

ORATOR AUDIO

**D690D/D690TD
WIRELESS MICROPHONE
SYSTEMS**



**INSTRUCTION
MANUAL**

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For technical assistance or service enquiries,
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Technical Data:

Transmitter (hand-held):

RF generation/control	PLL
Frequency range	UHF 520 - 694 MHz.
Switching bandwidth	Max. 32 MHz
Channel grid	100 kHz
RF power output	30mW
Nominal/peak deviation	+24k Hz / \leq +/- 45 kHz
Current loss	\leq 140mA
Use range	D690D: Max 100m (80m ideal) D690TD: Max 300m (200m ideal)
Pickup	Dynamic
Battery	AA (1.5V) x 2
Power Life	8 - 10 hours

Receiver :

Sensitivity	1 uV (sinad = 12 dB)
Switching bandwidth	Max. 32 MHz
Receiving frequencies	100
Channel spacing	> 400 kHz
Spurious rejection	\geq 80 dB
Image rejection	\geq 80 dB
Signal/Noise ratio	\geq 90 dB
AF output	0 - 300 mV
Receiving channel	One channel
Power	DC 13 - 18 V
Power consumption	5W
Size	210 x 180 x 45 mm
Weight	800 g

Introduction:

Your D690 series system has been designed to suit the Australian Government's new laws relating to Wireless Microphones that came into effect on January 1, 2015. The laws limit the approved UHF frequency range to 520 - 694 MHz. The available UHF frequency in Australia has been significantly reduced in bandwidth, and coupled with the types of other technology that use this frequency band, notably TV broadcast, there is now greater potential for frequency interference. For this reason, the D690 series has been developed with 100 selectable frequencies available, so you can choose an alternative "clean" frequency if necessary. The frequency that TV stations use does vary by area throughout Australia, so problem interference frequencies tend to be area specific. Once you find a suitable frequency for your area, you should find that the frequency does not need regular changing unless you move around Australia.

There are 2 models, both single channel (1 microphone only), available in the series:

D690D is a Diversity system for normal use, with an operating distance of up to 100m (depending on local conditions),
D690TD is a True Diversity system for professional use, with an operating distance of up to 300m (depending on local conditions). Wikipedia describes True Diversity as:

"The professional models transmit in VHF or UHF radio frequency and have 'true' diversity reception (two separate receiver modules, each with its own antenna), which eliminates dead spots (caused by phase cancellation) and the effects caused by the reflection of the radio waves on walls and surfaces in general."

The whole system circuitry is controlled by a microcomputer chip, and you can choose the frequency to be used. The frequencies are displayed on the Receiver screen & Transmitter, allowing for convenient control of the system. The system uses a PLL synthesiser to generate the frequency and ensure better frequency stability, and enable the user to easily choose a frequency without any interference caused by the local environment. The Transmitter (hand microphone or belt-pack) is synchronised with the Receiver using infrared technology.

System Components:

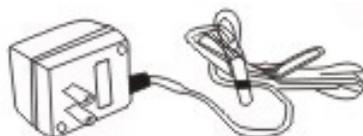
1. Receiver



2. Hand held Microphone
incl batteries



3. DC Power Adapter



4. Receiver Aerial (2 for D690TD)



5. Microphone cable with
6.3mm (1/4") connectors

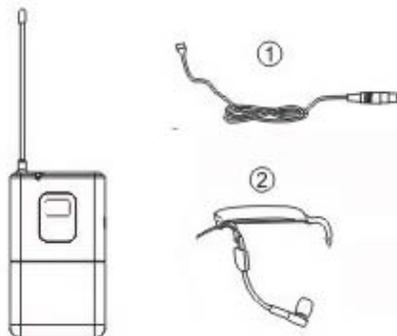


6. Instruction Manual



and if ordered,

7. Optional Beltpack Transmitter
with Headset & Lapel Microphones,
incl batteries



Troubleshooting:

1. The Receiver is turned on but the indicator light is not lit?

- Make sure if the DC power cable is properly fitted into the power socket & the DC cable is firmly fitted into the Receiver.

2. When you turn on both the Receiver & Transmitter (Microphone or Beltpack), the RF light does not come on.

- The RF light should come on when both transmitter & receiver are on & the frequencies are matched. Check the power indicator light is on in the Receiver & the Transmitter is not showing "Low Battery". If OK, then check that the frequency is matched & reset if necessary.

3. When you speak into the Microphone, no sound is heard from the Amplifier/Speaker.

- Make sure the volume on the Receiver is turned up, and check that the audio (6.3mm) cable is properly installed.

4. The audio output signal is not very good.

- Check that you have installed the antenna/s.
Check that the Transmitter battery is not too low.
Check that the Receiver is within range & not obstructed by too many solid objects.
Perhaps there is a strong interference in your area & you need to change frequency.

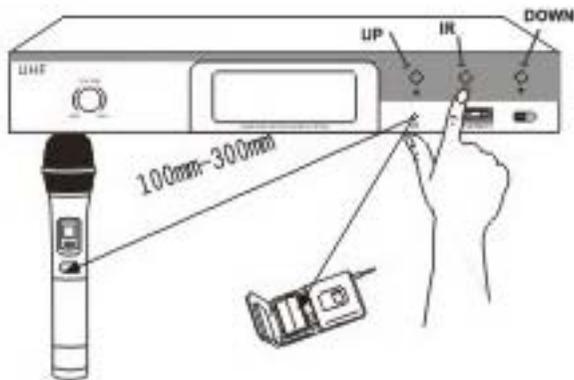
5. The quality of the sound is not good.

- Check that the Transmitter battery is not too low.
Perhaps there is a strong interference in your area & you need to change frequency.

System Set Up:

2. Frequency Setting:

Your system comes with the hand held microphone already set to match the existing frequency of the Receiver. To get a suitable frequency for your area, a simple “trial and error” approach is usually the fastest solution. Simply follow the operating instructions to test the signal quality of the existing frequency set in the system. If you do suffer some interference, then follow the instructions below to change your frequency.

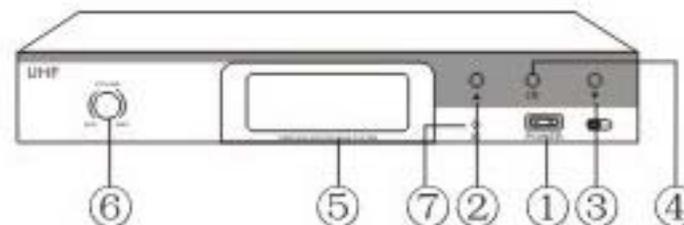


- Press UP button or DOWN button to choose the working frequency and press IR Button to confirm.
- Turn on the Power of the Microphone or Beltpack, put its infrared receiver towards the infrared Transmitter LED of the Receiver and then press IR Button on the Receiver. This will match the frequency of the Microphone or Beltpack to the Receiver. When the setting is completed, the receiver will exit the IR transmitting mode.
- Note that the IR receiver of the Beltpack is in the battery compartment area, so the compartment door must be opened for the IR receiver to receive the signal from the Receiver unit. .
- Your system frequency should now be set (matched) and your system ready to use.

System Controls:

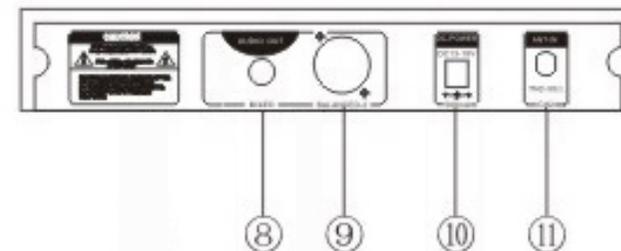
1. Receiver:

FRONT PANEL:



- Power Switch
- UP button (frequency selection)
- Down button (frequency selection)
- IR button
- LCD Display
- Volume adjustment.
- IR LED Receiver

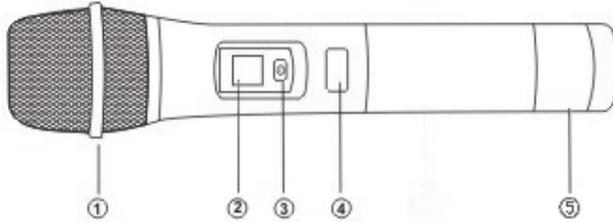
REAR PANEL:



- Unbalanced Output Connector (6.3mm cable included)
- Balanced Output Connector
- DC power socket
- Receiver Antenna

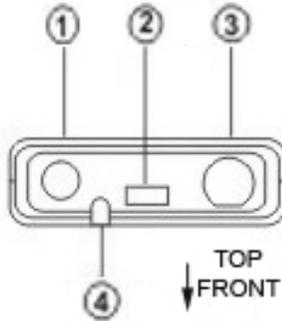
System Controls:

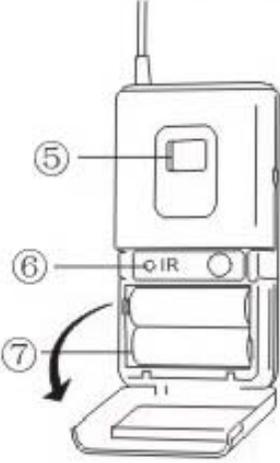
2. Hand Held Microphone:



- 1: Microphone head protector
- 2: Display panel
- 3: Power on/off button
- 4: IR Receiver
- 5: Battery cover

3. Beltpack Transmitter:



- 1: Transmitter Antenna
 - 2: Power on/off' button
 - 3: Microphone connection
 - 4: Low Voltage Light
- 
- The diagram shows the back of the beltpack transmitter. Callout 5 points to a small rectangular display panel. Callout 6 points to a small square window labeled "IR". Callout 7 points to a large rectangular compartment at the bottom, which is the battery compartment. An arrow indicates that this compartment can be flipped open.

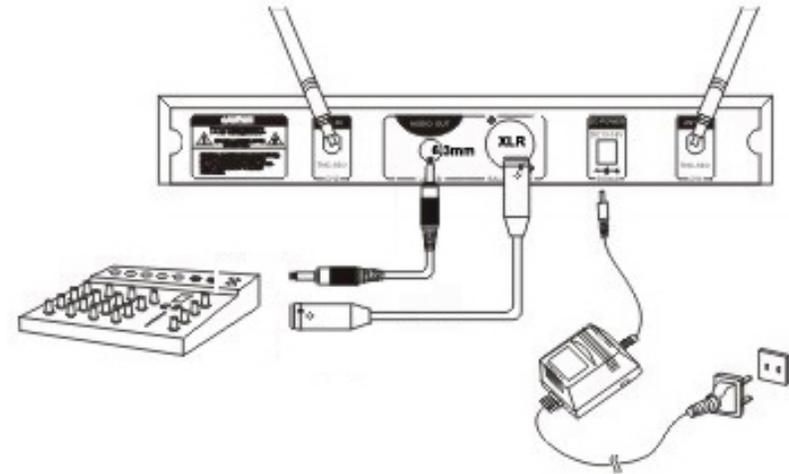
- 5: Display
- 6: IR Receiver
- 7: Battery compartment

System Set Up:

1. Receiver Cable Connections:

The Receiver can be connected to an amplifier or mixer to process the microphone signal. 2 outputs are provided:

- 1 balanced (XLR) socket and
- 2. an unbalanced (6.3mm ~ 1/4") socket. A 6.3mm cable is included so you can use this socket to connect your Receiver.



- a. Connect the output to the mixer or amplifier input using the 6.3mm cable provided, or using an XLR cable that you will need to source.
- b. Connect the DC power adapter to the DC power socket on the rear panel of the Receiver.
- c. Attach the aerials provided to the Receiver.

Your system now just needs to be turned on & the system frequency set (see next section) to be ready to use.