

Video Tracer for Conference System ICN 2005

**Computer based Controlling Program
for Conference System ICN 2005**
User Manual

DIGITON Ltd.

Video Tracer

Computer based Controlling Program for Conference System ICN 2005

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1. SYSTEM DESCRIPTION

The Video Tracer System is a supplement to the ICN 2005 conference system completing it with the followings video ability:

- Displaying the live picture of the participants,
- Displaying the data of the participants and the results of the voting,
- Inserting external video stream from DVD player, PC and so son...

Basic elements of the DIGITON VIDEO TRACER are the installed Speed Dome Cameras with zooming and positioning to any part of the hall to transmit the video images of the participants. Other hardware unit of the system is the DIGITON VIDEO MATRIX. It is used for routing and distributing the Camera control frames and video streams, for logging several video sources and displays - configured by DIGITON ICN 2005 management PC.

Preparing the conference during the system set up specific Camera view positions could be linked to the participants' places. In case of microphone activation of the participant (automatic or manual way), the pre-defined view as image will be displayed in the screens because the cameras will turn and focus to the preset place automatically.

Using several screens and displays (Plasma, Projector etc.) not only the picture of the speaker, but also personal data - from the DIGITON ICN 2005 management PC. - can be displayed simultaneously in the screens. If the system works with only one display, the speaker's data can be appeared in a pre-defined time slot at the starting of the speech.

Connecting a Video-recorder to the output of the DIGITON VIDEO MATRIX it is possible to record all the events of the conference. The DIGITON ICN 2005 management PC and DIGITON VIDEO MATRIX control the recording function to save all the pictures, voices and data of the participants, all the results of the voting and all the external played video streams in just one video track. The final result - can be called as complete recorded protocol - is created automatically without any manual control. The only thing that the conference-technician has to do is to start at the beginning and stop the recorder at the end of the conference.

VIDEO TRACER SYSTEM is effective supplement of the ICN 2005 system including ConferControl program running in the ICN 2005 management PC. Both the Video Tracer program and DVC-101 control the cameras together. Additionally if you want to display data of the participants another secondary video output needed from the ICN 2005 management PC.

2. DVC-101 DIGITON VIDEO CONTROLLER UNIT

DVC 101 assures assignment of INPUT-OUTPUT connections and the controls of the cameras. The unit can be connected to the management PC via USB and also solves as power supplying.

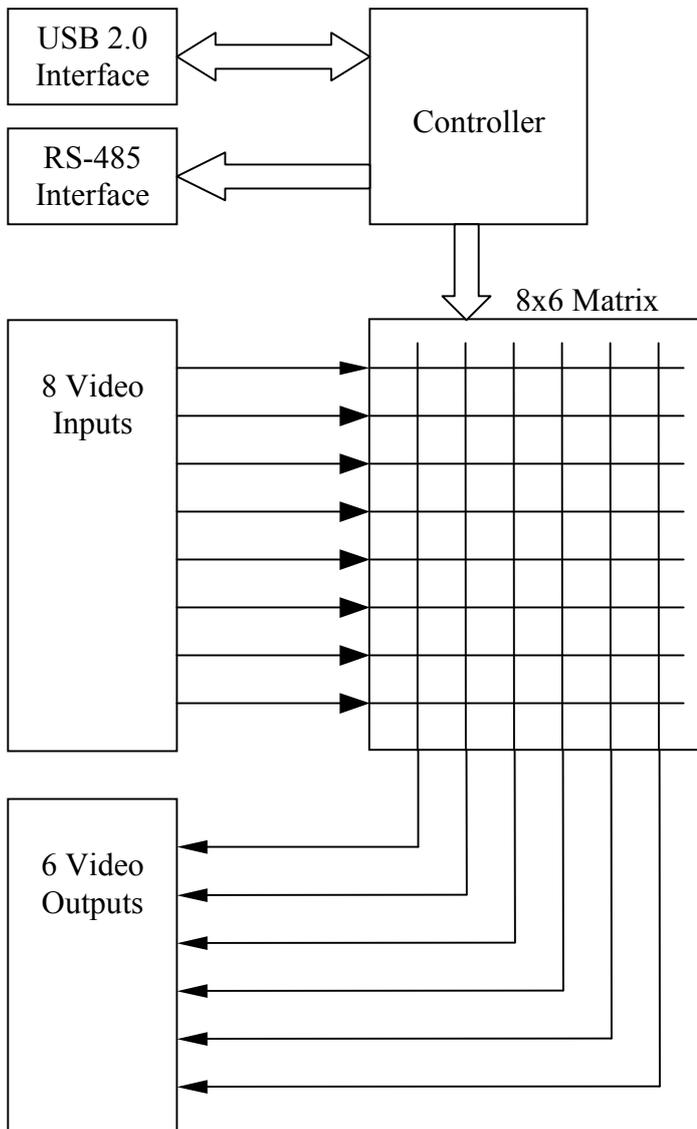
DVC 101 receives the command from the PC (via USB) to assign the selected inputs (max. 8) and outputs (max.6) to switch together. Only one input can be connected to one output, but signal at an input can be appeared in several outputs. Also the control commands are running via USB for cameras and DVC-101 transmits them trough RS485 OUTPUT physically to them based on party line arrangement.

On the symmetrical party line bus – from DVC-101 to cameras – there would be up to 256 pcs of cameras. The address of the unit can be set using a DIPswitch inside them. All the cameras have to be compatible for PELCO standard because the control protocol is defined in it. A very effective way for the system is to install Speed Dome cameras in to cover every place of the hall easily. Another advantage would be to use minimum 10x zoom units to minimize the number of the installed cameras. The DVC-101 is able to receive up to 8 cameras-signal to switch to the appropriate outputs.

The outputs of DVC-101 transmit standard composite video signals to connect to any standard display or video recorder devices.

In the rear panel of DVC-101 there are BNC connectors to plug any cameras, displays, projectors, TVs – plasma, LCD or others. One of the 6 outputs – signed No1 – has special function: „Technician’s monitor output” The Video Tracer control SW handles this output in special way. This special output solves to help the technicians to pre-position the cameras before the conference or to correct the position during the live conference, or pre-monitoring the external video, to be played in the conference . This special output is not appeared in the SWITCH BOARD because is forbidden to assign by the user.

Block diagram of DVC-101:



3. INSTALLATION

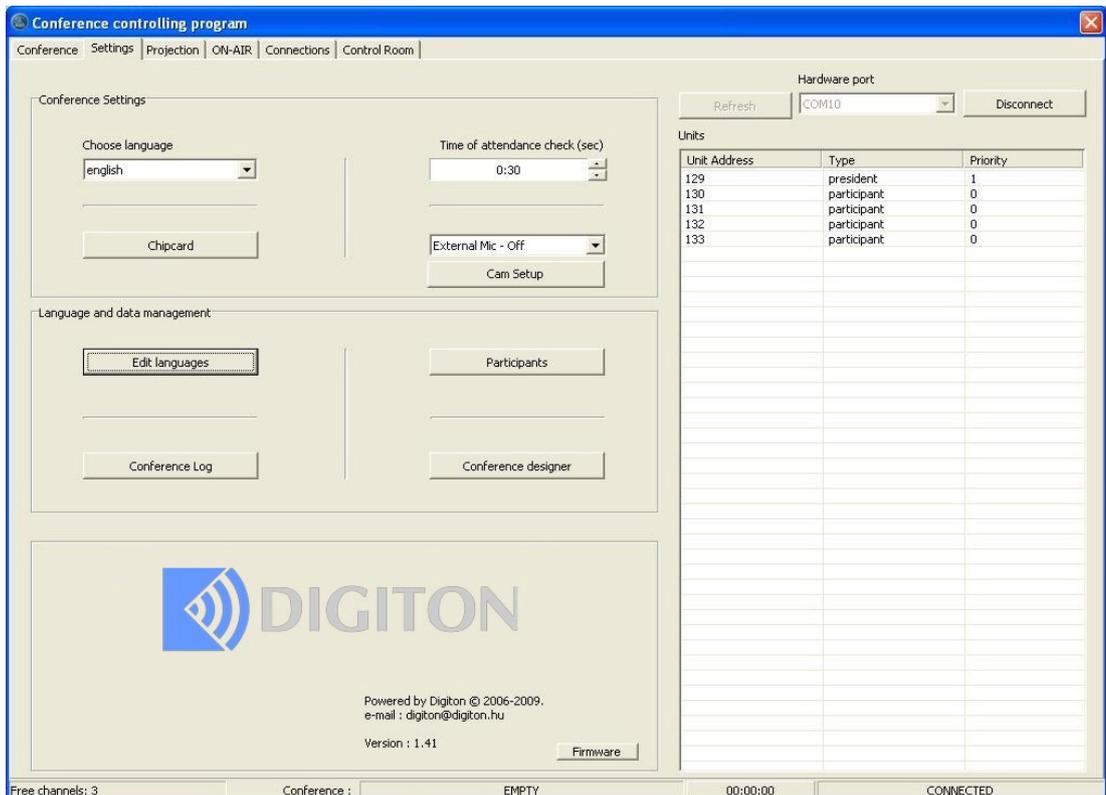
The installation of DVC-101 is similar to ICN 2005 Basic Unit (BU) in the ICN 2005 system. After connecting the DVC-101 to PC via USB, the op. System (WINDOWS) send a warning message maybe to install the driver program. This driver program is the same as for the BU means that can be available in the install CD of the BU in the USBxxxxx map. This procedure has to be made only once; for the next plugging the identification will be made automatically.

Because the control SW of the DVC-101 is a part of the ICN 2005 ConferControl program, - for starting, you have to make a complete ConferControl installation before. (See the ConferControl installation guide)

Note:

The perfect running of the DVC-101 control program will be possible if correct identification of the DVC-101 has been executed by the system, means that ICN 2005 BU has been realized by the ConferControl program in the management PC.

After the connection of the BU to the system the CamSetup button will be active in the main screen. After clicking, it is possible to link it. (If the DVC-101 has been connected before via USB, the identification and linking will be executed automatically.)





If DVC-101 has not been connected to the PC yet, use „COM Refresh” to validate the connection.

Then push „OK” to finalize, and the SWITCH BOARD panel will be appeared with further 3 panels above:

- CONNECTIONS
- ON AIR
- CONTROL ROOM

Warning! Disconnecting DVC-101, the panels will be disappeared to interrupt the setting up procedures.

4. CONNECTION BOARD

Basic functionality of DVC-101 is to build up connections among the inputs and outputs. The unit-hardware assures that only one input can be connected to one output, but signal at an input can be appeared in several outputs. It means that one input can be switched up to 6 outputs simultaneously as well.

The CONNECTION board – see later – describes only the connections-possibility, not the live, actual physically switched relation. So building up relations among the INPUTS and OUTPUTS, it is allowed to assign several inputs to one output. During the live controlling for the conference the control SW assures that only one – always the appropriate INPUT has to be active to the assigned OUTPUT.

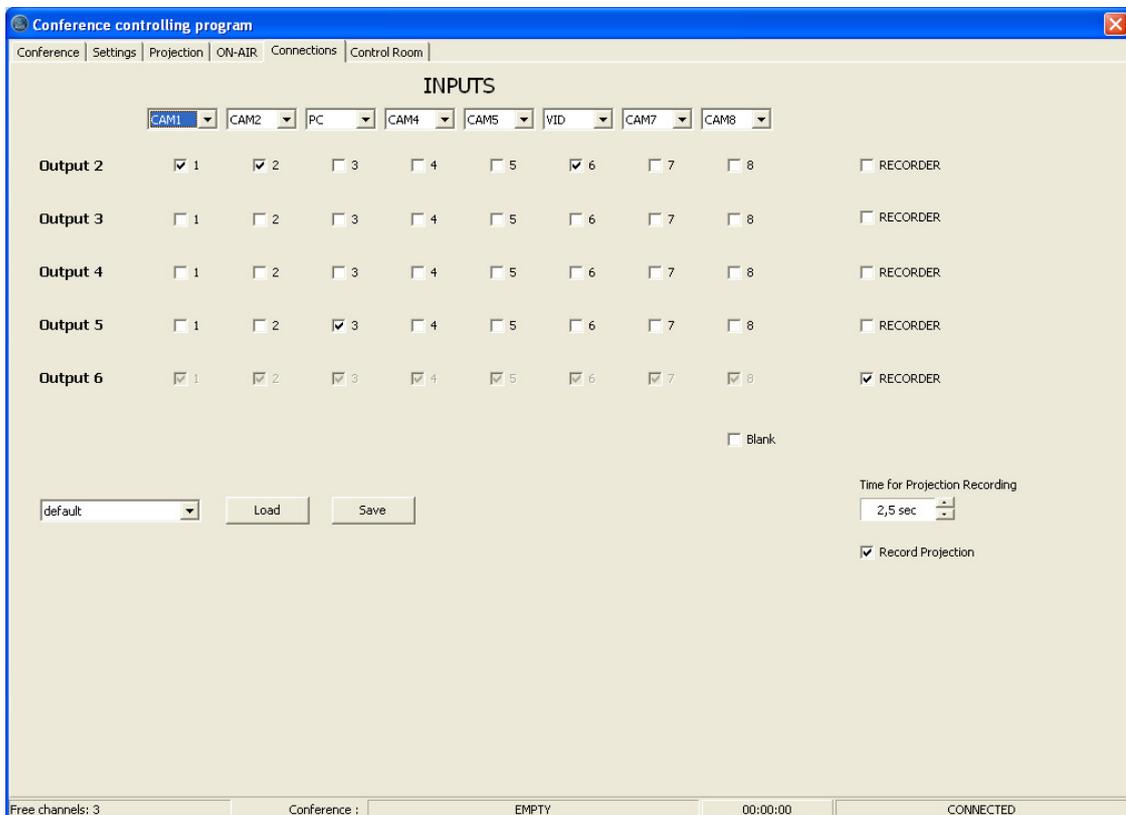
In the CONNECTION board the INPUTS are queuing in the columns and OUTPUTS in the lines. The names of the INPUTS are the followings – signing the types of video sources:

- CAM1 – CAM8
- VID
- DVD
- PC

In the CONNECTION board the number – next to the „CAM”-type name - means the physical address of the camera.

In case of differences between the addresses - set up physically before - and the displayed figures in the screen, it will be impossible to realize the correct control. Setting up the correct connection and assignment of the PC is really important, because the secondary display will be identificationed here, the result of the voting, data of the participants, will be issued from here.

Returning to the board, the sign in the box means the possibility of connection will be controlled during the conference.



Another possibilities of the setting up are to assign an OUTPUT for RECORDER. If you do this, every line position (all the IPUTS in the line) will be signed automatically. In case of activating any INPUT during the conference, the appropriate streams will be given out to this output, to record the every event and results in one video track.

Let's see the following example based on the connection diagrams:

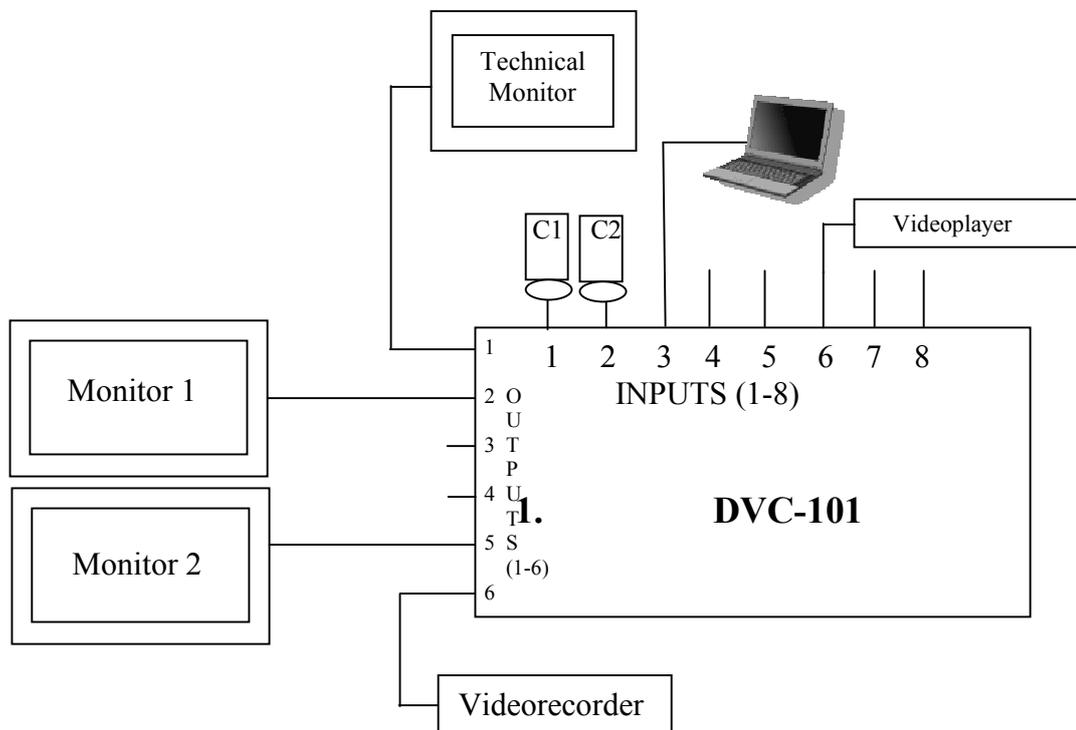
DVC-101 INPUTS-connections:

- INPUT1, INPUT2: 2 cameras (CAM1, CAM2)
Functions: pictures from the participants
- INPUT3: CS5 management PC – secondary display (PC)
Functions: data from the ConferControl data base
- INPUT6: Video player (VID)
Functions: playing demo video sources

DVC-101 OUTPUTS connections:

- OUTPUT1: Technician’s monitor
Functions: Technician’s special controlling and setting up
- OUTPUT2: MONITOR1 (placed in the conference room)
Functions: pictures from the active-camera, vide stream from the player
- OUTPUT5: MONITOR2 (placed in the conference room)
Functions: Secondary display from the management PC (only)
- OUTPUT6: Video recorder
Functions: Recording all the events of the conference

Connection diagram of the example:



Let's see how the recording procedure works:

Based on the CONNECTION board-assignment, let's suppose that CAM1 is just transmitting the live video stream from the speaker. You can see him in the MONITOR1 (Output2), and Video Recorder records the stream (Output6). In case of another speaker activating, CAM2 will be take the activation from CAM1, the picture will be appeared in MONITOR1 and for the Video Recorder. All these controlling steps is executed automatically based on the CONNECTION board and camera presetting.

Let's see how the external video- playing works:

A participant asks the technician for inserting a video playing. After starting the player the technician activates the Input6 in the On-Air page (see later) of the program. Based on the Connection-board presets, Monitor1 will display the streams and the recorder records it. (Output2, Output6). At the end of the playing in the On-Air page he has to reactivate the automatic camera controls (Using „AutoCam” button to give return the full control to the system)

Recording the pictures from the secondary display assignment:

Base on the preset CONNECTION board in the example the signal from the CS5 management PC (secondary display OUTPUT) is transmitted only to the (Output5) MONITOR2, displaying participants' data and voting results. Because of the „frozen” assignment it does not cause any changes in the system. It means that basically Video recorder does not record the source. To creating a complete protocol about the conference it is necessary to mix the secondary display data with the live video streams.

How can we do that?

If you activate the „Record Projection” button, it will cause that every secondary display changing (e.g. new speaker activation) will be cut in the Output2 and Output6 for a short time automatically. This „short time” can be adjusted in the „Time of Projection” field in the Connection board. In the example 2.5 sec. data „picture” – containing the participant's data – will be appeared (both in Monitor1 and Recorder track) before displaying the live picture from the active camera.

Note:

The basic condition of using the RecordProjection function is to preset the PC input before and CS5 control PC has to possess secondary display option.

Saving the settings:

In the CONNECTION board, you can save or load the assignment selecting it from the rolling menu. (In the example it is „default”) During the saving procedure not only the connections map but also Camera position presets (can be adjusted in the Control Room) are saved as well.

Note:

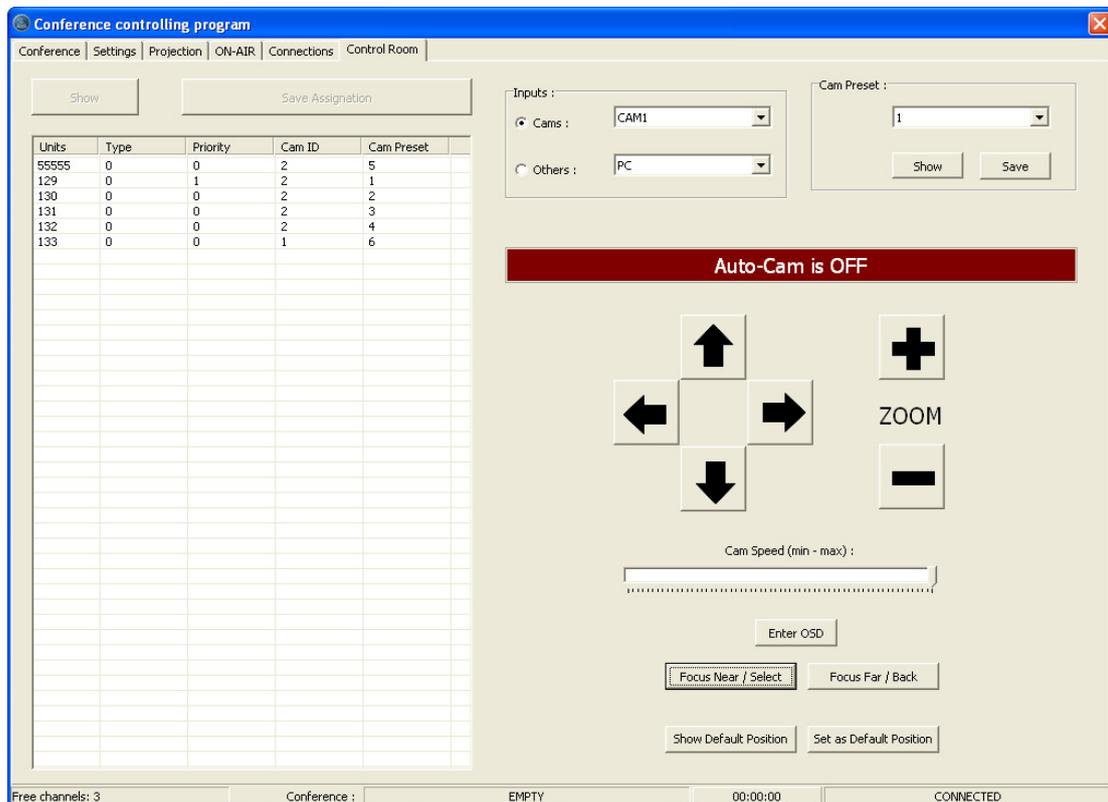
In the example above 2 monitors-installed system has been discussed with different displaying content. In practice of course there are some requirements to install much more display to assure the visuality for the audience. In this case you have to sign the same input-line configuration for all the monitors displaying the same content.

Let’s see the following example including only 1 display:

INPUTS									
	<input type="checkbox"/> CAM1	<input type="checkbox"/> CAM2	<input type="checkbox"/> PC	<input type="checkbox"/> CAM4	<input type="checkbox"/> CAM5	<input type="checkbox"/> VID	<input type="checkbox"/> CAM7	<input type="checkbox"/> CAM8	
Output 2	<input checked="" type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input checked="" type="checkbox"/> 6	<input type="checkbox"/> 7	<input type="checkbox"/> 8	<input type="checkbox"/> RECORDER
Output 3	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	<input type="checkbox"/> 8	<input type="checkbox"/> RECORDER
Output 4	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	<input type="checkbox"/> 8	<input type="checkbox"/> RECORDER
Output 5	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	<input type="checkbox"/> 8	<input type="checkbox"/> RECORDER
Output 6	<input checked="" type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input checked="" type="checkbox"/> 4	<input checked="" type="checkbox"/> 5	<input checked="" type="checkbox"/> 6	<input checked="" type="checkbox"/> 7	<input checked="" type="checkbox"/> 8	<input checked="" type="checkbox"/> RECORDER

The CONNECTION board above shows the display is assigned to the Output2; Video Recorder is connected to the Output6. In this case the „RecordProjection” function has very important functionality because in case of every speaker’s changing the data of the new speaker will be appeared automatically (for the time setting: Time of Projection) before giving in the live picture from the cameras.

5. CONTROL ROOM



In this modul all the installed cameras can be positioned to the participant's place during the conference-preparation and also possible to make a live correction during the running conference. This operation can be monitored only in the Technician's display.

Warning:

Before starting the control program it is strongly suggested to run LEARNING PHASE procedure to be sure in the correct numbering of the conference units.

The communications of the installed SPEED DOME cameras based on the PELCO protocols. It means that position-parameters (x,y,z) are saved inside the cameras, The desired position can be called with a preset number referencing. Up to 32-64 preset positions can be stored in one camera in a queuing structure. To instruct the camera to an appropriate position is possible to recall its preset number.

Positioning the camera during the "learning" procedure by the PC control program is made with switching the camera address to the conference unit and additionally a preset number to define the place to turn to.

The data of the installed CS5 conference units can be seen on the left side of the screen. After selecting a conference unit and clicking „SHOW” button, the camera – was assigned to the conference unit before - turns to the preset position. On the right side you can read the camera-number (in the INPUTS field) and the actual preset number (CAM PRESET field). Then you can change the position or modify the setting.

Using the „CAMS” roll down menu on the right side a desired camera can be chosen from the list – possessing CAM type inputs in the CONNECTION board. Also the other type of the inputs will be appeared with inactive buttons. Selecting inputs of DVD or Video player from the list offers to preset them to the starting-play position during the running conference as well.

If a camera has been selected from the list you can check its PRESET number-position with the SHOW button - and - after the correction - you can SAVE the new one into the selected PRESET field.

For the camera positioning you can use:

- the arrows buttons for positioning,
- :”+”, ”-” buttons for zooming,
- : ”CAM SPEED” for adjusting the moving speed

If you’ve got the desired position „SAVE” it into the CAM PRESET field then make an assignation to the appropriate conference unit.

Important!

The 1st step has to be always the saving of the camera preset before activating the SAVE ASSIGNATION, otherwise the previous PRESET could be switched to the conference unit.

The cameras usually have their own control panel to set the basic parameters. To access them use „ENTER OSD” button and navigate in the menus using arrows, SELECT and BACK buttons.

Manual camera adjusting can be executed with only the „free” cameras. In case of selecting the camera – has been activated by the system automatically before – a message will appear:

WARNING! CAMERA IN USE!

In case of no active speaker and conference unit the Camera-system stands a Default Position will be displaying in the monitors in the conference room. Clicking the „Show Default Position” button can check this position. One suggested preset is a wide-angle view for the cameras can be saved by „SET DEFAULT POSITION” button.

6. ON-AIR PANEL

As mentioned before the Video Tracer System works automatically during the conference - based on the presetting parameters and reactions. But there are several events they need manual control made by the technician. (DVD or Video playing, presentations and pictures from the PC and so on...) For realizing, the technician can leave or enter the automatic mode by clicking the desired source button or back with the „AUTO-CAM”.

Let's see the panel:

Based on the Connection Board, all the inputs – as sources – appear on the screen as buttons. Clicking any of them the control will turn to manual mode, the desired source will be transmitted to the outputs with the warning message: AUTO-CAM is OFF. (INPUT selecting buttons work overwritten mode, only one has to be active in time)

During the conference it is possible to modify the „live” (active) camera position using the arrows and zoom (+.-) in the screen, the new parameters can be saved by „SAVE PRESET”. In case of no speaker at all in the system, the buttons are inactive.

The active input is signed with wine-red frame.

