Operating Instructions

RF Repeater System

Product No.: SHHR05-U1

SEOHWA TELECOM CO., LTD.

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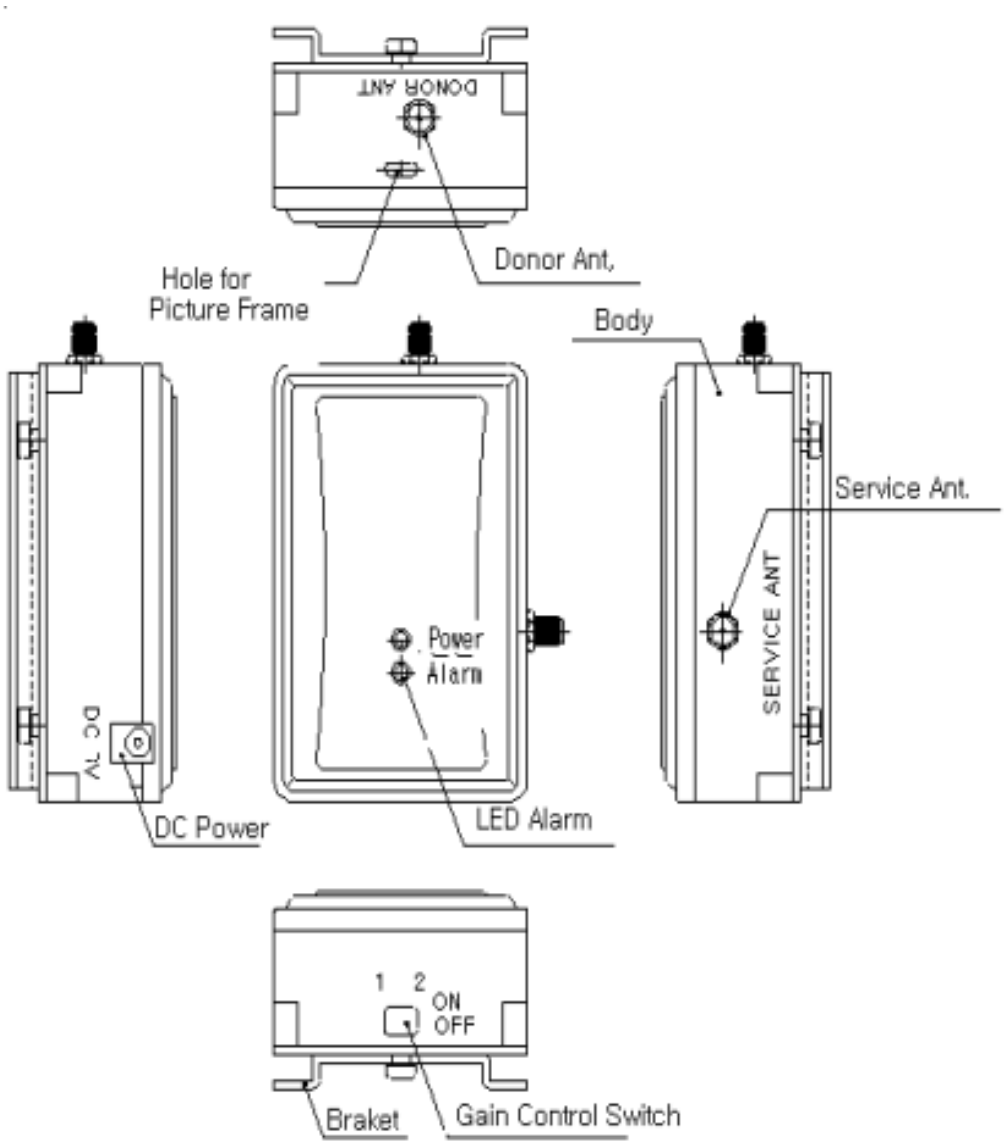
Thank you for choosing the SHHR05-U1 RF Repeater System
For your safety, we shall recommend to read these instructions carefully before using, operating and adjusting this product. This operating instruction applies only to the SHHR05-U1 RF Repeater System.

The **SHHR05-U1 RF Repeater System** is a bi-directional amplifier designed specially for in-building RF Coverage extension (about 100 ㎡ and more) for cellular services.

If you have a coverage problem in your home, office, small shop and restaurant, the **SHHR05-U1 RF Repeater System** will be a proper solution for your needs.

1. Basic Description of Each Part



2. Function of Each part

1) DONOR ANT.

Port for connecting Donor antenna (Patch Antenna)

2) SERVICE ANT.

Port for connecting Service antenna (Dipole Antenna)

3) GAIN CONTROL SWITCH

Switch for controlling the system gain to optimize the service environment of Repeater.

For using this function, refer to the instructions of LED Alarm and Gain Control Switch as following pages.

4) ALARM LED

There are two LED indicators on the unit. One is for displaying the Power Input Status, the other is for operating status.

a. Power LED

The power indicator, marked " Power " acts as power alarm. It monitors the function of the power supply.

LED Status	Blue LED ON : Normal Status
	Red LED ON : Power supply failure

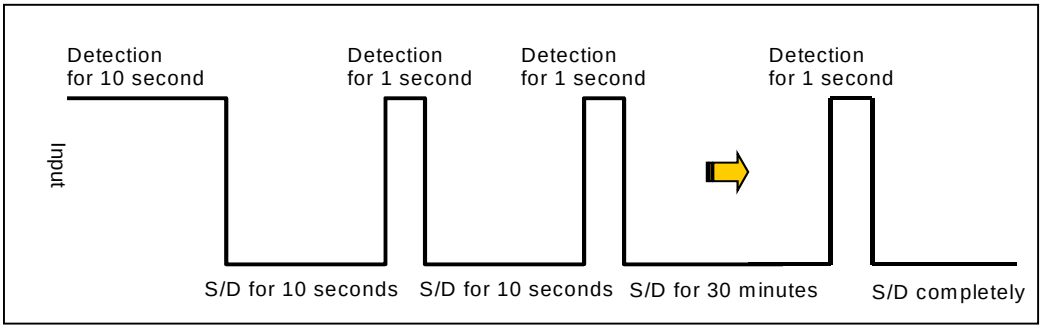
b. Automatic Shutdown Function

If there are some abnormal output powers on the uplink or downlink path, the repeater will be shutdown automatically to avoid any problem.

LED Status	Blue LED ON : Normal Status
	Red LED ON : Failure Status

If the red indicator lights up, it is designed that the related circuit operates to have the repeater shutdown to protect repeater itself. Despite several corrections, the indicator is still kept red on, it should be secured the isolation more between the donor antenna and service antenna.

* Shutdown Algorithm



The embedded detector of repeater is designed to detect whether the RF output power of the repeater exceeds a prescribe limit on the downlink or uplink. If it catches some overpowers during 10 seconds and more, the repeater itself shutdown automatically.
Meanwhile, the repeater operates as the above algorithm during shutdown.

* Shutdown Level

	Specifications	Remarks
Downlink	+15 ± 2 dBm / Total	Red LED ON
Uplink	+15 ± 2 dBm / 1FA	Red LED ON

5) DC POWER SUPPLY

Port for connecting exterior power adapter that supplies DC7V power to the repeater..

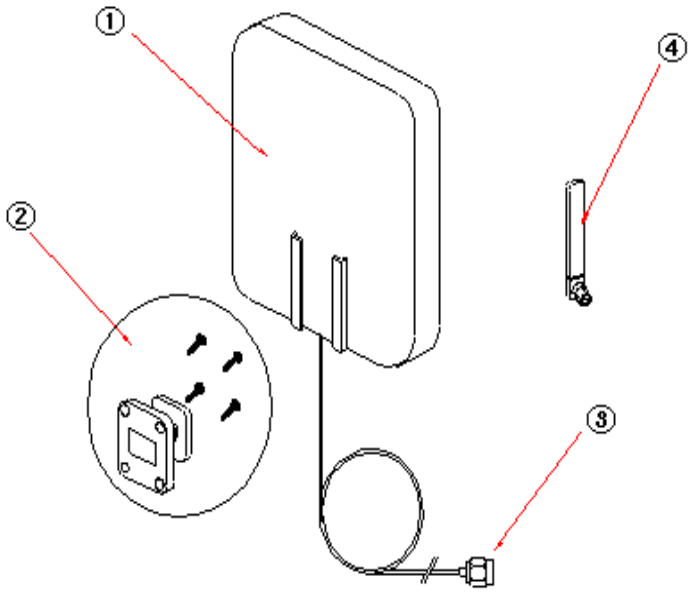
6) HOLE for PICTURE FRAME

Hole for hanging the picture provided (Optional).

3. Instructions for using each device

1) Antenna set

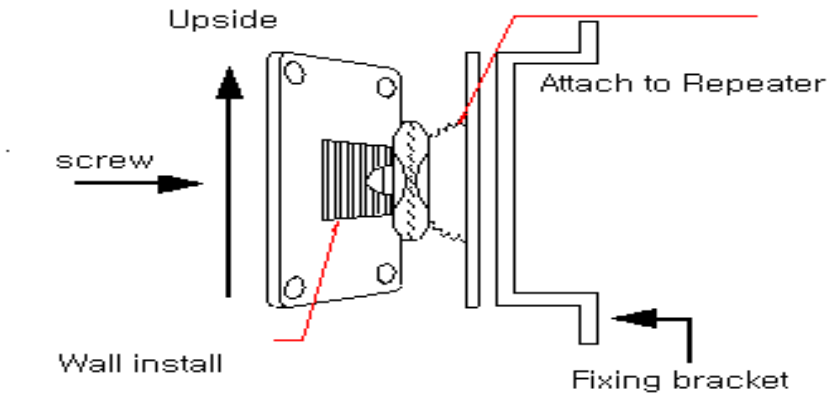
Antenna set is comprised of Donor & Service Antenna. To install Antenna set, follow the instructions as bellows.



① Donor Antenna (Patch Antenna)

② Assistant Device for installing donor Ant.

* If necessary, you can use the fixing bracket differently provided.



③ Donor Antenna cable

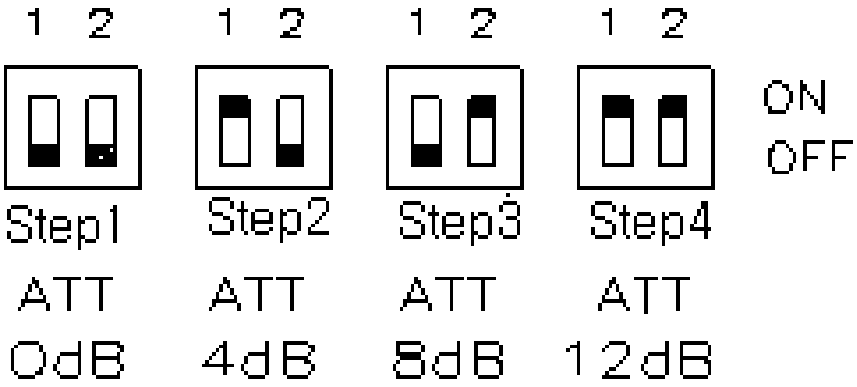
④ Service Antenna (Dipole Antenna)

(★★★ Warning ★★★)
When connecting the Donor / Service antenna to the Repeater Body,
Do not use too strong power. It is threaten to be connector defected.

2) Gain control switch

For system optimizing, you can adjust the system gain through gain control switch according to the LED status and service quality of subscriber's terminal.

In this case, start from step 4 to step1.



(★★★ Warning ★★★)
Gain being set up to 43dB in the factory.
Please adjust it as field condition

3) ALARM LED

Can be checked the operating status through LED Lamp in front of Repeater body. If there is any failure status, follow the instruction of the above 2) Gain Control Switch over and over.

If **RED LED on**, the repeater is stopped automatically to avoid any damage. For rebooting the repeater, must be supplied power again.

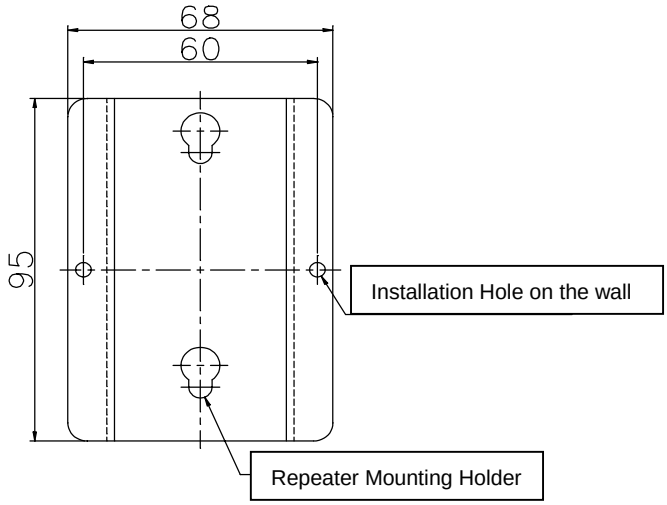
Being still kept failure status despite of , remove the power supply from the repeater.

4) Power Supply

Exterior adapter having AC 110 V input supplies DC 7 V power to the repeater to run active circuits. **Blue LED On** is normal status.

5) Installation on the wall

The bracket provided can be used to install repeater on the wall as a below figure.



4. Trouble Shooting

If the repeater is not normal status as followings, please remove power supply off to avoid additional damage and contact service center for repairs.

① Overheating status

② Red LED on (For 35 seconds and more)

③ Power LED failure

★★★ Caution ★★★)

This device shall only be installed and operated by the FCC licensee for the PCS service.

5. Technical Specification

Parameters	Forward path	Reverse path
Frequency Range	1930~1990 MHz	1850 ~ 1910 MHz
Channel Bandwidth	60 MHz	
Output Level (Max)	+7 dBm / 11FA	+10 dBm / 1FA
Input Level (Max)	-120 ~ -43 dBm	-120 ~ -40 dBm
Gain	50 dB ± 2 dB	
Tx/Rx Isolation	≥ 65 dB	
Noise Figure	≤ 7 dB (Max Gain)	
V.S.W.R	≤ 1.7 : 1	
Propagation Delay	≤ 1 us	
Impedance	50 ohm	
Control	No Control interface	
Mechanical Specification		
Dimension	68 (W) x 100 (H) x 37 (D) mm	
Weight	0.46 kg (installing bracket included)	
Power supply	7V DC / 110V AC	
Electric power Consumption	5.7 W	
Operating Temperature / Relative Humidity	-20 ℃ / 5% ~ +50 ℃ / 95%	
Storage Temperature	-30 ℃ ~ +80 ℃	
Cooling	Convection	
Connector	SMA female	

6. Package Contains

No.	Item	Descriptions	Q/ty	Remarks
1	Repeater	Speed Home Repeater	1	
2	Antenna	Patch antenna for outdoor	1	Donor Antenna
		Dipole antenna for indoor	1	Service Antenna
		Assistant device	1	
		Screws	4	
3	Power supply	AC_DC Adapter	1	
4	Fixing device	Assistants	1	
		Screws	2	
		Assistant fixing device	1	
5	Frame	Picture	1	Optional
		Assistant for fixing frame	1	Optional, Screws included

7. Contact Information

For more details, please contact us. Thank you !

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