

# OWNER'S MANUAL

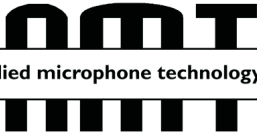
**AMT**  
**AMT**

applied microphone technology inc.

## Quantum7



Diversity  
**Wireless System**  
for Vocalist and Music Instruments



applied microphone technology inc.

AMT Tech Support  
104 Hillside Road  
Sparta, NJ 07871  
Ph: 973-222-1865

**AMT Limited Warranty.** Duration of this warrantee will remain in effect for one year from the date of the original purchase. This warranty may be enforced by the original dated sales receipt or other proof of warranty coverage is presented when warranty service is required.

**What is covered?** Except as specified below, this warranty covers all defects in materials and workmanship in this product. The following are not covered by the warranty:

1. Damage resulting from accident, misuse, abuse or neglect.
2. Failure to follow instructions included with microphone.
3. Repair or attempted repair by anyone not authorized by A.M.T.
4. Failure to remove battery when storing.
5. Cause other than product defects including: lack of skill, competence, or experience of use.
6. Damages occurring during any shipment of this product (claims must be presented to carrier).
7. Damage to any unit which has been altered, or which the serial number has been defaced, modified, or removed.

AMT will pay all labor and material expense for covered items. Shipping charges are discussed later in this warranty. If your unit needs service, please write or telephone us and we will advise you where the unit should be taken or sent. If you write us, include your name, complete address, daytime telephone number, and a description of the problem.

**DO NOT RETURN YOUR UNIT TO AMT WITHOUT A REPAIR AUTHORIZATION NUMBER.**

**If it is necessary to ship the product for service:**

1. You must pay initial shipping charges, but if necessary repairs are covered by the warrantee, AMT will cover the return shipping charges via carrier of AMT's choice to any destination within the United States.
2. Whenever warranty service is required a copy of the original dated sales receipt must be presented.
3. For products purchased outside of the USA, please contact 973-222-1865 for information pertaining to your country.

**Exclusion of certain damages:** AMT's liability for any defective product is limited to repair or replacement of the product of our option. AMT shall not be liable for damages based upon inconvenience, loss of use of the product, loss of time, interrupted operation, commercial loss; or any other damages whether incidental, consequential, or otherwise. Some states do not allow limitations an implied warranty lasts, and/or do not allow the exclusion or limitations of incidental or consequential damages, so the above limitations may not apply to you. This warranty is not enforceable outside of North America. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

**For International Customers (Outside of the United States):**

If the product is purchased inside of the United States and taken to another country, it is the responsibility of the product owner to cover all shipping, customs, and duty if a warranty, upgrades, and repair issue is necessary. All provisions of the warranty above apply except for Shipping and all costs related to shipping. Ie Customs charges and V.A.T. are not covered by AMT. All outside charges associated with re-entry of the product into the USA is the sole responsibility of the product owner. At no time shall a distributor or a dealer take it upon them selves to replace a defective system with a new system. This can only be done with the permission of AMT's tech support (973-222-1865) directly or through a distributor of the country purchased with AMT tech support approval.

**Repairs:**

- 1) The customer, dealer, or distributor should contact AMT tech support via phone (973-222-1865 E.S.T. 12pm - 12am) or email with a short description of the problem. Use the RETURN REPAIR form to send products for repair.
- 2) If out of warranty, we then advise the customer to call by phone to our tech support 1-973-222-1865 for a return authorization and to discuss possible solutions before sending.
- 3) Date and origin of purchase required for warranty repair. If the product is covered under warranty, the product must ship back to AMT, when completed, AMT will ship it back with the distributor's next order.

Under warranty regulations, if a product has been damaged from miss-use such as:

- Damage resulting from accident, misuse, abuse or neglect.
- Failure to follow instructions included with microphone.
- Repair or attempted repair by anyone not authorized by A.M.T.
- Failure to remove battery when storing.
- Cause other than product defects including: lack of skill, competence, or experience of use.
- Damages occurring during any shipment of this product (claims must be presented to carrier).

Damage to any unit which has been altered, or which the serial number has been defaced, modified, or removed.

**4)** Most common problems found to be are over stressed goosenecks, broken cables, and plugs that have been crushed or bent. These problems are NOT covered under warranty BUT in certain cases, if the shipping is taken care of both ways, we will repair it for free. Due to this unique product, which is specialized in the audio field, most components that make up this product are proprietary. In most cases, the entire product must be taken apart to its manufacturing stage in order to rebuild or replace damaged components. This makes it almost impossible to use outside of the USA repair stations.

Thank you for choosing our wireless system, In order to obtain the best efficiency from the system, you are recommended to read this instruction manual carefully.

# ***Table of Contents***

---

<b>System Components.....</b>	<b>1</b>
<b>Receiver Features.....</b>	<b>2</b>
<b>Transmitter Features.....</b>	<b>4</b>
<b>Acoustic Instrument Transmitter.....</b>	<b>6</b>
<b>System Setup.....</b>	<b>7</b>
<b>Specifications.....</b>	<b>10</b>

# **System Components**

---

## **All wireless systems include:**

True diversity receiver  
6.35mm audio cable  
2\* BNC antennas  
Power supply  
User guide

## **Vocalist systems include**

Handheld microphone  
(Optional choices)

## **Body-pack systems include:**

Body-pack transmitter

## **Acoustic instrument clip-on systems include:**

Microphone transmitter with Ta3 connector.  
AMT microphone depending on package ordered.  
Built-in clip (located on transmitter) to secure to AMT microphones.

## **System Features:**

UHF 600-952MHz frequency range (region dependant)  
True diversity for maximum range and dropout protection  
PLL Synthesized circuit  
Pre-set 100 (10\*10) selectable frequencies (bandwidth dependant)  
IR sync downloading the frequency from receiver  
LCD display shows status of frequency, AF and RF signal etc  
EIA standard 1/2U rack-mountable metal chassis  
Up to 500 feet(150m) line-of-sight operating range  
Designed for vocalist and musical instrument applications

# Receiver Features

---

## Front Panel

1. Power switch

Tap to turn on / tap to turn off. A blue light will illuminate when receiver turns on.

2. LCD display

The 63mm\*22mm high resolution LCD display shows the group, channel, frequency, antenna status, AF & RF level, and IR set.

3. IR (Infrared) port

Send IR signal to transmitter for synchronization

4. UP button

Adjust the frequency, channel, group incrementally

5. SET button

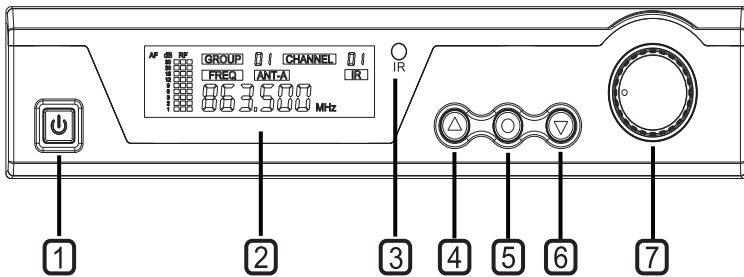
Menu control to set group, channel, frequency, IR Synch.

6. DOWN button

Adjust the frequency, channel, group incrementally.

7. Volume control

Adjust the volume level. Volume knob outlined by blue light.



# Receiver Features

---

## Back Panel

- 8. Power supply jack (DC12-18V / 500mA)

Connecting the power supply unit

- 9. 6.35mm (1/4") unbalanced output jack

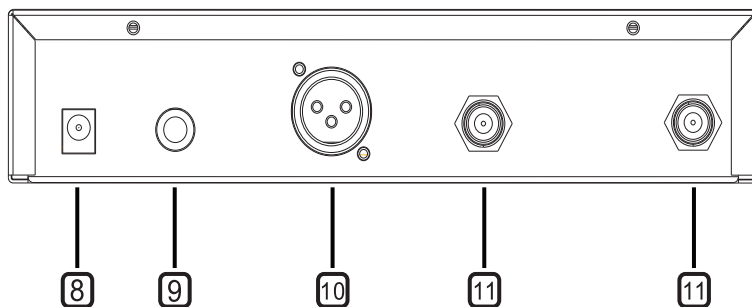
Connect the unbalanced input, e.g. of mixer or amplifier

- 10. Balanced XLR output jack

Connect the unbalanced input, e.g. of mixer or amplifier

- 11. TNC antennas sockets

Connect the high gain antennas

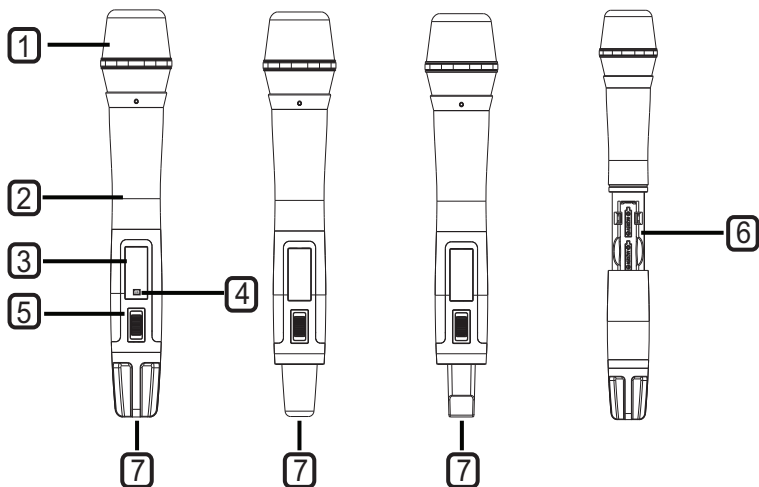




# Transmitter Features

---

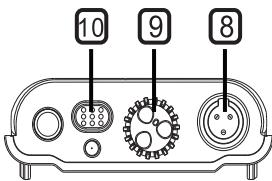
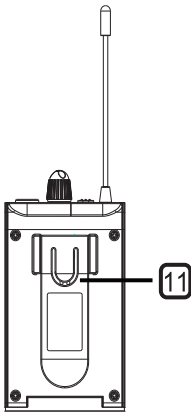
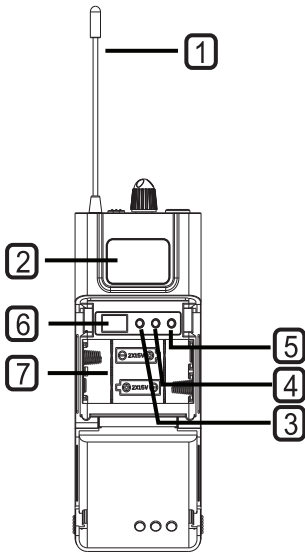
## Handheld Transmitter Option



1. Microphone head with cartridge inside
2. Metal pipe (Aluminum alloy)  
Anodize any different colors, never fade.
3. Backlit LCD  
Display group, channel, frequency and battery life.
4. IR infrared port  
Receiver infrared beam to synchronize frequencies, hold the transmitter with its IR port facing directly towards the receiver's IR port with a distance between 5-20cm.  
**Note:** When using multiple systems, only one transmitter IR port should be sync'd at a time.
5. ON/OFF and Mute switch  
Push up the switch to turn on, Mute at the mid position
6. Battery compartment  
To replace batteries, unscrew the bottom pipe part counter-clockwise, make sure to put the battery in the right polar directions
7. Caps-on ( three different choices)

# Transmitter Features

## Body-pack Transmitter



1. Antenna  
1/4 wave length wire type antenna, it should be fully extended during normal operations
2. Backlit LCD  
Displays frequency and battery life, if the battery symbol blinks, the battery needs to be replaced immediately.
3. UP button  
Adjust the frequency, incrementally
4. SET button  
Menu control to set frequency
5. DOWN button  
Adjust the frequency incrementally
6. IR infrared port  
Receiver infrared beam to synchronize frequencies, hold the transmitter with its IR port facing directly to wards the receiver's IR port with a distance between 5-20cm.  
**Note:** When using multiple systems, only one transmitter IR port should be expose at a time.
7. Battery compartment  
To replace batteries, slightly press the marked positions on left and right side of the cover and open forward, make sure to put the battery in the right polar directions.
8. Input  
4-pin mini XLR input for supplier microphone, guitar cable or other musical instrument microphones (Saxophone, violin, viola, cello, acoustic guitar etc)
9. Volume control  
Clockwise to increase volume, counter-clockwise to reduce volume.
10. Light touch power switch  
Tap to turn on, long press (2 seconds) to turn off.
11. Belt-clip  
Clip to the belt or guitar strap

# ***Acoustic Instrument Transmitter***

---



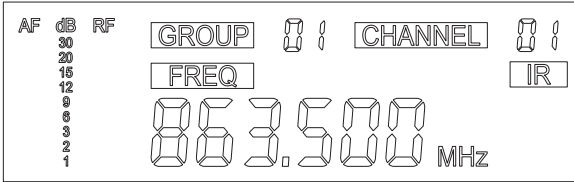
1. Each AMT microphone has a disconnect. (D.C.T.) Connect the cable from the Q7 Transmitter to the 3pin (Ta3) input connector on the microphone.
2. Adjustable Gooseneck  
Adjustable at angle to allow sound to escape from instrument and develop naturally.
3. Mounting Screw  
To REINFORCE the transmitter's stability on the bell of saxophone / horn, rubber protection avoids damage of the instrument.
4. BATT/PO  
Power and battery LED, the blue LED remains lit as long as the transmitter has power; if the blue LED is flashing, the battery need to be replaced immediately.
5. Mute Button
6. Light touch power switch  
Tap to turn on, long press (2 seconds) to turn off.
7. Antenna  
1/4 wave-length wire type antenna, MUST be fully connected and extended during normal operations. Reception will be poor without antennas connected.
8. IR infrared port  
Receiver infrared beam to synchronize frequencies, hold the transmitter with its IR port facing directly towards the receiver's IR port with a distance between 5-20cm.
9. Battery compartment  
Insert a standard AA alkaline battery here, make sure to put the battery in the right polar directions.
10. Battery cover  
Pull back gently on this cover at the ribbing and pry upwards to remove

# System Setup

1. Connect the included AC power supply to the rear of the receiver and turn on the receiver.

## 2. Standard Display

The standard display shows the preselected group and channel.

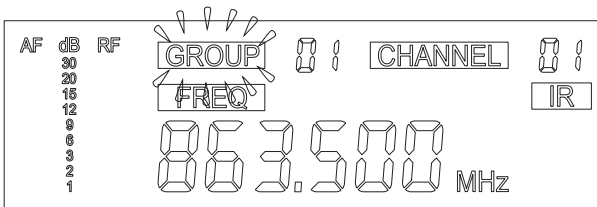


### Group

Push the SET button and hold for 1 second, the GROUP icon will blink. Push the up and down buttons to set the desired group (01-10), Press SET again to confirm.

The display will return to the standard operating setting after a short period of non-activity automatically.

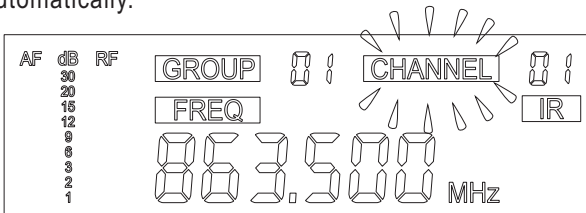
**NOTE:** Each group 01-10 consists of 10 channels, each corresponding to a specific frequency. Some frequency bands, for specific regions, will not have 10 channels per group. (Groups vary by region.)



### Channel

After setting the group, press SET again, the CHANNEL will blink. Push the up and down buttons to set the desired channel (01-10 region dependent) Press SET again to confirm.

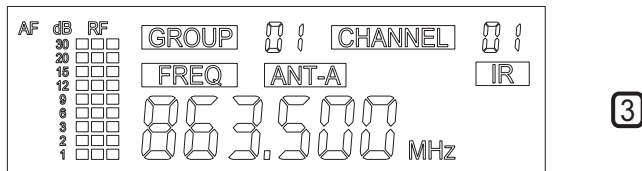
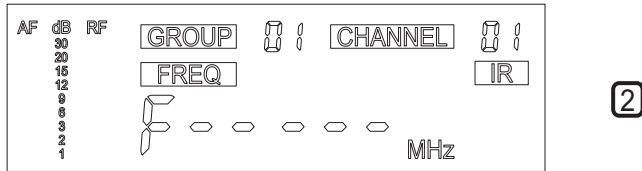
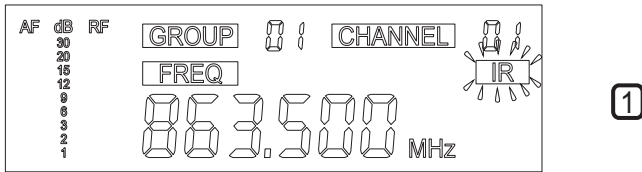
The display will return to the standard operating appearance after a short period of non-activity automatically.



# System Setup

## IR Sync

After setting channel, press the SET again, the IR Icon will blink (picture 1). Push the SET button and hold for 1 second, the receiver will start to send the infrared signals (picture 2), then put the transmitter (handheld, body-pack or musical instrument) IR port close to the receiver's IR port. The transmitter has to be synchronized to the same frequency (group and channel) before using. After a successful sync, the display RF signal and Antenna icon appears. (Picture 3)



# ***System Setup***

---

## **Transmitter / Receiver IR Quick Sync**

With the receiver in normal operating mode, and the TRANSMITTER OFF, push and hold the SET button on the receiver to sync the transmitter to the receiver. While the receiver is sending the signal, turn the transmitter ON. If, for some reason, your transmitter is not on the same channel from the last usage, you can use the IR Quick Sync method to quickly sync the transmitter without having to page through the group and channel setting functions.

## **Transmitter Sync'ing**

When sync'ing the transmitter, it is best to power the transmitter OFF first, then power the transmitter on while your sending the sync from the receiver. This procedure will re-set the transmitter, allowing for it to sync to the newly selected channel before it locks / syncs to a channel on the receiver.

# Specifications

---

## Receiver

Frequency Preparation	PLL Synthesized Control
Frequency Range	600-952MHz (Region dependent)
Frequency Type	F3E
Modulation Type	FM
Channels	100(10x10)
Oscillation System	VCO
Type of reception	True Diversity
Receive Sensitivity	-11dBm (sinad $\geq$ 30dB)
Frequency Response	60Hz-17KHz+/-3dB
S/N Ratio	$\geq$ 105dB
T.H.D	<0.5% at 1KHz
Dynamic Range	>100dB
Operating Temperature	-10-+50°C
Display	Backlit LCD (63mm*22mm)
Audio Output	1*Balanced XLR Socket 1*6.35mm Jack
Antenna	2*BNC
Power Supply	DC12V-18V/500mA
Dimensions( L*W*H)	210*170*44mm

## Handheld Transmitter

Frequency Preparation	PLL Synthesized Control
Frequency Range	600-952MHz (Region dependent)
Frequency Deviation	$\pm$ 48KHz
Microphone Type	Dynamic
Polar Pattern	Cardioid
RF Output Power	10mW
Controls	ON/MUTE/OFF
Indicators	Backlit LCD
Interface	Infrared
Power Supply	2*AA battery
Operating Voltage	3V
Operating time	10h (depending on batteries)
Dimensions	265mm

# Specifications

---

## Body-pack Transmitter

Frequency Preparation	PLL Synthesized Control
Frequency Range	600-952MHz(Region dependant)
Frequency Deviation	±48KHz
Input	3 pin mini-XLR
RF Output Power	10mW
Controls	Power ON//OFF, Volume, SET frequency
Indicators	LED (PO), LCD(BATT, frequency)
Interface	Infrared
Antenna	1/4 wave Length Wire Type
Power Supply	2*AA battery
Operating Voltage	3V
Operating time	10h (depending on batteries)
Dimensions( L*W*H)	110*63*21mm

## Acoustic Instrument Transmitter

Frequency Preparation	PLL Synthesized Control
Frequency Range	600-952MHz (Region dependent)
Microphone Type	Condenser
Frequency Deviation	±48KHz
RF Output Power	10mW
Controls	ON/OFF, MUTE
Indicators	LED(PO/BATT)
Interface	Infrared
Antenna	1/4 wave Length Wire Type
Power Supply	1*AA battery
Operating Voltage	1.2-1.5V
Operating time	10h (depending on batteries)
Dimensions	115*25*62mm



# Frquency List

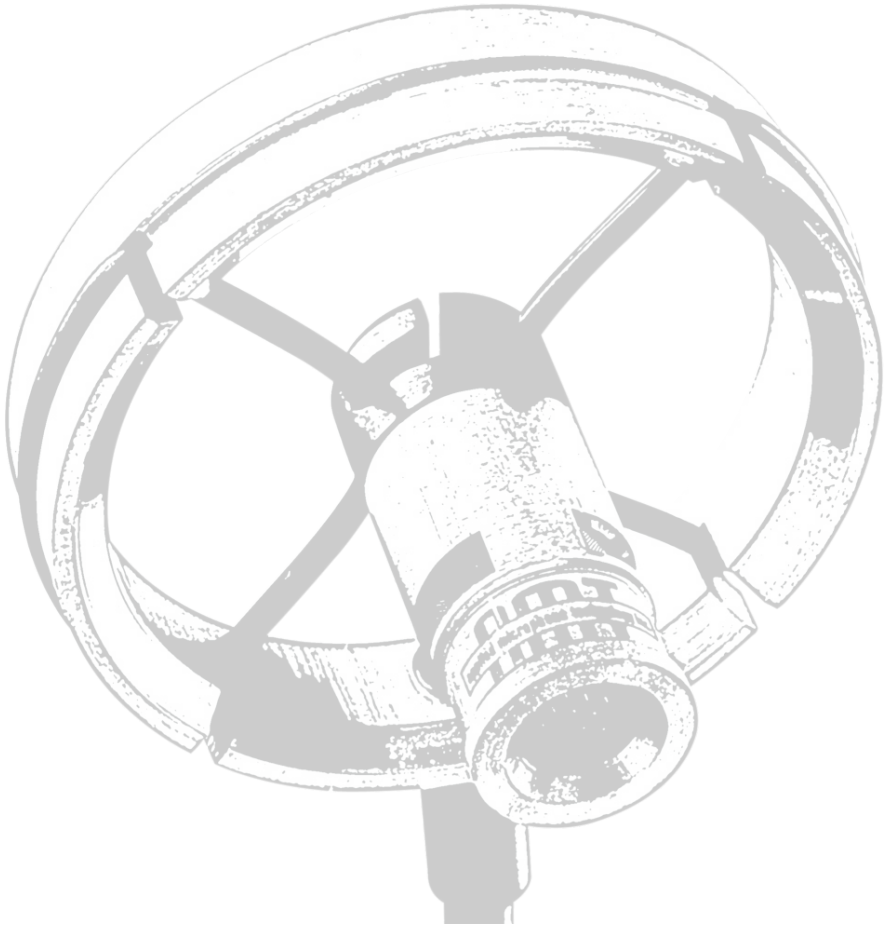
606-614 ( 100CH, 10*10 )				
Group 1	Group 2	Group 3	Group 4	Group 5
CH1=606.00MHZ	CH1=606.80MHZ	CH1=607.60MHZ	CH1=608.40MHZ	CH1=609.20MHZ
CH2=606.08MHZ	CH2=606.88MHZ	CH2=607.68MHZ	CH2=608.48MHZ	CH2=609.28MHZ
CH3=606.16MHZ	CH3=606.96MHZ	CH3=607.76MHZ	CH3=608.56MHZ	CH3=609.36MHZ
CH4=606.24MHZ	CH4=607.04MHZ	CH4=607.84MHZ	CH4=08.64MHZ	CH4=609.44MHZ
CH5=606.32MHZ	CH5=607.12MHZ	CH5=607.92MHZ	CH5=608.72MHZ	CH5=609.52MHZ
CH6=606.40MHZ	CH6=607.20MHZ	CH6=608.00MHZ	CH6=608.80MHZ	CH6=609.60MHZ
CH7=606.48MHZ	CH7=607.28MHZ	CH7=608.08MHZ	CH7=608.88MHZ	CH7=609.68MHZ
CH8=606.56MHZ	CH8=607.36MHZ	CH8=608.16MHZ	CH8=608.96MHZ	CH8=609.76MHZ
CH9=606.64MHZ	CH9=607.44MHZ	CH9=608.24MHZ	CH9=609.04MHZ	CH9=609.84MHZ
CH10=606.72MHZ	CH10=607.52MHZ	CH10=608.32MHZ	CH10=609.12MHZ	CH10=609.92MHZ
Group 6	Group 7	Group 8	Group 9	Group 10
CH1=610.00MHZ	CH1=610.80MHZ	CH1=611.60MHZ	CH1=612.40MHZ	CH1=613.20MHZ
CH2=610.08MHZ	CH2=610.88MHZ	CH2=611.68MHZ	CH2=612.48MHZ	CH2=613.28MHZ
CH3=610.16MHZ	CH3=610.96MHZ	CH3=611.76MHZ	CH3=612.56MHZ	CH3=613.36MHZ
CH4=610.24MHZ	CH4=611.04MHZ	CH4=611.84MHZ	CH4=612.64MHZ	CH4=613.44MHZ
CH5=610.32MHZ	CH5=611.12MHZ	CH5=611.92MHZ	CH5=612.72MHZ	CH5=613.52MHZ
CH6=610.40MHZ	CH6=611.20MHZ	CH6=612.00MHZ	CH6=612.80MHZ	CH6=613.60MHZ
CH7=610.48MHZ	CH7=611.28MHZ	CH7=612.08MHZ	CH7=612.88MHZ	CH7=613.68MHZ
CH8=610.56MHZ	CH8=611.36MHZ	CH8=612.16MHZ	CH8=612.96MHZ	CH8=613.76MHZ
CH9=610.64MHZ	CH9=611.44MHZ	CH9=612.24MHZ	CH9=613.04MHZ	CH9=613.84MHZ
CH10=610.72MHZ	CH10=611.52MHZ	CH10=612.32MHZ	CH10=613.12MHZ	CH10=613.92MHZ

823 - 832MHz (90CH)							
	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7
	3 MHz Guard Band, nominal	3 MHz Guard Band, nominal	3 MHz Guard Band, nominal	1 MHz Guard Band, nominal	1 MHz Guard Band, nominal	1 MHz Guard Band, nominal	500MHz Guard Band, nominal
CHANNEL	A	B	C	D	E	F	H
1	827.45	827.325	827.175	827.825	827.975	827.025	827.9
2	826.3	826.2	828.575	826.875	826.575	828.575	826.575
3	828.85	828.95	826.175	829.175	825.625	825.925	828.85
4				825.3	829.725	829.55	824.825
5				824.225	824.1	830.95	830.3
6				830.925	830.95	824.2	823.625
7							831.375
Group 8	Group 9	Group 10	Group 11	Group 12	Group 13	Group 14	Group 15
500MHz Guard Band, nominal	500MHz Guard Band, nominal	125MHz Guard Band, nominal	125MHz Guard Band, nominal	125MHz Guard Band, nominal	125MHz Guard Band, nominal	125MHz Guard Band, nominal	125MHz Guard Band, nominal
I	L	N	O	P	R	U	Y
827.375	827.825	827.1	827.95	827.075	827.45	827.1	826.8
828.475	826.475	828.45	826.575	825.825	826.25	828.575	828.225
825.9	828.775	826.15	828.9	829.25	829.525	826.1	825.825
824.95	830.25	824.575	824.75	830.65	824.725	830.525	830.1
830.15	824.7	830.475	830.4	824.275	830.475	824.475	824.225
831.375	831.325	823.475	823.55	831.65	823.65	823.35	831.4
823.6	823.5	831.7	831.475	823.15	831.825	831.825	823.125

# Frquency List

863–865MHz ( 16CH, 4*4 )			
Group 1	Group 2	Group 3	Group 4
CH1=863.000MHZ	CH1=863.500MHZ	CH1=864.000MHZ	CH1=864.500MHZ
CH2=863.125MHZ	CH2=863.625MHZ	CH2=864.125MHZ	CH2=864.625MHZ
CH3=863.250MHZ	CH3=863.750MHZ	CH3=864.250MHZ	CH3=864.750MHZ
CH4=863.375MHZ	CH4=863.875MHZ	CH4=864.375MHZ	CH4=864.875MHZ

902–928MHz ( 100CH, 10*10 )				
Group 1	Group 2	Group 3	Group 4	Group 5
CH1=905.00MHZ	CH1=906.00MHZ	CH1=907.00MHZ	CH1=908.00MHZ	CH1=909.00MHZ
CH2=905.10MHZ	CH2=906.10MHZ	CH2=907.10MHZ	CH2=908.10MHZ	CH2=909.10MHZ
CH3=905.20MHZ	CH3=906.20MHZ	CH3=907.20MHZ	CH3=908.20MHZ	CH3=909.20MHZ
CH4=905.30MHZ	CH4=906.30MHZ	CH4=907.30MHZ	CH4=908.30MHZ	CH4=909.30MHZ
CH5=905.40MHZ	CH5=906.40MHZ	CH5=907.40MHZ	CH5=908.40MHZ	CH5=909.40MHZ
CH6=905.50MHZ	CH6=906.50MHZ	CH6=907.50MHZ	CH6=908.50MHZ	CH6=909.50MHZ
CH7=905.60MHZ	CH7=906.60MHZ	CH7=907.60MHZ	CH7=908.60MHZ	CH7=909.60MHZ
CH8=905.70MHZ	CH8=906.70MHZ	CH8=907.70MHZ	CH8=908.70MHZ	CH8=909.70MHZ
CH9=905.80MHZ	CH9=906.80MHZ	CH9=907.80MHZ	CH9=908.80MHZ	CH9=909.80MHZ
CH10=905.90MHZ	CH10=906.90MHZ	CH10=907.90MHZ	CH10=908.90MHZ	CH10=909.90MHZ
Group 6	Group 7	Group 8	Group 9	Group 10
CH1=910.00MHZ	CH1=911.00MHZ	CH1=912.00MHZ	CH1=913.00MHZ	CH1=914.00MHZ
CH2=910.10MHZ	CH2=911.10MHZ	CH2=912.10MHZ	CH2=913.10MHZ	CH2=914.10MHZ
CH3=910.20MHZ	CH3=911.20MHZ	CH3=912.20MHZ	CH3=913.20MHZ	CH3=914.20MHZ
CH4=910.30MHZ	CH4=911.30MHZ	CH4=912.30MHZ	CH4=913.30MHZ	CH4=914.30MHZ
CH5=910.40MHZ	CH5=911.40MHZ	CH5=912.40MHZ	CH5=913.40MHZ	CH5=914.40MHZ
CH6=910.50MHZ	CH6=911.50MHZ	CH6=912.50MHZ	CH6=913.50MHZ	CH6=914.50MHZ
CH7=910.60MHZ	CH7=911.60MHZ	CH7=912.60MHZ	CH7=913.60MHZ	CH7=914.60MHZ
CH8=910.70MHZ	CH8=911.70MHZ	CH8=912.70MHZ	CH8=913.70MHZ	CH8=914.70MHZ
CH9=910.80MHZ	CH9=911.80MHZ	CH9=912.80MHZ	CH9=913.80MHZ	CH9=914.80MHZ
CH10=910.90MHZ	CH10=911.90MHZ	CH10=912.90MHZ	CH10=913.90MHZ	CH10=914.90MHZ



The specification won't do any further notice for the improvement

Actual product will not be as pictured