

# **PISCES–S4 Products Manual**

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## **SMS Interceptor System**

**Version 2.1 – 2021.12.1**

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# 1. Introduction

## 1.1. Market environment

There is several radio interception equipment which are mainly focus on GSM in current market, supporting below functions including voice and short message interception.

With 3G and 4G systems widely used, interception equipment only on GSM system has more and more limitations than before.

Generally speaking, the equipment provides a key solution to meet market requirement in 3G and 4G system in voice, short message. The equipment is supposed to be a fake base station in which area all mobile phones will register and adhere to it. The target mobile phone will be intercepted.

This method is called active fake base station. The equipment can not only interrupt the mobile phone's signal and interception in its' coverage, but also it can auto reply short message, mix voice and so on. So, the equipment will do great favor in criminal capture, communication control interception (voice/short message) and all other special uses for police department.

## 1.2. Features

### Key Features:

- Automatic network scan and system setup
- Cloning of a real cellular network
- Support GSM/ WCDMA/LTE-FDD base stations
- Real-time calls and SMS interception of A5 0/1/2/3 cellular networks
- Voice and SMS recording on hard disk
- Outgoing and incoming call number determination
- Manipulate communication (SMS)
- Capturing mobile phones within range and extracting their cellular identifiers (IMSI, IMEI, MSISDN)

## 1.3. Advantages

### Key advantages:

- We support laptop, device, backlink is different place. (Remote mode).
  - We support no target mode, it's useful when you don't know who's the target.
  - We support map and GPS (OPTIONAL)
  - We are the fastest device in the world.
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## 2. Specification

### 2.1. Exterior

The whole interceptor system looks like the below,



### 2.2. Frequency we supported

This device embedded 3/4 BTS inside, they are

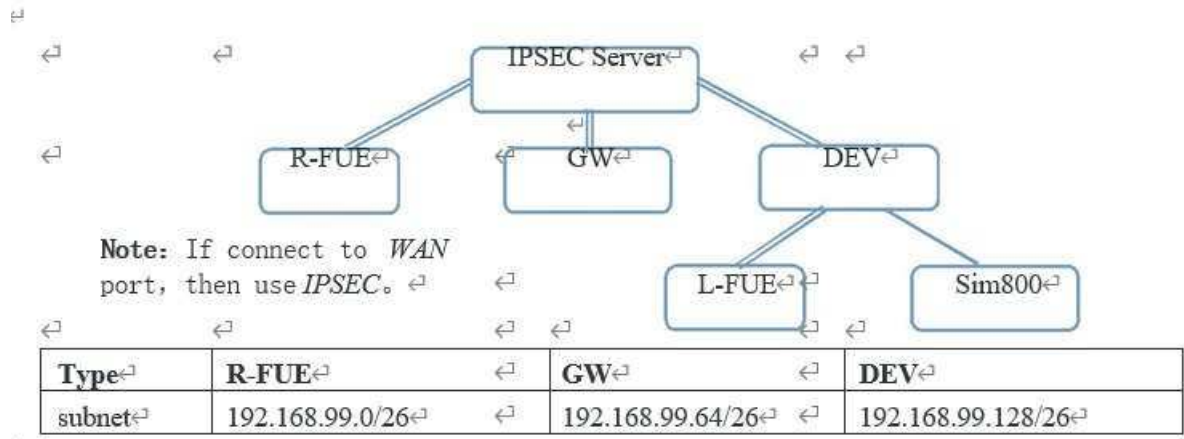
ID	Band	Telcel	AT&T	Movistar
PLMN	Depend on the country	334020	334050	33403
GSM	850/1900, or 900/1800			
WCDMA	Any band			
FDD	And band			

Thus, we can support any operators in any countries as above.

### 2.3. IP planning & Route planning

Port	Range	ORION P4
Remote-Sim	0-64	192.168.99.51
Remote-FUE		192.168.99.52
GW (laptop)	65-128	192.168.99.115
LAN (Local-Sim)	129-192	<a href="#">192.168.99.151</a>
WAN		<a href="#">192.168.0.151</a>
Radar		<a href="#">192.168.99.141</a>
Local-FUE		<a href="#">192.168.99.152</a>
GSM		192.168.99.175
WCDMA		192.168.99.177
FDD		192.168.99.179
TDD		192.168.99.181

IPSEC network structure



**Note:** If connect to WAN port, then use IPSEC.

## 2.4. Datasheet

Box datasheet

Project	parameters	items	parameters
LTE	30W x 1	Power supply	110/220V alternating current
WCDMA	30W x 1	Power consumption	500W
GSM	30W x 1	temperature	-25°C----50°C
Distance	Max 500M in the open field	temperature	-30°C-----50°C
Other equipment	laptop	Humidity	<80%

## 3. How to power on it?

### 3.1. Measure the environment

At first, we shall know the settings of the operator's network. We shall collect the following information:

- ✓ What frequency band is used for GSM, WCDMA, LTE for the specific operator?
- ✓ Is the GSM signal strength strong enough for backlink?

### 3.2. Connection of the device

**Please make sure you have connected the BTS antenna before power on the device.**

### 3.3. Power on

Connect all boxes' power cable to battery.

Then power on in the following order:

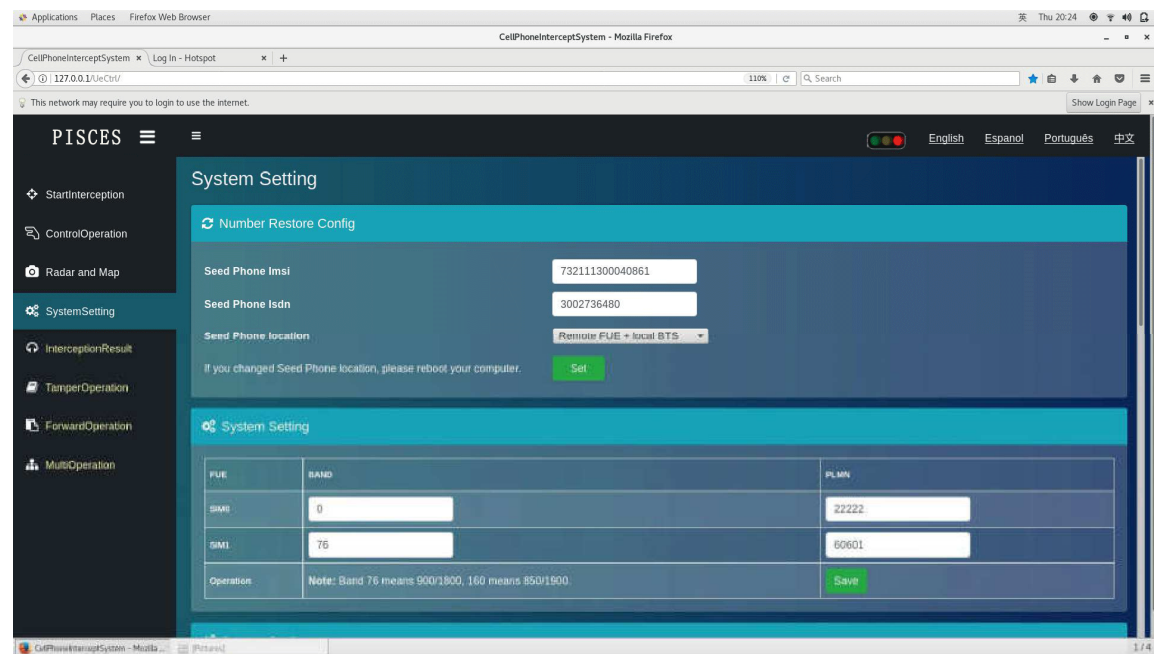
- Laptop: you need power on the laptop.
- PISCES-S4: you need turn on the power and then turn on P4.

## 4. How to use it?

The system is developed using web GUI like the below,

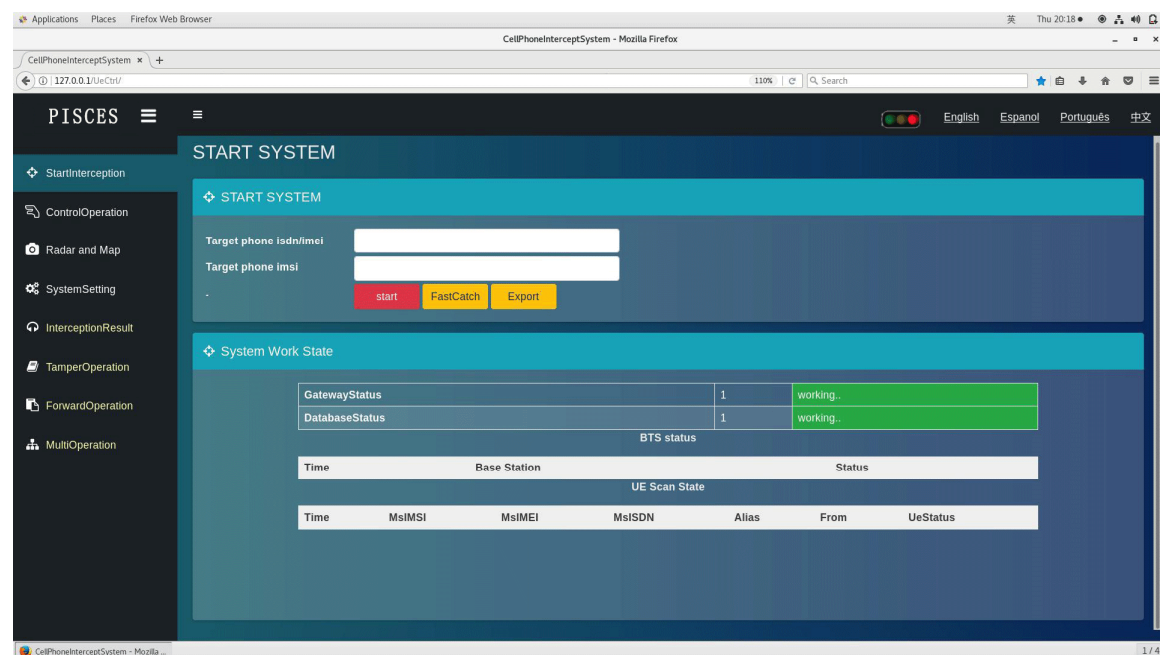
### 4.1. Configuration and start the system

With the setting page, you can configure BTS/Back to any operator with any frequency.



### 4.2. Start the system

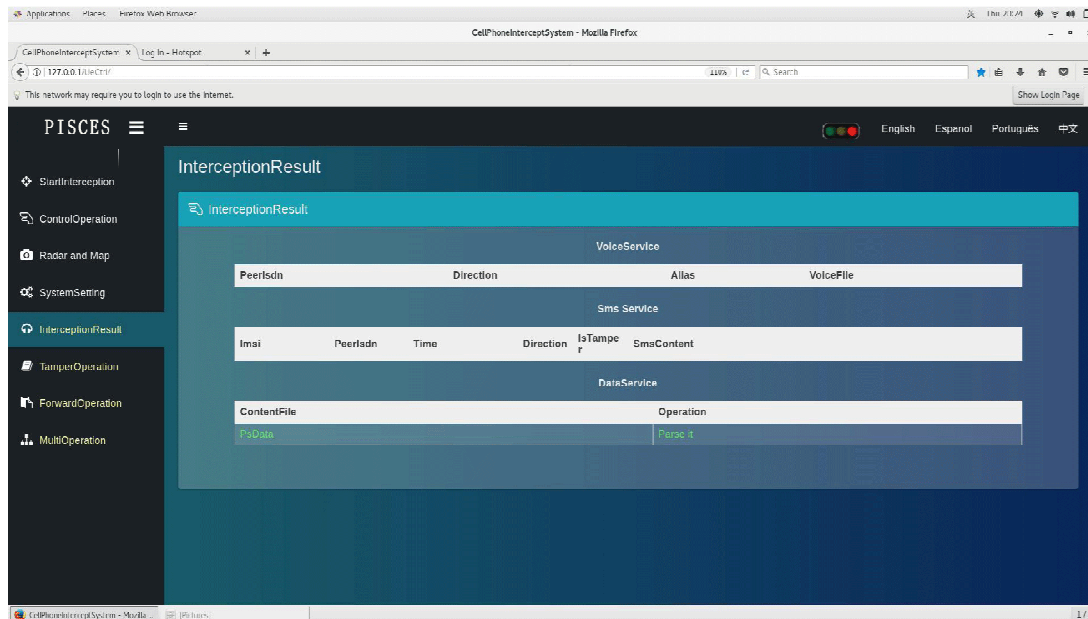
With start page, you can input the target's one of IMSI/IMEI/MSISDN to start the intercept.



And then the system will give an alert sound once catches the target.

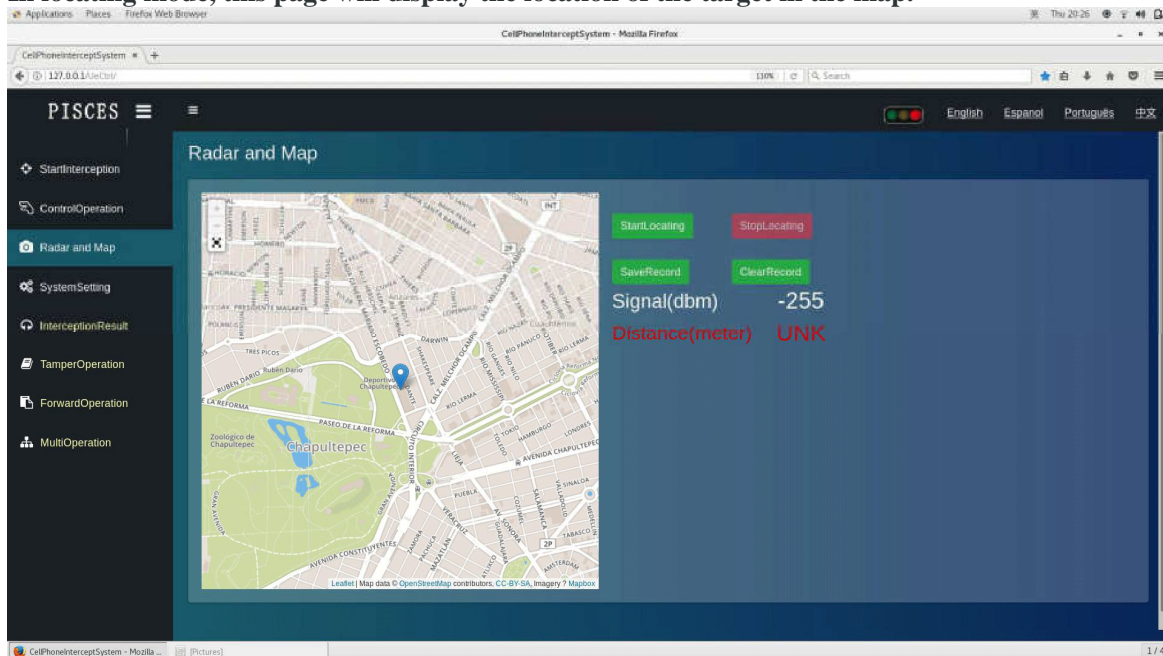
## 4.3. Interception operation

Once the target is caught, you can find Interception result at the following page:



## 4.4 Radar and Map operation

In locating mode, this page will display the location of the target in the map.

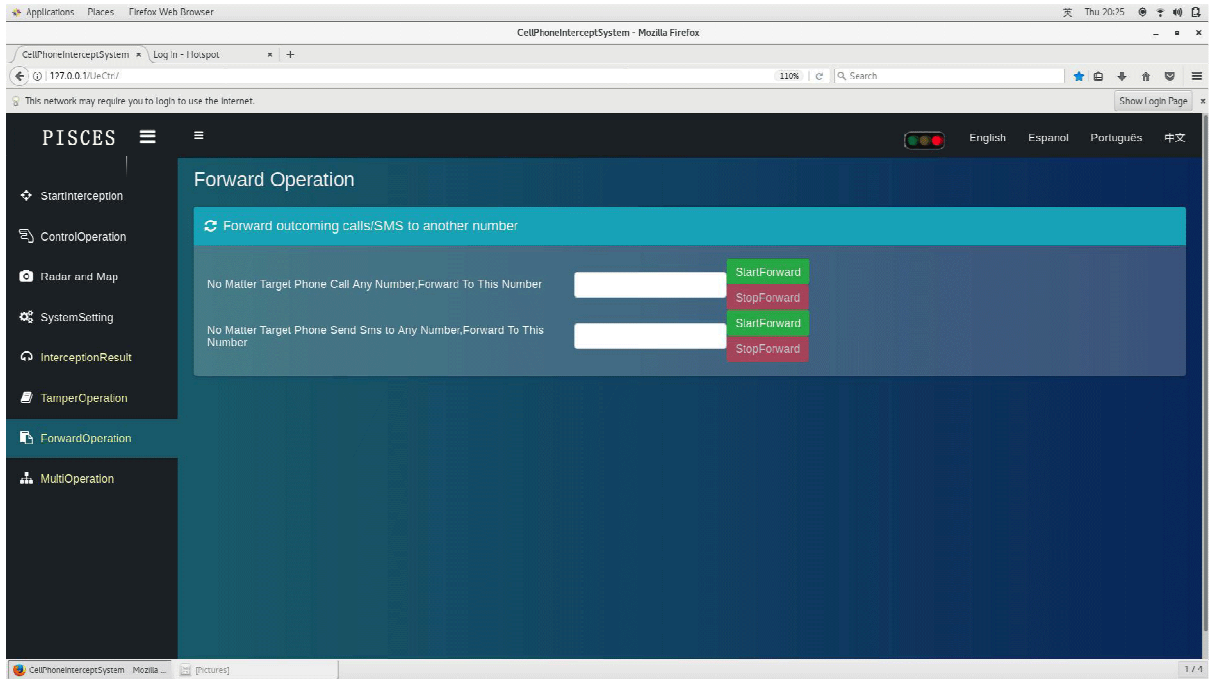


## 4.5. Forward operation

Once the target is caught, you can control the target to do some forward operation at the

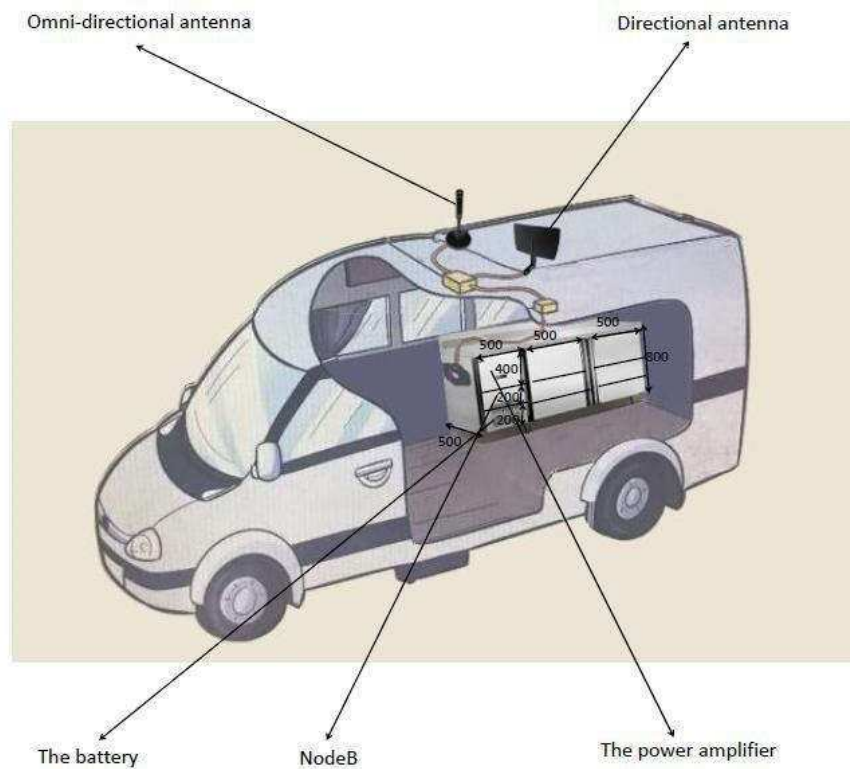


following page:



## 5. Installation on the vehicle

All devices are installed in the trunk of a vehicle like the below picture:



You need to customize a workbench as shown above. The workbench is fixed in the trunk of the car. The battery is at the bottom layer, the base station is at the middle layer, and the power amplifier is at the top layer. All three cabinets of the workbench are placed the same, and the specifications are shown in the picture, the digital unit is millimeter

## 6. Skills

This device needs right configuration for different location because there are different network settings in different location.

**The best position of antenna is look like the following:**



**The important features are:**

- Inside antenna is nearest to the operator's antenna; then is the outside antenna, and the most far away is the target.
- There is a wall between inside antenna and outside antenna.
- Inside antenna is facing to the operator's antenna.
- Outside antenna is facing to the target.

**Note:**

The more similar to the above, the better the performance will be. So just try to meet the above condition.

**Question:**

Why the device can work somewhere, but cannot work in another place?

**Solution:**

To make the device work well, the environment shall meet the following condition:

- GSM signal strength is strong enough to support the backlink's inside antenna;
- Another operation's GSM signal strength is strong enough to support the decoder's antenna;
- Outside antenna is far enough from inside antenna.

If you cannot meet these requirements, please choose out remote solutions.

**Question:**

I cannot catch my target even it's so near to the device.

**Solution:**

If it cannot catch target, please measure the environment again and make sure the configuration matched the network settings.

**Question:**

Why shall we fill GSM settings manually?

**Solution:**

We found a fact here that cell phone module cannot works well somewhere. It always lost some ARFCN, so you have to find a weak ARFCN manually because you cell phone with a SIM card inserted can take longer scanning operation, so it can give a more precise scan result.

**Question:**

Why shall we use better antenna than other country?

**Solution:**

We found a fact that the GSM signal's strength and quality is not good enough somewhere but their 3g/4g signal may be good, so we have only to use better antenna to avoid this problem.

**Question:**

Why I cannot use control feature when we are intercept more than one target?

**Solution:**

When you enter control status, we don't know which one is the target. So, if you want to use control feature, please only set one target.

**Question:**

Why the data service is so slowly?

**Solution:**

Because GPRS is an old technology that can only provide slowly data service.

## 7. Tips

### Some important date:

- ✧ Scanning time for auto configuration: 3-5 minutes
- ✧ Booting time for start/change a target: 3-4 minutes.
- ✧ Catching time for a target when device is full ready: < 5 minutes.
- ✧ Re-catching time when target is lost: < 2 minutes

### If the device cannot catch the target with 5 minutes, please check the following table:

Phenomenon	Reason	Solution
Detected many IMSIs, but no target	Antenna's signal covered wrong space.	Adjust antenna's position or direction
Cannot decode, cannot intercept. But control mode is OK.	internet connection is broken.	Make sure internet connection is OK.
Cannot decode number	Wrong SIM card info.	Make sure the SIM info for decoder is right and have enough credit.
Cannot catch target after 5 minutes	Some target may prefer to stay on special some other frequency.	You input wrong number as target? Change the BTS frequency for a try.
Voice said "cannot reachable"	Target haven't enough credit	May the target haven't enough credit.
The DF measured value is not changed.	The frequency is occupied by real network, so too much cell phones are using it.	Choose a clean frequency as GSM BTS frequency for measure.
The received signal of target phone sometime is strong, sometime is weak.	The fake network is using the same frequency as real network. The target phone sometime is in real network (weak), sometime is in fake network (strong).	Choose another frequency as GSM BTS frequency.
Found target but cannot catch and cannot make calls	Backlink's signal is too weak or affected by BTS	Use remote decoder, and a good position with signal > -70 dBm.
Near target cannot be caught or cannot make calls	The receiving gain is too high because we want it can reach large range	Put the test target far away (> 10 meters).
Decode phone number slowly	The signal for decoder SIM card is bad	Change another SIM card whose signal is good.
Why the amplifier's light is dark.	The battery's power is not enough to support the device	Add more battery.

## 8. Related products

### 8.1. Cellular-Z

Cellular-Z is android application that can installed into your cellphone.

It can provide the following information to you:

- IMSI, [it's important for interceptor.]
- ARFCN of current cell.
- Signal strength of serving cell. [Some kinds of cellphone cannot provide precise value.]

## 9. Remote technical supports

### 9.1. TeamViewer

Just power on the laptop and all device for BTS as normal.

Make the laptop internet accessible and then open TeamViewer.

TeamViewer is at the upper-left menu “Application/Internet/TeamViewer”, just click to open it.

At last, tell us the TeamViewer ID and password, then we can use the id/password to access the laptop and provide technical supports.