AcoustX

TOOLS FOR SOUND ANALYSIS

# D2 Acoustical Measurement System

# Cinema QuickStart Guide

Version 2.1

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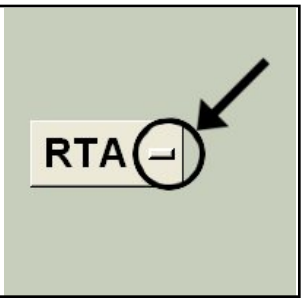
Welcome to the **AcoustX D2 Acoustical Measurement System**, Cinema Version, and **win|RTA** software. This guide will provide you with an overview of setting up and connecting the hardware, and installing and running the software. .

Note on the software:

When you see a button with a bar on the right side, this indicates that when you click on it, a drop-down menu will appear.





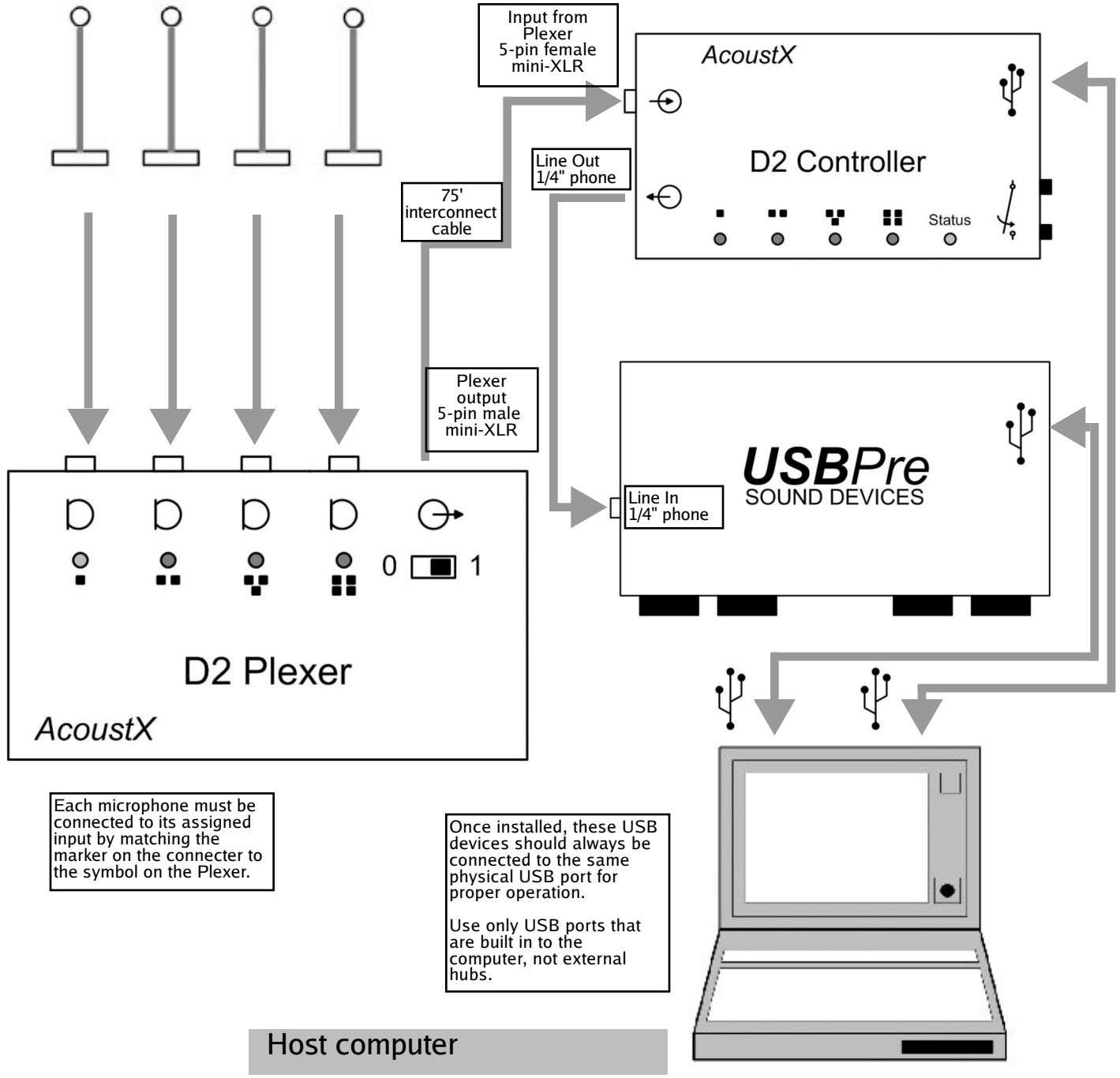

Version 2.1

# CONNECTION DIAGRAM

## Equipment in Auditorium

## Equipment in Projection Booth

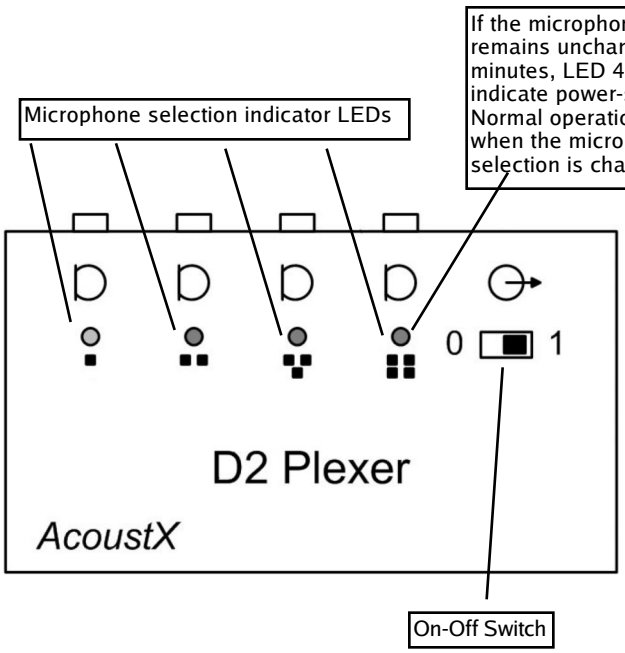
### Microphones



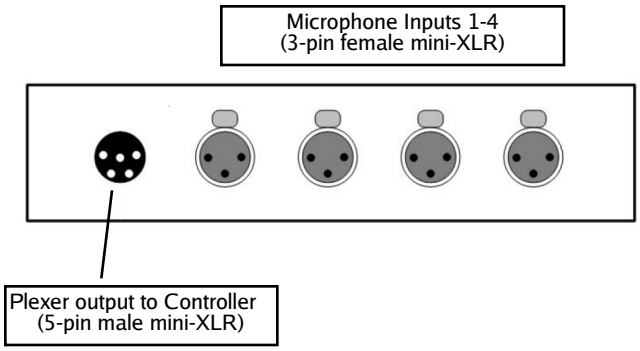

### Host computer

# Plexer Panel Diagrams

## Front Panel View

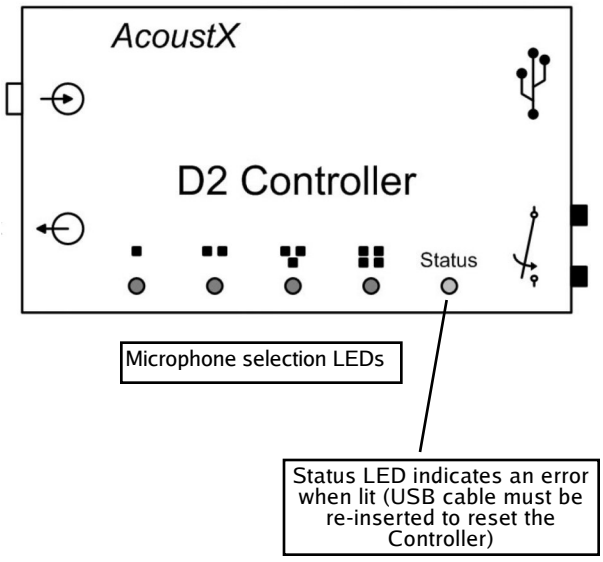



## Top Panel View

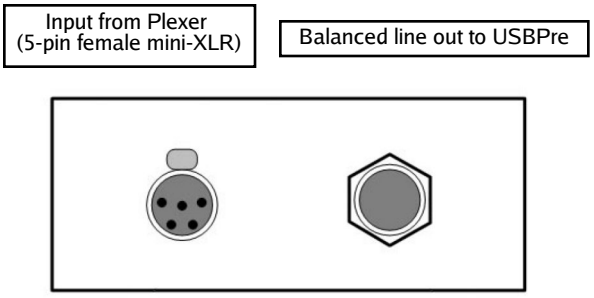



# Controller Panel Diagrams

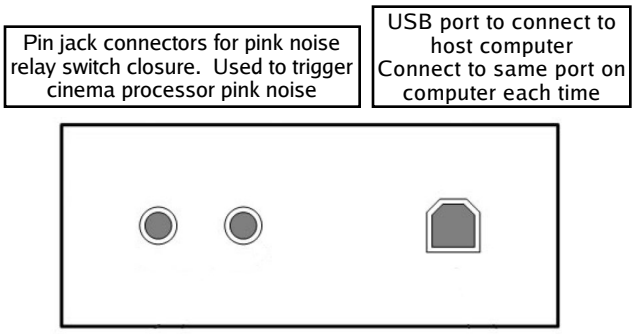
## Top Panel




## Left Panel




## Right Panel



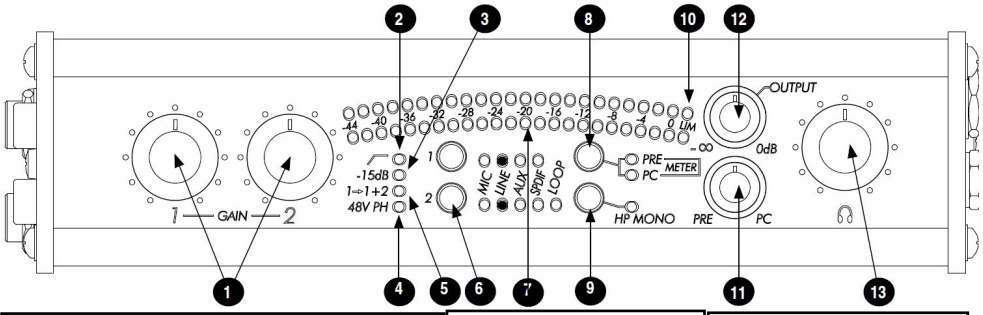
# USBPre2 Panel Diagrams

## Front Panel

**2, 3, 4, 5** - Not used by D2.

8 - meter control

12 - Output level control - Set to maximum



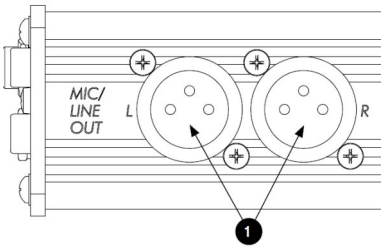

**1** - Level control for Channel 1 is preset to MINIUM or FULLY COUNTERCLOCKWISE. Aluminum cap prevents accidental movement of input control. Channel 2 is also calibrated when knob is set to minimum gain.

**6** - Input selectors for Channels 1 & 2. Line Input must be manually selected for both channels using these buttons.

**7 & 10** - Level indicators

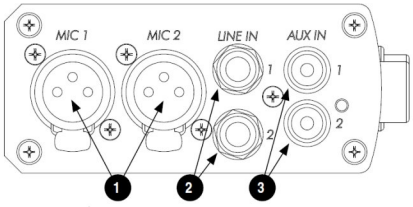
**9, 11** -- headphone control

## Back Panel




**1** - Balanced outputs

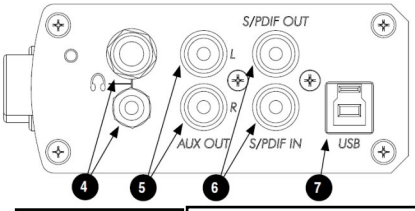
## Input (Left) Panel




**2** - The D2 uses the Line 1 input by default. Line 2 can be selected in software. Both channels are active in X-Y modes.

**1 & 3** - Not used by the D2.

## Output (Right) Panel




**4** - Headphone outputs.

**5** - Select AUX in Output.

**7** - USB connection to host computer. Connect to same port on computer each time.

**6** - Select S/PDIF in Input/Output.

# Installation

1. Install the **USBPre**2 Digital Audio Interface first. Please refer to the documentation accompanying the USBPre for complete installation and operating instructions. Refer to the connection diagram and to the USBPre panel diagrams in this document for information on proper connection of the device. (Note: The USBPre must be connected directly to a USB input on the computer instead of through an external USB hub.) Under Windows Vista and 7, you must set the sampling rate to 48 kHz 16 bit for Recording and Playback for the USBPre in the Windows Control Panel. You may also use the SoundDevices ASIO drivers available on their website. When using ASIO, you do not need to set the sampling rate.

2. Connect the **D2 Controller** as shown in the connection diagram. The Controller must be connnected directly to a USB input on the computer instead of through an external USB hub. When the Controller is connected, the computer should prompt for drivers for the device. The necessary drivers are found on the **D2** CD.

3. Insert the **D2** software CD into an available drive on the host computer. Open the CD and double click on "Setup". Follow the instructions and prompts of the installation procedure to install the win|RTA software onto the host computer. A short-cut icon for win|RTA can be placed on the desktop during the installation procedure.

4. Connect the remaining components of the **D2 Acoustical Measurement System** (**D2 Plexer** and microphones) as shown in the connection and panel diagrams.

5. Install the 9V alkaline battery in the Plexer opening the battery cover on the back panel. If you want to use a rechargeable battery, a 9V NiMH battery with a 250 mAh or greater rating is recommended.

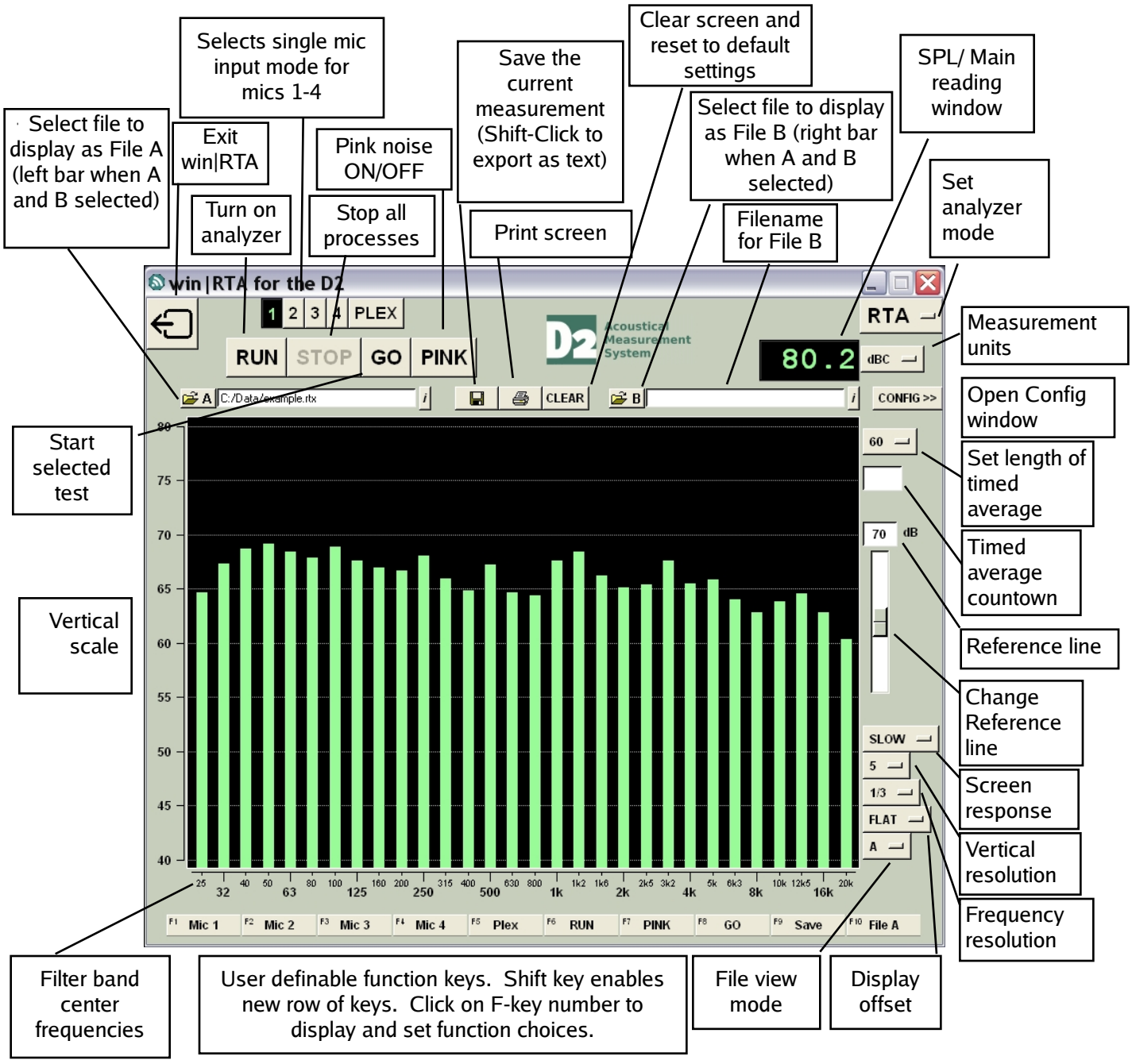
6. Double-click on the short-cut icon placed on the desktop to start the **win|RTA** software. Note that a default configuration (preferences) will be created the first time the program is executed. The user should customize this information as appropriate in the Config panels.

7. After installation, enable microphone calibration by selecting mic cal numbers in the Config menu. (See the Config diagrams later in this document.) The microphone serial numbers are assigned with Mic 1 as the lowest serial number through Mic 4 as the highest serial number. The "Mic Cal" checkbox must be selected to enable mic calibration.

8. With the USBPre2 connected, select the "Interfaces" window in Config. Press "Select" and choose USBPre2 from the list of available interfaces.

9. Finally, click "Save Configuration" to store the preferences to disk.

# Main Screen




SPECIAL KEYS AND FUNCTIONS

- ESC key kills all processes
- PgUp/PgDn or mouse wheel moves reference line
- Shift shows new row of function keys
- Shift-click on Save button to export as text (.TXT)
- Shift-click and drag mouse on display to zoom view in RTA mode. Click to restore.
- Right-click displays edit menu when in comment
- Hold cursor over filename field to see full pathname

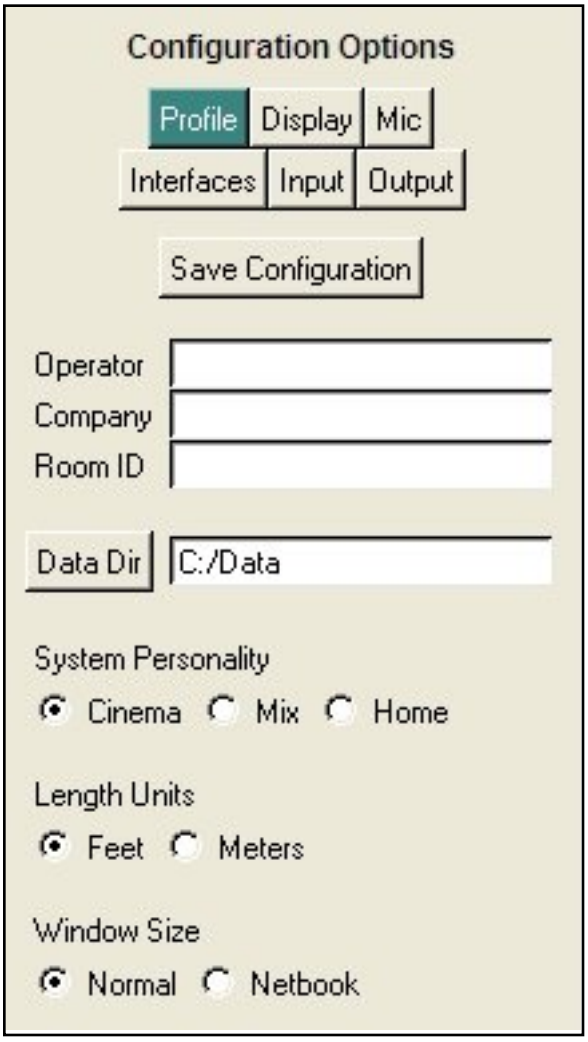
CTT MODE KEYS

- Up/Down arrow moves among menu selections
- Left/Right arrow moves in or out of current menu
- Alt-Left Arrow moves up one levele when in a data entry field
- Shift-click on Home CTT Coverage test button to rename

X-Y

- Shift-click-drag moves both channel gains together

# Configuration: Profile and Interfaces




Write configuration data to disk

Technician name

Organization

Name of theatre

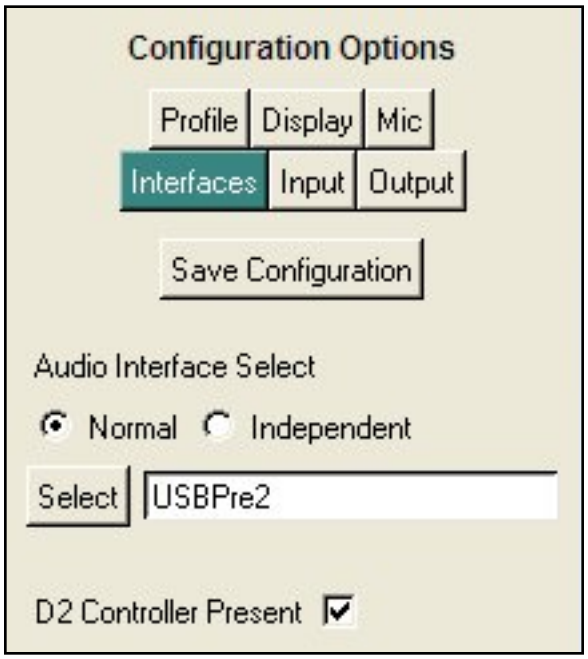
Select data directory

Selected data directory
Defaults to "My Documents"

Set software options for type of room under test

Set default units for measurements

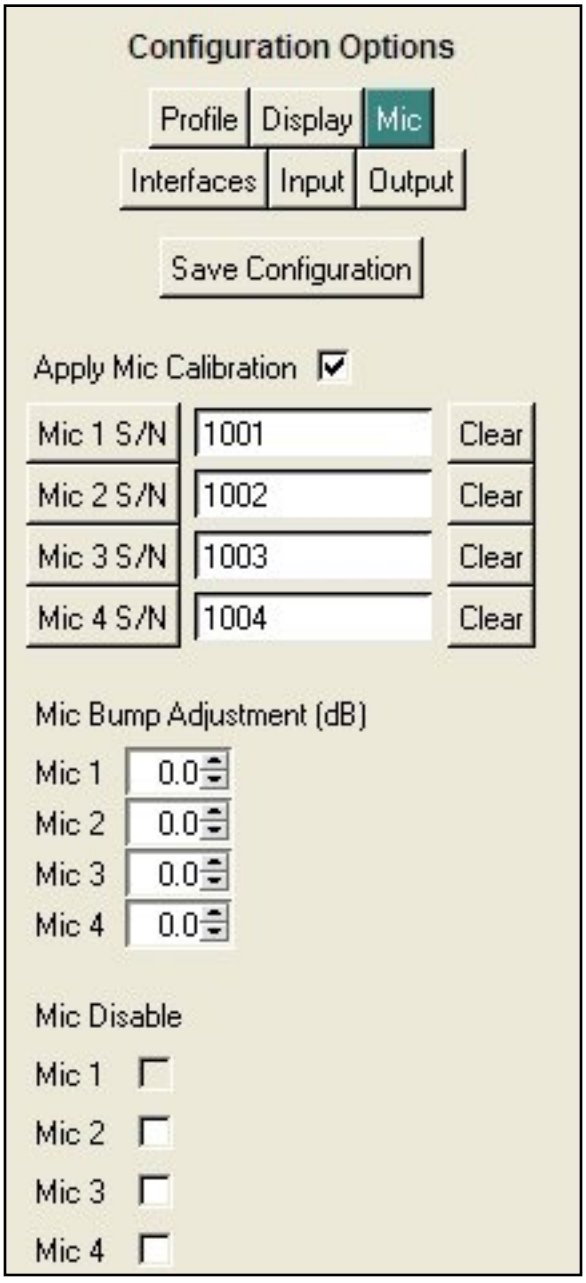
Normal is for displays 1024x768 or larger. Netbook is for the smaller netbook screens, typically 1024x600. Save Configuration and restart win|RTA to take effect.




Select audio interface

Enable D2 Controller

# Configuration: Microphones

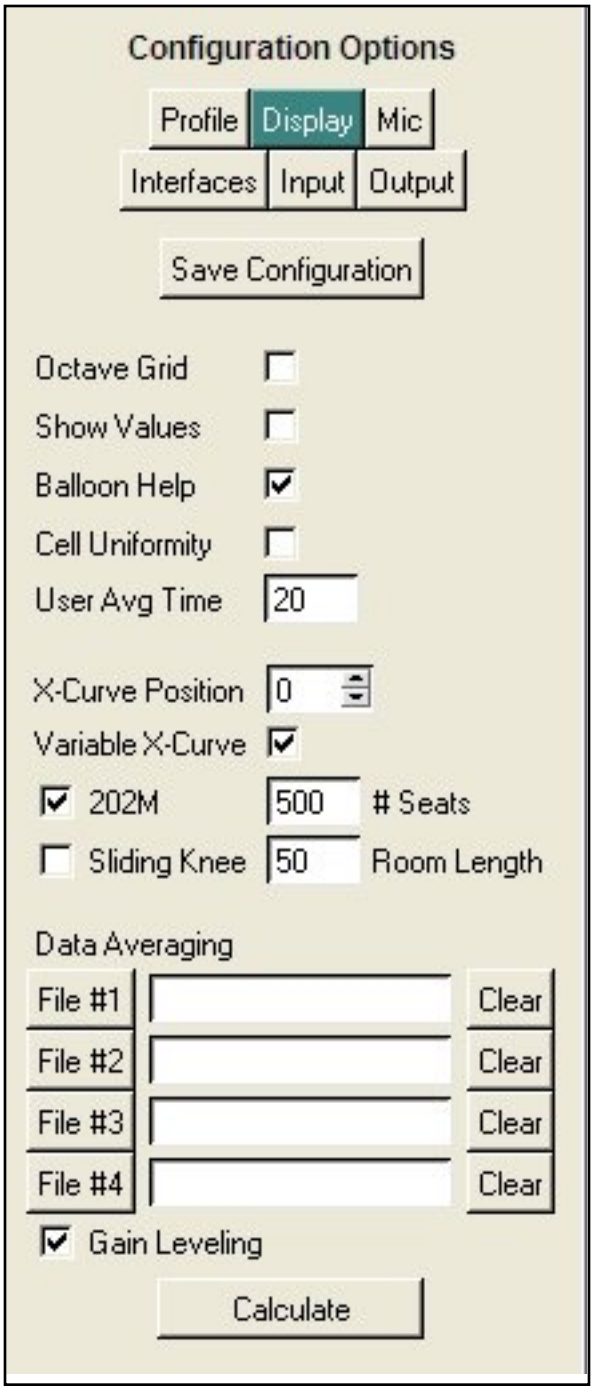



Enable and load microphone calibration files.

Adjust the gain of individual microphones.

Disable one or more microphones

# Configuration: Display




Display octave markers

Show bar values when cursor is moved over a bar

Enable balloon help

Set display for Cat. No. 566 test film (film projectors)

Set length of User Average

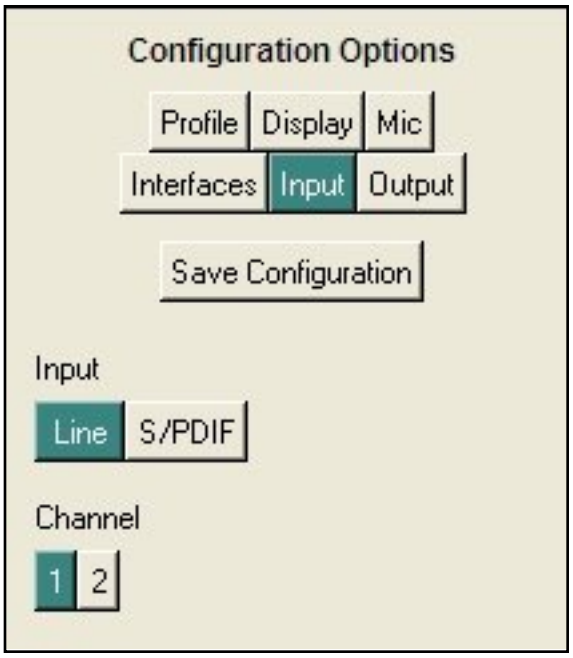
Change the vertical postion of the X-Curve

Enable Variable X-Curve

The variable X-Curve can either change the slope of the curve (according to SMPTE 202M) or the frequency at whiich the slope begins (the knee).

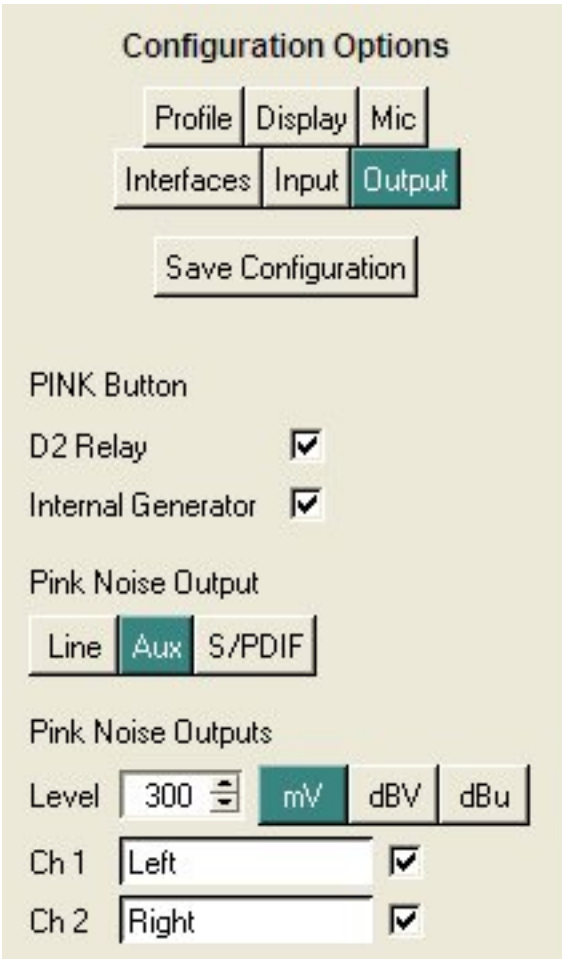
Average data from previous measurements. This is useful if you wish to use one microphone and get results similar to using the mulitiplexer. Make measurements at four different positions, load the four files, and click Calculate. For best results, load the data taken at reference position into File #1 and enable Gain Leveling.

# Configuration: Input and Output




Select Input

Select input channel for line input
(Mic selection is on main screen)



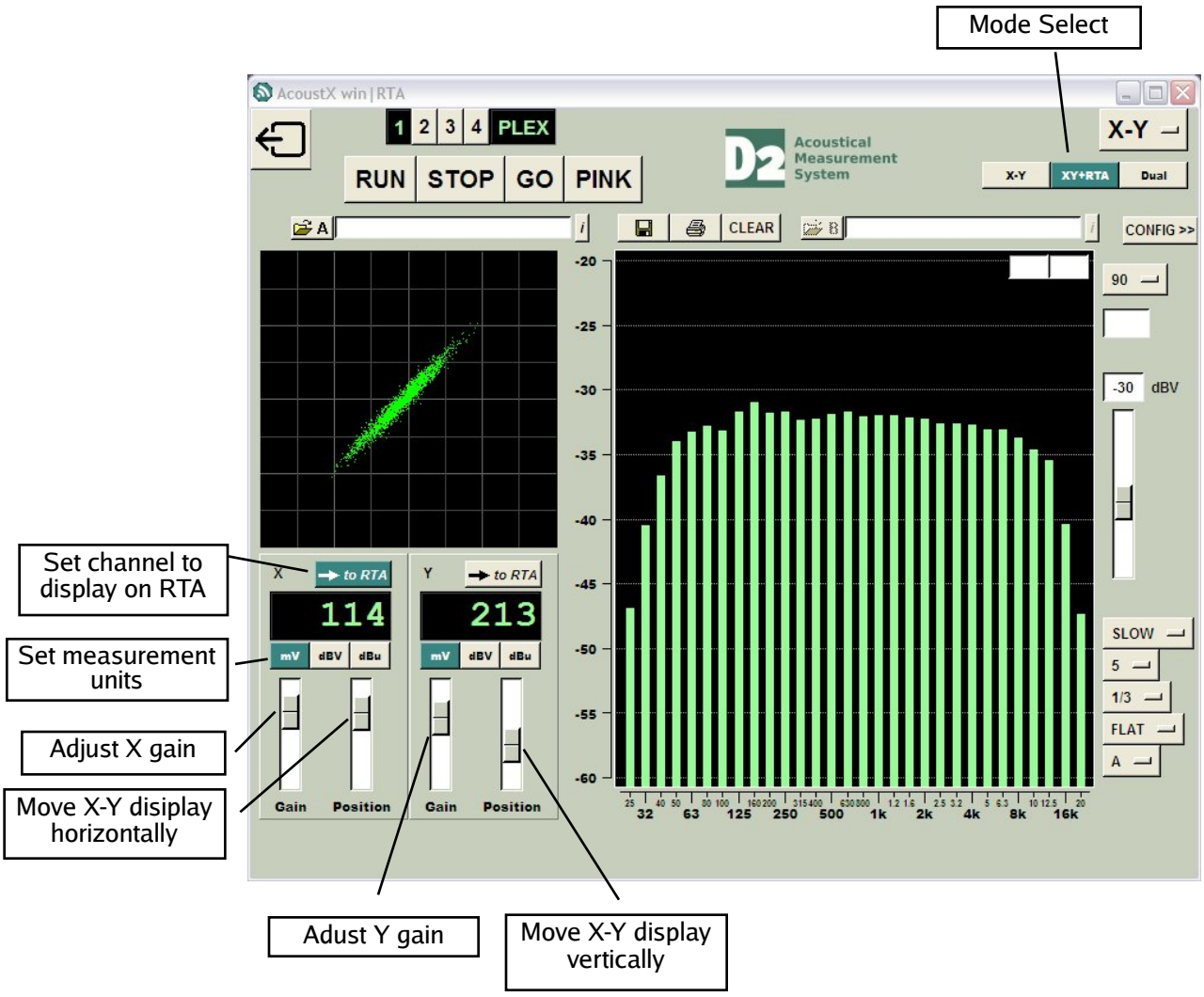

Configure PINK Button behavior

Select test signal output port

Set units of measure and level for outputs

Enable outputs. In Analog mode, the channels can be named.

# X-Y Oscilloscope



# Dual Trace Oscilloscope