



VizMet-B Users Guide

General Information

VizMet-B is an optional browser-based control and display software for the Radiometrics MP-Series Microwave Profiling Radiometers (MP-3000A, MP-2500A, MP-1500A and MP-183A). VizMet-B turns the radiometer Control Computer into a powerful web server, providing interactive access to the instrument from any remote computer connected by LAN or the Internet without installing any special software on the remote computer. VizMet-B uses Java technology to enable any modern Windows, Mac, UNIX, or LINUX computer to connect and display the Graphical Users Interface (GUI). Remote computers only require a browser (IE or Firefox) and Java. The VizMet-B color GUI simplifies and automates radiometer configuration, control calibration and monitoring.

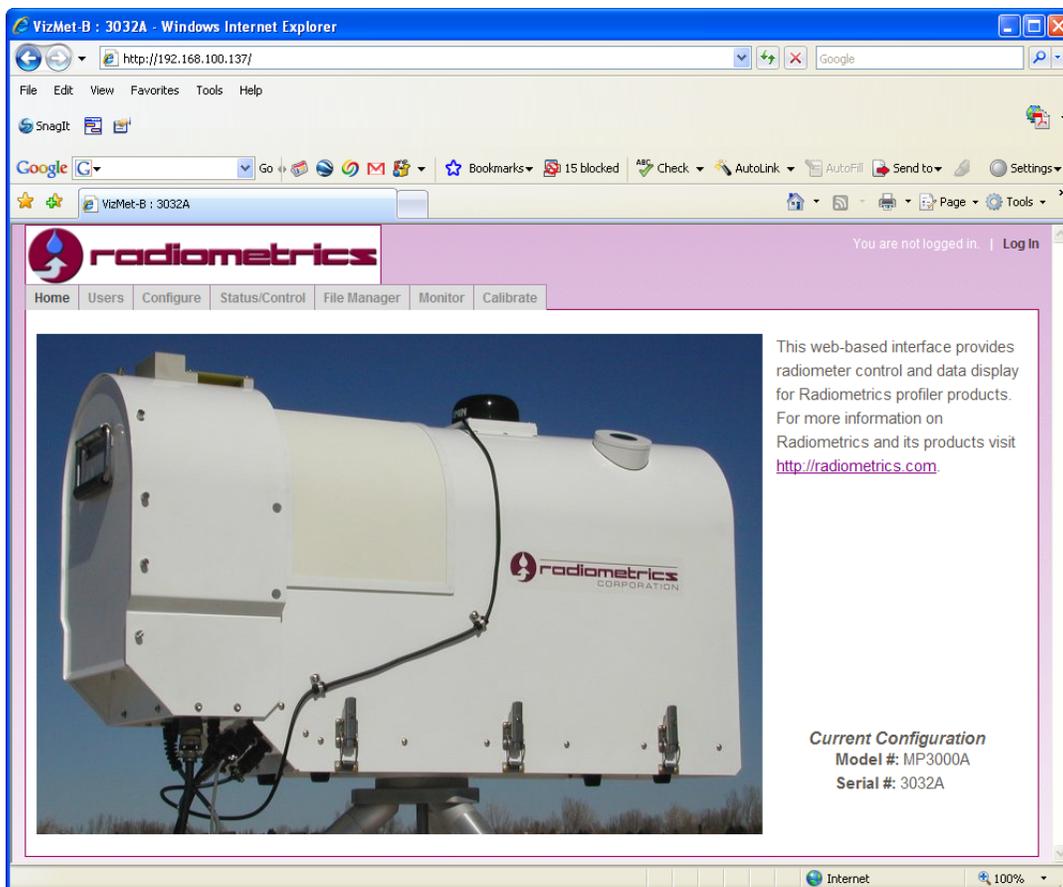


Figure 1. Home page and login for radiometer MP-3032A with fixed IP address shown in the browser address window. To login, click on the “Log In” text in the upper right corner, and then enter User Name and Password.

Starting VizMet B

If VizMet-B has been installed on the Control Computer, it will start automatically when the computer is started. To login from the Control Computer, open a browser window with the address “local host” as the address. If the Control Computer is connected to the Internet and is



assigned a fixed IP address, VizMet-B can be operated via Internet from a remote computer by entering the fixed IP address of the Control Computer in an Internet browser (Figure 1).

Single User GUI

A single user GUI method for radiometer operation is described in the Radiometrics User Manual. If the user wants to control the operating code directly using the single user GUI (and not using the optional VizMet-B software), the VizMet-B server and certain Windows scheduled tasks must be disabled on the Control Computer.

To disable VizMet-B go to “Start” on the Control Computer and then to “All Programs” and to “Radiometrics” and “Stop Server”. Also from “Start” select “Control Panel”, then “Scheduled Tasks”, then right click on “appserver”, select “Properties” and unclick the “Enable” box. Repeat this process for the additional Scheduled Tasks: “forceful_stop”, “graceful_stop”, “oppserver” and “restarter”. These settings must be modified under the username “laptop”.

VizMet-B can be re-enabled by going to “Start” on the Control Computer and then to “All Programs” and to “Radiometrics” and “Start Server”, and then enabling all of the scheduled tasks mentioned above.

Users (Accounts and Privileges) Tab

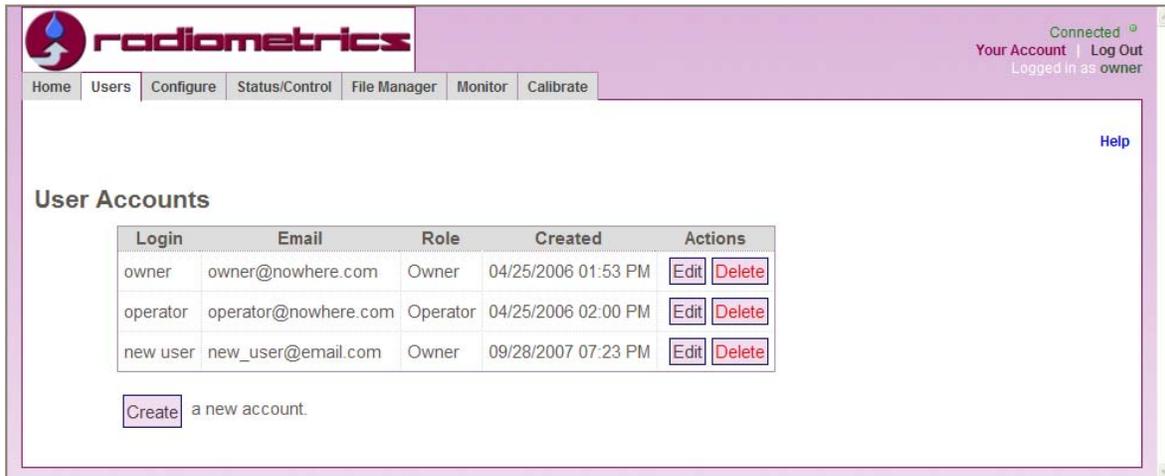


Figure 2. User Accounts and Privileges are controlled via the Users tab.

A User with full privileges (owner) can manage users and access all of the tabs in Figure 2. A User with limited privileges (operator) can access only the Home, File Manager and Monitor tabs.

Configure Tab



Figure 3. The radiometer *mp.cfg* file can be viewed, edited and transferred on this tab.

The *mp.cfg* file determines a variety of radiometer calibration and configuration parameters. Additional information on the *mp.cfg* file can be found in the Radiometrics MP-Series User Manual.

Status/Control Tab

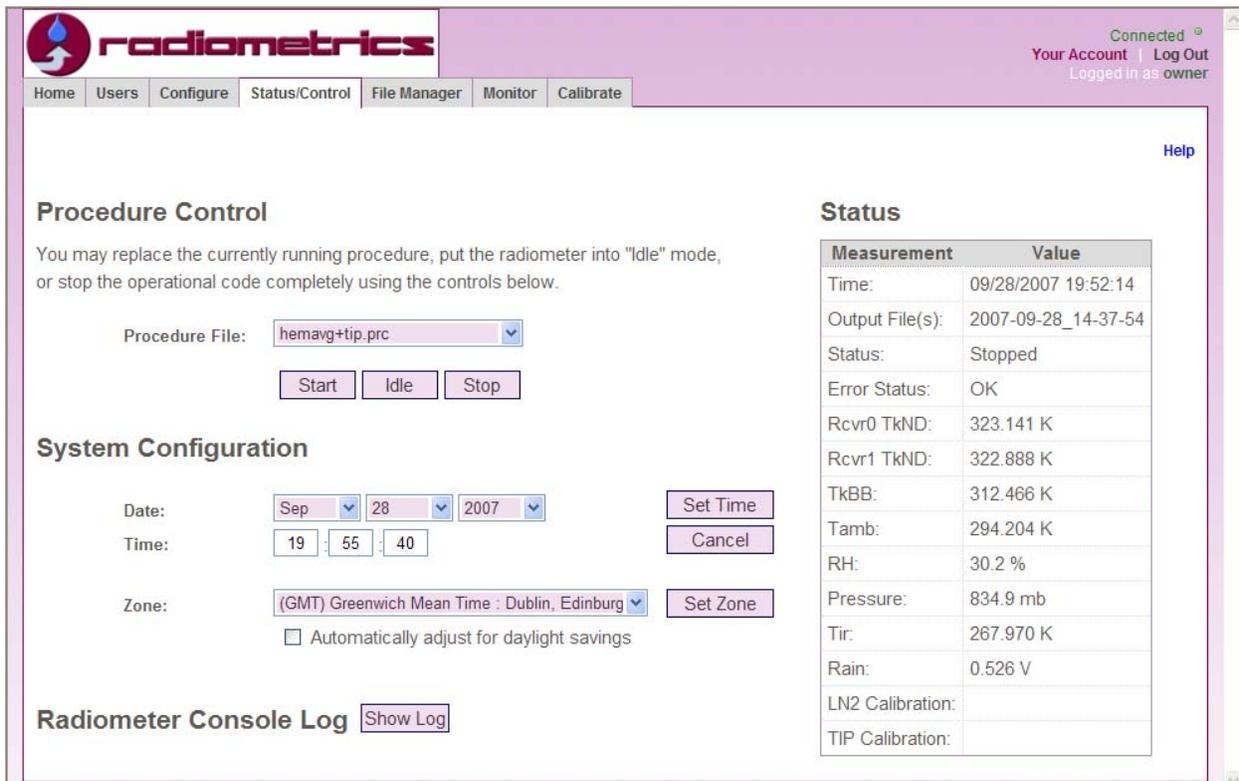


Figure 4. This tab displays the radiometer status, allows selection and control of procedure files, and provides date and time settings.



The Status/Control tab allows the user to select procedure files that control radiometer observation frequencies, integration time, calibration, neural net retrieval files and other operations. Procedure files are described in detail in the Radiometrics MP-Series User Manual. This tab also displays radiometer status, selected radiometer parameters and measurements, and provides time and date control.

File Manager Tab

The screenshot shows the Radiometrics File Manager interface. At the top, there is a navigation bar with tabs: Home, Users, Configure, Status/Control, File Manager (selected), Monitor, and Calibrate. The user is logged in as 'owner'. The main area displays a table of files with the following columns: x, Filename, Type, Modified, and Size. Below the table are controls for selecting files (All, None), downloading, deleting, and filtering files. There is also an upload section with a 'Browse...' button and an 'Upload' button.

x	Filename	Type	Modified	Size
<input type="checkbox"/>	status.csv	CSV	2007/09/28 19:52:14	304
<input type="checkbox"/>	2007-09-28_14-37-54_ser.txt	Plain Text	2007/09/28 19:52:14	734057
<input type="checkbox"/>	2007-09-28_14-37-54_lv0.csv	Level 0 Data	2007/09/28 19:52:14	525934
<input type="checkbox"/>	2007-09-28_14-37-54_lv1.csv	Level 1 Data	2007/09/28 19:51:59	118137
<input type="checkbox"/>	2007-09-28_14-37-54_lv2.csv	Level 2 Data	2007/09/28 19:49:55	628711
<input type="checkbox"/>	2007-09-28_14-37-54_tip.csv	TIP Calibration	2007/09/28 19:49:46	31844
<input type="checkbox"/>	2007-09-28_07-20-10_ser.txt	Plain Text	2007/09/28 14:37:54	1017248
<input type="checkbox"/>	2007-09-28_07-20-10_lv0.csv	Level 0 Data	2007/09/28 14:37:54	721527
<input type="checkbox"/>	2007-09-28_07-20-10_tip.csv	TIP Calibration	2007/09/28 14:37:38	48926
<input type="checkbox"/>	2007-09-28_07-20-10_lv2.csv	Level 2 Data	2007/09/28 14:34:36	876169
<input type="checkbox"/>	2007-09-28_07-20-10_lv1.csv	Level 1 Data	2007/09/28 14:34:28	162535
<input type="checkbox"/>	2007-09-28_03-04-57_ser.txt	Plain Text	2007/09/28 07:15:11	582444
<input type="checkbox"/>	2007-09-28_03-04-57_lv0.csv	Level 0 Data	2007/09/28 07:14:55	420079

Figure 5. This tab lists files in the radiometer operating folder and provides file sorting, filtering, downloading and uploading capability.

Use the File Manager to add or delete procedure files, macro files or other files. Click on a column header to sort files and subdirectories located in the operating folder. Use the Filter box to list only the files specified by the filter. The character “*” is a wild card character.

Controls are provided to download and delete files, and to browse for and upload files from other local computer directories. Any or all files can be downloaded without affecting normal operation. Double click on any file to open a copy on the local computer.

Monitor Tab

This tab allows display of radiometer observation and retrieval time series. Use the 3D, Profiles, and 2D Line tabs to select the corresponding data display.

3D Color

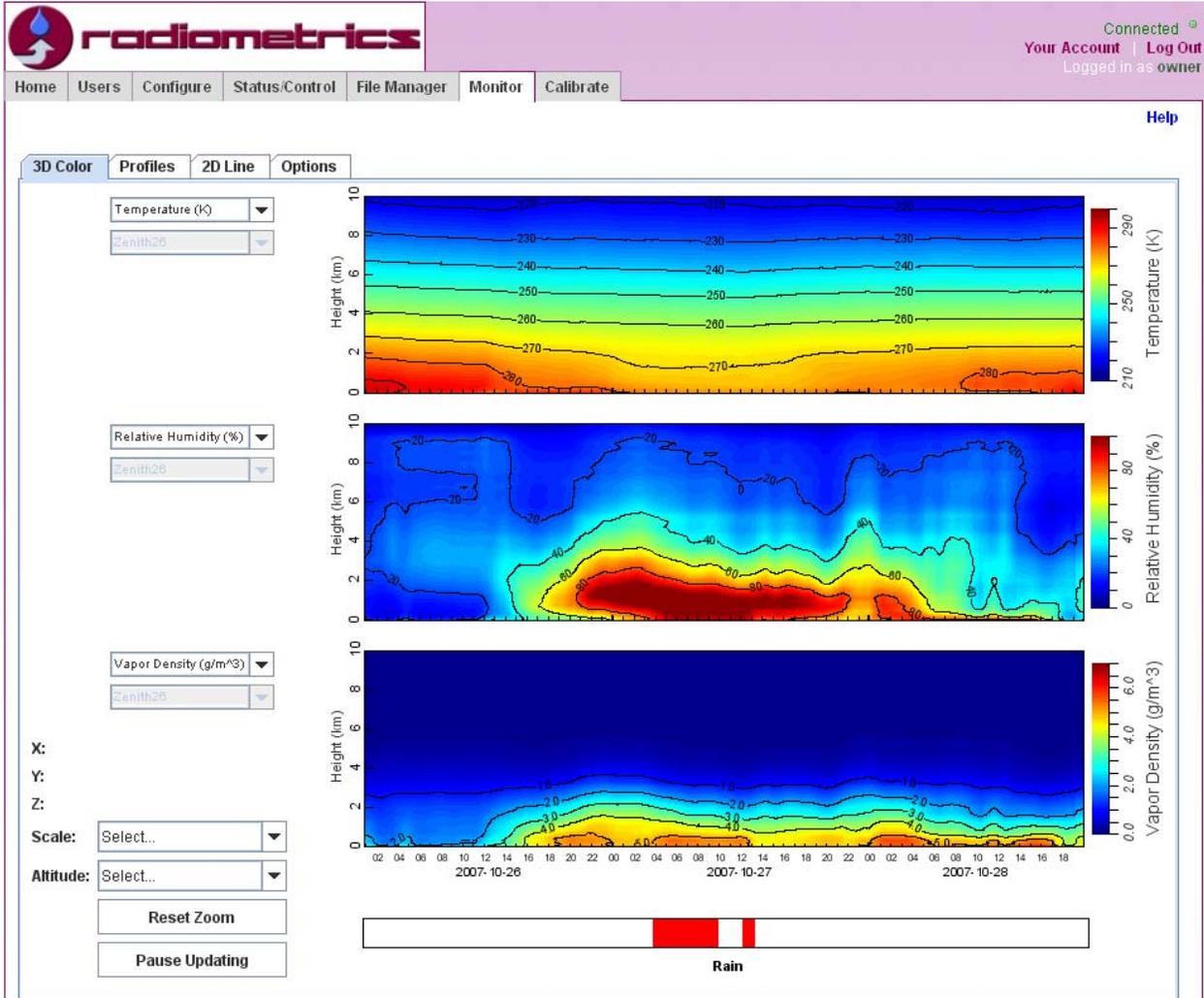


Figure 6. The 3D Color sub-tab in the Monitor tab provides color contours of retrieved temperature, relative humidity, vapor density and liquid density profiles (selectable by pull down menus), and the rain flag.

Scrolling of coordinates with cursor position is displayed at left along with time period (Scale) and altitude scaling selections. Click and zoom allows the user to select and expand specific time scales and features on the contour plots, and Reset Zoom restores the default time scale and altitude. Pause (/Resume) Updating controls the real time data display.

Profiles

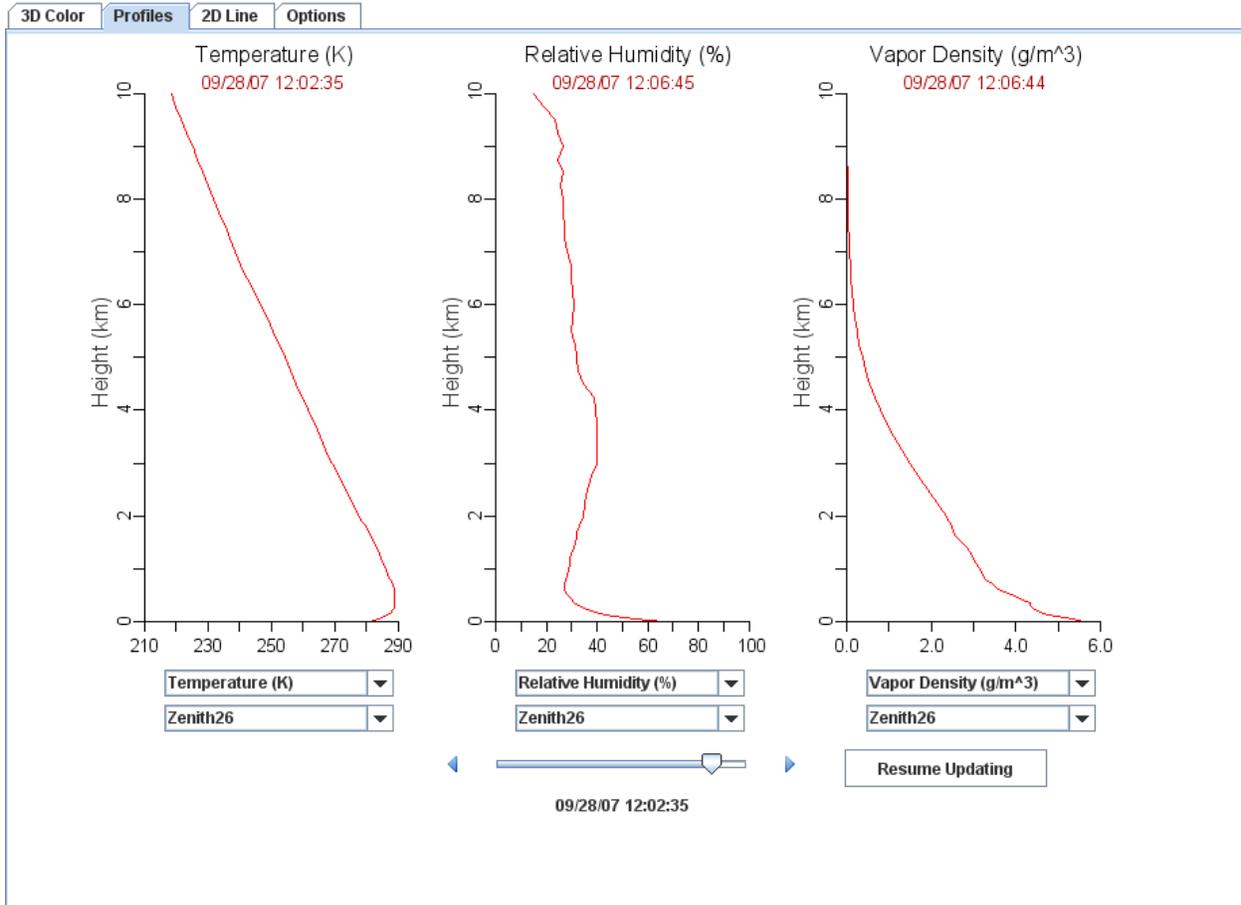


Figure 7. The Profiles tab displays individual retrieved temperature, relative humidity, vapor density and liquid density profiles (pull down menus), with time scrolling.

Retrieval types (temperature, relative humidity, vapor density and liquid) can be selected with pull down menus below each plot.

Profiles retrievals using different neural network algorithms, if available, are selected with the lower pull down menu.

Time evolution of retrieved profiles can be easily displayed using the scrolling bar.

2D Line

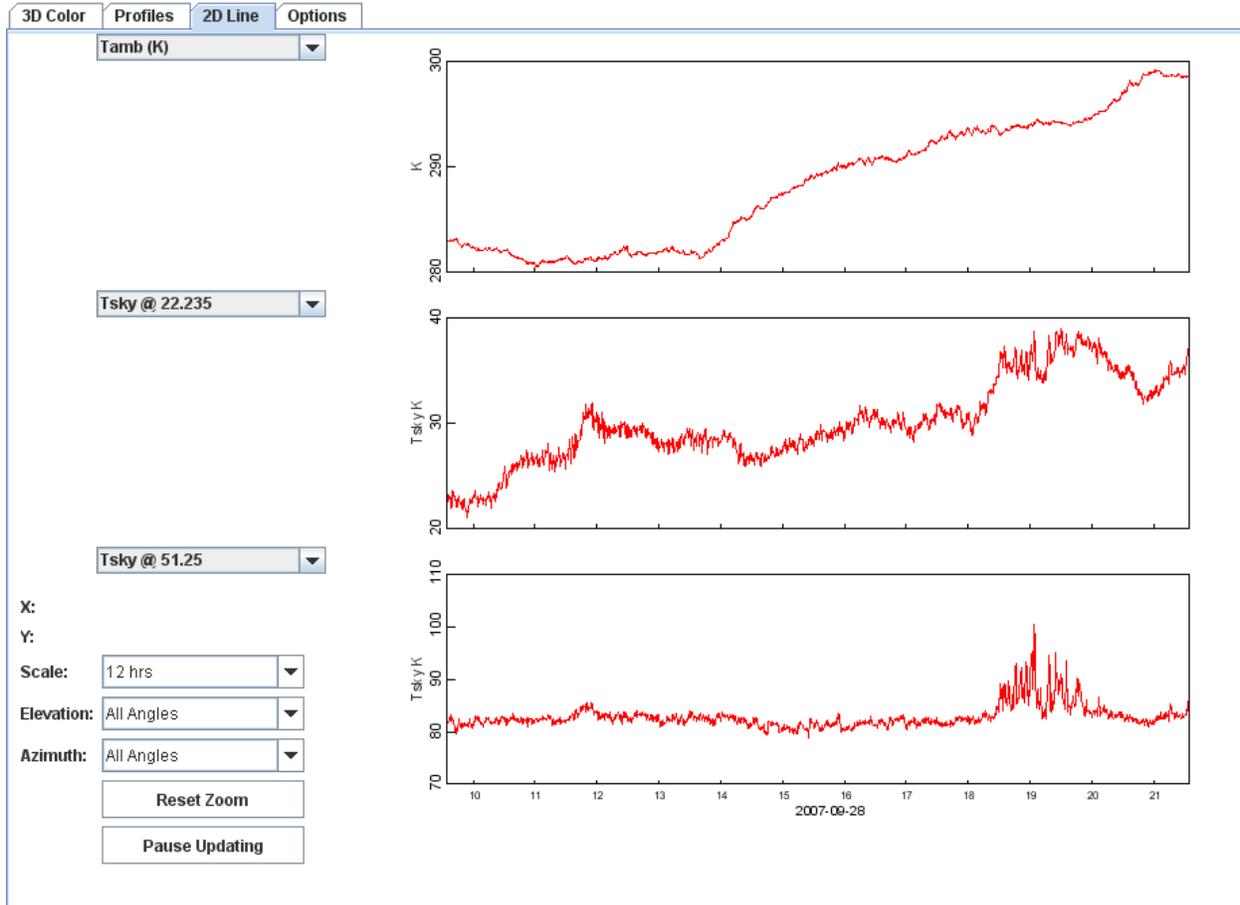


Figure 8. The 2D line tab allows display of all radiometer time series measurements, with click and zoom capability.

Included in the pull down menus are surface temperature, relative humidity, integrated vapor and integrated liquid, cloud base temperature, cloud base height, and all of the observed radiometric brightness temperatures. If the cursor is located within any of the plot boxes, the X and Y values at the cursor location are displayed at lower left. Time scales as well as observations at specific elevation and azimuth angles can be displayed.

Calibrate Tab

This tab simplifies and automates liquid nitrogen and tip calibration procedures described in detail in the Users Manual.

Liquid nitrogen calibration time series are shown in Figure 9. To start liquid nitrogen calibration the liquid nitrogen target should be filled and installed on top of the radiometer, as described in the User Manual. Then the user should go to the “Status/Control” tab and stop the current procedure file, making sure that the procedure file is stopped, as indicated in the “Status” box at right. Then go to the “Calibrate” tab and click on the “Start LN2 Calibration” box. If the procedure file has not stopped, the “Start LN2 Calibration” box will appear in grey (as shown

above) and will not respond to clicking. Typically, a one hour liquid nitrogen calibration (as shown above) is recommended, as described in the User Manual.



Figure 9. The Calibrate tab allows liquid nitrogen (LN2) calibration control. It also allows TIP and LN2 calibration time series display and click and zoom data selection and transfer.

The above time series show Noise Diode (ND) temperatures in degrees K, as calibrated during a one hour liquid nitrogen target observation. For a successful calibration, the time series should be stable with several degrees K peak to peak, as seen above. After one hour of stable ND calibration data have been collected, the “Stop Calibration” box should be clicked. If necessary, a subset of the time series can be selected for transfer from K (Band 0) or V (Band 1) using click and zoom.

The “Transfer Band 0” and “Transfer Band 1” boxes should then be clicked to automatically create a new *mp.cfg* file including the new calibration. This also automatically saves the old *mp.cfg* file with a date and time stamp. More information on the *mp.cfg* file is included in the User Manual.

The “Select LN2 Calibration” and “Select Tip Calibration” boxes allow easy access to previous calibration files, if needed. More information on these files is available in the User Manual.

After calibration is completed, the user can return to the “Status/Configuration” tab to select and start a procedure file to resume radiometer observations.