use the Dictionary button to help select the database field(s) that you want to manipulate here.
- **Picture:** Define how the variable will be printed on your report by using the Picture dialogue box.
- **Total Type:** Define how the selected database field(s) will be manipulated. From the droplist you can select Sum, Average, Count, Minimum, Maximum or Evaluate.
- **Evaluate On:** Define when the variable will be modified; from the droplist you can select 'At Each Record Retrieve', 'At The End Of The Group', 'At The End Of The Report' or 'At The End Of Every Page'

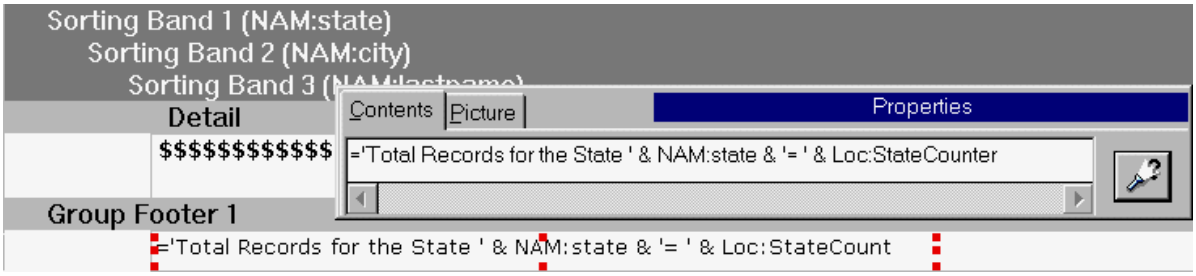
Here is the dialogue box already filled out to build the new variable:



Here is how the dictionary appears after adding the new variable:



And here is the modified Group Footer report band to make use of the new variable information:



And an example of what the output will look like:

Customer Database - ACME Sales

Name	Mailing Address	City / State / Zip Code
Ferrigno, Lou A	419 Anger Management Lane	Green, FL 21393 United States
Dillet, Paul J	210 Dumbbell Plaza	Oakland, FL 12981 United States
Zane, Frank K	200 Buff Place Suite 106	Oakland, FL 12398 United States
Draper, Dave P	900 Elm Street	Tampa, FL 29381 United States

Total Records for the State FL= 4

To recap: on this page you learned:

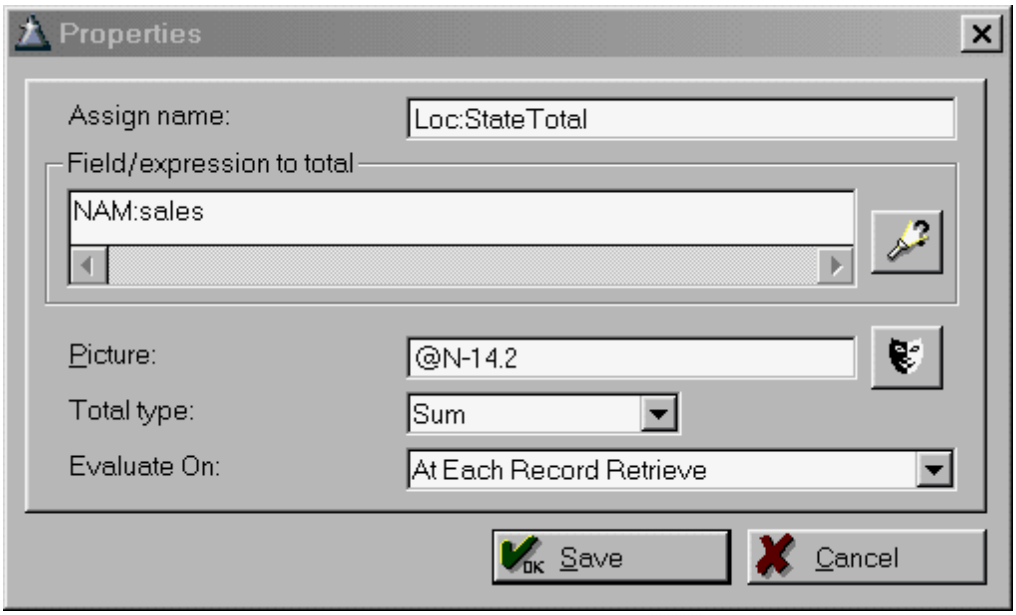
- How to create a variable used in a Group Header / Group Footer band
- How to manipulate the characteristics of this new variable (appearance, how information is gathered from the database)
- How to combine the Group Header / Group Footer variable with text for printing meaningful information in the report band

GOTO PAGE 17

1.22.21.1 Tutorial - Page 17

Printing dollar totals for a group of database information is very common in financial reports (i.e. What are the total dollar sales for all customers in a state?). The concepts described in the previous tutorial page are practically the same, with some slight changes to achieve the desired result:

- Create the Sorting Band on the desired database field (in this case, the STATE database field)
- Create a Group Footer band on this same database field
- Create a new frame inside the Group Footer band
- Click the Dictionary button for this newly added Frame
- Click the '+' button at the top of the Dictionary dialogue box
- Create a new variable to contain the dollar total value based on the database field containing the dollar sales (for this example it is the database field NAM:Sales):

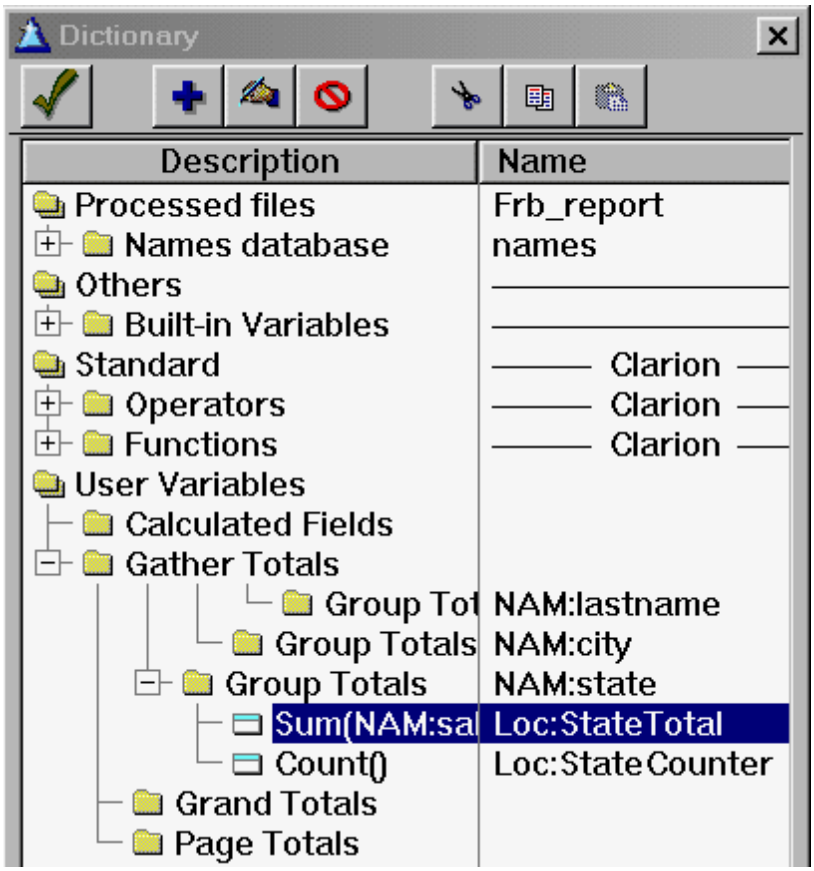


*** NOTE ***

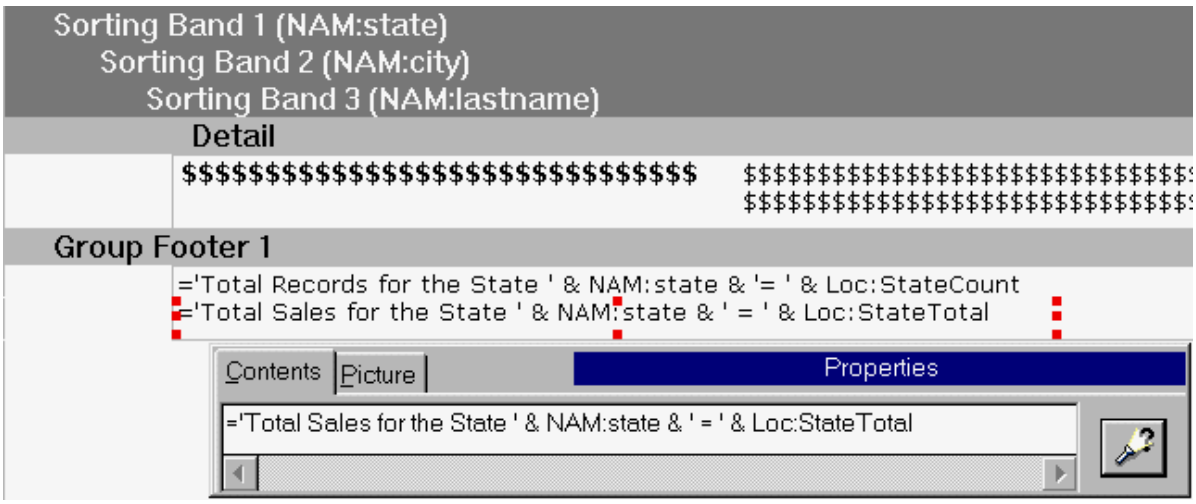
Remember that the variable LOC:StateTotal will be containing the SUM of the NAM:Sales database field! This means that the variable will most likely be larger (potentially MUCH larger) than the largest database entry; when assigning the Picture for the variable MAKE SURE you increase it's length to accomodate this situation. Otherwise your data contained in the variable may be incorrect due to truncation!

*** NOTE ***

After saving the new variable information your Dictionary screen will be updated:



And here is the Report Formatter screen:



And some sample output:

Customer Database - ACME Sales

Name	Mailing Address	City / State / Zip Code
Ferrigno, Lou A	419 Anger Management Lane	Green, FL 21393 United States
Dillet, Paul J	210 Dumbbell Plaza	Oakland, FL 12981 United States
Zane, Frank K	200 Buff Place Suite 106	Oakland, FL 12398 United States
Draper, Dave P	900 Elm Street	Tampa, FL 29381 United States

Total Records for the State FL= 4
Total Sales for the State FL = 194.48

Naturally the database field for sales for each customer could be added to the Detail report band; one could also change the Picture for the "Total Sales" to include a leading dollar sign symbol. In fact, let's also add some lines to this report band to really spruce it up:

Customer Database - ACME Sales

Name	Mailing Address	City / State / Zip Code
Ferrigno, Lou A	419 Anger Management Lane	Green, FL 21393 United States Sales: 101.14
Dillet, Paul J	210 Dumbbell Plaza	Oakland, FL 12981 United States Sales: 35
Zane, Frank K	200 Buff Place Suite 106	Oakland, FL 12398 United States Sales: 33.09
Draper, Dave P	900 Elm Street	Tampa, FL 29381 United States Sales: 25.25

Total Records for the State FL= 4
Total Sales for the State FL = 194.48

As shown above, the Sales information for each database record was added. Also added were a top border for the first frame (Total Records For The State) and a bottom border for the second frame (Total Sales For The State) located inside the Group Footer report band.

To recap: on this page you learned:

- How to create a new variable for a Group Header / Group Footer report band
- How to use this variable to store numeric information (such as sales information)
- How to combine this variable with text to print attractive and meaningful report information

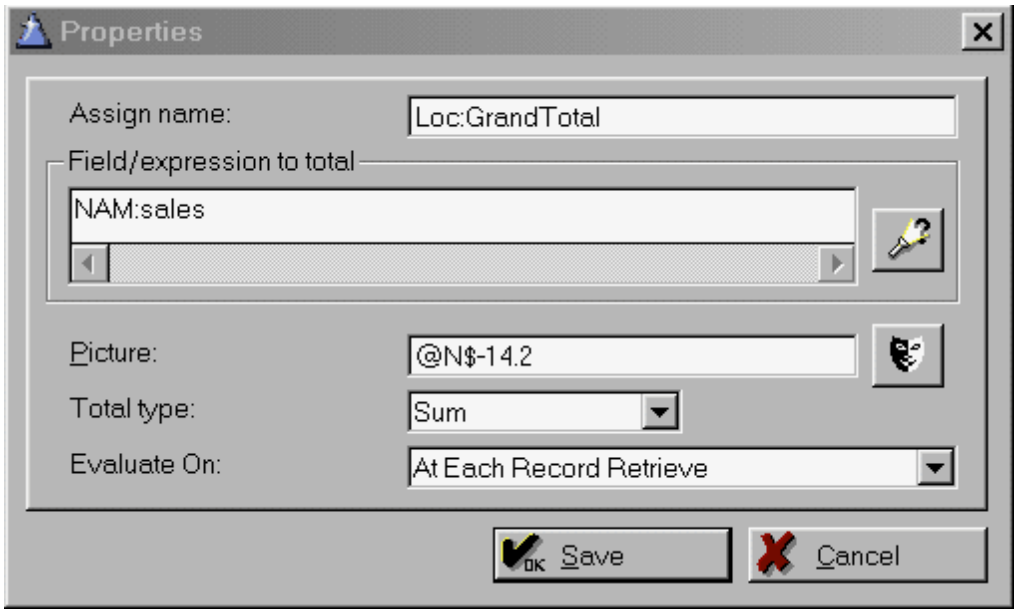
© Access Business Communications, Inc.

GOTO PAGE 18

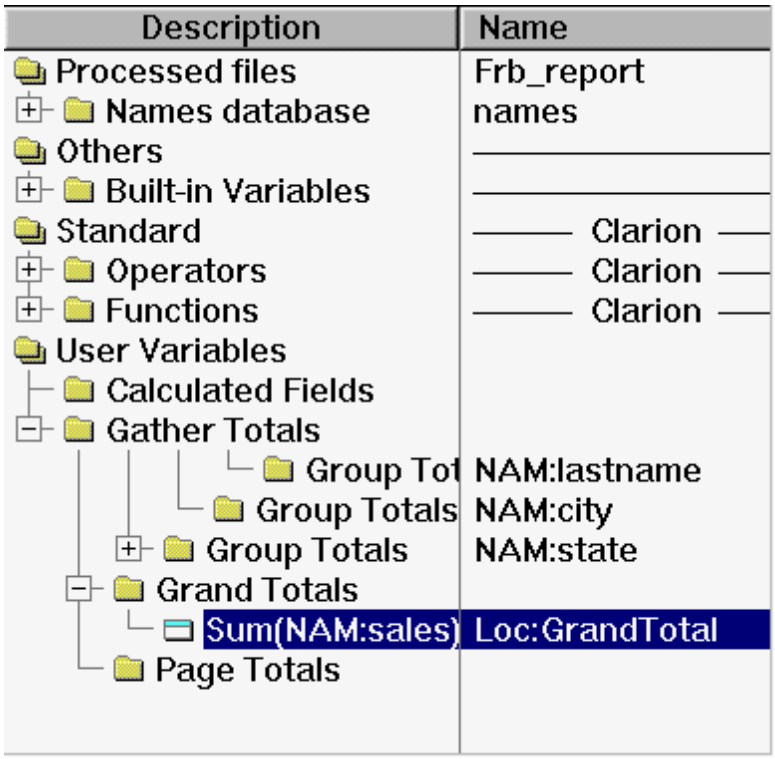
1.22.21.18 Tutorial - Page 18

The topics covered in pages 17 and 18 in the Tutorial help topics can also help you print a Grand Total on the last page of your report; just a matter of changing some settings for the variable.

- Add a new Report Band of the type Report Footer (click on BAND, then NEW, then Report Footer)
- Create a new frame inside this new report band; click on the Dictionary button
- Inside the Dictionary dialogue window left click the Grand Totals item; this is located under the Gather Totals section of the User Variables section.
- Click the '+' button to add a new variable
- Assign a UNIQUE name for this new variable; select the database field containing the dollar amount that you want added together. Change the picture length to a longer length than what the selected database field is already set to, and add the '$' character to the string. The "Total Type" will be "sum", and it will be evaluated 'At each record retrieve':



¡ After clicking the save button the dictionary screen is updated:

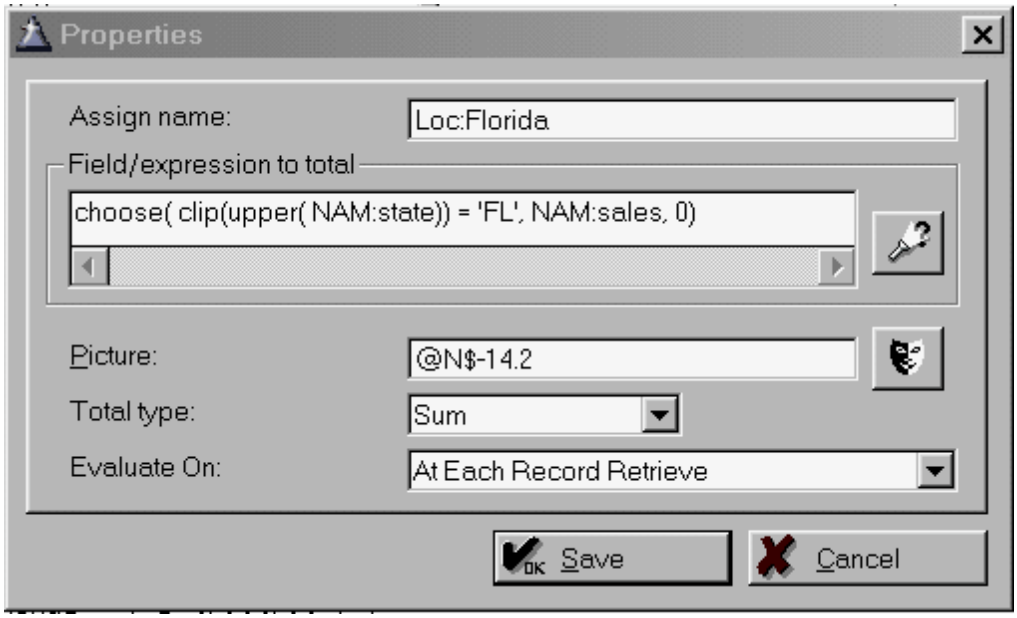


Sample output:

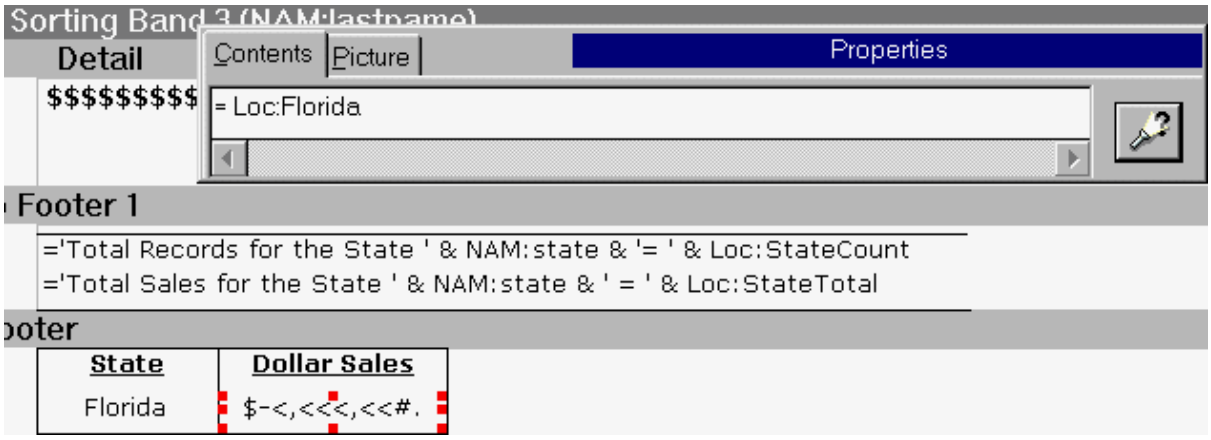
If you want to put forth the effort, you could define variables for each of the possible states that the database can have (50 states), then modify the Report Footer detail band to print a state by state breakout of sales. To perform this neat trick you would:

Create a variable in the Dictionary for all 50 state abbreviation codes in the Grand Totals section of the dictionary. The variable would make use of 3 internal functions of the Report Builder: Clip(), Upper() and Choose(). The first two functions are used to convert the State database field into a consistent format for testing with the Choose() function. The Choose() function is used to compare the current database record against the known state abbreviation code; if it matches the database field containing the total sales for this customer living in the state is added to the variable (to keep a running total); otherwise it is skipped.

In the Report Footer report band a new frame is added. The Dictionary button is clicked with the empty frame being highlighted. Under the Grand Totals section of the User Variables a new variable is created by clicking the '+' button. For this sample report a new variable is being created for state abbreviation code "FL" (all customers living in Florida). Here is what the variable information looks like:



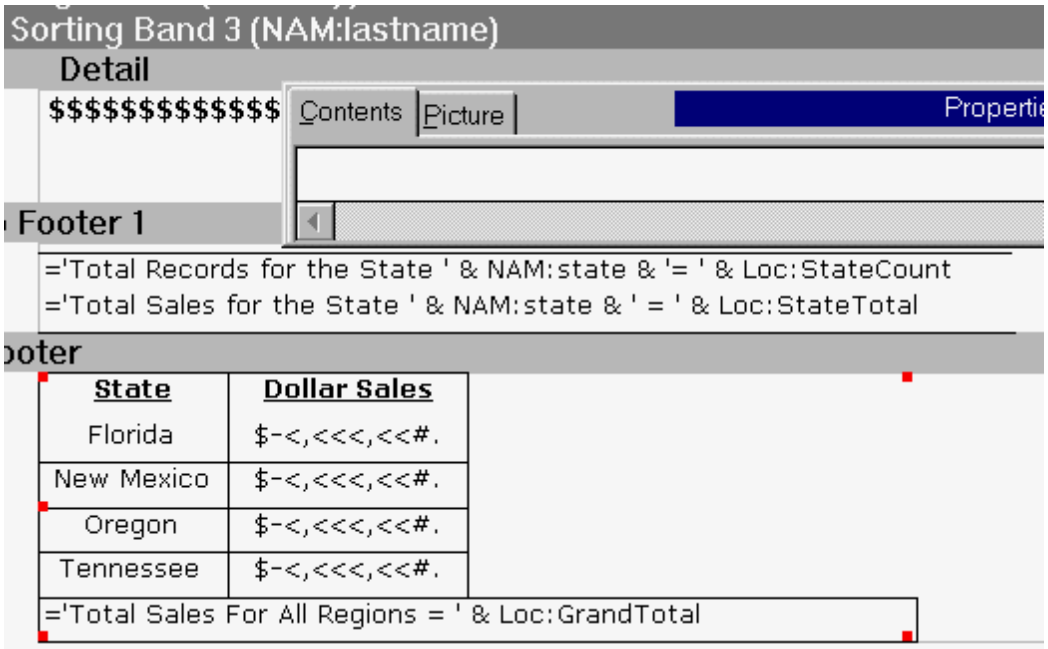
The Save button is clicked, with inserts the new variable into the frame:



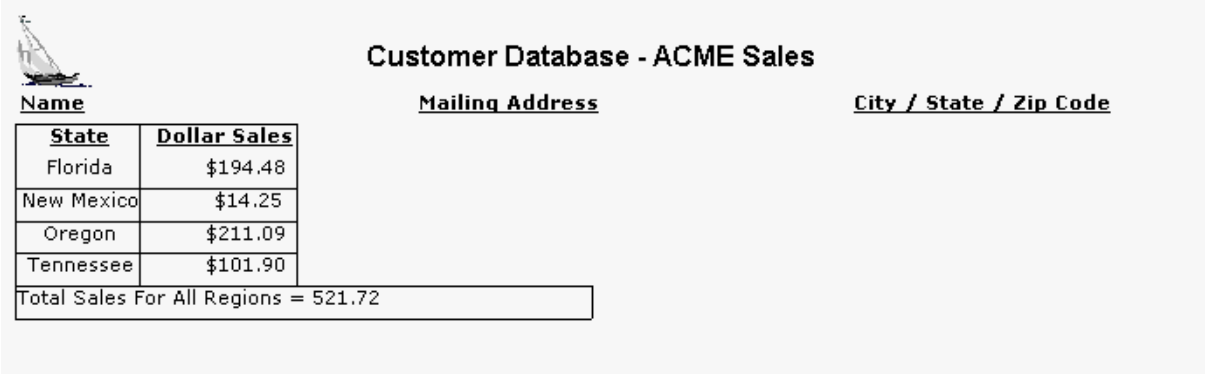
Another trick being used is using the Center attribute for the frame contents for both the text

string "Florida" and the Loc:Florida variable. By using the border attributes a table effect is achieved, which makes the summary page look very attractive.

The pattern of adding a new frame for the state abbreviation code, and another frame for a new variable for that state abbreviation code is repeated. You can elect to stack them any way you desire; the choice is yours! Here is how the report band looks at the end:

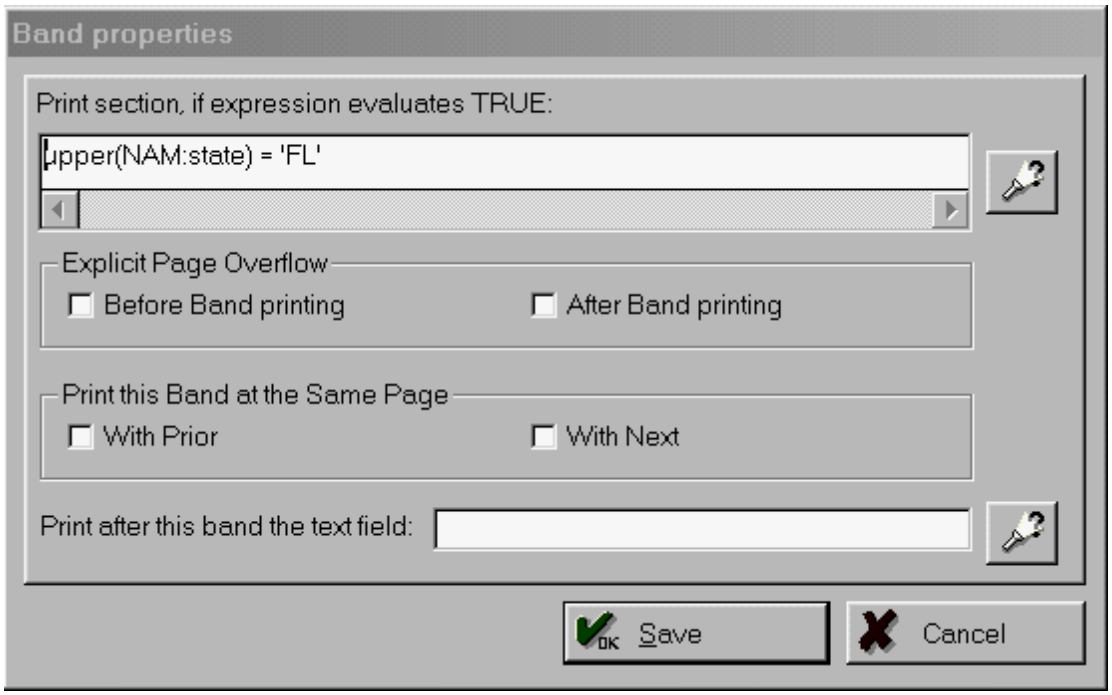


As shown above, 4 different states are being tracked, with the total dollar sales printed below. Here is the sample output:



1.22.21.1 Group Footer 1

Band Properties:



Sample Output:

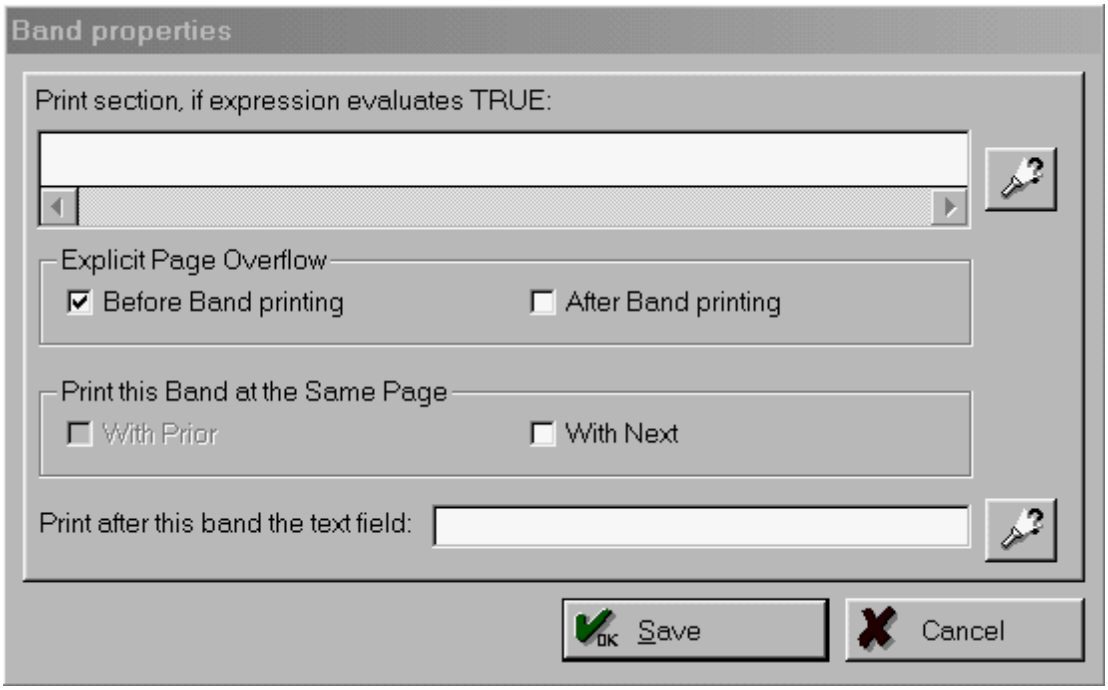
Customer Database - ACME Sales

Name	Mailing Address	City / State / Zip Code
Ferrigno, Lou A	419 Anger Management Lane	Green, FL 21393 United States
Dillet, Paul J	210 Dumbbell Plaza	Oakland, FL 12981 United States
Zane, Frank K	200 Buff Place Suite 106	Oakland, FL 12398 United States
Draper, Dave P	900 Elm Street	Tampa, FL 29381 United States
State Code: FL		
Willis, Bruce Y	200 Die Hard Street	Gore, NM 21389 United States
Hurt, William D	319 Poplar Drive	Portland, OR 21839 United States
Presley, Elvis A	100 Rock N Roll Lane	Memphis, TN 91231 United States

Notice that the Group Footer was printed only after the state code changed from FL!

1.22.21.19.1 Group Footer 2

Properties:



Sample Output:

Customer Database - ACME Sales

Name	Mailing Address	City / State / Zip Code
Ferrigno, Lou A	419 Anger Management Lane	Green, FL 21393 United States
Dillet, Paul J	210 Dumbbell Plaza	Oakland, FL 12981 United States
Zane, Frank K	200 Buff Place Suite 106	Oakland, FL 12398 United States
Draper, Dave P	900 Elm Street	Tampa, FL 29381 United States

The above is page 1; notice that only "FL" states printed, but no footer info printed

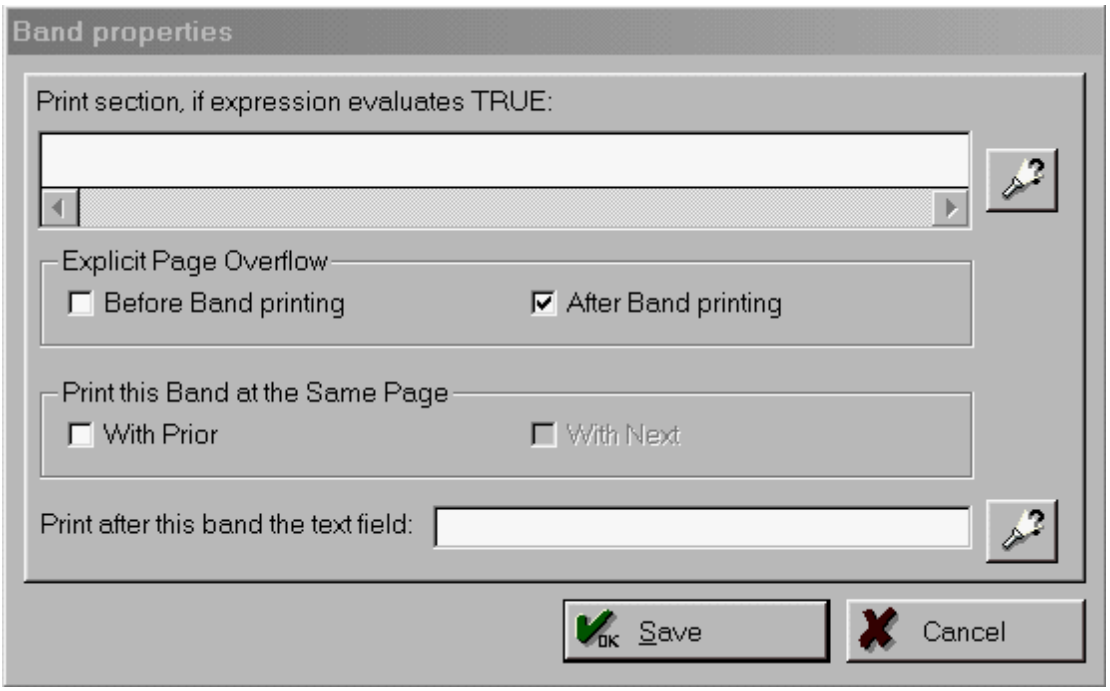
Customer Database - ACME Sales

Name	Mailing Address	City / State / Zip Code
State Code: FL		
Willis, Bruce Y	200 Die Hard Street	Gore, NM 21389 United States

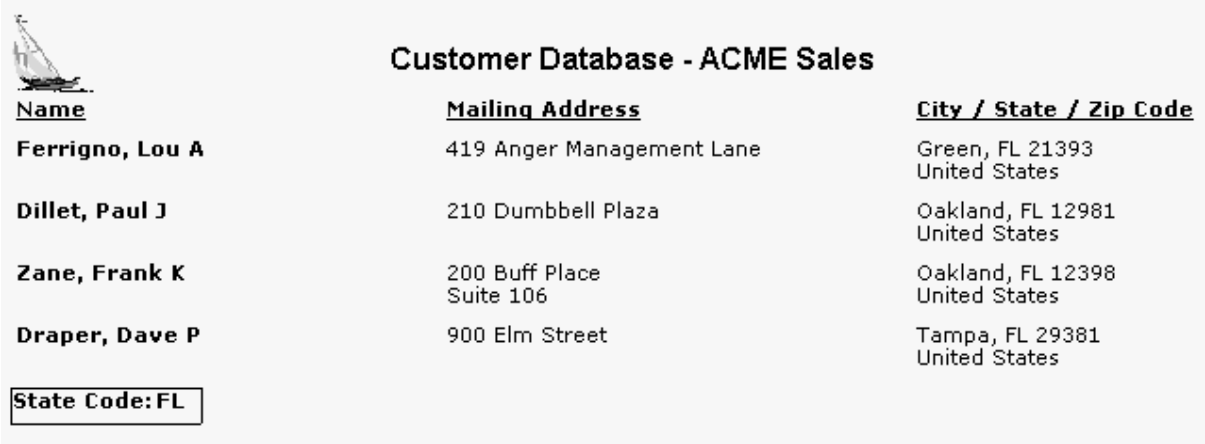
The above is page 2 of the same report; notice that above the first printing of the database record is the Group Footer relating to the previous group (State = FL)., and that the Group Footer did NOT print after the last instance of the State field = NM.

1.22.21.19.2 Group Footer 3

Properties:



Sample Output:



Customer Database - ACME Sales

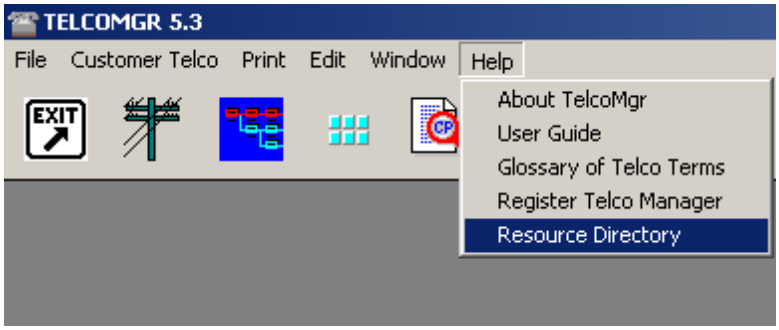
Name	Mailing Address	City / State / Zip Code
Ferrigno, Lou A	419 Anger Management Lane	Green, FL 21393 United States
Dillet, Paul J	210 Dumbbell Plaza	Oakland, FL 12981 United States
Zane, Frank K	200 Buff Place Suite 106	Oakland, FL 12398 United States
Draper, Dave P	900 Elm Street	Tampa, FL 29381 United States

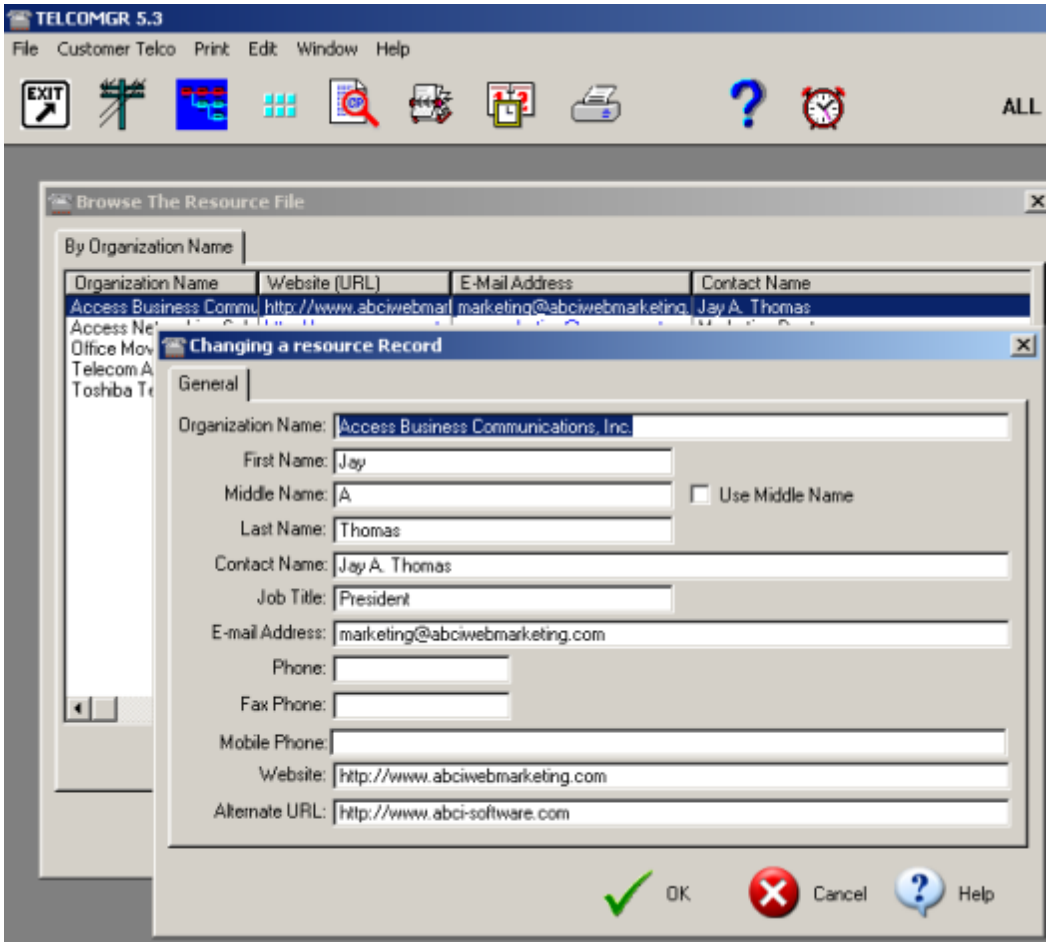
State Code: FL

At the end of each group break (i.e. the value of the State field changes) the Group Footer information is printed on the report page.

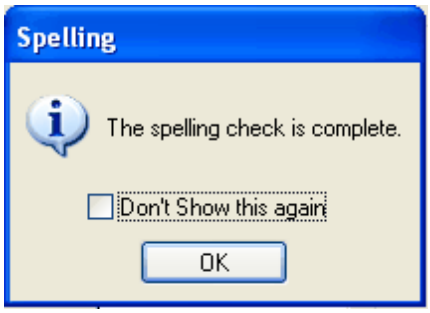
1.23 Resource Directory

The TelcoMgr **Resource Directory** is a simple database directory of resources, which may be an entity, outsource, employee or other.


TELCOMGR 5.3
File
Customer Telco
Print
Edit
Window
Help
About TelcoMgr
User Guide
Glossary of Telco Terms
Register Telco Manager
Resource Directory


TELCOMGR 5.3
File
Customer Telco
Print
Edit
Window
Help
ALL
Browse The Resource File
By Organization Name
Organization Name
Website (URL)
E-Mail Address
Contact Name
Access Business Commu
http://www.abciwebmar
marketing@abciwebmarketing
Jay A. Thomas
Changing a resource Record
General
Organization Name: Access Business Communications, Inc.
First Name: Jay
Middle Name: A
Use Middle Name
Last Name: Thomas
Contact Name: Jay A. Thomas
Job Title: President
E-mail Address: marketing@abciwebmarketing.com
Phone:
Fax Phone:
Mobile Phone:
Website: http://www.abciwebmarketing.com
Alternate URL: http://www.abci-software.com
OK
Cancel
Help

1.24 Spell Check



To spell check any field on any window, simply place the cursor in any entry field and press the **F7 KEY**!

1.25 TelcoMgr File Structures

Anatomy of a Database

This section briefly describes the fundamentals of database design. It is meant only to provide an overview of the subject for those who are not already thoroughly familiar with standard database design concepts and issues. Experienced users may want to move right on to the next chapter and skip this section.

Definitions

A database is a collection of information (data) in a system of tables, rows, and columns. The database is maintained by one or more computer programs or applications.

The basic unit of data storage is a column. A column is a storage place for information of a similar type. For example, one column might store a name and another column might hold a telephone number. A group of different columns that are logically related make up a row. A row contains all the information related to one subject. For example, all the columns containing information concerning one student (name, address, telephone number, student number, etc.) makes up one student's row. This would be similar to a file folder a school might keep for each student.

Collections of logically related rows make up a table. Using the same example, a collection of all students' rows makes up the student body table. This would be similar to the file cabinets where students' folders are kept.

Another way of looking at this is as a table or spreadsheet:

Number	First Name	Last Name	Description
768-90-3748	Jim	Babbitt	Computer Science
603-71-4468	Randall	Babcock	Computer Science
831-87-7376	Brian	Babin	Computer Science
980-10-7626	James	DeSavia	Business
251-05-8624	Robert F	Bachman	Computer Science
967-26-3524	John H	Bagby	Law
305-14-8528	Debbie	Bagley	Business
141-02-7461	Alvin L	Bailey	Computer Science
827-93-7660	John	Bailey	Sociology
188-67-7396	Robin	Baley	Business
286-95-9466	Curtis	Bair	Law
101-71-0630	Jerry	Cade	Business
661-47-3367	Harry R	Cahoon	Law
474-12-9470	David R	Cain	Computer Science
947-64-8335	David	Calabrese	Sociology

In this format, the entire table is a file cabinet, with rows (folders) and columns (data about one row).

A database is a collection of related tables. This is similar to a bank of file cabinets where the entire school records are kept. One file cabinet might hold the files with students' personal data, another with class enrollment information, and another with faculty information.

A relational database is a collection of tables with defined relationships between them. Effective database design breaks the data into related tables that are joined together through linking columns. This will be covered in detail later in this section.

Summary

- One or more columns combine to form a row.
- One or more rows combine to form a table.
- A collection of related tables is a database.*This documentation reflects the files structures for TelcoMgr version 5 and subject to change without notice.

User Tip: Export a TelcoMgr Locaton, Circuits and/or Directory file as a **Comma Separated Value** (**CSV**) file to create a **file template** for importing data.

User Tip: IMPORT THE LOCATION FILE FIRST SO TELCOMGR CAN CREATE THE CUSTOMER SYSTEM ID (CusSysID) number automatically. The appropriate CusSysID must appear in each record that is imported into the CIRCUITS and DIRECTORY files.

© Access Business Communications, Inc.

CSV or EXCEL data may be imported into the following TelcoMgr files.

1) telco.tps - The Customer/Location file is classified as the PARENT file and the master relationship is set by the CusSysID field, which is common to the CHILD files below:

   a) circuits.tps - The CIRCUITS file contains the physical and logical data descriptions of each circuit, including lines, features, services, charges and taxes. The CusSysID field is related to the telco.tps CusSysID field.

   b) directry.tps - The DIRECTORY file contains users names, extension numbers and DID numbers and is related to the telco.tps file.

   c) cpe.tps - The CPE file may be used for variety of purposes, which includes components, systems, individual equipment, etc. and the PARENT to the COMPONENTS file.

      i) componts.tps - The COMPONENTS file is a CHILD of the CPE file and includes detailed information about equipment/system components.

Reserved Fields

The TelcoMgr [Reserved] fields are numeric auto-increment fields which are automatically generated by TelcoMgr, therefore data should not be imported into a [Reserved] fields.

Review the field layout for each file to learn which fields are **[Reserved] fields**.

telco.tps

circuits.tps

directry.tps

cpe.tps

1.25.1 Data Types

Columns can store many different types of data, but each individual column may hold only one type. When a column is defined, its data type is specified. This enables it to efficiently store that type of data. For example, to store a number from 0 to 100, using a column defined as a single BYTE takes less space than one defined as a decimal number column (a byte can hold an unsigned whole number between 0 and 255).

© Access Business Communications, Inc.

Data Types Used in TelcoMgr

Byte : A numeric constant. If omitted, the initial value is zero, unless the AUTO attribute is present.

Date : DATE declares a four-byte date variable. A DATE used in a numeric expression is converted to the number of days elapsed since December 28, 1800. The valid Standard Date range is January 1, 1801 through December 31, 9999. Using an out-of-range date produces unpredictable results.

Decimal : A required numeric constant containing the total number of decimal digits (integer and fractional portion combined) in the variable. The maximum length is 31. Example = 10,000.50

Long : LONG declares a four-byte signed integer, using the Intel 8086 long integer format. The high-order bit is the sign bit (0 = positive, 1 = negative). Negative values are represented in standard two's complement notation.

Memo : Memo fields are large String fields used for alpha and/or numeric character or binary data elements.

String : STRING declares a fixed-length alpha and/or numeric character string. The memory assigned to the STRING is initialized to all blanks unless the AUTO attribute is present.

Format Examples and Pictures:

STRING(40) indicates a STRING field with 40 characters;

DECIMAL(9,2) indicates a DECIMAL field with 9 characters, 2 are to the right of the decimal, with attributes (minus, comma, period, currency symbol); 99,900.99;

LONG(-14) indicates a numeric field with 14 characters with a minus attribute.

1.25.2 telco.tps file

Field Name	Attributes	Developer Comments
CompanyID	LONG	The CompanyID should be the numeric 1.
CusSysID [RESERVED]	LONG	Do not import this field TelcoMgr will generate the CusSysID
REFNUM	LONG	Quickbooks Reference #

© Access Business Communications, Inc.

```
NAME                    STRING(72)
ContactForTelco         STRING(41)
ContactJobTitle         STRING(40)
ContactPhone            STRING(15)
ContactFax              STRING(15)
ContactEmail            STRING(41)
EADDR1                  STRING(41)
EADDR2                  STRING(41)
EADDR3                  STRING(41)
EADDR4                  STRING(41)
EADDR5                  STRING(41)
SADDR1                  STRING(41)
SADDR2                  STRING(41)
SADDR3                  STRING(41)
SADDR4                  STRING(41)
SADDR5                  STRING(41)
LECName                 STRING(40)
LECAcctCode             STRING(20)
LECBillToName           STRING(40)
IECName                 STRING(40)
IECAcctCode             STRING(20)
IECBillToName           STRING(40)
LDPICCode               STRING(20)
EditDate                LONG
EditTime                LONG
TenXXXDialing           STRING(3)
GroupAccountCode        STRING(20)
LECPICCode              STRING(20)
AlternateContact        STRING(41)
```

© Access Business Communications, Inc.

AltContactPhone	STRING(15)
AltContactEmail	STRING(41)
UserDefinedOrder	STRING(40)
OECName	STRING(40)
OECAcctCode	STRING(20)
OPICCode	STRING(20)
MSContract	STRING(40)
MSContractStart	LONG
MSContractTerm	DECIMAL(3,0)
MSContractEnd	LONG
MSMonthlyFee	DECIMAL(9,2)
MSComments	STRING(1000)
CalcMSCEnd	BYTE
OnMSC	BYTE
MSCSignDate	LONG
MSCReminder	LONG
AssignedToResource	STRING(60)
AttachImage	STRING(255)
AtachPdf	STRING(255)
HtmlEmail	STRING(255)

1.25.3 circuits.tps file

Field Name and Attributes		Developer Comments
CusSysID	LONG	The CusSysID should match the Customer/ Location telco.tps cussysid.
LECName	STRING(40)	
LECAcctCode	STRING(20)	
IECName	STRING(40)	Do not import data into [**RESERVED**]fields.
IECAcctCode	STRING(20)	
ExistingNew	STRING(8)	

© Access Business Communications, Inc.

BTN	STRING(3)
MTN	STRING(3)
ClassOfService	STRING(20)
Line	STRING(12)
PIC	STRING(20)
PTN	STRING(12)
LNP	STRING(3)
HuntGroup	STRING(20)
ExistApp	STRING(20)
PostCutAction	STRING(20)
NewApp	STRING(20)
PCAEffectiveDate	LONG
PCAEffectiveTime	LONG
EditDate	LONG
EditTime	LONG
Paths	DECIMAL(3,0)
CircuitNo	STRING(40)
ServOrdNo	STRING(20)
ServOrdDate	LONG
MonthlyAmount	DECIMAL(7,2)
ServOrdInstallDate	LONG
DNIS	STRING(20)
TFN	STRING(3)
ExchangeServices	STRING(20)
LFS	STRING(1)
TenXXXDialing	STRING(3)
BindingPostID	STRING(20)
Qty	DECIMAL(7,0)
SeqInHunt	DECIMAL(7,0)

© Access Business Communications, Inc.

CallForwardTo	STRING(12)
ReferenceNotes	STRING(1000)
LECPIC	STRING(20)
SFLTagField	STRING(20)
SysID [RESERVED]	LONG
PCAStatus	STRING(20)
PCAStatusDate	LONG
OECName	STRING(40)
OECPIC	STRING(20)
OECAcctCode	STRING(20)
DLCI	STRING(15)
PortSpeed	STRING(10)
PVC	STRING(15)
OnTermContract	BYTE
SignDate	LONG
BeginDate	LONG
TermMonths	DECIMAL(3,0)
RenewalDate	LONG
ReminderDate	LONG
PrimaryContractNo	STRING(40)
SecondaryContractNo	STRING(40)
AdendumNo	STRING(40)
CalcEnd	BYTE
PDFattachment	STRING(255)
ImageAttachment	STRING(255)
HTMLattachment	STRING(255)

© Access Business Communications, Inc.

1.25.4 directry.tps file

Field Name	Attributes	
CusSysID	LONG	The CusSysID must match the appropriate Telco.tps CusSysID
Salutation	STRING(10)	
FirstName	STRING(20)	
MiddleInitial	STRING(2)	
LastName	STRING(20)	
FullName	STRING(50)	
Nickname	STRING(20)	
JobTitle	STRING(40)	
PhoneExt	DECIMAL(7,0)	
VMExt	DECIMAL(7,0)	
EmailAdd	STRING(30)	
LocationOfEquipment	STRING(40)	
Department	STRING(20)	
Line1Desc	STRING(20)	
Line1	STRING(12)	
Line2Desc	STRING(20)	
Line2	STRING(12)	
StationEquipment	STRING(40)	
DirectoryOptions	STRING(4)	
RmNameNumber	STRING(20)	
SysID	LONG	
[RESERVED]		

1.25.5 cpe.tps file

Field Name	Attributes	
CompanyID	LONG	The CompanyID should be the numeric 1.
RefNum	LONG	The CusSysID should match the Customer/
[Reserved]		

AccountNo	STRING(41)	Location telco.tps cussysid.
Name	STRING(72)	
LocationOfEquip	STRING(40)	
Vendor	STRING(40)	
Manufacturer	STRING(40)	
TypeOfCPE	STRING(40)	
ModelID	STRING(40)	
Description	STRING(80)	
RoomNumber	STRING(20)	
SoftwareRelease	STRING(20)	
SoftwareDate	LONG	
DateInstalled	LONG	
AcquisitionType	STRING(20)	
WarrantyExpiry	LONG	
MaintenancePlanNo	STRING(20)	
MaintenanceExpiry	LONG	
ConfigurationDetail	STRING(256)	
BackupPowerDevice	STRING(20)	
RemoteAccessNumber	STRING(20)	
RemoteAccessExt	STRING(20)	
RemoteAccessLogin	STRING(20)	
RemoteAccessPasscode	STRING(20)	
CusSysID	LONG	
CPEID	LONG	
IPAddress	STRING(255)	
AgreementNo	LONG	
PrimaryMSC	BYTE	
OnMSC	BYTE	
MSContractStart	LONG	

© Access Business Communications, Inc.

MSContractTerm	DECIMAL(3,0)
MSAnnualFee	DECIMAL(9,2)
CalcMSCEnd	BYTE
AssignedToResource	STRING(60)
NameOfPlan	STRING(40)
PaymentOption	STRING(20)
OptionPayment	DECIMAL(9,2)

1.25.5.1 CPE Components (componts.tps) file

Field Name	Attributes
CompanyID	LONG
Refnum	LONG
TypeOfCPE	STRING(40)
Quantity	LONG
Manufacturer	STRING(40)
PartNumber	STRING(20)
Description	STRING(40)
CusSysID	LONG
CMPID [Reserved]	LONG
SerialNoID	STRING(40)
Location	STRING(20)
TypeOfPorts	STRING(20)
QtyofPorts	DECIMAL(3,0)
Comments	STRING(255)
ExtQtyofPorts	DECIMAL(9,0)
SysID	LONG
WarrantyExpiry	LONG
MaintenanceExpiry	LONG

The CompanyID should be the numeric 1.

Refnum is a Quickbooks and/or SWORD Reference Number.

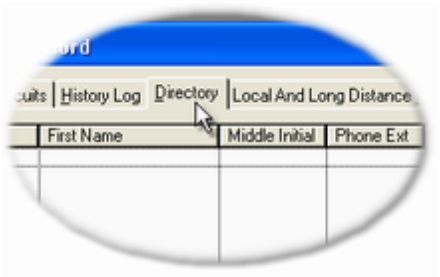
The CusSysID should match the Customer/ Location telco.tps cussysid.

1.26 Telephone Directory

A **telephone directory** can be created and printed with TelcoMgr. Names in the directory are displayed in alphabetical order by Last Name, Middle Initial, and First Name. Several formats of the directory may be printed. The user has the option of printing a directory with:

- Information flagged for Internal use only, or
- Flagged for External use only, or
- For Both.

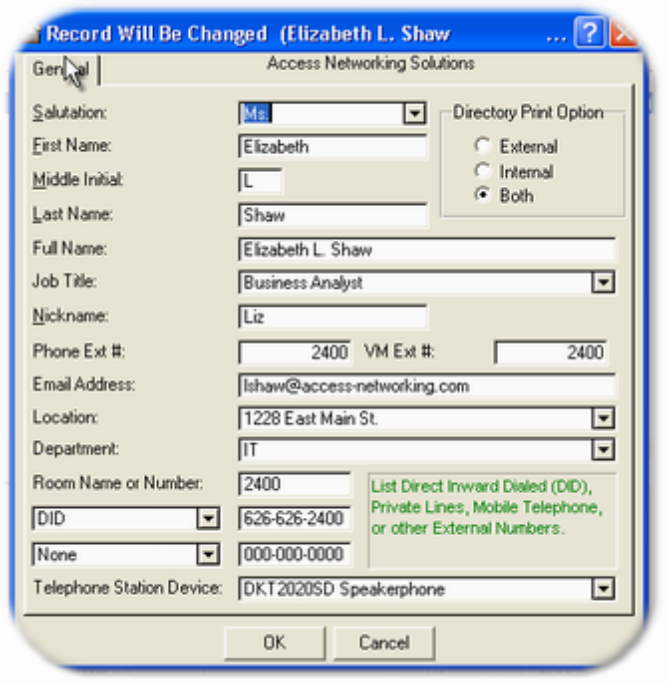
The Directory appears on the Customer Editor Screen as a TAB entitled Directory.



Select:

- [Insert] to add a new entry to the directory.
- [Change] to edit an existing record.
- [Delete] to remove an existing record.

The following screen shows the Directory Editor Window:



Enter the appropriate information. The 'External' flag or radio button means that the entry will only be printed on Directory reports designated for external use. 'Internal' mean that the entry will only be printed on Directory reports designated for internal use. 'Both' means that the entry will only be printed on Directory reports designated for both use.

The **Directory tab** may be hidden due to **User Security** settings.

Search and Query results for the Directory Table, plus allow to copy the Directory Table to Excel.

1.27 Terms Used in TelcoMgr

Term	Definition
Application	The primary use of the telephone number, line, feature, or circuit.
Bill To Number	Bill To Number, or the number that your Telco uses to identify services that should be billed to your account.
BTN	Bill To Number, or the number that your Telco uses to identify services that should be billed to your account.
Circuit No.	The Telco infrastructure identifier for a circuit. Often times this ID is used for data or other lines that do not have an associated telephone number.
Class Of Service	The identifier of the telephone number, line, feature, or circuit. Example: CTX = Centrex; 1MB = Measure business line.
Cutover	The process of changing to new services or a change of equipment. The moment in time when new service or equipment is implemented.
DNIS	Dialed Number Identification Service
Exchange Service	Services specific to lines, i.e.: Two-way; In-Only; Out-Only; Centrex, 800 Service; DID Service.
Existing/New	Existing or New service, including lines, data circuits, and features.
Hunt Group	The identifier used to group telephone numbers, lines, features, or circuits that is usually identified with a pilot or first number.
IEC	Interstate Exchange Carrier (IEC) and AKA

© Access Business Communications, Inc.

	Inter-Exchange Carrier, or Long Distance Carrier.
LEC	Local Exchange Carrier or Local Telephone Company.
LFS	Line, Feature, Service
LNP	Local Number Portability
Local Number Portability	Many local telephone numbers are portable between Local Exchange Carriers (LEC) or the are identified as LNP lines.
Main Telephone Number	Main Telephone Number, or the number that you use for directory listings. A MTN can also identify the first or pilot number for a hunt group.
Multiprotocol Label Switching (MPLS)	A networking protocol designed to segment data flow channel of an wide area IP network. Specific channels may be configured for priority of data packets to control the Quality of Service (QoS). The conventional IP simply addresses each data packet individually and sends it on its way through the network with out regard to its relative importance, and the data packets for any given session can take multiple paths traveling from the sender to the receiver. Instead, with MPLS, all packets in an IP session are grouped together into a single "flow" and then tagged for priority handling through the network routers. The group of packets, or flow, is mapped onto a dedicated path in an ATM or frame relay virtual circuit, or any other data link for delivery. MPLS mapping, in the OSI Layer 2), is actually accomplished by swapping layer 3 labels for layer 2 labels in a data packet header, hence the term label switching. In this manner, data transmissions can be assigned different levels of priority so that financial file transfers, or VoIP traffic, get higher priority than e-mail.
MTN	Main Telephone Number, or the number that you use for directory listings. A MTN can

	also identify the first or pilot number for a hunt group.
NPA-NXX-LINE	National Area Code and National Exchange identification that is included as part of your telephone number.
Paths	The quantity of speech path(s) that is/are associated with various telephone numbers, lines, features, or circuits.
PCA	Post Cut Action or what is planned for the telephone number, line, feature, or circuit after new services are implemented.
Post Cut Action Plan	Post Cut Action or what is planned for the telephone number, line, feature, or circuit after new services are implemented.
PTN	Point-to-Number or logical termination; an 800 number points to a POTS or DID number.
TIE Code	A term used to ID a master account code for various local/long distance Carriers.

1.27.1 CIR/Port Speed

Committed Information Rate or **CIR** in a Frame relay network is the average bandwidth for a virtual circuit guaranteed by an ISP to work under normal conditions. At any given time, the bandwidth should not fall below this committed figure. The bandwidth is usually expressed in kilobits per second (kbit/s).

1.27.2 Data Network Frames

Frames are used for data exchange between two points via a direct physical or logical link. Depending on the protocol employed, the receiver of frames uses one of several multiplex techniques to distinguish more than one logical data streams (sometimes dubbed virtual circuits) which run over a single shared medium.

1.27.3 DLCI

A data link connection identifier (**DLCI**) is a channel number which is attached to frame relay data frames to tell the network how to route the data. This 10-bit field defines the destination address of a packet. The address is local on a link-by-link basis.

© Access Business Communications, Inc.

1.27.4 EUCL

EUCL (**End User Common Line** (Charge))

An FCC tariff term defined in FCC Rules 69.104 as follows: "A charge that is expressed in dollars and cents per line per month shall be assessed upon end users that subscribe to local exchange telephone service, Centrex or semi-public coin telephone service to the extent they do not pay carrier common line charges. Such charge EUCL shall be assessed for each line between the premises of an end user and a Class 5 office that is or may be used for local exchange service transmissions. Each Single Line Service is charged one CALC or EUCL. The amount varies by state."

1.27.5 INI Type Files

The INI file format is a de facto standard for configuration files. INI files are simple text files with a basic structure. They are commonly associated with Microsoft Windows, but are also used on other platforms. The use of the "INI file" has been deprecated in Windows and corresponding data should be placed in the registry. The name "INI file" comes from the filename extension usually used, ".INI", that stands for "initialization".

1.27.6 Local Loop

In telecommunications, the local loop (also referred to as a subscriber line) is the physical link or circuit that connects from the demarcation point of the customer premises to the edge of the carrier or telecommunications service provider's network. At the edge of the carrier access network in a traditional PSTN (Public Switched Telephone Network) scenario, the local loop terminates in a circuit switch housed in an ILEC (Incumbent Local Exchange Carrier) CO (Central Office).

1.27.7 MPLS

MPLS is a networking protocol or technique designed to segment data flow channel of an wide area IP network. Specific channels may be configured for priority of data packets to control the **Quality of Service** (**QoS**). The conventional IP simply addresses each data packet individually and sends it on its way through the network with out regard to its relative importance, and the data packets for any given session can take multiple paths traveling from the sender to the receiver. Instead, with MPLS, all packets in an IP session are grouped together into a single "flow" and then tagged for priority handling through the network routers. The group of packets, or flow, is mapped onto a dedicated path in an ATM or frame relay virtual circuit, or any other data link for delivery. MPLS mapping, in the OSI Layer 2), is actually accomplished by swapping layer 3 labels for layer 2 labels in a data packet header, hence the term label switching. In this manner, data transmissions can be assigned different levels of priority so that financial file transfers, or VoIP traffic, get higher priority than e-mail.

1.27.8 PVC

Permanent Virtual Circuit (**PVC**)

© Access Business Communications, Inc.

Switched virtual circuits (SVCs) are generally set up on a per-call basis and are disconnected when the call is terminated; however, a *permanent virtual circuit* (PVC) can be established as an option to provide a dedicated circuit link between two facilities. PVC configuration is usually preconfigured by the service provider. Unlike SVCs, PVC are usually very seldom broken/disconnected.

1.27.9 SVC

Switch Virtual Circuit (**SVC**)

A switched virtual circuit (SVC) is a virtual circuit that is dynamically established on demand and is torn down when transmission is complete, for example after a phone call or a file download. SVCs are used in situations where data transmission is sporadic and/or not always between the same data terminal equipment (DTE) endpoints.

Related Topic:

- PVC

1.27.10 QoS

(QoS) refers to resource reservation control mechanisms rather than the achieved service quality. Quality of service is the ability to provide different priority to different applications, users, or data flows, or to guarantee a certain level of performance to a data flow. For example, a required bit rate, delay, jitter, packet dropping probability and/or bit error rate may be guaranteed.

1.27.11 TAPI

The Telephony Application Programming Interface (TAPI) is a Microsoft Windows API, which provides computer telephony integration and enables PCs running Microsoft Windows to use telephone services. Different versions of TAPI are available on different versions of Windows.

The purpose of the TAPI specification is to provide control of telephony resources to applications. This is used primarily to control either Modems or, more recently, to control business telephone system (PBX) handsets. When controlling a PBX handset, the driver is provided by the manufacturer of the telephone system. Some manufacturers provide drivers that allow the control of multiple handsets. This is traditionally called "third-party control". Other manufacturers provide drivers that allow the control of a single handset. This is called "first-party control". Third-party drivers are designed to allow applications to see and/or control multiple extensions at the same time. Some telephone systems only permit one third-party connection at a time. First-party drivers are designed to allow applications to monitor and/or control one extension at a time. Telephone systems naturally permit many of these

© Access Business Communications, Inc.

connections simultaneously. Modem connections are by nature first-party.

© Access Business Communications, Inc.

2 What's New for TelcoMgr

Updated 3/11/2012 TelcoMgr 7.3 (controlled release)

In this release:

- Additional support to put your files on Windows 7, Vista, Server 2008, MS Remote Desktop Server and Citrix..
- Support for Windows UAC and Virtualization.
- Support Multiple Data sets with ease.
- More robust database engine.
- More robust Report Builder.
- Client to Server configuration options.

Installation notes for TelcoMgr v7.3:

- The default installation path for TelcoMgr is: C:\Program Files\TelcoMgr.
- The default installation path for TelcoMgr data files is C:\Users\Public\Documents\ABCI\TelcoMgr

File Name Change Notice: The TelcoMgr file names shown in the table below must be manually changed before an upgrade to 7.3; the file extension must remain as '.tps'. Here are the recommended steps to complete the conversion:

1. Back your existing TelcoMgr data files.
2. In your live production TelcoMgr data folder rename each existing file shown in the table according to the New Name column.
3. Install TelcoMgr 7.3 using the upgrade wizard. CAUTION: Do not use the TelcoMgr demo version to upgrade your system.
4. When you are ready to run TelcoMgr 7.3 the first time you will be asked to select the path to the appropriate location of your existing TelcoMgr data files.

Name prior to TelcoMgr 7.3	New Name in TelcoMgr 7.3	Notes
AreaCode	AreaCodes	
AUDITPER	AuditPeriods	
CLASSOFS	ClassOfService	

© Access Business Communications, Inc.

countryc	CountryCodes	
CPEACQUI	CPEAcquistion	
Componts	CPEComponents	
CPELOCAT	CPELocation	
CPEMANUF	CPEManufacturer	
CPEVENDO	cpevendor	
crediterms	CreditTerms	Applies to SWORD only
CRMACTIV	CRMActivity	Applies to SWORD only
custgrp	CustGroup	
csiteinv	CustInventory	Applies to SWORD only
cuspayments	CustomerPayments	Applies to SWORD only
dirdepart	DirDepartments	
directry	Directory	
Exchange	ExchangeServices	
Expensei	ExpenseItems	
ExpenseR	ExpenseReport	
Facility	FacilityType	
FILESPEC	FileSpecs	
FlagCont	FlagControls	Applies to SWORD only
FormRepo	FormReportGroups	
HistoryT	HistoryTitles	
HowToCha	HowToCharge	Applies to SWORD only
Huntgrps	HuntGroups	

© Access Business Communications, Inc.

Jobtitle	Jobtitles	
netaccmethods	NAM	
pcastats	PCAStatus	
PORTSPEE	PortSpeed	
postcuta	PostCutActions	
QBCOAtyp	QBCOAtypes	
RATECOMP	RateCompare	
RCTEMPLA	RCTemplate	
SALUTATI	Salutations	
SOCusjob	SOCustomerJob	Applies to SWORD only
socust	SOCUSTOMERS	Applies to SWORD only
SOJOBTYP	SOjobtypelist	Applies to SWORD only
SOReqby	SORequestBy	Applies to SWORD only
USERDEFI	UserDefined	

© Access Business Communications, Inc.

2.1 Planned for TelcoMgr

The planning information and feature descriptions that appear under the topic "What's Planned for TelcoMgr" are subject to change without notice. Some features may be incorporated into a custom version and released as a minor product upgrade (number to the right of the decimal in a version designation and formed as #.#:

Do you have a suggestion or improvement for TelcoMgr? Contact sherlock@abci-software.com. The following is our current "To Do List" to improve TelcoMgr.

Future Development

1. Office right inside TelcoMgr.

2. Cross-tab or array reporting from TelcoMgr to Excel.

3. We are deploying an IP Client/Server for the TelcoMgr.exe, which means the TelcoMgr integrated File Manager will be separated as an independent dynamic link library. The new TelcoMgr File Manager will reside with the TelcoMgr database files and not traverse the LAN or WAN where it resides. The real benefit to users will be increase performance and less chances of file corruption in a LAN/WAN environment. The new File Manger design will not have any impact on MS Terminal Server installations.

2.2 Version Release History

Updated 10/25/2011 TelcoMgr 7.2 (General Release)

1. The Telco History file [Note] field has been expanded in capacity.

Updated 8/23/2011 TelcoMgr 7.0 (Controlled Release, some features of version 7 have been muted)

1. User defined fields for Report Builder;
2. More User-Defined fields in the Circuits Table.
3. We are making the TelcoMgr.exe client smaller to help improve performance over a LAN or MS Terminal Server. TelcoMgr is being divided into logical Dynamic Link Libraries (DLL) which may be called or loaded as needed.
4. Field Data Manager has been moved to the TelcoMgr IMPEX utility.
5. Added support for Microsoft .Net framework.

Upated 3/15/2011 TelcoMgr 6.11.2 & v7.0 Beta

1) Added Data TCP/IP Internet Field Group to the Circuits tab and table

for capturing:

- Access Method
- Connection Name
- IP Address
- IP Mask
- Gateway IP
- DNS Provider and IP Address

Upated 10/4/2010 TelcoMgr 6.9.4

1)Added support for Email Construct using a Telco History Record;

a) Requires a default Email Client (Outlook, Express, Others)

b) [**Create Email**] button added to the Customer/Location > History TAB, and;

c) [**Create Email**] button added to Browse Telco History Global Table.

2) Updated Windows 7 Manifest;

3) Updated ReportBuilder

4) Updated Security Module

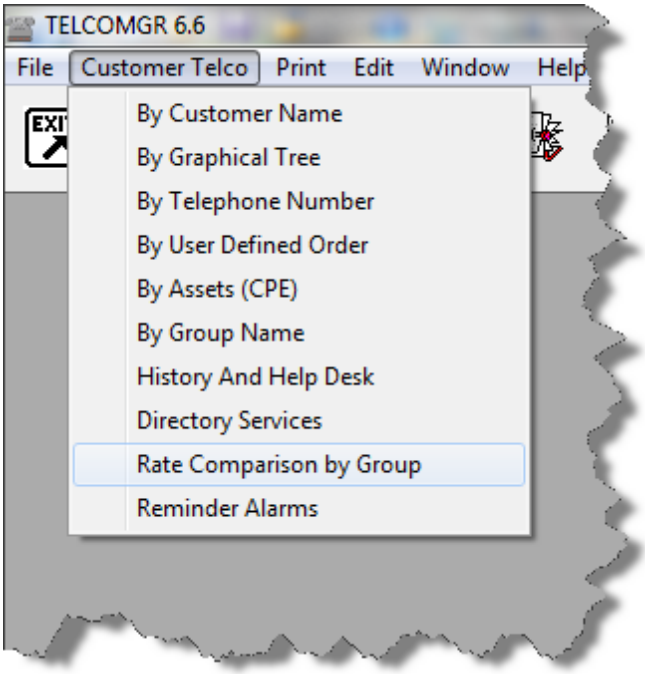
5) Completed minor visual tweaks to tables and windows.

Updated 6/1/2010

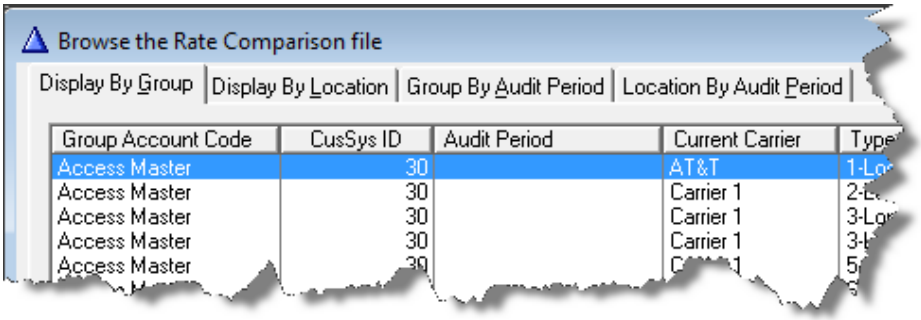
TelcoMgr 6.8.0

a) Added new Rate Comparison By Group Table

© *Access Business Communications, Inc.*



Customer Telco > Rate Comparison by Group

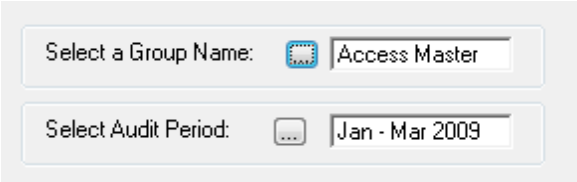


b) Rate Comparisons may be viewed by:

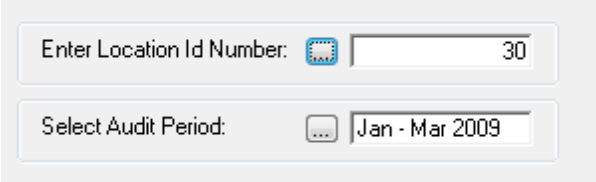
1) The Group Name;

2) By a Single Location within the Group

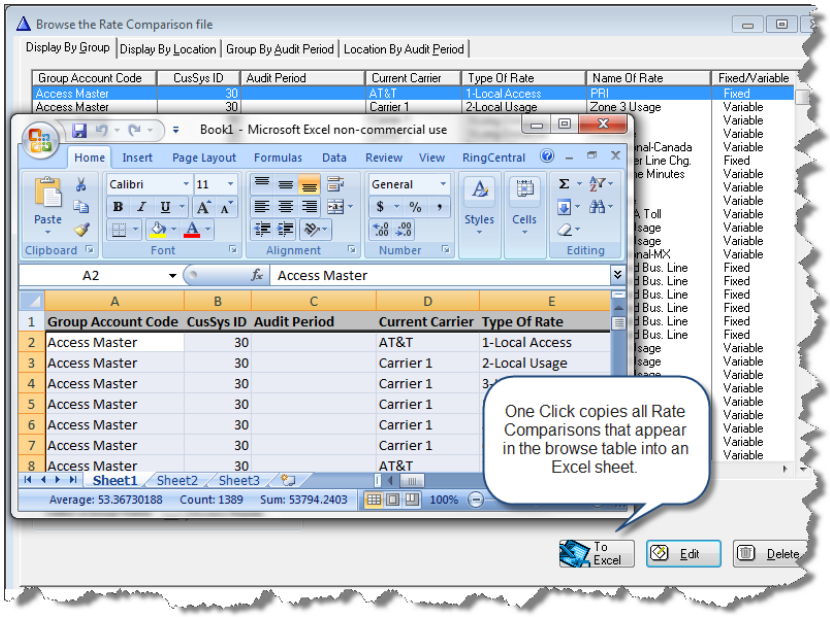
3) By the Group and Audit Period



4) By a Single Location and Audit Period



5) All Rate Comparison Fields which appear in the Browse Table may be copied into an Excel worksheet.



Updated 6/16/2010

Updated 4/30/2010

TelcoMgr 6.5

a) Some of the built-in reports were modified to remove the old phone number formatting (###-###-####);

b) Report Builder gets user-defined entry fields that can added to individual reports as needed;

c) Report Builder gets four new user customizable reports:

(1) Rate Comparison report for Customer/locations;

(2) Expense Reports for Customer/locations, Group and Global.

d) The Rate Comparison window form has been freshened and simplified for easier use.

e) Additional fields are now available in the FDM Circuits module.

Update 1/30/2010

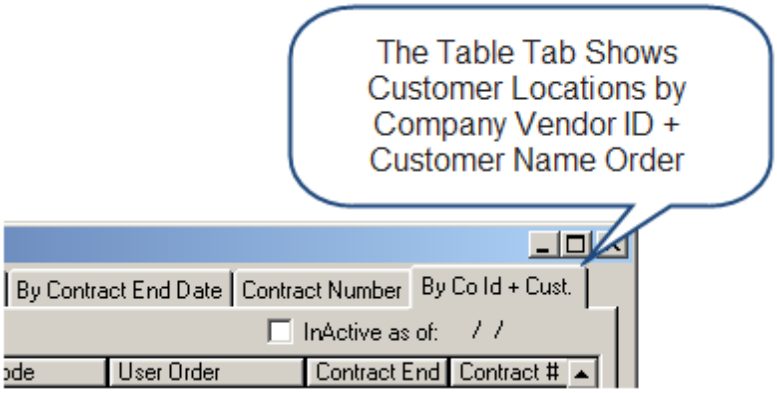
TelcoMgr 6.2

1. Tweaks to the Windows Manifest for esthetic changes in Windows 7 OS.

2. Enterprise links have been reworked to simplify installation.

3. Data key elements for the Custom Location file (telco.tps) now show records with null or zero data in the key fields: Company ID; CusSysID.

4. A new Tab has been added to the Customer Location Browse window and table, which shows the Customer Locations ordered by the Company Vendor File ID (should always be 1, null records are shown with a zero / 0) plus the Customer name.

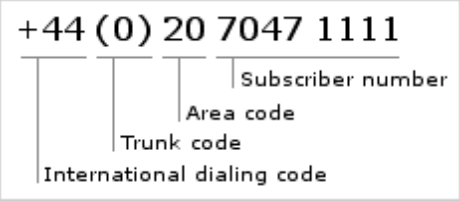


5. Data key elements for the Circuits file (circuits.tps) now show records with null or zero data in the key field: CusSysId.

6. IMPEX for TelcoMgr now will allow a user to edit the following Data Key Elements: TEL:CoID; TEL:CusSysID; CIR:CusSysID; CIR: SysID.TelcoMgr 6.1 (November 2009)

1 Support for Canonical (rule based) formats of telephone numbers: The NPA-NXX-Line [CIR:Line] field has been reformatted so telephone numbers may be accepted in various formats, such as +1 (555) ###-#### or (01) ### ######, plus other international number patterns and emerging ISO formats. The Microsoft TAPI canonical address format is a universal phone number format that is both standardized and widely recognized by many different software systems. The format explicitly identifies the components of a phone number and includes Country or Region Code, Area Code

and the subscriber number. The canonical format is +Country/RegionCode (AreaCode) SubscriberNumber. For example, this is how you would enter a number for a subscriber in the United States of America in canonical format [+1 (425) 555-0100].

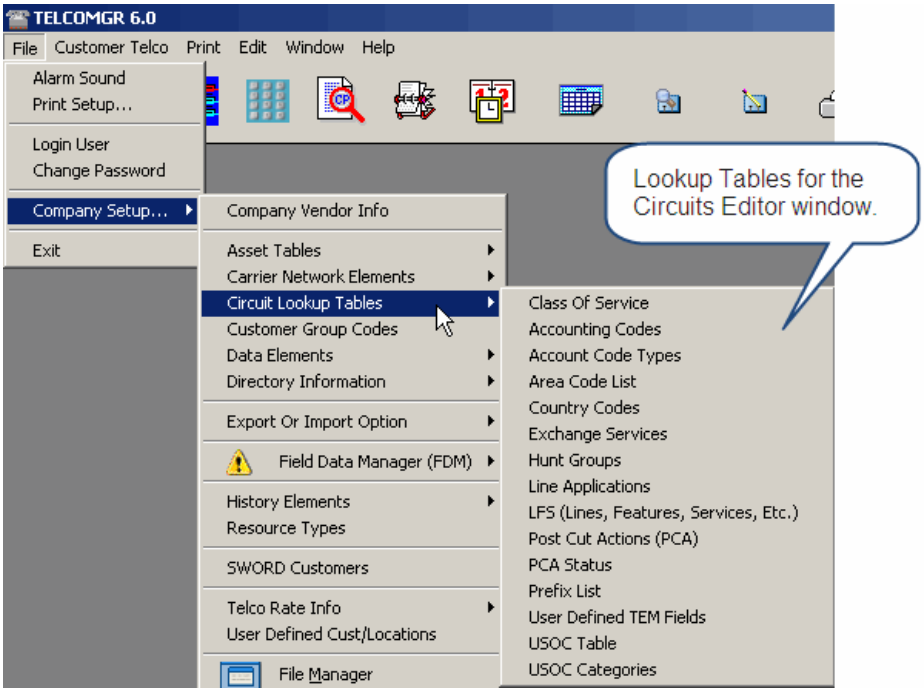


2 History Follow-up Calendars: Added Monthly Calendar showing required follow-ups.

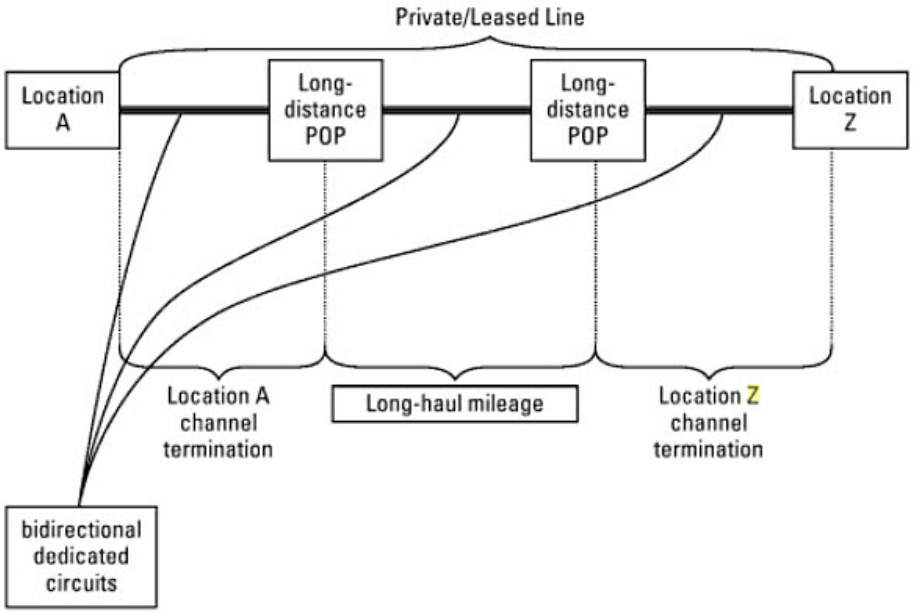
3 UNE-P: Unbundled Network Elements Platform field, add to Circuits table: UNE-Platform (also known as UNE-P) is a combination of UNEs (loop + port is AT&T's definition, port involves switching which is bought per minute at a "cost" rate from the RBOCs) that allow end to end service delivery without ANY facilities. Despite not involving any CLEC facilities, it still requires facilities-based certification from the PUC to deliver services via UNE-P. The new TelcoMgr UNEP field will include a UNE-P Lookup Table.

4 Field Data Manager for the Customer/Location and Circuits file. How many times have you been asked to make a mass update like change the format of the NPA-NXX-Line field for the Circuits table? Our new Field Data Manager provides end-users the possibility to alter the data as much as you wish. Thousands of phone numbers can be changed from the standard TelcoMgr format of [###-###-####] to [+1 (###) ###-####] within a couple of minutes. Also, by using Boolean expressions, data changes may be applied to records that belong to a specific customer group or your User-Defined field. You can even store mass update routines for future use.

5 Added Lookup Table Print capabilities to most Lookup tables.



6 Added A/Z Location address (5) fields for each Circuit Records. Essentially, we have added to the Circuits Record a Carrier Facility Circuit ID field block, which incorporates the "A Location code" & "Z Location code.



6.1 A Carrier Facility Circuit ID format consists of the following components:

6.1.1 Facility Designation (Channel Group Number): A one to five character portion of a Carrier Facility Circuit ID. The Facility Designation is always the first entry.

6.1.2 Facility Type: A one to six character portion of a Carrier Facility Circuit ID. This is a drop down box containing the valid facility types. This field follows the facility designation field.

6.1.3 A Location CLLI Code: An eight (8) - or eleven (11) - character portion of a Carrier Facility Circuit ID. The "A" Location Common Language Location Identification (CLLI) Code that identifies one of the two locations where a circuit resides and follows the Facility Type.

6.1.4 Z Location CLLI Code: An eight (8) - or eleven (11) - character portion of a Carrier Facility Circuit ID. The Z Location Common Language Location Identification (CLLI) Code, that identifies one of the two locations where a circuit resides and follows the “A” Location CLLI Code.

7 Fields added in TelcoMgr Circuits:

7.1 [ChannelGroupNumber], +Dropdown Table;

7.2 [FacilityType] +Dropdown Table;

7.3 [ACLLI] (A Location Common Language Location Identification (CLLI) Code) +Dropdown Table;

7.4 [ZCCLI] (Z Location Common Language Location Identification (CLLI) Code) +Dropdown Table;

7.5 [CFCI] (Carrier Facility Circuit Identification) Concatenated from 1-4 above, which looks like: 1009/T3Z/TAMPFLXAHZZ/TAMPFLXAKAA;

8 Added Circuit field for USOC and provide a lookup table.

9 TelcoMgr's shorthand field [LFS] in the Circuits table has been opened to allow the full alphabetical range for shorthand notations of Lines, Features, Services, Taxes, Charges, Mobile, etcetera.

10 Be sure to review the "Special Upgrade Considerations" for version 6.

11 New and improved multi-user Security.

© Access Business Communications, Inc.

12 New and improved License Activation and Registration process.

5.5.X

1) Correct the Term Column format for Circuit records copied to Excel.

5.5 6/22/2009

1) Corrected screen refresh rate on drag and drop calendar for monitoring Contract Renewals.

2) Updated Rate Comparison report.

3) Updated CPE report.

4) Updated Auditors Expense Log report.

5) Updated Spell Check scanner and DLL file.

6) Changed new Circuit record initialized fields with "N/A" instead of "Unknown."

7) Prepped Circuits Update window for UNE-Platform due in TelcoMgr V6.

8) Corrected date formats for Circuit records copied to Excel.

5.4 4/6/2009

1) Added new "Follow-up" fields to the History Table

a) Requires Follow-up [X] Checkbox

b) Follow-up Due Date

c) Follow-up Done [X] Checkbox

d) Follow-up Done Date

2) Added new Report for Histories that require Follow-up

a) Global History: Requires Follow-up By Follow-up Due Date

3) Added new "Inactive" [X] Checkbox fields and "Date Inactive" fields to the Customer Location and Circuits Table.

4) Added new user-definable fields (UDF) for Telecom Expense Management.

a) Default Values are stored in the Company Default Table or Vendor Company file.

b) The TEM Audit Margin is used to populate a derived TEM Audit Margin field in the Customer Location table.

c) The Auto Calculate Margin Based Upon {Budget Amount/No Calculation/Savings Amount} radio option field is used to populate a Auto Calculate Margin Based Upon field in the Customer Location table.

d) Both of these default values may be updated or custom for each Customer Location record and are used to initialize information in the Rate Comparison Table and Expense Logging Table.

e) The following 3 three fields and field labels are the default values for derived fields in the Circuits window and table.

f) TEM Field 1 is a UDF for text and the field label is also user-definable.

g) TEM Field 2 is a UDF for a date and the field label is also user-definable.

h) TEM Field 3 is a UDF for a numerical value and the field label is also user-definable.

5) Added an Accounting Code field to the Circuit Table and a Accounting Code lookup table for database standardization.

6) Updated and simplified the RATE COMPARISON edit window.

© Access Business Communications, Inc.

7) Added a batch copy process for copying all of the baseline expenses from the Rate Comparison Table to the Expense Log.

8) Updated and simplified the Expense Log edit window.

9) The Rate Comparison and the Expense Reports show comparison between Carrier 1 vs. Carrier 2 and Carrier 2 Vs. Budget.

10) Added a Duplicate Template process for the Rate Comparison Template Table.

5.3.19 2/14/2009

1) Added Global [Assigned to Resources] variable field for Report Builder report filtering.

2) Corrected Full Contact Name auto-formatting in the Update window for Resources.

5.3.15 2/1/2009

1) A new "Copy To Excel" Feature which enables a user to copy a TelcoMgr record browse table to an Excel workbook. This feature has been added to the following browse tables:

   a) Customer/Location Circuits Table;

   b) Global Circuits Table using the Search and Tag query features;

   c) Customer/Location Expense Log;

2) Integration links to SWORD have been improved and simplified. (Requires Enterprise Edition)

3) Minor fixes applied to Search and Tag reports.

4) Query By Example setup window has been enhanced and simplified.

5) Current Work Group (CWG) code filtering added to the History, Directory and CPE tables. (Requires Enterprise Edition)

6) New Global Fields for variable information have been added to

simplify report filtering on User Defined Order field and the Assigned to Resource field.

5.2 12/16/2008

[1] We updated the Customer/Location browse table and editor window.

[2] Added new Go To Field Search for each of the table's TABS.

[3] Added a new Sort Tab on the Customer/Location table for Contract Numbers.

[4] Corrected the sort order for the By Contract End Date

[5] We added Query Search and Tagging feature for the Customer/ Location database, which provides a very robust means for finding specific data.

[6] The Reminder browse table and edit window have been updated to correct a reported glitch in the User Defined lookup table.

5.1 9/10/2008

IMPEX Link

[1] The TelcoMgr master bill import utility has been combined into a new import and export utility, which we call TelcoMgr IMPEX. This optionally licensed application provides a very capable means of importing external data files and exporting most TelcoMgr data files and tables.

[2] The file types supported are: Text, CSV, Excel, HTML

Spell Check

TelcoMgr is growing-up and learning to spell. New in this version is a very capable dictionary, which users can share and expand with their own vernacular and acronyms.

Dynamic Calendar Enhancements

Dynamically linked calendars were added to the Reminders module in version 4.3 and now that have been enhanced and expanded to include two calendars for the MSC module.5.0 8/1/2008

Additions and Changes made for TelcoMgr version 5.0

Attachment Document Indexing and Storage for History Records

[1] Four types of files can be indexed and attached to any History Record. Therefore, each Customer/Location can have virtually unlimited (limited by storage space) number of attached and referenced documents.

[2] The file types supported are: PDF, Image (jpg, gif, bmp, pcx, others), HTML (web page, email), plus a link to Excel.

Document Indexing and Storage for Managed Services Contracts

[1] Three types of files can be indexed and attached to any MSC Record. Therefore, each Customer/Location can have an electronic copy of Carrier contracts and/or related information.

[2] The file types supported are: PDF, Image (jpg, gif, bmp, pcx, others), HTML (web page, email).

Rate Comparison Table

The Rate Comparison and Expense tracking module has been simplified and enhanced, which allows the comparison of fix cost and usage based charges.

Run Time File Manager

The File Management system has been enhanced, along with improvements in the database speed across most networks

Enhancements for Vista

Many visual enhancements have been made that will take advantage of VISTA transitions and most of the VISTA manifest.

Report Builder

Report Builder has been enhanced and simplified, but it is still a very capable tool for designing and customizing the growing library of TELCOMGR reports.

© Access Business Communications, Inc.

3 Download Software ...

TelcoMgr™ User Group

Thank you for your interest in **TELCOMGR**. The download and confirmation link shall be sent to you in an Email Message, which confirms that you wish to download **TELCOMGR** demo & production files, receive Email messages from us and become a part of our user group.

If you are already a member complete the fields and click on the [**Submit**] button to **login** and go to the Current Files page.

© Access Business Communications, Inc.

5 How to Order TelcoMgr

Google checkout Convient <> Fast <> Safe

6 Web Links

ACCESS Business Communications, Inc. Telecommunications Consultants

Telecommunications Consultants provides telecommunication consulting services, including network planning, and telecommunication technology acquisition assistance, expense

management and auditing.

6.2 Cable Management Software

CablePro™ | Cable Management Software

Order 3 Users for the Price of 2

CablePro™ is a complete Cable Management System for computers that run Microsoft Windows. The software application is designed to document campus and/or building cabling infrastructures. Plus, CablePro™ contains tools to assist the Cable System buyer or seller and/or IT Manager with cataloguing telephone and computer network information or architectural drawing information into a concise "cable specification" and "cable management document".

CablePro™ provides support for BICSI Division 17 and ANSI/EIA/TIA 606-A

(CablePro 6.5 or higher) standards that requires telecommunications infrastructure to be included in the architectural, electrical and mechanical building documentation process.

CablePro™ is an efficient invitation to bid, request for quotation and quote or estimation tool for Cabling, Information Management and Purchasing Professionals. Plus, the CablePro™ material items file is compatible with Intuit's QuickBooks items files, ComSystemsPro files and/or Excel "CSV" type files.

CablePro™ is ideal for use as a Cable Management Database System because it provides comprehensive information and an easy way to track adds, moves, and changes to your cable infrastructure. Plus, CablePro™ is an excellent tool to create an RFP/RFQ needed for acquisitions at Corporate,

© Access Business Communications, Inc.

Educational and Government institutions.

CablePro™ tracks or counts:

- Cable type footage, Quantities of Jack inserts, Quantities of cables, Quantities of pairs, Quantities of face plates
- Quantities of standard or your own custom labor codes for fixed labor cost/prices
- Summary of pulling and terminating labor required per project
- Cable application information, MPOE Records, Vertical Resers
- Quantities of Multi-dropped cable locations are easily tracked and automatically numbered for each project
- Design and document the layout of equipment racks, patch panels, Ethernet switches, servers, routers

© Access Business Communications, Inc.

Once the project/ location information has been entered you can print out a variety of documents, reports and labels, including:

- Complete specification sheet
- An automated wizard generated Quick-Quote
- Copy your Quick-Quote to Excel
- Detailed bill of materials and labor
- Cable tags/labels, Faceplate labels, Outlet and Patch panel labels,

Runs in Win'95, Win'98, Win2000, Windows XP, Vista, Windows 7, Windows Server 2003 (32 & 64 bit versions).

(From 2 to 20 Users Optional)

© 2010 Access Business Communications Inc.

6.2.1 Join CablePro User Group

Cable Management Software

CablePro™ User Group

Thank you for your interest in **CablePro**. The download and confirmation link shall be sent to you in an Email Message, which confirms that you wish to download **CablePro**, receive Email messages from us and become a part of our user group.

If you are already a member complete the fields and click on the [**Sign up Button**] to login and go to the Current Files page.

© 2010 Access Business Communications Inc.

6.3 CRM and Contact Management Software

CRMworx™ | Contact Management for Workgroups

CRMworx™ is a robust **Contact Manager** and **quote/ proposal creation tool** for up to 20 simultaneous users (requires license for multiple users). Contact activities may be recorded and tracked with the Clients and Prospect modules. The Contact records of Individual representatives or Account Managers may be isolated or filtered by **User Login** and by **Work Groups**.

Share Data with Common Application Files

CRMworx™ provides an easy and simple way to import contact records and/or item records from common business applications like QuickBooks, Microsoft Outlook, Google's Gmail, and many other applications that can export to a standard.csv text file.

[For Two Users, Just order (1) License. Your 1st License is FREE!]

CRMworx™ can perform powerful **mail merge** and **database sorting** functions without an **external word processor** or spreadsheet. Therefore, using the CRMworx Report Builder you can create and print a wide variety of documents, labels and reports including:

- Client List
- Marketing Letters
- Mailing Labels
- Mail-merge PDF documents
- Prospect List

CRMworx™ is a very flexible proposal or **quote creation tool**, which provides the end-user many options for multiple products, discounts, payment options and sales taxes. Here are some highlights of CRMworx as a quoting tool:

- Bill To and Ship To Addresses
- Discount by Item or Order
- Option to include special contract terms
- Progress Payment Options
- Detailed Table for Item Listing or Bill of

Material and Labor

- Option to Calculate Lease Payment
- Option to add over-time rates
- Option to create a trade-in schedule
- Option to calculate commissions and to create a commission voucher and statement
- Option to include Scope of Work and Job Task for Project Management
- Option to include Sales Forecasting Data and Sales Lead Tracking

CRMworx™ Document Generator

CRMworx™ allows you create professional agreements, marketing letters, proposals, and orders for individual items and systems.. The program is designed to optionally work with Intuit's QuickBooks inventory files, which are exported as '. IIF' from QuickBooks and imported in to the Items file for **CRMworx**™.

Once the proposal data is created, the programs can automatically create important documents such as:

- Sales Proposal, many formats to choose from;
- Sales Worksheet;
- Bill of Materials and Labor;
- Purchase Agreement;
- Purchase Agreement Terms and Conditions;
- Delivery and Acceptance Certificate;
- Print your Warranty Document;
- Print your Labor Only Maintenance Agreements;
- Print your Full Service Maintenance Agreements;
- Plus, much more because you can create your own documents and reports using **Report Builder**!

(From 2 to 20 Users Optional)

© 2010 Access Business Communications Inc.

6.3.1 Join CRMworx User Group

Buy Now
(1) CRMworx
Additional
User License

Download
CRMworx FREE

CRMworx™ User Group

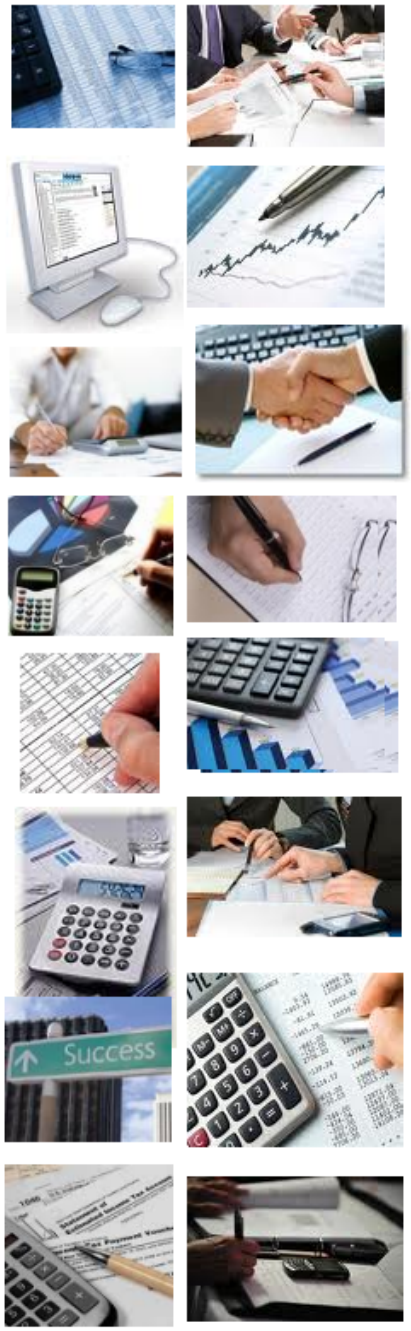
Thank you for your interest in **CRMworx**. The download and confirmation link shall be sent to you in an Email Message, which confirms that you wish to download **CRMworx**, receive Email messages from us and become a part of our user group.

If you are already a member complete the fields and click on the [**Sign up Button**] to login and go to the Current Files page.

© Access Business Communications, Inc.

© 2010 Access Business Communications Inc.

6.4 E-Books



ABCI ePublishing

We can help you publish your marketing material as electronic or computer media for distribution on CD-ROM or as a downloadable publication from your web site.

We can produce or reproduce your marketing, advertising collateral and SponsorWare in any or all of the following computer file formats:

HTML HELP

HTML HELP with many options to customize the output is an excellent media for creating marketing collateral. We can apply your own corporate image layout to your media files.

Winhelp

Classic Winhelp (.HLP) files - even help files for Windows 3.1 - are supported as well. We can create all media formats from the same single source.

HTML

Browser based media - platform and browser independent HTML pages, with dynamic table of contents and Javascript navigation.

Adobe PDF

We can create PDF files natively. We can produce a printer friendly

document in PDF format.

Electronic books or E-Books in Windows 32 bit executable format. No installation, no browser, no DLLs, no problems. This E-book format is great for CD ROM presentations. (Download Sample E-Book)

Of course, we can produce your advertising material in Microsoft Word and export in RTF format is also supported.

© 2010 Access Business Communications Inc.

6.4.1 Cut the Cost! Corporate Edition

Order Information

Cut the Cost of Telecommunications!

"The How to Guide for Telecommunications Expense Management"

Corporate Edition

By Jack Bogle

Cut the Cost! Telecom Expense Management Guide, *which includes tips on "how to understand and audit Telephone Bills."-The guide is also chocked full of tips for auditing business telecommunication cost, customer premises equipment, disaster preparedness procedures and expenses. The program is designed to place you in a position*

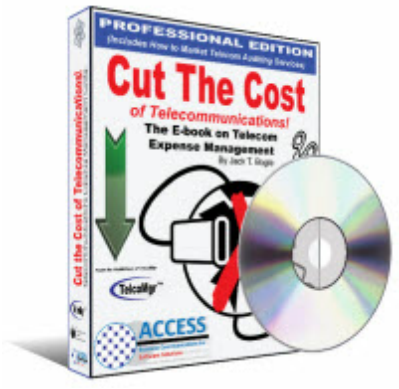
of knowledge so you can understand your bills and the appropriate questions that you should be asking your local, long distance companies and your telecom equipment vendors..

The e-Book and PDF-Book include the following information:

- *Some History about the Divestiture of AT&T*
- *The Carrier Network Structure Tutorial*
- The Fundamentals of Telecom Expense Management (TEM)
- *Sample letters for filing refund claims with your carrier(s)*
- *Telecommunication Audit Questionnaires*
- *Client Directory Worksheets*
- *Questions for Local and Long Distance companies, plus questions for your equipment vendors*
- *Ring Test Form*
- *USOC List*
- *Sample Call Flow Chart*

© 2010 Access Business Communications Inc.

6.4.2 Cut the Cost! Professional Edition



Order Information

Cut the Cost of Telecommunications !

Professional Edition

"The How to Guide for Telecommunications Expense Management Services"

By Jack Bogle

Cut the Cost! Telecommunications Expense Management, Professional Edition, is an E-Book about marketing, selling and conducting Telecommunication Auditing and Expense Management Services for Telecom Professionals.

The guide is chock full of tips for auditing business telecommunication cost, customer premises equipment, disaster preparedness procedures and expenses. The program is designed to place the Telecommunications professional in a consultative sales position. It is a comprehensive 'how to' program that will lead you deep into your client's telecommunication infrastructure and cost.

Cut the Cost! will provide you with a professional technique to help you acquire appointments with

© Access Business Communications, Inc.

qualified prospects, and to conduct in-depth discovery meetings that will uncover new telecommunication business opportunities.

The E-Book and PDF-Book includes the following information:

- Some History about the Divestiture of AT&T
- The Carrier Network Structure Tutorial
- How to Market Telecom Audits
- Fundamentals Telecom Expense Management
- Marketing Philosophy
- Sales Prospecting Methodology
- Consultants Letter of Engagement
- Sample letters for direct mail, plus broadcast E-mail and facsimile messages
- Telecommunicatio n Audit
- Client Directory

© Access Business Communications, Inc.

- Sample Audit Report
- Sample Telecom Audit Report
- Auditing Policies
- Consultants Letter of Engagement
- Basic Non-Disclosure Agreement
- Ring Test Form
- Partial USOC List
- Sample Call Flow Chart
- Sample Marketing Collateral

© 2010 Access Business Communications Inc.

6.7 Service Management Software

Service Management Software

SWORD™ | Service Work Orders Routing & Dispatch

SWORD™ is a complete Customer Service and Order management software application. SWORD™ has a robust capability for

Order 3 Users Licenses for the Price of 2

the creation of proposals, sales orders, services orders, estimates, contracts and **invoices**. Moreover, SWORD™ is a very powerful tool for tracking orders that need to be dispatched to field service personnel.

Plus, SWORD™ is ideal for Client Relationship Management (CRM) or Contact Management and includes contact and follow-up history logs.

SWORD™ includes solutions for the following service business challenges:

- Service Orders, including Scheduling, Dispatch and Routing tools
- Accounts Receivable, including Invoicing, Receipts Journal and Aging Reports
- Customer Relationship Management (CRM), Letter and Proposal Campaigns
- Execute Customer Satisfaction

© Access Business Communications, Inc.

Surveys and Track the Results

- Maintenance Plan Tracking and Documentation
- Drag and Drop Scheduling Calendars for Service Orders and Personnel Scheduling
- Track Expenses

SWORD™ is ideal for many types of businesses that have field technicians and other personnel that are dispatched or routed on service calls. Also, SWORD™ is popular among in-house maintenance and IT departments.

The application is compatible with QuickBooks® Customer, Items and Employee files. Optionally, Service Orders generated in SWORD™ can be easily transferred into QuickBooks® as Invoices using our *SCA QuickBooks link.

- Multi-user capable and network-ready.
- Runs in Win'95,

© Access Business Communications, Inc.

Win'98, Win2000, Windows XP, Windows 2003 Server, Vista, Windows 7.

*SWORD™ with the optional Special Commerce Agent (SCA) for QuickBooks, provides a link so Customer data and Service Orders can be easily transferred to QuickBooks as Invoices.

(From 2 to 20 Users Optional)

© 2010 Access Business Communications Inc.

6.7.1 Join SWORD User Group

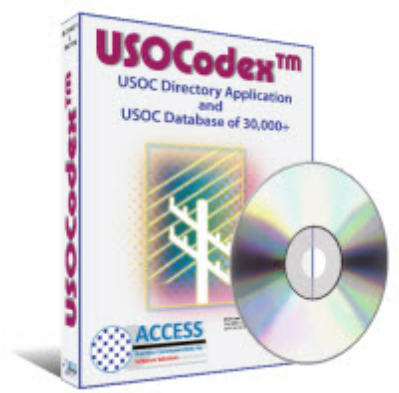
SWORD™ User Group

Thank you for your interest in SWORD. The download and confirmation link shall be sent to you in an Email Message, which confirms that you wish to download SWORD, receive Email messages from us and become a part of our user group.

If you are already a member complete the fields and click on the [Sign up Button] to login and go to the Current Files page.

© 2010 Access Business Communications Inc.

6.9 USOCodex | USOC Database Application



Order Info

USOCodex™ is a Computer software database of USOCs, which requires Microsoft Windows 2000 or later. The software features fast USOC search or lookup capabilities.

In addition, USOCodexTM provides features to import additional or new USOC list using a standard CSV type file.

Plus, USOCodexTM provides a feature to export the USOC list

to a CSV file or it may be copied to a Microsoft Excel compatible file (requires Excel 2000 format Excel.xls).

© Access Business Communications, Inc.

Index

- [-

[ ] System User 17
[Default History Report Title] 17
[File Paths] Tab 17
[Reserved] fields 326
[Search] buttons 185
[User Defined Order:] field 75
[Users] tab 17

- A -

A Locations 22
abci-software.com 2
Access Method field 63
ACLLI 58
Activating License 44
activation code 44
Add Customer/Location 65
Add Group 141
Admin and User Security 10
Advanced Licensed 136
Alarm Clock Icon 126, 211
Alarm goes off 126, 211
ampersand 159
Anatomy of a Database 326
Application 50
AREA CODES 38, 41
Asset Reports 88
Assets Reports 184
Assets/Equipment Tab 88
Assigned to Resource 345
Assigned to Resource Field 238
Assigned to Resources 345
attached document 90
Attachment Library 90
attachments 90
Audit Period 188
Auto Resize Bottom 245
Automated FDM Processes 14

- B -

BAND 245
bands 221
baseline 108
base-line 101
BASELINE EXPENSE TEMPLATE 1, 197
Baseline of Expense 108
baseline of expenses 107
Baseline Template 197
Before Band Printing 248
Bill To Number 50, 69
Binding Post ID 172
Blue Folders 48
Boolean logic 132
browse table for Reminders/Alarms 214
Browse Table of Circuits 76
Browse the Expense Log table 96
Browse the Rate Template List 197
Browse User Groups 141
Browse Users table 142
browse windows 238
BTN 50, 69
BTN - Bill To Number 172
Budget 96, 108
Budget Amount 102, 108
Budget tracking 102
Budget Variance Amount 96
Budget Variance Percent 96
Build 167
By Co Id + Cust. Tab 69
Byte 328

- C -

Calendar 181
Calendar of Alarms and Reminders 135
Calendar of History Entries 135
Canonical 38
Canonical Phone Numbers 50
Carrie Names 35
Carrier Account fields 73
Carrier Bill Types 24
Carrier bills 193
Carrier Facility Circuit ID 58
Carrier Group Numbers 22

© Access Business Communications, Inc.

Carrier Network 85
Carrier Network Elements 1, 50
CELL 245
cell phones 52
CFCI 58
Change Password 138, 147
Change User option 148
Channel Group Number 25
ChannelGroupNumber 58
Check Box 188
CIR 341
CIR:LinePc 153
Circuit 135
Circuit ID 172
Circuit Tabs 50
Circuits 108, 150
Circuits File 179
Circuits PCA tab 204
Circuits record 50
Circuits Tab 76
circuits.tps 331
Circuits:NPA-NXX-LINE field 166
Class of Service 50, 69
Clear or Set a Reminder Alarm 135
CLEC 69
commission 102
Committed Information Rate 341
Common business format 38
Common Format: 39
Company File Vendor 69
Company ID 48
Company Master Telco 48
Company Vendor File ID 345
Company/vendor 17
Comparison Table 108
componts.tps 336
Composite Code 39
Conditional Searches 179
Conditional Searches - Query by Example] tab 185
Contact Name 69
Contract All 48
Copy Rate Comparison Template 195
Copy Template 193, 195
Copyright and Trademark Rights 5
Country Codes 38
CPE 88, 92, 95
CPE Components 92, 336
cpe.tps 334
Create 167
creating an Expense Log 108
CSV 149
Current Provider 96
Cus Sys ID 95
CUSTOMARY 245
CUSTOMARY FRAME 245
Customer 135, 150
Customer Directory Tab 86
Customer Group Name/Code 69
Customer ID 69
Customer Location 65
Customer Name 69
Customer Premises Equipment 88, 92
Customer Telco 69
Customer Telco History Report 174
Customer Telco Records 48
Customer/Location Master record 75
Customer/Location Name 32
Cut the Cost!© 101
CWG 145

- D -

Data Formatting 159
Data Network Elements 1, 32
Data Types 328
database 217, 223
database field 309, 313
database filter 226, 231
Date 328
Decimal 328
default installation path 345
Description 95
Detailed Service Info 50
dictionary 249
Directory 135
Directory tab 337
directry.tps 334
DLCI 32, 341
DNIS/DID 172
done 167, 211

- E -

Edit Date 172
Effective Date/Time 172

Email Construct 348
Email Message 82
END USER LICENSE AGREEMENT 5
Enterprise 167
Error 167
EUCL 342
EULA 5
Excel 149
Excel spreadsheet 31
Exchange Service 172
Existing Application 172
Expand All 48
Expense Log 96, 101, 188
Expense Log button 108
Expense Log Calculator 108
Expense Log Editor 96
Expense Management and Tracking: Tutorial 188
Expense Report 108
Expense Report button 108
Expense Report Filter Options 181
Expense Reports 96, 181, 188, 345
expense tracking 101
Expense_Management_Tutorial 87
Explicit Page Overflow 248
export 149
Export or Import Option 12
Expression 156
Expression Editor 156
Expressions 159, 162, 226
Extended Actual Amount) 188
Extended Budget 188
Extended Budget Amount 188
Extended Item Cost 188

- F -

F7 KEY 326
Facility Types 22, 26
FacilityType 58
FDM 164
FDM processes 166
Features 188
Field
    Operator or Value fields 185
Field Data Manager 14, 38
Field Data Manager Browse Table 157
Field Data Manager Browse Table for Circuits 156
FILE ACCESS 167
file extension 345
FILE MANAGER 167
File Name Change Notice 345
file template 326
FIRST RUN option 129
first user 8, 147
Fix 167
Fixed Item Cost 188
fixed or reoccurring expense 102
Follow-Up Calendar 122
Follow-up Done [X] Checkbox 122
Follow-up Done Date 122
Follow-up Due Date 122
Forcing a New Report Page 248
Format(Expression, Picture) 157
Formulas 150, 226
Frame 32, 221, 245, 249, 307
Frame Relay 2
FRAME TYPES 245
Frames 221, 306, 341
Freshen 167
From Date 238

- G -

General Provisions 5
Global 32
Global Field 226
Global Telco Circuits Database 132
Global Variables fields 238
GlobalAssetsDatabase 88
Glossary 1
Governing Law 5
Graphical Tree 48, 69
Green Folders 48
Group Band Properties 248
Group History By Status Report 174
Group History Report By Status 174
Group Name 32
Group Names 32
Group Rate Name 193
Group Rate Types 193

- H -

Help Desk Tools 1
History 1

History Follow-up Calendar 125
History Log 79
History Log Tab 79
History Status 34
How to Order TelcoMgr 1
HS# - Hunt Sequence Number 172
http://www.telecomauditors.net 361
Hunt Group 50, 69
HUNTINGTON BEACH 2

- I -

IEC 35, 50
IMPEX 1, 14, 149
IMPEX for TelcoMgr 345
Import Baseline Set button 108
imported 149
incentive 102
Info 167
INI 158
INSERT 65
Installation Tips 126
internal or external directories 86
Internet Field Group 348
Interstate Exchange Carrier 35
Invoice 181
IP Mask 63

- L -

Launch an External Program 46, 348
LE 39
LEC 35, 50, 69
LFS 54
LFS - Line
Feature or Service 172
LFSTC 50, 54
License 44
License Activation 8, 345
Line
Feature or Service 48
Line Number 172
Lines 188
Features or Service 48
LNP 50, 69, 172
Local Exchange Carrier 35
Location and Brand/Vendor Information 92
Location ID 95
logical operator 162
Login code 147
Long 328
Long Distance PIC 172
Lookup Customer ID to Copy To: 193

- M -

MAIL MERGE 245
Main Icon Menu Bar 135
Managed Service Contract 65
Managed Service Contracts 91
Managed Services Info Tab 65, 89
Manufacturer 95
Margin 188
Margin % 96
Margin Amount 96
Margin grand totals 181
Margin subtotals 181
Mass Field Update 164
massupdate.ini 158
Master Account 50
Master Telco record 48, 69
Master Telephone Company 1
Memo 328
minutes of usage 102
Mobile Device 50
Mobile Device check box 52
mobile telephone 52
Monthly Amount 172
MPLS 2
MSC 65
msgclock.exe 36
MTN 50, 69
MTN - Main Telephone Number 172
Multiline Text 245

- N -

Name of Rate 188
Network Platforms 22, 26
NO ACCESS 145
NOTICE TO USER: 5
NPA-NPX-LINE 38
NPA-NXX-LINE 50
NPR 26

- O -

OEC 35
OK Create Email 82
Open License File 8
operator 159
Order & Install Date 172
Order 3 Users Licenses for the Price of 2 377
Order Information 373
Order Plan 50
Other Exchange Carrier 35
Outline for Tracking Expenses 101

- P -

Pack 167
Page layout 226
Part Number 95
Path 50
Paths 172
PCA 50, 69
PCA Status Date 50
Permanent Virtual Circuit 342
PICC 35
Pictures 159
Point-To-Number 50, 69, 172
Port Speed 32
Post Cut Action 50, 69
Post Cut Application 172
Post-Cut-Action 172
Post-Cut-Actions 50
PREFIX CODES 38, 43
Pre-subscribed Interstate Carrier Codes 35
Previous Provider 96
Print > Trouble Ticket# 176
Print a record 171
Print License and Registration Form 44
Print Reminders 211
Professional Licensed 136
PROMPT 159
PTN 50, 69
PVC 32, 342, 343

- Q -

QBE 185
QBE criteria 185
QBE criterias 185
QBE window 185
QMSCAPA.EXE 129
QoS 342
Qty of Fixed 96, 188
Qty of Ports 95
Quality of Service 342
Quantity 95
Query by example 185

- R -

Rate Names 87
Rate Comparison 101, 188, 345
Rate Comparison tab 87, 101, 195
Rate Comparison Table 188, 202
Rate Comparison Template 107, 108, 188, 193, 195
Rate Comparison Templates 87, 101, 197
Rate Cost Names 202
Rate Cost/Zone Names 202
Rate Edit window 102, 188
Rate Groups 87, 199, 204
Rate Item Entry 199
Rate Name 188
Rate Template List 193
Rate Template Table 193
rate type groups 202
Rate Types 87
RCT 197, 199
RCT editor window 199
RCT Library 197
RE 39
Recording Cellular Telephone Devices 52
Reference 172
Refnumber 188
Register Telco Manager 44
Registration Form 44
reminder 204
Reminder Alarm default settings 348
Reminder Alarms 204
Reminder Calendar 213
Reminder Calendar Week 214
Reminder System 17
Reminder Table 126, 211
Reminders 214
Reminders Browse Table 204
reoccurring reminders 204

© Access Business Communications, Inc.

Report Builder 2, 135, 215, 217
Report Builder Menu information and a Record filter. 226
Report File Names 267
report formatter 221
Report Properties 226
Requires Follow-up 122
RESERVED 331
Reserved Fields 326
Resource Directory 324
Resources 135
Restrictions 5
ROTATION ANGLE 245
RPT suffix 267
RSS News Feed 345
Run Time File Manager 348

- S -

Sample Trouble Ticket 176
save report file names 267
save your new reports 267
SAVEAS 267
Saved Queries 185
SAVINGS method 108
Search 117, 130, 132
Search all text fields] tab 185
Search button 130
Security 44
Security Menu 138
Serial No ID 95
Service Order 50
Services 188
Set Access Rights 145
Set Alarms 214
Set User Access 138
Setting an Alarm for a Reminder. 209
shared folder 90
Show Reminder Message 46
Snooze 36
Snooze button 36
Sorting Bands 240
Special Upgrade Considerations 14, 345
Status 34, 50
Sting Constants 159
String 328
Supervisor user 147
SVC 343
Switch Virtual Circuit 343

- T -

tagged browse 179
TAPI 55
Telco Customer/Location 204
Telco History & Help Desk 117
Telco history log 1
Telco Order Number 172
Telco Rate Calculator 102, 188
Telco Rate Comparison report 108
Telco Record Tabs 83
Telco Reminder 69
telco.tps 329
TelcoMgr 185
TelcoMgr 6 14
TelcoMgr Expressions 150
TelcoMgr File Export Utility 149
TelcoMgr File Structures 326
TelcoMgr installation folder 158
TelcoMgr License Activation window 8
TelcoMgr Location Record 85
TelcoMgr Message Clock 36, 348
TelcoMgr Professional Site License 184
TelcoMgr Site Licenses 167
TelcoMgr startup Login Window 348
TelcoMgr's Dynamic Calendars 91
TelcoMgr's shorthand 54
telecom auditing 87
Telecommunications Consultants 361
Telecommunications Expense Management 101
Telephone Directories 1
telephone directory 337
TelephoneDirectory 86
TEM 50, 101
TEM Default Settings 50
TEM Field 1 50
TEM Field 2 50
TEM Field 3 50
TEM Fields 102
TEM Margin and Calculations 89
Template Items 193
Template Name 197
Term Contract 50
Text to search for 179
TFN - Toll Free Number 172
Through Date 238

© Access Business Communications, Inc.

To Excel 31
To Print a record 171
track expenses 197
tracking telecom expenses 101
Trouble Ticket 176
Type of CPE 95
Type of Ports 95
Type Of Rate 188

- U -

Undo button 153
UNE-P 22, 345
Universal Service Order Codes 1
USA 2
Use of the Software 5
User Defined Field 238
User Defined Order 345
User Defined Order Browse Table 75
user defined record identifier 34
User Groups 141
User Login 142
User or Group Level 145
User Security 136, 138, 337
user-defined date range 181
user-defined report titles 181
user-defined shorthand notations 54
USOC 135
USOCodex™ 381
USOCs 60

- V -

Variables fields 238
Variance Amount (+/ -) 188
Variance Percent (+ / -) 188

- W -

Warranty 5
Warranty and Service Information 92
What's new in TelcoMgr 14
Work Group 145
Work Group Code 142
Work Group filtering 145, 167

- Z -

Z Locations 22
ZCCLI 58

http://www.telcomgr.com

Home of TelcoMgr

ACCESS

Business Communications, Inc.

Software Solutions