



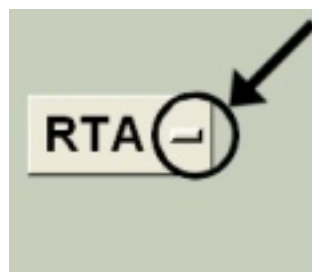
D₂ Acoustical Measurement System
Studio QuickStart Guide

Version 2.2

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Welcome to the AcoustX D₂ Acoustical Measurement System, Studio 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. The QuickStart Guide serves as a basic reference for the D₂ system.

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.



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Version 2.2

Limited Warranty

AcoustX warrants the D2 Acoustical Measurement System hardware and its parts against defects in materials or workmanship for a period of one (1) year from the original date of purchase. During period, AcoustX will repair or replace a defective product or part without charge to the customer. The MOTU 4Pre is covered by the manufacturer's warranty. The customer is responsible for delivering the defective component (or the entire D2 Acoustical Measurement System, if requested) to AcoustX. The customer must pay for all shipping and insurance charges transportation of the defective component(s) to AcoustX for repair. AcoustX will assume responsibility for shipping and insurance charges involved in returning the component(s) to the customer. The win|RTA software is distributed on an "as is" basis, without warranty. AcoustX makes no representation or warranty, either expressed or implied, with respect to the software programs, their accuracy, quality, or fitness for a specific purpose. AcoustX shall have no liability to the purchaser, or to any other person or entity with respect to any liability, loss, or damage caused, or alleged to have been caused either directly or indirectly by the software contained on the distribution disk. This includes, but is not limited to, interruption of service, loss of data, time, or profits, or consequential damages resulting from the use of the software. If the distribution medium is defective, you may return it for a replacement within the warranty period.

Installation Procedure

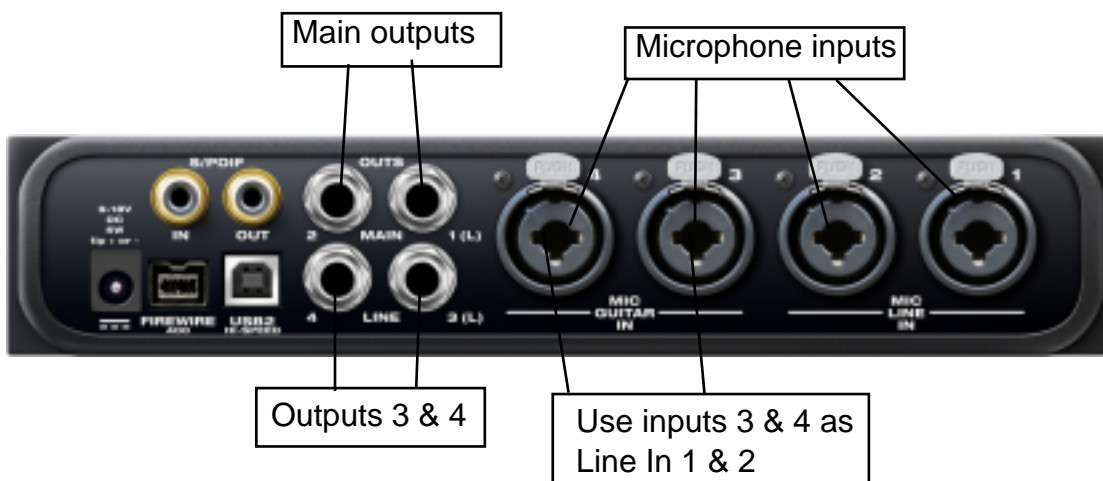
First install the 4Pre software from the MOTU cd. Then install the win|RTA software for the AcoustX cd. Insert the cd and double-click on the Setup icon. Follow the instructions during the installation.

Open the Config menu in win|RTA. Select the "Mics" button and load the microphone calibration files. The serial numbers are assigned in ascending numerical order (see Config screenshots later in this document). Next, with the 4Pre connected and turned on, select the "Interfaces" button and click on "Select". Choose MOTU 4Pre from the list of available interfaces. Click "Save Configuration".

The MOTU CueMix application is used to select either microphone or line inputs. For microphone measurements, select Load Presets from the CueMix File menu, and choose Preset #1, StudioMicIn. For line level measurements, select Preset #2, StudioLineIn.

The Studio Presets can be created from the the 4Pre default settings. First, using Cuemix, set all faders to minimum. Enable phantom power on all microphone inputs. Then set the mic input channels, inputs 1-4, to +12 dB gain. Save the Preset as "StudioMicIn" in Preset #1. Next turn channel 3 & 4 gains to 0. Disable phantom power on inputs 3 & 4. Save this preset as StudioLineIn under Preset #2.

Hardware Connection



Configuration: Microphones and Interfaces

Configuration Options

Profile | Display | **Mic**

Interfaces | Input | Output

Save Configuration

Apply Mic Calibration

Mic 1 S/N	1001	Clear
Mic 2 S/N	1002	Clear
Mic 3 S/N	1003	Clear
Mic 4 S/N	1004	Clear

	Bump	Disable
Mic 1	0.0	<input type="checkbox"/>
Mic 2	0.0	<input type="checkbox"/>
Mic 3	0.0	<input type="checkbox"/>
Mic 4	0.0	<input type="checkbox"/>

Enable and load microphone calibration files.

Adjust the gain of individual microphones.

Disable one or more microphones

Select audio interface

Enable D2 Controller (Cinema Version)

Configuration Options

Profile | Display | Mic

Interfaces | Input | Output

Save Configuration

Audio Interface Select

Normal Independent

Select | MOTU 4PRE

Show Connection Diagram

D2 Controller Present

Configuration: I/O

The screenshot shows the 'Configuration Options' window with the 'Input' tab selected. At the top, there are tabs for 'Profile', 'Display', 'Mic', 'Interfaces', 'Input', and 'Output'. Below these is a 'Save Configuration' button. The 'Input' section has buttons for 'Mic', 'Line', and 'S/PDIF'. The 'Channel' section has a dropdown menu showing '2'. There is a checkbox for 'High Pass Filter'. The 'dBFS Reference' section has two radio buttons: 'Full scale square wave' (selected) and 'Full scale sine wave'.

Select Input

Select input channel
(Mic selection is on main screen)

Enable 22 Hz high pass filter for
FLAT, Line In, S/PDIF

Set dBFS reference. There is a 3 dB
difference between settings.

The screenshot shows the 'Configuration Options' window with the 'Output' tab selected. At the top, there are tabs for 'Profile', 'Display', 'Mic', 'Interfaces', 'Input', and 'Output'. Below these is a 'Save Configuration' button. The 'Output' section has buttons for 'Pink' and 'Sine'. There are radio buttons for 'Norm' (selected) and '500-2k'. Below that are buttons for 'Analog' and 'S/PDIF'. The 'Level' section has a dropdown menu showing '-11.5', and buttons for 'mV', 'dBV', and 'dBu'. There are four channels listed: 'Ch 1' (Out1, checked), 'Ch 2' (Out2, checked), 'Ch 3' (Out3 (Line), unchecked), and 'Ch 4' (Out4 (Line), unchecked). The 'Output Termination' section has radio buttons for 'Unbalanced' (selected) and 'Balanced'.

Configure pink noise 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.

Set output termination for accurate
readout in Level box.

Configuration: Profile

Configuration Options

Profile | Display | Mic

Interfaces | Input | Output

Save Configuration

Operator

Company

Room ID

Data Dir

CTT Profile

Cinema Mix Home

Length Units

Feet Meters

Window Size

Normal Netbook

Write configuration data to disk

Technician name

Organization

Name of theatre

Selected data directory
Defaults to "My Documents"

Set software options for type of room under test

Set default units for measurements

Set size of win|RTA main window

Configuration: Display

Configuration Options

Profile **Display** Mic

Interfaces Input Output

Save Configuration

Octave Grid

Show Values

Balloon Help

Cell Uniformity

User Avg Time

X-Curve Position

Variable X-Curve

ST202 # Seats

Sliding Knee Room Length

Data Averaging

File #1	<input type="text"/>	Clear
File #2	<input type="text"/>	Clear
File #3	<input type="text"/>	Clear
File #4	<input type="text"/>	Clear

Gain Leveling

Calculate

Display octave markers

Show bar values when cursor is moved over a bar

Enable balloon help

Set display for Cat. No. 566 test film

Set length of User Average

Lower X-Curve position

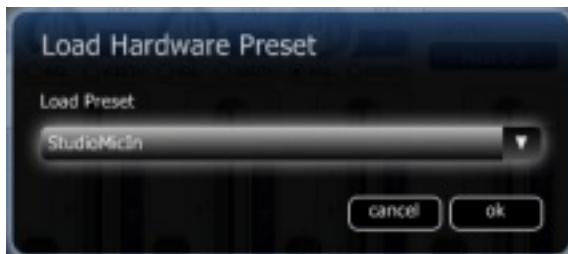
Enable Variable X-curve

Select files for to calculate a multiplexed response from individual microphone data.

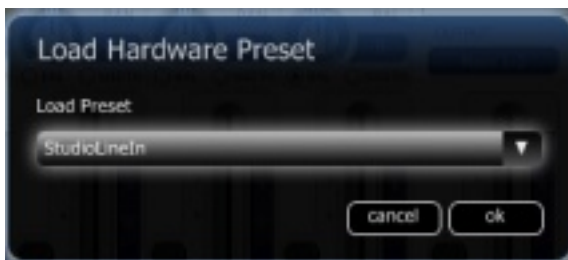
Using MOTU CueMix with win|RTA



For microphone measurements, load Hardware Preset #1, StudioMicIn



To measure line level signals, load Hardware Preset #2, StudioLineIn, and use Inputs 3 & 4.



Main Software Screen

The screenshot shows the main software screen for the D2 Acoustic Measurement System. The interface includes a top menu bar with buttons for 'RUN', 'STOP', 'GO', and 'PINK'. A central display shows a bar graph of frequency response with a vertical scale on the left and a horizontal axis for filter band center frequencies. A large digital display shows '80.2' dB. The right side of the screen has a vertical control panel with various settings and buttons. Numerous callout boxes provide detailed descriptions of the interface elements and their functions.

Callout Boxes:

- Select file to display as File A (left bar when A and B selected)
- Input channel
- Exit win|RTA
- Pink noise ON/OFF
- Turn on analyzer
- Stop all processes
- Print screen
- Save the current measurement (Shift-Click to export as text)
- Clear screen and reset to default settings
- Select file to display as File B (right bar when A and B selected)
- Filename for File B
- SPL/ Main reading window
- Set analyzer mode
- Measurement units
- Open Config window
- Set length of timed average
- Timed average countdown
- Reference line
- Change Reference line
- Screen response
- Vertical resolution
- Frequency resolution
- Display offset
- File view mode
- User definable function keys. Shift key enables new row of keys. Click on F-key number to display and set function choices.
- Filter band center frequencies
- Vertical scale
- Start selected test

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)
- Click and drag mouse on display to zoom view in RTA mode
- 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 level when in a data entry field
- Shift-click on Home CTT Coverage test button to rename