

Isabel audiovisuals

Isabel 4.9



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0. Introduction

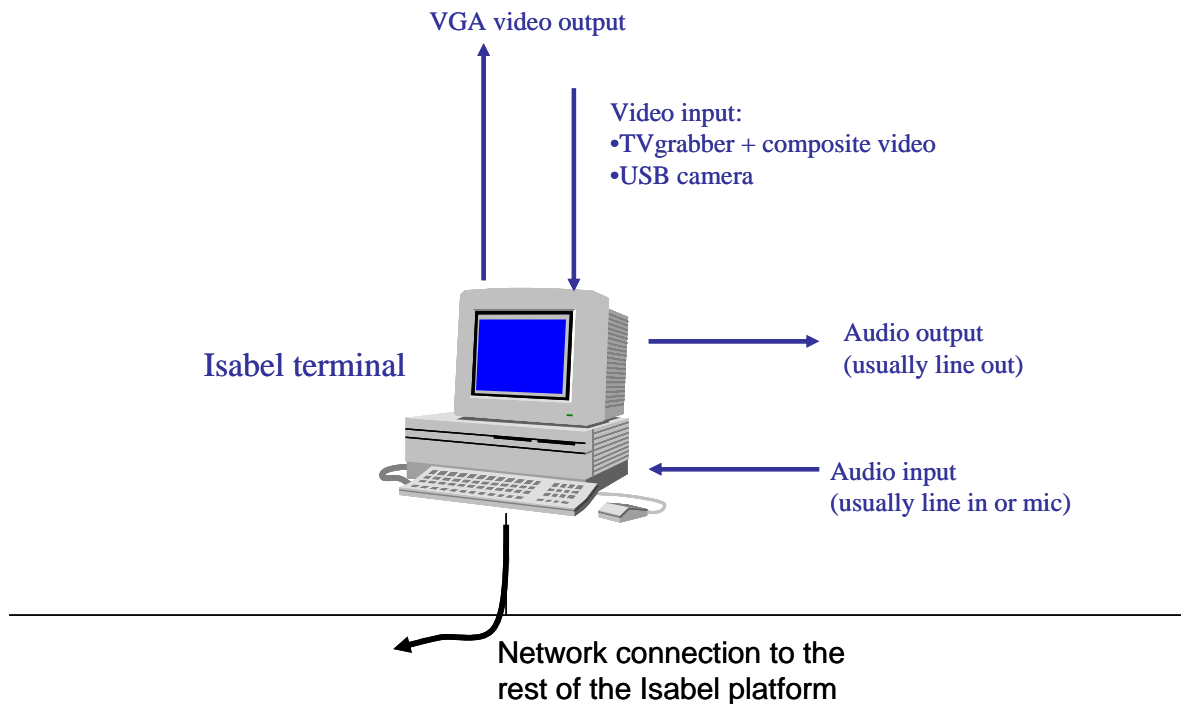
The audiovisual set up needed for participation in an Isabel session depends on the type of room or auditorium to be connected to the session. If the room is small the set up is very simple, but large rooms or auditoriums need sophisticated set ups.

The following sections show some guidelines to deploy the audiovisuals needed for Isabel, ranging from single-user systems to large auditoriums with thousands of attendants.

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2. Isabel box

From the audiovisuals point of view, and Isabel terminal is summarized in the following picture.



Notice that, every input and output (both audio and video) is a completely standard analogical signal. Whatever is connected in such inputs and outputs is up to the imagination of the deployer of the terminal, but usual setups are:

- Audio input: microphone, mixing table, VCR audio, TV audio, DVD audio, radio receiver,...
- Audio output: loudspeakers, mixing table, VCR audio, power amplifier, audio splitter,...
- Video input: USB camera, composite camera, VCR video, TV video, DVD video, video matrix, video mixing table,...
- Video output: screen, beamer, VGA splitter, VGA-VC converter (to VCR video),...

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3. Personal system (1-4 persons)

Isabel terminals deployed for up to 4 persons may have very simple audiovisuals, as shown in the figure.

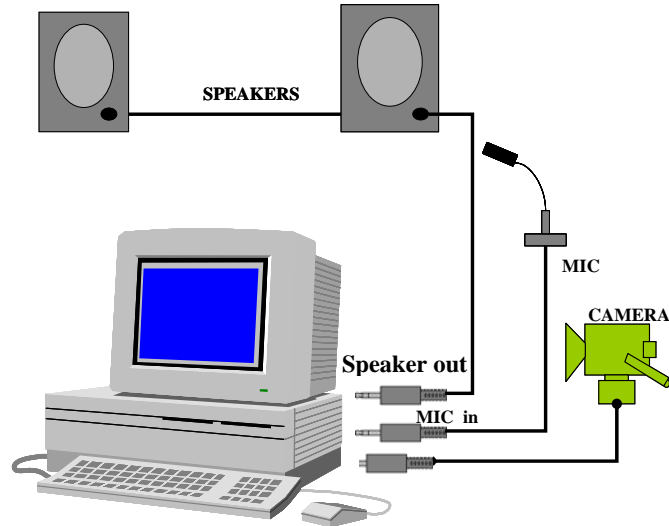


Figure 1: personal system

Small loudspeakers and simple microphones may be used for this setup, and an USB camera is enough, if high quality is not needed. The standard PC screen is enough for the attendants to follow the conference, and even a laptop may be used for such purpose.

If the system is to be used by exactly one person, an even better approach is to use a headset including both headphones and microphone, since it highly eases the audio setup and solves many noise and echo problems.

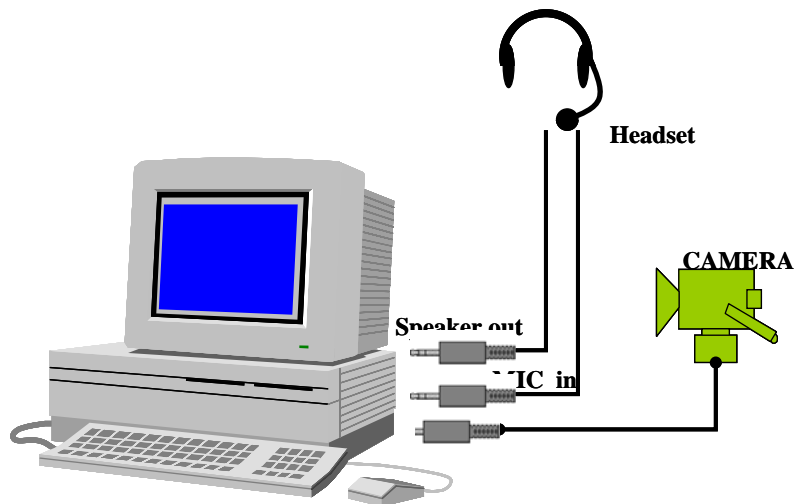



Figure 2: strictly personal system

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4. Small Room Set Up (up to 8 persons)

Small rooms for up to 8 persons can be set up with simple equipment which includes a microphone, loudspeakers, a video camera and a large PC screen, as shown in the figure. A couple of microphones through a small mixing table or an omnidirectional microphone are usually the best choices. Another good choice for audio is a hand-free audio peripheral including microphone, loudspeaker and echo cancelling, for example the SoundPointPC from Polyspan or Coherent.

The PC screen can be used alone if it is large enough (17" to 29"). Otherwise it can be projected on the wall using a VGA beamer. This can be performed by connecting the beamer directly to the VGA connector of the PC or by using a VGA splitter as shown in the next figure (many VGA beamers actually include a built-in splitter themselves)

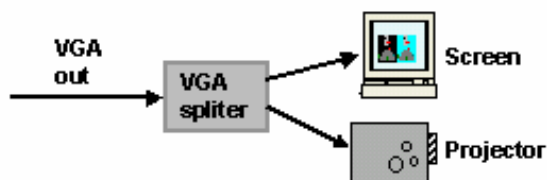


Figure 3: Screen and beamer

Since, the attendants may be up to one or two meters away from the Isabel terminal, USB webcams are not encouraged.

The following figures show standard table configurations for small rooms.

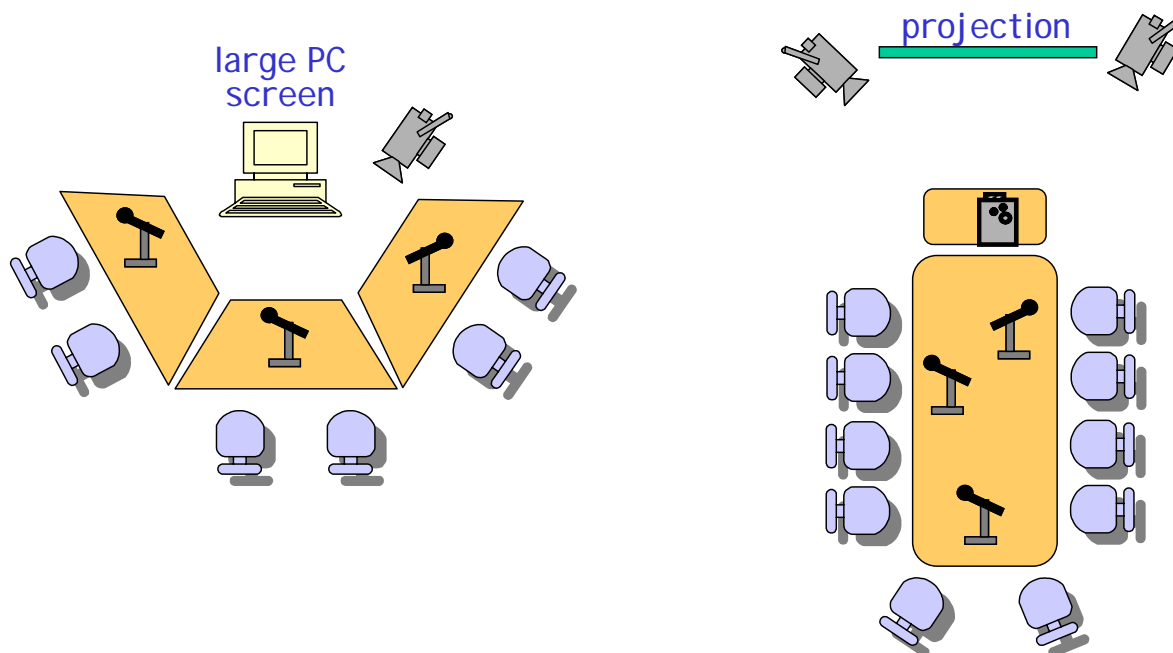


Figure 4: small room table configurations

0. Large room and auditoriums

Large rooms or Auditoriums need also a more sophisticated audio set up. Those rooms or auditoriums have usually audiovisual experts which will help to make the set up. The next figure shows a typical set-up where all the audio sources are mixed in an external audio mixer.

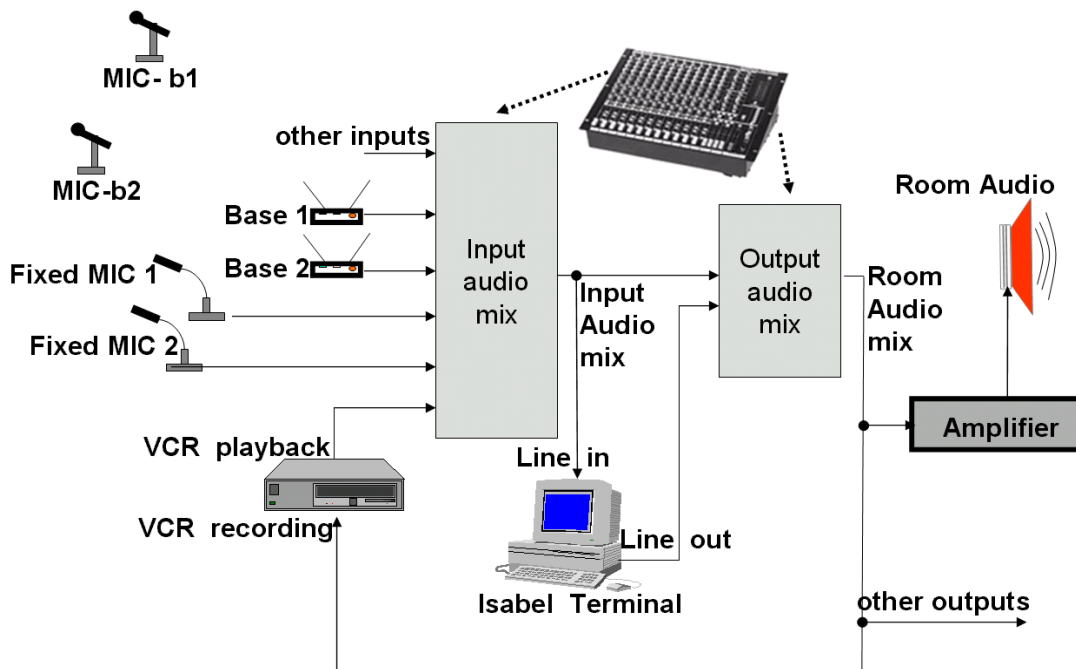


Figure 5: auditorium audio setup

The audio mixer produces two mixed signals:

0. Input Audio mix: this audio signal is obtained by mixing all the local audio sources. This signal feeds the audio input (Line in) of the Isabel terminal and is also a component of the "Output Audio mix". The Isabel terminal will broadcast the audio input of the Isabel terminal ---Line in--- to the rest of the terminal in the session.
0. Output Audio mix: this audio signal is obtained by mixing the "Input Audio mix" together with the audio output ---Line out--- of the Isabel terminal. This audio signal feeds the room audio or loudspeakers. This mix must be performed because the Isabel audio output includes only the sound from the remote terminals, but not the local audio.

The local audio experts should be asked for help for such setup, since a misconfiguration of any component may lead to noise, echoes,... In particular, the mixing table must be configured so the output from Isabel is not send back to the Isabel audio input (which is a common mistake; see next figure).

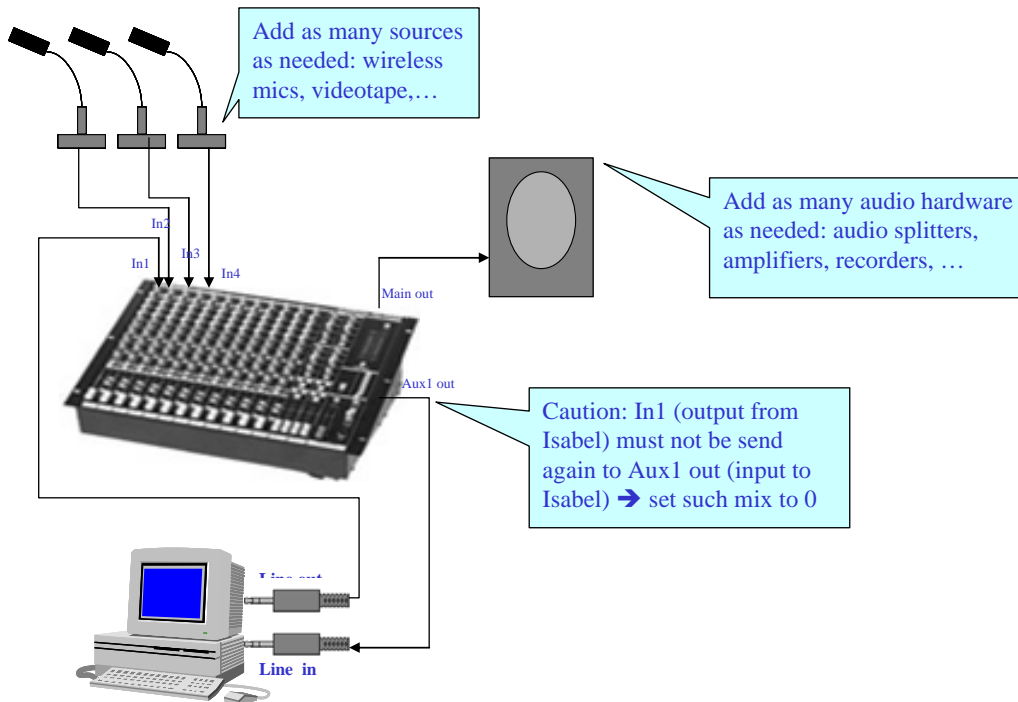



Figure 6: mixing table connection

0.0.Illumination

Although screen projectors have today a very high projection power and may not need special illumination, some guidelines are given here for lecture rooms and auditoriums with wall projection where speakers should be properly illuminated, while keeping the projection in a dark zone. In such cases three separate illumination zones are very convenient with separate on/off light switches. The zones are

0. The speaker or lecturer zone, where the speaker gives his lecture. In this zone the speaker must be properly illuminated in all his movements, such that the camera can obtain sharp images. The blackboard, if used by the speaker must be in this zone. This zone must be dark with remote speakers.
0. The audience zone, where the students or attendees sit. This zone must have a good illumination because participants must take notes and consult docs during a distributed session or class. The illumination must be also good enough for providing good images when the camera is taking images from the attendees making questions.
0. The projection zone, where the PC screen is projected. Although actual high intensity projectors can project in illuminated rooms, a much better image is obtained if the projection is in a dark zone. Therefore, the illumination from the audience and lecturer zone must be confined to those zones without invading this one.

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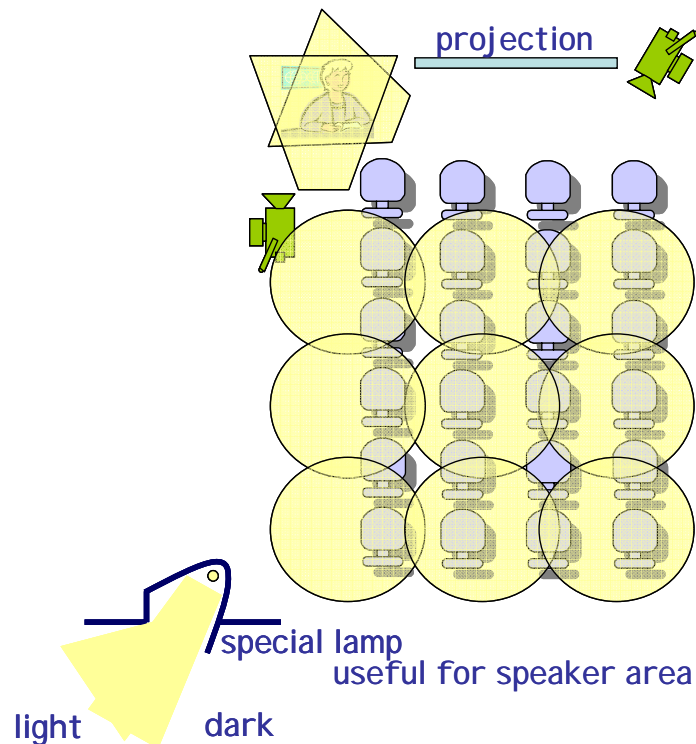


Figure 7: Illumination


A typical layout of a lecture room or auditorium is as follows:

0. Speaker zone in the left hand side of the front part, when looking from the audience. The speaker is sitting or standing such that he is looking to the local audience. He must have an additional PC screen in front of him to be able to watch at the other site videos without having to look back to the projection. A VGA splitter is necessary in this configuration to have wall projection with the speaker's PC screen.
0. Projection zone should be then in the right hand side of the front part, when looking from the audience.
0. The audience zone slightly separated from the other zones in the back.

During a distributed lecture only the zones which are active should be illuminated. For example, a lecture room only with students watching to a remote speaker should not have the lecturer zone illuminated.

0.0.Two or more terminal in one site

In large auditoriums the use of more than one Isabel PC in the same auditorium provides the rest of the sites a much better view of what is happening, because one terminal can insert the video image of the speaker and a second one can insert the video of a person making questions from the audience or the chairman. In such cases, the speaker terminal video is always pointing to the speaker and the audience terminal

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video is always pointing to the audience. Therefore in local questions, the remote sites can see in question modes or in two video modes the speaker and the person posing the question in the auditorium together. Remote audiences will have a much better picture of the ongoing activities.

The next figure shows a multi terminal setup. Its use is recommended in auditoriums or lecture rooms where a majority of activities are going on in a given conference or session.

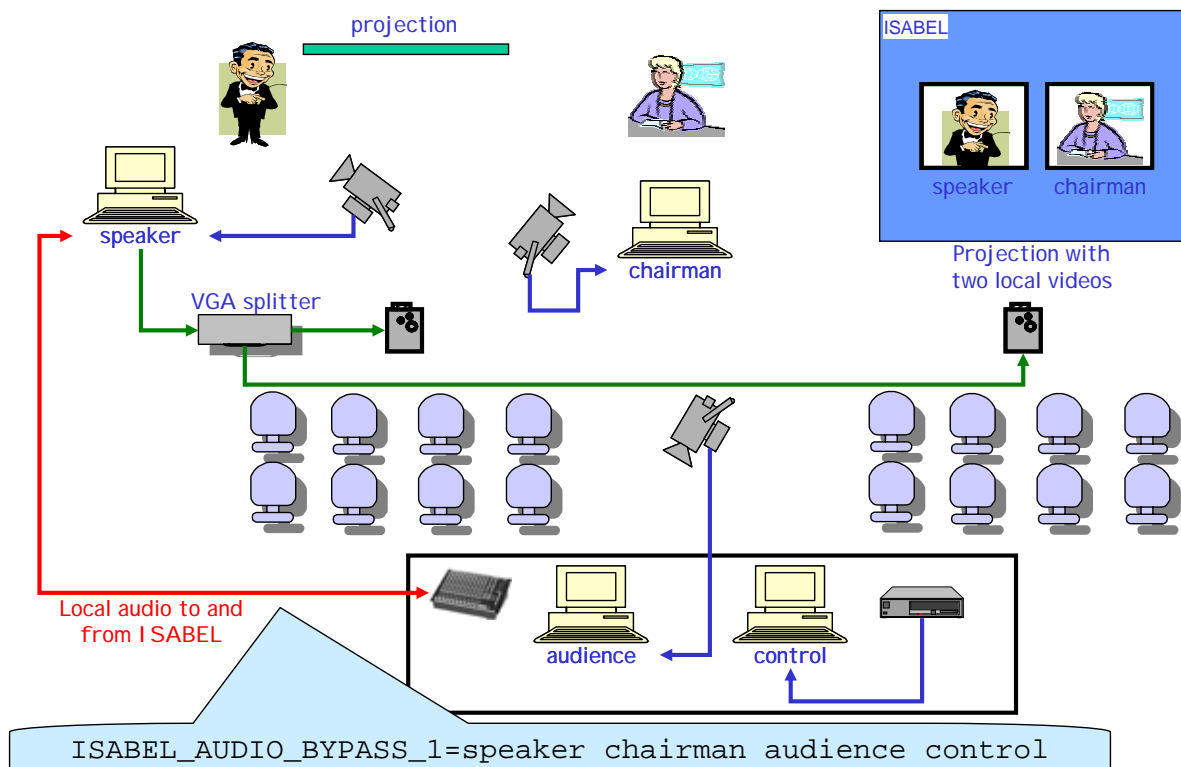



Figure 8: two or more terminals in one room

This setup is not trivial and it is recommended that an Isabel expert is consulted. The main recommendations to be followed for this set up are:

1. Use one terminal for the speaker or lecturer
2. Use a second terminal for the chairman
3. Use a third (or fourth, fifth,...) terminal for the audience and for persons asking questions.
4. The physical disposition of the table and video cameras must be such that the speaker and the chairman or a person asking a question must look to each other
5. The beamers should project the screen of the speaker terminal. The reason is that the speaker video is the one which is projected most frequently in large size and should have the smallest delay with the real image.

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6. If more than one projection is made, all projectors should be fed with the same source, for example the speaker terminal. The reason is that there are slight differences between the videos, pointers, etc which has a very unpleasant effect on the attendees if projected in the same room.
7. Notice that the audio of the speaker is sent to/from the mixing table, but the audio of the chairman, audience,... are not connected. Instead, they are configured as **slaves** of the speaker's audio, using the additional parameters of the session server (set the variables ISABEL_AUDIO_BYPASS_1 to "IDmaster IDslave1 IDslave2 IDslave3 ..." in the session server options; ISABEL_AUDIO_BYPASS_2 and _3 can also be used). This configuration means that, whenever the audio of the chairman (or audience) should be active, the audio of the speaker (**master**) is activated instead (which is the one connected to the mixing table)

Figure 8 shows also an additional control room terminal. This extra Isabel terminal should be inside the control room and may have several purposes:

- Act as a control terminal for the teleconference and teleclass control panels
- Receive the exported controls of the speaker terminal, to avoid them to be shown on the projected screen
- Act as audio **master**, instead of the speaker (see point 7 above), for sorter cables
- VCR/DVD playback (instead of a video camera)

Extra terminal may be deployed for presentations digitalization, chat, ...

This layout is difficult and needs special definitions in the platform configuration file. The advice of an Isabel expert is recommended to set it up.