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SAFETY INSTRUCTIONS

Please read this instruction manual to ensure proper use and care of your system.

Quick Safety Tips

Unplug the receiver from the wall socket when not in use

Use only with the power supply provided

Keep away from water, moisture, heat generating devices and direct sunlight

Clean only with dry cloth

Do not block the receiver from ventilation

Use only with accessories produced by Audix

Operate and store in a safe temperature range 0°C (32°F) - 43°C (110°F)

CERTIFICATIONS

This product complies with FCC Part 74 regulations and conforms to CE standards. Documentation available upon request. Operation of wireless devices may require a license in your area. Please comply with regulations pertaining to your area. Users of wireless microphones in the USA, on frequencies listed under FCC part 74.801, must comply with eligibility and licensing requirements under FCC Part 74.834.

INTRODUCTION

Congratulations on the purchase of the Performance Series Wireless from Audix!
Your system is jam packed with features that will enable you to fine-tune the system as needed. However, the best part of our design is that the system is simple to use. For most applications, simply refer to the Quick Set Up Guide to get up and running (pg 4-7).

Please take a few minutes and read through this manual in order to familiarize yourself with the system components and the menus. The menus are very intuitive and most questions about operating the system will be answered by understanding the structure of the menus.

QUICK SET UP GUIDE

Follow these instructions to get up and running in very little time.

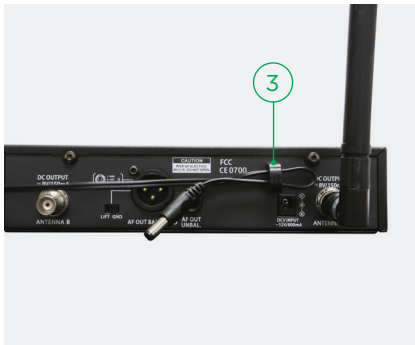
1. Install 2 AA batteries in the handheld transmitter and bodypack. Refer to the diagrams on the equipment to ensure batteries are positioned correctly.

a.) Handheld transmitter: Unscrew bottom portion of the transmitter to expose battery holder. Push the first battery up through the housing with negative side up. Place the second battery below the first with negative side up. The batteries are spring loaded and will settle into place. Screw the cover back into place.

b.) Bodypack: With bodypack face down, push the spring release to the right to open. Place left battery negative side up, and the right battery negative side down. Snap the battery cover to close.

2. Attach antennas to the back of the receiver. Keep antenna straight while screwing it into the connector (2a). After attached, bend antennas into position (2b).

3. Connect power supply. Loop cable through the metal strain relief as shown prior to connecting power supply to receiver.



QUICK SET UP GUIDE

4. Connect receiver to mixer or amplifier. Make sure audio levels on the mixer are muted or off. For guitar, use the 1/4" AF output (line level unbalanced, 4b). For all other applications use the XLR output (mic level, 4a).

5. Turn on transmitter.

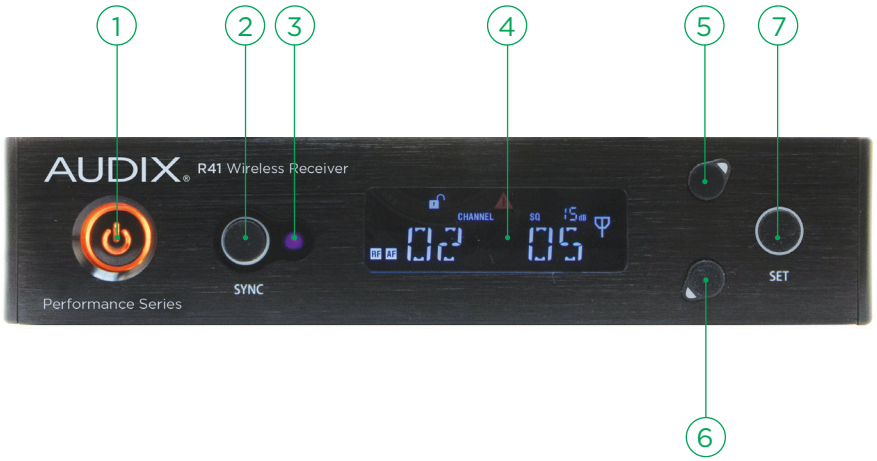
6. Turn on receiver.

7. On receiver, press and hold the Up or Down button to trigger SCAN for a clear group/channel. After 8-20 seconds a group/channel will appear on the receiver.

8. Sync handheld transmitter to receiver. Unscrew the battery cover and locate the window housing infrared device. From a close proximity (6 inches) point the infrared window (located on the opposite side of the batteries) towards the infrared sensor next to the SYNC button and press the SYNC button. Within a few seconds the transmitter group/channel and frequency will match the receiver.

9. Sync bodypack transmitter to receiver. From a close proximity (6 inches) point the window below the LCD screen on the bodypack towards the infrared sensor next to the SYNC button and press the SYNC button. Within a few seconds the transmitter group/channel and frequency will match the receiver.

R41 RECEIVER FRONT PANEL



1 Power switch. Press for instant on. Press and hold for 3 seconds to turn system off.

2 Sync button. Automatically synchronizes the transmitter to the receiver.

3 Infrared sensor. Sends data from receiver to transmitter when sync function is engaged.

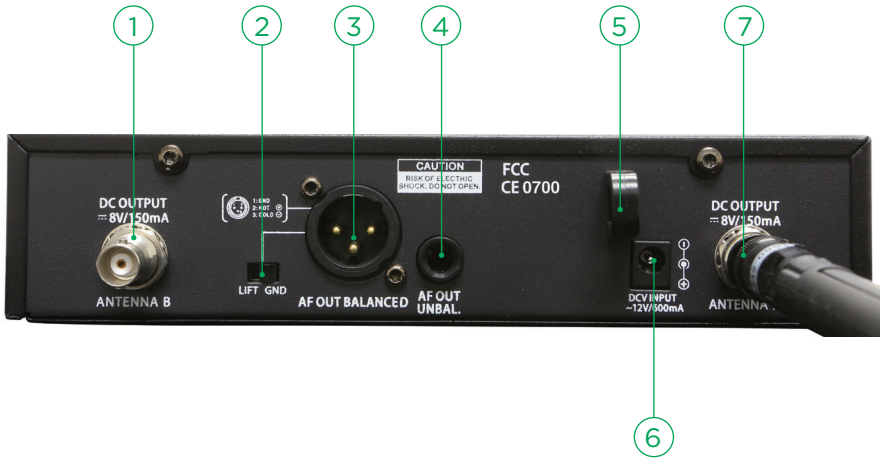
4 High contrast LCD display. See Menu Functions on page 14 for more details.

5 Up button. Only active in menu mode. Scrolls forward through menus. Also acts as "hot" key for autoscan when pushed and held.

6 Down button. Only active in menu mode. Scrolls backwards through menus. Also acts as "hot" key for autoscan when pushed and held.

7 Set button. Press and hold to enter the menu mode. Also used to save settings, exit the menu mode and toggle between "Frequency" and "Group/Channel" for quick reference.

R41 RECEIVER BACK PANEL



1 BNC connector for Antenna B.

2 Ground lift switch to help eliminate ground loops or noise from other sources.

3 Mic level balanced XLR output for connecting receiver to an audio mixer.

4 Unbalanced ¼ inch output for connecting receiver to an amplifier.

5 Metal strain relief. Allows power cable to loop through for added security.

6 DC Power Jack for external power supply (12V).

7 BNC connector for Antenna A.

R41 LCD DISPLAY

1 RF (Radio Frequency). Displays RF signal strength.

2 AF (Audio Frequency). Displays audio signal strength.

3 Indicates whether receiver is unlocked or locked for security.

4 Indicates active group when display is in Channel mode. Indicates active frequency when display is in Frequency mode.

5 Indicates active channel when display is in Channel mode. Indicates active frequency when display is in Frequency mode.

6 Displays Level (receiver gain) or Squelch (see Menu Functions, pg 14).

7 Battery level.
4 bars = 14 hours
3 bars = 9 hours
2 bars = 7 hours
1 bar = 3 hours
0 bars = 1 hour

8 Active antenna indicator (A or B).

H60 TRANSMITTER - HANDHELD

The H60 is a 64MHz wide spectrum transmitter. It covers both A and B frequency groups (pg 23).

1 Grill ball. Protects capsule. Replaceable part.

2 Capsule housing. Threads on to body of the transmitter housing. Interchangeable part.

3 Transmitter housing. Contains PCB boards and electronics for RF transmission.

4 LCD display. Indicates group/channel, frequency and battery status.

5 Power on/off and mute button.

6 Battery cover. Must be opened to replace batteries or change transmitter power selection.

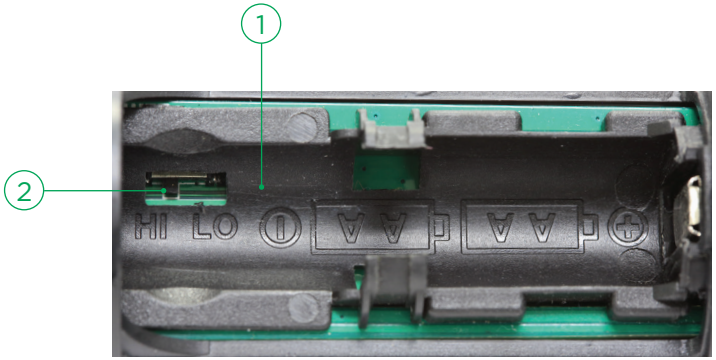
7 Transmitter antenna housing.

8 Power dip switch (pg 12).

9 Battery compartment.

10 Infrared sync circuit.

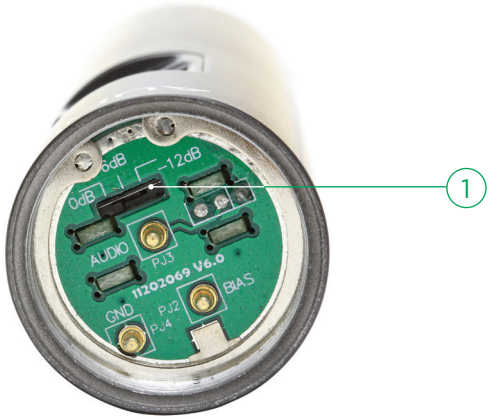
H60 TRANSMITTER - BATTERY COMPARTMENT



1 Houses AA batteries (see quick guide for installation instructions).

2 Dip switch to choose between 40 Milliwatt (HI) and 10 Milliwatt (LO) power transmission.

H60 TRANSMITTER - TOP



1 Dip switch with choice of 3 output gain settings for capsule (0 dB, -6 dB, -12 dB).

B60 BODYPACK - FRONT PANEL

The B60 is a 64MHz wide spectrum transmitter. It covers both A and B frequency groups (pg 23).

Top

Bottom

1 Infrared panel. Point towards the Sync button on the receiver when locking the transmitter to the receiver.

2 3-pin connector for microphone cable or guitar cable.

3 LCD Display. Indicates group/channel, frequency and battery status.

4 Power on/off and mute button.

5 Antenna. Plug into bodypack and thread on and off. Replaceable part.

6 Set button. Use to enter menu and save settings.

7 Up button. Scrolls forward through menu.

8 Down button. Scrolls backwards through menu.

9 Battery compartment.

RECEIVER OPERATING INSTRUCTIONS

By understanding the menu structure it is easy to operate and make adjustments to the system.

GROUP (1-10)

CHANNEL (1-7)

LEVEL (-12 TO +9)

SQUELCH (5 – 45)

DISPLAY (FREQUENCY, CHANNEL, SQUELCH, LEVEL)

LOCK (ON, OFF)

PILOT (ON, OFF)

SCAN (SCAN FOR OPEN FREQUENCY)

T-LOCK (ON, OFF)

Activate Menu: To activate the menu, press the SET button until GROUP appears on the display.

Scroll Through Menu: Each of the menu functions are displayed on the screen in the order they appear in the grid above. To scroll through the menu press the UP button. Use the Down button to scroll in reverse. For example, if you are on GROUP and want to quickly get to T-LOCK, press the down button once.

MENU FUNCTIONS

GROUP/CHANNEL

These two functions work hand in hand as they represent preselected frequency coordinates. See Appendix A for a table of coordinated frequencies. Each time a SCAN is performed (by pressing and holding the UP or DOWN button), a clear group/channel will be chosen and appear on the display. It will be one of the 106 predesignated frequencies available in your system (see Appendix A). The SCAN function takes the guesswork out of finding the best available frequency and is also handy for adding more systems into the mix.

Group/Channel can also be controlled manually from the menu. Activate the menu (see previous page). When GROUP appears, press SET. The current GROUP will be displayed. Press either the UP or DOWN button to scroll to another GROUP and then press SET. The new GROUP will be saved and will appear on left side of the display.

Hint: The word "Channel" will appear to the upper right of the number. This means the display is in Channel mode. The menu displays Group/Channel as the default. Press the SET button (quickly) and the Frequency will appear on the screen. After 5 seconds it will default back to Group/Channel. To set frequency as the default display see "Display" (pg 16).

To change the channel, go to CHAN in the menu (it's next in line after GROUP) and press SET. The current channel will be displayed. Scroll through the channels and select the one you want, then press SET. The same applies if "Frequency" has been selected as the default.

LEVEL

This setting allows for additional gain control over the receiver. The factory setting is +6, a good gain setting for Audix dynamic microphones. The VX5 condenser has much more output than a dynamic mic and is better suited in the -6 or -9 range.

Hint: The key to a good sound with the least amount of noise and distortion is finding the balance between the mixer, the receiver and the capsule gain. A soft singer, for example, will require more gain on the mixer and receiver which could potentially add some noise into the system. Fine tuning the receiver setting can be helpful in these cases. A loud singer, on the other hand, will require less gain and possibly a gain reduction on the transmitter itself for control over distortion.

SQUELCH

Squelch is an important design facet of a wireless circuit. It mutes or suppresses noise from the receiver in the absence of a desired signal. Typically, the lower the squelch, the less signal it takes to activate the receiver. The higher or "tighter" the squelch, the higher the signal required. Squelch also affects operating distance. Unless you run into extreme conditions where you need more or less operating range than normal, we recommend keeping the squelch around the factory setting of +15.

DISPLAY

There are two default options for the LCD screen: FREQUENCY or CHAN. Additionally, you have a choice of displaying either SQELCH or LEVEL settings. Activate the menu screen and scroll to DISPLY. Press SET and "Frequency" will flash. Press the UP button and "Channel" will flash. Press the UP button and "SQ" (squelch) will flash. Press the UP button and "Level" will flash.

Once you decide whether you want Frequency or Channel, as the default, press SET to save it. If you choose Frequency, the receiver frequency will be displayed as the default. If you choose Channel, then Group/Channel will be displayed as the default.

Hint: If "Frequency" is selected as the default, then by pressing the SET button quickly, the Group/Channel info will be displayed for a few seconds. If "Channel" is selected as the default, then by pressing the SET button quickly, the "Frequency" will be displayed for a few seconds.

The option of showing either "Level" or "Squelch" is also available. Whatever settings are chosen for those items will be displayed once selected and saved. "Level" is the factory default.

LOCK

You can lock the receiver to prevent someone from accidentally pressing SCAN, SYNC or the Power button. Once everything is set and working, this is recommended.

PILOT

This is an inaudible tone generated by the transmitter to the receiver as additional insurance to keep the receiver from generating noise when there is no signal present. The Pilot should be left on and only be turned off temporarily if troubleshooting the system for problems.

SCAN

The option to perform a scan for a clear channel. The Audix Performance Series scan feature performs a scan to find clear and open frequencies as well as compatible frequencies when using multiple systems.

T-LOCK

Transmitter lock. This functions disables the power and mute button on the handheld transmitter. This helps prevent the transmitter from accidentally being muted or turned off during a performance.

Hint: The bodypack has this feature built into the menu.

IMPORTANT

After making a change to one of the menu settings above, it is important to RE-SYNC the microphone to the receiver in order to clear the previously saved information.

USING THE H60 HANDHELD TRANSMITTER

POWER ON/ MUTE

The button below the display powers up the transmitter. To power off the transmitter, press and hold the button for 2 seconds. A quick touch of the power button will mute the transmitter. Another quick touch will restore signal. This is a noiseless function and is very convenient for applications where a vocalist or presenter wants complete control of the microphone.

LCD DISPLAY

The display indicates the frequency of the transmitter along with group/channel. In order for the microphone to work, the frequency of the mic must match that of the receiver. If they do not match, go into the SYNC mode (see Quick Start Guide, pg 4).

The same rules of acoustics that apply to a wired microphone also apply to the handheld transmitter.

OM SERIES

The OM Series capsules are designed to maximize gain before feedback on stage. The hypercardioid pickup pattern of the mics are designed to reject sound from instruments on stage. For best results sing within a few inches of the microphone.

SETTING OUTPUT LEVEL

Choice of 10 Milliwatt or 40 Milliwatt RF transmission levels (pg 12).

VX5

The VX5 condenser has a more open supercardioid pickup pattern. The extended on-axis reach is ideal for singer/songwriters, keyboard players and vocalists who want more freedom to work the mic from a distance.

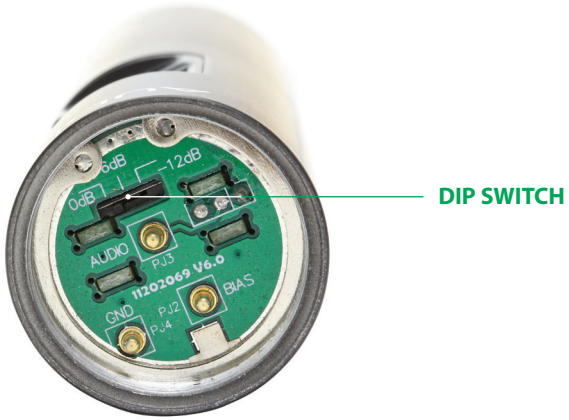
INTERCHANGEABLE CAPSULES

It is very easy to change a capsule assembly. Simply unscrew the capsule assembly at the ring above the Audix logo.

Hint: Do not unscrew the grill ball as it is a separate threaded piece intended to be removed separately from the capsule housing.

CONTROLLING DISTORTION

Audix capsules are designed to handle very high sound pressure levels without distortion. If distortion is detected, try to minimize or eliminate it from the mixing console by turning down the trim and gain controls. If distortion persists, there is a gain setting at the capsule. First remove the capsule assembly. Locate the dip switch on the green PCB inside the housing. Use a miniature screwdriver to move the switch from 0dB to -6 or -12.



Hint: Padding the sensitivity of the capsule at the source is the most effective way to control distortion without changing the natural sound quality or response of the microphone.

USING THE B60 BODYPACK TRANSMITTER

There are three buttons that control the menu functions—SET, UP (forward) and DOWN (reverse). The functions controlled by the buttons are RF AMP, GAIN and LOCK.

There are 3 menu functions:
RF AMP, GAIN, LOCK.

RF AMP
This controls the level of the RF output. Lo = 10 Milliwatts or High = 40 Milliwatts.

TO SET OUTPUT LEVEL

Press and hold the SET button until "RF AMP" appears on the display. Press the SET button and the current setting will display (High or Lo). Press the UP button to toggle between High = 40 milliwatt or Lo = 10 milliwatt. Press SET to save the setting.

Hint: The "Lo" gain setting is helpful on a smaller stage with direct line of sight or in areas with a lot of wireless congestion. It also improves battery life.

GAIN

There are 3 relative gain settings: 0, -6, -12.
-12 and -6 are for microphones and 0 for guitar or bass. For active guitar or bass pickups a lower setting may be preferable.

TO SET GAIN

Press and hold the SET button until "RF AMP" appears on the display. Press the UP button once and "Gain" will appear on the screen. Press SET and the current setting will appear. Use the UP or DOWN button to scroll through the settings. Press SET to save the one you want.

LOCK

This disables the POWER button from being active. This prevents the bodypack from being accidentally turned off or muted.

TO SET LOCK

Press and hold the SET button until "RF AMP" appears on the display. Press the UP button twice and "Lock" will appear on the screen. Press the SET button and the current setting will appear. Use the UP or DOWN button to scroll through "On" or "Off." Press SET to save the one you want.

THERE ARE THREE USES FOR THE BODYPACK TRANSMITTER:

1. Lavalier microphones (ADX10, L5)

2. Headworn microphones (HT2, HT5, HT7)

3. Sax, brass, flute and guitar

CONNECTOR

The bodypack uses a mini 3-pin XLR connector for all microphones. Other brands of microphones can be used with the Audix Performance System Wireless; however, it will be necessary to rewire the microphone connector to a mini 3-pin XLR(f). In this case note the following pin configuration:

PERFORMANCE TIPS

The best position for a wireless receiver is within line of sight whenever possible. For more complex set ups, consider extending the antenna range by using either the AB4161 antenna boosters or DA4161 active antennas.

High quality batteries will provide the best results for handheld and bodypack transmitters. Rechargeable batteries typically have a shorter usage span. It is not possible to use two sets of transmitters simultaneously on the same frequency. It will not work! In fact, each time a scan is performed, the transmitter will always be tuned to the current frequency on the receiver. When using dual systems, always scan each channel independently from each other.

All microphones are available individually as well as with complete systems.

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
Receiver won't power up	Bad connection	Check your power cord to make sure it's plugged into the outlet and receiver correctly
Transmitter will not power up	Batteries	Make sure they are installed correctly (pg 4) Check the battery life indicator on the transmitter
	Lock mode may be on	If T-Lock is on, change to off (pg 16)
Transmitter locked up	Software glitch	Re-load batteries in order to clear memory
No RF signal	Transmitter is not synced to receiver	Sync transmitter to receiver (pg 7)
	Receiver is out of range	Reduce the distance
RF signal is weak	Antennas may not be connected correctly	Adjust antennas or use remote antennas
	Possible frequency interference from another Wireless device	Re-scan and sync to another frequency (pg 7) or try a lower power setting if on a smaller stage or venue (pg 12, 19)
No AF	Transmitter muted	Check transmitter on/off button
	Transmitter battery low or dead	Replace battery
	Receiver not hooked up properly	Check cable connections on both receiver and console also check cable for continuity with a cable tester
AF Signal distorted	Transmitter sensitivity setting is too high	Reduce output level on transmitter (pg 12-13) Reposition vocal or instrument mic
	Receiver level too high	Change gain level of receiver (pg 15)

R41A GROUP/CHANNEL CHART (522 - 554)

GROUP

CHANNEL	1	2	3	4	5	6	7	8	9	10
1	545.625	541.475	547.475	554.125	553.300	553.625	553.600	553.450	550.500	551.725
2	544.500	541.075	547.075	549.675	551.625	547.350	552.975	549.700	547.875	550.500
3	543.575	540.450	546.450	548.650	544.925	543.475	552.150	548.775	546.425	549.575
4	542.350	539.625	542.850	548.125	541.600	542.400	551.750	547.325	545.500	548.125
5	535.075	538.500	535.475	529.475	540.450	538.350	551.025	544.700	541.750	545.500
6	533.625	537.575	534.450	529.075	527.325	535.500	527.625	543.475	538.925	544.275
7	531.575	536.850	532.500	528.450	526.075	533.950	526.500	534.625	537.475	535.425
8	530.850	536.350	530.350	524.850	525.525	528.075	525.575	532.750	534.150	533.550
9				524.350	524.525	526.375	523.475	530.675	532.600	531.475
10					522.100	525.800	523.075	530.250	530.500	531.050
11							522.450	525.150	528.100	525.950
12								522.350	523.750	523.150
13										522.525

R41B GROUP/CHANNEL CHART (554 - 586)

GROUP

CHANNEL	1	2	3	4	5	6	7	8	9	10
1	583.475	585.575	584.500	584.675	584.400	584.825	583.350	584.675	585.375	584.400
2	583.075	584.850	578.125	582.600	582.350	579.125	581.600	582.600	584.500	582.350
3	582.450	559.600	571.450	579.400	581.475	578.625	573.825	581.750	581.150	581.475
4	581.625	558.975	565.600	571.600	579.125	574.475	572.800	579.400	580.600	579.125
5	580.500	557.750	564.975	570.975	577.600	567.550	571.550	578.375	579.200	578.100
6	579.575	557.025	564.150	570.150	576.975	566.000	570.775	577.150	578.125	577.100
7	578.350	555.675	563.025	569.750	576.150	561.100	569.050	576.650	577.450	576.375
8		554.650	561.675	569.025	575.025	557.075	565.700	575.300	576.100	575.850
9			560.125	567.675	573.675	555.300	561.075	574.450	575.250	574.825
10				566.125	572.125			571.450	572.250	573.475
11								564.700	565.500	572.850
12								562.600	563.400	570.050
13								561.050	561.850	564.525
14								556.275	557.075	562.450
15									554.250	560.575

***NOTE**
Frequencies in the above chart may be selected by changing GROUP and CHANNEL options from the menu (pg 14).

SPECIFICATIONS

	R41/R42 Receiver
Frequency Range	A: 522 MHz – 554 MHz / B: 554 MHz - 586 MHz
Bandwidth	32 MHz
Compatible Systems	8 compatible system operation
Switchable Frequencies	106 preset frequencies
Manual Mode	n/a
Frequency Response	45 Hz – 18 kHz
Signal to Noise Ratio	>105 dB
Compander System	2:1
Pilot Tone	32 kHz
Receiving System	Single tuner, antenna diversity
Signal-to-Noise Ratio	105 dB at 30 kHz deviation (IEC-weighted)
Total Harmonic Distortion	≤.7% (10 kHz deviation at 1 kHz)
Sensitivity	5 dBµV (S/N 60 dB at 25 kHz deviation, IEC-weighted)
Intermediate Frequency	110.6 MHz, 10.7 MHz
Audio Output (AF=0)	1/4" 1100 mV (at 1 kHz,) 10 kHz deviation, 10 k ohm load Balanced: 2200 mV (at 1 kHz,) 10 kHz deviation, 600 ohm load
Output Connectors	1/4", XLR
Nominal / Peak Deviation	Balanced: -12 to +9 dBu Line: -24 to +4 dBu (adjustable in 3 dB-steps)
Adjacent Channel Rejection	>65 dB
Intermodulation Spacing	>65 dB
Image Rejection	>70 dB
Range	300', (91 M)
Power Supply	100 - 240V / 50 - 60 Hz, 12V DC, 600mA
Dimensions	205 mm (W) x 206 mm (D) x 44 mm (H) 406 mm (W) x 209 mm (D) x 44 mm (H) (R42)
Net Weight	1.92 lbs. / 870 g 4.75 lbs. / 2.1 kg (R42)

	H60 Handheld Transmitter
RF Power Output	10 mW, 40 mW
Frequency Bandwidth	64 MHz
Gain Controls	0 dB, -6 dB, -12 dB
Input Connector	n/a
Battery (not included)	2 AA 1.5 V
Current Consumption	110 mA typical
Battery Life	Approximately 14 hours (depending on battery type and usage)
Input Impedance	n/a
Max Sound Pressure Level	>140 dB (depending on capsule)
Dimensions	2.1" diameter body, 10.43" (L), 53 mm diameter body, 265 mm (L)
Net Weight	11.0 oz / 312 g (without battery)

	B60 Bodypack Transmitter
RF Power Output	10 mW, 40 mW
Frequency Bandwidth	64 MHz
Gain Controls	0 db, -6 dB, -12 dB
Input Connector	3 pin mini-XLR
Battery (not included)	2 AA 1.5 V
Current Consumption	110 mA typical
Battery Life	Approximately 14 hours (depending on battery type and usage)
Input Impedance	Mic: 10k Ohm, Line: 1M Ohm
Max Sound Pressure Level	approx. 128 db to140 dB (depending on mic)
Dimensions	67 mm (W) x 90 mm (L) x 17 mm (D) 2.6" (W) x 3.5" (L) x .67" (D)
Net Weight	3.0 oz / 85 g (without battery)

FCC Caution:
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
-Reorient or relocate the receiving antenna.
-Increase the separation between the equipment and receiver.
-Connect the equipment into an outlet on a circuit different from that to which the
receiver is connected.
-Consult the dealer or an experienced radio/TV technician for help.

The SAR limit of USA (FCC) is 1.6 W/kg averaged over one gram of tissue. Device types H60 (FCC ID: UC7H60) has also been tested against this SAR limit. The highest reported SAR values for 1g body-worn Tissue is 0.05 W/kg, respectively. This device was tested for typical body-worn operations with the back of the handset kept 5mm from the body. To maintain compliance with FCC RF exposure requirements, use accessories that maintain a 5mm separation distance between the user's body and the back of the handset. The use of belt clips, holsters and similar accessories should not contain metallic components in its assembly. The use of accessories that do not satisfy these requirements may not comply with FCC RF exposure requirements, and should be avoided.