

# DIT Classroom Technology Standards

Version 1.1 Feb 2013

I.S/Media Services



# General Instructions

## **Standards Brief**

This standards document is aimed at providing clear guidance to contractors and staff engaged to undertake audio visual works in DIT teaching spaces and meeting rooms. The objectives of the standards document are to ensure consistent interpretation of technical requirements, and consistent delivery of functioning and maintainable spaces.

This document should be used when planning refurbishments or any new work for audio visual installations throughout the Institute. This document defines a standard set of room configurations that will allow the Institute to have common teaching spaces on all campuses that are easy to use, easy to support and highly reliable. This will allow a common user experience – the same look, feel and operation of audio visual and IT equipment – across rooms on all of the Institutes campuses.

Designers, installers and contractors must ensure they have the most current version of all standards prior to engaging in any work.

The most recent version of this document can be found on the web at:

<http://www.dit.ie/media/mediaservices/DITClassroomTechnologyStandards.pdf>

## **Meeting Room - designed for Capacity of up to 16 .**

### **Minimum Equipment Requirements**

#### **Flat Panel Display 42” Minimum 50” Preferred**

Commercial-grade LCD display

1920 x 1080 resolution (16:9 aspect)

HDMI and XGA input

Stereo audio input

RS232-C controlled

Discrete volume control, power control and input selection via RS232

The flat panel is to be mounted in landscape orientation.

### **Mounting Hardware**

#### **Speakers**

Manufacturers optional extra to suit specified flat panel.

#### **Controller & Connector Place**

RS232 –C Controller to enable input selection, volume control etc

Wall Mounted Connector Plate providing access to VGA, HDMI and audio inputs. Network connected to allow for remote monitoring and fault alerts.

### **Power Points**

2 Switched power points for Laptop etc located near display panel

2 Switched power points for display panel and controller located in ceiling cavity

### **Data Points**

1 x Computer

1 x Laptop

1 x Control system

1 x IP Phone/intercom

**Small Classroom - General-purpose classroom designed for a maximum Capacity of 25**

**Minimum Equipment Requirements**

**Presenter Desk/Podium**

Will house equipment and also allow for workspace for the user

**Data Projector**

3000 Lumens Light Output

Resolution - At least 1280 x 800 pixels (native)

Contrast Ratio - 2000:1 or greater

**Projection Screen**

Manual Pull Down Projector Screen

**AV Controller & Connector Place**

RS232 –C Controller to enable input selection, volume control etc

Desk Mounted Connector Plate providing access to Laptop VGA, HDMI and audio inputs. Network connected to allow for remote monitoring and fault alerts.

**Wall Mounted Passive Speakers (2)**

30 Watt

8 Ohm impedance

White finish

High quality sound reproduction

Wall-mounts to provide 30o tilt down from horizontal

**Computer**

Standard DIT Spec

**Data Outlets**

The presenter workstation shall have four data outlets

1 x Computer

1 x Laptop

1 x Control system

1 x IP Phone/intercom

**Power**

The presenter desk shall have four double power sockets.

1 x Double socket above desk surface for Computer & Laptop

3 x Double socket below desk surface for AV equipment.

**AV Equipment Rack**

The AV equipment rack shall be installed inside of the presenters' desk.

The AV equipment rack shall be secured to the desk or wall to prevent unauthorized access to the rack equipment, cabling, network and power outlets.

**Projection Screen**

The projection screen shall be mounted on the wall or ceiling using screen specific hardware/brackets, in accordance with the manufacturers installation instructions

**Classroom Automated Recording – *Optional*****Capture Hardware**

Capture hardware shall be installed inside the AV rack

**Camera**

Cameras shall be installed at a suitable location as determined on site by DIT technical staff.

**Standard Classroom - General-purpose classroom designed for a maximum Capacity of 40.**

**Minimum Equipment Requirements**

**Presenter Desk/Podium**

Will house equipment and also allow for workspace for the user

**Data Projector**

3000 Lumens Light Output

Resolution - At least 1280 x 800 pixels (native)

Contrast Ratio - 2000:1 or greater

**Projection Screen**

Manual Pull Down Projector Screen

**AV Controller & Connector Place**

RS232 –C Controller to enable input selection, volume control etc

Desk Mounted Connector Plate providing access to Laptop VGA, HDMI and audio inputs. Network connected to allow for remote monitoring and fault alerts.

**Wall Mounted Passive Speakers (2)**

30 Watt

8 Ohm impedance

White finish

High quality sound reproduction

Wall-mounts to provide 30o tilt down from horizontal

**Computer**

Standard DIT Spec

**DVD**

Blu-ray

Component Y Pb/Cb Pr/Cr video out

Stereo audio out (RCA x2)

Multi Region support

Controlled via AV Controller

### **Data Outlets**

The presenter workstation shall have four data outlets

1 x Computer

1 x Laptop

1 x Control system

1 x IP Phone/intercom

### **Power**

The presenter desk shall have four double power sockets.

1 x Double socket above desk surface for Computer & Laptop

3 x Double socket below desk surface for AV equipment.

### **AV Equipment Rack**

The AV equipment rack shall be installed inside of the presenters' desk.

The AV equipment rack shall be secured to the desk or wall to prevent unauthorized access to the rack equipment, cabling, network and power outlets.

### **Projection Screen**

The projection screen shall be mounted on the wall or ceiling using screen specific hardware/brackets, in accordance with the manufacturers installation instructions

### **Classroom Automated Recording – *Optional***

#### **Capture Hardware**

Capture hardware shall be installed inside the AV rack

#### **Camera**

Cameras shall be installed at a suitable location as determined on site by DIT technical staff.

#### **Fixed Microphones**

In classrooms, fixed Microphones are installed on the presenters desk and in the ceiling.

**Large Classroom - General-purpose classroom designed for a Capacity of 40-70.**

**Minimum Equipment Requirements**

**Presenter Desk/Podium**

Will house equipment and also allow for workspace for the user.

**Data Projector**

3000 Lumens Light Output

Resolution - At least 1280 x 800 pixels (native)

Contrast Ratio - 2000:1 or greater

**Projection Screen**

Electrically operated Screen

**AV Controller & Connector Place**

RS232 –C Controller to enable input selection, volume control etc

Desk Mounted. Network connected to allow for remote monitoring and fault alerts. Connector Plate located on top of Presenter desk providing access to Laptop VGA, HDMI and audio inputs.

**Ceiling Mounted Speakers (amount as room size dictates)**

30 Watt

8 Ohm impedance

White finish

High quality sound reproduction

**Sound (PA) Equipment**

Wireless lapel microphone and receiver

Wireless Hand held microphone and receiver

8 Channel rack Mount pre-amp audio mixer

**Stereo Power amplifier 100 watts per channel**

**Computer**

Standard DIT Spec



## **DVD**

Blu-ray

Component Y Pb/Cb Pr/Cr video out

Stereo audio out (RCA x2)

Multi Region support

Controlled via AV Controller

## **Data Outlets**

The presenter workstation shall have four data outlets

1 x Computer

1 x Laptop

1 x Control system

1 x IP Phone/intercom

## **Power**

The presenter workstation shall have four double power sockets.

1 x Double socket above desk surface for Computer & Laptop

3 x Double socket below desk surface for AV equipment.

## **AV Equipment Rack**

The AV equipment rack shall be installed inside of the presenters' desk. The AV equipment rack shall be secured to the desk or wall to prevent unauthorized access to the rack equipment, cabling, network and power outlets.

## **Projection Screen**

The projection screen shall be mounted on the wall or ceiling using screen specific hardware/brackets, in accordance with the manufacturers installation instructions

## **Classroom Automated Recording – Optional**

### **Capture Hardware**

Capture hardware shall be installed inside the AV rack, A minimum of 1RU space above the capture hardware shall be reserved for ventilation.

A network cable shall be installed from the capture hardware to one of the fixed network points at the presenter's desk.

### **Camera**

Cameras shall be installed at a suitable location as determined on site by DIT

technical staff.

### **Fixed Microphones**

In classrooms, fixed Microphones are installed on the presenters desk and in the ceiling.

**Lecture Theatre** - Large classroom designed for Capacity of one hundred or more.

### **Minimum Equipment Requirements**

#### **Large Presenter Desk/Podium**

Will house equipment and also allow for workspace for the user.

#### **Data Projector**

4000 Lumens Light Output

Aspect Ratio- 16:9

Resolution - At least 1280 x 800 pixels (native)

Contrast Ratio - 3000:1 or greater

#### **Projection Screen**

Aspect Ratio – 16:9

Electrically operated Screen

#### **AV Controller & Connector Plate**

RS232 –C Controller to enable input selection, volume control etc

Desk Mounted. Network connected to allow for remote monitoring and fault alerts. Connector Plate located on top of Presenter desk providing access to Laptop VGA, HDMI and audio inputs.

#### **Ceiling Mounted Speakers (amount as room size dictates)**

30 Watt RMS

8 Ohm impedance

White finish

High quality sound reproduction

#### **Computer**

Standard DIT Spec

#### **DVD**

Blu-ray

Component Y Pb/Cb Pr/Cr video out

Stereo audio out (RCA x2)

Multi Region support

Controlled via AV Controller

### **Data Outlets**

The presenter workstation shall have four data outlets

1 x Computer

1 x Laptop

1 x Control system

1 x IP Phone/intercom

### **Power**

The presenter workstation shall have four double power sockets.

1 x Double socket above desk surface for Computer & Laptop

3 x Double socket below desk surface for AV equipment.

### **AV Equipment Rack**

The AV equipment rack shall be installed inside of the presenters' desk. The AV equipment rack shall be secured to the desk or wall to prevent unauthorized access to the rack equipment, cabling, network and power outlets.

### **Projection Screen**

The projection screen shall be mounted on the wall or ceiling using screen specific hardware/brackets, in accordance with the manufacturers installation instructions

## **Classroom Automated Recording – Optional**

### **Capture Hardware**

Capture hardware shall be installed inside the AV rack, a

### **Camera**

Cameras shall be installed at a suitable location as determined on site by DIT technical staff.

### **Fixed Microphones**

In classrooms, fixed Microphones are installed on the presenters desk in the ceiling.