



# WIRELESS MICROPHONE SYSTEM

UL-82DR  
UL-81H/UL-881H/UL-83H/UL-883H  
UL-86H/UL-886H/UL-87CH/UL-887CH  
UL-8P/UL-88P/UL-8G/UL-88G SERIES



SEIKAKU TECHNICAL GROUP LIMITED

No.1, Lane 17, Sec. 2, Han Shi West Road, Taichung, 401 TAIWAN

Tel:886-4-22313737 Fax:886-4-22346757

<http://www.show-pa.com> e-mail: [sekaku@sekaku.com](mailto:sekaku@sekaku.com)

All rights reserved to SEIKAKU. All features and content might be changed without prior notice. Any photocopy, translation, or reproduction of part of this manual without written permission is forbidden. Copyright © 2006 SEIKAKU GROUP

NF02603-1.0

[www.show-pa.com](http://www.show-pa.com)

**F8:850,000-874,000(850-879)MHz**

CH0	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8	CH9	CH10	CH11
850.125	850.325	850.525	850.725	850.925	851.125	851.325	851.525	851.725	851.925	852.125	852.325
CH12	CH13	CH14	CH15	CH16	CH17	CH18	CH19	CH20	CH21	CH22	CH23
852.525	852.725	852.925	853.125	853.325	853.525	853.725	853.925	854.125	854.325	854.525	854.725
CH24	CH25	CH26	CH27	CH28	CH29	CH30	CH31	CH32	CH33	CH34	CH35
854.925	855.125	855.325	855.525	855.725	855.925	856.125	856.325	856.525	856.725	856.925	857.125
CH36	CH37	CH38	CH39	CH40	CH41	CH42	CH43	CH44	CH45	CH46	CH47
857.325	857.525	857.725	857.925	858.125	858.325	858.525	858.725	858.925	859.125	859.325	859.525
CH48	CH49	CH50	CH51	CH52	CH53	CH54	CH55	CH56	CH57	CH58	CH59
859.725	859.925	860.125	860.325	860.525	860.725	860.925	861.125	861.325	861.525	861.725	861.925
CH60	CH61	CH62	CH63	CH64	CH65	CH66	CH67	CH68	CH69	CH70	CH71
862.125	862.325	862.525	862.725	862.925	863.125	863.325	863.525	863.725	863.925	864.125	864.325
CH72	CH73	CH74	CH75	CH76	CH77	CH78	CH79	CH80	CH81	CH82	CH83
864.525	864.725	864.925	865.125	865.325	865.525	865.725	865.925	866.125	866.325	866.525	866.725
CH84	CH85	CH86	CH87	CH88	CH89	CH90	CH91	CH92	CH93	CH94	CH95
866.925	867.125	867.325	867.525	867.725	867.925	868.125	868.325	868.525	868.725	868.925	869.125
CH96	CH97	CH98	CH99								
869.325	869.525	869.725	869.925								

**IMPORTANT!**  
Please read this manual carefully before operating  
this unit for the first time.

All rights reserved to SHOW. All features and content might be changed without prior notice. Any photocopy, translation, or reproduction of part of this manual without written permission is forbidden.

## SAFETY RELATED SYMBOLS



The symbol is used to indicate that some hazardous live terminals are involved within this apparatus, even under the normal operating conditions.

The symbol is used in the service documentation to indicate that specific component shall be only replaced by the component specified in that documentation for safety reasons.

- ⊕ Protective grounding terminal.
- ~ Alternating current /voltage.
- ⚡ Hazardous live terminal .

**ON:** Denotes the apparatus turns on.

**OFF:** Denotes the apparatus turns off, because of using the single pole switch, be sure to unplug the AC power to prevent any electric shock before you proceed your service.

**WARNING:** Describes precautions that should be observed to prevent the danger of injury or death to the user.

Disposing of this product should not be placed in municipal waste and should be separate collection.

**CAUTION:** Describes precautions that should be observed to prevent danger of the apparatus.

## WARNING

### • Power Supply

Ensure the source voltage matches the voltage of the power supply before turning ON the apparatus.

Unplug this apparatus during lightning storms or when unused for long periods of time.

## F6: 740.000-764.000(740-769)MHz

CH0	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8	CH9	CH10	CH11
740.125	740.325	740.525	740.725	740.925	741.125	741.325	741.525	741.725	741.925	742.125	742.325
CH12	CH13	CH14	CH15	CH16	CH17	CH18	CH19	CH20	CH21	CH22	CH23
742.525	742.725	742.925	743.125	743.325	743.525	743.725	743.925	744.125	744.325	744.525	744.725
CH24	CH25	CH26	CH27	CH28	CH29	CH30	CH31	CH32	CH33	CH34	CH35
744.925	745.125	745.325	745.525	745.725	745.925	746.125	746.325	746.525	746.725	746.925	747.125
CH36	CH37	CH38	CH39	CH40	CH41	CH42	CH43	CH44	CH45	CH46	CH47
747.325	747.525	747.725	747.925	748.125	748.325	748.525	748.725	748.925	749.125	749.325	749.525
CH48	CH49	CH50	CH51	CH52	CH53	CH54	CH55	CH56	CH57	CH58	CH59
749.725	749.925	750.125	750.325	750.525	750.725	751.125	751.325	751.525	751.725	751.925	752.125
CH60	CH61	CH62	CH63	CH64	CH65	CH66	CH67	CH68	CH69	CH70	CH71
752.325	752.525	752.725	752.925	753.125	753.325	753.525	753.725	753.925	754.125	754.325	754.525
CH72	CH73	CH74	CH75	CH76	CH77	CH78	CH79	CH80	CH81	CH82	CH83
754.725	754.925	755.125	755.325	755.525	755.725	755.925	756.125	756.325	756.525	756.725	756.925
CH84	CH85	CH86	CH87	CH88	CH89	CH90	CH91	CH92	CH93	CH94	CH95
756.925	757.125	757.325	757.525	757.725	757.925	758.125	758.325	758.525	758.725	758.925	759.125
CH96	CH97	CH98	CH99								
759.325	759.525	759.725	759.925								

## F7: 798.000-822.000(798-827)MHz

CH0	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8	CH9	CH10	CH11
798.125	798.325	798.525	798.725	798.925	799.125	799.325	799.525	799.725	799.925	800.125	800.325
CH12	CH13	CH14	CH15	CH16	CH17	CH18	CH19	CH20	CH21	CH22	CH23
800.525	800.725	800.925	801.125	801.325	801.525	801.725	801.925	802.125	802.325	802.525	802.725
CH24	CH25	CH26	CH27	CH28	CH29	CH30	CH31	CH32	CH33	CH34	CH35
802.925	803.125	803.325	803.525	803.725	803.925	804.125	804.325	804.525	804.725	804.925	805.125
CH36	CH37	CH38	CH39	CH40	CH41	CH42	CH43	CH44	CH45	CH46	CH47
805.325	805.525	805.725	805.925	806.125	806.325	806.525	806.725	806.925	807.125	807.325	807.525
CH48	CH49	CH50	CH51	CH52	CH53	CH54	CH55	CH56	CH57	CH58	CH59
807.725	807.925	808.125	808.325	808.525	808.725	808.925	809.125	809.325	809.525	809.725	809.925
CH60	CH61	CH62	CH63	CH64	CH65	CH66	CH67	CH68	CH69	CH70	CH71
810.125	810.325	810.525	810.725	810.925	811.125	811.325	811.525	811.725	811.925	812.125	812.325
CH72	CH73	CH74	CH75	CH76	CH77	CH78	CH79	CH80	CH81	CH82	CH83
812.525	812.725	812.925	813.125	813.325	813.525	813.725	813.925	814.125	814.325	814.525	814.725
CH84	CH85	CH86	CH87	CH88	CH89	CH90	CH91	CH92	CH93	CH94	CH95
814.925	815.125	815.325	815.525	815.725	815.925	816.125	816.325	816.525	816.725	816.925	817.125
CH96	CH97	CH98	CH99								
817.325	817.525	817.725	817.925								

• **External Connection**  
The external wiring connected to the output hazardous live terminals requires installation by an instructed person, or the use of ready-made leads or cords.

• **Do not Remove any Cover**  
There are maybe some areas with high voltages inside, to reduce the risk of electric shock, do not remove any cover if the power supply is connected.

The cover should be removed by the qualified personnel only.  
No user serviceable parts inside.

• **Fuse**  
To prevent a fire, make sure to use fuses with specified standard (current, voltage, type). Do not use a different fuse or short circuit the fuse holder.

Before replacing the fuse, turn OFF the apparatus and disconnected the power source.

• **Protective Grounding**  
Make sure to connect the protective grounding to prevent any electric shock before turning ON the apparatus.

Never cut off the internal or external protective grounding wire or disconnect the wiring of protective grounding terminal.

• **Operating Conditions**  
This apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on this apparatus.

To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

Do not use this apparatus near water.  
Install in accordance with the manufacturer's

instructions. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat. Do not block any ventilation openings.

No naked flame sources, such as lighted candles, should be placed on the apparatus.

**IMPORTANT SAFETY INSTRUCTIONS**

- Read these instructions.
- Follow all instructions.
- Keep these instructions.
- Heed all warnings.
- Only use attachments/accessories specified by the manufacturer.

**Power Cord and Plug**

Do not defeat the safety purpose of the polarized or grounding type plug.

A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

**Cleaning**

When the apparatus needs a cleaning, you can blow off dust from the apparatus with a blower or clean with rag etc. Don't use solvents such as benzol, alcohol, or other fluids with very strong volatility and flammability for cleaning the apparatus body. Clean only with dry cloth.

**• Servicing**

Refer all servicing to qualified personnel. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so .

Servicing is required when the apparatus has been damaged in any way , such as power supply cord or plug is damaged , liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

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.

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

**F2: 518.000-542.000(518-544)MHz**

CH0	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8	CH9	CH10	CH11
518.125	518.325	518.525	518.725	518.925	519.125	519.325	519.525	519.725	519.925	520.125	520.325
CH12	CH13	CH14	CH15	CH16	CH17	CH18	CH19	CH20	CH21	CH22	CH23
520.525	520.725	520.925	521.125	521.325	521.525	521.725	521.925	522.125	522.325	522.525	522.725
CH24	CH25	CH26	CH27	CH28	CH29	CH30	CH31	CH32	CH33	CH34	CH35
522.925	523.125	523.325	523.525	523.725	523.925	524.125	524.325	524.525	524.725	524.925	525.125
CH36	CH37	CH38	CH39	CH40	CH41	CH42	CH43	CH44	CH45	CH46	CH47
525.325	525.525	525.725	525.925	526.125	526.325	526.525	526.725	526.925	527.125	527.325	527.525
CH48	CH49	CH50	CH51	CH52	CH53	CH54	CH55	CH56	CH57	CH58	CH59
527.725	527.925	528.125	528.325	528.525	528.725	528.925	529.125	529.325	529.525	529.725	529.925
CH60	CH61	CH62	CH63	CH64	CH65	CH66	CH67	CH68	CH69	CH70	CH71
530.125	530.325	530.525	530.725	530.925	531.125	531.325	531.525	531.725	531.925	532.125	532.325
CH72	CH73	CH74	CH75	CH76	CH77	CH78	CH79	CH80	CH81	CH82	CH83
532.525	532.725	532.925	533.125	533.325	533.525	533.725	533.925	534.125	534.325	534.525	534.725
CH84	CH85	CH86	CH87	CH88	CH89	CH90	CH91	CH92	CH93	CH94	CH95
534.925	535.125	535.325	535.525	535.725	535.925	536.125	536.325	536.525	536.725	536.925	537.125
CH96	CH97	CH98	CH99								
537.325	537.525	537.725	537.925								

**F3: 572.000-596.000(572-598)MHz**

CH0	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8	CH9	CH10	CH11
572.125	572.325	572.525	572.725	572.925	573.125	573.325	573.525	573.725	573.925	574.125	574.325
CH12	CH13	CH14	CH15	CH16	CH17	CH18	CH19	CH20	CH21	CH22	CH23
574.525	574.725	574.925	575.125	575.325	575.525	575.725	575.925	576.125	576.325	576.525	576.725
CH24	CH25	CH26	CH27	CH28	CH29	CH30	CH31	CH32	CH33	CH34	CH35
576.925	577.125	577.325	577.525	577.725	577.925	578.125	578.325	578.525	578.725	578.925	579.125
CH36	CH37	CH38	CH39	CH40	CH41	CH42	CH43	CH44	CH45	CH46	CH47
579.325	579.525	579.725	579.925	580.125	580.325	580.525	580.725	580.925	581.125	581.325	581.525
CH48	CH49	CH50	CH51	CH52	CH53	CH54	CH55	CH56	CH57	CH58	CH59
581.725	581.925	582.125	582.325	582.525	582.725	582.925	583.125	583.325	583.525	583.725	583.925
CH60	CH61	CH62	CH63	CH64	CH65	CH66	CH67	CH68	CH69	CH70	CH71
584.125	584.325	584.525	584.725	584.925	585.125	585.325	585.525	585.725	585.925	586.125	586.325
CH72	CH73	CH74	CH75	CH76	CH77	CH78	CH79	CH80	CH81	CH82	CH83
586.525	586.725	586.925	587.125	587.325	587.525	587.725	587.925	588.125	588.325	588.525	588.725
CH84	CH85	CH86	CH87	CH88	CH89	CH90	CH91	CH92	CH93	CH94	CH95
588.925	589.125	589.325	589.525	589.725	589.925	590.125	590.325	590.525	590.725	590.925	591.125
CH96	CH97	CH98	CH99								
591.325	591.525	591.725	591.925								

## 6. ANNEX

### 6.1 Frequency Band Selection

Most countries closely regulate the radio frequencies used in the transmission of wireless information. These regulations state which devices can use which frequencies, and help to limit the amount of RF (radio frequency) interference in all wireless communications. To be flexible enough to operate worldwide, UL-82DR Wireless receivers are available in a number of models, each with a unique frequency range. Each frequency range, or band, spans up to 24MHz of the wireless broadcast spectrum.

### 6.2 Frequency Ranges

#### F1:470.000-494.000(470~496)MHz

CH0	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8	CH9	CH10	CH11
470.125	470.325	470.525	470.725	470.925	471.125	471.325	471.525	471.725	471.925	472.125	472.325
CH12	CH13	CH14	CH15	CH16	CH17	CH18	CH19	CH20	CH21	CH22	CH23
472.525	472.725	472.925	473.125	473.325	473.525	473.725	473.925	474.125	474.325	474.525	474.725
CH24	CH25	CH26	CH27	CH28	CH29	CH30	CH31	CH32	CH33	CH34	CH35
474.925	475.125	475.325	475.525	475.725	475.925	476.125	476.325	476.525	476.725	476.925	477.125
CH36	CH37	CH38	CH39	CH40	CH41	CH42	CH43	CH44	CH45	CH46	CH47
477.325	477.525	477.725	477.925	478.125	478.325	478.525	478.725	478.925	479.125	479.325	479.525
CH48	CH49	CH50	CH51	CH52	CH53	CH54	CH55	CH56	CH57	CH58	CH59
479.725	479.925	480.125	480.325	480.525	480.725	480.925	481.125	481.325	481.525	481.725	481.925
CH60	CH61	CH62	CH63	CH64	CH65	CH66	CH67	CH68	CH69	CH70	CH71
482.125	482.325	482.525	482.725	482.925	483.125	483.325	483.525	483.725	483.925	484.125	484.325
CH72	CH73	CH74	CH75	CH76	CH77	CH78	CH79	CH80	CH81	CH82	CH83
484.525	484.725	484.925	485.125	485.325	485.525	485.725	485.925	486.125	486.325	486.525	486.725
CH84	CH85	CH86	CH87	CH88	CH89	CH90	CH91	CH92	CH93	CH94	CH95
486.925	487.125	487.325	487.525	487.725	487.925	488.125	488.325	488.525	488.725	488.925	489.125
CH96	CH97	CH98	CH99								
489.325	489.525	489.725	489.925								

## TABLE OF CONTENTS

1. INTRODUCTION.....	1
2. FEATURES.....	5
3. CONTROL ELEMENTS.....	5
4. OPERATION.....	8
5. TECHNICAL SPECIFICATIONS.....	14
6. ANNEX.....	16

## 1. INTRODUCTION

Thanks for purchasing the SHOW wireless microphone system. The UL-82DR/H/P/G series is the delicately designed UHF, PLL synthesized system, with two antennas built inside the receiver for smart switching diversity control, the higher level RF signals may be fed into the system for greater reliability and coverage, therefore, the risks of breakdown and interference are to be effectively reduced. Moreover, you can manually adjust the channel of the transmitter to match the receiver in case you know about the operating frequency of it.

Generally, the UL-82DR/H/P/G series consists of  
 -UL-82DR, PLL UHF Diversity Receiver  
 -UL-H series, Handheld Transmitter  
 -UL-P/G series, Body Pack Transmitter

### UL-82DR, PLL UHF Diversity Receiver



### UL-H series, Handheld transmitter



To well satisfy the different applications , there are included in this product range, please make sure that the proper microphone has been selected for your typical sound reinforcement system before installation.

MODEL	UL-81H/881H/83H/883H/86H/886H	UL-8P/88P/8G/88G
<b>SPECIFICATION</b>	<b>UL-87CH/887CH/88CH/888CH</b>	<b>UL-8P/88P/8G/88G</b>
Oscillation mode	PLL UHF SYNTHESIZED	
Carrier frequency band	UHF 470-900 MHz	
Frequency response	Dependent on applicable country regulations 50 Hz-15KHz (±3dB)	
Frequency stability	±0.005% (-10℃~ 50℃)	
T.H.D.	1KHz<0.8%	
Modulation mode	FM (F3E)	
RF output power	5-50mW(adjustable 3 bands)	
Dynamic	> 100dB	
Tone frequency	32.768KHz	
Current drain	100mA	
Max. Deviation	±35KHz	
Battery	"AA" type x 2	
Optional	Nickel hydrogen battery +charger	
Mic. Capsule(optional)	Condenser or Dynamic Capsule	Condenser or Dynamic Capsule
Dimensions	277x Φ36.5mm (10.9"×Φ1.44")	97mm× 68mm× 22mm(3.82"×2.68"×0.87")
Weight	0.246Kg	0.009Kg

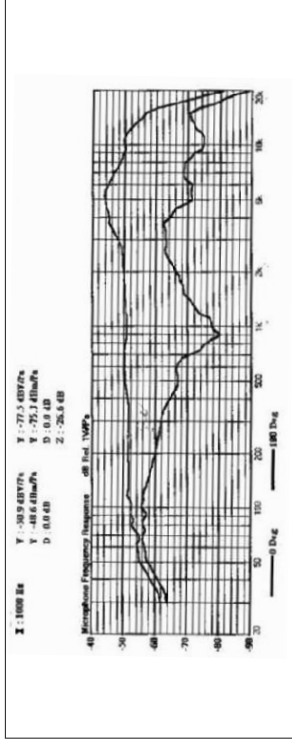
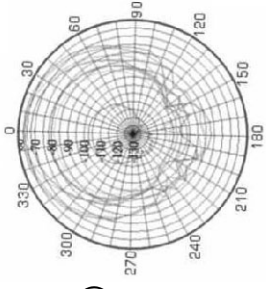
UL-H series Handheld Transmitter	
Model No.	Capsule
UL-81H/UP-881H	Dynamic(S-100)
UL-83H/UP-883H	Dynamic(S-600)
UL-86H/UP-886H	Dynamic(S-500)
UL-87CH/UP-887CH	Condenser(C-100)
UL-88CH/UP-888CH	Condenser(C-200)

## 5. TECHNICAL SPECIFICATIONS

MODEL	UL-82DR
Channel	Dual-Channel , up to 100 frequency presets for each frequency bands
Frequency band	UHF 470-900 MHz Dependent on applicable country regulations
Receiver Type	PLL UHF SYNTHESIZED
Frequency response	50 Hz-15KHz ( $\pm 3\text{dB}$ )
Frequency stability	$\pm 0.005\%$ (-10 ~ 50)
T.H.D.	1KHz <0.8%
Modulation mode	FM (F3E)
S/N Ratio	>90dB
Dynamic	>100dB
RF sensitivity	-100dBm/30dB SINAD
Audio output	unbalanced 6.3mm phone jack 550mV ; $\pm 20\text{KHz}$ deviation
balance output	1V, 20KHz deviation
Power supply	DC 12V/500mA AC (115V/120V/230V 50/60Hz Adaptor)
Dimensions	217(W)x101.5(D)x44(H)mm (8.5"x4.0"x1.7")
Weight	0.54Kg

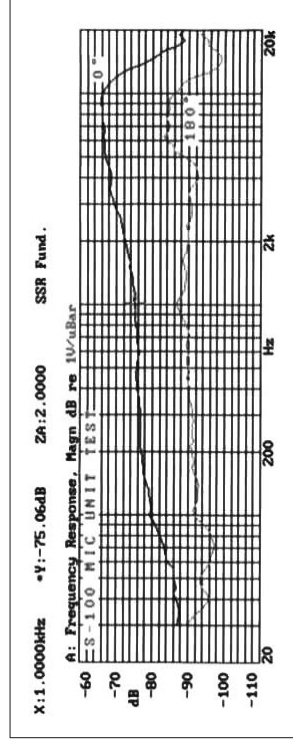
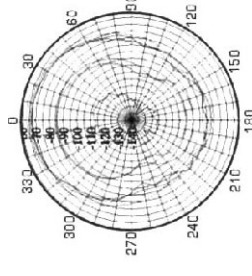
### S-600

Type: Dynamic Mic.  
 Frequency response: 50Hz~16kHz( $\pm 3\text{dB}$ )  
 Impedance:  $300\Omega \pm 20\%$  at 1kHz  
 Sensitivity: -71dB  $\pm 3\text{dB}$   
 Direction: Omni-directional



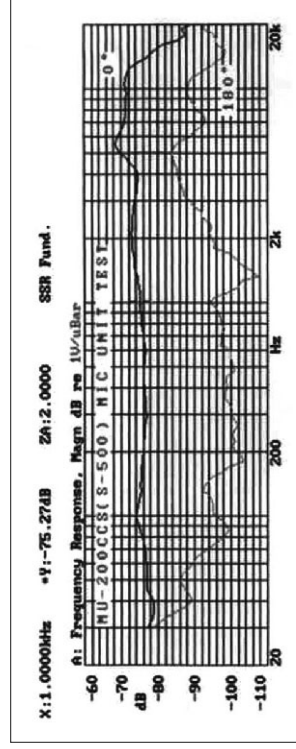
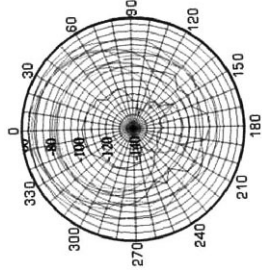
### S-100

Type: Dynamic Mic.  
 Frequency response: 50Hz~15kHz( $\pm 3\text{dB}$ )  
 Impedance:  $270\Omega \pm 20\%$  at 1kHz  
 Sensitivity:  $\pm 0.005\%$   
 Direction: Omni-directional



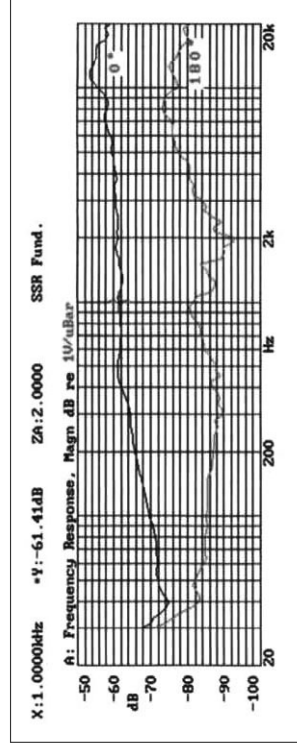
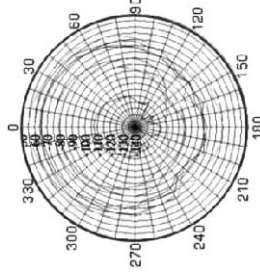
### S-500

Type: Dynamic Mic.  
 Frequency response: 90Hz~12kHz(±3dB)  
 Impedance: 680Ω ±20% at 1kHz  
 Sensitivity: -52dB ±3dB  
 Direction: Uni-directional



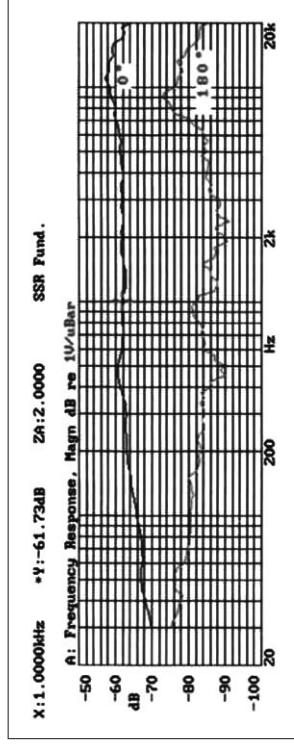
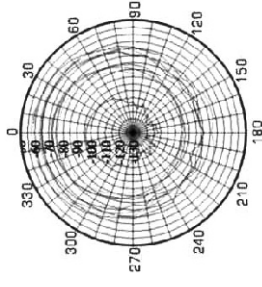
### C-100

Type: Condenser Mic.  
 Frequency response: 50Hz~15kHz(±3dB)  
 Impedance: 270Ω ±20% at 1kHz  
 Sensitivity: -71dB ±3dB  
 Direction: Omni-directional



### C-200

Type: Condenser Mic.  
 Frequency response: 100Hz~15kHz(±3dB)  
 Impedance: 700Ω ±30% at 1kHz  
 Sensitivity: -44dB ±3dB  
 Direction: Uni-directional





### UL-P/G series, Body Pack transmitter

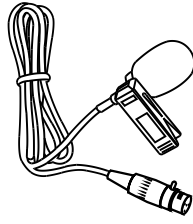


For the UL-P/G series, there are several types of clip microphone are included in this product range, please make sure that the proper microphone has been selected for your typical sound reinforcement system before installation.



#### HM-38, Condenser microphone

Preset impedance: 600ohm;  
Freq. response: 80-12KHz;  
Sensitivity: -68dB $\pm$ 3dB at 1KHz;  
Directional: Uni-directional;  
Weight: 52g (0.12lb)



LM-10, Clip microphone  
Preset Impedance: 680 ohm  
Freq. Response: 50-12 kHz;  
Sensitivity: -65 dB  $\pm$ 3 dB at 1kHz  
Directional:  $\phi$  12 $\times$ 180 mm( $\phi$  0.47"  $\times$  7.1")  
Weight: 22g(0.049lb)

Last but not the least, the operating frequency of this wireless system may be varied from 470MHz to 900MHz, please refer to your national EMC regulations to pick out the authorized frequency band (F1 ~ F8, detail please see Annex hereafter) for your end application.

### 4.2.3 Mute Mode Operation

Keep pressing the SELECT key for a few seconds, the unit will enter into the mute mode (see the Fig 7), repeat for unmute.

Note: when the transmitter is muted, the microphone couldn't send out any AF signal, it means no sound would be sent out from the microphone.

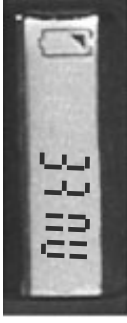


Fig 7

### 4.2.4 Battery Replacing and Charging

If you need to change the dry battery, please open the battery compartment, and then place the new dry battery. If you use rechargeable battery, you don't even have to remove the battery for charging! Just use the special optional charger, which is available from our company, connecting to the charge jack, when the transmitter is charging, the battery logo on the LCD will be flashing. The battery is recharged within six hours.



Fig 8

### 4.3 Operating frequency matches between the receiver and the transmitter

- Adjust from the transmitter,

- 1) Check the preset frequency (preset channel) displayed on the receiver.
- 2) Switch on the transmitter.
- 3) Touch the CH/ON key slightly to select the parameters to be edited.
- 4) Use the Select key to set the proper channel.

### - RF Output Power Select

RF output power adjusting circuit is designed to reduce emission interference as much as possible. When the receiver is much close to the transmitter, please reduce RF output power moderately, when the distance between the receiver and the transmitter is too long, please increase RF output power moderately. Press CH/ON key, the transmitter is in Menu mode, Fig 4 is of RF output power select, press the SELECT key to select the output power you need, 0: the output power is 5dB, 1: the output power is 10dB, 2: the output power is 15dB.



Fig 4

### - LOCK Function

The transmitter has lock function. It can avoid the misaction during the application. You can select lock/unlock via the SELECT key in menu mode. Please see Fig 5 and Fig 6.

Note: when the transmitter is locked, the SELECT key couldn't work at all, but you can use CH/ON key to switch the functions. If you want to get out of lock, when the LCD shows "LOCK", please press the SELECT key for one time, then "UNLOCK" will come out on the LCD.



Fig 5: LOCK

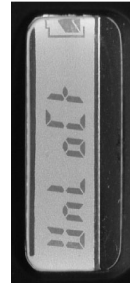


Fig 6: UNLOCK

### 4.2.2 To make the operating frequency matched between the transmitter and the receiver.

- Adjust from the transmitter, UL-H series

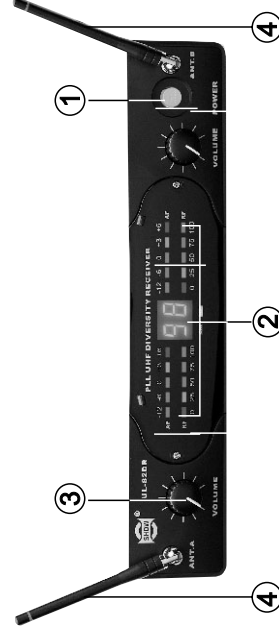
- 1) Check the preset frequency (preset channel) displayed on the receiver.
- 2) Switch on the transmitter;
- 3) Touch the CH/ON key slightly to select the parameters to be edited;
- 4) Use the Select key to set the proper channel.

## 2. FEATURES

- **UL-82DR, PLL UHF Diversity Receiver**
  - LED indication;
  - Dual antenna diversity;
  - Three output level version;
  - Squelch control;
- **UL-H/P/G series, Transmitters**
  - Soft touch painting for comfortable use;
  - Rechargeable battery design;
  - Friendly interference with LCD display;
  - 3 types RF power selection;
  - Mute function;
  - Lock function to avoid the misaction during the application;
  - Battery status display;
- **Common features**
  - Wide carrier frequency ranges (UHF, 470-900MHz), divided into 8 preset frequency bands (F1 ~ F8) to comply with the country's EMC regulation;
  - Up to 10 x 10, total 100 channel frequency presets;
  - Manufactured under ISO9000:2000, Ts16949 quality management system.

## 3. CONTROL ELEMENTS

### 3.1 UL-82DR, PLL UHF Diversity Receiver THE FRONT PANEL



#### ① Power Switch

It switches on/off the main power.

**② LED INDICATION**

**-AF INDICATION** AF LEDs indicate the incoming status of the audio signal. When "0" LED lights up, the incoming signal is optimized at unity gain. When the "+6" LED lights up, the signal is overloaded. When only the "-20" LED lights up, the incoming signal is just at 10% of the optimum states. If no LED lights up, there is little even no signal being received.

**-RF INDICATION** AF LEDs indicate the incoming frequency status of the radio signal. When all the LEDs light up, the incoming signal is fully modulated and at the optimum status. When only the 10% lights up, the incoming signal is just at 10% of the optimum status. If no LED lights up, there is little or no signal being received.  
NOTE: UL-82DR has two channels, channel 1 and channel 2. The LEDs of channel 1 are on the left and the LEDs of channel 2 are on the right.

**-FREQUENCY INDICATION** It displays the number from 0 to 99. Each number represents one frequency

**③ VOLUME CONTROL**

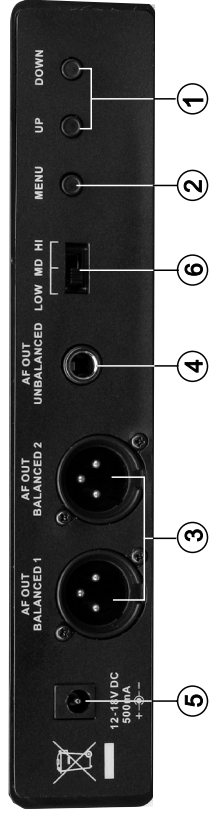
This knob sets the audio signal level outputted through the balanced and unbalanced output jacks on the rear panel. Turn the knob clockwise fully for the max volume, and and turn the knob counterclockwise fully for the min volume. Each VOLUME knobs is for one separated microphone.

**④ Antenna A/B**

The antennas can be fully rotated for optimum placement. Generally, antenna A and antenna B should be placed vertically for best receiving effect. Fold both antennas inward for the convenience of transporting.

**3.1 THE REAR PANEL**

**3.1.1 THE REAR PANEL OF UL-82DR**



**① UP/DOWN key**

Use the UP key to scan the frequency presets from 0 to 99 and the DOWN key from 99 to 0. Keep pressing these buttons for a few seconds, the channel selecting speed will be accelerated.

**② MENU key**

Press the MENU key to switch channel 1 and channel 2. When channel 1 is selected, use the UP/DOWN key to select the right frequency. Press the MENU key again, it switched to channel 2. The frequency setting mode of channel 2 is the same as that of channel 1. Keep pressing the MENU key for 1.5 seconds, it comes to the auto SQ mode. When the right frequency is selected,

No.	squelch threshold
0	95.0dB
1	91.7dB
2	88.3dB
3	85.0dB
4	81.7dB
5	78.3dB
6	75.0dB
7	71.7dB
8	68.3dB
9	65.0dB

Table

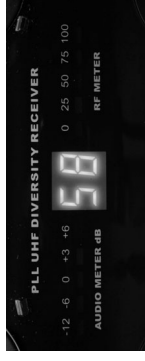


Fig 2

**4.2 For the UL-H/P/G series transmitters**

**4.2.1 Edit The Parameter**

Press and hold the CH/ON for a few seconds, then the transmitter is powered on. Now the LCD displays the operation voltage status.

After the transmitter is switched on, touch the CH/ON key slightly to select the parameter which you want to edit, such as the preset channel, PL(RF power level), and Lock/Unlock.

**- Frequency Select**

This system offers a lot of frequencies to choose in order to avoid interference. You can select right frequency via the SELECT key in menu mode. Fig 3 is of preset channel select. 10x10=100 different types each frequency of frequencies.

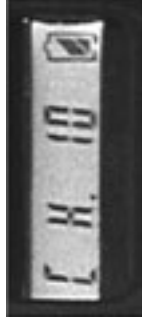


Fig 3

- Turn on the transmitter
- Turn on the receiver
- Select Channel

Press the MENU button, channel 1 is selected and the corresponding LED lights up. Press the MENU button again, channel 2 is selected and the corresponding LED lights up.



**Note:** When you use CH1 and CH2 simultaneously, the frequency bands of both channels may be interference with each other. Please change another frequency band of any channel to avoid the problem if that situation happens.

#### - Select Frequency

After the first touch the MENU key, use the UP key to scan the frequency presents from 0 to 99 and the DOWN key from 99 to 0. When the right channel is searched, all the RF LEDs light up.

#### - Audio Output Level Adjusting

The volume control knob sets the audio signal level outputted through the balanced and unbalanced output jacks on the rear panel. Turn the knob clockwise fully for the max volume, and Turn the knob counterclockwise fully for the min volume. The volume knob on the left is for channel 1. The volume knob on the right is for channel 2.



#### - Squelch Control

The job of a squelch circuit is to reduce audible noise. It eliminates noise during pauses in the audio signal by muting the receiver every time the audio level drops below a defined threshold. The squelch control on the receiver sets this threshold. Use the squelch control with care! If the squelch threshold is too high, the squelch will not only cut out noise but mute quiet audio signals as well because the squelch responds to the detected voltage and cannot distinguish between wanted signal and noise. Besides that, a too high squelch threshold also decreases the usable range. In the squelch control mode(Fig 2), use the UP/DOWN key to select squelch threshold. In order to achieve easy operation, the squelch threshold is divided into 10 levels, please refer to table.

press the MENU key once again to stop.

Note: When channel 1 and channel 2 are used at the same time, the frequency of channel 1 can not be the same as that of channel 2 in case frequencies interfere.

#### ③ AF OUT Balanced:

XLR type connector outputs the balanced AF signal. AF OUT BALANCED 1 is for the output signal from channel 1. AF OUT BALANCED 2 is for the output signal from channel 2.

#### ④ AF OUT unbalanced:

TS type jack outputs the unbalanced AF signal.

#### ⑤ DC input

Connect the unit with the adapter for DC power supply.

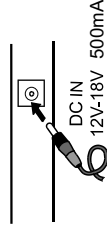


Fig 1

#### ⑥ LOW MID HI key

This key controls the AF OUT Balanced output level. Set the key to LOW position for -12dB output, MID for -6dB, HIGH for 0dB.

### 3.2 UL-H series, Handheld Transmitter



#### ① Massive Front Grill

Extremely rugged spring steel mesh grill to protect the capsule underneath in tough stage or live performance.

#### ② LCD Display

Generally, the LCD displays the current operation status.

#### ③ CH/ON Key

Keep pressing this key for a few seconds, the unit will be powered on or off. After it is switched on, touch this key slightly to select the parameter which you want to edit, such as the preset channel, PL (RF power level), and Lock/Unlock; In this mode, if there is no further operation in the next few seconds, it will return to the main menu, and the LCD displays again the current preset channel, as well as the battery status.

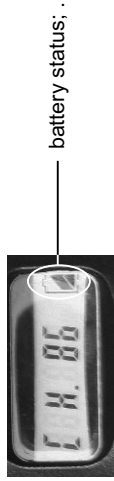


Fig 1

**④ SELECT Key**

Use this key to edit the parameters in operation mode. Keep pressing this key for a few seconds, the unit will enter into the mute mode, repeat for unmute.

**⑤ Battery Compartment**

The unit will be powered from a dry or rechargeable battery.

**⑥ Charge Jack**

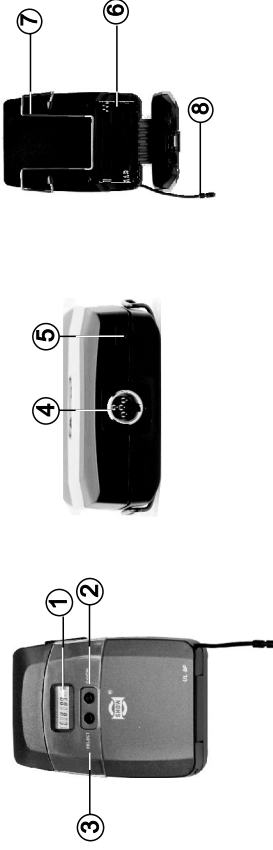
Connect the optional recharger(see fig) with this mini jack for battery recharging. Please make sure that it is the rechargeable batteries inside before plug the recharger with the mini charge jack.



**⑦ Antenna**

The antenna is integrated into the transmitter body; to get effective RF transmission, never cover the antenna with hand, etc.

**3.3 UL-P/G series, Body Pack Transmitter**



**① LCD Display**

Generally, the LCD displays the current operation status.

**② CH/ON Key**

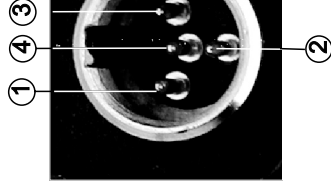
Keep pressing this key for a few seconds, the unit will be powered on or off. After it is switched on, touch this key slightly to select the parameter which you want to edit, such as the preset channel, PL (RF power level) and Lock/Unlock. In this mode, if there is no further operation in the next few seconds, it will return to the main menu, and the LCD displays again the current preset channel, as well as the battery status.

**③ SELECT Key**

Use this key to edit the parameters in operation mode. Keep pressing this key for a few seconds, the unit will enter into the mute mode, repeat for unmute.

**④ Mini 4P connector**

This connector is used to connect the unit with the clip microphones, for example, HM-38 or HM-58 condenser microphones.



Pin 1, for Guitar, bass and keyboards  
 Pin 2, GND  
 Pin 3, Phantom power supply for Condenser microphone  
 Pin 4, for Dynamic or condenser microphone

**⑤ Charge Jack**

With the rechargeable batteries put inside, use the charger (optional accessory, provided by the manufacturer) to recharge the batteries. For the detail operation, please refer to chapter 4.2.3, Battery replacing and charging.

**⑥ Battery Compartment**

This unit may be powered from one pair dry or rechargeable batteries, UM3 size AA 1.5V.

**⑦ Belt clip**

It is the detachable belt clip for easy carry during the live applications.

**⑧ Antenna**

It is the flexible antenna. To get effective transmission, never cover the antenna with hand, clothes, etc. during the operation, and always position the transmitter nearby the receiver.

**4. OPERATION**

**4.1 For the UL-82DR, PLL UHF Diversity Receiver**

- Make the right connections first
- Turn on the transmitter
- Turn on the receiver