

VidRev VidConference System

User's manual

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VidRev Technologies Inc.

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1 Welcome to the VidRev VidConference System

The VidRev VidConference system is designed as a high-end software system. Potential customers can either be large corporations, multinational companies, government agencies, SMI/SME, SOHO, educational institutions or residential customers who wish to reduce travelling and meeting expenses. It can handle up to 100 client sites simultaneously. It has wonderful performance in terms of reliability, confidentiality, connection capacity, audio/video quality and friendly user interface. It meets the optimal end users' requirement.

The VidRev VidConference System can be used for multi-site real-time VidConference, distance education, distance medical diagnosis and within any other industry, which needs high quality real-time audio/video communications.

2 Specifications

The system in real-time, captures AV data streams from all client (user, site) terminals and then redistributes the streams back to any client (user, site) terminals on request.

Cameras selections:

USB cameras. They can be either USB 1.0 or 2.0 compatible.
Professional CCD cameras combined with a dedicated video capture card.

Windows' Display Resolutions:

The large main screen:

Normal mode: [320X240@25FPS](#)

High-resolution mode: [640X480@25FPS](#)

The smaller sub-screens: [160X120@15FPS](#)

Bandwidth Requirement (upload/download) at Client Terminals:

Minimal: 128kps/128kps

Basic: 256kps/256kps

Optimal: 512kps/512kps

Bandwidth Requirement (upload/download) at Video Switch (MCU):

Total sum of the bandwidth of all client terminals

Network Connection Protocol: TCP/IP

3 System Layout

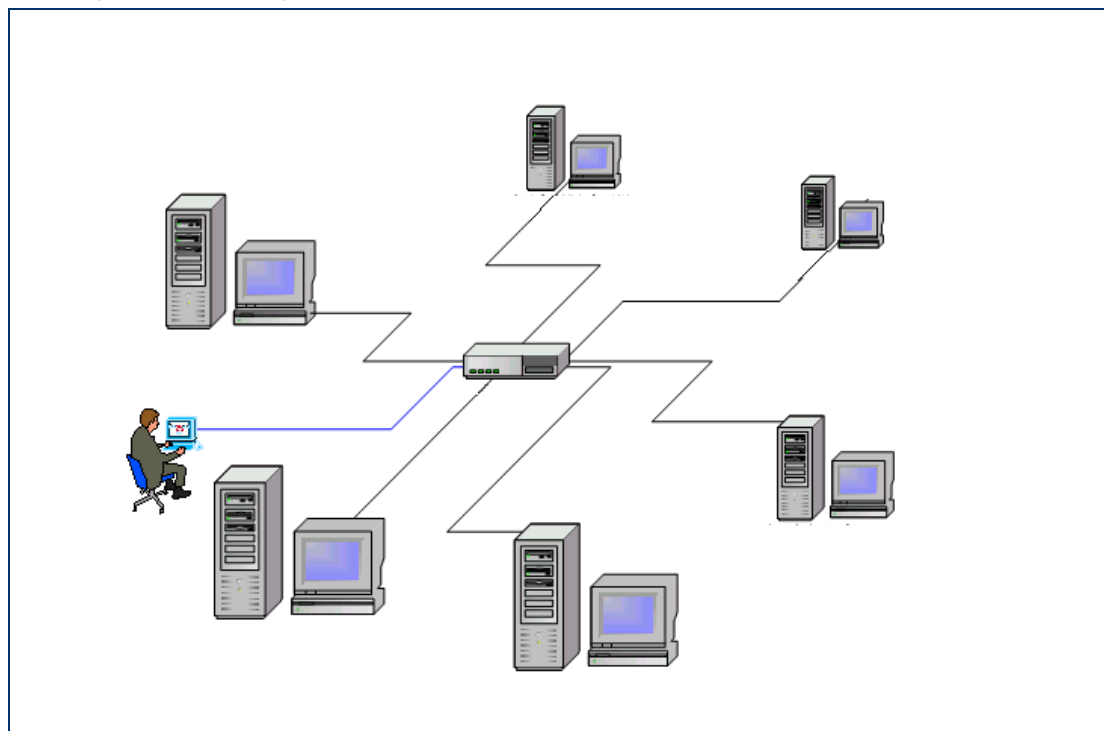


Figure 3-1 Conference system layout

4 VidConference System Operation Environment

4.1 VidConference System software & hardware

4.1.1 Operation systems

MS Windows 98/ME/2000/XP

4.1.2 Hardware requirement

CPU: Pentium 4 /1GHz plus

RAM: 256MB

Monitor: 800*600 SVGA or better

Soundcard: Full duplex

Speakers set or headphone set

Microphone

Camera(s): USB 1.0 or 2.0 complaint or professional CCD cameras with dedicated video capture card.

4.2 NETWORK SETUP

Setup firewalls and routers: Open/forward port 2002 to the local IP.

5 Characteristics of VidRev VidConference System

Advanced CODEC and dynamic network technology

Based on stream broadcast technology, VidRev proprietary CODEC technology gives shorter relative average silent time. The multi-layer buffers, dynamic stream broadcast speed eliminate the mosaic. TCP network and the network non-contention technology guarantees the smooth data flow.

Large main screen display in high resolution in real-time

A near DVD grade video (640X480@25fps) can be displayed on the main screen, which, by a simple click, can explode into a full screen.

Real-Time Multi-Channel Mixing

With the real-time multi-channel audio full-multiplex mixing mechanism, every user can talk and listen to others at the same. Microphones are live all the time without anticipated control and release processes. This makes VidConference more friendly and natural.

Multi-channel simulcast and Display

All users can watch up to 9 different site screens simultaneously. This delivers real multi-point VidConference rather than traditional point-to-point scenarios. Main screen and sub-screens can be switched back and forth by a simple click. And the high efficient streaming transport picture-smoothing algorithm greatly improves the system resources utilization.

Proxy and firewall support

No special setting needed if the VidConference system is used with the most popular NAT firewalls. Otherwise, a dedicated port should be opened.

Real-time web-based conference administration system

Based on a real-time web server. The friendly user interface makes conference administration much easier. All three levels of users (administrators, chairperson and users) have straight access from VidRev web pages.

Pure software compression scheme

A pure, high efficient software compression scheme delivers the network AV transmission solution. The state of the art, world class, proprietary CODEC is reliable, safe and stable. VidConference is delivered straight to normal PCs instead of with expensive hardware equipment. Client terminal software is free to download and no hardware duplications of hardware settings will occur on a client's site.

Support multi-meeting-rooms (conferences) on one centre (Venue, MCU)

Multiple virtual meeting-rooms (conferences) are easily and centrally managed by the video switch (MCU).

System Mobility

With VidRev proprietary IP resolution technology, a VidConference system can be easily set up anywhere in the world, as long as Internet connection is available with a reasonable bandwidth.

Data Confidentiality

Proprietary CODEC with the most advanced private key exchange and administration. High-level confidentiality of both audio and video data is secured.

Instant Text Messages

Two tiers of instant text message functions are available:

- Point-to-point – one to one private message exchange.
- Broadcast – messages to all clients (sites, users).

AV data stream independent of conference administration

AV data stream independent of Conference administrator control gives a smooth transition of system administration events to actual conferences.

Connection on demand

A new user can join a meeting in the middle of a conference. Entry or exit from an on-going conference will not affect existing users.

User status display

Status data include: the name of meeting room, conference, sending video out or not, sending audio out or not.

Video resolution

At 512/512kps network connection, a near DVD quality (640X480@25fps) video in real colour will be delivered.

TCP/IP network compliance

Standard point-to-point TCP/IP protocol and dynamic software compensation gives reliable stream media delivery.

User-friendly Interface

Multi-display modes

The main large screen can explode into full screen with a single **right click**.

Smaller sub-screens will be capable of handling scenarios when only restricted bandwidth is available.

Quality audio sampling

Audio sampling rate is 16 Kbps. This is better than telephone grade.

6 Working With VidConference System

Once the VidConference System is running, you may have screen shots from one of the following. If a camera and the dedicated capture card (if you not using a USB camera) are installed correctly, you should see your local video screen on the main screen.

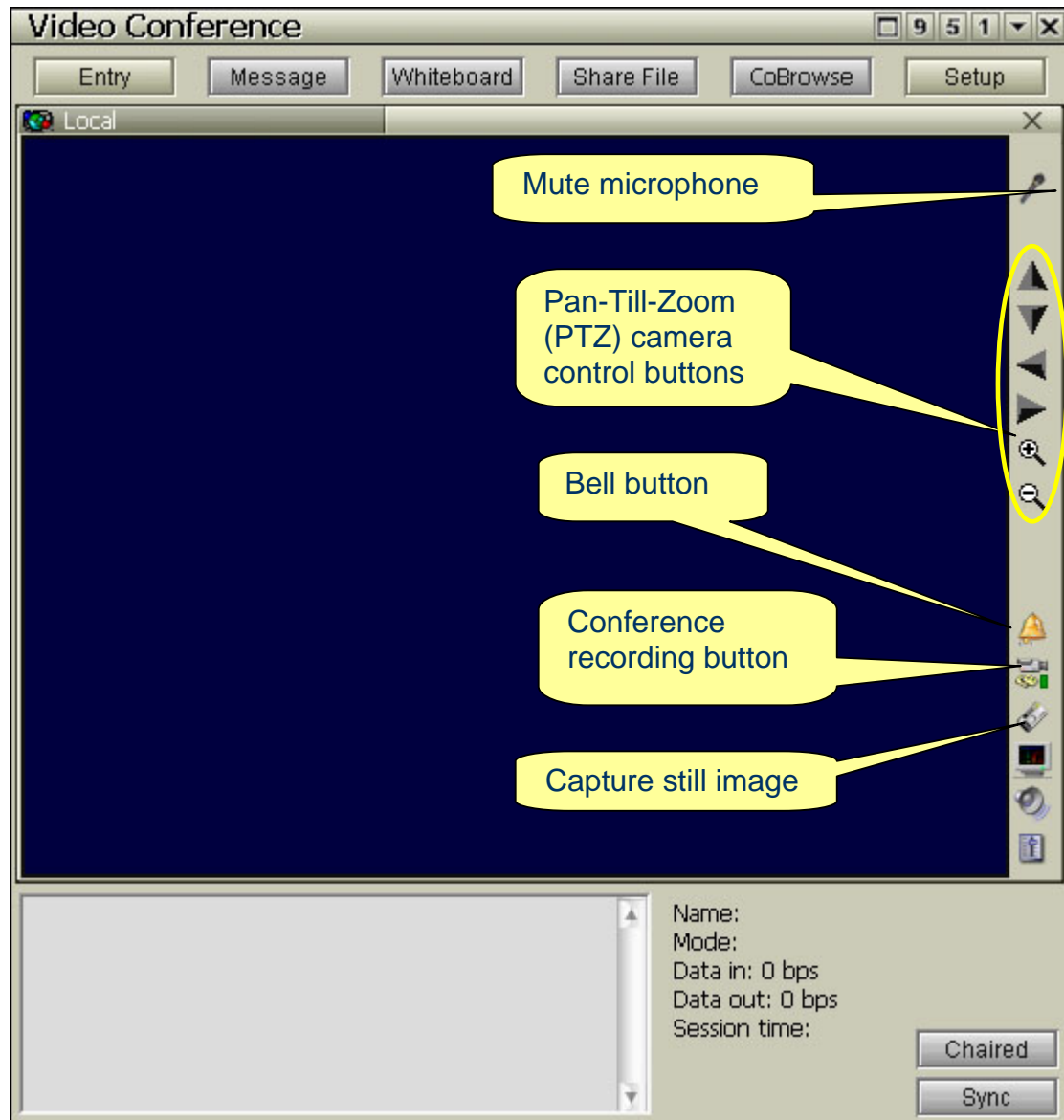


Figure 6-1 Main Screen Only Mode

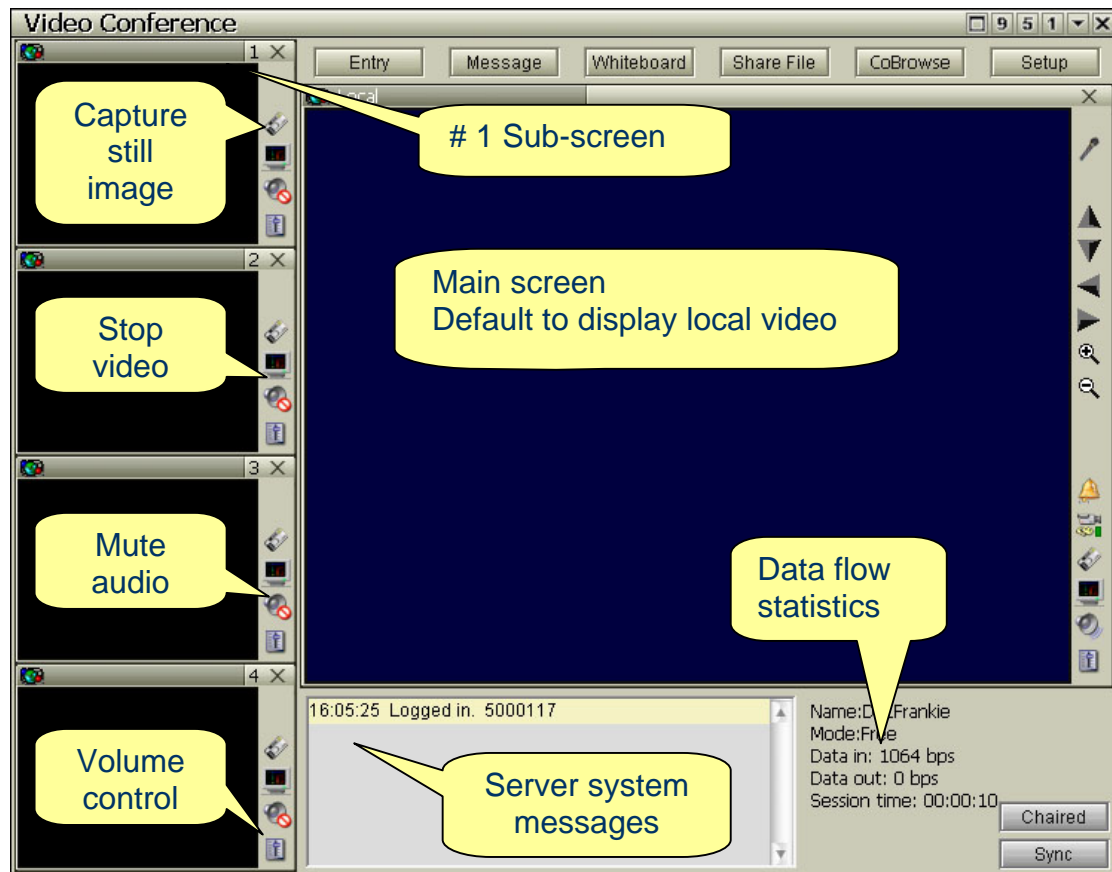


Figure 6-2 Main Screen + 4 Sub-screens Mode

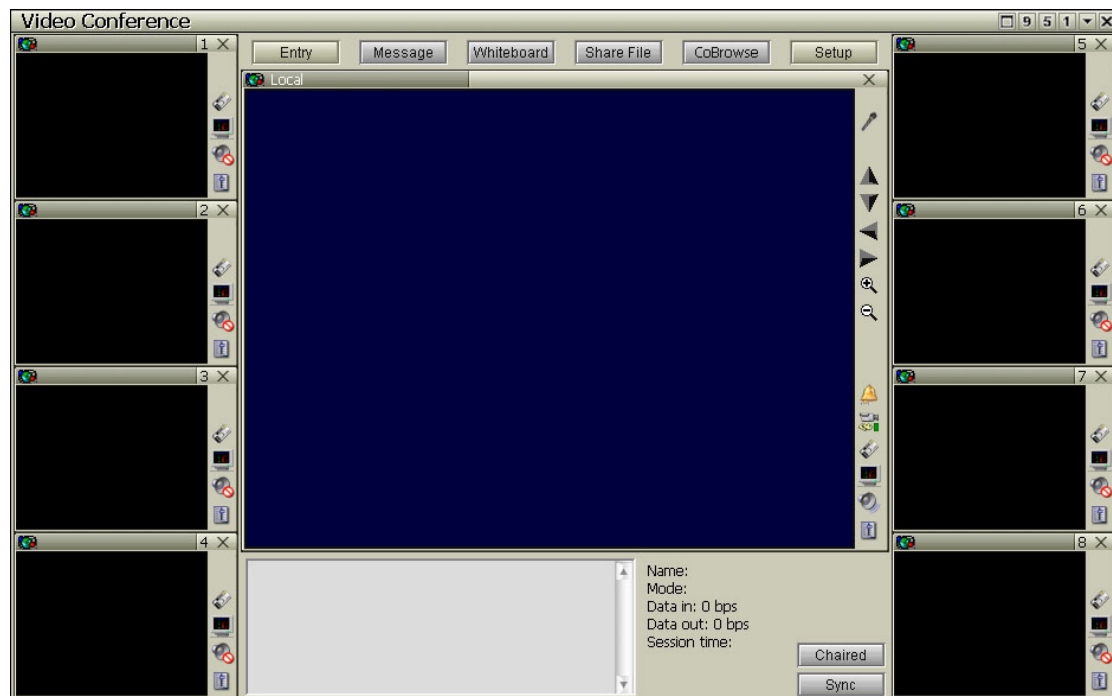


Figure 6-3 Main Screen + 8 Sub-screens Mode

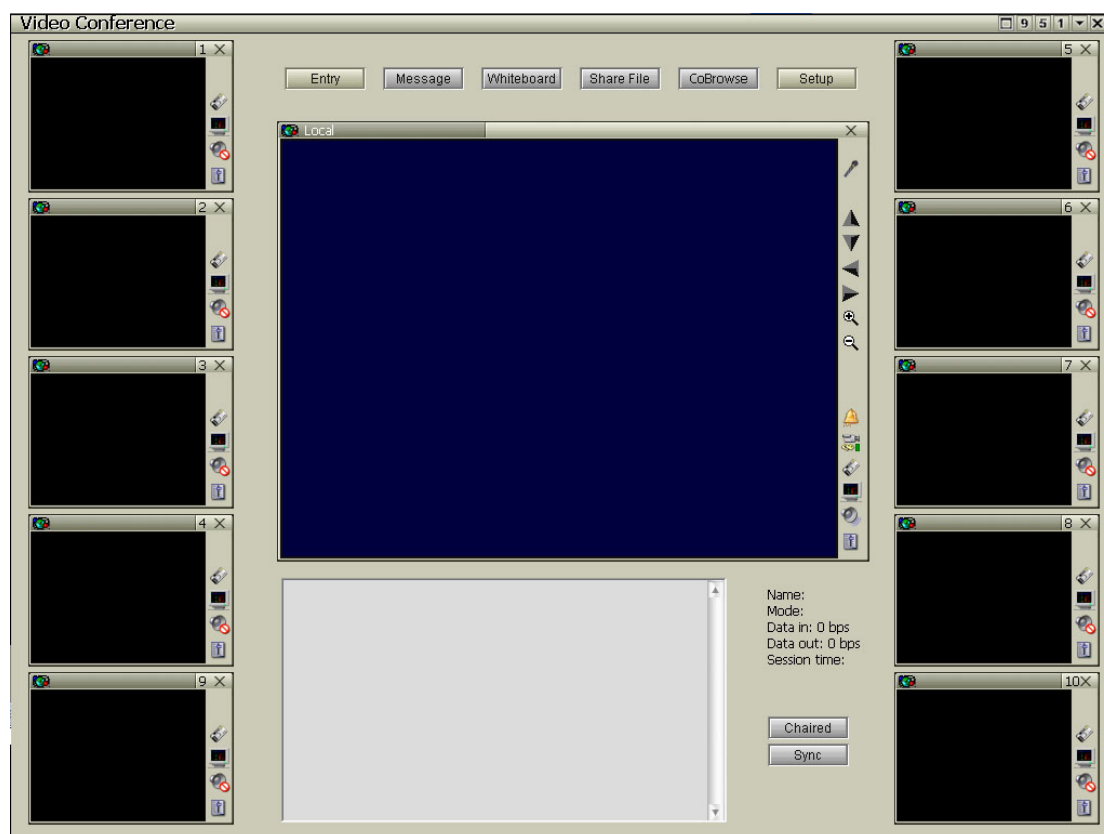


Figure 6-4 Full Screen Mode With 1 Main + 10 Sub screens

7 Detailed Instructions

7.1 Logon a conference centre (Venue, MCU)

Click on “Entry”, the following screen will pop up:

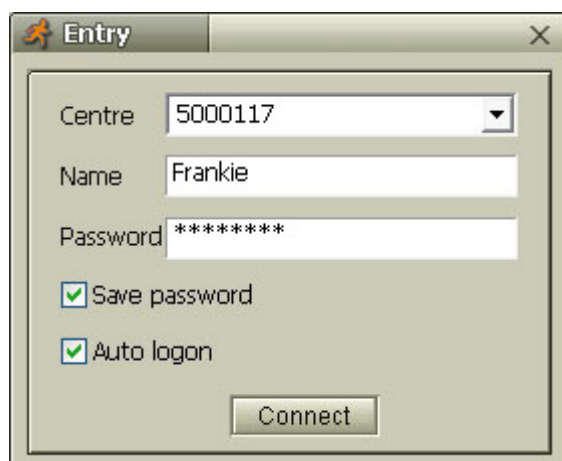


Figure 7-1 Conference log-on pop-up window

Enter conference centre (Venue, MCU) number, username and password, and then click on “Connect” button.

7.2 Connect to a remote client site

Right click on the screen you want to display, the following window will pop up. From which, you may **select** the remote client site you want to view.

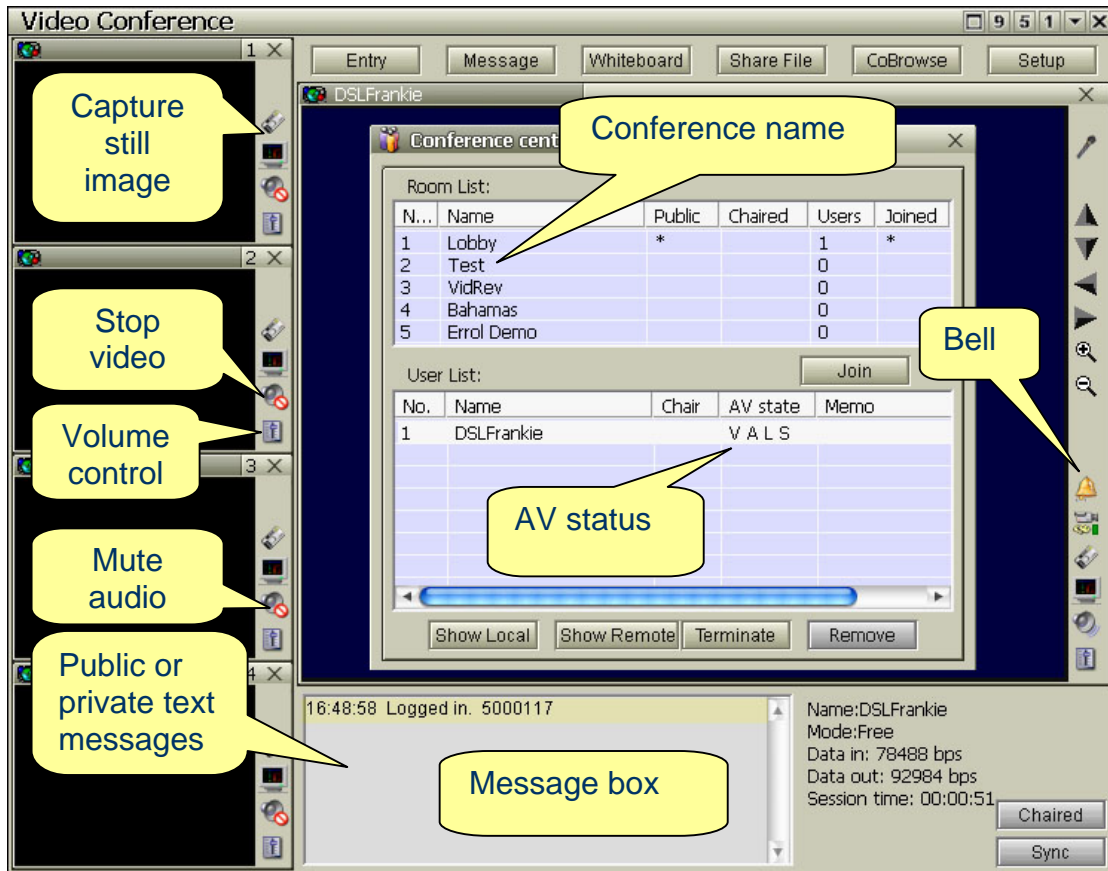


Figure 7-2 Connect to a remote client site

7.3 Switch between different sites

Right click on the screen you are viewing, and select from the site list on the pop up window. Then left click on the site you want to switch to. Make sure the site is sending audio and video out.

7.4 Record conference video

Click on the record icon  to start video capture.

7.5 Sending private and public messages

Select the site from the site list in the message section to start private message chat. All messages are invisible to other users.

Public message: Select **Say to "All"** to send messages to all sites (users, clients) in the conference.

7.6 Mute function

Click on the mute icon  to mute the sound coming through this site.

7.7 **Current online AV status (V A S L)**

Online meeting groups and users are listed

- V - The site is sending video
- A - The site is sending audio
- S - The other site is receiving your audio
- L - The other site is receiving your video.

7.8 **Switching between main screen & sub-screens**

left click on any life sub-screens will switch the video between the main screen and the subscreen.

7.9 **Local Setting**

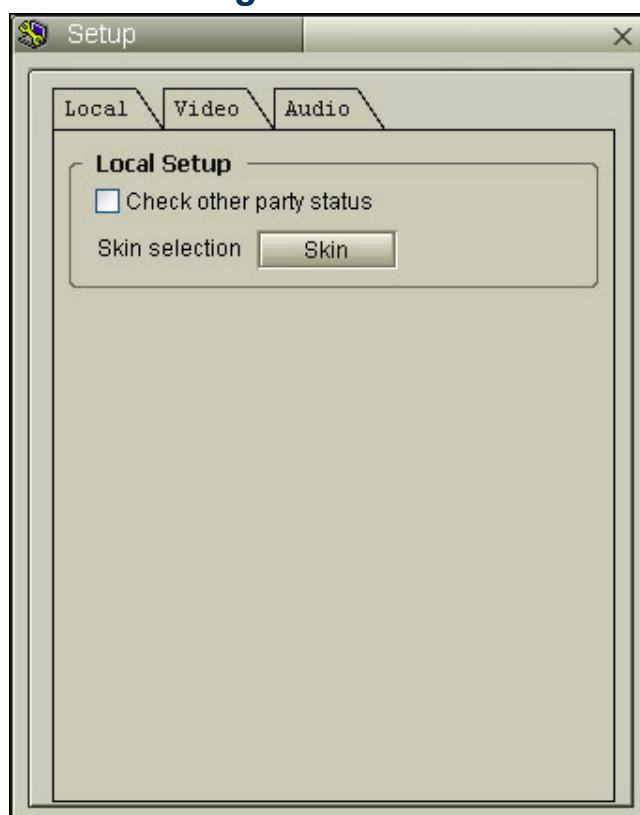


Figure 7-3 Local setting

Skin selection: Click on the button to select different skins.

7.10 Video Setting

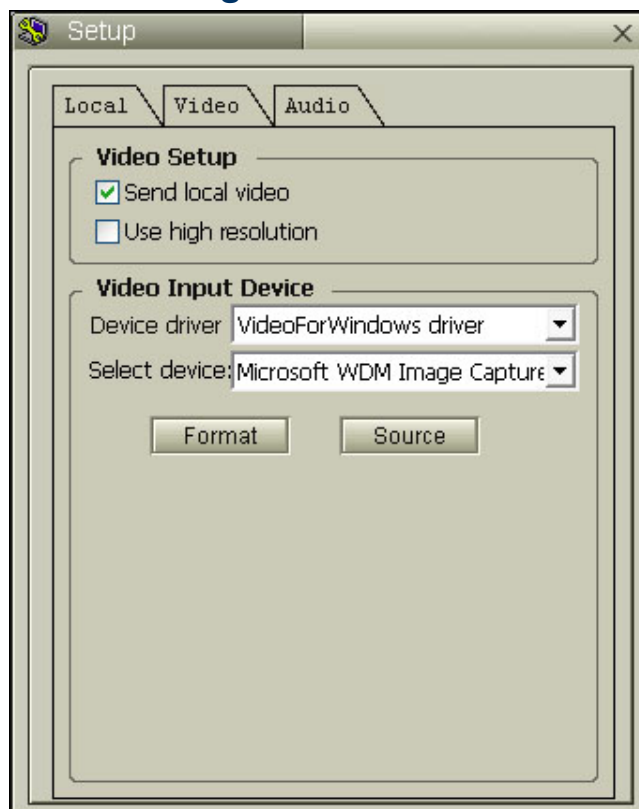


Figure 7-4 Video setting

Send video: Tick the box to send video streams through.

Driver selection: Highlight to select the right video driver.

Resolution selection: Set resolution at either 640 X 480 or 320 X 240.

Video hardware: Select the right video equipment

Video Format: set right video format: PAL or NTSC

Video source: select the right video source.

7.11 Audio Setting

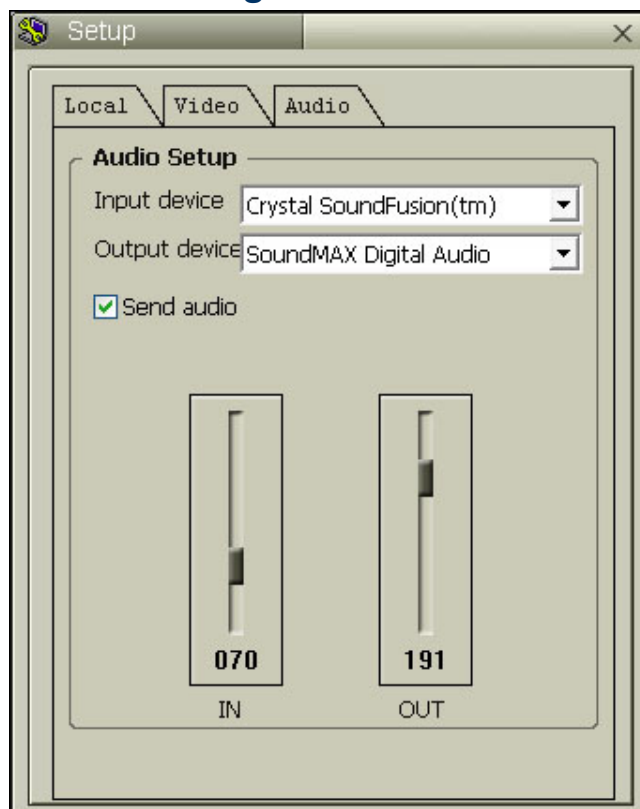


Figure 7-5 Audio setting

Send Audio: Tick the box to send audio stream

Audio input volume: adjust the volume of microphone.

Audio output volume: adjust the volume of speakers/headphones

Audio input device: select the right audio input device

Audio output device: select the right audio output device

7.12 Whiteboard

All users can use the whiteboard for presentations.

File Sharing Users can upload files to the video switch server for file sharing applications. Only the chairman has the right to delete the files uploaded.

7.13 Connection Status

Name: Displays site (client, user) name

Mode: Chaired or Free mode

Data In: Displays inbound data in kbps.

Data out: Displays outbound data in kbps.

Session time: Displays the session time in the format hh:mm:ss

7.14 Sync Button

Once the chairperson click “Sync” button, all sites will have the same screen view as the chairperson’s, except the local screen.

7.15 **Chaired Mode and Free Mode**

Free mode:

Every client site works the same as non-chaired conference.

Chaired mode:

Each client site user should to ring the bell  to get permission to speak.

No site can switch screens or use whiteboard.

To give a permission:

Chairperson will open the site then click on “**Sync**” button to broadcast the site to all client user sites.

To draw the attention from all sites:

Chairperson should “**Show Remote**” then click on “**Sync**” button to let all client sites to view and listen to the chair.

Warning! Chairperson's local screen can't be “**synchronised**”!

7.16 **Pan-Till-Zoom Camera Control**

When a PTZ camera is installed on a site, both the local user and the chairperson can control the camera.

The chairperson has the priority over the camera control.

7.17 **Exit & Close Conference System**

Click on “**X**” button at the top-right on the screen to exit and close the conference system.

8 **PTZ Control System Setup**

8.1 **Features**

Lens Control:

Zoom:+/-

Focus:+/-

Iris:+/-

Pan-Tilt Control: Fixed speed, pan-till control

Auto-scan.

8.2 **Control Protocol**

'Format: Which com port, baud rate, parity checking, stop bit, data bits

'Port 0=com1 1=com2 etc...

'baud rate 0=110 1=300 etc... 6=9600 12=256000 etc...

'parity 0=Non parity checking 1=even 2= odd etc...

'stop bit 0=1 stop bit 2= 2 stop bits

'data bits 6=6 bits 8=8 bits etc...

'Refer the following table

'ComTable = {"com1", "com2", "com3", "com4"};

'BaudTable = {

' CBR_110, CBR_300, CBR_600, CBR_1200, CBR_2400,

```
'      CBR_4800, CBR_9600, CBR_14400, CBR_19200, CBR_38400,
'      CBR_56000, CBR_128000, CBR_256000
'};

'ParityTable = {
'      NOPARITY, EVENPARITY, ODDPARITY, MARKPARITY, SPACEPARITY
'};

'StopBitsTable = {
'      ONESTOPBIT, ONE5STOPBITS, TWOSTOPBITS
'};

[COMPORT]
'The following setting for com1, 9600 baud, non parity, 2 stop bits,
8 data bits, this set for video switch only
'SELECTCOM_PORT=0 for com1, =1 for com2, etc.
SELECTCOM_PORT=0
SELECTCOM_BITPS=6
SELECTCOM_PARITY=0
SELECTCOM_STOPBIT=2
SELECTCOM_DATABIT=8

'The following setting for com2, 9600 baud, non parity, 1 stop bit, 8
data bits, this set for PTZ decoding
MOVECOM_PORT=1
MOVECOM_BITPS=6
MOVECOM_PARITY=0
MOVECOM_STOPBIT=0
MOVECOM_DATABIT=8

'Format: command using hexadecimal (4 letter), every two letters
represent one byte (8 bits)
[SELECT]
SELECT00=220000000000FF
SELECT01=220000000001FF
SELECT02=220000000002FF
SELECT03=220000000003FF
SELECT04=220000000004FF
SELECT05=220000000005FF
SELECT06=220000000006FF
SELECT07=220000000007FF
SELECT08=220000000008FF
SELECT09=220000000009FF
SELECT10=220000000010FF
SELECT11=220000000011FF
SELECT12=220000000012FF
SELECT13=220000000013FF
SELECT14=220000000014FF
SELECT15=220000000015FF

' Sample configured to Kalatel PTZ protocol.
[MOVE00]
MOVEUP_ON=15U001~
MOVEUP_OFF=15u001~
MOVEDOWN_ON=15D001~
MOVEDOWN_OFF=15d001~
MOVELEFT_ON=15L001~
MOVELEFT_OFF=15l001~
MOVERIGHT_ON=15R001~
MOVERIGHT_OFF=15r001~
' Iris increase: For every 10ms there is a stop command followed.
IRISINC_ON=00P001~
```

```
IRISINC_OFF=00p001~00c001~
IRISDEC_ON=00C001~
IRISDEC_OFF=00p001~00c001~
ZOOMINC_ON=00I001~
ZOOMINC_OFF=00i001~00o001~00n001~00f001~
ZOOMDEC_ON=00O001~
ZOOMDEC_OFF=00i001~00o001~00n001~00f001~
FOCUSINC_ON=00N001~
FOCUSINC_OFF=00i001~00o001~00n001~00f001~
FOCUSDEC_ON=00F001~
FOCUSDEC_OFF=00i001~00o001~00n001~00f001~
MOVEAUTO_ON=00A001~
' "_" is for universal cancel
MOVEAUTO_OFF=00_001~
AUX1_ON=40aa
AUX1_OFF=40ba
AUX2_ON=40ab
AUX2_OFF=40bb
```

' Sample configured to LinLin PTZ protocol.

```
[MOVE01]
MOVEUP_ON=41a6
MOVEUP_OFF=41b6
MOVEDOWN_ON=41a7
MOVEDOWN_OFF=41b7
MOVELEFT_ON=41a8
MOVELEFT_OFF=41b8
MOVERIGHT_ON=41a9
MOVERIGHT_OFF=41b9
IRISINC_ON=41a0
IRISINC_OFF=41b0
IRISDEC_ON=41a1
IRISDEC_OFF=41b1
ZOOMINC_ON=41a2
ZOOMINC_OFF=41b2
ZOOMDEC_ON=41a3
ZOOMDEC_OFF=41b3
FOCUSINC_ON=41a4
FOCUSINC_OFF=41b4
FOCUSDEC_ON=41a5
FOCUSDEC_OFF=41b5
MOVEAUTO_ON=41ac
MOVEAUTO_OFF=41bc
AUX1_ON=41aa
AUX1_OFF=41ba
AUX2_ON=41ab
AUX2_OFF=41bb
```

' Sample configured to SONY EVI-D30,D31,D70,D100 PTZ protocol.

```
[MOVE02]
MOVEUP_ON=8101060102020301ff
MOVEUP_OFF=8101060102020303ff
MOVEDOWN_ON=8101060102020302ff
MOVEDOWN_OFF=8101060102020303ff
MOVELEFT_ON=8101060102020103ff
MOVELEFT_OFF=8101060102020303ff
MOVERIGHT_ON=8101060102020203ff
MOVERIGHT_OFF=8101060102020303ff
IRISINC_ON=8101043302ff
IRISINC_OFF=8101040b00ff
IRISDEC_ON=8101043303ff
IRISDEC_OFF=8101040b00ff
ZOOMINC_ON=8101040727ff
```

```

ZOOMINC_OFF=8101040700ff
ZOOMDEC_ON=8101040737ff
ZOOMDEC_OFF=8101040700ff
FOCUSINC_ON=8101040802ff
FOCUSINC_OFF=8101040800ff
FOCUSDEC_ON=8101040803ff
FOCUSDEC_OFF=8101040800ff
' Following items reset to the initial position
MOVEAUTO_ON=81010604ff
MOVEAUTO_OFF=81010604ff
AUX1_ON=81010604ff
AUX1_OFF=81010604ff
AUX2_ON=81010604ff
AUX2_OFF=81010604ff

```

' More protocols will be added to the list.

8.3 Reference tables

COM port				
Data	0	1	2	3
Port	com1	com2	com3	com4

Table 1 Com port selection

Baud table				
Data	0	1	2	3
Baud	CBR_110	CBR_300	CBR_600	CBR_1200
Data	4	5	6	7
Baud	CBR_2400	CBR_4800	CBR_9600	CBR_14400
Data	8	9	10	11
Baud	CBR_19200	CBR_38400	CBR_56000	CBR_128000
Data	12			
Baud	CBR_256000			

Table 2 Baud selection

Parity Table					
Data	0	1	2	3	4
Parity	No	Even	Odd	Mark	Space

Table 3 Parity selection

Stop Bits Table			
Data	0	1	2
Stop Bit	NONE STOP BIT	ONE STOP BIT	TWO STOP BITS

Table 4 Stop bit selection

' CAMERA SELECT DATA in hexadecimal

CAMERA SELECT DATA	
SELECT00	220000000000FF
SELECT01	220000000001FF
SELECT02	220000000002FF
SELECT03	220000000003FF
SELECT04	220000000004FF
SELECT05	220000000005FF
SELECT06	220000000006FF
SELECT07	220000000007FF
SELECT08	220000000008FF
SELECT09	220000000009FF
SELECT10	220000000010FF
SELECT11	220000000011FF
SELECT12	220000000012FF
SELECT13	220000000013FF
SELECT14	220000000014FF
SELECT15	220000000015FF

Table 5 Camera selection

9 Disclaimer

At the time of preparing this document, VidRev has attempted to ensure that the information in this document is accurate. However, VidRev does not:

- a) warrant that the information is accurate, or
- b) accept responsibility for any loss suffered by any person/organisation who relies in any way on the information.

VidRev reserves the right to change or update the system specifications at any time without notice.