

Trantec Wireless Microphone Frequencies

UK models only

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

Channel 70 frequencies between 863.000 MHz and 865.000 MHz are deregulated and license free in the UK & EU

S4.4 and S4.04 All channels on these wireless microphones are on Ch 70 and are deregulated and license free in the UK & EU

S4.4 Ch 1 = S4.04 Ch 0 - 863.150 MHz deregulated

S4.4 Ch 2 = S4.04 Ch 1 - 863.725 MHz deregulated

S4.4 Ch 3 = S4.04 Ch 2 - 864.150 MHz deregulated

S4.4 Ch 4 = S4.04 Ch 3 - 864.850 MHz deregulated

S4.16

Early S4.16 use Ch 69 & 70 - Channels 1 to 4 on these wireless microphones are on Ch 70 and are deregulated and license free in the UK & EU the other 12 channels are on Ch 69 854.000 MHz to 862.000 MHz and are no longer licensable within the UK

Current G3 versions of S4.16 use Ch 38 - 606.000 MHz to 614.000 MHz

	8 Frequency set - MHz for Entertainment use	4 frequency set - MHz for Community use	4 frequency set - MHz for Broadcast use
Ch 1	606.600		
Ch 2	607.500		
Ch 3	608.150		
Ch 4	609.150		
Ch 5	609.950		
Ch 6	610.550		
Ch 7	611.250		
Ch 8	613.150		
Ch 9		607.825	
Ch 10		608.825	
Ch 11		610.250	
Ch 12		610.900	
Ch 13			606.950
Ch 14			608.500
Ch 15			609.500
Ch 16			611.600

These frequency sets are designed to be used as sets only - they are not compatible with each other so cannot be mixed

Older S4.16 used Ch 69 & 70 - only channels 1 to 4 in Ch 70 are legal for use in the UK

	Frequency - MHz
Ch 1	863.150 deregulated
Ch 2	863.725 deregulated
Ch 3	864.150 deregulated
Ch 4	864.850 deregulated
Ch 5	854.900
Ch 6	855.900
Ch 7	856.175
Ch 8	856.575
Ch 9	857.950



Ch 10	858.200
Ch 11	858.650
Ch 12	859.500
Ch 13	860.400
Ch 14	860.900
Ch 15	861.200
Ch 16	861.750

Trantec S4000 & S5000 Recommended UK UHF Frequency Sets

S4000 and S5000 systems using Ch 69 frequencies 854.000 MHz to 862.000 MHz and are no longer licensable within the UK and should be replaced by Ch 38 - 606.000 MHz to 614.000 MHz equipment

These Ch 69 frequencies are all sets that have been tested for Trantec UHF systems. However this does not guarantee that they will work perfectly in a particular location as local conditions and other adjacent radio users can have an effect. For this reason, a set should always be tested on location before use

All these frequencies are found as standard in bank 1 of Ch 69 S5000 and S4000 systems

7 Freq set	9 Freq set	10 Freq set	14 Freq set	16 Freq set
Frequency - MHz				
854.900	854.900	854.900	854.900	854.900
856.175	856.175	855.275	855.275	855.275
857.950	856.575	855.900	855.900	855.900
858.975	858.200	856.575	856.175	856.175
859.500	858.650	858.200	856.575	856.575
860.900	858.975	858.650	857.625	857.625
861.550	860.400	860.400	857.950	857.950
	860.900	860.900	858.200	858.200
	861.550	861.200	858.650	858.650
		861.750	860.400	858.975
			860.900	859.500
			861.200	860.400
			861.550	860.900
			861.750	861.200
				861.550
				861.750

Additional Frequencies for Use with Above Sets

The frequencies listed below are suitable for use with the above frequencies, giving a total maximum of 22 frequencies in channels 68-70. These will be found in bank 3 of newer S5000 systems and bank 2 of newer S4000 systems. Older systems can be upgraded by Trantec to have these frequencies added

- Ch 68 - 846.425 MHz
- Ch 68 - 846.950 MHz
- Ch 68 - 847.925 MHz
- Ch 68 - 849.575 MHz
- Ch 68 - 850.050 MHz
- Ch 70 - 863.725 MHz deregulated

Deregulated License Free Channel 70 Frequencies for Use with S4000 & S4000F Systems

These frequencies in channel 70 can be used license free. However, only one of these (marked *) is suitable for use in conjunction with channel 69 frequency sets. These frequencies can be found in bank 3 of newer S5000 systems and bank 2 of newer S4000 systems. Older systems can be upgraded by Trantec if required

- Ch 70 - 863.025 MHz deregulated



Ch 70 - 863.725 MHz deregulated *
 Ch 70 - 864.300 MHz deregulated
 Ch 70 - 864.650 MHz deregulated

Optimum Channel 68 Frequency Sets for S5000 & S4000 Systems

The frequencies below are all in channel 68 and can be used together. There are 16 frequencies in total. All of these frequencies are in bank 4 of newer S5000 systems. Older systems can be upgraded or re-programmed by Trantec if required

Ch 68 - 846.900 MHz
 Ch 68 - 847.275 MHz
 Ch 68 - 847.900 MHz
 Ch 68 - 848.175 MHz
 Ch 68 - 848.575 MHz
 Ch 68 - 849.625 MHz
 Ch 68 - 849.950 MHz
 Ch 68 - 850.200 MHz
 Ch 68 - 850.650 MHz
 Ch 68 - 850.975 MHz
 Ch 68 - 851.500 MHz
 Ch 68 - 852.400 MHz
 Ch 68 - 852.900 MHz
 Ch 68 - 853.200 MHz
 Ch 68 - 853.550 MHz
 Ch 68 - 853.750 MHz

Custom Set of 6 Channel 69/70 Frequencies for Use with S4000 Systems This set of 6 frequencies is mainly in channel 70, which is deregulated and can be used license free. These frequencies are not programmed as standard into S4000 systems but are available on request for certain applications

Ch 69 - 854.900 MHz
 Ch 69 - 857.625 MHz
 Ch 70 - 863.000 MHz deregulated
 Ch 70 - 863.475 MHz deregulated
 Ch 70 - 864.350 MHz deregulated
 Ch 70 - 864.725 MHz deregulated

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

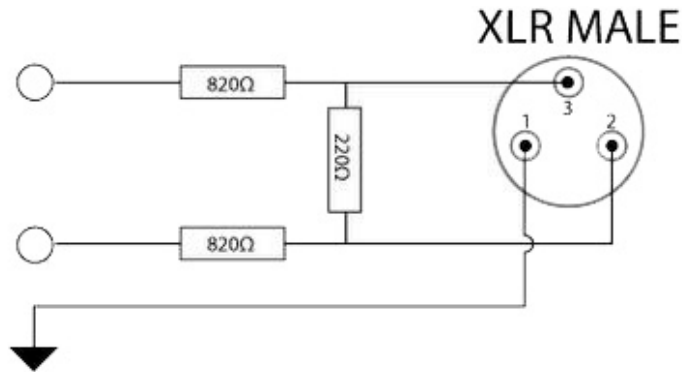
Nominal Frequency	Band - Channel	Frequency Range	1/4 Wavelength Aerial Length
174.0 MHz	VHF	173.800 to 175.000 MHz	16" - 40.75cm
610.0 MHz	UHF - Ch 38	606.000 to 614.000 MHz	4" - 10.25cm
684 MHz	UHF - Ch 46 - 48	672.000 to 696.975 MHz	3.5" - 9cm
858.0 MHz	UHF - Ch 69	854.000 to 862.900 MHz	3.25" - 8.25cm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

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

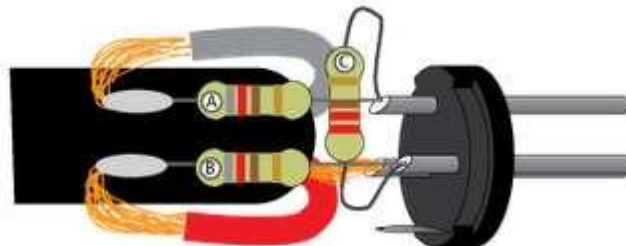
18.5db balanced mic pad attenuator



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

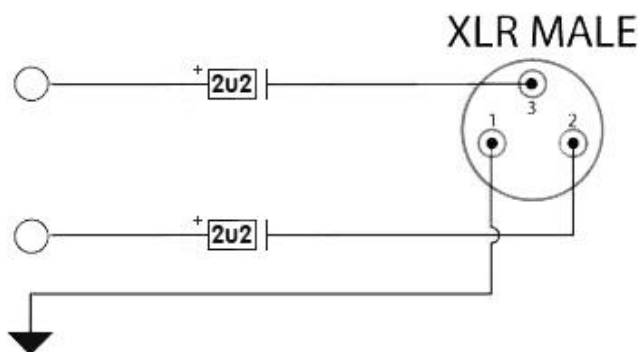


Phantom Power and Wireless Microphone Receivers

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

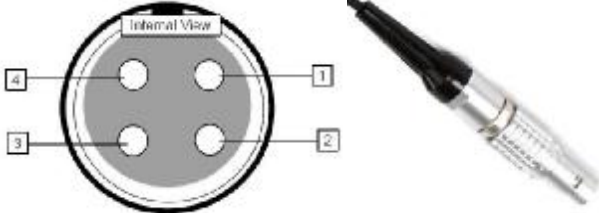
You can prevent this damage by having two 2.2mfd (2u2) 63v polarized capacitors in your XLR lead between the receiver and the mixer or amplifier. Taking care to ensure that the capacitors are the correct way round in series with the signals on each of pins 2 and pins 3 of your XLR lead



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

Trantec 4 Pin Lemo Connectors

Legacy Trantec wireless microphone transmitters have traditionally used Lemo connectors - this includes S1, S2, S1000, S3.2, S3.5, S3500, S4.5, S4000 etc.



Pin 1 - ground, pin 2 - bias 9v +Ve, pin 3 - signal & bias 9v +Ve and pin 4 - signal

Wiring Trantec microphones to Trantec belt-pack wireless mic transmitters using 4 pin Lemo connectors

Trantec S259	Trantec TS33	Trantec TS44	Trantec TS55	Trantec TS912
Pin 1 Screen	Pin 1 Screen	Pin 1 Screen	Pin 1 Screen	Pin 1 Screen
Pin 2 Not connected	Pin 2 Not connected	Pin 2 Red	Pin 2 Red	Pin 2 Red
Pin 3 White	Pin 3 White and Red	Pin 3 Not Connected	Pin 3 Not Connected	Pin 3 Not Connected
Pin 4 Not Connected	Pin 4 Not Connected	Pin 4 White	Pin 4 White	Pin 4 Yellow

Wiring other microphones to Trantec belt-pack wireless mic transmitters using 4 pin Lemo connectors

Sennheiser MKE2 & MKE3	Sony ECM77	Sanken COS-11PT	Beyer MCE5	Beyer MCE50
Pin 1 Screen + Blue	Pin 1 Screen + Clear	Pin 1 Screen	Pin 1 Screen	Pin 1 Screen
Pin 2 Not connected	Pin 2 Not connected	Pin 2 Black	Pin 2 Red	Pin 2 Not connected
Pin 3 Red	Pin 3 Red	Pin 3 Not Connected	Pin 3 Not Connected	Pin 3 White
Pin 4 Not Connected	Pin 4 Not Connected	Pin 4 White	Pin 4 Blue	Pin 4 Not Connected

Trantec 4 Pin Mini XLR Connectors

Trantec Series 5 systems use a 4 pin mini XLR connector



Pin 1 - ground
 Pin 2 - bias 5v +Ve
 Pin 3 - signal Hi-Z
 Pin 4 - signal AF load resistor

How to wire different audio sources to Trantec, JTS or Shure belt-pack wireless mic transmitters using 4 pin mini XLR connectors

To wire a 2-wire condenser microphone use:

Pin 1 - ground, link pins 3 & 4 - signal AF & bias +Ve and add a 10 K Ω bias between pins 2 & 4
 (or some websites say use Pin 1 - ground, Pin 2 - signal AF & bias +Ve, Pins 3 & 4 should be linked)

To wire a 3-wire condenser microphone use:

Pin 1 - ground, Pin 2 - bias + 5v, link pins 3 & 4 - signal AF

To wire a line level input such as a guitar use:

Pin 1 - ground, pin 2 - 5 V - not used, pin 3 - signal AF Hi Z, pin 4 - not used

To wire a dynamic microphone use:

Pin 1 - ground, pin 2 - not used, link pins 3 & 4 - signal AF Hi-Z

Trantec and IMG Stageline 3.5mm Jack Connectors

Trantec S4 systems, Sennheiser, IMG Stageline TXS-600 range and some other wireless mic systems use a locking 3.5mm screw fit jack connector. The lapel microphone usually supplied with these systems is the LP2 - non locking standard 3.5mm connectors will work with these systems



Tip - signal with switchable bias +Ve
 Ring and sleeve - ground