



D2 Acoustical Measurement System

Cinema QuickStart Guide

Version 1.77

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Welcome to the AcoustX D2 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. The QuickStart Guide serves as a basic reference for the D2 system, but is not intended as a detailed guide to operation of the system. More detailed reference information regarding system operation and the performance of acoustical tests is provided through separately offered training seminars. Contact AcoustX regarding the availability of training seminars.

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Version 1.77

Limited Warranty

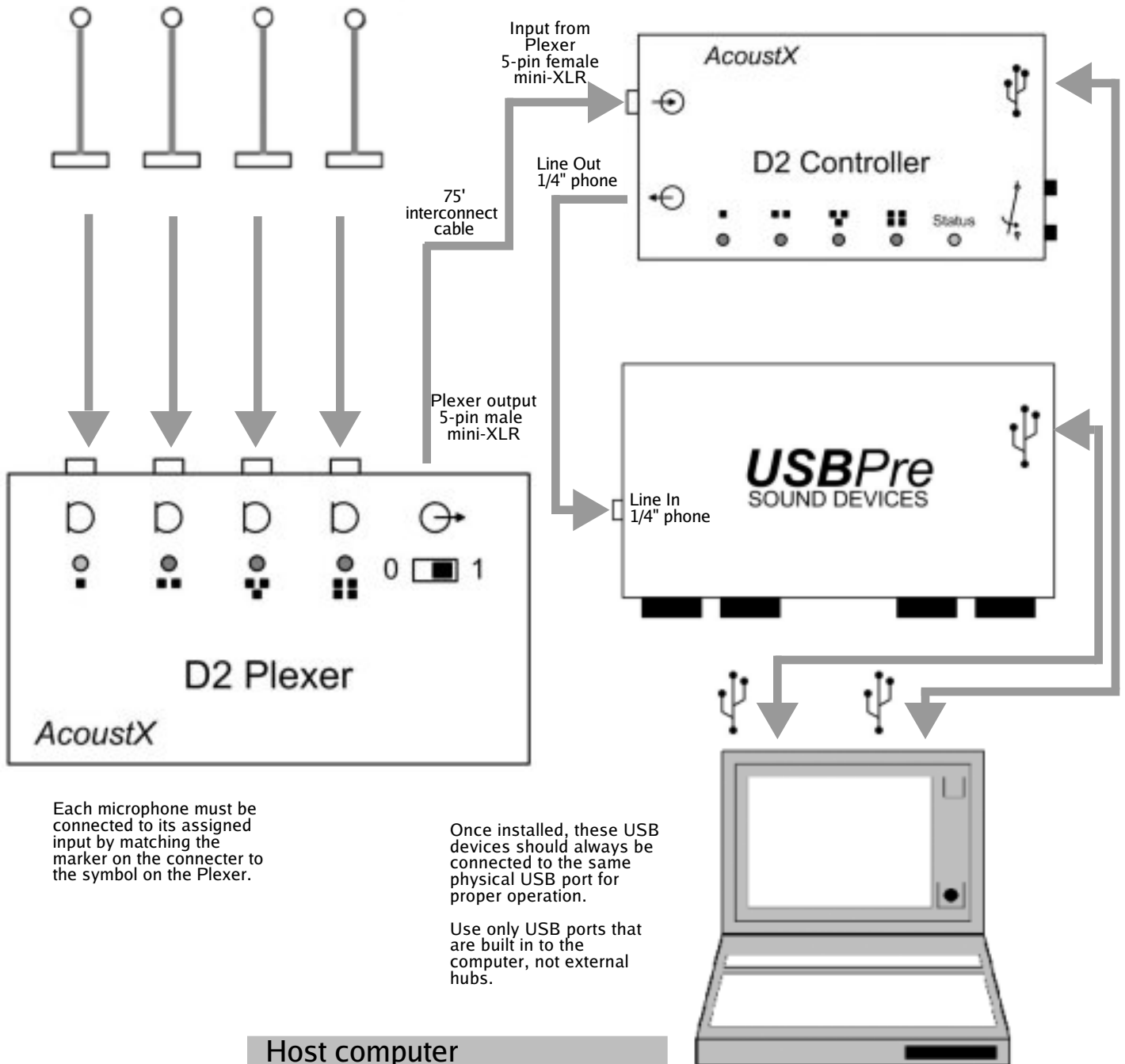
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CONNECTION DIAGRAM

Equipment in Auditorium

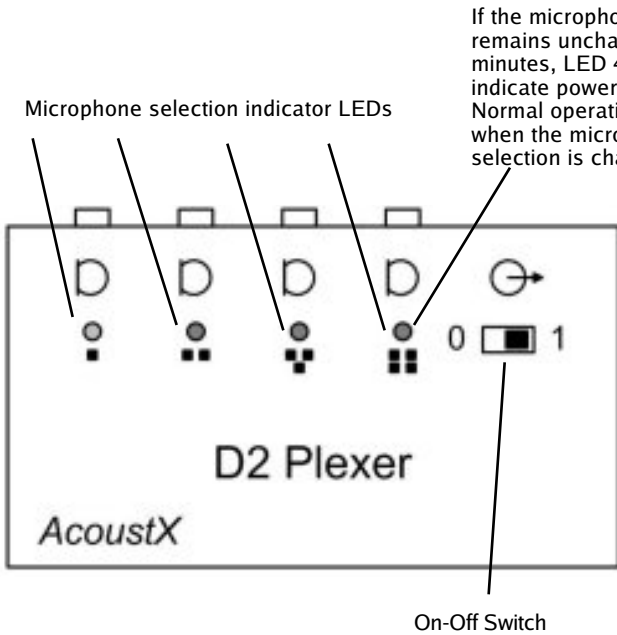
Equipment in Projection Booth

Microphones

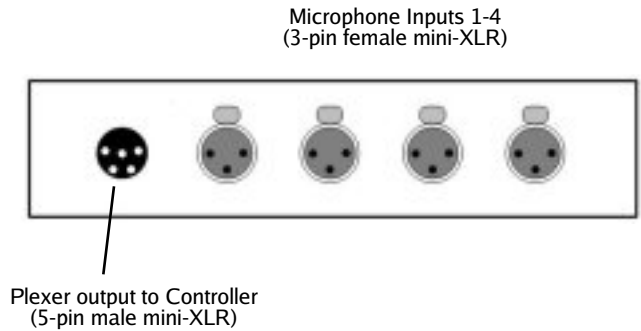


Plexer Panel Diagrams

Front Panel View

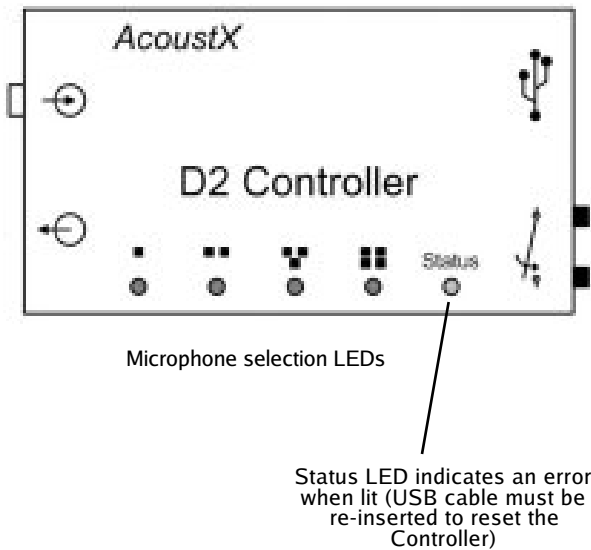


Top Panel View



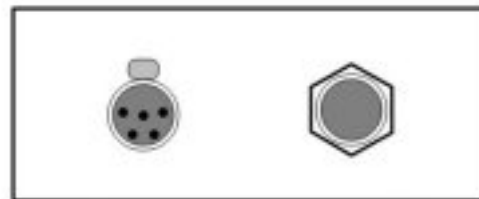
Controller Panel Diagrams

Top Panel View



Left Panel View

Input from Plexer (5-pin female mini-XLR) Balanced line out to USBPre



Right Panel View

Pin jack connectors for pink noise relay switch closure. Used to trigger cinema processor pink noise

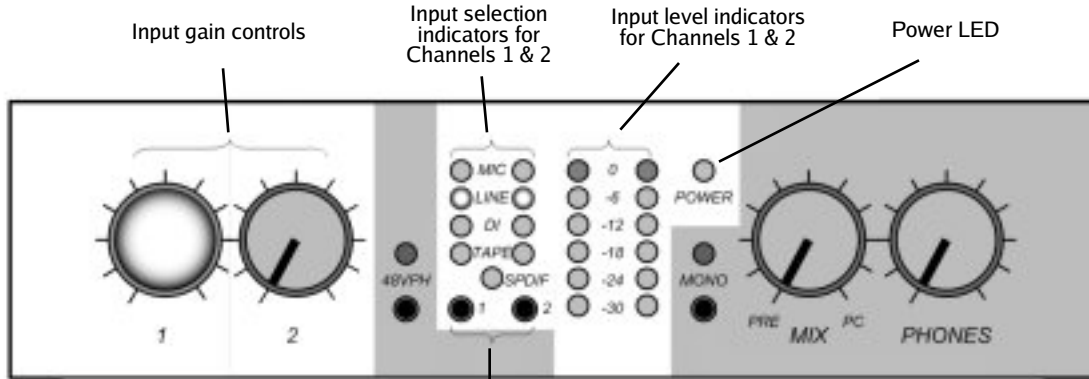
USB port to connect to host computer
Connect to same port on computer each time



USBPre Panel Diagrams

Top Panel View

NOTE: Greyed-out areas of the drawings represent controls and inputs/outputs that are not used by the D2 Acoustical Measurement System.

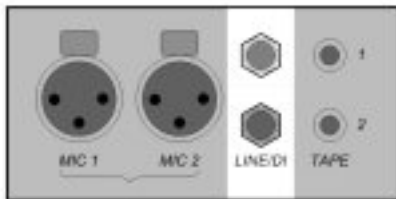


Level control for Channel 1 is preset to MINIMUM or FULLY COUNTERCLOCKWISE. Aluminum cap prevents accidental movement of input control. Channel 2 is also calibrated when knob is set to minimum gain.

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

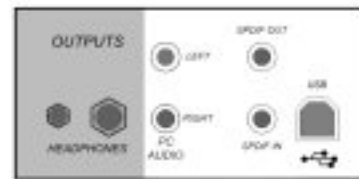
Input (Left) Panel View

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



Output (Right) Panel View

Pink noise outputs

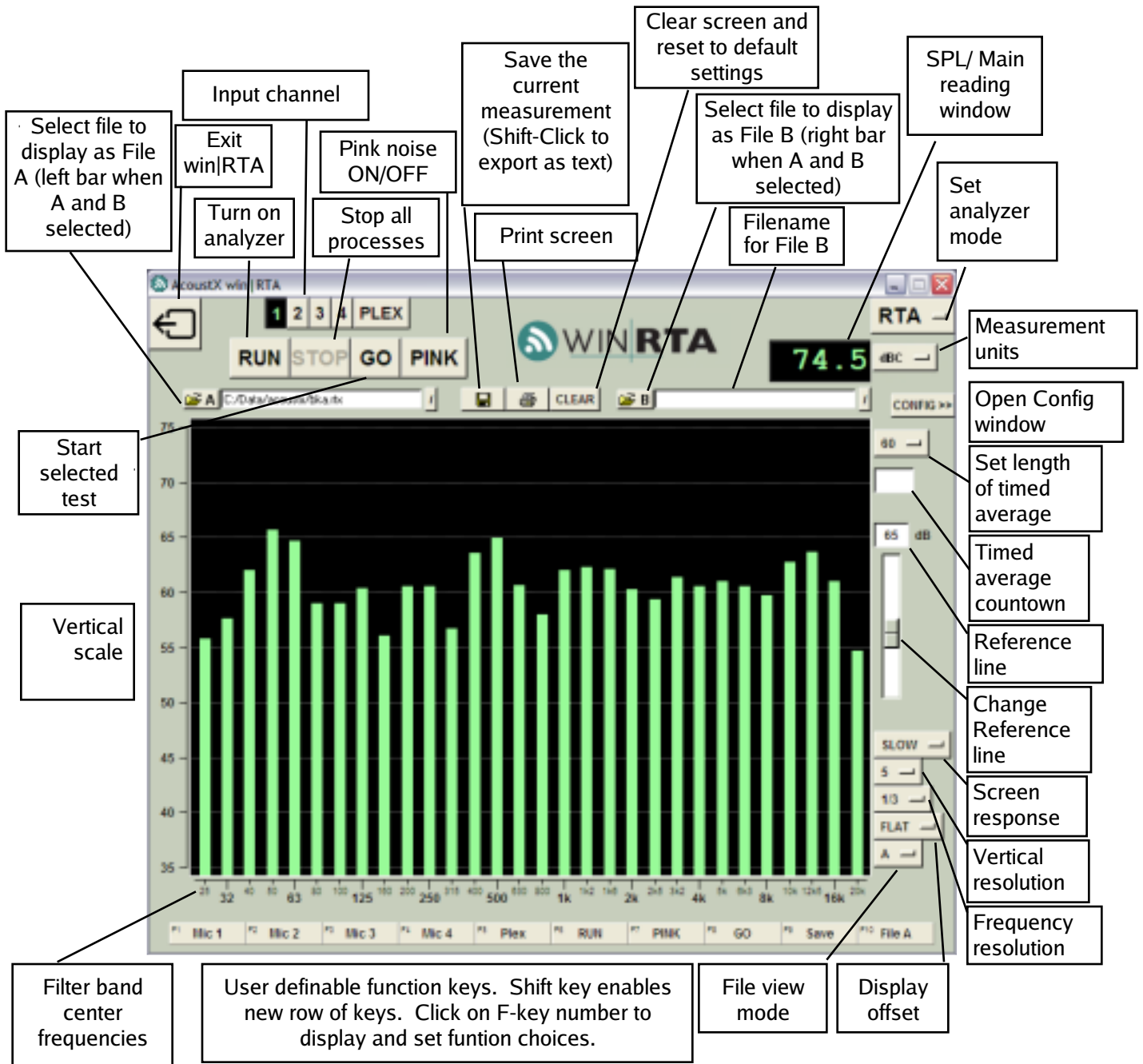


USB connection to host computer. Connect to same port on computer each time.

Installation

1. Install the USBPre Digital Audio Interface first. Please refer to the documentation accompanying the USBPre for complete installation and operating instructions. Select "Preferred Installation" after inserting the USBPre software CD. 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.)
2. Connect the D2 Controller as shown in the connection diagram. The Controller must be connected 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 **win|RTA** CD.
3. Insert the **win|RTA** 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. Next, with the USBPre connected, select the "Interfaces" window in Config. Press "Select", and choose USBPre from the list of available interfaces.
9. Finally, click "Save Configuration" to store the preferences to disk.

Main Software 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)
- 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

X-Y

- Shift-click-drag moves both channel gains together

Configuration Screen: Profile and Display

Write configuration data to disk

Select data directory

Set default units for measurements

Configuration Options

Profile
Display
Mics

Interfaces
I/O

Save Configuration

Operator

Company

Room ID

Data Dir

System Personality

Cinema
 Mix
 Home

Length Units

Feet
 Meters

Technician name

Organization

Name of theatre

Selected data directory
Defaults to "My Documents"

Set software options for type of room under test

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

Enable Variable X-curve

Configuration Options

Profile
Display
Mics

Interfaces
I/O

Save Configuration

Octave Grid

Show Values

Balloon Help

Cell Uniformity

User Avg Time

Variable X-curve (experimental)

202M # Seats

Sliding Knee Room Length

Display octave markers

Show bar values when cursor is moved over a bar

Enable balloon help

Set length of User Average

Configuration Screen: Microphones and Interfaces

Configuration Options

Profile | Display | **Mics**

Interfaces | I/O

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

Mic Bump Adjustments (dB)

Mic 1

Mic 2

Mic 3

Mic 4

Mic Disable

Mic 1

Mic 2

Mic 3

Mic 4

Disable one or more microphones

Enable and load microphone calibration files.

Adjust the gain of individual microphones.

Select audio interface

Configuration Options

Profile | Display | Mics

Interfaces | I/O

Save Configuration

Audio Interface

Select

Show Connection Diagram

D2 Controller Present

Enable D2 Controller

Configuration Screen: Outputs

Configuration Options

Profile | Display | Mics
Interfaces | I/O
Save Configuration

Input
Line | S/PDIF

Channel
1 | 2

PINK Button
D2 Relay
Internal Generator

Pink Noise Output
Analog | S/PDIF

Pink Noise Outputs
Level
Ch 1
Ch 2

Select Input

Select input channel
(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

Mode Select

Set channel to display on RTA

Set measurement units

Adjust X gain

Move X-Y display horizontally

Adjust Y gain

Move X-Y display vertically

The screenshot shows the AcoustX WinRTA software interface. At the top, there are buttons for 'RUN', 'STOP', 'GO', and 'PINK'. The main display area is split into two sections: an X-Y Oscilloscope on the left and a frequency response plot on the right. The X-Y plot shows a diagonal line of green data points. The frequency plot shows a series of green bars representing frequency response. The interface includes various control panels for channel selection, measurement units, gain, and position. Labels with arrows point to specific controls: 'Mode Select' points to the 'X-Y' button; 'Set channel to display on RTA' points to the 'X' and 'Y' buttons; 'Set measurement units' points to the 'mV', 'dBV', and 'dBu' buttons; 'Adjust X gain' points to the 'Gain' slider for channel X; 'Move X-Y display horizontally' points to the 'Position' slider for channel X; 'Adjust Y gain' points to the 'Gain' slider for channel Y; and 'Move X-Y display vertically' points to the 'Position' slider for channel Y.

Dual Trace Oscilloscope

Mode select

Adjust Channel 1 vertical position

Adjust Channel 2 vertical position

Adjust refresh rate

Adjust time base

Adjust trigger level

Select channel for triggering

Set measurement units
Set vertical gain

Set measurement units
Set vertical gain

