

# Using the u3a Public address audio systems

## Our equipment:

1. **Adastra EZPA** battery or mains operated system
2. **Europort portable 40 watt PA** system battery or mains operated
3. **Universal wireless microphone**
4. **Xenyx 302USB portable mixer**

The EZPA is simple to set up and use. But it has had a hard life and some bits are missing! The extending aerial has broken and been replaced by a green and yellow wire: do not remove it. The Europort system is much heavier and much louder. It also comes with a stand for the speaker.

## 1. The EZPA system

This is a simple black box. To operate the system you only need to operate one control once the battery is charged up – and it will last for up to 10 hours on one charge. The two microphones both use 9V PP3 batteries which should be checked before use. (Keep a spare with you). The TWO microphones can be used simultaneously.

- **A hand held mic** – uses a 9V PP3 battery. The mic has a switch on the front. One click forward takes the mic to a muted position and two clicks forward to a “live” position. Use of this mic is not recommended because it has gone strangely sticky and is not nice to hold.
- **A lapel attached Lavalier mic** – also uses a 9V PP3 battery. The mic has a similar two position switch and works perfectly. Speakers prefer to use this type of mic to keep hands free. One downside – the clip in the transmitter unit is broken so the speaker needs to have a pocket to put the transmitter in.

The main unit will have been fully charged before the event, but the charging lead is supplied as well.

## Operation

To operate the unit, first work out where to position it. The loudspeaker grill should face the audience. To avoid and feedback or “howling”, ensure that the speaker and his microphone are not positioned immediately in front of the unit. Don’t panic at any time during the positioning or adjustment processes. Simply either MUTE the Lavalier transmitter unit temporarily or switch off the main unit.

1. Switch on the main unit by rotating the knob at top right by about 90 degrees. There is a red line on the knob and it should then be at the top.
2. There are THREE knobs below the top volume knob. Leave the 2<sup>nd</sup> and 3<sup>rd</sup> knobs fully ANTI-CLOCKWISE. Leave the 4<sup>th</sup> knob FULLY CLOCKWISE.
3. Switch on the Lavalier transmitter unit by sliding the switch forward two clicks. (If you are too close to the main unit you will get howling).
4. Set the ideal volume level for the speaker. This can be done in two ways.
  - The Top VOLUME knob can be turned UP or DOWN.
  - There is a rotary control on the transmitter unit. Rotating CLOCKWISE will increase the volume or rotating ANTICLOCKWISE will reduce the volume

## Afterwards

Make sure that both the main unit and the Lavalier transmitter unit are switched OFF.

## 2. The Europort system

This system is much more powerful – and much heavier – but it has wheels and a handle. It is suggested that you should always first erect the tripod stand and sit the unit on top of it. Make sure that the stand is erected properly and locked into position. The stand also has a variable height adjustment, which should be set and locked BEFORE mounting the unit on the pole.

The system comes with a plug-in handheld mic and two wireless handheld mics. If the wireless mics are in operation the handheld mic is over-ridden and muted.

The main unit will have been fully charged before the event, but the charging lead is supplied as well.

The diagram on the back page shows the layout of the rear of the unit.

### Operation type I – Using wired or (two) proprietary handheld mics

#### Plug in handheld mic

Positioning rules are the same as for the EZPA system. The handheld wired mic can be plugged into either of the two locations on the rear of the unit. See the RED arrow overleaf

To switch on the unit there is a PUSH ON-OFF button. See the BLUE arrow overleaf

1. If using the handheld wired mic, first switch it OFF with the slide switch and plug it into EITHER of the two sockets
2. Turn the volume control immediately above the chosen socket fully ANTICLOCKWISE.
3. Turn the BASS control fully ANTICLOCKWISE and the TREBLE control fully CLOCKWISE.
4. Now advance the MAIN LEVEL control (at bottom right) about halfway
5. Switch on the handheld wired MIC and gradually advance the MIC volume control until the audio level is acceptable – make sure that the person operating the MIC is standing remote from the PA unit itself to avoid feedback “howling”.

#### Wireless handheld mics

Positioning rules are exactly the same as for the EZPA system. If using the pair of wireless mics, ensure that they are fitted with new AA batteries.

1. The MICs have a MUTE position and a TALK position. First set them to the MUTED position.
2. There is a USB wireless “DONGLE” that has first to be plugged into the PA unit. It is plugged in at the top RHS. Once plugged in it automatically mutes the handheld wired MIC if that is also plugged in.
3. Turn the MAIN LEVEL control at bottom RHS fully ANTICLOCKWISE.
4. Turn the BASS control fully ANTICLOCKWISE and the TREBLE control fully CLOCKWISE.
5. Switch one of the wireless MICs from MUTED to TALK
6. Now advance the MAIN LEVEL control (at bottom right) about halfway the MIC volume control until the audio level is acceptable – make sure that the person operating the MIC is standing remote from the PA unit itself to avoid feedback “howling”.

## 3. The Universal Wireless Microphone

**This is a new addition to our kit. It consists of two items:**

1. A belt-mounted wireless transmitter with lapel mounted or headset Lavalier microphone and
2. A wireless receiver mounted on a 6.35mm jack plug. This new piece of equipment enables either dual operation Lavalier microphones with the EZPA system, or single microphone handsfree operation of the Europort system.

## Operation is simple with either system. Points to note:

- The jack-mounted receiver should be fully charged before use via the USB charging lead.
- The belt-mounted transmitter is fitted with two AA batteries which should be renewed before each use and removed after use.
- **To check the system before use, proceed as follows:**
  - Switch on the jack plug RECEIVER unit. A green LED illuminates to show that it is operating
  - Depress the POWER button on the transmitter unit to switch it on
  - Look at the jack plug RECEIVER unit. There should now be a RED LED illuminated to show that the TRANSMITTER and receiver are communicating
  - To switch off the RECEIVER, slide the OFF-ON switch to OFF
  - To switch off the TRANSMITTER press and hold the POWER button until OFF is displayed
- To use the system with either the Europort system or the EZPA system you need to Insert the jack plug fully into either the MIC socket on the side of the EZPA unit, or either of the MIC 1 or MIC 2 sockets on the Europort system
- **IMPORTANT:** Before switching on the system as explained above under checking, please rotate the knob on top of the TRANSMITTER fully anticlockwise! This is the volume control.
- **Insert the chosen microphone** – either Lavalier lapel mounted or headset
- Switch on the (Europort or EZPA) system as normal.
- Switch on both the RECEIVER and TRANSMITTER.
- Now gradually increase the volume control to obtain a satisfactory level of operation.
- The EZPA system can now be operated with BOTH belt mounted transmitters

## 4. The Xenyx 302USB mixer

This unit now permits us to be much more flexible. We can use the mixer with up to FOUR inputs, which makes it ideal for use with a speaker who wants to make (e.g.) a hands-free PowerPoint presentation. The following section describes the general scenario and also gives guidance to the necessary connections and settings.

## 5. Set up for a large hall with full A-V

This is not complex, but needs to be set up methodically. This will result in a very enjoyable experience for the audience.

**NB: The Europort system with mains lead and support stand are supplied separately.**

There is an AV kit box which contains the following:

1. Four-way surge protected extension 13amp lead
2. Spare Epson projector with remote controller; 13amp mains supply lead; HDMI and VGA leads
3. Dell laptop computer with power supply and wireless mouse
4. Kingston “presenter” used for remotely controlling PowerPoint
5. Xenyx 302USB mixer, with separate 5V power supply on 13amp lead
6. Two sets of screened audio cables terminated in RCA plugs at one end and 3.5mm stereo jacks at the other end

7. 3.5mm to 6.35mm adaptor
8. Plug-in jack mounted wireless receiver unit with USB charging lead
9. Mains lead for Europort unit
10. Wireless transmitter with lapel mount Lavalier mic
11. Spare AA batteries

## **Before setting up the presentation**

- Ensure that the Europort system is fully charged (It will last without mains power for a number of hours if fully charged).
- Ensure that the wireless receiver unit is fully charged. Use the supplied USB lead and charge from any USB 5V outlet for a couple of hours.
- Ensure that the wireless transmitter unit has good AA batteries installed. To check press the POWER button and note that full bars are displayed
- The Kingston presenter and wireless mouse batteries hardly ever need replacing.

## **Physical setup – Europort unit**

- Choose the ideal position for the Europort system and deploy the stand. The three legged base needs to be full depressed and locked in position with the LOWER knob (clockwise to tighten). Release the UPPER knob and pull out enough inner tube to allow mounting of Europort unit to project at around chest height. Insert the locking pin into the lowest available hole and lower the inner tube so that the locking pin rests on the lower tube. Tighten the UPPER knob to secure it in position.
- Slide the Europort unit onto the upper tube and ensure that the speaker side faces the audience.
- Plug the mains lead into the Europort unit and connect via the extension lead to the mains supply. DO NOT switch on yet.

## **Physical setup – Laptop and projector**

- Position the laptop; plug in power supply unit and connect via the extension lead to the mains supply.
- Remove USB dongle from Kingston presenter and plug into a spare USB outlet
- Switch ON the wireless mouse
- Switch on the PC and await for the boot-up routine to complete. Once a full screen picture is displayed, with a login box, type 1843 to access the computer.
- If the hall has already deployed a projector, connect the HDMI outlet on the computer to the HDMI input on the projector. (At the Meridian hall the projector is supplied and will be set up ready. If you need to use our own projector it will need to be unpacked and deployed: the HDMI and VGA leads are packed in the projector equipment bag together with the remote control)

## **Physical setup – mixer, cabling and control settings**

### **Read in conjunction with the pictures overleaf**

- Connect the USB power supply unit to the rear of the mixer and the 13amp plug to the extension lead.
- Plug the two sets of RCA stereo cables into the LINE and MAIN MIX sockets on the mixer
- Plug the wireless mic receiver unit into the MIC IN socket on the mixer.
- Switch on the wireless receiver (slide switch on side of unit) and check that a green LED is showing.

- Connect the 3.5mm stereo jack plug on the end of the RCA pair labelled “INPUT” to the headphone socket on the laptop
- Connect the 3.5mm stereo jack plug on the end of the RCA pair labelled “OUTPUT” to the converter and plug that into the MIC 1 socket on the Europort system.
- **Control settings on the mixer**
  - Set the LHS group of LOW and HIGH sliders to the central position and the PAN slider to the top position (Important!)
  - Set the red and black push switches labelled FROM and TO under LINE/USB to the out (up) position
  - Set the two black lower LHS rotary controls to the 12 noon position
  - Set the white lower RHS rotary controls to the 12 noon position
  - The other two white rotary controls are not in use and should be turned fully anticlockwise.
- **Control settings on the Europort unit**
  - Rotate both MIC 1 and MIC 2 fully anticlockwise
  - Set the BASS and TREBLE rotary controls at 12 noon position
  - Set the MAIN LEVEL control fully anticlockwise

## Switching on units and level setting – order is important

- Switch on the 4 way adaptor. The Mixer unit will become live and display an orange light. The Europort unit will show four LEDs.
- Switch on the Europort unit
- Set the level control on the Lavalier mic transmitter to the midpoint and press the POWER button. The unit is now communicating with the receiver and the receiver will display both RED and GREEN LEDs.
- Advance the Europort MIC 1 control to the 9 o’clock position
- Carefully advance the MAIN LEVEL control on the Europort unit whilst speaking into the Lavalier mic. Much can go wrong here, and a subtle approach is needed!
  - In the absence of an assistant. gently tapping the windshield on the Lavalier mic whilst advancing the MAIN LEVEL will help to indicate the right level
  - If you experience feedback squealing, immediately reduce the LEVEL.
  - **WARNING!** Feedback will become a problem if the Lavalier mic wearer strays in front of the audio field projecting from the Europort, or if the Europort is positioned too far back, or too close to the mic, or if the LEVEL is too high.
  - **WARNING!** Speakers have differing timbre and voice projection capabilities. You can adjust the TREBLE and BASS controls on the Europort to accommodate them. But note that increasing the TREBLE control too far can promote feedback squealing, so use with care.
- **TIP: Ensure that the Lavalier mic is correctly positioned on the wearer.** It should be as close as possible to the mouth. If the wearer has a tendency to turn to look at the screen, it should be worn on the side nearer the screen. Brief the wearer not to touch the LEVEL control on the transmitter unit, which should kept on a belt or in a pocket.

## The video side of the presentation

The laptop will be running and awaiting your command. The presenter will normally provide his/her presentation as a PowerPoint on a USB stick.

- The projector will be mirroring the PC laptop.
- Plug the USB stick into a free USB port on the computer. The PC should recognise it immediately.
- Select the USB drive with Windows Explorer and scroll down to find the presentation.
- Double click on the presentation and wait for PowerPoint to start.
- Open the presentation at the first slide to check all is working OK.
- The Kingston presenter is used to advance slides or to go back to an earlier slide. The BOTTOM button will mute the projected image, which can be helpful. The TOP button will project a laser dot onto the screen

## **Advanced presentations – sound from the laptop and videos delivered over the internet.**

This is a much more complex subject and beyond the scope of this guide. However a quick and easy way to deliver background music for introductory purposes is to pipe sound from the headphone socket on a tablet, phone or laptop either directly into the Europort, or via an input on the mixer.

## **Afterwards – shutting down cleanly**

**Everything must be switched off and packed away, But the order of switching off is important.**

- First rotate the MAIN LEVEL control on the Europort fully anticlockwise. This prevents any pops and crackles happening as you switch off.
- Switch off the Europort.
- Close PowerPoint. Eject the USB containing the presentation and return it to the speaker.
- Switch off the mouse
- Remove the Kingston Presenter dongle and replace it in the instrument
- Shut down the laptop and pack away together with mouse and power supply
- Turn off the AC mains supply
- Remove the wireless receiver from the mixer and switch it OFF (slide switch) Pack away the mixer.
- Retrieve the wireless transmitter from the speaker and turn it OFF by depressing the POWER button for a few seconds.

**All is now finished. Please check that all the following items are packed into the kit box:**

1. Epson projector in carry bag with remote controller; HDMI and VGA leads and mains power lead
2. Dell laptop in carry bag together with power supply unit; mouse and Kingston Presenter
3. Xenyx 302USB mixer with power supply unit
4. Two sets of stereo RCA to 3.5mm jack leads
5. Wireless mic pack and wireless receiver; USB charging lead for the receiver
6. 4 way surge protected extension lead
7. Stereo adaptor jack 3.5mm to 6.35 mm
8. Two spare AA batteries.

## **General points when using PA systems**

When using either of the PA units, please observe the following guidance:

1. Always check that the PA unit is fully charged. It should have been supplied in that condition, but if you note that it is partially discharged (light signals) please ensure that it is plugged into a live 230V supply to top it up.
2. Before use, make sure that you have the right type and number of batteries.
  - a. The EZPA TRANSMITTER unit requires 1 PP3.
  - b. The Europort system requires 4 AA batteries for the two wireless MICs.
  - c. The Universal Wireless Microphone requires two AA batteries
  - d. Ensure that you have spares handy. Always Use Energiser or Duracell alkaline batteries.
3. After use always switch off the TRANSMITTER unit(s), remove the part used batteries and ensure that they are discarded safely and marked USED as part used so that they are not inadvertently reinserted.
4. Remember to switch OFF the PA unit and the jack plug RECEIVER unit after use.
5. Note any breakages.

## **Solving more complex problems**

### **Large halls and hands free operation.**

Presenters like to work hands free. If you have a large hall or a big audience always use the Europort system with the additional hands-free Lavalier MIC.

### **Connecting other equipment to the Europort PA**

Please read the Behringer manual to see how other inputs, such as electronic pickups; keyboards and Bluetooth connections can be handled

### **Playing back or making recordings**

Both PAs have a facility for connection to the LINE OUT of CD or Cassette players

The EZPA unit can record and play back MP3 files.

## **John Wells**





# Lavalier Wireless transmitter system



FIG 4: The Lavalier clip on mic and transmitter

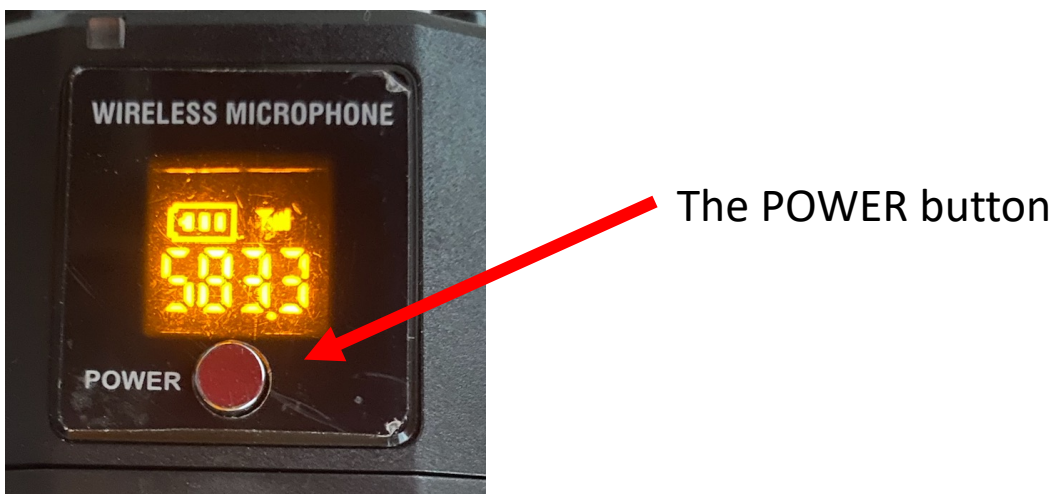


FIG 5: Switched ON. Shows 5 bars wireless signal and full battery

# Xenyx USB mixer and wireless receiver

Wireless receiver plugs in here



FIG 1: The mixer connected and set correctly. The wireless receiver is plugged in at top left



FIGS 2&3: Wireless receiver. Green light below shows it is ON

