



## Audio-Technica UK Wireless Microphone Frequencies

UK models only

When using two or more wireless microphones, or *radiomics*, it is important to select two frequencies which are more than 0.5 MHz apart to avoid co-channel interference and intermodulation between the systems

Please note that Ch 69 frequencies 854.000 MHz to 862.000 MHz and are no longer licensable within the UK

ATW-700 series wireless microphones - only channels 1, 2, 3 & 4 (in band F) on these wireless microphones are in channel 70 - they are deregulated and license free in the UK & EU

ATW-700 series	Frequency - MHz
Ch 1	864.900 deregulated
Ch 2	864.500 deregulated
Ch 3	863.500 deregulated
Ch 4	863.100 deregulated
Ch 5	855.275
Ch 6	854.900
Ch 7	848.500
Ch 8	840.125

ATW-1600 Series wireless microphones including ATW-1661, ATW-1662 & ATW-1663 - only channels C, D, E & F on these wireless microphones are in channel 70 - they are deregulated and license free in the UK & EU

ATW-1600 series	Frequency - MHz
Ch 0	840.125
Ch 1	840.375
Ch 2	841.125
Ch 3	841.375
Ch 4	844.250
Ch 5	845.500
Ch 6	854.900
Ch 7	855.275
Ch 8	856.575
Ch 9	857.625
Ch A	860.900
Ch B	861.200
Ch C	863.125 deregulated
Ch D	863.375 deregulated
Ch E	864.125 deregulated
Ch F	864.375 deregulated

## EU Wireless Microphone Frequencies

EU models only - including ATW-1661, 1662 & 1663

When using two or more wireless microphones it is important to select two frequencies which are more than 0.5 MHz apart to avoid co-channel interference and intermodulation between the systems

None of these frequencies may be used legally within the UK

ATW-1600 series - EU only	Frequency - MHz
Ch 0	795.500
Ch 1	796.000
Ch 2	797.900
Ch 3	800.975
Ch 4	802.025





Ch 5	807.500
Ch 6	809.500
Ch 7	814.500
Ch 8	799.400
Ch 9	801.100
Ch A	801.425
Ch B	804.825
Ch C	805.150
Ch D	813.700
Ch E	817.425
Ch F	819.025

### Audio Technica HRS Connectors

Audio-Technica have traditionally used Hirose HRS connectors on their wireless microphone transmitters but, for a short time, they did use mini DIN connectors

Pin layout of the HRS connector used on Audio-Technica belt-pack wireless mic transmitters



- Pin 1 - ground
- Pin 2 – line or instrument signal
- Pin 3 – microphone signal
- Pin 4 - bias +Ve

### How to wire different audio sources to Audio-Technica belt-pack wireless mic transmitters using HRS connectors

To wire a dynamic microphone use:  
Link pins 1 & 2 - ground, pin 3 - signal, pin 4 not used

To wire a 3-wire condenser microphone use: Link pins 1 & 2 - ground, pin 3 - signal (often white or yellow), pin 4 - bias +Ve (often red)

To wire a 2-wire condenser microphone use:  
Link pins 1 & 2 - ground, link pins 3 & 4 signal & bias +Ve (often white or yellow)

To wire a 2-wire condenser microphone which has too high output use:  
Link pins 1 & 2 - ground, pin3 - signal & Bias + Ve (often white or yellow), link pin 4 to pin 3 with a 22K or 33K resistor

To wire a line level input such as a guitar use:  
Pin 1 - ground, pin 2 - signal, pin 3 - not used, pin 4 - not used

### Audio Technica 4 Pin Mini DIN Connectors

Pin layout of the 4 pin mini DIN connector used on some early Audio-Technica belt-pack wireless microphone transmitters



Skirt / Body - ground

Pins 1 & 3 – microphone signal & bias +Ve

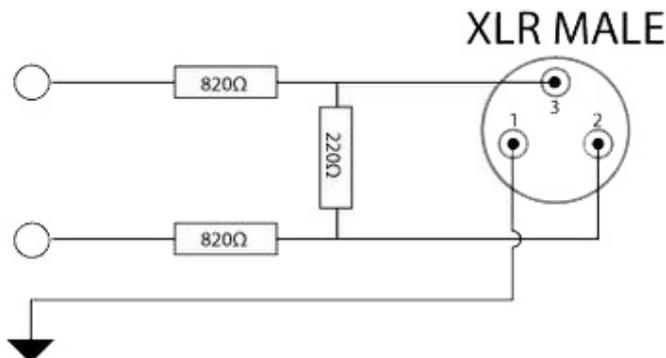
To wire a 2-wire condenser microphone use:

Link pins 1 & 3 - signal & bias +Ve (often white or yellow) and connect the ground screen to the skirt / body of the connector

### Attenuator Pads for Mics and Wireless Mic Receivers

Pads or attenuators are often needed to connect a wireless microphone receiver to over sensitive amplifier, PA sound system or mixer inputs. The mic pad will reduce the signal level so that the sound is less distorted and that the operator has more effective control over the volume

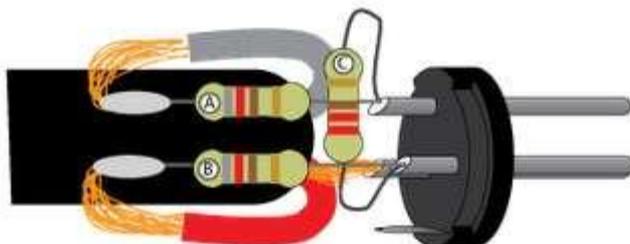
18.5db balanced mic pad attenuator



For unbalanced use replace 820 ohm resistor in the signal line with 1600 ohm (1K6) resistor, connect the 220 ohm resistor between signal and earth and do not use a resistor in earth / ground line

If you require less attenuation reduce the 820 ohm resistors to 390 ohms each for a 14db balanced mic pad

For ease, mount the three resistors in the male XLR connector that plugs into the amplifier or mixer

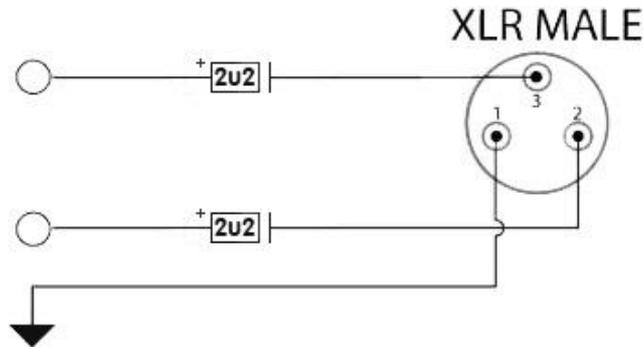


## Phantom Power and Wireless Microphone Receivers

Many wireless microphone receivers are not protected from having phantom power connected to their balanced line audio outputs

By connecting a wireless mic receiver to a mixer or amplifier which has phantom power selected can often damage your receiver in moments

You can prevent this damage by having two 2.2mfd (2u2) 63v polarized capacitors in your XLR lead between the receiver and the mixer or amplifier. Taking care to ensure that the capacitors are the correct way round in series with the signals on each of pins 2 and pins 3 of your XLR lead



The positive of the capacitor should connect to the receiver and the negative of the capacitor should connect to the mixer or amplifier

## Wireless Mic Aerial Lengths

The length of wireless receiving and transmitting aerials is critical and the following nominal values should be used when replacing broken or missing antenna on wireless mic equipment

Nominal Frequency	Band - Channel	Frequency Range	1/4 Wavelength Aerial Length
174.0 MHz	VHF	173.800 to 175.000 MHz	16" - 40.75cm
610.0 MHz	UHF - Ch 38	606.000 to 614.000 MHz	4" - 10.25cm
684 MHz	UHF - Ch 46 - 48	672.000 to 696.975 MHz	3.5" - 9cm
858.0 MHz	UHF - Ch 69	854.000 to 862.900 MHz	3.25" - 8.25cm
864.0 MHz	UHF - Ch 70	863.000 to 865.000 MHz	3.25" - 8.25cm

Use double the length for 1/2 wavelength aerials