## ADplus™ *Optimum* Procedures

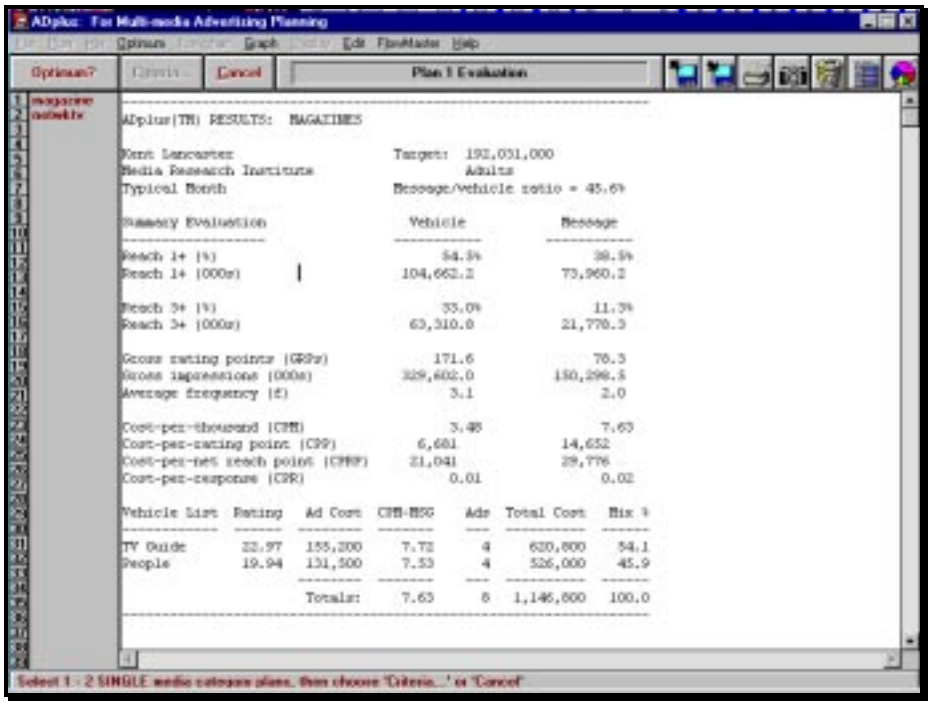
The most powerful ADplus™ feature is its ability to find an optimum plan, for one or more media categories, given a budget level that you specify. This budget level must be between the cost of the least expensive vehicle in the data set and the cost of all vehicle insertions combined. Whatever budget level you select, you have four criteria to choose from in selecting an optimum schedule, including message reach (1+), effective reach (3+), average frequency, and gross rating points. No matter which criteria you choose, the secondary criteria will always be *message* CPM.

The program uses heuristics described in Appendix D, *ADplus™ Defined*, to identify the optimum plan. These are designed to be as fast and efficient as possible in view of the thousands of feasible schedules that

must be considered within a typical data base. Nevertheless, even on older and slower machines, you'll find ADplus™ to be relatively fast. The processing time is shown on every ADplus™ results table so that you can become familiar with the ADplus™ optimization speed on your equipment analyzing your media planning data.

Before using the *Optimum* menu, you must load into ADplus™ memory the media category data that you wish to search for an optimum schedule. The magazine and television data bases that have been used before are employed here as examples. Then choose *Optimum/Select Plans* to pick the desired plans from the list of those available.

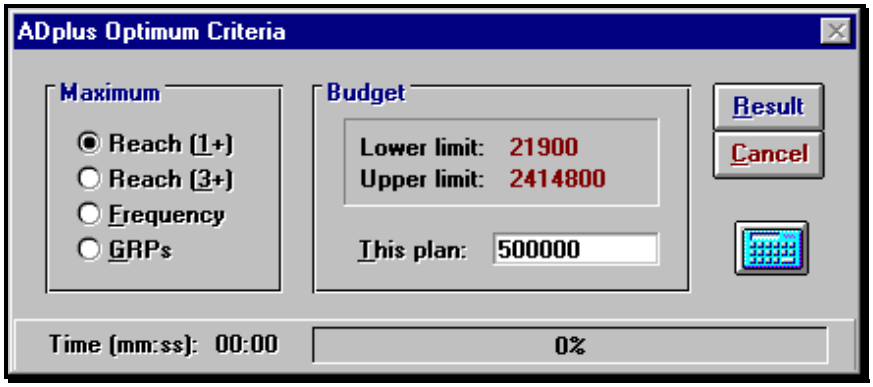

The *Status Bar* at the bottom of the ADplus™ main window briefly notes the steps to follow to optimize plans. In this case, ADplus™ detects that there are only two valid data files from which to choose. The instructions are to select the desired plan(s), then to choose *Criteria...* or *Cancel* from the tool bar. These two toolbar buttons, which duplicate *Optimum* menu options, appear for your convenience until the optimization process is completed.




Notice that after *Optimum/Select Plans* is checked, neither plan is selected in the *Optimum?* file list. Subsequently, both of them are chosen, as shown in the following screen, just before the *Criteria...* button is selected.


To configure the optimization procedure, choose *Criteria...* from the *Optimum* menu, or click it on the toolbar. Choose the optimization criteria, provide the budget level, then select the *Result* button to get the recommended schedule. The ADplus™ *Optimum Criteria* window will look

like the following figure just before the *Result* button is selected, corresponding to the *Reach (1+)* goal for a budget not to exceed $500,000.




The ADplus™ *Optimum Criteria* window, is displayed as a *modal* form and will not allow you to move about your system until you click *Result* or *Cancel.* Therefore, a button is included on the form which allows you to launch the Windows™ *Calculator*. This is helpful when you have a few computations to do before deciding on a budget level. If the calculator window covers the budget figures in the *Optimum* window, simply drag the *Calculator* title bar to move it.

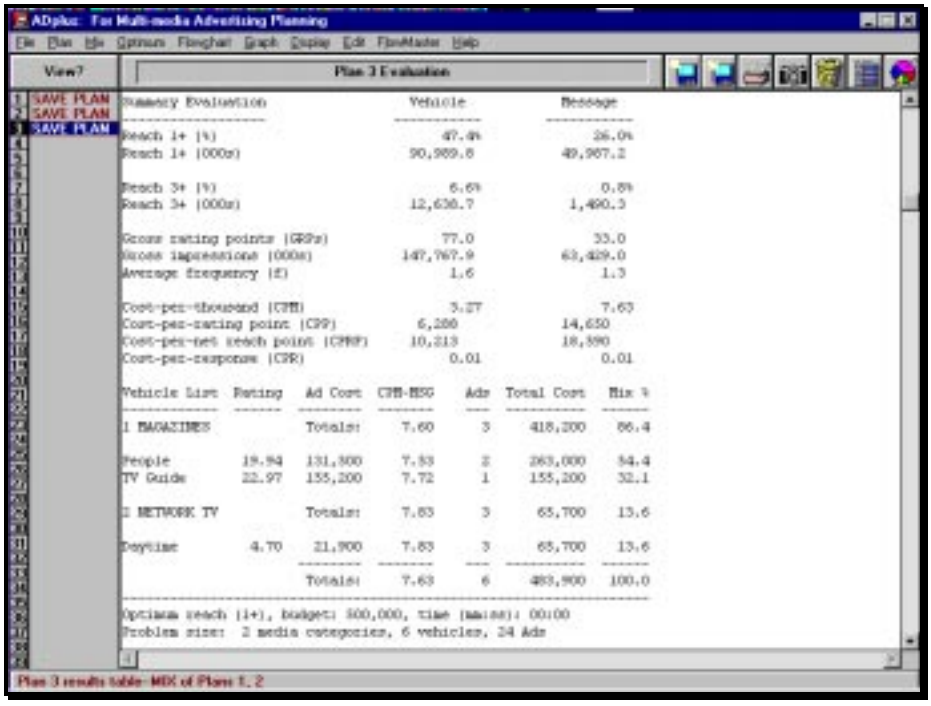
After you have initiated the optimization procedure, having selected the optimization criteria, budget level, and *Result* button, all options on the ADplus™ *Optimum Criteria* window will be disabled, except the *Cancel* button. You can select the *Cancel* button at any time during the optimization process. You will then be given an opportunity to stop the procedure and obtain the best plan up to that point. You can change your mind and continue with the optimization process. If you choose instead to stop it, the footer at the bottom of any results tables will provide a warning that the recommendations are based on the applicable percentage of all possible options that was achieved at the time the process was terminated.

The ability to interrupt the optimization process gives you some flexibility should it become apparent that it will take longer than expected. This is particularly helpful when a large number of vehicles are involved in the optimization process or when the computer is slow or it is not equipped with a math coprocessor.

Depending on your computer's speed and the size of the problem, you might get immediate results or you may have to wait a minute or two. The program is nearly instantaneous on reasonably fast machines (e.g., 16 megahertz (MHz) or faster) equipped with a math co-processor. But even if

you are not blessed with terrific equipment, the program is designed to be as fast as is technically feasible given any configuration. To check the equipment that you are using, choose *System...* from the *Help* menu. Also observe the footnote at the bottom of each optimization results table which briefly restates the optimization problem and highlights the speed of the equipment that was used to solve it.

Here's the solution that ADplus™ offers using these data for a budget level of $500,000 and maximizing message reach (1+) at or below that budget level. Notice that the results table has been scrolled up several lines in this example to reveal the optimization summary information.




ADplus™ replaces the original data that are stored in its memory with the solutions for each media category. **If a selected media category is not used in the solution, it will not appear on the list of revised schedules.** The revised media category data are then annotated with the *SAVE PLAN* file name to remind you that these must be stored on disk if you want a permanent copy.

Notice that the solution to the optimization problem involves both media categories for a total cost of $497,690. Message reach (1+) is 30.5 percent. To help you remember what these results pertain to, particularly when you are creating several optimum plans, the ADplus™ results show the optimization constraints at the bottom of the table. For instance, in this case

it shows that the *magazine* and *netwktv* data files were used to optimize reach (1+) for a budget level of $500,000. Notice too that this example took one second. In this case it was done on a 33 MHz 486 machine which includes a math co-processor in the CPU. (This particular computer has the external cache temporarily disabled, which has lowered the apparent CPU speed to 24 MHz, as shown in the footnote.) Other machine configurations will take more or less time.

This procedure replaces the original files in ADplus™ memory with the selected plans. To try an alternate optimum with these data, *magazine* and *netwktv* must be retrieved again using *File/Open...*. Alternatively, when you try several optimizations on the same data, you will find it faster to first make copies of plans in memory using *Plan/Duplicate* from the menu bar or the copy button on the toolbar.