

## SECTION 36

## SPECIAL REQUIREMENTS FOR VIDEOCONFERENCE FACILITIES

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HVAC diffusers, returns, and associated ducts should be designed to allow air to flow through them at minimal velocities and with minimal disruption of the airflow.

Microphones should be placed within the critical distance of the intended sound source. (Critical distance is the distance at which the direct and the reflected sound are equal.) This distance varies depending on the acoustical properties of the finished space. Aim for HVAC (NC 25-30 throughout room) SPL 35dbA or better –





The acoustics should be well controlled (see above) so that auto-tracking camera systems that rely on directional microphones to track the current speaker may be deployed. Plain backgrounds will also assist where facial recognition technology is employed in camera systems to provide auto focus.

Where possible, microphones should be positioned as a ceiling array, rather than mounted in (or on) the table.

### **36.11 Lecture Theatres**

In larger teaching spaces two or more cameras are to be installed to cover both the teaching area (where the session originates from the “near-end”) and also the student (or audience) area for situations where the teaching is undertaken from the “far end”.

The lecturer’s camera must be capable of covering both the lectern area and the general teaching “stage” including the area of any whiteboards. Care should be taken so that the cameras are out of the reach of students, but not so high as to provide an unacceptably steep angle on the lecturer. Audience cameras must be situated such that a clear view can be obtained of every section of the audience.

One or more monitors should be provided for the lecturer to be able to view the far-end audience without turning away from the local audience.

These spaces must be fitted with sufficient ceiling mounted microphones to enable questions to be audible from students located anywhere in the audience area. Automatic echo cancellation must be provided at the microphone mixer to enable effective two-way communication without the distraction of echoes.

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### 36.12 Videoconferencing Definitions

Word	Short-form Definition
Classroom	General purpose teaching space with a flat floor and loose furniture
Lecture Theatre	A general purpose teaching space which has fixed seating and a tiered or sloping floor. It is typically more intensively equipped for visual presentations
Bandwidth	Bandwidth defines the amount of information that can be sent and received in a certain

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Half Duplex	A telecommunication system where data can only flow in one direction at a time. For example, a half duplex speakerphone only allows one person to speak at a time.
High Definition 1080i/1080p	1080i is the designated name for one of the HDTV video modes. 1080 stands for 1080 lines of vertical resolution, while the letter "i" stands for interlaced or non-progressive scan. The horizontal resolution of 1920 dots across and a frame resolution of 1920 × 1080 or over two million pixels with an aspect ratio of 16:9. In addition a field resolution of