New Features in Version 1.1

The following new features are added in version 1.1 of Professional Air Traffic Controller Simulator:

1. A file containing machine language libraries has been included in the PATCS folder. This file, named "atclib", must be present in order for the simulator to run. You may rename the simulator application to a name other than "Professional ATC Simulator" if you wish. However, no other files may be renamed.

2. The simulator will now run on a Macintosh II computer. On a Mac II, it will only use the upper left corner of the screen, however.

3. There is now a little "arrow" next to each plane's black dot. This arrow points in the direction of the plane's requested heading, so you can always determine the requested heading by looking at the radar screen only. For planes requesting vectors to airways or runways, the arrow will point in a direction consistent with the requested airway or runway. For instance, if a plane is requesting vectors to J18, the arrow will point straight down. If a plane requests vectors to land on R27, the arrow will point to the left, and so on.

4. The first line of a data block will no longer contain a "T" flag for a plane on a "temporary" heading, since the little arrow points in the direction of the requested heading and the short line points in the direction of the current heading (as it always did). Thus, airway-bound planes will always have a "J" on the first line of their data blocks, just like runway-bound planes will always have a "R" in their data blocks.

5. You can now reposition the two airports. You can move them wherever you'd like on the screen. You can even cause them to overlap, or have the runways intersect if you'd like. The location of the airports is controlled by a new line in the parameter file "ATC params". Look at line number 23 of this file with the editor; it contains 420,75,150,240. These values cause the airports to be positioned in their original place. The first two numbers are the X/Y coordinates of the airport with runways R36/18. The last two numbers are the X/Y coordinates of the other airport with runways R27/09. When you move the runways, the VOR stations and the control zone boundaries are automatically repositioned as well. The X/Y coordinates are for the upper left hand corner of the runway. Thus, if you change the parameter file to 200,100,200,100, then the two runways will form an "L" shape. Experiment with different runway placements. Note that you cannot change airport locations from the Options screen; you can only change them via editing the parameter file "ATC params".

6. A "conflict advisory" service is now available. This service will give you advance warnings of conflict alerts that will occur in the future unless you take a control action with one of the planes involved. When this service is enabled (via a new field on the Options screen), the simulation figures out where each plane will be for up to 100 cycles in the future. If it foresees any conflict alerts, you will get a conflict advisory message for the planes involved and you should then issue an altitude, speed, or heading command so that a conflict will not occur between the two planes. No points are deducted from your score when a conflict advisory occurs. By using this feature, you will get advance warnings of most conflict alerts (note: this service does not check unidentified aircraft, so you will not get advance notice of conflict alerts involving them). You can enable or disable this service via a new field on the Options screen, and you can also specify how many cycles into the future you would like to "look ahead". Initially, the simulation will look ahead 10 cycles, which is adequate most of the time. Do not look ahead for more than 100 cycles since that is the maximum value allowed in this field. Also, the larger you make this number, the longer the check will take during each cycle, so you should keep this number reasonable. Related to the conflict advisory service, the 24th line of the parameter file contains the number of cycles to look ahead (10, as shipped), and the 5th number in the 17th line determines whether this service is on (1) or off (0) when you first start out. Note: excessive dependence on this feature will tend to make you a lazy controller!

7. Related to the new conflict advisory service, there is a new command you can issue to a plane: "X", which means disable conflict advisories for this plane. When you enter this command, the data block for that plane is underlined, to remind you that no conflict advisories will be issued for that plane. This command is provided so that you can eliminate "nuisance" conflict advisories. For instance, consider two planes, one on final approach for runway R27, and the other on final for R09. Since their headings are causing them to fly right at one another, and their altitudes are (presumably) around 1000 feet, the conflict advisory service will project their future path and determine that they will be in conflict at some point in the future. The conflict advisory service is not smart enough to know that they will land before they come into conflict, but you, of course, are that smart! So, all you have to do is give one of the planes the "X" command and that will prevent any further conflict advisories for that plane. When you give the X command to a plane, his data block is underlined to remind you that he will not be checked for future conflicts. Note, however, that actual conflict alerts--unlike conflict advisories--cannot be overriden.

8. It is now much easier to reposition the data blocks. You can do it without even giving a command to a plane. Here's how: just click on the data block and drag it to where you want it. It will then be repositioned at the new location. You can drag it to any location that corresponds to the 1-9 or +-* commands. You can still use these commands to reposition the data block, if you want. If you try to drag it to an invalid location (too far away or not on a diagonal), it will beep at you.

9. A new command has been added to make it easier to land planes. The command is "C", which means "cleared for the approach." This command may only be given to planes requesting to land. When you issue this command, you are clearing the plane to fly to the appropriate VOR, continually adjusting speed and altitude as he gets nearer to the VOR. When he arrives at the VOR, he will hold until his altitude and speed are at or below 25 (2,500 feet altitude, 250 knots), then he will announce that he is "on final for runway R27" (or whatever runway he is requesting), and he will proceed to land. Thus, you can issue this command to any runway-bound plane and never have to command him again. Any plane cleared for the approach, via this command, will have a "C" in his data block, reminding you that he is cleared. In demonstration mode, also, all runway bound planes are cleared for the approach as soon as they appear on the screen. The "C" command is a toggle; issue it again and you will "unclear" him for the approach (the message will be "United 766, cancel clearance"). The obvious use for this command is to land planes with a minimum of commands. Be careful about clearing too many planes for the same approach at the same time, because they may be involved in conflict alerts if they get too close.