



9th International  
Abilympics  
Bordeaux 2016

# Vocational Skills Contest

## V37 Electronic Assembly (Basic Course)

### 1. Task Assignment

The task consists in installing a printed circuit in its case and in establishing the wire connections with the inputs and outputs of a digital echo chamber circuit.

Using a technical layout to be provided on the day of the competition, contestants will install the printed circuit in its case and perform the drilling, cabling and soldering necessary to install the input and output plugs (microphone, loudspeakers, switches...).

### 2. Allocated time: 3h30

3 hours and 30 minutes of competition.



### 3. Requirements

- Contestants must respect the safety rules and the jury's instructions.
- They will maintain a clean and organized work station during the competition.
- It is each contestant's responsibility to bring all the necessary tools and equipment referenced in chart n°6. The organization will not be able to provide them.
- Any contestant caught cheating, talking to someone from the public or using a communication device will suffer a penalty of 5 points for the first transgression. A second transgression will lead to an exclusion from the contest.

#### **4. Procedure**

**Day -1 (March 24<sup>th</sup>):** On the day before the competition, contestants will be welcomed by members of the jury. A briefing about the organization of the competition will be organized. Contestants will draw lots to be assigned to a work station, where they may drop off their tools.






**Day 1 (March 25<sup>th</sup>):** Contestants will go on an organized trip.

**Day 2 (March 26<sup>th</sup>):** Contestants will have 3 hours and 30 minutes to complete the task.

## 5. List of the provided equipment







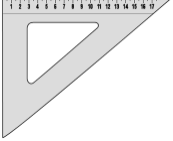



*Non-exhaustive list.*

N°	Equipment	Photo	Qty per contestant	Notes
01	ABS box		1	Plastic box 186 x 123 x 41 mm
02	Loudspeaker		1	8Ω, 36 mm diameter
03	MK182 – VELLEMAN digital echo chamber kit		1	Ref. 1800-39
04	Potentiometer		2	22 KΩ
05	Potentiometer		1	47 KΩ
06	Potentiometer		1	10 KΩ
07	On / Off switch		1	
08	Banana jack connector		1	Red, diameter 8, female
09	Banana jack connector		1	Black, diameter 8
10	Screws		4	Diameter 3, length 20







11	M3 hex nut		4	
12	Flat washer Ø3		4	Ø3
13	External tooth lock washer		4	Ø3
14	Spacer		4	Height 10, diameter 3
15	Stranded cable		Sufficient quantity	Various colors



## 6. List of tools to be brought for each contestant

N°	Tool	Photo	Qty	Notes
01	Cutting pliers		1	
02	Half-round nose pliers		1	
03	Wire stripping pliers		1	
04	Several colors of pens, pencils, eraser, ruler...		1	Equipment used for writing
05	Safety glasses		1	
06	Flat-head screwdrivers		1 set	
07	Set square		1	Contestant's choice
08	Punch		1	Contestant's choice
09	Toolbox		1	Contestant's personal equipment, to be verified by the jury
10	Headlamp		1	

## 7. List of facilities installed at the contest site

N°	Equipment	Photo	Qty	Notes
01	Power strip		1	4 sockets
02	Multimeter with its two probes		1	For measuring continuity, resistance and voltage
03	Table		1	75 cm × 180 cm
04	Chair		1	
05	Mini drill press		1	
06	Drill bits		1	1 set with bits ranging from 1 to 10mm

## 8. Evaluation Criteria



N°	Items to be evaluated	Scoring scale
01	Precision and respect of the provided layout	25
02	Accuracy and appearance of the cabling	25
03	Respect of the polarities	05
04	Quality of the soldering	10
05	Cleanliness of the drilling	10
06	General appearance	15
07	Functionality test	10
	<b>Total</b>	<b>100</b>