

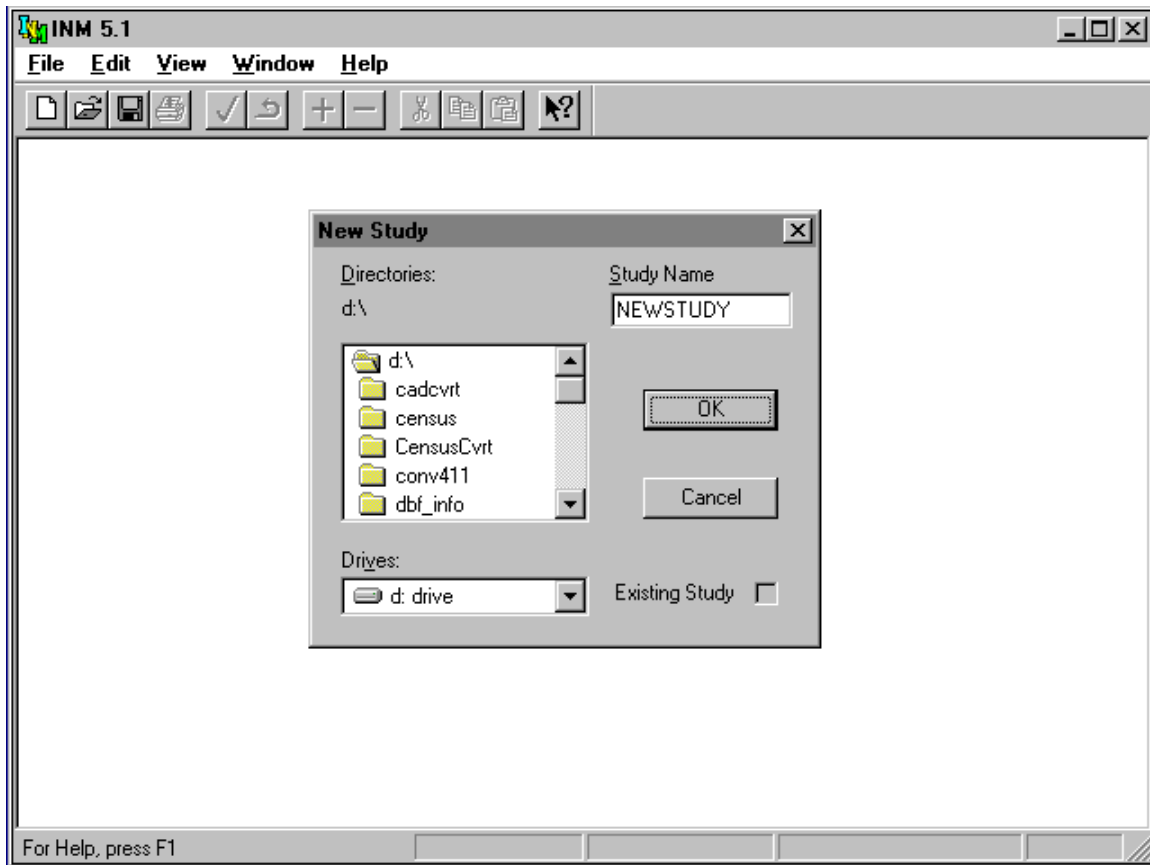
### 3. FILE MENU

This menu is called "File" to conform to standard Windows interface design. For the most part, the menu deals with a group of files at once, rather than one file at a time.

There are two different File menus:

- 1) the one that is shown above is used when a DBF window or a table window is in focus,
- 2) a somewhat different set of File functions is displayed when a graphics window is in focus.

All the File functions are described in this chapter.



### 3.1. New Study

Menu Item: File // New Study

Toolbar: Page with folded corner

You use this function to create a new Study. An INM Study is a directory path name on a disk drive.

The New Study dialog box allows you to select a disk drive and directory name for your new Study. By selecting a directory name and pressing "OK", or by double clicking on the directory name, you can move up and down directories on a particular disk drive. This window works like the usual Microsoft directory-navigating windows.

After selecting the parent directory for your Study directory, go to the Study Name input box and type a name for your new Study. When you press (click on) "OK" and verify that you really want the new directory path, INM creates the directory and writes a few key files into it.

For example, if you want your new Study to be "C:\ NEWSTUDY", double click on "d:\", type "NEWSTUDY", and press "OK".

You can also create a new Study directory by using the Microsoft File Manager File // Create Directory function, and then select the new directory name using the INM File // New Study function. In this case you do not type a name in the input box; instead, you simply press "OK" and verify the new directory.

INM lets you create a Study almost anywhere, so check the Study path name before selecting "OK" in the verification dialog box. This extra verification step is included to protect you from creating a Study in the wrong directory. If you happen to choose a path name that already is an INM Study directory (one that has a STUDY.INM file), INM places a check in the Existing Study box and does not allow a new Study to be created with that path name. However, all other directories are available for use as a new Study directory (even if they have files in them), and all directories can be used as a parent for a Study directory.

An INM Study is an independent entity — the directory does not have to be in a particular place on your disk. After you create a Study and close it, you can use the File Manager or Explorer to change the directory name and/or move the directory to some other place. Then, you can open the Study again and use it. For this reason, INM does not keep an internal list of Study directories.

Never try to alter Study files or directories when the Study is open in INM.

After creating a new Study directory, INM displays a dialog box that lets you choose the kind of physical units (English or metric) that will be displayed on the windows. Once you commit to a system of units, you cannot change to the other system of units. The table below shows various physical variables and their units in the two systems:

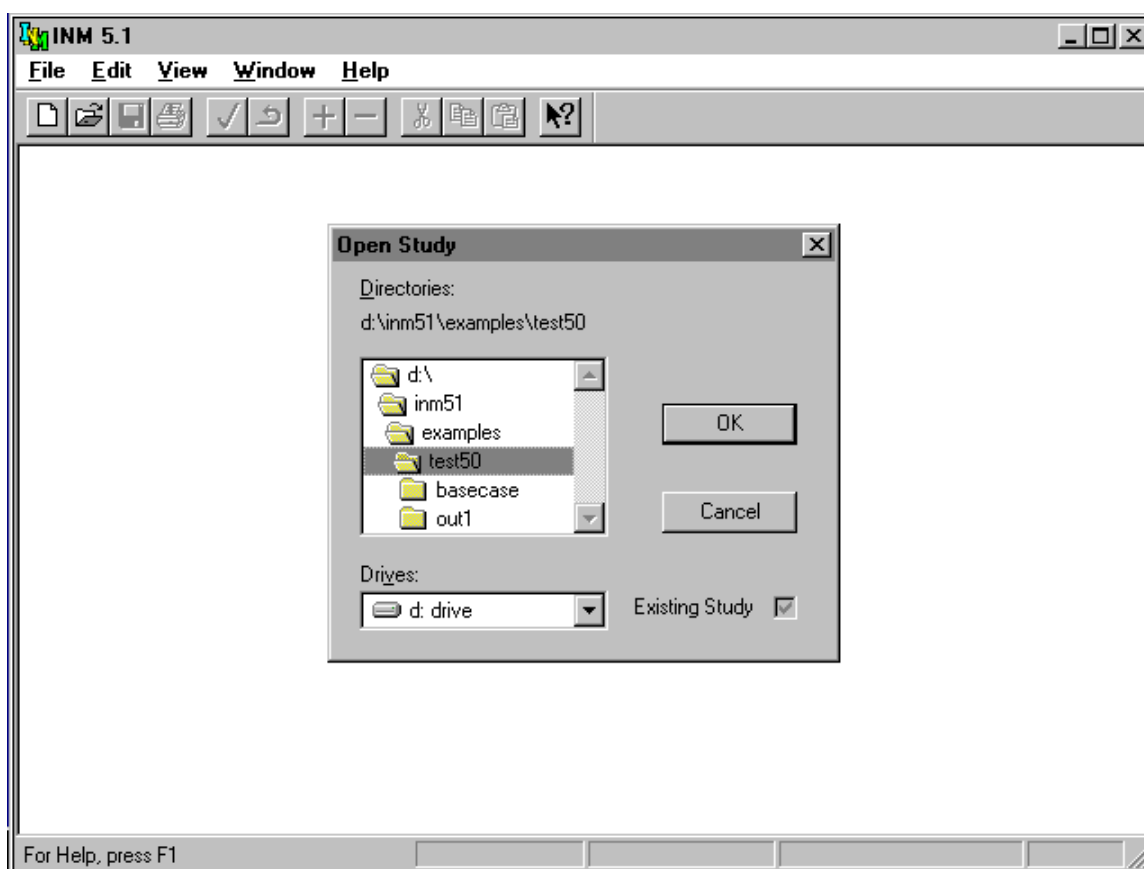
	<u>English</u>	<u>Metric</u>
X-Y coordinates	nmi	km
Track distance	nmi	km
Runway distance	ft	m
Profile distance	ft	m
Altitude            ft		m
Weight	lb	kg
Speed	knot	km/hr
Climb rate	ft/min	m/min
Temperature	°F	°C
Pressure	in-Hg	mm-Hg
Area	mi <sup>2</sup>	km <sup>2</sup>

INM changes units when presenting data in various windows. The type of unit is displayed next to the input parameter; for example, "(ft)" or "(m)".

Even though INM can accept metric input, you should select the English system if you can.

- INM standard data are stored in English units because standard data were copied from the previous INM database.
- User-defined data are stored in English units because they need to be compatible with the standard data.
- Some input data, such as noise thrust-setting parameters and aerodynamic coefficients, are stored and displayed only in English units.
- INM internal computational units are in English units.
- Output tabular data, such as detailed grid tables, are displayed only in English units.
- Exported data can be written in metric units (see the File // Export As function in Section 3.10).

After you choose a system of units, INM automatically brings up the Study Setup dialog box. For information on how to fill out this dialog box, see the Setup // Study function (Section 6.1).



## 3.2. Open Study

Menu Item: File // Open Study

Toolbar: Open folder

You use this function to open an existing Study. As with the New Study function, you can select a disk drive and directory path name. Double click on a directory name to navigate into that directory.

When your Study path name appears in the gray area under the "Directories:", and there is a check in the Existing Study box, press "OK" to load the Study.

INM then reads a few key files and changes the main menu bar, allowing you to start an INM session. The full path name of the current Study is displayed on the title bar at the top of the INM window.

If you want to load a recently used Study, you can go to the File menu and simply click on the Study name. The Study list under the File menu contains up to five most recently opened Studies.

You can use the File Manager or Explorer to associate files with extension "INM" with the INM.EXE program. You can then run INM and open a particular Study by double clicking on the STUDY.INM file in a Study directory.

### **3.3. Close Study**

Menu Item:     File // Close Study

Use this function to save all data and close the Study. The INM program continues to run, and you can create or open another INM Study.

Sometimes INM will not allow you to close a Study because you have forgotten to commit a new record in an open DBF window. Commit (or delete) the record and then close the Study.

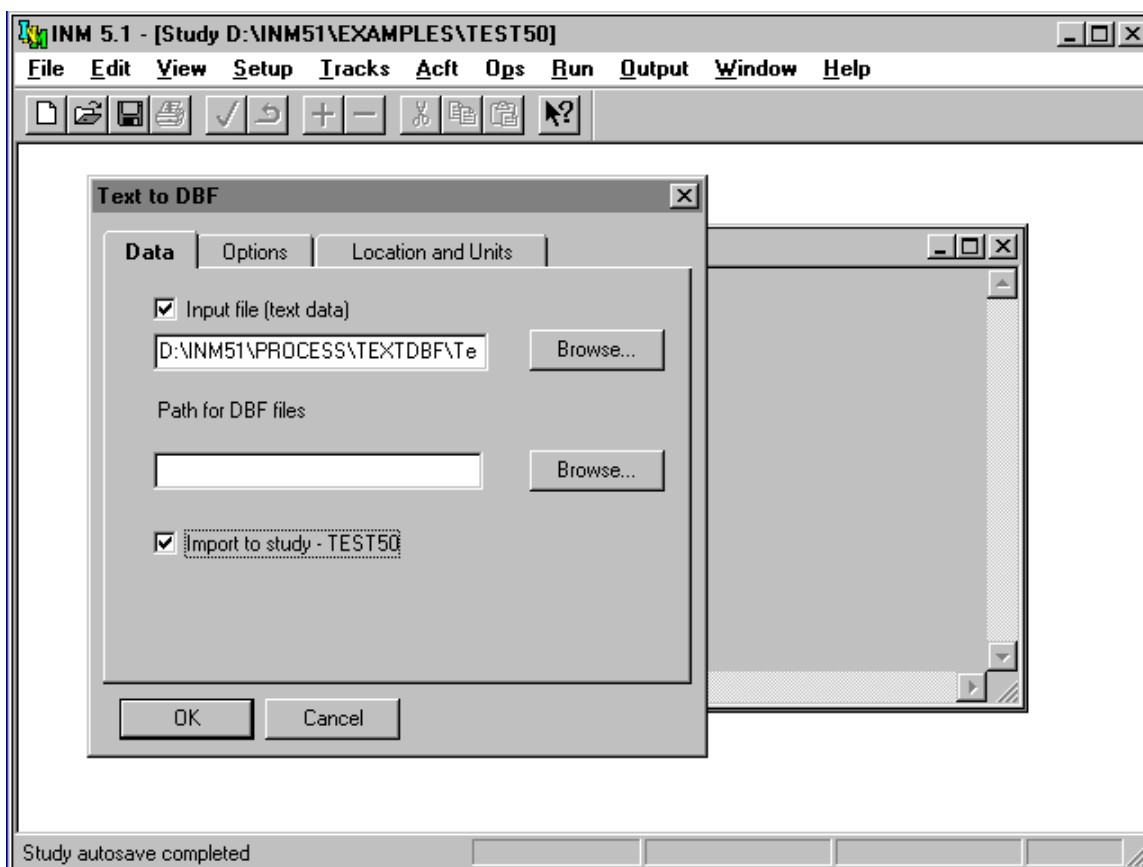
### **3.4. Save Study**

Menu Item:     File // Save Study

Toolbar:        Diskette

You use this function to save data in memory to disk files. When you commit a record (see Section 4.1), INM moves your data from the user interface area to another area in computer memory, but the record is not saved to disk. When you close a window, INM usually saves the associated DBF file. Please note that iconifying a window does not save the file because the window is still "open".

As a protection against loss of input data, INM automatically saves data in memory to disk files every two minutes. This time period can be changed in the INM.INI file (see Appendix S).



## 3.5. Import

Menu Item: File // Import

You use this function to import source data files. INM processes the input files and writes DBF and/or binary files that are used in Studies.

This function can be run with or without a Study being loaded.

- With a Study loaded, you can send the processed data to the Study directory.
- Without a Study loaded, you supply the name of a directory for the processed data.

### 3.5.1. Text to DBF

You can use the Text-to-DBF function to convert a text file into one or more DBF files that can be read by INM. The input text file has to be in a special format (see below). You can create the text file with a text editor, or perhaps with a computer program.

In the Data dialog box:

- 1) Put a check mark in the “input file” box
- 2) Use the first "Browse" button to select your input text file.
- 3) Use the second "Browse" button to select where the DBF files are to be written. This directory cannot be the path to your current Study. If you leave this box blank, the converted data will be written to the directory you gave for the input file.
- 4) If you have a Study loaded, you can put a check in the “import to study” box to indicate that the DBF files should be written to the Study directory. If you do this, you do not have to fill out the output directory, just leave it blank.

There is a second way to use the Data dialog box. If you previously used this function to process and write DBF files to a directory, and now you want to integrate the files into the current Study, do the following:

- 1) Leave the input check box and file name blank. This will prevent your original data from being processed again.
- 2) Use the second "Browse" button to select from where the DBF files should be read. This directory cannot be the path to your current Study.
- 3) Put a check in the “import to study” box.

In the Options dialog box, put a check next to each “data type” you want INM to process (see below). If you select “Flights” and if you have a Study loaded, you must also select one or more Cases where to send the OPS\_FLT file.

This dialog box also has an “import to study” check box; it is the same box as on the Data dialog box.

In the Location and Units dialog box:

- 1) Select “English” if your text data are in nautical miles for distance and feet for altitude. Select “Metric” if your text data are in kilometers for distance and meters for altitude.
- 2) Select the type of position data: X,Y or lat/long. Position data must be all of the same type in a text file. For example, runway ends, track points, and location points must be all X,Y values or all lat/long values.



- 3) If a Study is loaded, check the "study origin" box to use the Study latitude and longitude for the X,Y coordinate origin. Otherwise, fill out the latitude and longitude boxes. Use decimal degrees; north and east are positive, south and west are negative. The origin is used to convert runway and track lat/longs to X,Y values, or to convert location point X,Y values to lat/longs.

Press "OK" to run the processor. If you import into a Study, DBF relations are checked for errors. For example, tracks must relate to defined runways.

You can create an input text file that has from one to four data-type sections; each section has a key word and relates to one or more DBF files:

<u>Key Word</u>	<u>DBF Files</u>
RUNWAYS	RUNWAY and RWY_END
TRACKS	TRACK and TRK_SEGS
FLIGHT-OPERATIONS	OPS_FLT
LOCATION-POINTS	LOC_PTS

For example, if you want to create just the LOC\_PTS file, you would have only one section in the text file, and it would be indicated by the LOCATION-POINTS key word.

A line starting with the number-sign character (#) is ignored. You can use this method to document your file or to comment-out data sections.

The format for the runway section is as follows:

```

RUNWAYS

AprtId, Width
, RwyId, X or Lat, Y or Long, Elev, TkoTh, AppTh, GS, TCH
, RwyId, X or Lat, Y or Long, Elev, TkoTh, AppTh, GS, TCH

AprtId, Width
, RwyId, X or Lat, Y or Long, Elev, TkoTh, AppTh, GS, TCH
, RwyId, X or Lat, Y or Long, Elev, TkoTh, AppTh, GS, TCH
etc.
```

where,

AprtId	Airport id -- 3 or 4 characters (BOS)
Width	Runway width (ft, m)
RwyId	Runway end -- 3 characters (32R)
X or Lat	X value (nmi, km) or latitude (decimal deg)
Y or Long	Y value (nmi, km) or longitude (decimal deg)
Elev	Runway end elevation MSL (ft, m)
TkoTh	Takeoff displaced threshold (ft, m)
AppTh	Approach displaced threshold (ft, m)
GS	Glide slope (deg)
TCH	Threshold crossing height (ft, m)

After each AprtId line you must place two RwyId lines (the two ends of the runway). Fields must be separated by commas. You must have a comma as the first character on a subordinate line. You can have any number of runways. The format for the track section is as follows:

TRACKS

```
RwyId, OpType, TrkId, Delta
, X or Lat, Y or Long
, X or Lat, Y or Long
, X or Lat, Y or Long

RwyId, OpType, TrkId, Delta
, X or Lat, Y or Long
, X or Lat, Y or Long
etc.
```

where,

RwyId	Runway end -- 2 or 3 characters (32R)
OpType	Type of operation -- one of the following letters: A=Approach, D=Depart, T=Touch/Go, V=Overflight
TrkId	Track identifier -- 1 to 4 characters
Delta	Track delta distance (ft, m)
X or Lat	X value (nmi, km) or latitude (decimal deg)
Y or Long	Y value (nmi, km) or longitude(decimal deg)

These are "points-type" tracks (P-tracks). The number of points per track must be between 2 and 999. The points must be listed in the order that they are flown. Fields must be separated by commas. You must have a comma as the first character on a subordinate line. You can have any number of tracks.

The format for the flight operations section is as follows:

FLIGHT-OPERATIONS

```
RwyId, OpType, TrkId
, Acft, ProfId, Day, Eve, Night
, Acft, ProfId, Day, Eve, Night
, Acft, ProfId, Day, Eve, Night

RwyId, OpType, TrkId
, Acft, ProfId, Day, Eve, Night
, Acft, ProfId, Day, Eve, Night
etc.
```

where,

RwyId	Runway end -- 2 or 3 characters (32R)
OpType	Type of operation -- one of the following letters: A=Approach, D=Depart, T=Touch/Go, F=CircuitFlight, V=Overflight
TrkId	Track identifier -- 1 to 4 characters

Acft	Aircraft type identifier -- 1 to 6 characters
ProfId	Profile identifier -- 2 characters (PROF_ID1 + PROF_ID2)
Day	Number of day operations
Eve	Number of evening operations
Night	Number of night operations

Fields must be separated by commas. You must have a comma as the first character on a subordinate line. You can have any number of flight operations.

The format for the location points section is as follows:

LOCATION-POINTS

LocId, LocCat, X or Lat, Y or Long, Height  
 LocId, LocCat, X or Lat, Y or Long, Height  
 etc.

where,

LocId	Point identifier -- 1 to 6 characters
LocCat	Point category -- one of the following letters: U=VOR, V=VORTAC, W=VOR/DME, T=TACAN, M=NDB/DME, N=NDB, F=fix, B=building, C=church, S=school, H=hospital, X=other, A=user-text
X or Lat	X value (nmi, km) or latitude (decimal deg)
Y or Long	Y value (nmi, km) or longitude(decimal deg)
Height	Height above the ground (ft, m)

Fields must be separated by commas. You can have as many location points as you want.

The following is an example input text file in X,Y format:

```
# Test input file for Text-to-DBF function -- Version 5.1

RUNWAYS
ABC, 200
, 09L, 0.0 , 0.0 , 555, 200, 0, 3.0, 50
, 27R, 1.56, -0.086, 547, 200, 1000, 3.2, 54
ABC, 150
, 17, 1.056, 1.109, 543, 200, 0, 3.0, 50
, 35, 1.56, -0.086, 548, 200, 0, 3.0, 50

TRACKS
09L, A, TR01, 55, 0
, 1.0, 2.0
, 3.0, 4.0
, 5.0, 6.0
, 7.0, 8.0
17, D, TR05, 100, 444
, 11.0, 12.0
, 13.0, 14.0
, 15.0, 16.0
```

FLIGHT-OPERATIONS

09L, A, TR01  
 , 747200, S1, 3.2, 0, 0.004  
 , 737QN , S1, 9 , 0, 0  
17, D, TR05  
 , 747200, S3, 1 , 0 , 0  
 , 737QN , S3, 5.5, 3.3, 7.7

LOCATION-POINTS

LOC01 , S , 1.3 , 1.4 , 0  
LOC02 , C , 1.7 , 1.9 , 0  
LOC03 , H , 3.7 , 3.2 , 100  
LOC04 , B , 3.7 , 7.0 , 300  
LOC05 , X , 3.0 , 1 , 0

### 3.5.2. Text to Radar Graphics

The Text-to-Radar function reads a text file containing radar tracks and converts it into a pair of binary graphics files that are used by INM to display radar track data.

You supply the input text file. The text file can contain any kind of track data, but the intention is that you process raw ARTS radar track data, and write the tracks to a specially formatted text file (see below). INM does not have a function that processes raw ARTS data.

In the Data dialog box:

- 1) Put a check mark in the “input file” box
- 2) Use the first "Browse" button to select your input text file
- 3) Use the second "Browse" button to select where the track files are to be written. This directory cannot be the path to your current Study. If you leave this box blank, the converted data will be written to the directory you gave for the input file.
- 4) If you have a Study loaded, you can put a check in the “import to study” box to indicate that the track files should be written to the Study directory. If you do this, you do not have to fill out the output directory, just leave it blank.

There is a second way to use the Data dialog box, but it is just equivalent of copying files. If you previously used this function to process and write radar track binary graphics files to a directory, and now you want to copy the files into the current Study, do the following:

- 1) Leave the input check box and file name blank. This will prevent your original data from being processed again.
- 2) Use the second "Browse" button to select from where the track files should be read. This directory cannot be the path to your current Study.
- 3) Put a check in the “import to study” box.

In the Location and Units dialog box:

- 1) Select “English” if your text data are in nautical miles for distance and feet for altitude. Select “Metric” if your text data are in kilometers for distance and meters for altitude.
- 2) Select the type of position data, X,Y or lat/long, that are in the text file.

- 3) If a Study is loaded, check the “study origin” box to use the Study latitude and longitude for the X,Y coordinate origin. Otherwise, fill out the latitude and longitude boxes. Use decimal degrees; north and east are positive, south and west are negative. The origin is needed if your track data are in lat/long.

The radar track text file format is:

```
Code, FltId, AcType, OpType, ApFrom, ApTo, RwyId
, Time, X or Lat, Y or Long, Alt, Spd
, Time, X or Lat, Y or Long, Alt, Spd

Code, FltId, AcType, OpType, ApFrom, ApTo, RwyId
, Time, X or Lat, Y or Long, Alt, Spd
, Time, X or Lat, Y or Long, Alt, Spd
, Time, X or Lat, Y or Long, Alt, Spd
etc.
```

where,

Code	Beacon or numeric code (0557) or 0000
FltId	Flight identifier (AAL1234)
AcType	FAA aircraft type id (B727)
OpType	Operation type: A=Approach, D=Depart, V=Overflight, ?=unknown
ApFrom	From-airport (SFO) or ???
ApTo	To-airport (LAX) or ???
RwyId	Runway end (31L) or ???
Time	Time of radar return (decimal hours)
X or Lat	X value (nmi, km) or latitude (decimal deg)
Y or Long	Y value (nmi, km) or longitude(decimal deg)
Alt	Aircraft altitude MSL (ft, m)
Spd	Aircraft ground speed (knt, km/h) or 0

Fields must be separated by commas. A comma must be in the first column of a track-point line. Blank lines and comments lines can be anywhere. There can be any number of tracks and points per track.

A line starting with the number-sign character (#) is ignored. You can use this method to document your file or to comment-out data sections.

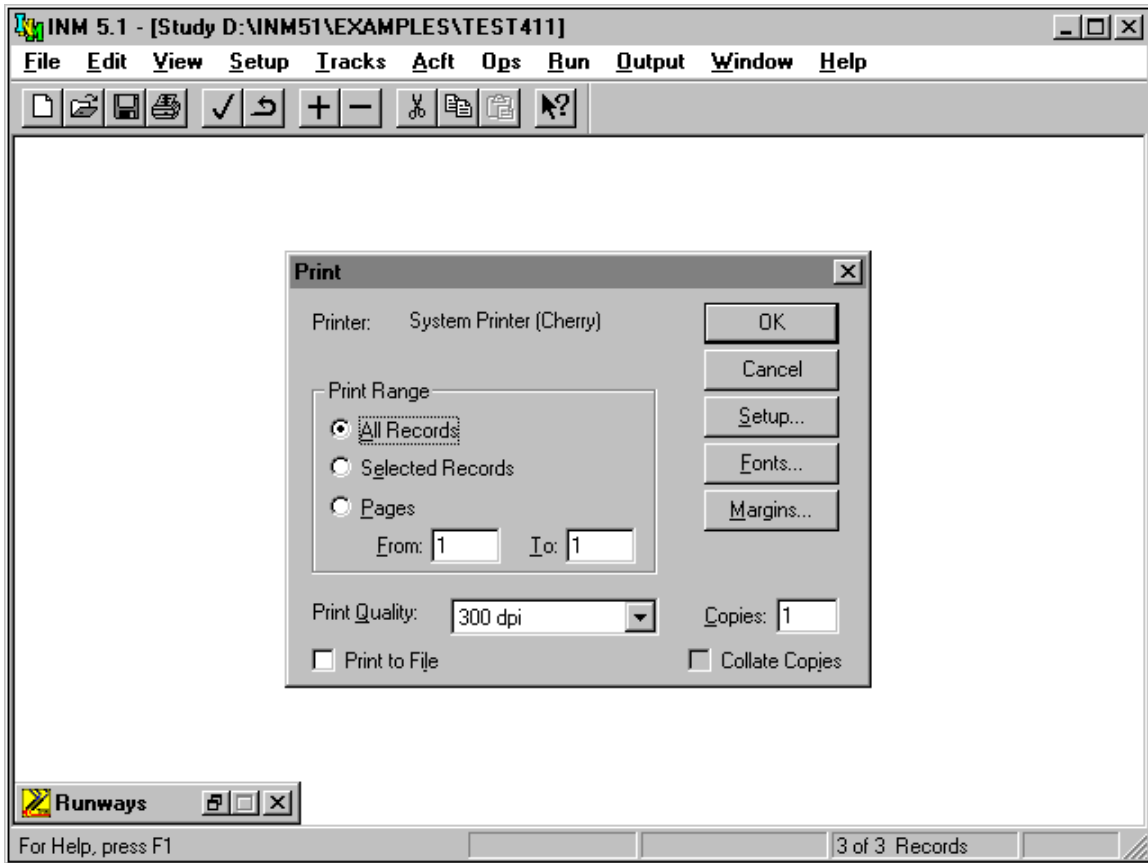
The following is an example radar track text file in X,Y format. The complete example file is in the INM51 \ PROCESS \ RADARTRK directory.

```
#EXAMPLE RADAR FILE TEST50.CSV

0012, SDU105, BA31, A, ???, SFO, ???
, 9.28833, 11.15063, -5.67526, 3500, 187
, 9.28972, 10.99544, -5.53952, 3500, 186
, 9.29861, 9.70882, -5.04810, 3200, 179
, 9.30000, 9.54690, -4.92547, 3100, 179
, 9.32556, 6.00305, -2.91978, 2100, 187
```

```
, 9.32694, 5.85762, -2.77866, 2100, 185  
, 9.36861, 0.72443, -0.19788, 100, 150
```

```
0016, UAL1287, B737, A, ???, SFO, ???  
, 9.18444, 2.22314, -1.16763, 700, 169  
, 9.18972, 1.67270, -0.85274, 400, 156  
, 9.19222, 1.37155, -0.75014, 300, 152  
, 9.19361, 1.26781, -0.60724, 300, 152
```



## 3.6. Print

Menu Item: File // Print

Toolbar: Printer

You use the Print function to print the contents of the window that has the "focus" (has a colored title bar). The window in focus can be any one of five types of INM windows:

- DBF window
- Chart window (Noise or Profile X,Y graphs)
- Input or Output Graphics window
- Operations or Output table window
- Case Echo Report text window.

File // Print is an adaptation of the standard Microsoft Print function. The current printer is displayed at the top of the dialog box. You can change printers by using the "Setup" button, which switches you to the standard Microsoft File // Print Setup function. You can consult Microsoft documentation to connect printers to your Windows system.



For DBF, table, and Echo Report printing, the Fonts function lets you change the printer font style and point size.

For DBF and table printing the Margins function lets you specify the top/bottom and left/right margins. These settings remain in effect until you change them.

Print Range options:

- Use the All Records button to print all records in a DBF or table window, including non-visible records.
- Select one or more records in the window first and then use the Selected Records option to print only the records you want.
- Use the Pages options to print a specified range of pages. For example, you can set the page range to print only the first page to see a sample of the output before printing the whole job. Page range is also useful for resuming an interrupted print job, or if you know where the page breaks occur because you printed it once before.

The Copies and Collate options can also be used if your printer supports them.

If your printer is a Postscript printer, you can check the Print to File box and create a file containing Postscript text. If your "printer" is a HPGL plotter, you can create a HPGL text file by the same method.

If a message is displayed about setting the printing area size in the Scaled Printing dialog box, see Section 3.9 below.

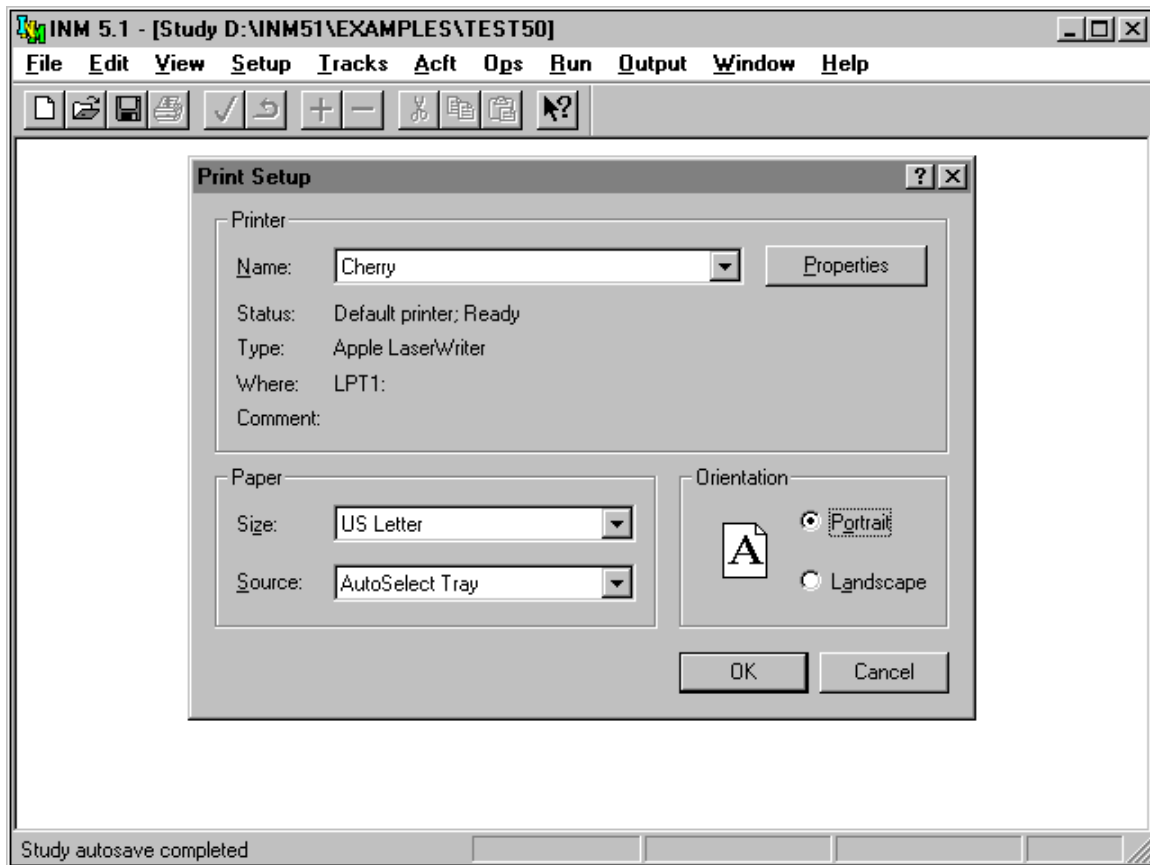
INM will print solid colors inside noise contours if the printer driver supports color fill. Some printers cannot do color fill. These printers substitute black and white or gray hatch lines for the colors.

## **3.7. Print Preview**

Menu Item: File // Print Preview

You can use this function to preview on the screen how text or graphics will look on a printed page.

If a message is displayed about setting the printing area size in the Scaled Printing dialog box, see Section 3.9 below.

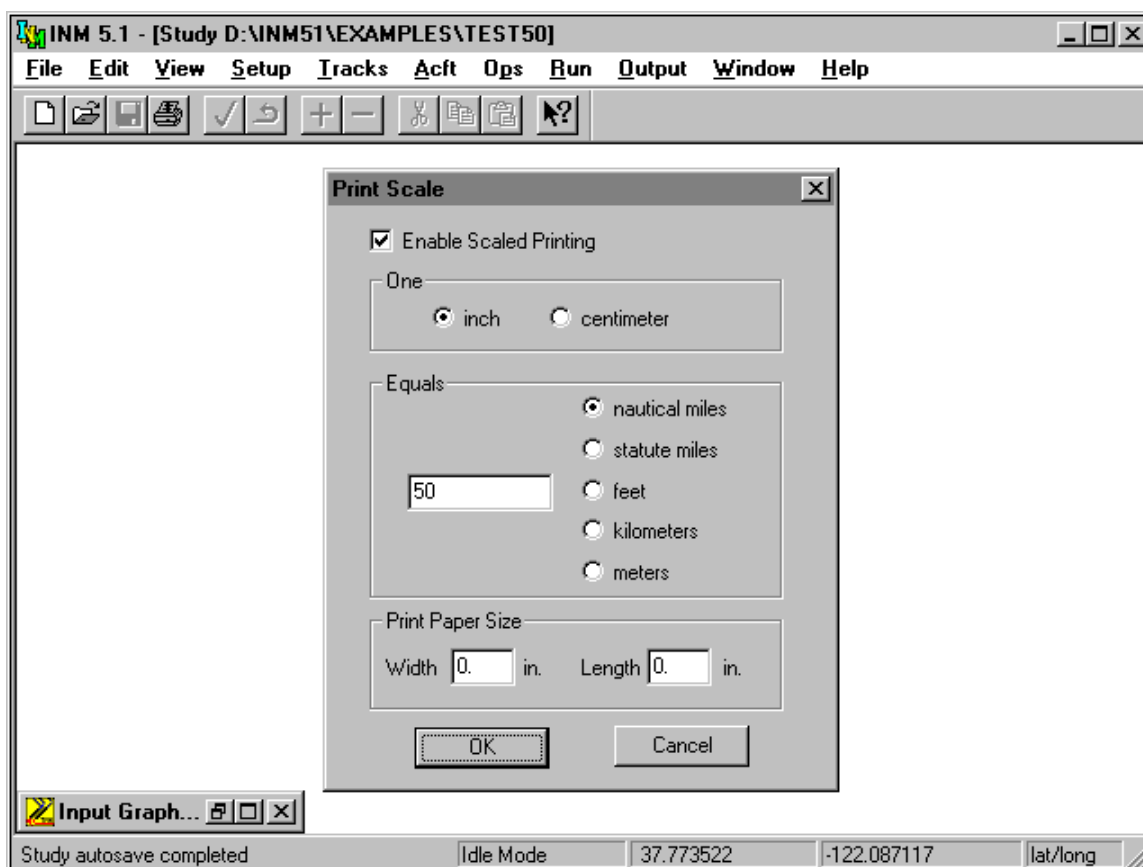


## 3.8. Print Setup

Menu Item:     File // Print Setup

You use this function to select the printer that you want to use, and to set various printing options (for example, portrait vs. landscape mode). You can learn how to use this standard Microsoft function by consulting documentation on the Windows operating system.

Printing a chart in landscape mode is done with this function or with the File // Print // Properties function.



## 3.9. Scaled Printing

Menu Item:     File // Scaled Printing

You can use this function to set up INM for scaled printing. You set a ruler unit equal to a map distance (for example, one inch equals 1,000 feet).

Scaled printing is initially enabled, and remains enabled until changed. You can turn off scaled printing by clicking the "Enable" box to remove the check mark. Then, INM prints graphics at approximately the scale shown in the Input or Output Graphics window.

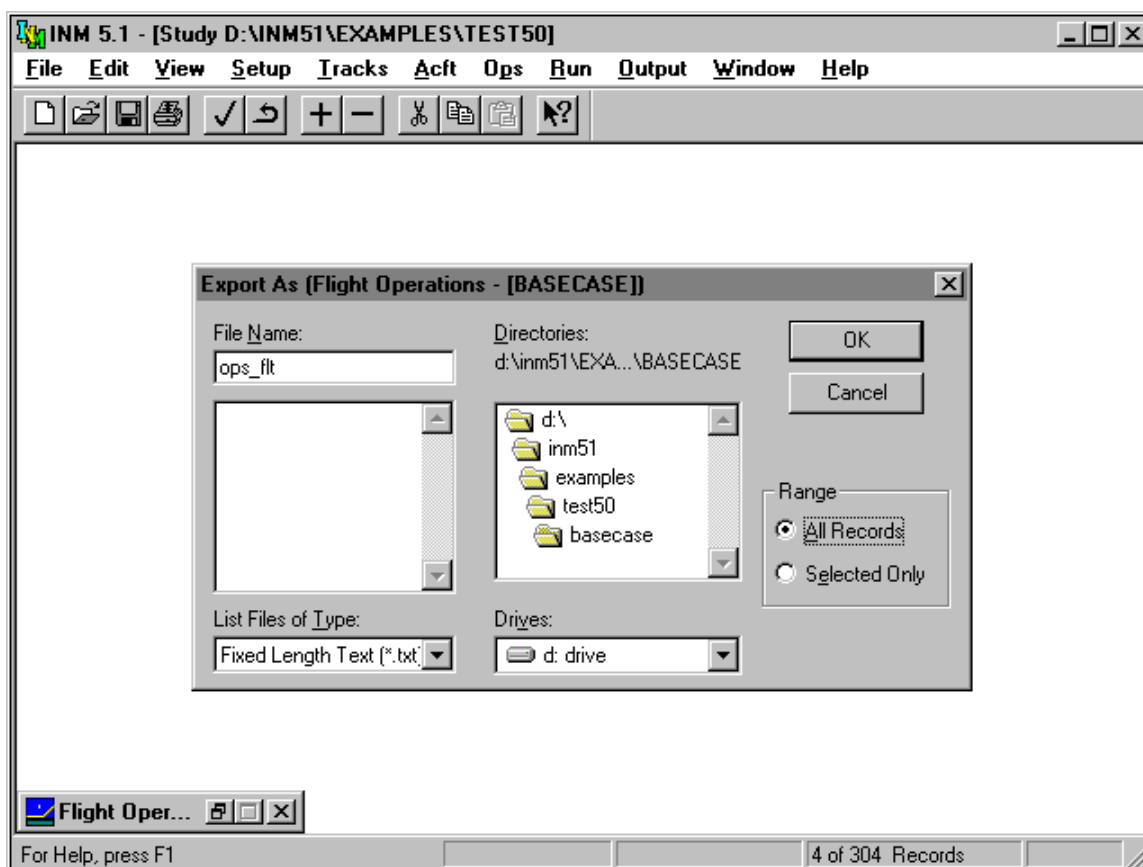
INM reads printing area size and dots-per-inch information that are provided by your printer driver file (which is not part of INM). Usually, the printer driver provides all the data needed to do scaled printing.

If the printer driver does not return the required data, INM pops up a message box asking you to fill out the width and length of the printing area.

For example, a Postscript printer using 8.5 x 11 paper may have a printing area 7.98 inches wide by 10.76 inches long. You determine these two numbers by experiment. Print a known-sized object (grids and rings are good), measure it in X and Y directions, and adjust the width and length of the printing area, as necessary.

If the printer driver does not return the required data, and if you switch to landscape mode, you must reverse the width and length parameters.

The graphics functions automatically save the scaling information in separate files, so you have to fill out a dialog box for Input Graphics and for each Output Graphics window.



## 3.10. Export As

Menu Item: File // Export As

Use the Export As function to create an export file. You "export" DBF data in a window "as" a file. Even data that are not showing in the window can be saved into the file.

To use this function, you need to focus on a DBF window (for example, Tracks // Track Segments), or on one of the table windows (for example, Ops // View Ops "View Summary").

Then, select File // Export As. A standard Microsoft dialog box appears. Select the directory where you want the file to be written by using the directory-tree box on the right.

Then, select the type of file by using the box in the lower-left. You have a choice of three types of export files:

- dBase IV (\*.dbf) Standard DBF format.
- Fixed Length Text (\*.txt) Columns separated by spaces, one header line. This is the most readable format.
- Delimited Text (\*.txt) Comma-quote format, several header lines.

The fourth choice, "All Files (\*.\*)", is used to view all the files in a directory; it is not an exportable file type (but it does default to the Fixed Length Text).

You are free to enter a file name that is different than the displayed default. Once the directory, file name, and the file type are correct, press "OK". A file extension (.txt or .dbf) is automatically added to the filename, if needed.

There is an export limit of 16,000 records in a table window (for example, the contour points window). The DBF file that is associated with the table window (CONR\_PTS.DBF) contains all the records, not just the first 16,000. You can use a spreadsheet program to read the DBF file and write a text file.

If you want to export only some of the records in a data window, you must select them before using the Export As function. You can select records in the left-hand list box in a DBF window, or you can select rows in a Operations window. Use the usual Microsoft mouse methods for item selection: individual Ctrl-clicks, or click / move / Shift-click. Then, in the Export As dialog box, press the lower-right option "Selected Only", instead of "All Records". INM writes out only those records that you selected in the data window.

Exporting charts (for example, NPD curves):

- Data — Use the File // Export As function to export data associated with the points displayed in a Noise Curve or Profile Graph chart.
- Graphics — Use the Edit // Copy Records function to copy the chart to the Clipboard in Windows Metafile format (WMF). You can then Paste from the Clipboard into another application.

If you chose metric units for your Study, your exported DBF files are written in metric units, rather than English units.

## **3.11. Export as DXF**

Menu Item:     File // Export as DXF

You can use this function to export Output Graphics to a DXF file. Runways, tracks, and noise contours are written into the file as layers, but other output graphics layers are not.

DXF output is in color and in named layers:

- one layer for each contour (the contour level is part of the layer name)
- one layer for contour labels
- one layer for each set of tracks (APP, DEP, TGO, OVF)
- one layer for each set of track labels
- one layer for runways
- one layer for runway labels.

In the dialog box you specify the export file name and the X,Y units (for example, feet) that are to be written into the DXF file. Nautical miles are the default units. Press "OK" to write the DXF file.

You can also use NMPLLOT to write a DXF file. Please refer to the NMPLLOT on-line help system. NMPLLOT input files are called "NMPLLOT.GRD", and they are located in Output subdirectories.

The advantage of using NMPLLOT is that you can interactively manipulate noise contours before sending them to a DXF file (or to a HPGL file). The disadvantage is that only noise contours are available in the NMPLLOT.GRD file; there are no runways or tracks.

## **3.12. Exit**

Menu Item:     File // Exit

This function saves and closes the current Study, and then the INM program is closed down.

You can also exit INM by double-clicking on the Microsoft Control box in the upper left-hand corner, or by single-clicking on the box and selecting "Close", or by clicking on the upper right-hand box with the "X" in it.

