The Logical Product's

CALLSCHEDULE

Manual Revision 5.7B

CALLSCHEDULE MANUAL

Table of Contents

Starting CallSchedule

The Window "Main Menu"

```
┌──────────────────────────────────────────────────────────────────────────┐
│  ┌─ Schedule ──────────┐  ┌─ Schedules, Statistics ─┐  ┌─ Setup System ──────────┐  │
│  │                     │  │                         │  │   General Options       │  │
│  │   Setup Schedule    │  │        View             │  │                         │  │
│  │                     │  │                         │  │      Holidays           │  │
│  │                     │  │                         │  │                         │  │
│  │   Create Schedule   │  │       Reports           │  │    Call/Work Types      │  │
│  │                     │  │                         │  │                         │  │
│  │                     │  │                         │  │       People            │  │
│  │       Edit          │  │        Tools            │  │                         │  │
│  │                     │  │                         │  │   Always/Never Assign   │  │
│  │                     │  │                         │  │                         │  │
│  │   Format Calendar   │  │   Backup and Restore    │  │     Request Links       │  │
│  └─────────────────────┘  └─────────────────────────┘  └─────────────────────────┘  │
│                                                                                      │
│                               ┌──────────────┐                                       │
│                               │     Exit     │                                       │
│                               └──────────────┘                                       │
└──────────────────────────────────────────────────────────────────────────┘
```
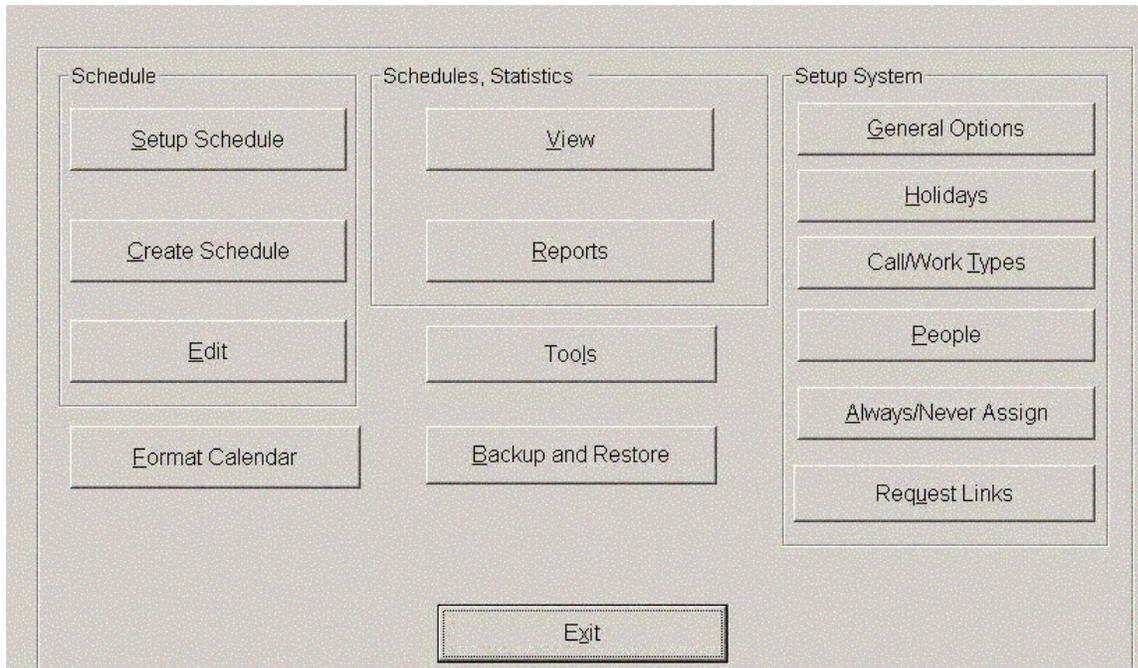
Quick Start

After clicking on the downloaded Callschedule .zip file you will have four files CallSchd.CAB, setup.exe, SETUP.LST, and this manual. If you have a prior version of CallSchedule, remove it with the operating system Control Panel. Be sure the first three are in the same directory and click on setup.exe.
The program will install to the default folder. Run "CallSchedule" from Window's "Start" menu.

The license agreement is the first window displayed when CallSchedule first runs. You must accept the license agreement to run the program.

The login window appears after accepting the license agreement. It is the first window to appear if the license agreement was previously accepted.   It is not necessary to have a password. Just click "OK" or press the "Enter" key, a password may be added later. After logging in, the Main Menu appears.

Click on the items in the frame "Setup system" on the right side of the Main Menu in descending order. Use the manual or type the "F1" key from any screen for help with the options. If there are no changes to the structure of your schedule, these steps need to be done only once.

Before scheduling a month, click on "Setup Schedule" in the frame "Schedule" on the left side of the Main Menu. Enter the availability (vacation, etc.) of the people in your call roster for the month to be scheduled and, if known, for contiguous months. Manual assignments are unnecessary.

To schedule, click "Create Schedule" in the Main Menu's "Schedule" frame. Select the month and year to schedule at the top of the "Create Schedule" window. Click on "Calculate suggested values" and then accept the values as a starting point for the various spacing options. Click "Schedule".

Inspect the schedule. Accept and print, or reject the displayed schedule.

Starting CallSchedule – details

Installing

After clicking on the downloaded Callschedule .zip file you will have four files CallSchd.CAB, setup.exe, SETUP.LST, and this manual. Be sure the first three are in the same directory and click on setup.exe.. The Logical Product recommends installing CallSchedule in the default directory. Installing a new version does not change in any way the setup, schedules or statistics created with earlier version. You do not have to start over. However, if you have another version of CallSchedule on your computer you must remove it using Windows control panel before installing a new version.

License agreement

The license agreement must be accepted to run the program. The license agreement window is displayed only when CallSchedule is first run.

Login

A password is not necessary. Click "OK" or type the "enter" key from the login window to start CallSchedule without a password. A password may be added or changed at any time. If you have set a password, it needs to be entered to start the program or change the password. Contact technical support if you loose your password.

Initial setup

To setup CallSchedule select "General Options" from the frame "Setup System" in the window "Main Menu" and enter the options on how the program should function. Then select "Holidays" and enter or edit the holidays as needed. Next select "Call/Work Types", and enter the call and work types that are to be scheduled. The "Show links" button is helpful in setting up links between assignments. The "Call/Work Types" window has a "Show All" button that displays all the data for all call types. If you are scheduling separate day and night assignments, click the button "Set day and night compatibility" and set which day assignments can be associated with which night assignments. If you have subsets, click "Show Subset" and set the properties of the subset. If you have temporary call types, or call types that do not occur every week, click "Show dates" and enter the dates for these call types. To complete the basic setup, select "People" and enter the people who are to be scheduled. The "People" screen also has a "Show all" button. "Enter dates" under "Temporary people" in window "People" allows entry of the dates for any temporary people. If necessary, enter the widow "Always/Never Assign" and set the people that should always or never have an assignment on a given day or holiday, the people who can't be on night call the same night, and people who can't be scheduled on the same day at all. A second type of link between assignments can be made from "Request Links". Linked call is treated as a block when making assignments whereas request links are not. In many circumstances they will work the same. Request links are easier to setup but not always fulfilled. The steps in the initial setup do not need to be repeated each month.

Important setup notes

It is easier to insert call type names before people's names because when you enter people you have to specify which call types the person can be assigned.

Give the most onerous call types the highest priority (1 = highest priority). If the spacing between days on call needs to be violated because you do not have enough people, the violations are more likely to occur with the lower priority call types. If a complete schedule cannot be created, the lowest priority call types will be dropped.

Combine statistically all the days of the week that make no difference. The statistics are better, especially for part time people when first starting your database and for people added to your call roster after scheduling has begun. The statistics for part time and new people equalize after they have received at least one assignment to each call type on each day of the week or each set of days of the week combined statistically. When first starting, inserting a request no call for every occurrence of a day or days of the week in a month (for instance every Tuesday) for part time people helps smooth this break in process. When adding a new person to a group with established statistics, the new person can be hammered with call initially until they have received one call of each type on each day of the week or one of each set of days of the week combined statistically. Then the new person has a lull period following which they are the same as other group members. Artful use of Setup Schedule's "Request no call" for the first month or two can smooth this process. New people can also be excused from call with a "Not available night", an option of "Setup Schedule".

When using separate day and night assignments the program will force the association of a night call with any compatible day work types. A compatible catchall day assignment such as "Available" or "Unassigned" will prevent the program from always assigning the same person a night call because they are the only one with a compatible day assignment.

The Logical Product suggests you backup your database after entering the data in the setup system windows and note the name of the backup. The numbers at the end of a backup name are the date and time it was created. Then run a few trial schedules to ensure the program is working as you intended. If not, restore the backup, make the desired changes, and backup the database again. These steps may be repeated until the desired setup is obtained and may save time by not having to reschedule or renter vacation, requests, etc. The same thing can be accomplished by clicking the button "Restart scheduling" in the window "Tools", but a backup of the schedules you created and discarded will be made each time you restart. Manual assignments, vacation, and non-availability can be deleted or retained when using "Restart Scheduling".

Formatting calendar displays

Use the "Format Calendar" window to determine the order that call types should be listed, and whether vacation, non-availability and requests for no call should be printed or displayed on screen. Printed schedules can be divided into multiple calendars and selected call types can be omitted when printing.

Scheduling and rescheduling

To schedule call, select "Setup Schedule" from the frame "Schedule" in the window "Main Menu". From this window enter vacations, requests for no night call, other non-availability, and if desired, make manual call/work assignments. All entries can be viewed as a calendar or printed by clicking "Save and show pre-schedule. Clicking "Show numbers" does a check of the people available versus the people needed.

From the main menu, click "Create Schedule". At the top of the screen set the year and month to schedule if not the default. "Calculate suggested values" should give you a starting point for the various spacing options. From "Create Schedule" click "Schedule". A new schedule is created for the month or if a schedule exits for the month and year selected at the top of "Create Schedule" the month is rescheduled (except for any part that is in the past).

Viewing, printing, and exporting data

To view data on screen first click "View" from the "Main Menu". Select the month and year and then click "Show Schedule" to show the schedule or pre-schedule. Click "Show Statistics" to display the statistics screen. Click "Show vacation, requests, non-availability" to show a tabulation or the dates of requests, vacation, etc. The screens can be printed.

Click "Reports" from the "Main Menu" to display the "Reports" window. From "Reports", schedules and statistics can be printed in various formats, and schedules can be saved as spreadsheet or HTML files for export to a spreadsheet program or the web.

Editing schedules

Schedules can be edited (including assignments that are in the past) and historical schedules may be manually entered (to the beginning of the year of first use only) by clicking "Edit" in the window "Main Menu".

Help

The CallSchedule help file is accessible by pressing the "F1" key or the or by selecting "Help" on the menu bar. Specific instructions for each window are included. Click "Help" then "About CallSchedule" to see the program version.

Files

The database name is "CDb.mdb" and the name of the program is "CallSchd.exe". Both are in the directory where you installed the program. The default is "C:\Program Files\CallSchedule\". If installed here, you may access the program from the Windows start menu. It is also convenient to right click on the program name "CallSchedule" from the start menu "Programs" and drag an icon onto your desktop. (From "Windows Explorer" or "My Computer" right click on C:\Program Files\CallSchedule\CallSchd.exe and drag it onto the desktop to create the shortcut.)

Backup

BACKUP YOUR DATABASE!!! How you back it up depends on the size of your call roster. A USB drive or other form of removable media is very convenient. The database can easily be backed up (or restored if necessary) from the window "Backup and Restore". The database can be backed up in the drive and directory that contains the program, but this will not prevent data loss in the event of a hard drive failure. Backup the database each time you enter data or create a schedule.

Examples

Example scheduling setups and examples of how to link call assignments between days are included in this manual. They may be helpful in setting up the program.

CallSchedule Overview

General

CallSchedule is a program that schedules people for call and work types defined by the user. It schedules by months while inspecting a three-month block to maintain continuity between months. It can schedule both night call and daytime assignments. Depending on the options selected in "General Options", each person involved in the schedule can have one assignment per day or separate day and night assignments. In addition, each person may have one or more subset call types. The user can select minimum nominal spacing between night call assignments and nominal maximum night calls per month.

The assumption made in creating the program was that the ratio of assignments to days in the call pool should be equalized. That is (assignments/(days eligible to be assigned)) should be equalized for each person. The program makes call/work assignments based on this ratio within the spacing constraints set by the user. The schedule and statistics are stored in a Microsoft Access database.

CallSchedule is a general scheduling solution that will prove useful, if not indispensable for any group needing to schedule personnel to night call or day assignments and night call. The time saved each month will easily recapture the effort of setting up the program. The fair and impartial schedules created should reduce debate regarding the schedule.

All CallSchedule's windows are moveable and sizeable. Data is displayed correctly at all screen resolutions or window sizes from slightly below 640 x 480 to 1280 x 1024 or greater.

Options for call types

Each day of the week and holidays can be assigned based on the statistics for that day of the week, or days can be combined statistically (e.g. the statistics for Mondays through Fridays can be combined). Each call/work type can be assigned based on its individual statistics or call/work types can be combined into statistical groups. If the call types "Heart", "First", and "OB", are combined into a group; the total assignments of the three combined divided by the days eligible for any of the three will be equalized. Groups are set in the box "Member of statistical group" in window "Call/Work Types". The box is only visible when the option "Equalize call by call groups" is selected in the window "General Options".

Each call/work type can be active or inactive on each day of the week and holidays. Holidays can be added, made inactive or edited from the "Holidays" window.

A minimum and maximum number of people to assign can be set for each call type. The minimum schedule will be created first and any unassigned people will then be added to the schedule until the maximum schedule is achieved or no available people are unassigned.

For irregularly occurring assignments such as "Administration", or "Education" a call/work type can be by manual assignment only. When the box "Manual assignment only" under the heading "Number of people to assign" in window "Call/Work Types" is checked, the call/work type will only be scheduled when manually assigned or assigned by use of "Always/Never Assign".

Temporary call types, and call types that occur at two, three or four week intervals can be accommodated by designating them as temporary and entering the appropriate dates

Subset call types may be assigned in addition to a primary call type. Subset call types are assigned to a person who is also assigned one of the specified primary call types of the set. For instance "Heart" could be a subset of "First", "Second", and, "Third". At least one of the people assigned "First", "Second" or "Third" would be eligible for and assigned "Heart". Designate a subset call type by checking the box "Subset" in "Call Work Types". Set the properties of the subset by clicking the button "Show Subset" that

will become visible beside the check box. The window "Subsets" will be displayed. "Office Call" is a special type of subset used where groups from different offices share call and it is desired to have a person on call for an office each day. The window "Advanced Options" arrived at from "Create Schedule" allows control of which subset assignments can not be given to together to a person on the same day.

If the option "Allow separate day and night assignments" in window "General Options" is checked then a person may receive both a day assignment and a night assignment. To map which day assignments can be associated with which night assignments click the button "Set compatible day and night assignments" in window "Call/Work Types". The "Compatible Call Types" window will become visible where which day assignments can be associated with which night assignments is set. If "Allow separate day and night assignments" is not checked, only one assignment per day is given (plus any subset calls) and the button "Set compatible day and night assignments" will not be visible.

"Priority" is a property of each call/work type. Priority influences the order of scheduling. If spacing of night calls cannot be maintained, the lowest priority night call type is most likely to be where the violation occurs. If not enough people are available to make a full schedule, the lowest priority call/work types will be dropped.

Linking Assignments

Call/work types can be linked to the same or a different work type on successive days (e.g. a call/work type can be assigned a week at a time, night call can be followed by a work assignment called "OFF", etc.) Links will pass through inactive days and remote links can be created. Linked calls are set in "Call/Work Types". The "Link Demonstration" window, accessible from "Call/Work Types" is useful in setting up and debugging linked call. Linked call is treated as a single block when making assignments. Examples of links are included in this manual.

Links can also be made between assignments using "Request links". Request links are not treated as a block when scheduling. The primary assignment is made without considering the request links, and subsequently any request link assignments are made if not already filled and the person is not needed for another assignment to fill the schedule. Linked call and request links will work the same much of the time, but can work quite differently in certain circumstances. See "Call/Work Types" and "Request Links" for more details.

Options for people

By default, each person is full time, but part time people are accommodated. Entering a "% FTE" less than 100 in window "People" designates a part time person. Each person can be active or inactive for the entire schedule and can be active or inactive for each call/work type. If active for a call/work type, each person will have a "%FTE This call type". The default "%FTE This call type" is the person's overall "% FTE". For each call type a person is eligible to be assigned, that person is counted as eligible for one day, times their "FTE this call type". Therefore, a person who has a "% FTE This call type" of 60 accumulates 60/100 or 3/5 of a day eligible for each day that the person can be scheduled. People who are part time by virtue of only working certain days of the week are also accommodated. They should have "% FTE" set to 100 if they are full time except for the days they are inactive. For this latter type of part time person note that if they cannot take all the days in a link call chain, they will not be assigned any part of the chain (unless manually assigned).

A "% FTE This call type" between 1 and 999% can be assigned for each call type. Use this option to vary the amount of a call type that a person should be assigned. All people who take a full share of the call type should have "% FTE This call type" set to 100 for that call type. People who take more should have a "% FTE This call type" more than 100 and those who take less should have a "% FTE This call type" less than 100 for the call type. (E.g., if a person does not take "First" call, but should get twice as much "Second call" as everyone else, set his or her "% FTE This call type" to 200 for "Second call".)

A maximum number of days per month for each person for each call/work type can be set. This maximum will only be violated if required to fill the schedule. Use this option if a specific person has a limited number of times they can take that call (e.g. the Director takes only one "First call" a month). All people who take a full share of the call type should have this number set to 31 (the default). Assigning a person active for a call type with a maximum number of days of "0" will mean that the person will only receive that assignment if necessary to fill the schedule (e.g. a person may receive an assignment he would not ordinarily receive to cover for vacation). Using "maximum days" to set the ratio that each person can take a call type is not recommended for three reasons. First, a person stops accumulating eligibility each month when their maximum days have been reached. Therefore, the statistics are more difficult to interpret. Second, spacing of night call will be violated before maximum days are violated. Third, the algorithms for computing the schedule are more difficult and slower particularly when also using call types where the minimum number of people to assign is less than the maximum

Temporary people are accommodated. Checking the box "Temporary Person" in window "People" designates a person as temporary. The dates that temporary people are to be included in the schedule are entered in the window "Temporary Person Dates" which is displayed by clicking the button "Enter Dates" under "Temporary Person" in window "People".

Set people who cannot be assigned night call on the same night (e.g. husband and wife) or two people who can not be assigned on the same day at all from the window "Always/Never Assign", accessible from the main menu. If two people to share a position, set them to never be assigned together and set the FTE of both to 50%.

When adding a new person to a group with established statistics, the new person can be hammered with call initially until they have received one call of each type on each day of the week or one of each set of days of the week combined statistically. Then the new person has a lull period following which they are the same as other group members. Artful use of Setup Schedule's "Request no call" for the first month or two can smooth this process. New people can also be excused from call with a "Not available night", an option of "Setup Schedule".

Advanced Options

The window "Advanced Options" is arrived at by clicking "Advanced options" from "Create Schedule". Various parameters on how the scheduling engine operates can be changed from this window. These include options to create a partial schedule, options for weekend spacing, and options for which subset calls can be assigned together. In addition, an option on how the program schedules beyond the minimum schedule and how priority is treated for assignments in excess of the minimum schedule can greatly affect the schedule produced. See "Advanced Options" for more details.

Scheduling, rescheduling, and editing

The window "Setup Schedule" allows entry of the availability of each person for each day of the month, including requests to not be on call on certain nights, vacation, and other non-availability. Specific assignments of a person to a call/work type may be entered but it is not necessary to do so. The program will assign any call/work types not manually entered

Clicking the button "Show Numbers" from the "Setup Schedule" window displays the "Pre-scheduling data –numbers" window. This is a calendar the selected month that shows the number of people available in relationship to that necessary for the minimum schedule, the number of requests for no call. It also tests and reports on whether every call type can be scheduled.

Always or never assigning a person to a certain call type on a day of the week, month, or holiday can be set in window "Always/Never Assign", accessible from the main menu.

Schedules are created by clicking "Schedule" from the "Create schedule" window. When the program creates a schedule, it looks four weeks ahead and behind the month for spacing and creates a proposed

schedule 6 days outside the month in order to insure weekends are scheduled correctly. Therefore, better schedules and statistics are obtained if all vacation, requests, non-availability and manual assignments are entered for the months surrounding the month being scheduled.

Spacing of night calls is set in "Create Schedule". Spacing of the call/work types takes precedence over statistics. The program will honor spacing as best it can. If you expect too many days between night calls, statistics will be ignored and the assignments are based entirely on spacing. The program determines the basis for decisions when making assignments, and the data are printed if the schedule is printed when accepted. It is also listed in "Scheduling progress" list box of "Create Schedule". In general, if the wrong person statistically is assigned less than 25% of the time, the overall statistics will be correct. If the statistics are not equalizing as you expect, your setup should be checked, spacing should be reduced or requests not to be on call limited in order for statistical equalization to occur.

A soft cap on the number of night calls per month can be set in "Create Schedule". This maximum will only be honored if it can be done without causing spacing violations. This is different from the "Maximum Days" for each call type, which is never violated unless necessary to complete the minimum schedule.

If the program needs to violate any of the scheduling parameters that have been set in order to create the schedule a violation message is created. These violation messages will be available to be displayed before accepting the schedule and printed if the schedule is printed at the time of acceptance.

If a complete schedule cannot be created with the people available, a partial schedule can be accepted.

If changing the schedule becomes necessary, a month can be rescheduled or edited. To reschedule select the month in "Create Schedule" and click "Schedule". To edit, click "Edit" from the Main Menu.

Viewing, printing, and exporting

To view data on screen first click "View" from the "Main Menu". Select the month and year and then click "Show Schedule" to show the schedule or pre-schedule. Click "Show Statistics" to display the statistics screen. Click "Show vacation, requests, non-availability" to show a tabulation or the dates of requests, vacation, etc. The screens can be printed.

To print or export data click "Reports" from the "Main Menu". From "Reports" schedules or setup data can be printed. Individual monthly, weekly, and daily can be printed as lists. Schedules can be saved as spreadsheet readable files or HTML files. The HTML and Spreadsheet readable files are written to the CallSchedule directory. The HTML files can be emailed or posted on the web. HTML files have the extension ".html". Navigate to them with "explorer" or "My Computer" and double click on the file name to show them in a browser. Spreadsheet readable files have the extension ".csv". Look for "All files" or "Text files" to open them in a spreadsheet program. If you have a PDF producer or other compression program that acts as a system printer, you can select it from "Reports". All printed output from CallSchedule will then go to the compression program. This is a very convenient way to email schedules or post them on a web site. The HTML files look like a table. PDF output looks the same as on paper.

 "Format Calendar" allows formatting of the calendar type schedules. "Format Calendar" also controls whether the schedule setup data ("Vacation", "No Assignment", varieties of "Not Available" and "Request No Call" are printed or displayed in the calendar format schedules, spreadsheet readable, and HTML output files. They are always shown when displaying pre-scheduling data. Set the font size for both printed and on screen calendar displays in the "Format Calendar" window.

Vacation, non-availability, requests for no call and manual assignments can be viewed as a calendar from "Setup Schedule" window. Click the button "Save and show pre-schedule" to display the pre-schedule calendar. The calendar can be printed.

When a newly created schedule is printed at the time of acceptance, a data sheet regarding the schedule is also printed. The data sheet includes information regarding the basis of assignment decisions. This

includes what percentage of assignment decisions were based on statistics, spacing and other constraints placed on the schedule. This information may be useful in fine-tuning night call spacing to ensure statistical equalization. This information is also found in the "scheduling progress" list box of "Create Schedule", but is not saved in the database and so is lost when "Create Schedule" is closed if it has not been printed. The data sheet also lists any permitted violations of the parameters used to create the schedule (e.g. night calls too close together). This information is again lost if the data sheet is not printed. Requests for no call, vacation, other non-availability, and manual assignments are also listed on the data sheet.

Statistics can be printed from the window "Reports" or viewed on screen by clicking "View" then "Show call type statistics" starting from the "Main Menu". The "Show Statistics" window can also be displayed from "View schedule" window where a newly created, edited, or rescheduled month's schedule is displayed. The statistics with or without the new schedule can be displayed prior to the schedule being accepted. The "Show Statistics" screen can be printed. The last column of the statistics screen "T/E" or (calls taken)/(time in the call pool) should be near equal for all people if statistical equalization is occurring correctly.

A tabulation of vacation, requests and non-availability can be displayed by clicking "View" then "Show vacation, requests, non-availability" from the "Main Menu". Click "Show dates" from the tabulation screen to show the dates for vacation, non-availability and requests. Both these screens can be printed.

Backup

The call schedule database can be backed up easily to a hard drive, floppy or zip disk from window "Backup and restore".

Database Tools

Scheduling can be restarted. Statistics can be restarted. A blank database can be created. Statistics can be checked. The schedule and statistics for a month can be deleted. Superceded data can be removed from the database. These functions are found in "Tools".

Help

Help is available for any screen by pressing the "F1" key.

Login

No password is necessary but if you desire to password protect access to your scheduling program and database you may enter it here. The password will then be required to run your scheduling program and to access your database from other database programs such as Microsoft Access. Your password can also be changed from this window.

CONTROL	FUNCTION
Password	The initial password is a null string. If you do not wish to password protect access to your program or database, just click "OK" without entering a password. If you wish to have a password, click the button "New Password." If an error was made entering the password, an error message will be displayed in the box in the bottom of the window. Passwords are case sensitive.
OK	If the password you entered is correct or you do not use a password the window "Main Menu" will be displayed. If an error was made entering the password, an error message will be displayed in the box in the bottom of the window.
Cancel	Exits the program.

New Password	Click here to change your password. Two boxes will appear into which you enter and verify your new password. If you already have entered a password, it must be entered into the "Password" box before a new password can be entered. If an error was made entering the password, an error message will be displayed in the box in the bottom of the window.
New Password	Enter your new password. Passwords are case sensitive. If you leave this box and the "Verify New Password" blank, your password will be changed to a null string and your program and database will not be password protected.
Verify New Password	Enter your new password again. Passwords are case sensitive. If you leave this box and the "New Password" blank, your password will be changed to a null string and your program and database will not be password protected. If the password you entered into "New Password" and "Verify New Password" is not the same, an error message will be displayed in the box at the bottom of the window.

Main Menu
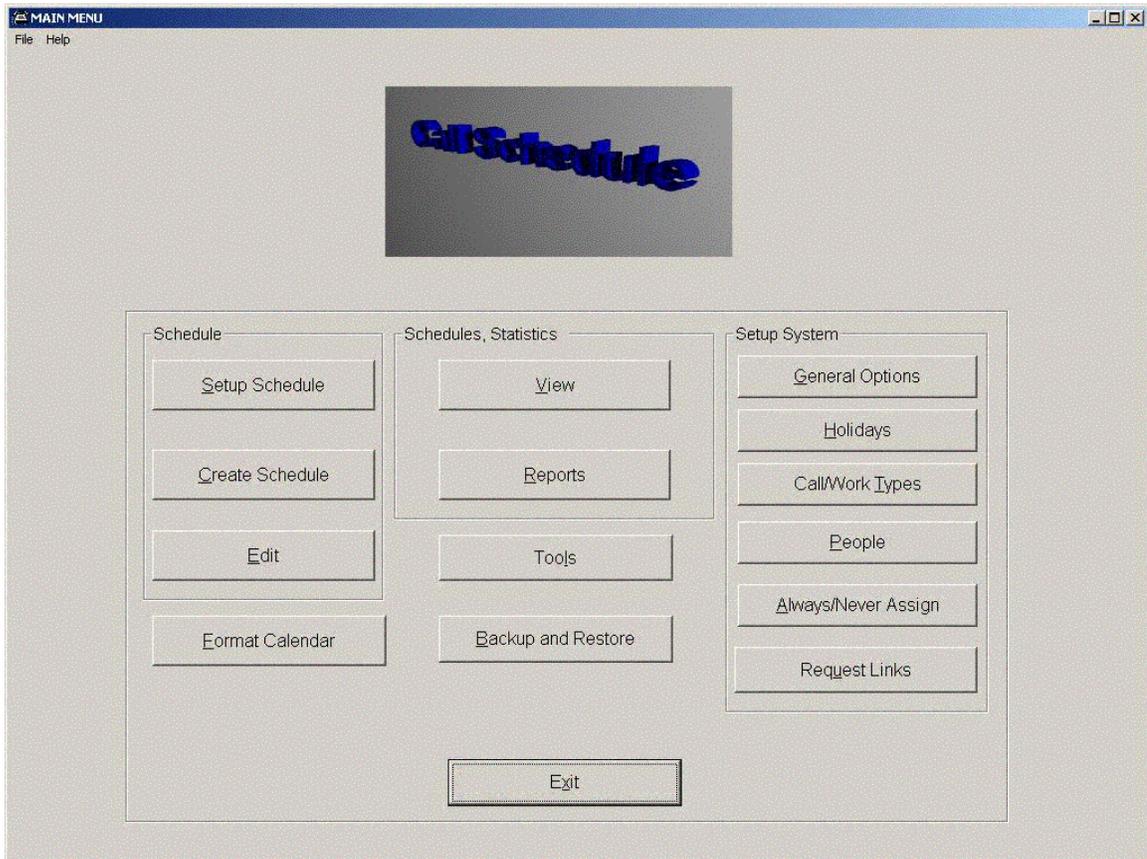
The Main Menu allows navigation to all of the CallSchedule program functions.

CONTROL	FUNCTION
Setup Schedule	Displays the "Setup Schedule" window. Provides for entry of assignments, vacation, no-call, etc.
Create Schedule	Displays the "Create Schedule" window. Uses the schedule setup information to create a call schedule. Reschedules previously created schedules from the present into the future.
Format Calendar	Displays the "Format Calendar" window. Allows formatting of calendar output.
View	Displays the "View Statistics or Prior Schedules" window. Allows statistics, schedules, and setup tabulation and dates to be displayed on the monitor.
Reports	Displays the "Reports" window. Provides for printing the schedules and statistics and creating spreadsheet readable files.

Edit	Displays the "Edit Select" window. Then select a month to be displayed in the "Edit Schedule" window. Provides for manually editing existing schedules or manually entering historical schedules. (Call/work assignments in the past can be changed only from the "Edit Schedule" window.)
Tools	Displays the "Tools" window. Allows scheduling or statistics to be restarted. Allows a new database to be created. Allows deletion of a month's schedule and statistics. Allows the size of the call schedule database to be decreased by deleting requests that that were later changed and are no longer valid, and by deleting schedules that were rescheduled and the associated statistics that were recalculated (only data that is no longer valid is deleted). Checks database integrity by checking statistics.
General Options	Displays the "General Options" window. Allows entry of options on how the program shall operate, on how you take vacation, the title of your schedules, and any text you wish to print with your schedule.
Holidays	Displays then "Holidays" window. Allows entry and editing of the holidays that are to be observed in your schedule.
Call/Work Types	Displays the "Call/Work Types" window. Allows entry of the call and work types to be scheduled and their parameters. Call types can be linked together to form assignment blocks (see also "Request Links").
People	Displays the "People" window. Allows entry of the people on your call roster, the types of call they can take and how many days of each type of call, whether they are full time, whether they are active on the call roster, and dates for temporary people.
Always/Never Assign	Displays the "Always/Never Assign" window. Allows entry of assignments and non-assignments that are constant such as one person never or always taking a certain call on Tuesdays. Also allows setting people whom may not be assigned call on the same night (e.g. husband and wife), or can't be used together at all, such as two people sharing a position.
Request Links	Displays the "Request Link" window where assignments can be linked for selected people. See also "Call/Work Types."
Backup and Restore	Displays the "Backup and Restore" window. Allows the database to easily be backed up to or restored from the drive of choice.
Exit	Exits the Call Schedule program.

General Options

Miscellaneous data including important setup data on how the scheduling program will function are entered into the database from this window.

CONTROL	FUNCTION
Call equalization scheme - Equalize each call type separately	If this option is selected the statistics used in assigning call/work types will involve only that call/work type. People will be assigned based on their ratio (assigned/eligible) for that call type. If all people take all call types or if the sets of people for various call types have no common members, this scheme will result in a schedule that equalizes assignments to the extent possible.
Call equalization scheme - Equalize call by call groups	If this option is selected the statistics used in assigning call/work types will be based on the statistics of the statistical group to which the call/work type belongs. Each person will be assigned the call/work types of the statistical group based on their ratio (assigned/eligible) for that statistical group. If some people take call at one or more locations or some people take various types of

	call but not everybody takes all categories of call, this will equalize the total assignments for the combination of all call/work types in the statistical group (assuming everyone is full time, not on vacation, etc.) The "Member of Statistical Group" control in the window "Call/Work Types" will become visible allowing assignment of call/work types to groups.
Allow separate day and night assignments	If not checked, only one assignment per day (except subset call types) can be given to each person on the roster. If checked each person may receive a day and a night assignment. For instance, any of the people having the day assignments, "Outpatient", "O.R." or "Clinic" could receive the night call assignment "First Call". Which day assignments can be associated with which night assignments is set in the window "Compatible Call Types"
Text to be appended to call schedule	If you wish to print beeper or telephone numbers, or any other text on your schedule entering the text here will cause it to be printed on every current or future schedule. Schedules printed that are entirely in the past will omit this text.
Accumulate call eligibility while on vacation	If the option "Yes" is selected, a person will continue to accrue call liability while on vacation and this call will be made up when that person is not on vacation. Use this option if members of your group take unequal amounts of vacation and you wish call to be equal. If the option "No" is selected a person does not accrue liability for call while on vacation. Call becomes equal when equal amounts of vacation are taken but a person does not tend to have their call compressed into the time around their vacation. The default is "No."
Vacation occurs on weekends - True	If the option "True" is selected, vacation can be assigned to weekends either by weeks or days (see below.)
Vacation occurs on weekends - False	If the option "False" is selected, vacation cannot be assigned to weekends.
Vacation is taken by - Days	If the option "Days" is selected, clicking a day on the calendar in the window "Setup Schedule" with "Vacation" displayed in "Type of Entry" will result in that day being toggled on and off vacation for the selected "Person". If "Vacation Occurs on Weekends" is set to "True" this effect will be seen when clicking on weekend days. If "Vacation Occurs on Weekends" is set to "False" clicking on a weekend day will have no effect.

Vacation is taken by - Weeks	If the option "Weeks" is selected, clicking a day on the calendar in the window "Setup Schedule" with "Vacation" displayed in "Type of Entry" will result in the week being toggled on and off vacation for the selected "Person". If "Vacation Occurs on Weekends" is set to "True" this effect will be seen when clicking on weekend days. The week of vacation will be from Sunday to Saturday. If "Vacation Occurs on Weekends" is set to "False" clicking on a weekend day will have no effect and the vacation week will be Monday through Friday. See below for additional options for the days surrounding a week vacation.
"No assignment" on preceding weekend days	This applies to vacation taken by weeks. When checked, entering vacation by weeks also enters a "No assignment" on the contiguous weekend days preceding vacation.
"No assignment" on following weekend days	This applies to vacation taken by weeks. When checked, entering vacation by weeks also enters a "No assignment" on the contiguous weekend days following vacation.
"Request no call" on preceding Friday	This applies to vacation taken by weeks. When checked, entering vacation by weeks also enters a "Request no call" on the Friday preceding vacation.
"Request no call" on following Monday	This applies to vacation taken by weeks. When checked, entering vacation by weeks also enters a "Request no call" on the Monday following vacation.
OK	Closes the "General Options" window. All data in the window will be saved to the database.

Holidays

The Holidays window allows selecting active holidays. Holidays can be made active or inactive. Holiday definitions (i.e. when they are celebrated) can be edited. Holidays that occur every year (recurring) or that occur only once (non-recurring) can be added.

CONTROL	FUNCTION
Recurring Holidays	A check in the box next to name of the holiday indicates that the holiday is active. Only call/work types that are active on holidays will be scheduled on that day, and the statistics for holidays will be used in determining which person to assign to the call/work type. If the holiday is not checked, it will be ignored in scheduling.
Nonrecurring Holidays	A check in the box next to the name of the holiday displayed in the drop down list of nonrecurring holidays indicates that the holiday is active. Only call/work types that are active on holidays will be scheduled on that day, and the statistics for holidays will be used in determining which person to assign to the call/work type. If the holiday is not checked, it will be ignored in scheduling.
Add Recurring Holiday	Enables entry of a holiday definition. Default year of the holiday is "Not Applicable". Disables editing of existing holidays until the holiday definition is cleared or entered.

Add Nonrecurring Holiday	Enables entry of a holiday definition. Disables editing of existing holidays until the holiday definition is cleared or entered.
Edit Definition	Clicking writes the holiday definition into the editing boxes and enables editing. If "Edit Definition" for nonrecurring holidays is clicked, the holiday currently selected in the drop down list of nonrecurring holidays is written to the editing boxes.
Name of Holiday	Enter or edit the name of the holiday. If no name is entered, the name "Holiday" is assigned.
Year	Select "Not applicable" for recurring holidays, or select the year of nonrecurring holidays. A holiday can be changed from recurring to nonrecurring by the appropriate selection.
Month	Select the month in which the holiday occurs.
Day of Month	If the holiday occurs on a specific date (e.g. July 4) select the date. If the holiday varies in date, (e.g. Thanksgiving) select "Not Applicable". If "Not Applicable" is selected the boxes for "Day of Week", "Which Occurrence of Day", and "Offset" will be enabled and their default values set to the "Monday", "First" and "0" (i.e. the first Monday of the month).
Day of Week	If the holiday occurs on a specific day of the week (e.g. Labor Day) select the day; otherwise select "Not Applicable". If "Not Applicable" is selected the boxes for "Day of Week", "Which Occurrence of Day", and "Offset" will be disabled. If "Day of Month" was set to "Not Applicable" it will be changed to "1".
Which Occurrence of day	Select which occurrence of the day of the week in the month is the holiday (e.g. Thanksgiving is the forth Thursday of November) ". If "Not Applicable" is selected the boxes for "Day of Week", "Which Occurrence of Day", and "Offset" will be disabled. If "Day of Month" was set to "Not Applicable" it will be changed to "1".
Offset	Select the number of days the holiday is removed from the selected occurrence of the day of the week (e.g. the day after Thanksgiving is the fourth Thursday of November + 1 day, Thanksgiving is the fourth Thursday of November + 0 days).
Celebrate Saturday Holidays On Friday	If checked, any holiday occurring on a Saturday will occur in the schedule on the preceding day.
Celebrate Sunday Holidays On Monday	If checked any holiday occurring on a Sunday will occur in the schedule on the following day.
Cancel Edit	Editing of a holiday definition will be disabled and the holiday definition remains unchanged. If a new holiday was being entered, it will not be saved in the database.
Cancel	Any holiday definition being entered or edited is canceled and the "Holidays" window is closed.

Save	Any holiday definition being entered or edited is saved to the database. Any changes in the activity of holidays are saved to the database.
OK	Any holiday definition being entered or edited is saved to the database. Any changes in the activity of holidays are saved to the database. The "Holidays" window is closed.

Call/Work Types

This window allows entry of the night call and day work types that the people on your roster will be assigned when creating a schedule. To enter a new call/work type, select "Enter Call/Work Type" and type in the name of the call/work type. Then click "Save", "OK", type the "Enter" key, or change the call/work type selected to add the new call/work type to the database. An I.D. number will automatically be assigned by the program and cannot be changed. The name of the call type can be edited.   To edit an existing call/work type, select it, make any changes, and cause a "Save." If you wish to cease scheduling a call or work type, make it inactive. Call types cannot be deleted. In addition to active or inactive call/work types have the following properties, priority, night call, subset, temporary, statistical group, minimum and maximum number of people to schedule, manual assignment only, equalization desired, days active, and links. If scheduling separate day and night assignment or subsets, day and night compatibility and subset properties can be set from this window. Temporary call type dates can be set by clicking the "Show Dates" button.

When linked call types are created from this window, the entire link chain is treated as one assignment. The links are always filled (unless no schedule exists that can incorporate all the restrictions). They must be the same for all people and the call types must have the same number of people to schedule. The entire linked call sequence is assigned as a block. A person needs to be able to take the entire block to be assigned. Spacing is considered for all night calls of the block. Manual assignments take precedence over linked call types.

A second type of link can be set up from "Request links" that do not need to meet these criteria. See "Request links" for more details

CONTROL	FUNCTION
Call/Work Type	Select in the drop down list box labeled "Call/Work Type" the call/work type to which the rest of the data in the window applies. To enter a new call/work type, select from the dropdown list "Enter Call/Work Type" or click the "Enter New Call/Work Type" and type the name of the call/work type. Changing the call/work type selected, clicking "Save" or "OK, or typing the "Enter" key causes the information in the window to be stored in the database. An I.D. number will be assigned to the call/work type by the program and cannot be changed. The name itself can be changed, however. (A blank name or the name "Enter Call/Work Type" will not be accepted and no change of the database will occur.)
Enter New Call/Work Type	Clicking this button will save anything you have just entered and set the call/work name box to accept typing a new call/work type to be scheduled.
Priority	Priority influences the order of scheduling. If spacing of night calls cannot be maintained, the lowest priority night call type is most likely to be where the violation occurs. If not enough people are available to make a full schedule the lowest priority call/work types will be dropped. "1" is the highest priority.
Active	If checked, the call/work type is active and people are assigned to this call/work type when creating a schedule, otherwise the call/work type is inactive and is not included when creating a schedule. Default for a new call/work type is active.
Night Call	If checked, the call/work type is a night call assignment. The spacing considerations for night call and "Maximum night calls per month" (see "Create Schedule") will be applied when the program assigns people to this call/work type. If "Allow separate day and night assignments" (see "General Options") was selected both a night call and day time (not night call) assignment may be given to a person on the same day, otherwise only one assignment (except subsets) per day is allowed. If "Allow separate day and night assignments" (see "General Options") was not selected the night call assignment should imply any associated day assignment. Default for a new call/work type is night call.

Subset	If checked, the call/work type is a subset call type. It is an additional assignment to a person who is also assigned one of designated call types. If checked, the button "Show Subset" is visible beside the check box. Click the button to display the "Subsets" window and set the properties of the subset call.
Show Subset	This button is visible if the check box "Subset" is checked (see above). Click the button to display the "Subsets" window and set the properties of the subset call.
Temporary	If checked, the call type will be scheduled only on the dates entered in the "Show Temporary Call Type Dates" window that is accessed by clicking the "Show Dates" button next to this check box. Call types that are truly temporary and call types that repeat every second, third or fourth week can be accommodated.
Show Dates	Click this button to display the "Enter Temporary Call Type Dates" window and enter the dates for call/work types that are temporary or that repeat every second third or forth week.
Member of Statistical Group	If "Equalize Call By Call Groups" was selected " (see "General Options") this control will be visible. The ratio (taken/eligible) used to determine which person will be assigned the call/work type will be affected. The numerator will include all assignments for each call/work type that has the same statistical group number. The denominator will reflect the number of days that a person was eligible to be assigned any of the call/work types in the group. Default for a new call/work type is its ID number.
Set Day and Night Compatibility	If "Allow separate day and night assignments" was checked in "General Options" this control will be visible. Clicking the button will display the "Compatible Call Types" window where which day and night assignments a person can have on the same day are set.
Number of People to Schedule - Minimum	The program will attempt to schedule first the minimum number of people for each call type. If there are available people unassigned after the minimum schedule is created, they will be assigned until no available people are left unassigned or until the maximum number of people has been assigned for each call type. If there are not enough available people to complete

	a minimum schedule, the program will ask when attempting to schedule if a partial schedule should be created. Default for a new call/work type for both maximum and minimum people to schedule is one.
Number of People to Schedule - Maximum	The program will attempt to schedule first the minimum number of people for each call type. If there are available people unassigned after the minimum schedule is created, they will be assigned until no available people are left unassigned or until the maximum number of people has been assigned for each call type. If there are not enough available people to complete a minimum schedule, the program will ask when attempting to schedule if a partial schedule should be created. Default for a new call/work type for both maximum and minimum people to schedule is one.
Manual assignment only	If this box is checked, the call/work assignment will only be scheduled when manually assigned or assigned via the "Always/Never Assign" window. It can be assigned from the "Setup Schedule", "Reschedule", "Edit Schedule", or "Always/Never Assign" windows to people that take that call/work type on days that the call/work type is active. Minimum and maximum number of people to schedule are not applicable.
Equalization Desired	The ratio (taken/eligible) can be computed for each day of the week and holidays individually or various days of the week can be combined for statistical purposes. The options are each day (of the week and holidays) separately, combine Monday – Friday, Monday – Thursday, Monday – Wednesday, Saturday – Sunday, or the various combinations of the weekdays and weekend days. Combining the days may lead to a more even schedule for the total of those days. Default for a new call/work type is "Each Day Separate"
Days Active	Call/work types are active and scheduled if the corresponding box for the day of the week and holidays is checked. For example, if the box "Holiday" is not checked then the call/work type will not be scheduled on holidays even if the call/work type is active on Mondays and the holiday occurs on a Monday. Default for a new call/work type is active on all days. The check boxes for days active will only be visible if the call/work type is active overall.

Linked Call **Is followed by** **When the Following Day Is** **Only if the following day is**	Linked calls are the most difficult part of the program to set up correctly so care must be exercised in entering the links data. Use the "Show Links" button to access the "Link Demonstration" window where links can be demonstrated and link setup errors are displayed. Assignments can also be chained together using a "Request link". Request links are not set here. See "Requests links" for more details. Linked call sets one call/work assignment to be followed by the same or a different call/work type on successive days. Select the preceding call/work type at the top of the "Call/Work Types" window in the list box labeled "Call/Work Type". This selection is repeated in the upper left corner of the "Linked call" frame. The following call/work type is selected in the "is followed by" list box, in the top right corner of the "Linked call" frame. The preceding call type is followed by the following call type when the day following the occurrence of the preceding call type is one of the days checked in the list of days below the headings "When the following day is" and "Only if the following day is". If one boxes on the left is checked (under the heading "When the following day is") the link will be made regardless of whether the following day is a holiday. If one the boxes on the right is checked (under the heading "Only if the following day is"), the link will be made only if the holiday condition is met. Selecting "Days Linked All Call Types" in the "is followed by" list box displays the links to any call/work type. Clearing a check mark when "Days Linked All Call Types" is selected will erase the link to any call/work type. Checking a day with "Days Linked All Call Types" selected is ambiguous will have no effect. Links exist even if the "Followed By" call/work type is not active on that day. In this way, links will pass through a holiday. For instance, if a call/work type "Outpatient" is active on weekdays and assigned a week at a time (i.e. it is linked to itself when the following day is a Tuesday, Wednesday, Thursday, or Friday), the same person will be assigned "Outpatient" for the entire week even if Tuesday is a holiday and "Outpatient" is

	not active on holidays.
	If you wish to have the same person take a call/work type named "First Call" on Friday, Saturday, and Sunday, select "First Call" in the "Call/Work Type" list box. Then select "First Call" in the "is followed by" list box and check "Saturday" and "Sunday".
	If you wish to have the same person take a call/work type named "First Call" on Friday, Saturday, Sunday, and Monday holidays, then first select "First Call" in the "Call/Work Type" list box. Next, select "First Call" in the "is followed by" list box and check "Saturday", "Sunday", and "Monday Holiday".
	If you wish to assign a day off on weekdays after "First Call" create a call/work type named "Off" and make it non-night call, active Monday – Friday. Then select "Off" to follow "First Call" when the following day is a Monday – Friday.
	Links that occur only when the preceding day is a holiday require a separate call/work type that is active only on holidays with the exception of a Tuesday after a Monday holiday.
	Links to and from active days must have either zero or the same number of people to assign. The scheduling algorithms need this to work correctly. The scheduling algorithms will ignore links to and from active days where the number of people to assign is not zero and different. A "Violation" message will be generated when a link is ignored.
	Any links to a call/work type that causes the minimum schedule to fail will be cancelled. In the above example, a day "Off" follows "First Call". If the minimum number of people to schedule for "Off" is zero the day "Off" will be assigned only if there are enough people on the call roster to fill it.
	In the absence of a holiday situation where one call/work type is active and the other is not, two different call/work types cannot link to one call/work type. The duplicate link will be discarded and a "Violation" message will be generated. E.g., "First" and "Heart" can not both link to "Off". "First" must link to "Off (after first)" and "Heart" must link to "Off (after heart)".
	When using separate day and night assignments (see "General Options"), a day call type cannot both link to a night call and be compatible with any night call or a recursive situation may ensue.

	Default for a new call/work type is no links.

Links can be demonstrated, and any link setup errors are displayed in the window "Link Demonstration", accessed by clicking the "Show Links" button at the lower left of the "Linked Call" frame. Examples of links are shown later in this manual. |
Show Links	Displays the "Link Demonstration" window where links can be displayed and any link setup errors are listed.
Make All People Inactive This Call Type	When a new call/work type is added any people that already exist in the database by default take this call/work type with a maximum days per month of 31, and their overall % FTE as the "%FTE this call type". Click on the "Make All People Inactive This Call Type" button to make all people inactive for the selected call type. This will invoke a "Save" of any data entered regarding the call type
Make All People Active This Call Type	Click this button to make all people active for a call type. "%FTE this call type" and "Maximum days" are unchanged. This will invoke a "Save".
Show All	Clicking this button displays all the setup data for all call/work types. This information will be divided into pages as necessary. After clicking the label on the button changes to "Hide All", or "Show Page" and the next page number.
Cancel	The "Call/Work Types" window is closed. Any changes since the last "Save", "OK" or change of the selected person are lost.
Save	The data displayed in the "Call/Work Types" window is entered into the database unless the name of the selected call/work is blank or left as "Enter Call/Work Type."
OK	The "Call/Work Types" window is closed. The data displayed in the window is entered into the database unless the name of the selected call/work is blank or left as "Enter Call/Work Type."

Subsets

Select the call/work type you wish to designate a subset in "Call/Work Types". Check the box labeled "Subset" then click the button "Show Subset" that will be visible beside the check box to arrive at this window.

This window is used to designate the properties of the subset call/work type that was selected in "Call/Work Types" and is identified in the first line in the window. Active non-subset call types are listed on the left hand side of the window. The subset call type is assigned to one person who is also assigned any of the checked call types. If the subset is not designated "Office Call", the program forces scheduling of at least one person, who can also take the subset call type, for one of the designated non-subset call types. Thus, a person who can take the subset call type is always assigned to one of the designated call types and the subset call is always scheduled. If this is impossible, violations are generated when creating the schedule. Forcing these selections may greatly influence spacing and statistics if not enough people take the subset call type. If you have a "First", "Second" and, "Third" call and one of these people have to do hearts, create "Heart" as a non-office call subset of "First", "Second" and, "Third".

A subset can be designated an "Office Call" subset. "Office Call" subsets work differently. The schedule is created without any attention to them. At the end of scheduling one of any people who take the office call and are assigned any of the designated non-subset call types is also assigned the "Office Call" subset call. Any days that are not filled are subsequently scheduled to people that take the "Office Call" subset call and are not otherwise assigned.   If scheduling separate day and night assignment the person must not have an assignment that is the same (day or night) as the subset call type. If two or more groups share a call schedule and a person needs to be on call for a group even if otherwise not on call, then use an "Office Call" subset. The scheduling of the "Office Call" subset will not affect the spacing or statistics of the rest of the schedule.

30

If there is more than one person who can be assigned the subset call and is assigned the correct non-subset call, you can designate how to choose among these people. The choices are "Assign with the highest priority call type", "Assign with the lowest priority call type", and "Assign based on statistics".

There are some restrictions on subset call types. One and only one person is assigned to each subset call type. However, there may be multiple subset call types. With the exception of "Office Call", subsets call types cannot be assigned in advance. They can be edited in the editor or when rescheduling after adding the prior schedule. "Office Call" can be linked to itself; otherwise, links to and from subset call types are ignored. "Priority" counts only compared to other subset call types. "% FTE This call type" is considered only if there is more than one person assigned to one of the correct non-subset calls types and when scheduling "Office Call" to unassigned people. "Maximum days" will be ignored, if necessary, in order to fill the subset. If equalizing call by call groups, subsets may be included in a call group. Subset calls are not considered in "Maximum night calls per month", and are not considered in tiebreakers for assigning non-subset call types. They are not included in "All Night Call" when displaying statistics. Day and night compatibility is not applicable to subsets when using separate day and night assignments (it is applicable to the parent call types).

From "Advanced options", multiple options for subset scheduling can be set. Allowing multiple subset assignments per day, allowing only one subset assignment per day, or specific subsets that can not be assigned to the same person on a day are options. "Advanced options" is arrived at from "Create Schedule".

In the default mode the program adds bias against but does not exclude one person from being assigned more than one subset on a single day. When using separate day and night assignments the program also adds bias against but does not exclude assigning a person to a "Day" subset if that person is assigned a night call.

Control	Function
Active non-subset call type	If checked the subset call may be assigned to the person who is also assigned this call/work type.
Office Call	If checked this subset call type is scheduled as office call. (See description above)
Assign with the highest priority call type	If more than one person is assigned to call types that allow assignment of the subset call, then the subset call is assigned to that person who is assigned the highest priority, non-subset call type. Ties are broken with statistics.
Assign with the lowest priority call type	If more than one person is assigned to call types that allow assignment of the subset call, then the subset call is assigned to that person who is assigned the lowest priority, non-subset call type. Ties are broken with statistics.
Assign based on statistics	If more than one person is assigned to call types that allow assignment of the subset call, then the subset call is assigned based on the statistics for the subset call (or call group).

Compatible Call Types
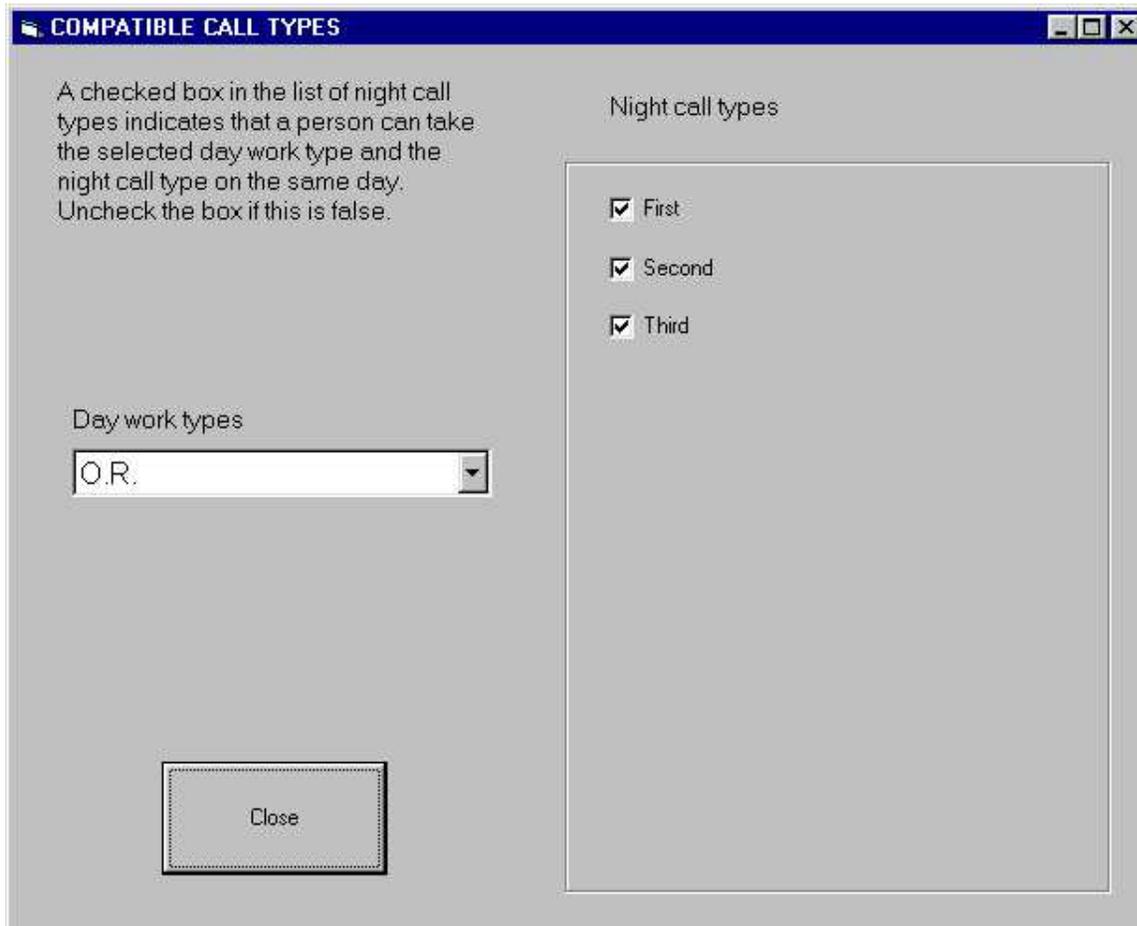
Display this window by clicking the button "Set day and night compatibility" in window "Call/Work Types". The button will only be visible when "Allow separate day and night assignments" is selected in window "General Options". Here set which day and night call/work types a person can have on the same day.

Control	Function
Day work types	All active, non-night, non-subset call/work types are available in this drop down list box. Click on the down arrow and then click on the day call/work type for which you wish to set compatibility.
Night call types	All active, night, non-subset call types are listed. A checked box indicates that a person can have both the selected day call/work type and the night call type on the same day. A box without a check indicates that the selected day call and that night call are not compatible and should not be given to the same person on the same day
Close	Closes the window

Temporary Call Type Dates

Arrive at this window by clicking "Show Dates" from the "Call/Work Types". Enter here dates for call/work types that are truly temporary or that recur every second, third, or fourth week.

CONTROL	FUNCTION
Call/Work Type List Box	The information in the "Enter Temporary Call Type Dates" window applies to the temporary call/work selected. Change the selection by clicking on the down arrow and then clicking on the new selection. Active and inactive call/work types that have been designated "Temporary" are included in the list.
ID#	The ID# displayed is the I.D. number of the selected call type.
Enter New Dates	Clicking this button clears and enables entry of year, month and day into the "From" and "To" frames below. Multiple dates may be entered.
Click on dates to edit or delete	The existing dates that a temporary call type is to be included in the schedule are displayed below this heading. Clicking on (or tabbing to the list then using the up and down arrows) enters these dates into the "From" and "To" frames for editing or

	deleting.
From – Year	Enter the starting year of the temporary call type inclusion as a 4-digit number.
From – Month	Enter the starting month of the temporary call type inclusion as a 1 or 2-digit number.
From – Day	Enter the starting day of the month of the temporary call type inclusion as a 1 or 2-digit number.
To - Year	Enter the ending year of the temporary call type inclusion as a 4-digit number.
To - Month	Enter the ending month of the temporary call type inclusion as a 1 or 2-digit number.
To - Day	Enter the ending day of the month of the temporary call type inclusion as a 1 or 2-digit number.
Repeat every … weeks … times	Select the interval in weeks and number of times that the days of the week that the selected "From" and "To" dates represent should repeat. Choices are every two to four weeks and from 0 to 26 times. Clicking "Save" enters the displayed dates and any repetitions selected. To enter more than 26 repetitions select the last repetition and repeat the "Save".
Save	If entering new dates, the new dates are added to the dates the temporary call type is included in the schedule. If editing existing dates, the selected existing dates are replaced by the edited dates. "Save" must be clicked to enter new dates or edit existing dates. Changing the call type selected or closing the "Enter Temporary Call Type Dates" window does not invoke a "Save".
Delete	If existing dates were selected, they are deleted. If entering new dates, the dates are cleared.
Close	Closes the window.

Link Demonstration
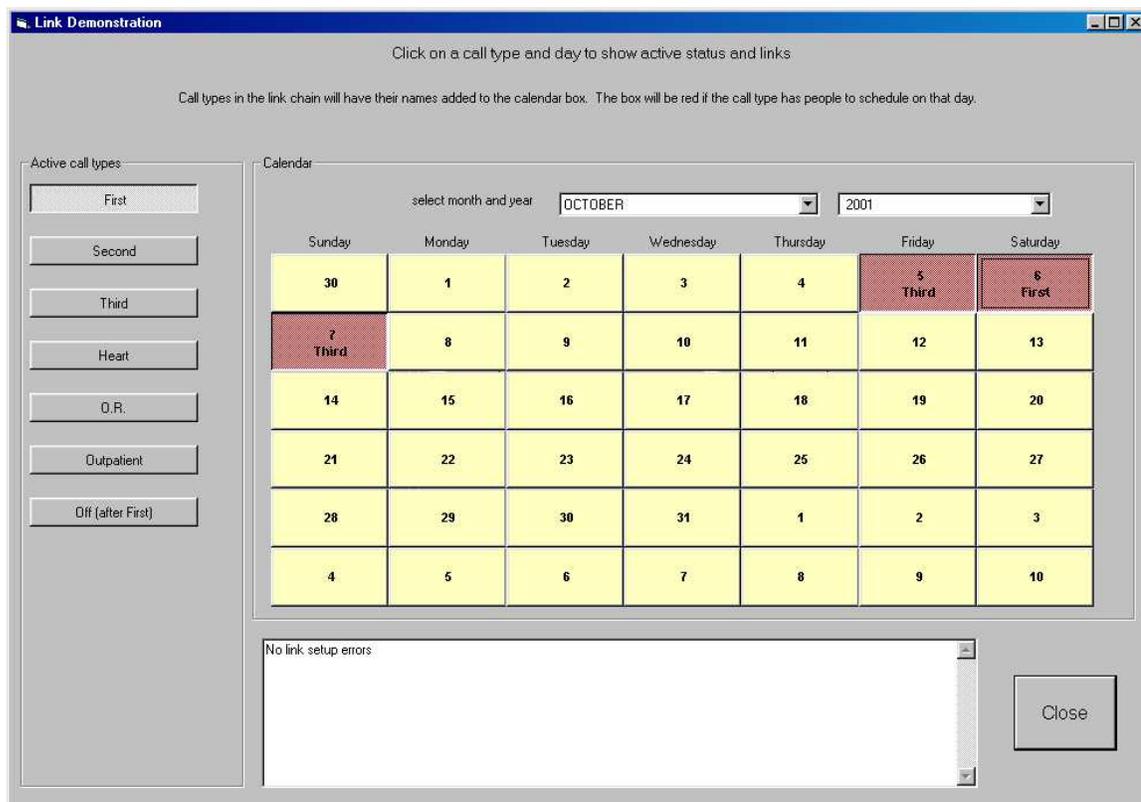
This window is accessed by clicking "Show Links" from "Call/Work Types". Only linked calls setup in "Call/Work types" are displayed. "Request links" are not displayed. The call type links are computed for the selected month and year. Any link setup errors are displayed in the text box at the bottom of the window. The month and year can be changed to show the links in effect with holidays. To display a link chain, click on the call type and then click on a day in the calendar. The names of the call types in the link chain are added to the calendar boxes. If the call type has greater than zero people to schedule, it is shown in red. If the call type is inactive or has zero people to schedule on the day, it is shown in yellow.

CONTROL	FUNCTION
Active call types	Select the call type for which a link chain is to be displayed by clicking on the name.
Calendar	Select the month and year for the calendar display with the drop down list boxes at the top of the frame enclosing the calendar. Click on a day of the month to display the link chain associated with the call type selected in the active call type frame on the left side on the screen. The link chain will be displayed by writing the call type names into the appropriate calendar box for the day of the month. Call types that are active that day, and have a number of people to schedule greater than zero, are shown in red. If a call type is not active on that day, or has

	zero people to schedule, it is shown in yellow. If a link is shown in yellow, a person may receive another assignment on the day despite the link.
Link setup errors	Any link setup errors are displayed in this text box.
Close	Closes the window

People

This window allows entry of the people who will be assigned the call/work types defined by the user. Each person may be active or inactive, and active or inactive on each day of the week or holidays. A person may be temporary. Each person may be assigned a overall %FTE between 1 and 100, made eligible or ineligible for each call type, and if eligible, be given a "%FTE This call type on days active" between 1 and 999, and a maximum number of days per month that they may be assigned that call type. A person will never be assigned a call/work type for which they are not eligible. Maximum days will be violated if necessary to make a minimum schedule. If maximum days are violated a "Violation" message will be displayed and printed with the schedule. All people who take a full share of a call type should have "%FTE this call type on days active" set to 100 and "Maximum days per month" set to 31. Once a person has been entered into the database, that person cannot be deleted in order to keep historical schedules correct. If a person is no longer on the roster for assignments, make the person inactive and that person will not be included in future schedules.

When adding a new person to a group with established statistics, the new person can be hammered with call initially until they have received one call of each type on each day of the week or one of each set of days of the week combined statistically. Then the new person has a lull period following which they are the same as other group members. Artful use of Setup Schedule's "Request no call" for the first month or two can smooth this process.   For instance, give the new person a request no call for all weekend days and Fridays for the first month they are active and a request no call for Fridays on the second month they are active. New people can also be excused from call with a "Not available night", an option of "Setup Schedule".

CONTROL	FUNCTION
Person	All people in the call roster database, whether

	active or inactive, are listed in the drop down list box labeled "Person". The first listing in this box is "Enter New Person." To enter a new person, select "Enter New Person" and type the person's name. If necessary names are truncated in various displays so last name first is probably preferable. An I.D. number for that person will be assigned by the program and cannot be changed. The spelling of the name of any person in the database can be corrected in the "Person" list box, however. All the rest of the information in the window applies to the person selected in the "Person" list box. Pressing the "Enter" key, clicking the "Save" or "OK" buttons, or changing the person selected in the list box will cause the data in the window to be entered into the database. (A blank name or the name "Enter New Person" will not be accepted and no change of the database will occur.)
I.D. Number	I.D. numbers are assigned to each person by the program and cannot be changed.
Enter New Person	Clicking this button will save anything you have just entered and set the person box to accept typing a new name into the call roster.
Active	Select this box if the person is currently active on your call roster. Default is selected.
Inactive	If a person leaves your call roster, temporarily or permanently they can be made inactive by selecting this box. The person will not appear in the window "Setup Schedule" or be included in the schedule. If a person leaves or arrives in the middle of a month, they should be active when scheduling that month. The days of that month that they are not available can be entered via the "Setup Schedule" window. Default is not selected.
Temporary Person	If this box is checked and the person is active, that person will only be active for the dates entered via the "Temporary Person Dates" window. (See below.) If the person is not active, the person will not be active regardless of any entered temporary person dates. The default is not checked.
Enter Dates	Clicking this button will display the "Temporary Person Dates" window where dates that temporary people are included in the schedule are displayed.
% FTE	Part time people can be assigned a "% FTE" (percent full time equivalence). Default is 100 (full time.) "%FTE" is the default "% FTE This call type on days active" which is used in calculating statistics.

Active Days of the Week	Check the boxes for the days of the week that the person whose name is displayed in the "Person" list box works. If a person works only certain days but takes a full share of assignments on those days leave "%FTE" and the "%FTE this call type on days worked" at 100%. If a person does not work on a certain day of the week, but can take holiday call if the holiday falls on that day of the week, check the box labeled "Active on inactive day holidays". This last checkbox is only visible if the person is active on holidays. The default for a new person is to be active on all days.
Types of Call Taken	Under this label is a list of check boxes for each active call/work type. Checking the box makes the person selected eligible to be assigned that call/work type. It also makes visible a box to enter their "%FTE this call type on days active", and a box to enter the maximum number of days that the person can be assigned the call/work type per month. Default for a new person is eligible. If a new call type is added after the person has been entered the default is active with a "%FTE this call type on days active" equal to their overall "%FTE" and "Maximum days per month" of 31. People who take a full share of the call type should have "%FTE this call type" equal to 100 and "Maximum days per month" equal to 31
% FTE This call type on days active	The amount of availability and, therefore, of call assigned will be directly proportional to this value. It is a full time equivalence value for each call type. For each day the person can be assigned the call type, the person will be counted as eligible for ((% FTE This call type on days active)/ 100) days. Allowed values are 1 to 999. Use this value to vary the amount of the call type each person should take. All people who take a full share of the call type should be set to "100", a person who should take twice as much of this call type should have this set to "200", half as much "50", etc.
Maximum Days Per Month	Under this label is a box associated with each call/work type that the selected person is eligible to be assigned. The number in the box represents the maximum number of assignments of the call/work type that the selected person can be assigned per month. All people who take a full share of this call type should have this value set to 31, the default. This maximum will be violated if necessary to make a minimum schedule. If maximum days are violated a "Violation" message will be displayed and printed with the schedule.

	Making a person eligible for a call/work type with a maximum days of zero, will mean that the person will only be assigned that call/work type if necessary to complete the minimum schedule (e.g. if a person ordinarily works at one location but may cover vacation at another location, check the box and set maximum days to zero.) Manual assignments will take precedence over Maximum Days. Do not use this option for all people. (see "Overview", "Options for people").
Show All	Clicking this button displays all the setup data for all people. This information will be divided into pages as necessary. After clicking, the label on the button changes to "Hide All", or "Show Page" and the next page number. Clicking "Show All" invokes a "Save".
Cancel	The window is closed. Any changes since the last "Save", "OK" or change of the selected person, are lost.
Save	The data displayed in the window are entered into the database unless the name of the selected person is blank or left as "Enter New Person."
OK	The window is closed. The data displayed in the window are entered into the database unless the name of the selected person is blank or left as "Enter New Person."

Temporary People Dates

Click the button "Enter Dates" under "Temporary people" from the window "People" to display this window. From here, the dates that all temporary people are to be included in the schedule can be entered, edited or deleted. Multiple dates for each temporary person may be entered. The selected temporary person is displayed under the label "Select temporary person" and can be changed by changing the selection in the list box below. The existing dates for that temporary person are displayed. Clicking on existing dates enables editing or deleting those dates. Clicking on the button "Enter New Dates" enables entry of new dates.

CONTROL	FUNCTION
Select Temporary Person	The information in the window applies to the temporary person selected. Change the selection by clicking on the down arrow and then clicking on the new selection.
ID#	The ID# displayed is the I.D. number of the selected person.
Enter New Dates	Clicking this button clears and enables entry of year, month and day into the "From" and "To" frames below. Multiple dates may be entered.

Click on dates to edit or delete	The existing dates for a temporary person to be included in the schedule are displayed below this heading. Clicking on (or tabbing to and then using the up and down keys) enters these dates into the "From" and "To" frames for editing or deleting.
From – Year	Enter the starting year of the temporary person's inclusion in the schedule as a 4-digit number.
From – Month	Enter the starting month of the temporary person's dates as a 1 or 2-digit number.
From – Day	Enter the starting day of the month of the temporary person's dates as a 1 or 2-digit number.
To - Year	Enter the ending year of the temporary person's dates as a 4-digit number.
To - Month	Enter the ending month of the temporary person's dates as a 1 or 2-digit number.
To - Day	Enter the ending day of the month of the temporary person's dates as a 1 or 2-digit number.
Save	If entering new dates, the new dates are added to the dates the temporary person is included in the schedule. If editing existing dates, the selected existing dates are replaced by the edited dates. "Save" must be clicked to enter new dates or edit existing dates. Changing the person selected or closing this window does not invoke a "Save".
Delete	If existing dates were selected, they are deleted. If entering new dates, the "From" and "To" date boxes are cleared.
Close	Closes the window.

Always/Never Assign

This window is accessed from the main menu. It allows two types of entries.

The first is to always or never assign a person a certain call/work type on a specific day of the week, day of the month, or holidays. Never assigning can be done two ways. Either the person will have no call liability for that day (not eligible) or will accumulate call liability for the day (eligible). If the eligible option is chosen, the person will get other call instead, depending on the options set for scheduling. For instance, if the person is never assigned call on Tuesdays, and Monday through Thursdays are combined for statistical purposes (set in the window "Call/Work Types"), the person will get more Mondays, Wednesdays and Thursdays. If days of the week are not combined statistically, or the call type is not a member of agroup for which the person can take call on that day, the person will get less call. Be careful also with linked call, if a person can not take the entire link chain they will not get any assignment in the chain. Always assigning a call works for "manual assignment only" call types, making it convenient to assign meeting or education days.

The second type of entry made from this window is to not assign two people call on the same night (e.g. a husband and wife with children at home), or not to assign two people on the same day at all (two people who share a position).

CONTROL	FUNCTION
Always/never assign - Person	Select the person for which you want the always/never assign options to apply.

Always/never assign – Call Type	Select the call/work type for which you want the always/never assign options to apply.
Always/never assign – Day	Select the day of the week (or holidays) for which you want the always/never assign options to apply.
Always/never assign – Normal	The selected person has no special assignment or lack of assignment for the day and call type. This is the default.
Always/never assign – Always assign	If the person is active for the call/work type and there is no conflicting manual assignment, vacation, "no assignment", "not available" or "request no call", the indicated person will always be assigned the selected call type on the day in question. In order that total assignments come out equal, one of the options to combine various days of the week must be selected for the call/work type in the window "Call/Work Types", or call types must be combined by groups in window "General Options".
Always/never assign – Never assign – eligible (increase other call)	In the absence of a manual assignment the indicated person will receive a "no assignment" for that call type on the day in question. . In order that total assignments come out equal, one of the options to combine various days of the week must be selected for the call/work type in the window "Call/Work Types", or call types must be combined by groups in window "General Options".
Always/never assign – Never assign – not eligible	In the absence of a manual assignment the indicated person will receive a "not available" for that call type on the day in question. . Total assignments will not be equalized by combining days of the week for statistical purposes in the window "Call/Work Types", as the person will not be eligible for this call on the day in question. If call is equalized by groups (window "General Options") and the person is eligible for another night call on that day, then total call will be equalized.
Occurrence of day in month	The default and the "All" button select all occurrences of the day in the month. A specific occurrence of the day in the month (e.g. the second Monday) can be selected by clearing the unwanted check marks.
Always/never assign – Find first non normal value	Clicking this button will search for the first person, call type and day where an option other than "Normal" has been selected. If found, the resulting values will be displayed and the label of the button will change to "Find next non normal".

	When there are no more non-normal values to be found, the label of the button will change to "Find first non normal." The status of the search will be displayed in the bar at the bottom of the window.
May/may not assign on the same night, same day or night – Person #1	Use the options here if two people cannot take call on the same night (e.g. husband and wife), or cannot be assigned call on the same day at all (e.g. two people share a position. Select the people in person #1 and person #2. There are three options, "May assign together", "May not assign both on the same night", and. "May not assign both on the same day or night." Select the desired option. If the same person is selected in "Person #1" and "Person #2", the options are meaningless and will be inactive. The effect of "May not assign on the same night" will be equivalent to a "Request No Call." The effect of "Do not assign on the same day or night" is absolute non-availability of the second person. when the first person is assigned, and vice-versa. Due to exponentially increasing computation times, each person is limited to one other person with whom they cannot be assigned. An attempt to assign a second such association to one person will result in an error message from the program.
May/may not assign … – Person #2	See "May/may not assign on the same night – Person #1" above
May/may not assign … – May Assign Together	See "May/may not assign on the same night – Person #1" above
May/may not assign … – May not assign both on the same night	See "May/may not assign on the same night – Person #1" above
May/may not assign … – May not assign both on the same day or night	See "May/may not assign on the same night – Person #1" above
May/may not assign … – Find first may not assign together	Clicking this button will search for the first two people that can not be assigned on the same night or together at all, if found they will be displayed in Person #1 and Person #2 and the label of the button will change to "Find next can not assign together". When no other people that cannot be assigned together are to be found the label will revert to "Find first may not assign together". The status of the search will be displayed in the bar at the bottom of the window.
OK	The "Always/Never Assign" window is closed. All entries will be saved to the database.

Request Links

Request links are processed after an assignment has been made. They are incorporated into the schedule if the assignment is not filled, there is no contradictory manual assignment, and the person is not needed for a different assignment in order to complete the schedule. They occur based on day of the week, and have a range of six days before and after that day. What happens when one or both days are holidays can be specified. Spacing for the person requesting the link is not considered, as it is ambiguous as to what would be desired. Due to the programs order of scheduling, undesired spacing violations would be rare in most circumstances. Request links can work differently for different people, but such a setup can easily warp statistics. The worst case is when only one person does not request the link, and the calls are both night calls within the spacing range of night call. The person not requesting will never be assigned the night call of the request link that is scheduled second.

Call types can also be linked from "Call/Work Types" where the entire link chain is treated as one assignment. The links are always filled (unless no schedule exists that can incorporate all the restrictions). They must be the same for all people and the call types must have the same number of people to schedule. The entire linked call sequence is assigned as a block. A person needs to be able to take the entire block to be assigned any of the calls in the block. Spacing is considered for all night calls of the block. Manual assignments also take precedence over linked call types.

The two types of links, linked call and request links will work quite differently in certain circumstances. When a link must always happen for all people taking either call, it can be assured with linked call if a request link does not produce satisfactory results.

CONTROL	FUNCTION
New	Click here first to add a new link.

Save	Click here to save a newly created or edited link
Close	Exits and closes the "Request Links" window.
Link definition link	Select the call type from which to link
Link definition on	Select the day of the week for the source of the link.
Link definition to	Select the call type to which to link.
Link definition on the	Select the day of the week to which to link. Choices are from 6 days prior to six days after the day of the week of the source of the link. If there are separate day and night assignments, they can be linked on the same day.
When Always	The link occurs whether the day in question is a holiday or not. There are separate options for both the source and destination of the link.
When Holiday	The link occurs only if the day in question is a holiday.
When Holiday	The link occurs only if the day in question is not a holiday
Link in both directions	The link occurs no matter which day is scheduled first. Normally, links will be fulfilled only when linking from a higher priority to a lower priority or else the higher priority will already be scheduled
Default for new people	If checked, when you add a new person, they will be automatically assigned to take the link.
Existing links – click on definition to edit or delete	In the box below all existing request links are listed. Place the mose pointer on the text describing the link to edit or delte. The link definition will be loaded into the boxes above to edit.
Applies to checked people	A list of active people and associated check boxes indicate who should get this link.
Select all	Places checkmarks in the boxes for all active people.
Clear all	Clears the checkmarks in the boxes for all active people

Setup Schedule

This window allows entries regarding the availability of people to be scheduled. The person, month, year and type of entry are selected from the drop down list boxes at the top of the window. A calendar display of the selected month and year displays the availability information of the selected person. Clicking on the calendar day toggles the selection displayed in the list box "Type of Entry". Specific assignments are also entered from this window. Changing the selected person, type of entry, month or year invokes a "Save" which stores entries in the database.

The button "Save and show pre-schedule" displays as a calendar all the manual assignments, requests, vacation and non-availability.

The button "Show numbers" displays as a calendar the difference between the number of people available and the number of people needed, the number of "Request no call" and tests whether all call types can be scheduled. It may take several seconds to display this information. Clicking "Show Numbers" does not invoke a "Save" so changes in availability can be tested before acceptance. (See "Show numbers" below.)

If subsets are being scheduled, they cannot be assigned in advance except "Office Call" type subsets. However, only one manual assignment can be made per day (one day and one night if using separate day and night assignments). If you wish to assign a non-subset assignment and a subset (including "Office Call") then assign the person to the call type that is associated with the subset. Rescheduling or editing allows greater control of subset assignments.

When adding a new person to a group with established statistics, the new person can be hammered with call initially until they have received one call of each type on each day of the week or one of each set of days of the week combined statistically. Then the new person has a lull period following which they are the same

as other group members. Artful use of Setup Schedule's "Request no call" for the first month or two can smooth this process.   For instance, give the new person a request no call for all weekend days and Fridays for the first month they are active and a request no call for Fridays on the second month they are active. New people can also be excused from call with a "Not available night", an option of "Setup Schedule".

CONTROL	FUNCTION
< >	Previous or next item for "Which person", "Type of entry", "Year" and "Month"
Which Person	Select the person. Only active people are displayed. Changing the person stores current window in database.
Type of Entry	The selection of "Type of Entry" sets the function of the calendar display. The calendar display is used to enter various types of availability data and, if desired, to make specific assignments of call or work types. Clicking on the day toggles the assignment of what is indicated in "Type of Entry" for the person on that date. Assignment is indicated by the appropriate text being written to that day in the calendar and the day being highlighted. The text remains but highlighting varies with "Type of Entry." Incompatibilities between non-availability and assignments are eliminated and made consistent with the most recent entry. Toggling to the unassigned state restores the prior value if there was no "Save" between toggling to the assigned state and back. Changing the "Type of Entry" selection invokes a "Save" and stores the current window in the database. Possible selections are:
	Request no call -
	The selected person will not be assigned night call on the day selected unless there are not enough people to complete the schedule. If every one requests no call on a certain day, the requests will have no effect. "Request no call" takes precedence over normal call spacing. If a request for no call is violated a "Rule Violation" message will be displayed and printed with the schedule. The person will be counted as eligible for that day which will influence future assignments
	No Assignment -
	The selected person will not receive an assignment on day in question, but will be counted as eligible for that day which will influence future assignments.
	Not Available -
	The selected person will not receive an assignment on the day in question and will not be counted as eligible for that day.
	Vacation -
	The selected person will not receive an assignment on vacation days. Various options regarding vacation are set in the window "General Options". These options are whether vacation is assigned by weeks or by days, whether vacation occurs on weekends, and whether call liability is accrued while on vacation.
	Not available night
	The selected person will not receive a night call, and is not counted as eligible for any night call.

	Not available day
	This is an option only when "Allow separate day and night assignments" is selected in "General Options". The selected person will not receive a day assignment and, and is not counted as eligible for any day work type.
	Assign Specific Call -
	or
	Assign Night Call -
	Assign Day Work -
	Specific call will be assigned to the person for the day. If "Allow separate day and night assignments" has been selected (see "General Options"), "Assign Night Call" and "Assign Day Work" will be separate selections of "Type of Entry". If it has not been selected, only one assignment per day is possible (with the exception of subset call types), and the single selection "Assign Specific Call" will be a choice of "Type of Entry". If there is no existing assignment, when the calendar box is clicked the "Select Call Type" window will appear with a list of the allowable assignments for that person on that day, and an "OK" button. Check the assignment that is to be made and click the "OK" button in the window "Select Call Type". If a call/work type is already assigned on that day, clicking the day on the calendar will erase the assignment. Manual assignments will override the maximum number of days that a person may receive a call type in a month. The program will assign days normally linked to the manual assignment only if Maximum Days would not be exceeded. If a link is broken because Maximum Days would be exceeded, or a manual assignment causes Maximum Days to be exceeded a "Violation" message will be generated.
Month	Month to which entries apply. Changing stores current window in database.
Year	Year to which entries apply. Changing stores current window in database.
Calendar	Clicking on a day toggles assignment of "Type of Entry" to the person indicated in "Which Person" on that day in the month and year selected in the drop down list boxes. If assigning call, the "Select Call Type" window will appear with an "O.K." button and a check box list of the all the call/work types active on that day that can be taken by that person. Check and click "OK" to assign. If a call/work type is already assigned on that day, clicking the day on the calendar will erase the assignment. Incompatibilities between non-availability and assignments are eliminated and made consistent with the most recent entry. If assigning vacation the effect will be different, depending on the options set for vacation in the window "General Options". Either a day or a week will be toggled at a time, and the week may or may not include weekend days. If vacation is not allowed on weekends, clicking on a weekend day will have no effect.

Save	Store entries in database. Changing person, type of entry, year or month or clicking "Save and show pre-schedule" also causes storage of entries in the database.
Clear	Clear entries since last "Save" command or to the last time any button was clicked except the calendar, or "Show numbers".
Cancel	Closes the "Setup Schedule" window without saving to the database entries made since last "Save" or action that evoked a "Save".
Show Numbers	Clicking causes the program to calculate the number of people available each day as compared to the number necessary to complete a minimal schedule. It also tests that each call type can be scheduled, and totals the number of "Request no call" on each day. It may take seconds to complete these tests. The tests include data entered into the "Setup Schedule" calendar whether they have been saved or not. The results are displayed in the "Pre Scheduling Data – Numbers" screen as a calendar. Each day with excess people has a green background, yellow for just enough people, red for not enough people. You can test whether a vacation can be accommodated by entering the vacation and not saving it. Then click "Show Numbers". If any of the days show up in the red then close the numbers window and click "Clear" or "Cancel". The vacation will not have been entered into the database.
Save and show pre-schedule	All entries are saved and a calendar showing all the entries for the month is displayed. If the schedule for the month has already been created, the caption of this button is "Show pre-schedule" and clicking displays the pre-schedule calendar only. . A print button is on the displayed calendar
OK	Store entries in database and closes the "Setup Schedule" window.

Pre-Scheduling Data

PRE-SCHEDULING DATA

GROUP NAME CALL PRE-SCHEDULE

JANUARY 2005

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
						1 Not available night Frank / No assignment Jean / Request no call Jill
2 Not available night Frank / No assignment Jean / Request no call Jill	**3** Vacation Jean / Request no call Jill / Request no call Sally	**4** Vacation Jean / Request no call Jill	**5** Vacation Jean / Request no call Jill	**6** Request no call Al / Vacation Jean	**7** Request no call Al / Request no call Ellen / Vacation Jean / Request no call Lisa	**8** No assignment Al / No assignment Ellen / No assignment Jean / Request no call Lisa
9 No assignment Al / No assignment Ellen / No assignment Jean / Request no call Lisa	**10** Vacation Al / Vacation Ellen	**11** Vacation Al / Vacation Ellen	**12** Vacation Al / Vacation Ellen	**13** Vacation Al / Vacation Ellen	**14** Vacation Al / Vacation Ellen / Request no call John / Request no call Tom	**15** First Harold / No assignment Al / No assignment Ellen / Request no call John / Request no call Tom
16 No assignment Al / No assignment Ellen / Request no call John / Request no call Tom	**17 ML KING DAY** Request no call Al	**18**	**19**	**20**	**21** Request no call Bob / Request no call Lisa / Request no call Richard / Request no call Sally	**22** Second Harry / First Howard / Request no call Bob / Request no call Lisa / Request no call Richard
23 Request no call Bob / Not available Harry / Not available Howard / Request no call Lisa / Request no call Richard	**24** Request no call Bob	**25** Not available Jack	**26** Not available Jack	**27** Not available Jack	**28** Request no call John	**29** Request no call John
30 Request no call John	**31**					

| < Page | Page > | < Font | Size > | | PAGE 1 OF 2 | Print | Close |

Access this window from "Setup Schedule". The data entered in "Setup Schedule" for a month are displayed on the monitor (vacation, non-availability, requests for no call, and manual assignments.

CONTROL	FUNCTION
< Page…Page >	Show the previous or next page of the schedule.
< Font…Size >	Decrease or increase the font size of the text in the calendar.
Print	The displayed calendar is printed.
Close	Closes the "Pre-Scheduling Data" window.

Pre-Scheduling Data - Numbers
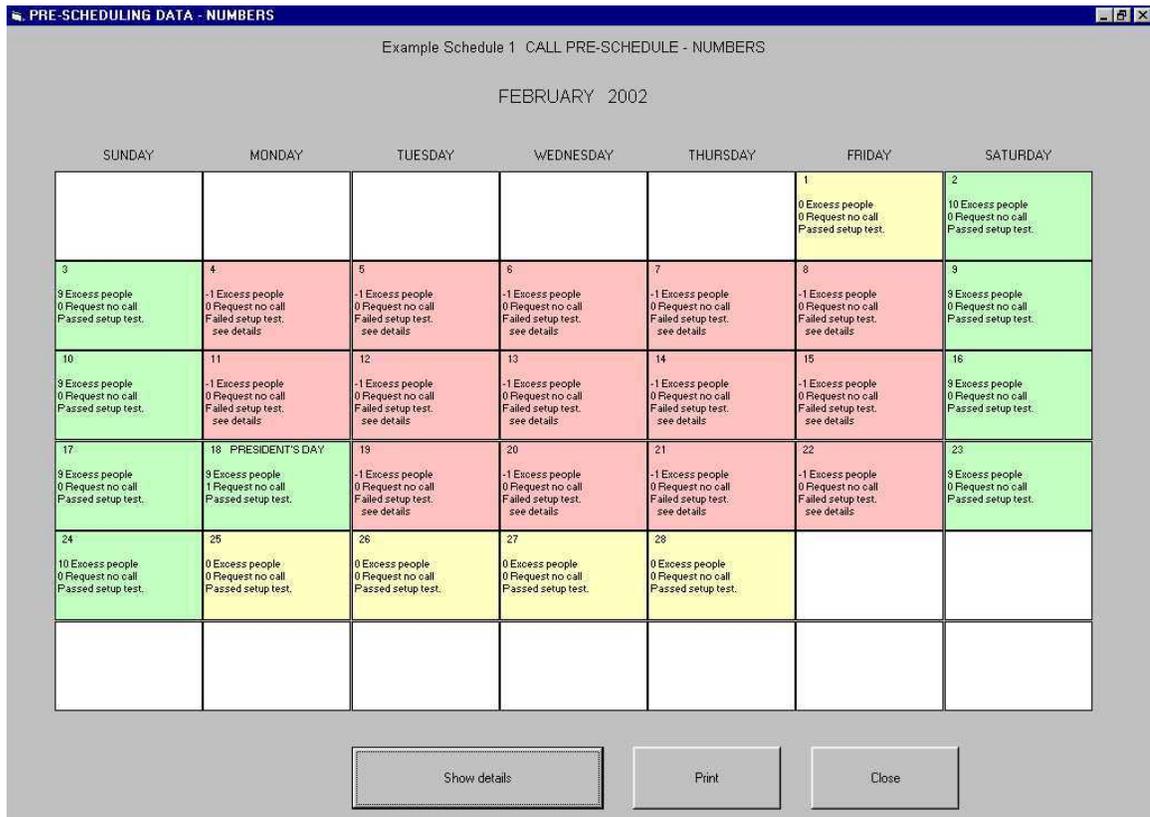
Display this window by clicking "Show Numbers" from the "Setup Schedule" window. It may take several seconds to display until tests and calculations are complete. A calendar is displayed that shows the results of tests made to determine if a complete minimum schedule can be made. The program calculates the number of people available on each day compared to the number needed, tests that all call types can be scheduled, and checks that at least one person is available for any subset call on each day. It also totals the number of "Request no call" on each day. It does not test whether each subset call can be associated with the correct call type (the program gives you an opportunity to schedule them anyhow). Numbers available and results of the test are displayed as a calendar. Background color for each day is green if there are excess people, yellow for just enough people and red if not enough people or a call type cannot be scheduled. For any day in the red, the call types that cannot be scheduled are calculated and the results can be displayed by clicking "Show Details".

Vacation, requests, non-availability, etc. entered into the calendar in "Setup Schedule" do not have to be saved to be included in the test. This offers a way to test whether a vacation, etc. can be accommodated before saving it to the database.

CONTROL	FUNCTION
Show details / Hide details	A list of the call types that cannot be scheduled and the number of people deficient on each day is displayed or hidden.
Print	The displayed calendar is printed.
Close	Closes the window.

Select Call Type

When manually assigning call from "Setup Schedule", "Reschedule" or "Edit Schedule", the "Select Call Type" window appears with a check box list of all the call types active on that calendar day that the selected "Person" may be assigned. Check the box next to the call/work type you wish to assign and click "OK". If you got here by mistake, click "Cancel".

CONTROL	FUNCTION
Option Button (Call Type Name)	Select the call type you wish to assign.
OK	Assign the selected call type to selected person on selected day and close the "Select Call Type" window.
Cancel	Closes the window without making an assignment.

Format Calendar

This window allows you to divide your schedule into multiple calendars with the call/work types printed on their respective calendars in the order you desire. If more than one calendar is selected, each will start on a new page, and the call/work types will be printed in the order of ascending line number. If more call/work types are selected for a calendar than can be printed on a single page, multiple pages will be printed. The default is to print the call/work types as a single calendar, ordered by ID number, and divided into pages as necessary.

The order also applies to schedules viewed on screen, but the on screen calendars are always displayed as a single calendar divided into pages as necessary, with the call types displayed in the order of ascending calendar number, ascending line number, and with "Vacation, no assignment, not available" and "Request no call" last. All call types that have an assignment are displayed on screen and included in spreadsheet compatible output files regardless of whether they are printed.

"Vacation, no assignment, not available" and "Request no call" are always displayed when viewing or printing "Pre-scheduling data", but for schedules already created, calendar format output only includes this data if the corresponding "Printed" box is checked. The "printed" option also controls whether they are included in spreadsheet compatible output files (see "Reports"). Individual schedules, weekly and daily schedules listed by person always include this data. Weekly and daily schedules listed by call type do not. The default for "Vacation…" and "Request no call" is to be printed and displayed.

The size of the type determines the number lines and characters that can be displayed for each day of the calendar. Select a smaller (lower number) font size to display more lines and letters per line. There are two controls to alter font size, one for on screen displays and the second for printed output.

CONTROL	FUNCTION
Call/Work Type	This column lists all the call work types you entered in the window "Call/Work Types". Active and inactive call types are listed. The first row is always "Vacation, no assignment, not available". The second row is always "Request no call". If checked, these parameters will appear on both printed and on screen schedules. For printed schedules, the calendar can be changed for these

	parameters but they are always printed last on that calendar and are printed last when the calendar is displayed on screen.
Printed	Check this box if you wish the call/work type to be printed. The default is for all call/work types to be printed. Only active call types are printed when preparing a new month's schedule whether the box is checked or not. Inactive call types are printed when the box is checked and when printing a previously created schedule for a month in which that call type was active.
Calendar Number	If you wish to print various call/work types on separate calendars, enter the calendar number for this call/work type. The default is for all call work types to be printed on a single calendar, which will be divided into pages if not all call/work types fit on a single page.
Line Number	"Line number" determines the order in which call/work types are printed. The lowest line number is printed at the top of the square representing the day in the calendar. The default is that call/work types are printed in the order of their I.D. number (i.e. the first call/work type you entered in the window Call/Work Types is printed first.)
Calendar Font Size -print	The size of the names of call/work types and people in the printed calendar (monthly schedule) is controlled by this option. The default size is "8", smaller font sizes allow more letters in a row and more lines in a calendar box. The range is "3" to "14". The size may depend on what is available for the font selected in "Reports".
Calendar Font Size -screen	The size of the names of call/work types and people in the on screen calendar displays is controlled by this option. The default size is "6", smaller font sizes allow more letters in a row and more lines in a calendar box. The range is "2" to "12".
Print call type names in schedule	If you have only one call type, or for any other reason do not need to print the call type names to understand the printed schedule, you may check this box and the call type names will be omitted.
Cancel	The window is closed. Any changes made are discarded.
OK	The window is closed. Any changes made are saved.

Create Schedule

This window allows the user to create a schedule for the selected month and year. The default month and year at the top of the screen is the next logical month to schedule. To reschedule a month, or to schedule months out of order, change the selection using the down arrows to the right of the indicated month and year. A month is rescheduled if it is selected and has already been scheduled.

The parameters the user supplied to "General Options", "Holidays", "Call/Work Types", "People", "Always/Never Assign" and "Setup Schedule" are incorporated into the schedule. Assignments are made by the program using the selected spacing between night calls and maximum night calls per month as much as possible. Call and work types are then assigned using the appropriate statistic of number of times this call or work type has been assigned divided by the number of times eligible to take this call or work type. When an allowable violation of these parameters occurs, a "Violation" message will be displayed and printed with the schedule.

Different values of these options give entirely different schedules. It may even be necessary to change a value for month to month, if varying numbers of people are away. Clicking "Calculate suggested values" analyzes the night call requirements and people available for the selected month and offers suggestions for values that will allow statistical equalization. The suggested values are approximations and may need fine-tuning. Data regarding statistical equalization are included in the "Scheduling progress" list box after creating a schedule. This data can be viewed by clicking on the list box down arrow. If night calls are assigned to the wrong person statistically less than 25% of the time, the overall statistics are usually quite even. Data regarding statistical equalization is also printed when the schedule is printed at acceptance (see "View Schedule"). Reducing spacing results in better statistical equalization.

If an unacceptable spacing error occurs there are many options to try. First, reject the schedule then check the box "Find a solution with the fewest violations." The program will compute any alternative schedules it can create and find the one with the least violations. If there are no ties, the program can only find one solution and gives a message to that effect. Try turning off (or on) Force Order. If checked, try clearing the check "Include Fridays in weekend spacing" and reduce "Nominal minimum weekends without call between any weekend night call." Try reducing the number a days between night calls and the automatic spacing level. If all else fails, reduce the number of requests on the day and contiguous days of the violation, or make a manual assignment. "Nominal maximum night calls per month" has no direct effect on spacing as it will not be enforced if it causes a spacing violation. If everyone's "maximum days this call type" is set to a value less than 31, you may have problems when many people are away. If visible, try setting "Days increase in non-zero maximum days" to a value greater than zero. If not visible, then there are no active people with "maximum days this call type" set to a value other than zero that is less than the number of times the call type occurs in the month.

CONTROL	FUNCTION
Month	Enter the month to be scheduled. Default of "Year" and "Month" is the next logical month to be scheduled. To reschedule a month, select it using the down arrows for the month and year.
Year	Enter the year to be scheduled. . Default of "Year" and "Month" is the next logical month to be scheduled.
Find a solution with the fewest violations	Checking this box will cause the program to compute all the solutions it can generate if the number of violations of the scheduling parameters is not zero. It will find and display a solution with the minimum number of rule violations. (There may be other solutions with the same number of violations.) Checking this box will cause the time required to present a solution to increase roughly by a multiple equal to the number of people to be scheduled.
Force scheduling order …	Checking the box forces the program to schedule night call before not night call, and days in the order holidays, weekends, Fridays, other days. If not checked the order of scheduling is determined by the program to best accommodate constraints placed on the schedule by the data entered. Night call is always scheduled first. Holidays, weekends and Fridays are given precedence in the order of scheduling. Schedules may be somewhat different allowing the user to choose which works best for specific circumstances. The default is selected and the value of this box is saved.
Include Fridays in weekend spacing	The scheduling default is that Fridays are not treated as weekend days. If this box is checked, then Fridays are treated as weekend days and the nominal minimum weekends without call on the same weekend day and the nominal minimum weekends without call between weekends applies to Friday assignments. If "Nominal days between night calls" is set to "0", this parameter has no meaning and the check box is not visible. If all weekend night calls are linked such that every person on call on a weekend is on call Friday, Saturday and Sunday then this parameter is superfluous. Be advised, if weekends are not linked, it requires an extraordinary number of people to accommodate Fridays in weekend spacing. The default is not selected and the value of this box is saved.

Nominal minimum weekends without call between any weekend call	If the value in this box is not zero, then the program will space Saturdays for call on Sundays and Sundays for call on Saturdays. If "Include Fridays in weekend spacing" is also checked then weekend call is spaced by the selected value for call on Fridays, Saturdays or Sundays. If weekend calls are linked such that a person is on call the entire weekend, then the value in this box is superfluous. Be advised, if weekends are not linked, it requires an extraordinary number of people to accommodate weekend spacing. The possible selections are from 0 to 2, but never greater than the value selected for "Nominal days without call between night calls". The default setting is "0" and the value of this box is saved.
Automatically space each call type	If this option is selected, the program will bias against assigning a person to the same call type for a numbers of days or weekends calculated by the program. The calculation involves the total F.T.E available to take call on that day. The spacing value varies inversely with a person's "% FTE This call type". If call is equalized by groups, the program will bias against selection for any call type of the group. The amount of spacing for groups will be less for other members of the call type group than it is for the particular call type. In addition, the spacing will depend on how many of the call types in a group the person takes. For automatic spacing of groups to work, the "% FTE This call type" must be normalized for all the call types of the group. Setting "% FTE This call type" for anyone who takes a full share of the call type to "100" will accomplish this normalization. The default for this option is selected and the value of the box is saved.
Maximum Auto Spacing	When maximum auto spacing is selected the program biases against selecting the same person for the same call type (or call type group) for a maximum of 5 days and three weekends. The calculation involves all the parameters associated with availability and may be less than 5 days. Even when the spacing is less than 5 days, the spacing is still one day more than "Medium Auto Spacing" and two days more than "Minimum Auto Spacing". Increased spacing may interfere with statistical equalization. Choose the least spacing that gives an acceptable schedule for the best statistical equalization. The default is not selected and the value of the box is saved. (See also "Automatically space each call type".)
Medium Auto Spacing	When medium auto spacing is selected the program biases against selecting the same person for the same call type (or call type group) for a maximum 4 days and 2 weekends. The bias may be less than 4 days, but is always one day less than "Maximum Auto Spacing" and one day more than "Minimum Auto Spacing". The default is not selected and the value of the box is saved. (See also "Automatically space each call type" and "Maximum auto spacing".)
Minimum Auto Spacing	When minimum auto spacing is selected the program biases against selecting the same person for the same call type (or call type group) for a maximum of 3 days and one weekend. The bias may be less than 3 days and is always one day less than "Medium Auto Spacing" and two days less than "Maximum Auto Spacing. The default is selected and the value of the box is saved. (See also "Automatically space each call type" and "Maximum auto spacing".)

Nominal maximum night calls per month	This is a soft cap on night calls per month. It only is done if it does not produce a spacing violation. It has no effect if set too low and everyone has exceeded the maximum. If set to a realistic value it helps even monthly statistics with minimal effect on cumulative statistics. The correct value is probably one or two greater than the average night calls per month. Violations of this limit are reported in the "Scheduling Progress" list box and printed when accepting the schedule.
Nominal days without call between night calls (weeks between the same weekend day)	The number of days between night calls can be set from zero to four days. This value applies to consecutive days and consecutive weekend days on the same day of the week. Saturdays are spaced for Saturday calls, Sundays for Sundays. If "Include Fridays in weekend spacing is checked, Fridays are spaced for Fridays. If there are enough people, this minimum spacing will always occur. If this value is set to an unrealistically high value, assignments will be increasingly based on spacing and not statistics. The basis of night call scheduling decisions, either spacing or statistics is listed in the "Scheduling Progress" list box and printed when accepting the schedule. If necessary to complete a schedule, the minimum days between night call will be violated. For each violation, a "Rule Violation" message will be displayed and printed with the schedule if it is printed when created. The default value of "Nominal days without call between night calls" is one. The value of this option is saved. (See also, "Nominal weekends without call between any weekend night call".)
Days increase of non-zero maximum days	This control is visible if there are any active people with maximum days for a active call type greater than zero and less than the number of days in the month. If maximum days for many people are set less than 31 days, numerous "Maximum Days" violations" and/or spacing violations result if there are not enough people-days to fill the schedule. This may occur when people are away (vacation, requests, etc. This control allows you to temporarily increase everyone's maximum days (if not 0) by the selected number of days. If limited maximum days is the problem selecting "31" or some lesser value will eliminate the violations. The value of this selection is saved. If the control is not visible, it has a value of zero. The values set in "People" for "Maximum days per month" are not altered. A non-zero setting of this control will create a "Violation".
Advanced options	Displays the "Advanced options" window. See the text for that window for details.
Check Setup	Clicking the "Check Setup" button causes the program to check whether a complete schedule can be created for the selected month and year using the setup data and availability data for the month. The drop down list box labeled "Scheduling Progress" indicates the progress of the check. The last progress report is displayed but the entire report can be viewed by scrolling through the "Scheduling Progress" list. Any errors in set up or availability detected by the program are indicated.
Calculate suggested values	Clicking this button causes the program to analyze the night call requirements and people available for the selected month and offer suggestions for spacing options that will allow statistical equalization. The suggested values are approximations and may need fine-tuning. Data regarding statistical equalization are included in the "Scheduling progress" list box after creating a schedule and printed when the schedule

	is printed on acceptance. If night calls are assigned to the wrong person statistically less than 25% of the time, the overall statistics are usually quite even. Reducing spacing results in better statistical equalization.
Schedule	If the month is the next logical month to be scheduled, scheduling of the month and year proceeds using setup data of "General options", "Holidays", "Call/work types", "People", and "Always/never assign". The data entered in "Setup Schedule" regarding the availability of people and manual assignments are incorporated into the schedule. Assignments made by the program use the appropriate statistic of assigned/eligible. The progress of the scheduling routines is indicated in the drop down list box labeled "Scheduling Progress." If a valid schedule can be completed using the entered setup and availability data the schedule will appear. If a valid schedule can not be completed a message box asking if you wish to accept a partial schedule will appear. Indicating "yes" causes the partial schedule to appear; indicating "no" cancels scheduling. Set up errors identified will be found in the drop down list box "Scheduling Progress"

If the month has previously been scheduled the "Reschedule" window appears which allows entering availability data and/or proceeding with scheduling. Rescheduling can only be done from the present forward in time. Nothing in the past can be rescheduled. (It can be edited.)

If the month is not the next logical month that is to be scheduled, a message box appears indicating the next logical month to be scheduled and asking if you wish to proceed. Months can be scheduled out of order.

If the month is in the past a message box appears stating that months in the past must be edited not rescheduled |
| | |
| **Close** | Closes the window |

Suggested Scheduling Parameters

This screen is accessed by clicking "Calculate suggested values" from the "Create Schedule. It calculates suggested values for the options used to create a schedule that will allow statistical equalization to occur. All vacation and other non-availability for the month is included in the calculations, so it is imperative that this data has already been entered via the "Setup Schedule" screen in order to obtain the correct suggested values. The suggested values may vary month to month depending on the number of people in the call pool, how many are on vacation or otherwise not available, and the total number of call days to be scheduled.

CONTROL	FUNCTION
Accept suggested values	Changes the scheduling options to the suggested values and closes the window
Retain existing values	Closes the window without changing the scheduling options

Advanced Options

This window is accessed from "Create Schedule" Changes in the advanced options alter various decision points in the program. Be careful with "Set start day of the month" and "Set stop day of the month", part of an existing schedule will be gone if rescheduled with these options not at their defaults.

CONTROL	FUNCTION
Days of the week to schedule – Holiday, Sun …	To schedule only certain days, such as weekends and holidays, clear the checks for the days of the week that are not to be scheduled. All assignments that occur on the checked days and days linked to these days will be scheduled. All manual assignments, vacation, requests, etc. will be incorporated into the schedule. All assignments arising from "Always/Never Assign" will be scheduled. To complete the schedule, check the boxes for the rest of the days. Then select the month and year at the top of "Create Schedule" Click "Schedule". The reschedule screen will appear. Click "Add prior schedule" to incorporate the schedule for the days that have already been scheduled. Edit or add manual assignments, requests, vacation, etc. then click "Reschedule". The default month and year to schedule, at the top of "Create Schedule" will not default to a month where a partial schedule has been created. It is necessary to select the correct month to complete the schedule.

Set start day of the month	If other than "Default" is selected days prior to the selected day of the month will be unscheduled. If rescheduling, any prior schedule of days not in the scheduling period will be discarded if and when the new schedule is accepted. Statistics will be for only the new schedule. This setting applies to the first month scheduled after being set. It returns to "Default" if "Create Schedule" is closed or a schedule is accepted.
Set finish day of the month	If other than "Default" is selected days following the selected day of the month will be unscheduled. If rescheduling, any prior schedule of days not in the scheduling period will be discarded if and when the new schedule is accepted. Statistics will be for only the new schedule. This setting applies to the first month scheduled after being set. It returns to "Default" if "Create Schedule" is closed or a schedule is accepted.
Always create the minimum schedule first	When selected the minimum schedule is always created before any assignments above the minimum number of people to schedule for each call type are made. When not selected the program's calculation of what call types can be scheduled and priority determine the order of scheduling. In this way, when a call type that is not always scheduled can be scheduled, it is scheduled before all call types of lower priority including those that are part of the minimum schedule. This allows better statistics for prized but not always scheduled call/work types such as days off that occur when an excess of people are available. The default is selected and the minimum schedule is always created first.
Maximize schedule beyond minimum	If checked the program utilizes people for assignments in such a manor that the filled assignments are maximized on the basis of priority and this extends to assignments above the minimum schedule. If unchecked, the program only maximizes to fill the minimum schedule. This only makes a difference when one or more people can not take an assignment that is above the minimum schedule. The program will use them for an assignment they can take, even against statistics, to keep someone else free who can take the assignment above the minimum schedule. If not checked the person who can not take the assignment above the minimum may get no assignment at all, and the assignment above the minimum may go unfilled. Entirely different schedules may be produced. If unnecessary assignments are being filled in a manor that distorts the schedule, try clearing the check from this box. The default is

	checked. If this box is not checked the minimum schedule is always created first and the "Always create the minimum schedule first" option displays a check and is inactive.
Space weekend day assignments the same as night call	When checked, all assignments that occur on the weekend are treated as night call in terms of spacing from other night calls and other weekend daytime assignments. The default is not checked.
Difference between weekend spacing and contiguous day spacing.	When zero, the program spaces contiguous night calls and sequential weekend night calls on the same day of the week by the same amount. When a negative number is selected consecutive weekends are spaced less and, conversely, when a positive number is selected weekends are spaced more than the "nominal days without call between night calls…" Weekend day time assignments may be included in this spacing (see above). Resulting weekend spacing above four or less than zero, are treated as four consecutive weekends with bias against another occurrence of call or no spacing of weekends respectively. The default selection is zero.
Allow only one subset assignment per person per day	Selecting this option forces the program not to assign two different subset calls to the same person on the same day. It also changes how the sets of call associated with the subsets are scheduled in order to accommodate this change. Even when this box is checked, multiple subset calls can be assigned manually when rescheduling after adding the prior schedule or when editing. The default is not checked and multiple subset calls can be assigned to a person on the same day.
Allow multiple subset assignments per person per day	When selected, multiple subset assignments are allowed per person per day and the additional options below are active. The default is selected.
Bias against multiple subset assignments per person per day	This option is only available when multiple subset assignments per day are allowed and only has an affect if "Assign by statistics" was selected and another person with a proper primary assignment can also take the subset call. The program then adds bias against one person receiving multiple subset assignments. The default is checked.

Do not allow a person to have both selected subsets on the same day	This option is only available when multiple subset assignments per day are allowed. Specific subsets can be designated that cannot be assigned at the same time to one person. The two drop down list boxes both contain the names of all active subsets. Select the two that cannot be assigned together and check the box "Do not assign together". Clear the check to allow assigning together. The default is that all subsets can be assigned together. Clicking "Restore defaults" restores this state for all active subset call types.
Restore defaults	All options in this window only are set to their default value.
OK	Saves all entries and closes the window.

View Schedule

GROUP NAME CALL SCHEDULE

JANUARY 2005

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
						1 First Jill / Second Harold / Third Al / Heart Al / Liver Harold / OB Richard / Podr Al
2 First Howard / Second Harry / Third Lira / Heart Harry / Liver Howard / OB Sally / Podr Lira	**3** First Jack / Second Ellen / Third John / Heart Ellen / Liver Jack / OB Bosb / Podr John	**4** First Tam / Second Frank / Third Richard / Heart Frank / Liver Tam / OB Harold / Podr Richard	**5** First Bob / Second Lira / Third Harry / Heart Harry / Liver Bob / OB Joan / Podr Harry	**6** First John / Second Bosb / Third Al / Heart Al / Liver Bosb / OB Jill / Podr Al	**7** First Harold / Second Richard / Third Howard / Heart Howard / Liver Harold / OB Sally / Podr Howard	**8** First Ellen / Second Tam / Third Joan / Heart Tam / Liver Ellen / OB Jack / Podr Joan
9 First Frank / Second John / Third Bosb / Heart Bosb / Liver Frank / OB Bob / Podr Bosb	**10** First Howard / Second Harold / Third Jill / Heart Harold / Liver Howard / OB Al / Podr Jill	**11** First Lira / Second Bob / Third Harry / Heart Lira / Liver Ellen / OB Richard / Podr Harry	**12** First Sally / Second Bosb / Third John / Heart Tam / Liver Sally / OB Frank / Podr John	**13** First Joan / Second Jack / Third Tam / Heart Tam / Liver Jack / OB Howard / Podr Jack	**14** First Bosb / Second Frank / Third Richard / Heart Frank / Liver Bosb / OB Ellen / Podr Richard	**15** First Harry / Second Al / Third Sally / Heart Sally / Liver Al / OB Jill / Podr Al
16 First Harold / Second Lira / Third Howard / Heart Howard / Liver Harold / OB Al / Podr Howard	**17 MLK DAY** First Jill / Second Howard / Third Frank / Heart Frank / Liver Howard / OB Richard / Podr Frank	**18** First Ellen / Second Joan / Third John / Heart Harry / Liver Ellen / OB Sally / Podr Harry	**19** First Al / Second Jack / Third Lira / Heart Jack / Liver Al / OB Bob / Podr John	**20** First Bosb / Second Tam / Third Lira / Heart Tam / Liver Bosb / OB Frank / Podr Lira	**21** First Harry / Second Sally / Third Jill / Heart Sally / Liver Harry / OB Harold / Podr Jill	**22** First Joan / Second Ellen / Third Bob / Heart Bob / Liver Ellen / OB John / Podr Bob
23 First Tam / Second Frank / Third Richard / Heart Tam / Liver Tam / OB Bosb / Podr Richard	**24** First Jill / Second Jack / Third Sally / Heart Sally / Liver Jack / OB Harry / Podr Jack	**25** First Bob / Second Al / Third Joan / Heart Al / Liver Bob / OB Tam / Podr Joan	**26** First Harold / Second Howard / Third Bosb / Heart Howard / Liver Harold / OB Ellen / Podr Joan	**27** First Sally / Second John / Third Bosb / Heart Bosb / Liver Sally / OB Richard / Podr Bosb	**28** First Joan / Second Bob / Third Tam / Heart Tam / Liver Bob / OB Frank / Podr Bob	**29** First Jack / Second Jill / Third Harry / Heart Sally / Liver Jack / OB Howard / Podr Harry
30 First Lira / Second Sally / Third Al / Heart Al / Liver Sally / OB Harold / Podr Al	**31** First Bosb / Second Richard / Third Bob / Heart Bob / Liver Bosb / OB Tam / Podr Bob					

Page 1 of 1

< Font | Size > | Next solution | Solution 15 of 16 | Show statistics | Show violations | 8 Violations
< Page | Page > | Reject schedule | | Accept schedule | Accept and print schedule

After a call schedule for a month has been created, rescheduled or edited, it is displayed as a calendar in the window "View Schedule". When scheduling or rescheduling, there may be as many possible solutions as there are active people on the call roster.   Alternate solutions can be viewed by clicking on the button "Next Solution." If a schedule is not unique, a message box indicating that it is the same as a possible solution that has already been viewed will appear. If more than one page is necessary to display the schedule it is divided into pages. The statistics with or without this schedule can be displayed by clicking "Show statistics". Any violations of the constraints imposed on the schedule that were necessary to complete the schedule are displayed by toggling the "Show violations" button. The schedule can be rejected, accepted, or accepted and printed by clicking the appropriate button. When the schedule is printed from this window, rule violations are printed with the schedule. "Format calendar" controls the order that call types are displayed, and whether vacation, non-availability, and requests for no call are displayed and printed.

If an unacceptable spacing error occurs, there are many options to try. First, reject the schedule and return to "Create Schedule". Check the box "Find a solution with the fewest violations." The program will compute any alternative schedules it can create and find the one with the least violations. If there are no ties, the program can only find one solution and gives a message to that effect. Try turning off (or on) Force Order. If you everyone's maximum days are set to a value less than 31, you may have problems when many people are away. Try setting "Days increase in non-zero maximum days" to a value greater than zero. If this control is not visible, the problem is elsewhere. If checked, try clearing the check in "Include Fridays in weekend spacing" or "Set minimum spacing one weekend between any weekend night call". Try reducing the level of automatic spacing or reduce the number a days between night calls. Also,

reduce the number of requests on the day with the violation or contiguous days. "Nominal maximum night calls per month" has no direct effect on spacing as it will not be enforced if it causes a spacing violation.

CONTROL	FUNCTION
< Font…Size >	Decrease or increases the font size of the text in the calendar (range 3–12).
< Page…Page >	If there are more assignments than can fit in the window, the schedule is divided into pages. Clicking "< Page" or "Page >" displays the previous or next page respectively. Pages wrap from first to last and vice versa.
Next Solution	There may be as many possible solutions as there are active people on the call roster. These solutions will only be unique if there are ties in the ratio of (call taken)/(eligible for call) for different people. The next solution can be viewed by clicking on the "Next Solution" button. If the solution is the same as one that has been previously viewed, a message box will appear indicating the solution that is the same. If there are no ties, a message to that effect will be displayed. This button is not visible when editing.
Show statistics	The statistics screen is opened. Existing statistics, or statistics including the proposed schedule can be displayed.
Show Violations	Clicking "Show Violations" displays the list of scheduling constraints that were violated in order to produce the schedule. Possible violations include night call when no call requested, night calls closer together than the nominal night call spacing, exceeding maximum night calls per month, call or work types that could not be scheduled, and links between assignments that could not be satisfied. This list will be printed with the schedule when it is printed from this window. When the violations are visible the caption of the button changes to "Hide violations". This button is not visible or active when editing.
Reject Schedule	The displayed schedule is discarded and the "View Schedule" window is closed. (The "Create Schedule", "Reschedule", or "Edit Schedule" window is not closed and remains as it was left).
Accept Schedule	The schedule is saved to the database. Nothing is printed. The "View Schedule" window is closed. If rescheduling, the "Reschedule" window is closed and any entries made are saved to the database. If editing, the "Edit Schedule" window is closed and any entries are saved to the database.
Accept and Print Schedule	The displayed schedule is saved to the database. The schedule and date regarding the creation of the schedule, including rule violations, are printed. The "View Schedule" window is closed. If rescheduling, the "Reschedule" window is closed and any entries made are saved to the database. If editing, the "Edit Schedule" window is closed and any entries are saved to the database.

Reschedule

If you attempt to schedule the present or a future month that has already been scheduled from "Create Schedule", this window appears. The "Reschedule" window displays a calendar for entering the availability of people that is the same as in the "Setup Schedule" window with the following differences:

The schedule up to the day before the present day is displayed as assignments for individual people and cannot be changed from this window (it can be changed from "Edit Schedule");

The month and year is set by the month you are rescheduling;

The buttons for "Cancel", "Clear", "Save", and "OK" are replaced by buttons for "Add Prior Schedule", "Clear to Unedited Schedule", "Cancel Reschedule", and "Reschedule".

If you are scheduling subsets and have clicked "Add Prior Schedule", "Add Subset Call" will be an additional choice of "Type of Entry". Subset calls are deleted when "Assign Specific Call" (or "Assign Night Call" and "Assign Day Work") is selected as "Type of Entry". Subset calls are added when "Add Subset Call" is selected. This is somewhat cumbersome of necessity as more than one subset call may be assigned.

The function of these buttons are described under specific controls but when you are done entering the data that necessitated the rescheduling, the button "Reschedule" will cause a new schedule to be created incorporating that part of the old schedule that is in the past, any data you have included from the old schedule, and any data you have entered. Any call or work types unassigned will be assigned by the program.

CONTROL	FUNCTION
< >	Previous or next item for "Which person" and "Type of entry".
Which Person:	Select the person. Only active people are displayed. Changing the person stores the current window for use in rescheduling. If the new schedule is accepted, the changes are stored in the database.
Type of Entry:	The selection of "Type of Entry" sets the function of the calendar display. The calendar display is used to enter various types of availability data and, if desired, to make specific assignments of call or work types. Clicking on the day in the calendar toggles the assignment of what is indicated in "Type of Entry" for the person on that date. Assignment is indicated by the appropriate text being written to that day in the calendar and the day being highlighted. Incompatibilities between non-availability and assignments are eliminated and made consistent with the most recent entry. Toggling to the unassigned state restores the prior value if there was no "Save" between toggling to the assigned state and back. Changing the "Type of Entry" selection invokes a "Save" and stores the current window for use in rescheduling. The changes are stored in the database only if the new schedule is accepted. Possible selections are:
	Request no call -
	The selected person will not be assigned night call on the day selected unless there are not enough people to complete the schedule. If every one requests no call on a certain day, the requests will have no effect. "Request no call" takes precedence over nominal call spacing. If a request for no call is violated a "Rule Violation" message will be displayed and printed with the schedule.
	No Assignment -
	The selected person will not receive an assignment on day in question, but will be counted as eligible for that day which will influence future assignments.
	Not Available -
	The selected person will not receive an assignment on the day in question and will not be counted as eligible for that day.
	Vacation -
	The selected person will not receive an assignment on vacation days. Various options regarding vacation are set in the window "General Options". These options are whether vacation is assigned by weeks or by days, whether vacation occurs on weekends, and whether call liability is accrued while on vacation.
	Not available night
	The selected person will not receive a night call, and is not counted as eligible for any night call.
	Not available day
	This is only an option when "Allow separate day and night assignments" was selected in "General Options". The selected person will not receive a day assignment and, and is not counted as eligible

	for any day work type.
	Assign Specific Call -
	or
	Assign Night Call -
	Assign Day Work -
	Specific call will be assigned to the selected person for the day or removed if an assignment already exists. If "Separate Day and Night Assignments" has been selected (see "General Options"), "Assign Night Call" and "Assign Day Work" will be separate selections of "Type of Entry". If it has not been selected, only one assignment per day is possible (except subset call types), and the selection "Assign Specific Call" will be a choice of "Type of Entry". If there is no existing assignment, when the calendar box is clicked the "Select Call Type" window will appear with a list of the allowable assignments for that person on that day, and an "OK" button. Check the assignment that is to be made and click on the "OK" button in the "Select Call Type" window. Manual assignments will override the maximum number of days that a person may receive a call type in a month. The program will assign days normally linked to the manual assignment only if Maximum Days would not be exceeded. An exception is subset call types, which will exceed maximum days as necessary to fill the subset. If a link is broken because Maximum Days would be exceeded, or a manual assignment causes Maximum Days to be exceeded, a "Violation" message will be generated. If a call/work type is already assigned on that day, clicking the day on the calendar will remove the assignment. When rescheduling, any assignments erased and then not assigned to someone else will be assigned by the program. If subset call types are being scheduled and "Add Prior Schedule" has been clicked, more than one assignment may be displayed. Clicking on the day in the calendar will then remove the last assignment displayed until there is no assignment. With the exception of "Office Call" subsets, subset call types cannot be assigned with this selection of "Type of Entry". To add a subset call assignment select "Add Subset Call" as "Type of Entry".
	Add Subset Call
	If you are scheduling subsets, and have added the prior schedule, "Add Subset Call" will be a selection of "Type of Entry". When clicking on the calendar a list of possible subset assignments for that person on that day will appear in the "Select Call Type" window. Select the subset call you wish to assign and click "OK". The subset call will be added to the assignments for that day.
Add Prior Schedule	Clicking on this button causes the schedule to be cleared to the unedited schedule and the previously created schedule, from the present until the end of the month, is added to the calendar. These assignments can then be modified as desired. This allows you to keep the rest of the old schedule if you wish to make only a few changes.

	The program will make any assignments left vacant after editing the data. If you are scheduling subsets, clicking "Add prior schedule" will add "Add subset call" to the choices of "Type of Entry".
Cancel to Unedited Schedule	Clicking this button will restore the initial state of the "Reschedule" window with only assignments in the past entered into the calendar. It will erase that part of the present and future schedule that was assigned by the program. Any availability data or specific assignments you had previously entered via the "Setup Schedule" window will not be affected, but any changes you entered after coming to the "Reschedule" window will be lost (i.e. you start the reschedule over.)
Cancel Reschedule	Clicking on this button causes the rescheduling effort to be abandoned and the "Reschedule" window is closed. Any changes that were made to the availability of people or the schedule will be lost.
Reschedule	Clicking the "Reschedule" button causes the program to reschedule the month using the data you have entered. The old schedule will not be invalidated unless you accept the new schedule from the "View Schedule" window. If you reject the new schedule that is displayed in the "View Schedule" window, you will be returned to the "Reschedule" window, which will be as you left it when the "Reschedule" button was clicked.

View Statistics or Prior Schedules

This screen allows selection of the schedule for a month and year to be viewed on the monitor, or for the statistics to be displayed. Arrive here by clicking "View" from the "Main Menu".

CONTROL	FUNCTION
Month	Select the month to be viewed.
Year	Select the year to be viewed.
Show Schedule	Displays the selected schedule.
Show Call Type Statistics	Displays the "Show Statistics" window.
Show Vacation, Requests, Non-availability	Displays the "Vacation, Requests, Non-Availability Tabulation" window.
Close	Closes the "View Statistics or Prior Schedules" window.

Historical Schedule


```
HISTORICAL SCHEDULE                                                    _ □ ✕

                        GROUP NAME  CALL SCHEDULE
                            DECEMBER   2004

   SUNDAY        MONDAY        TUESDAY      WEDNESDAY      THURSDAY        FRIDAY        SATURDAY
```

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
			1 First John / Second Howard / Third Tom / Heart Tom / Liver Howard	**2** First Bob / Second Harry / Third Jill / Heart Harry / Liver Bob	**3** First Lisa / Second Ellen / Third Boob / Heart Boob / Liver Ellen	**4** First Howard / Second Frank / Third Richard / Heart Frank / Liver Howard
5 First Sally / Second Jill / Third Al / Heart Al / Liver Sally	**6** First Ellen / Second John / Third Tom / Heart Tom / Liver Ellen	**7** First Richard / Second Bob / Third Harold / Heart Harold / Liver Bob	**8** First Jack / Second Jean / Third Boob / Heart Boob / Liver Jack	**9** First Harry / Second Sally / Third Lisa / Heart Sally / Liver Harry	**10** First Howard / Second Harold / Third Jill / Heart Harold / Liver Howard	**11** First Bob / Second John / Third Tom / Heart Tom / Liver Bob
12 First Boob / Second Lisa / Third Jack / Heart Jack / Liver Boob	**13** First Sally / Second Jill / Third Harry / Heart Harry / Liver Sally	**14** First Frank / Second Ellen / Third John / Heart Ellen / Liver Frank	**15** First Lisa / Second Al / Third Harold / Heart Harold / Liver Al	**16** First Richard / Second Bob / Third Harry / Heart Harry / Liver Bob	**17** First Jack / Second Jean / Third Ellen / Heart Ellen / Liver Jack	**18** First Harold / Second Sally / Third Howard / Heart Howard / Liver Sally
19 First Harry / Second Richard / Third Frank / Heart Frank / Liver Harry	**20** First Bob / Second Ellen / Third John / Heart John / Liver Bob	**21** First Al / Second Lisa / Third Boob / Heart Boob / Liver Al	**22** First Sally / Second Harold / Third Richard / Heart Harold / Liver Sally	**23** First Jill / Second Howard / Third Ellen / Heart Ellen / Liver Howard	**24 CHRISTMAS DAY HOLI** First Jean / Second Harry / Third Al / Heart Al / Liver Harry	**25** First Tom / Second Jack / Third John / Heart Jack / Liver Tom
26 First Ellen / Second Boob / Third Bob / Heart Bob / Liver Boob	**27** First Harold / Second Al / Third Harry / Heart Harry / Liver Al	**28** First Sally / Second Tom / Third Lisa / Heart Tom / Liver Sally	**29** First Bob / Second Ellen / Third Jean / Heart Ellen / Liver Bob	**30** First Richard / Second Frank / Third Howard / Heart Howard / Liver Frank	**31 NEW YEAR'S DAY HO** First Tom / Second Lisa / Third Sally / Heart Sally / Liver Tom	

```
 < Month   Month >      < Font    Size >
                                              PAGE 1 OF 2        Print         Close
 < Year    Year >       < Page    Page >
```

The schedule for a month is displayed on the monitor. If no schedule exists, the setup schedule data (manual assignments, vacation, requests, etc.) are displayed. Arrive here from the "Main Menu" by clicking "View", selecting the year and month and the clicking "Show Schedule"

CONTROL	FUNCTION
< Month…Month >	Show the prior or following month.
<Year…Year >	Show the same month of the prior or following year.
< Font…Size >	Decreases or increases the font size of the text in the calendar (range 3 – 14).
< Page…Page >	Show the previous or next page respectively. Pages wrap from first to last and vice versa.
Print	Print the displayed schedule.
Close	Closes the window.

Show Statistics

This window allows the display of the statistics of your schedule. Get here from the "Main Menu" by clicking "View" and then "Show Call Type Statistics". Only schedules that have been created are included in the statistics. Setup schedule data (vacation, no assignment, not available, manual assignments) are not included in the statistics until the schedule for that month is created

CONTROL	FUNCTION
Groups (option)	If you equalize by groups (see "General Options") this control will be active. Selecting groups will cause the drop down list box underneath the selection to contain all your groups. The statistics of the selected group are displayed.
Call Types (option)	If this option is selected the drop down list box below will contain all your call types. The first item in the list will be "All Night Call". ". When "All Night Call" is selected the combined total of all night call types, excluding subset call types, is displayed, otherwise the statistics of the call type in the list box are displayed. If you equalize each call type individually, "Call Types" is selected and the control is disabled.

Group (list) or Call type (list)	The statistics of the selected group or call type are displayed. . When "Call Types" has been selected as the option above, the first item in the list is "All Night Call". When "All Night Call" is selected the combined total of all night call types, excluding subset call types, is displayed
People, Call Types – All	The statistics displayed will be for all people and call types, whether active or inactive.
People, Call Types – Active	The statistics displayed will be for active people only. Individual call/work types that are inactive will not display statistics but give the message "Inactive". "All night call" and group statistics will include active and inactive call types. However, only people active for an active night call will be displayed for "All night call" and only people active for an active member of the group will be displayed when displaying group statistics.
Holidays	If checked the displayed statistics will include the statistics for holidays.
Sundays	If checked the displayed statistics will include the statistics for Sundays.
Mondays	If checked the displayed statistics will include the statistics for Mondays.
Tuesdays	If checked the displayed statistics will include the statistics for Tuesdays.
Wednesdays	If checked the displayed statistics will include the statistics for Wednesdays.
Thursdays	If checked the displayed statistics will include the statistics for Thursdays.
Fridays	If checked the displayed statistics will include the statistics for Fridays
Saturdays	If checked the displayed statistics will include the statistics for Saturdays.
Cumulative	If selected, the cumulative statistics will be displayed.
Month (option)	If selected drop down list boxes enabling selection of month and year will become visible and statistics for the selected month will be displayed
Month (list)	Statistics for the selected month and year are displayed.

Year	Statistics for the selected month and year are displayed.
Name	Clicking on "Name" causes the displayed statistics to be sorted by name. The order will be reversed if already sorted by name.
ID #	Clicking on "ID #" causes the displayed statistics to be sorted by ID #. The order will be reversed if already sorted by ID #.
Taken	This column displays the total number of assignments to the selected call/work type or group, either cumulative or for the selected month, for all the days selected. Clicking on "Taken" causes the displayed statistics to be sorted by number taken. The order will be reversed if already sorted by the number taken.
Eligible	This column displays the displays the total number of times eligible to assigned for the selected call/work type or group, either cumulative or for the selected month, for all the days selected. Clicking on "Eligible" causes the displayed statistics to be sorted by number of times eligible. The order will be reversed if already sorted by the number of times eligible.
T/E	This column displays the ratio of Taken/Eligible, which is the principal statistic used by the program in assigning call. The ratio will be for the selected call/work type or group, either cumulative or for the selected month, for all the days selected. Clicking on "T/E" causes the displayed statistics to be sorted by taken/eligible. The order will be reversed if already sorted by taken/eligible. If statistical equalization is occurring correctly, the "T/E" value should be nearly equal for all people.
Print	The data currently displayed (including any that is scrolled out of view) is printed
Close	Close the "Show Statistics" window.
Show statistics with schedule in memory	This button is only visible when a new, rescheduled or edited schedule is being displayed but has not yet been accepted or rejected (see "View Schedule"). When the button is clicked, the statistics are displayed as they will be if the schedule is accepted. The button caption reads "Show existing statistics" when the proposed statistics are being displayed. A label at the top right of the screen describes what is being displayed.

Vacation, Requests, Non-Availability Tabulation

This window displays a tabulation of the setup schedule data for the people in the call database. Arrive here from the main menu by clicking "View" and then "Show vacation, requests, non-availability". Data for schedules that have been created and for schedules that have not yet been created can be displayed. When using separate day and night assignments, there is another column of data, "Not available day".

CONTROL	FUNCTION
Active People (option)	Vacation, requests, non-availability data for active people are displayed.
All People (option)	Vacation, requests, non-availability data for all people are displayed.
Year (option)	Vacation, requests, non-availability data for the year selected in the drop-down list box "Year" are displayed.
Month (option)	Vacation, requests, non-availability data for the month selected in the drop-down list boxes "Year" and "Month" are displayed.
Year (list)	Data for the selected year or month of the year is displayed (see "Month (list)") below.
Month (list)	If this control is visible, the data displayed is for the selected month and year, otherwise it is for the year.

Already scheduled (option)	Vacation, requests, non-availability data for the months that have already been scheduled are displayed. The column "Months active" shows the number of months that each person was active in schedules that have already been created.
Not yet scheduled (option)	Vacation, requests, non-availability data that has been entered for the months that have not yet been scheduled are displayed. The column "Months active" is not applicable and displays "N.A."
All (option)	Vacation, requests, non-availability data for the months that have already been scheduled and data that has been entered but the month has not yet been scheduled are displayed. The column "Months active" shows the number of months that each person was active in schedules that have already been created.
Show Dates	The "Vacation, requests, non-availability dates" window is displayed
Print	The data currently displayed (including any that is scrolled out of view) is printed.
Close	Closes the "Vacation, Requests…" window.

Vacation, Requests, Non-Availability Dates

This window displays the dates for "Request no call", "No assignment", "Vacation", and the varieties of "Not available" for any person in the call database. Data for both scheduled and yet to be scheduled months are displayed. Arrive here from the "Main Menu" by clicking "View" and then "Show vacation, requests, non-availability". Then click "Show dates" at the bottom of the "Vacation, requests, non-availability tabulation" window. The dates that the selected person has vacation, non-availability, or has requested no call are displayed for each month of the selected year. If the schedule for that month has been created, then its status is "Scheduled" otherwise the status for the month is "Not scheduled".

CONTROL	FUNCTION
Person	Select the person for whom the dates are to be displayed
Show	Select which dates to show. The choices are "Request no call", "No assignment", "Vacation", and the varieties of "Not available".
Year	Select the year for which the dates are to be displayed.
Print	Print the data on the screen.
Close	Close the window.

Reports

Schedules and statistics can be printed from this window. Select a printer, orientation and font from those available on the computer to print the reports. Landscape or portrait will work. A narrow font will allow more characters to be printed for each name. Landscape calendars look like a calendar and allow longer names but fewer lines. Schedules can also be saved as HTML files (.html) or spreadsheet readable text files with comma separated values (.csv). HTML files can be used for emailing the schedule, saving it as a web page, etc. The ".csv" files can be read by a spreadsheet program. Editing assignments in a spreadsheet will not be reflected in the call database. See the control description for more details. If a compression program, such as Adobe Acrobat PDF maker is selected as the printer, all CallSchedule's printed reports can be easily made into .pdf documents for emailing or posting on the web. If you have a newer Windows OS and compression program check the box "Print as single document" when it becomes visible after clicking "Print Month's Schedule", "Print Weekly Schedules" or "Print Daily Schedules". The HTML file schedules are a table. PDF files look just like the printed output.

CONTROL	FUNCTION
Month	Select the month from the drop down list. Applies to all but "Print cumulative stats".
Year	Select the year from the drop down list. Applies to all but "Print cumulative stats"
Print Cumulative Stats	Prints the current cumulative statistics for all people and call/work types, active and inactive. If call/work types are assigned to groups, the statistics for the groups are printed. Month and

	year do not apply.
Print Month's Stats	Prints the statistics for all people and call/work types, active and inactive, for the indicated "Month" and "Year". If call/work types are assigned to groups, the statistics for the groups are printed.
Print Month's Schedule	When this button is clicked, a box appears with the options "Print Calendar" and "Print Individual Schedules". If "Print Calendar" is checked the entire schedule for the month is printed in calendar format. If "Print Individual Schedules" is checked, the schedule for each person in the alphabetical range "Person" "To Person" will be printed. Individual schedules are printed as a list. The schedules will be for the indicated "Month" and "Year". Schedules are printed when the "OK" button is clicked. Clicking "Cancel" removes the box and nothing is printed. See also "Print as single document".
Print Weekly Schedules	When this button is clicked, a box appears with the options "List by People" and "List by Call/Work Types". If "List by People" is checked the left hand column of the weekly schedule will list all active people and subsequent columns will list their assignments and availability. If "List by Call/Work Types" is checked the left hand column will list all active call/work types and the right hand column will list the person assigned to that call/work type. The listings will be printed for the weeks in the range indicated by the "Week" and "To Week" selections. Weeks are from Sunday to Saturday and week one is the first week in which a day of the selected "Month" and "Year" occurs. Schedules are printed when the "OK" button is clicked. Clicking "Cancel" removes the box and nothing is printed. See also "Print as single document".
Print Daily Schedules	When this button is clicked, a box appears with the options "List by People" and "List by Call/Work Types". If "List by People" is checked the left hand column of the daily schedule will list all active people and subsequent columns will list their assignments and availability. If "List by Call/Work Types" is checked the left hand column will list all active call/work types and the right hand column will list the person assigned to that call/work type. The listings will be printed for the days in the range indicated by the "Day" and "To Day" selections. . The schedules will be for the indicated "Month" and "Year". Schedules are printed when the "OK" button is clicked. Clicking

	"Cancel" removes the box and nothing is printed. . See also "Print as single document".
Create Spreadsheet File	When this button is clicked, a box appears with the options "List by People" and "List by Call/Work Types" and an option for which axis is to have days listed. If "List by People" is checked, the columns or rows of the created file will be people. The name of the file will be the year, underscore, the month, underscore, and "People.csv". If "List by Call/Work Types" is checked, columns or rows of the created file will be call/work types and the last part of the name of the file will be "CallTypes.csv". The file or files will be created in the directory where "CallSchedule" is installed (the default is "C:\Program Files\Callschedule\" and will be for the month and year indicated in the "Month" and "Year" list boxes. "Format calendar" controls whether vacation, requests, non-availability are included in the created files. From your spreadsheet program select the CallSchedule directory and show "all files" or "text files" to load these files into your spreadsheet program. Do not edit assignments in the spreadsheet, as the changes will not be reflected in your database.
Create HTML File	See "Create Spreadsheet File" above. Substitute the file extension ".html" for ".csv". Open ".html" files in a browser by navigating to them with "explorer" or "My computer" and double clicking on the file name. See also "Number of months to output" below.
Number of months to output	This control is visible after "Create HTML File" has been clicked. The starting month is the month displayed at the top of the window. Up to 24 months of schedules or pre-schedules can be saved as a single HTML file. If multiple months are included in the file, the file name is the name of the group, "_Schedules", the type of display, either by people or call type, and ".html".
Printer	The printers available to CallScedule will be listed here. Initially the system default printer is selected. Select a different printer or compression program such as a PDF maker by dropping the list and clicking on it. This will remain CallSchedule's printer until CallSchedule is exited.
Printer orientation -Portrait	If checked, printed output from CallScedule will be in the portrait configuration. When a printer is selected, it's default orientation is selected as well.
Printer orientation -Landscape	If checked and available for the selected printer, printed output from CallSchedule will be in the

	landscape configuration
Printer Font	The drop down displays the printer fonts available on your computer. A narrow font will allow more characters to be printed for each name. The default font is the printer's operating system default. Your choice of font is saved in the registry and will be the selected font on all printers where it is available.
Print Calendar	See above "Print Month's Schedule".
Print Individual Schedules	See above "Print Month's Schedule".
Person	See above "Print Month's Schedule".
To Person	See above "Print Month's Schedule".
List by People	See above "Print Weekly Schedules", "Print Daily Schedules".
List by Call/Work Types	See above "Print Weekly Schedules", "Print Daily Schedules" "Create Spreadsheet File".
Week	See above "Print Weekly Schedules".
To Week	See above "Print Weekly Schedules".
Day	See above "Print Daily Schedules".
To Day	See above "Print Daily Schedules".
Days on x axis, Days on y axis	This only applies to spreadsheet and html files. See "Create Spreadsheet File" above.
Print as single document	When this box is checked all output to the printer from "Print Calendar" (individual schedules), "Print weekly schedules", and "Print daily schedules" is printed as a single document separated by page breaks. When not checked each individual, weekly or daily schedule is separated by a "end document" being sent to the printer. When printing to paper there is no noticeable difference. When printing to a PDF producer each document is a separate file if the box is not checked and is single a multi-page document when checked. Printing multi-page documents to a PDF producer or other compression program may make CallSchedule unresponsive when the compression is taking place. With a newer OS and compression program this is not a problem. The default is not checked. The value is saved on the local computer.
Cancel	Closes multiple print output box (see above).

Close	Closes the "Reports" window.

Edit Select

This window allows selection of a month's schedule to be edited.

CONTROL	FUNCTION
Month	"Month" and "Year" selects the month to be edited.
Year	"Month" and "Year" selects the month to be edited.
Use active call/work types and people when the schedule was created	If this option is selected and your people or call/work types have changed, only the people and call work types that were active when the schedule was created will be made active for the edit and updated statistics will be generated only for these people and call types. If no previous schedule exists, current settings will be used. Current values of %FTE and maximum days for each person will be used. The program does not remember old values %FTE and maximum days for each person. If these have changed, it is necessary to alter current settings for "maximum days" and "%FTE" to their old values before editing and restore current values after editing. The generated statistics will be wrong if the wrong settings are used for an edit.
Use current active call/work types and people	The current settings for people and call types are used for the edit and to generate statistics after the edit.

Edit	Loads the schedule for the selected month into the calendar display of the window "Edit Schedule" for editing.
Close	Closes the "Edit Select" window.

Edit Schedule

Past, present and future schedules can be edited. The program will make no assignments when editing. When you are finished editing the "View Schedule" window appears allowing you to check the changes before saving the edited schedule. The "Edit Schedule" calendar works the same as it does in the "Setup Schedule" and "Reschedule" windows. However, If subsets are being scheduled "Add Subset Call" will be a choice of "Type of Entry". An old schedule, if it exists in the database, is automatically loaded and there are only two controls at the bottom of the form "Enter Changes" and "Cancel Edit". You may enter manually a schedule that does not exist in the database, but only back to the beginning of the year that you started using the program.

If you are scheduling subsets, subset calls may be deleted when "Assign specific Call" (or "Assign night call" and "Assign day work") is selected as "Type of Entry". Subset calls may be added when "Add Subset Call" is selected. This is somewhat cumbersome of necessity as more than one subset call may be assigned

Current active people and call types or people and call types active at the time the original schedule was created can be used for the edit depending on the selection made in the window "Edit Select". "%FTE this call type" will be the current settings. "Maximum days" (this call type) will be the current setting. Days available for a call type where the person's maximum days has been equaled or exceeded may change somewhat after editing even if no changes were made in that person's schedule. This is because availability is stopped after maximum days have been equaled (but not exceeded), and the order of scheduling is sequential with an edit and most likely was not sequential when the schedule was created.

Editing will allow you to override most of the functions that safeguard the creation of a valid schedule. For instance, you can assign two people to one call type and no one to another if desired.

88

CONTROL	FUNCTION
< >	Previous or next item for "Which person" and "Type of entry".
Which Person:	Select the person. Only active people (or active people when the schedule was created) are displayed. Changing the person stores the current window for use in rescheduling. If the new schedule is accepted, the changes are stored in the database.
Type of Entry:	The selection of "Type of Entry" sets the function of the calendar display. The calendar display is used to enter various types of availability data and, if desired, to make specific assignments of call or work types. Clicking on the day in the calendar toggles the assignment of what is indicated in "Type of Entry" for the person on that date. Assignment is indicated by the appropriate text being written to that day in the calendar and the day being highlighted. Incompatibilities between non-availability and assignments are eliminated and made consistent with the most recent entry. Toggling to the unassigned state restores the prior value if there was no "Save" between toggling to the assigned state and back. Changing the "Type of Entry" selection invokes a "Save" and stores the current window for use in the edited schedule. The changes are stored in the database only if the new schedule is accepted Possible selections are:
	Request no call -
	The selected person will not be assigned night call on the day selected but will be counted as eligible for that day which will influence future assignments.
	No Assignment -
	The selected person will not receive an assignment on day in question but will be counted as eligible for that day which will influence future assignments.
	Not Available -
	The selected person will not receive an assignment on the day in question and will not be counted as eligible for that day.
	Vacation -
	The selected person will not receive an assignment on vacation days. Various options regarding vacation are set in window "General Options". These options are whether vacation is assigned by weeks or by days, whether vacation occurs on weekends, and whether call liability is accrued while on vacation.
	Not available night
	The selected person will not receive a night call, and is not counted as eligible for any night call.
	Not available day
	This is only an option when "Allow separate day and night assignments" was selected in "General Options". The selected person will not receive a day assignment and, and is not counted as eligible for any day work type.

	Assign Specific Call -
	or
	Assign Night Call -
	Assign Day Work -
	Specific call will be assigned to the person for the day or removed if an assignment already exists. If "Separate Day and Night Assignments" has been selected (see "General Options"), "Assign Night Call" and "Assign Day Work" will be separate selections of "Type of Entry". If "Separate Day and Night Assignments" has not been selected, only one assignment per day is possible (except subset call types), and the selection "Assign Specific Call" will be a choice of "Type of Entry".

If there is no existing assignment, when the calendar box is clicked the "Select Call Type" window will appear with a list of the allowable assignments for that person on that day, and an "OK" button. Check the assignment that is to be made and click on the "OK" button in the window "Select Call Type".

If a call/work type is already assigned on that day, clicking the day on the calendar will remove the assignment.

If subset call types are being scheduled, more than one assignment may be displayed. Clicking on the day in the calendar will then remove the last assignment displayed until there is no assignment. With the exception of "Office Call" subsets when there is no other assignment, subset call types cannot be assigned with this selection of "Type of Entry". To add a subset call assignment select "Add Subset Call" as "Type of Entry". |
	Add Subset Call
	If you are scheduling subsets, "Add Subset Call" will be a selection of "Type of Entry". When clicking on the calendar a list of possible subset assignments for that person on that day will appear in the window "Select Call Type". Select the subset call you wish to assign and click "OK". The subset call will be added to the assignments for that day. (To delete a subset call, see above.)
CANCEL EDIT	Cancels editing and any changes you have made in the schedule or availability of people will be lost. Closes the "Edit Schedule" window.
ENTER CHANGES	Presents the edited schedule in the "View Schedule" window. From here, it can be accepted or rejected. Rejecting gets you back to the "Edit Schedule" window without any changes being stored in the database.

Tools

This window allows for checking the integrity of you database by checking statistics, restarting scheduling in your database, restarting cumulative statistics, deletion of a month's schedule, creation of a new blank database, and deletion of superceded values in the database.

CONTROL	FUNCTION
Month	Select the month for "Restart scheduling", "Restart statistics", or "Delete month"
Year	Select the year for "Restart scheduling", "Restart statistics", or "Delete month"
Delete month	A backup of the database is created. If the backup occurs successfully, the schedule for the selected month is then deleted. Cumulative statistics are adjusted appropriately.
Restart scheduling	A backup of the database is created. If the backup occurs successfully, all the schedules before the selected month and year are deleted. Cumulative statistics are adjusted appropriately. Continuity of night call spacing with the deleted schedules is lost. If the "delete requests, vacation …" box is checked all setup schedule data including manual assignments associated with these schedules is also deleted.

Restart statistics	A backup of the database is created. If the backup occurs successfully, all schedules and statistics prior to the selected month and are marked as "Old Era" and do not count in the cumulative statistics, and are not used in assigning call. Old era schedules and monthly statistics can still be displayed. Continuity of night call spacing is retained. The changes induced by "Restart statistics" are reversible.
Check Statistics	The cumulative statistics are checked against each month's statistics for all people. The total call assignments and assignments on holidays are checked against the cumulative statistics. A report is written in "Progress" list box.
Clean Database	If the database is never cleaned it will contain a complete record of every entry ever made. Clicking this button deletes from the database requests that were superceded by subsequent changed requests or manual assignments. If a month was rescheduled, the original schedule and associated statistics are flagged as invalid but remain in the database. They are not used in assigning call and are not included in the cumulative statistics but the entire history of changes could be recalled with a database program such as Microsoft Access. Clicking this button deletes the invalid data. The only reason to clean the database is to decrease the size of the backups.
New Database	The database will be backed up and then deleted. A new database will be created. The only thing that will remain is the password.
Close	Closes the window.

Backup and Restore
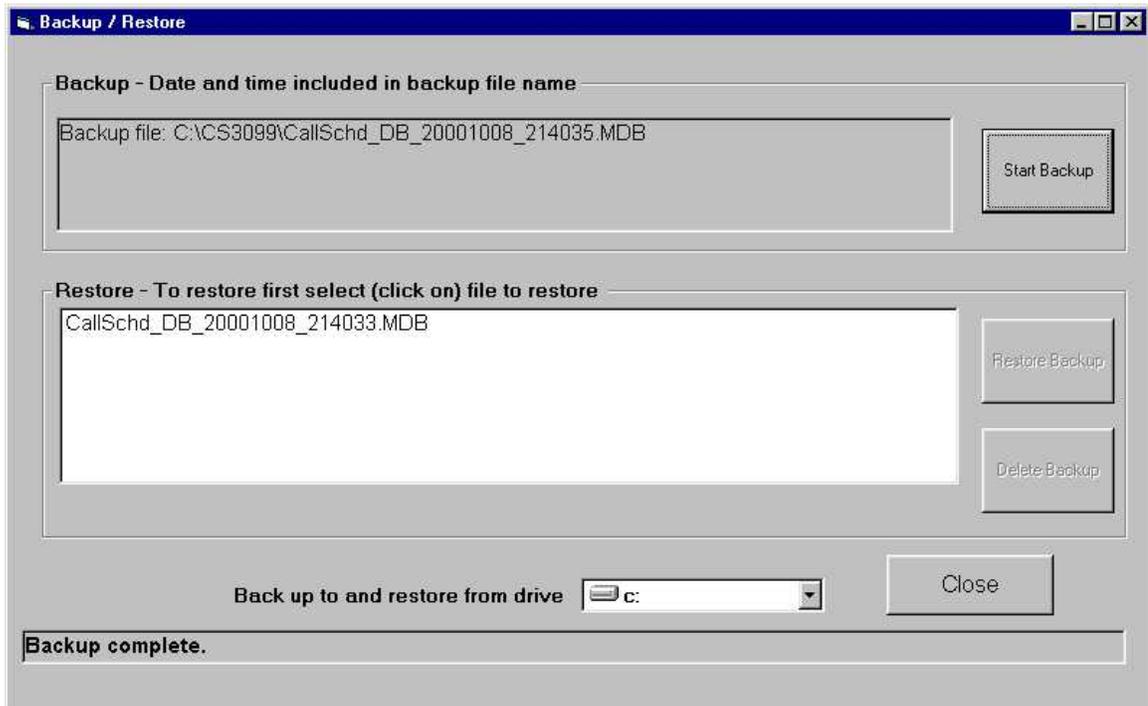
This window allows one-step backup and restoration of the call schedule database to the drive of your choice. The name of the backup file has the following format "CallSchd_DB_ yyyymmdd_ hhmmss .MDB" where "yyyy" is the year, "mm" is the month, "dd" is the day, "hh" is the hour, "mm" the minute and "ss" the second when the database was submitted for backup. The name of the backup file is not user alterable.

CONTROL	FUNCTION
Start Backup	The call schedule database will copied to the drive selected and the copy will be given the name displayed in the window to the left of the "Start Backup" button. The progress of the backup will be displayed in the progress bar at the bottom of the "Backup and Restore" window.
Restore – To Restore first select (click on) file to restore	If the default drive is selected, the names of legitimate call schedule backup files found on this drive and in directory containing the CallSchedule program are displayed. If another drive is selected (such as a floppy or zip drive) the names of the legitimate call schedule backup files found in the root directory of that drive are displayed. In order to restore the call schedule database or delete the backup you must first select the file. You may do this by clicking on the file name or using the tab key and up and down arrows. Once a file has been selected, the buttons "Restore Backup" and "Delete Backup" become active. Unused space in the database is compressed when a backup is

	created so the backup file may be a different size than the original database.
Restore Backup	The selected backup file (see above) is copied to the database. The previously current database will no longer exist, as the backup will replace it. (The name of the database is CDb.mdb and is found in the directory in which you installed the CallSchedule program. Default is C:\Program Files\CallSchedule\CDb.mdb)
Delete Backup	The selected backup file will be deleted. It is not moved to the "Recycled" folder and is completely gone. (See above "Restore – To Restore first select …".)
Back up to and restore from drive	Use the down arrow to drop down a list of your drives and select the drive you wish to use for backup and restore. The default drive and directory is the one that contains the CallSchedule program. In order to protect against a hard drive failure, a removable drive such as USB drive may be selected. Any drive error during selection or backup will cause a "beep" and error message in the progress bar at the bottom of the "Backup and Restore" window.
Close	The "Backup and Restore" window is closed.

Example Schedules

There millions of ways the CallSchedule program can be configured. Three example setups are demonstrated.

Example Schedule 1

This example demonstrates equalizing each call type, combining days of the week statistically, linked call, a subset call type, limiting the number of assignments of a call type to a particular person, never assigning a person to a certain call on holidays, not assigning two people night call on the same night, , the use of priority, changing the calendar format, and a holiday change.

General Options

The name of the group being scheduled is "Example Schedule 1." Each call type is equalized separately, not by groups. There are not separate day and night assignments. Call type names are printed in the call schedule. Beeper numbers are printed at the bottom of all present and future schedules.
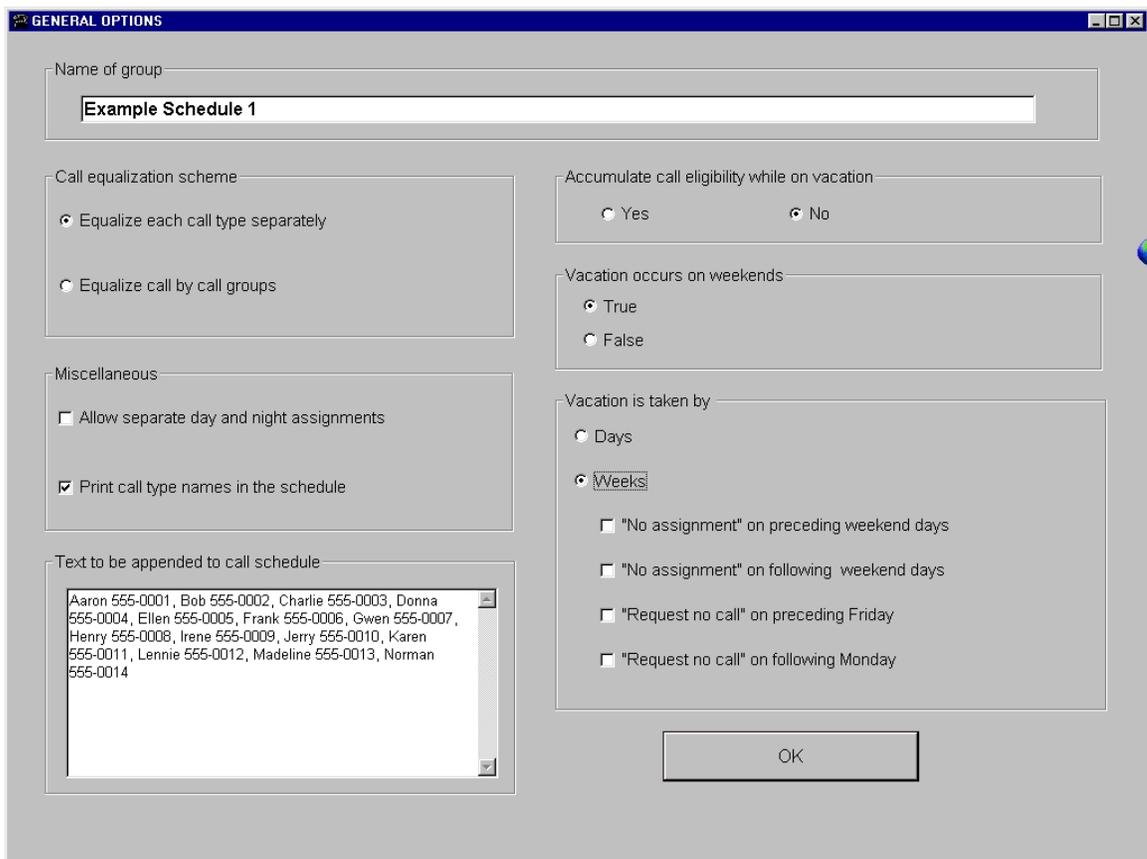
Holidays

In this call schedule Presidents' Day is not a holiday. Saturday holidays are celebrated on Fridays; Sunday holidays are celebrated on Mondays.

Call/Work Types

There are three night call assignments "First" and "Second" and "Third". One person takes "First" on Friday and Sunday and "Third" on Saturday. Another person on call the weekend takes "Third" on Friday and "Sunday" and "First" on Saturday. The third person on call on the weekend takes "Second" all three days. In addition, there is a subset night call "Heart" associated with "First", "Second", or "Third". If more than one primary call type satisfies "Heart", then "Heart" is assigned with the lowest priority. The call people's daytime assignment is not stated but understood that they are in the O.R. during the day on weekdays. "First" is followed by "Off (after first)", a day off, when there are enough people. Six to eight people are scheduled for "O.R.". "Off (after first)" is scheduled before the seventh and eighth people for "OR" as "Off (after first)" has the higher priority. Two people are scheduled for "Outpatient". "Off (after first)", "O.R.", and "Outpatient" are not night call and are only active non-holiday weekdays. Days of the week that are equivalent in terms of dislike of taking are combined statistically in order to promote better month to month statistical equalization.

The next four screen images are of the non-subset night call types. First is shown twice in order to display the links to "Third" on weekends and "Off (after first)" on weekdays. "Second" only links to itself on weekends and is shown once. "Third" only links to "First" on weekends and is shown once.

CALL/WORK TYPES

Enter New Call/Work Type

CALL / WORK TYPE

First

ID NUMBER 1

General
1 Priority
☑ Active
☑ Night Call
☐ Subset
☐ Temporary

Show Dates

Number of People to Schedule
1 Minimum
1 Maximum
☐ Manual Assignment Only

Statistical equalization desired
Combine Mon-Wed, Sat-Sun

Linked Call
"First" ID# 1 is followed by Off (after First) ID# 7

When the Following Day is a
☐ Sunday
☑ Monday
☑ Tuesday
☑ Wednesday
☑ Thursday
☑ Friday
☐ Saturday

Only if the Following Day is a
☐ Sunday holiday
☐ Monday holiday
☐ Tuesday holiday
☐ Wednesday holiday
☐ Thursday holiday, Friday not a holiday
☐ Thursday holiday, Friday also a holiday
☐ Friday holiday
☐ Saturday holiday
☐ Tuesday after a Monday holiday

Show Links

Days Active
☑ Holidays
☑ Sundays
☑ Mondays
☑ Tuesdays
☑ Wednesdays
☑ Thursdays
☑ Fridays
☑ Saturdays

Make all people ACTIVE this call type
Make all people INACTIVE this call type

Show All   Cancel   Save   OK

CALL/WORK TYPES

Enter New Call/Work Type

CALL / WORK TYPE

Second

ID NUMBER 2

General
2 Priority
☑ Active
☑ Night Call
☐ Subset
☐ Temporary

Show Dates

Number of People to Schedule
1 Minimum
1 Maximum
☐ Manual Assignment Only

Statistical equalization desired
Combine Mon-Wed, Sat-Sun

Linked Call
"Second" ID# 2 is followed by Second ID# 2

When the Following Day is a
☑ Sunday
☐ Monday
☐ Tuesday
☐ Wednesday
☐ Thursday
☐ Friday
☑ Saturday

Only if the Following Day is a
☐ Sunday holiday
☐ Monday holiday
☐ Tuesday holiday
☐ Wednesday holiday
☐ Thursday holiday, Friday not a holiday
☐ Thursday holiday, Friday also a holiday
☐ Friday holiday
☐ Saturday holiday
☐ Tuesday after a Monday holiday

Show Links

Days Active
☑ Holidays
☑ Sundays
☑ Mondays
☑ Tuesdays
☑ Wednesdays
☑ Thursdays
☑ Fridays
☑ Saturdays

Make all people ACTIVE this call type
Make all people INACTIVE this call type

Show All   Cancel   Save   OK

"Heart" is a subset night call assigned to the lowest priority of "First", "Second", and "Third".

With "Heart" selected in "Call/Work Types, the button "Show Subset" was clicked.

Day call types

"Off (after First)" is linked to from "First" but does not link to anything on the next day.

Format

Vacation (scrolled out of view) and requests are shown on the schedules. "Heart" and "Off (after First)" follow "First", "Second", and "Third" on the schedule.

People

There are fourteen people. All are full time and all take all the call/work types except "Heart". "Heart" is taken only by the first seven people alphabetically. Aaron (the boss) has a maximum of two "First" calls a month.

Always/Never Assign

Aaron (the boss) is excused from first call on holidays. Ellen and Bob (husband and wife with children) do not take call on the same night.

Setup Schedule

Aaron is on vacation one week (Sunday – Saturday) and requests not to have a call assignment the Monday after his vacation. Aaron will not be assigned night call on the Friday and Saturday before and the Sunday after his vacation as night call is linked on weekends. Clicking on the day 12 of the calendar with "Aaron", "Request No Call", "2001", and "November" displayed at the top entered a request for no night call on November 12, 2001 for Aaron. With "Vacation by weeks" and "Vacation occurs on weekends" options set in "General Options" clicking on any day of the week with "Vacation" set as the "Type of entry" (at the top of the window toggles a weeks vacation for the selected person.

The selection in "Type of Entry" at the top of the window determines what is entered when clicking on a calendar day. "Request No Call" pertains only to night call and the person accumulates liability to take call on another day. "No Assignment" and "Not Available" pertain to both day and night calls. With "No Assignment", the person accumulates call liability. With "Not Available", the person does not accumulate call liability. "Not available night" pertains only to night call and the person does not accumulate liability for night call. The call liability of "Vacation" is an option set in "General Options." When "Assign Specific Call" is the selection of "Type of Entry", manual assignments may be made.

105

The November 2001, Pre-Schedule

Example Schedule 1 CALL PRE-SCHEDULE

NOVEMBER 2001

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
				1	2	3
4 Vacation Aaron	5 Vacation Aaron	6 Vacation Aaron	7 Vacation Aaron	8 Vacation Aaron	9 Vacation Aaron	10 Vacation Aaron
11 Vacation Madeline	12 Request no call Aaron Vacation Madeline	13 Vacation Madeline	14 Vacation Madeline	15 Vacation Madeline	16 Vacation Madeline	17 Vacation Madeline
18 Vacation Madeline	19 Vacation Madeline	20 Vacation Madeline	21 Vacation Madeline	22 THANKSGIVING DAY Vacation Madeline	23 THANKSGIVING + 1 Vacation Madeline	24 Vacation Madeline
25 Vacation Karen	26 Vacation Karen	27 Vacation Karen	28 Vacation Karen	29 Vacation Karen	30 Vacation Karen	

The November 2001, Pre-Schedule Numbers

Example Schedule 1 CALL PRE-SCHEDULE - NUMBERS

NOVEMBER 2001

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
				1 3 Excess people 0 Request no call Passed setup test.	2 3 Excess people 0 Request no call Passed setup test.	3 11 Excess people 0 Request no call Passed setup test.
4 10 Excess people 0 Request no call Passed setup test.	5 2 Excess people 0 Request no call Passed setup test.	6 2 Excess people 0 Request no call Passed setup test.	7 2 Excess people 0 Request no call Passed setup test.	8 2 Excess people 0 Request no call Passed setup test.	9 2 Excess people 0 Request no call Passed setup test.	10 10 Excess people 0 Request no call Passed setup test.
11 10 Excess people 0 Request no call Passed setup test.	12 2 Excess people 1 Request no call Passed setup test.	13 2 Excess people 0 Request no call Passed setup test.	14 2 Excess people 0 Request no call Passed setup test.	15 2 Excess people 0 Request no call Passed setup test.	16 2 Excess people 0 Request no call Passed setup test.	17 10 Excess people 0 Request no call Passed setup test.
18 10 Excess people 0 Request no call Passed setup test.	19 2 Excess people 0 Request no call Passed setup test.	20 2 Excess people 0 Request no call Passed setup test.	21 2 Excess people 0 Request no call Passed setup test.	22 THANKSGIVING DAY 10 Excess people 1 Request no call Passed setup test.	23 THANKSGIVING + 1 10 Excess people 1 Request no call Passed setup test.	24 10 Excess people 0 Request no call Passed setup test.
25 10 Excess people 0 Request no call Passed setup test.	26 2 Excess people 0 Request no call Passed setup test.	27 2 Excess people 0 Request no call Passed setup test.	28 2 Excess people 0 Request no call Passed setup test.	29 2 Excess people 0 Request no call Passed setup test.	30 2 Excess people 0 Request no call Passed setup test.	

Create Schedule

The default options are used to create the schedule with the exception that "Find a solution with the fewest violations" is on and "Nominal maximum night calls per month" is set to seven. This is a fairly tight restriction as the average number of night calls per person for a 31 day month with 3 night call types and 14 people is 6.6 days per month.

Vastly different schedules can be produced using the different options on this screen. It may be necessary to change options from month to month to get the best schedule. After entering vacation and requests, clicking the "Calculate suggested values" button will analyze your requirements and availability for the month to be scheduled and suggest values for these parameters.

The Schedules

Page one of the schedule as displayed on the monitor.

The schedule is not entered into the database until it is accepted. Clicking "Reject Schedule" discards the schedule. Clicking "Accept Schedule", or either of the accept and print buttons, enters the schedule into the database. If the buttons "Accept and Print Schedule" or "Accept and Print Schedule and Stats" are clicked, the schedule and a report on the setup data, scheduling options used, violations, and information regarding how often various constraints interfered with statistical equalization of call is printed . All four of these buttons close the window displaying the schedule.

If the program can create other solutions, they may be displayed by clicking on "Next Solution". Clicking on "Toggle Violations" shows or hides any violations of the scheduling parameters (e.g. such as calls too close together.)   If there is too much data to fit on one screen, the next page button will cycle through the pages.

Note only seven people are scheduled for "O.R." with it's minimum of six and maximum of eight people to schedule. "Off (after First)" is always scheduled despite having a minimum of zero people to schedule as it has a higher priority than "O.R.".

VIEW SCHEDULE

Example Schedule 1 CALL SCHEDULE

NOVEMBER   2001

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
				1 First Irene / Second Ellen / Third Karen / Heart Ellen / Off (after First) Madeline	**2** First Charlie / Second Henry / Third Madeline / Heart Charlie / Off (after First) Irene	**3** First Madeline / Second Henry / Third Charlie / Heart Charlie
4 First Charlie / Second Henry / Third Madeline / Heart Charlie / Vacation Aaron	**5** First Gwen / Second Karen / Third Irene / Heart Gwen / Off (after First) Charlie	**6** First Jerry / Second Ellen / Third Norman / Heart Ellen / Off (after First) Gwen	**7** First Irene / Second Gwen / Third Charlie / Heart Charlie / Off (after First) Jerry	**8** First Henry / Second Jerry / Third Frank / Heart Frank / Off (after First) Irene	**9** First Norman / Second Donna / Third Lennie / Heart Donna / Off (after First) Henry	**10** First Lennie / Second Donna / Third Norman / Heart Donna / Vacation Aaron
11 First Norman / Second Donna / Third Lennie / Heart Donna / Vacation Madeline	**12** First Frank / Second Irene / Third Bob / Heart Bob / Off (after First) Norman	**13** First Donna / Second Charlie / Third Aaron / Heart Aaron / Off (after First) Frank	**14** First Henry / Second Jerry / Third Frank / Heart Frank / Off (after First) Donna	**15** First Aaron / Second Lennie / Third Irene / Heart Aaron / Off (after First) Henry	**16** First Karen / Second Bob / Third Jerry / Heart Bob / Off (after First) Aaron	**17** First Jerry / Second Bob / Third Karen / Heart Bob / Vacation Madeline
18 First Karen / Second Bob / Third Jerry / Heart Bob / Vacation Madeline	**19** First Lennie / Second Norman / Third Ellen / Heart Ellen / Off (after First) Karen	**20** First Aaron / Second Donna / Third Henry / Heart Donna / Off (after First) Lennie	**21** First Norman / Second Lennie / Third Frank / Heart Frank / Off (after First) Aaron	**22 THANKSGIVING DAY** First Bob / Second Charlie / Third Donna / Heart Donna / Vacation Madeline	**23 THANKSGIVING + 1** First Ellen / Second Frank / Third Gwen / Heart Gwen / Vacation Madeline	**24** First Gwen / Second Frank / Third Ellen / Heart Ellen / Vacation Madeline
25 First Ellen / Second Frank / Third Gwen / Heart Gwen / Vacation Karen	**26** First Bob / Second Madeline / Third Jerry / Heart Bob / Off (after First) Ellen	**27** First Lennie / Second Gwen / Third Irene / Heart Gwen / Off (after First) Bob	**28** First Charlie / Second Bob / Third Madeline / Heart Bob / Off (after First) Lennie	**29** First Donna / Second Norman / Third Ellen / Heart Ellen / Off (after First) Charlie	**30** First Irene / Second Aaron / Third Henry / Heart Aaron / Off (after First) Donna	

108

Pages two through four of the schedule

NOVEMBER 2001

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
				1 Outpatient Aaron Outpatient Frank O.R. Bob O.R. Charlie O.R. Donna	2 Outpatient Gwen Outpatient Jerry O.R. Aaron O.R. Bob O.R. Donna	3
4	5 Outpatient Frank Outpatient Madeline O.R. Bob O.R. Donna O.R. Ellen	6 Outpatient Bob Outpatient Charlie O.R. Donna O.R. Frank O.R. Henry	7 Outpatient Ellen Outpatient Karen O.R. Bob O.R. Donna O.R. Frank	8 Outpatient Donna Outpatient Lennie O.R. Bob O.R. Charlie O.R. Ellen	9 Outpatient Bob Outpatient Madeline O.R. Charlie O.R. Ellen O.R. Frank	10
11	12 Outpatient Aaron Outpatient Lennie O.R. Charlie O.R. Donna O.R. Ellen	13 Outpatient Henry Outpatient Karen O.R. Bob O.R. Ellen O.R. Gwen	14 Outpatient Irene Outpatient Norman O.R. Aaron O.R. Bob O.R. Charlie	15 Outpatient Bob Outpatient Charlie O.R. Donna O.R. Ellen O.R. Frank	16 Outpatient Ellen Outpatient Frank O.R. Charlie O.R. Donna O.R. Gwen	17
18	19 Outpatient Donna Outpatient Irene O.R. Aaron O.R. Bob O.R. Charlie	20 Outpatient Charlie Outpatient Karen O.R. Bob O.R. Ellen O.R. Frank	21 Outpatient Henry Outpatient Jerry O.R. Bob O.R. Charlie O.R. Donna	22 THANKSGIVING DAY	23 THANKSGIVING + 1	24
25	26 Outpatient Donna Outpatient Norman O.R. Aaron O.R. Charlie O.R. Frank	27 Outpatient Ellen Outpatient Frank O.R. Aaron O.R. Charlie O.R. Donna	28 Outpatient Gwen Outpatient Irene O.R. Aaron O.R. Donna O.R. Ellen	29 Outpatient Aaron Outpatient Henry O.R. Bob O.R. Frank O.R. Gwen	30 Outpatient Lennie Outpatient Norman O.R. Bob O.R. Charlie O.R. Ellen	

NOVEMBER 2001

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
				1 O.R. Gwen O.R. Henry O.R. Jerry O.R. Lennie O.R. Norman	2 O.R. Ellen O.R. Frank O.R. Karen O.R. Lennie O.R. Norman	3
4	5 O.R. Henry O.R. Jerry O.R. Lennie O.R. Norman Vacation Aaron	6 O.R. Irene O.R. Karen O.R. Lennie O.R. Madeline Vacation Aaron	7 O.R. Henry O.R. Lennie O.R. Madeline O.R. Norman Vacation Aaron	8 O.R. Gwen O.R. Karen O.R. Madeline O.R. Norman Vacation Aaron	9 O.R. Gwen O.R. Irene O.R. Jerry O.R. Karen Vacation Aaron	10
11	12 O.R. Gwen O.R. Henry O.R. Jerry O.R. Karen Request no call Aaron	13 O.R. Irene O.R. Jerry O.R. Lennie O.R. Norman Vacation Madeline	14 O.R. Ellen O.R. Gwen O.R. Karen O.R. Lennie Vacation Madeline	15 O.R. Gwen O.R. Jerry O.R. Karen O.R. Norman Vacation Madeline	16 O.R. Henry O.R. Irene O.R. Lennie O.R. Norman Vacation Madeline	17
18	19 O.R. Frank O.R. Gwen O.R. Henry O.R. Jerry Vacation Madeline	20 O.R. Gwen O.R. Irene O.R. Jerry O.R. Norman Vacation Madeline	21 O.R. Ellen O.R. Gwen O.R. Irene O.R. Karen Vacation Madeline	22 THANKSGIVING DAY	23 THANKSGIVING + 1	24
25	26 O.R. Gwen O.R. Henry O.R. Irene O.R. Lennie Vacation Karen	27 O.R. Henry O.R. Jerry O.R. Madeline O.R. Norman Vacation Karen	28 O.R. Frank O.R. Henry O.R. Jerry O.R. Norman Vacation Karen	29 O.R. Irene O.R. Jerry O.R. Lennie O.R. Madeline Vacation Karen	30 O.R. Frank O.R. Gwen O.R. Jerry O.R. Madeline Vacation Karen	

NOVEMBER 2001

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
				1	2	3
4	5	6	7	8	9	10
11	12 Vacation Madeline	13	14	15	16	17
18	19	20	21	22 THANKSGIVING DAY	23 THANKSGIVING + 1	24
25	26	27	28	29	30	

After six months of scheduling, there were six violations, all of the same type. Violations are shown for January 2002.

There were several instances were "Find the solution with the fewest violations" caused the program to compute multiple solutions. A solution with no violations was found once and once the message "There are no ties, only one solution is possible" was received. Computing multiple solutions requires considerably more time. If there are no ties click "OK" and the schedule will be displayed. If there are, no ties for night call, or the compute time will be greater than two minutes, the program asks if you wish to continue after finding the first solution.   The solution that has already been computed will be immediately displayed if you choose not to continue.

The Statistics

The statistics for all night call for November are displayed.

The statistics for all night call after 6 months are displayed. Everyone has had 2 weeks vacation

The statistics for "First" after 6 months are displayed. Everyone has had 2 weeks vacation

Name	ID #	Taken	Eligible	T/E
Donna	4	14	167	0.08383
Ellen	5	14	167	0.08383
Frank	6	12	167	0.07186
Gwen	7	13	167	0.07784
Henry	8	13	167	0.07784
Irene	9	13	167	0.07784
Jerry	10	13	167	0.07784
Karen	11	13	167	0.07784
Lennie	12	13	167	0.07784
Madeline	13	14	167	0.08383
Norman	14	13	167	0.07784

The statistics for "Heart" call after 6 months are displayed. Everyone has had 2 weeks vacation

Name	ID #	Taken	Eligible	T/E
Aaron	1	27	167	0.16168
Bob	2	28	167	0.16766
Charlie	3	22	167	0.13174
Donna	4	28	167	0.16766
Ellen	5	26	167	0.15569
Frank	6	23	167	0.13772
Gwen	7	27	167	0.16168

Example Schedule 2

Demonstrates separate day and night assignments.

General

A group of ten people covers two locations. One person is on call at each location and is also at that location in the daytime. There is a "Second" call that backs up both locations. The "Second" call person can be at either location in the daytime. Allow separate day and night assignments is selected in "General Options".

Holidays

The default holidays are used

Call/Work Types

There are three night call types, "St. M. Call", "County Call", and "Second". All are:
    night call for one person
    active on all days of the week and holidays
    no days combined statistically
    linked to itself from Saturday to Sunday
There are two day call/work types, "St. M. O.R." and "County O.R.". "St. M. O.R." is for six people.
"County O.R." is for four people. They share the common characteristics:
    not a night call
    active on Monday – Friday non-holidays
    no days combined statistically
    not linked
All the call/work types are active, non-subset, and not manual assignment only.

Compatible Call Types

In this example "St. M. Call", "County Call", and "Second" differ in their compatibility with day call/work types. Clicking the button "Set day and night compatibility" on the "Call/Work Types" window allows you to set which day work types and night call types can be taken on the same day. In this example, a person on "St. M. O.R." can take "St. M. Call" or "Second" call. A person on "County O.R." can take "County Call" or "Second" call.
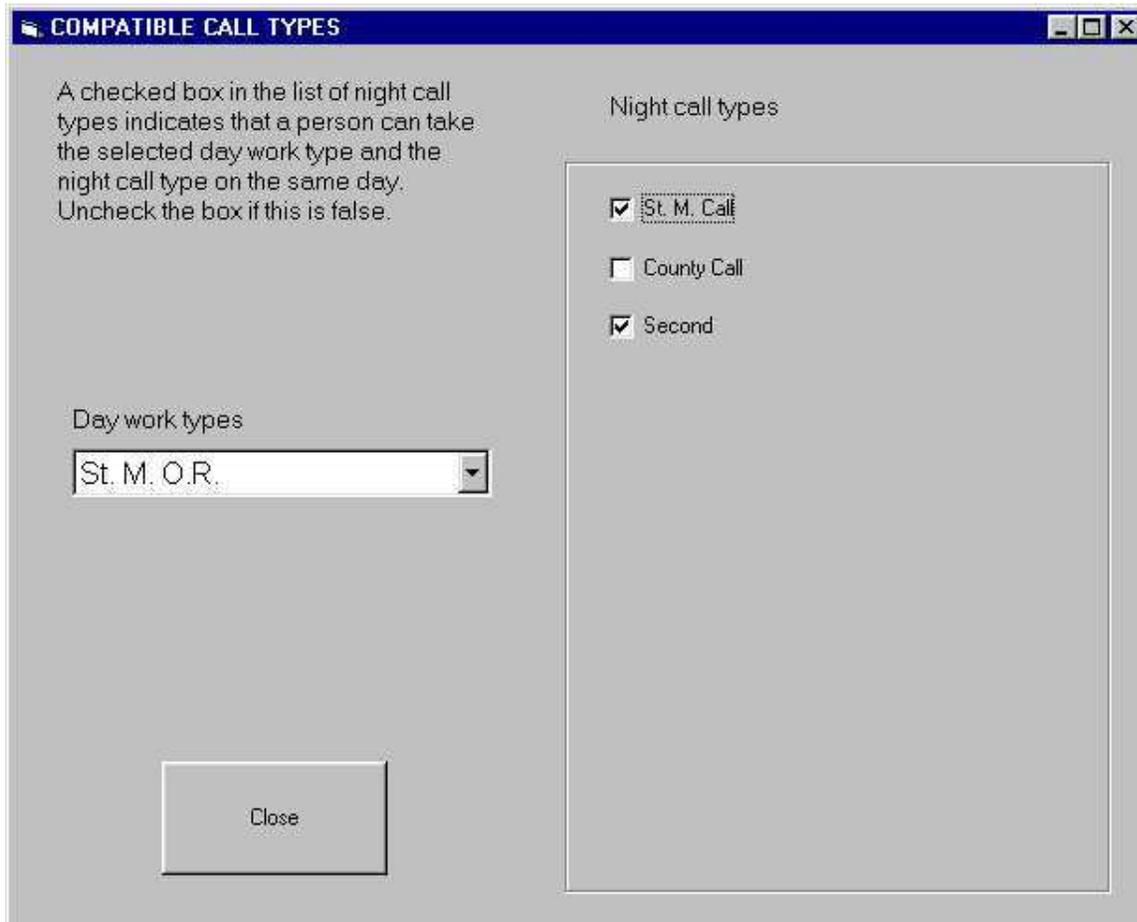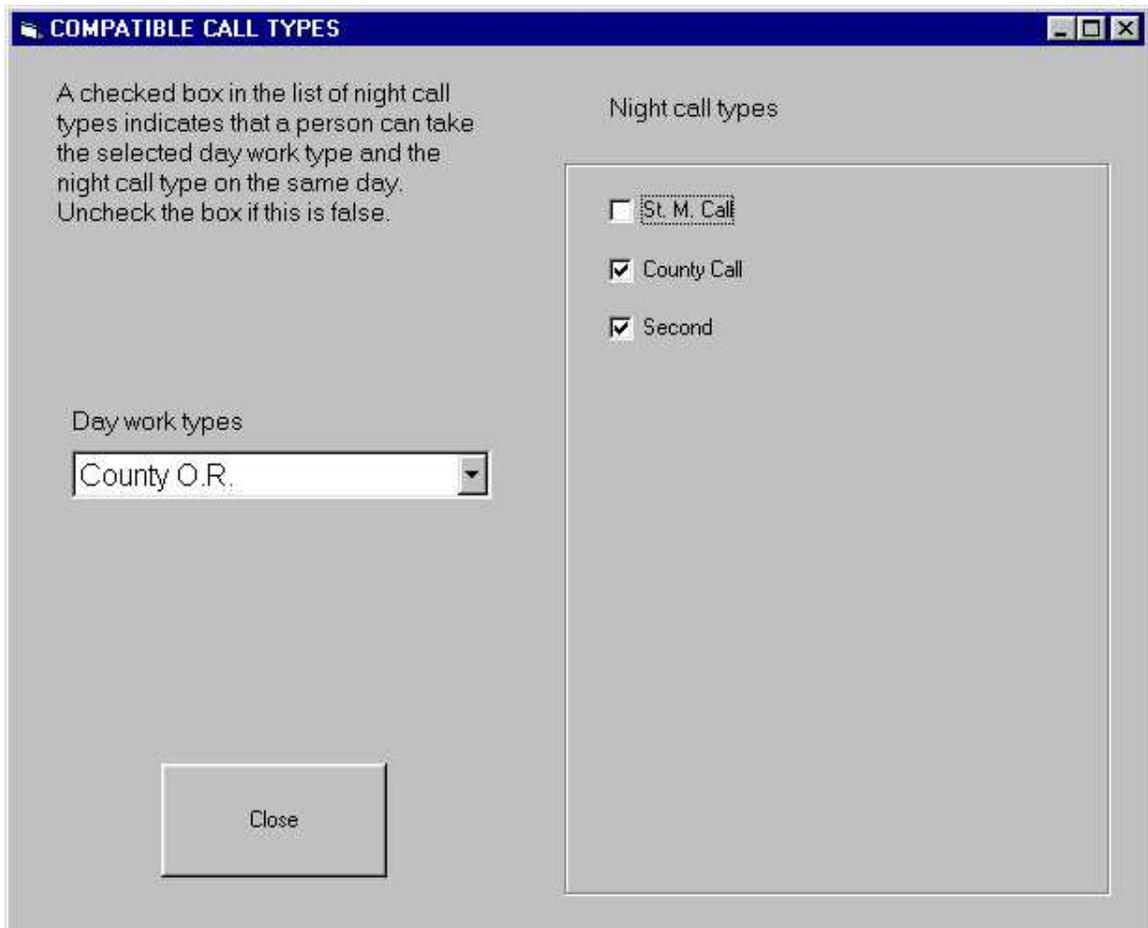
Format Calendar

"St. M. Call", "County Call", "Second", "St. M. O.R.", "County O.R." is the order of listing.

People

There are 10 people, all active, full time, active with %FTE's of 100 and maximum days 31 for each call type.

Always/Never Assign

No entries

Setup Schedule

No entries

Create Schedule

"Nominal maximum night calls per month" is set to 11, otherwise the defaults.

The Schedules

Page one of the October 2001 schedule

Example Schedule 2 CALL SCHEDULE

OCTOBER 2001

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1 St. M. Call Sally County Call James Second Harriet St. M. O.R. Alice St. M. O.R. Anthony	**2** St. M. Call John County Call Anthony Second William St. M. O.R. Harriet St. M. O.R. James	**3** St. M. Call James County Call Richard Second Sally St. M. O.R. Harriet St. M. O.R. James	**4** St. M. Call William County Call Paul Second John St. M. O.R. Alice St. M. O.R. Harriet	**5** St. M. Call Anthony County Call Luke Second Richard St. M. O.R. Alice St. M. O.R. Anthony	**6** St. M. Call Harriet County Call Alice Second James
7 St. M. Call Harriet County Call Alice Second James	**8** St. M. Call Luke County Call William Second Anthony St. M. O.R. Anthony St. M. O.R. James	**9** St. M. Call Sally County Call James Second Alice St. M. O.R. Alice St. M. O.R. Anthony	**10** St. M. Call William County Call Luke Second Harriet St. M. O.R. Alice St. M. O.R. Harriet	**11** St. M. Call James County Call Alice Second Sally St. M. O.R. Anthony St. M. O.R. James	**12** St. M. Call Luke County Call John Second William St. M. O.R. Alice St. M. O.R. Harriet	**13** St. M. Call Richard County Call Sally Second Paul
14 St. M. Call Richard County Call Sally Second Paul	**15** St. M. Call Harriet County Call Anthony Second John St. M. O.R. Alice St. M. O.R. Harriet	**16** St. M. Call Alice County Call William Second James St. M. O.R. Alice St. M. O.R. Anthony	**17** St. M. Call Paul County Call Harriet Second Anthony St. M. O.R. Alice St. M. O.R. Anthony	**18** St. M. Call Luke County Call Sally Second Richard St. M. O.R. Anthony St. M. O.R. Harriet	**19** St. M. Call Harriet County Call Paul Second John St. M. O.R. Alice St. M. O.R. Anthony	**20** St. M. Call Anthony County Call William Second Luke
21 St. M. Call Anthony County Call William Second Luke	**22** St. M. Call John County Call Alice Second James St. M. O.R. James St. M. O.R. John	**23** St. M. Call Harriet County Call Richard Second Paul St. M. O.R. Alice St. M. O.R. Anthony	**24** St. M. Call Sally County Call Anthony Second William St. M. O.R. John St. M. O.R. Luke	**25** St. M. Call Richard County Call James Second Harriet St. M. O.R. Alice St. M. O.R. Harriet	**26** St. M. Call Paul County Call Sally Second Anthony St. M. O.R. Anthony St. M. O.R. James	**27** St. M. Call James County Call John Second Alice
28 St. M. Call James County Call John Second Alice	**29** St. M. Call William County Call Luke Second Sally St. M. O.R. Alice St. M. O.R. Anthony	**30** St. M. Call John County Call Harriet Second Richard St. M. O.R. John St. M. O.R. Luke	**31** St. M. Call Alice County Call Paul Second Luke St. M. O.R. Alice St. M. O.R. Anthony			

Page two of the October, 2001 schedule

OCTOBER 2001

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1 St. M. O.R. Harriet St. M. O.R. Luke St. M. O.R. Sally St. M. O.R. William County O.R. James	**2** St. M. O.R. John St. M. O.R. Richard St. M. O.R. Sally St. M. O.R. William County O.R. Alice	**3** St. M. O.R. John St. M. O.R. Luke St. M. O.R. Paul St. M. O.R. Sally County O.R. Alice	**4** St. M. O.R. James St. M. O.R. John St. M. O.R. Luke St. M. O.R. William County O.R. Anthony	**5** St. M. O.R. Harriet St. M. O.R. Paul St. M. O.R. Richard St. M. O.R. William County O.R. James	**6**
7	**8** St. M. O.R. John St. M. O.R. Luke St. M. O.R. Paul St. M. O.R. Richard County O.R. Alice	**9** St. M. O.R. Luke St. M. O.R. Paul St. M. O.R. Richard St. M. O.R. Sally County O.R. Harriet	**10** St. M. O.R. James St. M. O.R. Richard St. M. O.R. Sally St. M. O.R. William County O.R. Anthony	**11** St. M. O.R. John St. M. O.R. Luke St. M. O.R. Paul St. M. O.R. Sally County O.R. Alice	**12** St. M. O.R. James St. M. O.R. Luke St. M. O.R. Sally St. M. O.R. William County O.R. Anthony	**13**
14	**15** St. M. O.R. John St. M. O.R. Paul St. M. O.R. Richard St. M. O.R. William County O.R. Anthony	**16** St. M. O.R. Harriet St. M. O.R. James St. M. O.R. John St. M. O.R. Luke County O.R. Paul	**17** St. M. O.R. Paul St. M. O.R. Richard St. M. O.R. Sally St. M. O.R. William County O.R. Harriet	**18** St. M. O.R. James St. M. O.R. John St. M. O.R. Luke St. M. O.R. Richard County O.R. Alice	**19** St. M. O.R. Harriet St. M. O.R. John St. M. O.R. Sally St. M. O.R. William County O.R. James	**20**
21	**22** St. M. O.R. Luke St. M. O.R. Paul St. M. O.R. Richard St. M. O.R. Sally County O.R. Alice	**23** St. M. O.R. Harriet St. M. O.R. James St. M. O.R. Paul St. M. O.R. William County O.R. John	**24** St. M. O.R. Paul St. M. O.R. Richard St. M. O.R. Sally St. M. O.R. William County O.R. Alice	**25** St. M. O.R. Paul St. M. O.R. Richard St. M. O.R. Sally St. M. O.R. William County O.R. Anthony	**26** St. M. O.R. John St. M. O.R. Luke St. M. O.R. Paul St. M. O.R. Richard County O.R. Alice	**27**
28	**29** St. M. O.R. Harriet St. M. O.R. James St. M. O.R. Sally St. M. O.R. William County O.R. John	**30** St. M. O.R. Paul St. M. O.R. Richard St. M. O.R. Sally St. M. O.R. William County O.R. Alice	**31** St. M. O.R. Harriet St. M. O.R. James St. M. O.R. John St. M. O.R. Luke County O.R. Paul			

Page three of the October, 2001 schedule

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1 County O.R. John County O.R. Paul County O.R. Richard	2 County O.R. Anthony County O.R. Luke County O.R. Paul	3 County O.R. Anthony County O.R. Richard County O.R. William	4 County O.R. Paul County O.R. Richard County O.R. Sally	5 County O.R. John County O.R. Luke County O.R. Sally	6
7	8 County O.R. Harriet County O.R. Sally County O.R. William	9 County O.R. James County O.R. John County O.R. William	10 County O.R. John County O.R. Luke County O.R. Paul	11 County O.R. Harriet County O.R. Richard County O.R. William	12 County O.R. John County O.R. Paul County O.R. Richard	13
14	15 County O.R. James County O.R. Luke County O.R. Sally	16 County O.R. Richard County O.R. Sally County O.R. William	17 County O.R. James County O.R. John County O.R. Luke	18 County O.R. Paul County O.R. Sally County O.R. William	19 County O.R. Luke County O.R. Paul County O.R. Richard	20
21	22 County O.R. Anthony County O.R. Harriet County O.R. William	23 County O.R. Luke County O.R. Richard County O.R. Sally	24 County O.R. Anthony County O.R. Harriet County O.R. James	25 County O.R. James County O.R. John County O.R. Luke	26 County O.R. Harriet County O.R. Sally County O.R. William	27
28	29 County O.R. Luke County O.R. Paul County O.R. Richard	30 County O.R. Anthony County O.R. Harriet County O.R. James	31 County O.R. Richard County O.R. Sally County O.R. William			

OCTOBER 2001

The Statistics

The statistics after 6 months of scheduling for "St. M. Call", "County Call", and "Second"

Groups · **Call Types** — **Cumulative** / **Month**

St. M. Call

People, Call Type: All / **Active**

☑ Holidays ☑ Sundays ☑ Mondays ☑ Tuesdays ☑ Wednesdays ☑ Thursdays ☑ Fridays ☑ Saturdays

Name	ID #	Taken	Eligible	T/E
Alice	2	18	182	0.09890
Anthony	8	17	182	0.09341
Harriet	3	18	182	0.09890
James	4	19	182	0.10440
John	1	18	182	0.09890
Luke	6	18	182	0.09890
Paul	7	18	182	0.09890
Richard	10	19	182	0.10440
Sally	9	18	182	0.09890
William	5	19	182	0.10440

County Call

Groups | Call Types

○ Cumulative
○ Month

People, Call Type
○ All
● Active

☑ Holidays
☑ Sundays
☑ Mondays
☑ Tuesdays
☑ Wednesdays
☑ Thursdays
☑ Fridays
☑ Saturdays

Name	ID #	Taken	Eligible	T/E
Alice	2	17	182	0.09341
Anthony	8	19	182	0.10440
Harriet	3	18	182	0.09890
James	4	19	182	0.10440
John	1	17	182	0.09341
Luke	6	18	182	0.09890
Paul	7	19	182	0.10440
Richard	10	18	182	0.09890
Sally	9	18	182	0.09890
William	5	19	182	0.10440

Second

Groups | Call Types

○ Cumulative
○ Month

People, Call Type
○ All
● Active

☑ Holidays
☑ Sundays
☑ Mondays
☑ Tuesdays
☑ Wednesdays
☑ Thursdays
☑ Fridays
☑ Saturdays

Name	ID #	Taken	Eligible	T/E
Alice	2	18	182	0.09890
Anthony	8	20	182	0.10989
Harriet	3	18	182	0.09890
James	4	17	182	0.09341
John	1	19	182	0.10440
Luke	6	19	182	0.10440
Paul	7	17	182	0.09341
Richard	10	18	182	0.09890
Sally	9	18	182	0.09890
William	5	18	182	0.09890

Example Schedule 3

Demonstrates equalizing call by call groups

General

In this example, there are two night call types, "O.R." and "Heart". Not everyone takes both types but the total call for the two types combined should be equal for everyone. "Equalize Call by Groups" is selected in "General Options"

Holidays

The default options are selected.

Call/Work Types

There are two call types, "O.R." and "Heart". Both are members of group 1.

Format Calendar

The defaults were selected.

People

There are nine people. The first three (alphabetically) take only "O.R.". The next three take both "O.R." and "Heart". The last three take only "Heart".

Always/Never Assign

There are no special circumstances.

Setup Schedule

There is no non-availability or manual assignment.

Create Schedule

The defaults are selected.

The Schedule

NOVEMBER 2000

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
			1 O.R. Burt Heart Elgin	2 O.R. Charlie Heart Harry	3 O.R. Adam Heart Dawn	4 O.R. Frank Heart Grace
5 O.R. Frank Heart Grace	6 O.R. Adam Heart Elgin	7 O.R. Charlie Heart Harry	8 O.R. Dawn Heart Ingomar	9 O.R. Adam Heart Grace	10 O.R. Elgin Heart Harry	11 O.R. Charlie Heart Ingomar
12 O.R. Charlie Heart Ingomar	13 O.R. Frank Heart Grace	14 O.R. Burt Heart Harry	15 O.R. Charlie Heart Dawn	16 O.R. Adam Heart Frank	17 O.R. Burt Heart Ingomar	18 O.R. Dawn Heart Elgin
19 O.R. Dawn Heart Elgin	20 O.R. Frank Heart Ingomar	21 O.R. Charlie Heart Grace	22 O.R. Burt Heart Dawn	23 THANKSGIVING DAY O.R. Elgin Heart Frank	24 THANKSGIVING + 1 O.R. Adam Heart Grace	25 O.R. Burt Heart Harry
26 O.R. Burt Heart Harry	27 O.R. Frank Heart Dawn	28 O.R. Adam Heart Ingomar	29 O.R. Elgin Heart Harry	30 O.R. Dawn Heart Grace		

The Statistics

The statistics after six months for "Group 1" (both "O.R." and "Heart")

Show Statistics

Groups ●   Call Types ○   Cumulative ●   Month ○

Group 1

People, Call Type — All ○   Active ●

☑ Holidays ☑ Sundays ☑ Mondays ☑ Tuesdays ☑ Wednesdays ☑ Thursdays ☑ Fridays ☑ Saturdays

Name	ID #	Taken	Eligible	T/E
Adam	1	40	181	0.22099
Burt	2	40	181	0.22099
Charlie	3	39	181	0.21547
Dawn	4	40	181	0.22099
Elgin	5	39	181	0.21547
Frank	6	41	181	0.22652
Grace	7	41	181	0.22652
Harry	8	41	181	0.22652
Ingomar	9	41	181	0.22652

Print   Close

Group 1 call/work types - O.R., Heart

The statistics for "O.R."

The statistics for "Heart"

Examples of Linked Call Types

The examples here are for linked call types set up via "Call/Work Types". See also "Request links."

If you have complicated connections between call/work types, it may be difficult to visualize how to set up the CallSchedule program to accomplish your desired schedule. No matter how complex your schedule, provisions of the program can accommodate it. The "Link Demonstration" window, accessed by clicking "Show links" from "Call/Work Types" will help with setting up links.

Links facilitate the assignment of a person taking a certain call/work type on a certain day of the week to the same or a different call/work type on the following day. Links may branch differently depending on whether the day or the following day is a holiday or not a holiday. From Wednesday to a Thursday holiday can link differently depending on whether Friday is also a holiday (e.g. when Thanksgiving and the day after Thanksgiving are both considered holidays).

Multiple-day linked calls, such as taking an assignment a week at a time, or a week at a time non-holiday weekdays only, will link through a holiday if the call/work type is not active on holidays and does not branch to a different call/work type on holidays.

If a call/work type is active on holidays, linking to it on a certain day of the week will occur whether the day is a holiday or not. A different link to the holiday can be created, however, by utilizing the check box for that day of the week only when it is a holiday.

To branch differently from a call/work type on day of the week that is a holiday than from that same day of the week that is not a holiday requires a separate call/work type for the holidays with the exception of a Tuesday after a Monday holiday which has it's own check box in the holiday section.

Remote links, where a call/work types are connected with unaffected days in between, can be facilitated by use of a dummy call/work type to which no assignments are made. The dummy call/work type should be active (overall), but not active on any days of the week or holidays.

Links to and from call/work types that are active take precedence over links to and from call/work types that are not active on the day in question.

With the exception of different links around holidays, links can only be from one call type to one call type. E.g., you cannot link both "First Call" and "Heart Night" to "Off". You can link "First Call" to "Off (after first)" and "Heart Night" to "Off (after heart)".

Links must have the same number of people to schedule each day unless the number of people to schedule is zero, i.e. they must be "n" to "n" on days that need to be scheduled, where "n" is the number of people to schedule. "First Call" with one person cannot link to "O.R." with four people. It can link to "O.R. (#4)" for one person.

Various types of links are demonstrated in the following examples:

Example 1: Friday, Saturday and Sunday

One person has "First Call" on Friday, "Second Call" on Saturday and "First Call" on Sunday.

One person has "Second Call" on Friday, "First Call" on Saturday and "Second Call" on Sunday.

One person has "Third Call" on Friday, Saturday and Sunday.

JULY 1999						
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
				1 First Call Greg Second Call Ingomar Third Call Bob	2 First Call Justin Second Call Helen Third Call Karl	3 First Call Helen Second Call Justin Third Call Karl
4 First Call Justin Second Call Helen Third Call Karl	5 INDEPEDENCE DAY HOLID First Call Aaron Second Call Bob Third Call Charlie	6 First Call Ingomar Second Call Justin Third Call Debra	7 First Call Aaron Second Call Charlie Third Call Ellen	8 First Call Karl Second Call Bob Third Call Debra	9 First Call Ingomar Second Call Frank Third Call Greg	10 First Call Frank Second Call Ingomar Third Call Greg
11 First Call Ingomar Second Call Frank Third Call Greg	12 First Call Charlie Second Call Justin Third Call Helen	13 First Call Greg Second Call Ellen Third Call Karl	14 First Call Ingomar Second Call Debra Third Call Justin	15 First Call Frank Second Call Greg Third Call Helen	16 First Call Debra Second Call Aaron Third Call Ellen	17 First Call Aaron Second Call Debra Third Call Ellen

To accomplish this, the following are true:

"First Call" (on Friday) is followed by "Second Call" on Saturday.
"First Call" (on Saturday) is followed by "Second Call" on Sunday.

125

"Second Call" (on Friday) is followed by "First Call" on Saturday.
"Second Call" (on Saturday) is followed by "First Call" on Sunday.

"Third Call" (on Friday) is followed by "Third Call" on Saturday.
"Third Call" (on Saturday) is followed by "Third Call" on Sunday.

Example 2: Friday, Saturday, Sunday, Monday Holiday

One person has "First Call" Friday, "Second Call" Saturday, "First Call" Sunday, and "Second Call" on Monday if it is a holiday.

One person has "Second Call" Friday, "First Call" Saturday, "Second Call" Sunday, and "First Call" on Monday if it is a holiday.

One person has "Third Call" Friday-Sunday and "Third Call" on Monday if it is a holiday.

JULY 1999

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
				1 First Call Helen Second Call Bob Third Call Debra	2 First Call Justin Second Call Ingomar Third Call Karl	3 First Call Ingomar Second Call Justin Third Call Karl
4 First Call Justin Second Call Ingomar Third Call Karl	5 INDEPEDENCE DAY HOLID First Call Ingomar Second Call Justin Third Call Karl	6 First Call Greg Second Call Aaron Third Call Bob	7 First Call Ingomar Second Call Charlie Third Call Karl	8 First Call Justin Second Call Debra Third Call Ellen	9 First Call Bob Second Call Aaron Third Call Charlie	10 First Call Aaron Second Call Bob Third Call Charlie
11 First Call Bob Second Call Aaron Third Call Charlie	12 First Call Karl Second Call Ellen Third Call Frank	13 First Call Aaron Second Call Greg Third Call Charlie	14 First Call Debra Second Call Frank Third Call Helen	15 First Call Bob Second Call Ingomar Third Call Greg	16 First Call Debra Second Call Karl Third Call Ellen	17 First Call Karl Second Call Debra Third Call Ellen

To accomplish this, the following are true:

"First Call" (on Friday) is followed by "Second Call" on Saturday.
"First Call" (on Saturday) is followed by "Second Call" on Sunday.
"First Call" (on Sunday) is followed by "Second Call" on Monday holidays.

127

"Second Call" (on Friday) is followed by "First Call" on Saturday.
"Second Call" (on Saturday) is followed by "First Call" on Sunday.
"Second Call" (on Sunday) is followed By "First Call" on Monday holidays.

"Third Call" (on Friday) is followed by "Third Call" on Saturday.
"Third Call" (on Saturday) is followed by "Third Call" on Sunday.
"Third Call" (on Sunday) is followed By "Third Call" on Monday holidays.

128

Example 3: Thursday, Friday holiday, Saturday, Sunday

One person has "Second Call" on Thursday, "First Call" on the Friday holiday, "Second Call" on Saturday, and "First Call" on Sunday.

One person has "First Call" on Thursday, "Second Call" on the Friday holiday, "First Call" on Saturday, and "Second Call" Sunday.

One person has "Third Call" on Thursday, the Friday holiday, Saturday and Sunday.

DECEMBER 1999						
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
12 First Call Ingomar Second Call Helen Third Call Justin	13 First Call Karl Second Call Debra Third Call Bob	14 First Call Justin Second Call Ellen Third Call Charlie	15 First Call Karl Second Call Frank Third Call Greg	16 First Call Charlie Second Call Helen Third Call Ellen	17 First Call Aaron Second Call Karl Third Call Bob	18 First Call Karl Second Call Aaron Third Call Bob
19 First Call Aaron Second Call Karl Third Call Bob	20 First Call Charlie Second Call Helen Third Call Frank	21 First Call Debra Second Call Ingomar Third Call Greg	22 First Call Ellen Second Call Aaron Third Call Helen	23 First Call Debra Second Call Justin Third Call Charlie	24 CHRISTMAS DAY HOLIDA First Call Justin Second Call Debra Third Call Charlie	25 First Call Debra Second Call Justin Third Call Charlie
26 First Call Justin Second Call Debra Third Call Charlie	27 First Call Frank Second Call Aaron Third Call Karl	28 First Call Greg Second Call Bob Third Call Debra	29 First Call Helen Second Call Charlie Third Call Ingomar	30 First Call Ellen Second Call Karl Third Call Frank	31 NEW YEAR'S DAY HOLIDA First Call Karl Second Call Ellen Third Call Frank	

To accomplish this, the following are true:

"First Call" (on Thursday) is followed by "Second Call" on Friday holidays.
"First Call" (on Friday) is followed by "Second Call" on Saturday.
"First Call" (on Saturday) is followed by "Second Call" on Sunday.

129

"Second Call" (on Thursday) is followed By "First Call" on Friday holidays.
"Second Call" (on Friday) is followed by "First Call" on Saturday.
"Second Call" (on Saturday) is followed by "First Call" on Sunday.

"Third Call" (on Thursday) is followed By "Third Call" on Friday holidays.
"Third Call" (on Friday) is followed by "Third Call" on Saturday.
"Third Call" (on Saturday) is followed by "Third Call" on Sunday.

"Second Call" (on Wednesday) is followed by "First Call" on Thursday holidays (Friday is also a holiday).
"Second Call" (on Thursday) is followed By "First Call" on Friday holidays.
"Second Call" (on Friday) is followed by "First Call" on Saturday.
"Second Call" (on Saturday) is followed by "First Call" on Sunday.

Second ▾   ID NUMBER 2

Number of People to Schedule
[1] Minimum
[1] Maximum
☐ Manual Assignment Only

Statistical equalization desired
[Each day separate ▾]

Show Dates

Linked Call
"Second" ID# 2   is followed by   [First ▾] ID# 1

When the Following Day is a
☑ Sunday
☐ Monday
☐ Tuesday
☐ Wednesday
☐ Thursday
☐ Friday
☑ Saturday

Only if the Following Day is a
☐ Sunday holiday
☐ Monday holiday
☐ Tuesday holiday
☐ Wednesday holiday
☐ Thursday holiday, Friday not a holiday
☑ Thursday holiday, Friday also a holiday
☑ Friday holiday

"Third Call" (on Wednesday) is followed by "Third Call" on Thursday holidays (Friday is also a holiday).
"Third Call" (on Thursday) is followed By "Third Call" on Friday holidays.
"Third Call" (on Friday) is followed by "Third Call" on Saturday.
"Third Call" (on Saturday) is followed by "Third Call" on Sunday.

Third ▾   ID NUMBER 3

Number of People to Schedule
[1] Minimum
[1] Maximum
☐ Manual Assignment Only

Statistical equalization desired
[Each day separate ▾]

Show Dates

Linked Call
"Third" ID# 3   is followed by   [Third ▾] ID# 3

When the Following Day is a
☑ Sunday
☐ Monday
☐ Tuesday
☐ Wednesday
☐ Thursday
☐ Friday
☑ Saturday

Only if the Following Day is a
☐ Sunday holiday
☐ Monday holiday
☐ Tuesday holiday
☐ Wednesday holiday
☐ Thursday holiday, Friday not a holiday
☑ Thursday holiday, Friday also a holiday
☑ Friday holiday

Example 4: Monday through Friday (exclude holidays)

Two people take the call/work type "Outpatient" Monday through Friday

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
						1 First Call Helen Second Call Greg Third Call Karl
2 First Call Greg Second Call Helen Third Call Karl	3 First Call Justin Second Call Debra Third Call Aaron Outpatient Ellen Outpatient Greg	4 INDEPENDENCE DAY First Call Karl Second Call Ingomar Third Call Charlie	5 First Call Bob Second Call Justin Third Call Frank Outpatient Ellen Outpatient Greg	6 First Call Aaron Second Call Helen Third Call Karl Outpatient Ellen Outpatient Greg	7 First Call Ingomar Second Call Frank Third Call Justin Outpatient Ellen Outpatient Greg	8 First Call Frank Second Call Ingomar Third Call Justin
9 First Call Ingomar Second Call Frank Third Call Justin	10 First Call Helen Second Call Ellen Third Call Charlie Outpatient Justin Outpatient Karl	11 First Call Frank Second Call Bob Third Call Greg Outpatient Justin Outpatient Karl	12 First Call Ellen Second Call Aaron Third Call Helen Outpatient Justin Outpatient Karl	13 First Call Frank Second Call Ingomar Third Call Debra Outpatient Justin Outpatient Karl	14 First Call Bob Second Call Aaron Third Call Charlie Outpatient Justin Outpatient Karl	15 First Call Aaron Second Call Bob Third Call Charlie

To accomplish this, the following are true:

"Outpatient" (on Monday) is followed by "Outpatient" on Tuesday.
"Outpatient" (on Tuesday) is followed by "Outpatient" on Wednesday.
"Outpatient" (on Wednesday) is followed by "Outpatient" on Thursday.
"Outpatient" (on Thursday) is followed by "Outpatient" on Friday

.

Example 5: Friday holiday (not non-holiday Friday) to Saturday

In order to link differently from holidays than from non-holidays to the next day of the week a separate call type is required for holidays. (With the exception of a Tuesday after a Monday holiday – see Ex. 9) For instance if one person is to be on "First Call" Saturday and Sunday but not Friday unless it is a holiday, two call types are required for "First Call". One for all days but holidays and the other for holidays only. They both may have the same name but for clarity, we will call one "First Call" and the other "First Call - Hol".

One person takes "First Call" Saturday and Sunday.
If Friday is a holiday one person takes first call Friday, Saturday and Sunday.
("First Call – Hol" Friday, "First Call" Saturday and Sunday)

To accomplish this, the following are true:

"First Call" (on Saturday) is followed by "First Call" on Sunday.
"First Call" is not active on holidays.

133

"First Call – Hol" (on Friday) is followed by "First Call" on Saturday.
"First Call – Hol" is only active on holidays.

Example 6: Sunday to Monday or Sunday to Monday Holiday to Tuesday

In this example, you desire the person on call Sunday to start a weeklong assignment on Monday, which is not active on holidays. When Monday is a holiday the person on call Sunday is on the same call Monday and starts the weeklong assignment on Tuesday.

The person on "First Call" Sunday is on "First Call" Monday if Monday is a holiday.
The person on "First Call" Sunday is on "Outpatient" Monday if Monday is not a holiday.
The person on "First Call" Monday is on "Outpatient" Tuesday if Monday is a holiday.
"Outpatient" is Monday – Friday excluding holidays.

To accomplish this, the following are true:
"First Call" (on Sunday) is followed by "First Call" on Monday holidays (not shown).
"First Call" (on Sunday) is followed by "Outpatient" on Monday
"First Call" (on a Monday holiday) is followed by "Outpatient" on Tuesdays after a Monday holiday.

Example 7: Day off after night call

The person on "First Call" night call can be given a day off on non-holiday weekdays by linking the "First Call" to a call type "Off (first)". If there are additional night calls that are followed by a day off, additional call types can be created (such as "Off (heart)"). The call type need not be printed (see "Format Calendar". The day off does not have to be given if there are not enough people to fill the schedule (e.g. people are on vacation) by making the minimum number of people to schedule zero.

The person on "First Call" (Sunday – Thursday) is "Off (first)" Monday-Friday.

To accomplish this, the following are true:

"First Call" (on Sunday) is followed by "Off (first)" on Monday.
"First Call" (on Monday) is followed by "Off (first)" on Tuesday.
"First Call" (on Tuesday) is followed by "Off (first)" on Wednesday.
"First Call" (on Wednesday) is followed by "Off (first)" on Thursday.
"First Call" (on Thursday) is followed by "Off (first)" on Friday.

"Off (first)" is active Monday – Friday.
"Off (first)" has a minimum of zero and a maximum of one person to schedule.

Example 8: Remote Link

In some instances you may wish to link from a call/work assignment to another call/work assignment that is not on the following day, yet have the days in between be available for other unrelated assignments. This can be accomplished with a dummy call type we will call "Link 1". This dummy call type needs to be active to work, but if it is not active on any day no one will be assigned this call type, the linked person may receive other assignments and it will not show up in your call schedule. For instance you may wish the person on call Sunday to also be on call the following Thursday.

The person on "First Call" Sunday is also on "First Call" Thursday.

To accomplish this, the following are true:

"First Call" (on Sunday) is followed by "Link 1" on Monday.

"Link 1" (on Monday) is followed by "Link 1" on Tuesday.
"Link 1" (on Tuesday) is followed by "Link 1" on Wednesday.
"Link 1" is active overall but not active any days of the week.

"Link 1" (on Wednesday) is followed by "First Call" on Thursday.

Support

The Logical Product
7250 Princeton Place
Gilroy, CA 95020

For technical support:

Website www/callschedule.com
Send email to: call@callschedule.com
Telephone: (408) 848-1807