



# **PRO TOUCH WIRELESS 6-12**

## **User Manual**

**This manual is valid for the Hi-Dow PRO TOUCH WIRELESS 6-12 (Model HD-19A).**

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**Indications for Use**

**TENS:**

To be used for the temporary relief of pain associated with sore or aching muscles in the shoulder, waist, back, upper extremities (arm), and lower extremities (leg) due to strain from exercise or normal household work activities.

**EMS:**

It is intended for muscle conditioning, used for stimulating muscles including abdomen muscles in order to improve or facilitate muscle performance.

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## **USER MANUAL**

### **Hi-Dow PRO TOUCH WIRELESS 6-12 (Model HD-19A)**

#### **GENERAL DESCRIPTION**

The Hi-Dow PRO TOUCH WIRELESS 6-12 is a battery operated wireless pulse generator that sends electrical impulses from a Touch Screen REMOTE control to a RECEIVER (round disk) with ELECTRODES attached to them that are placed on the body to stimulate the nerves causing pain. When this happens, the nerves “FEEL” gentle electrical sensations instead of the pain.

The wireless REMOTE controls the INTENSITY and MODE functions of the RECEIVER by touch screen. The RECEIVER with the electrodes attached to it adheres easily and firmly to the skin.

The LCD display shows the exact modes and values of the functions been used.

See the pictures in this Manual that show the different COMPONENTS and CONTROLS of the Hi-Dow Pro System and how to operate it properly to get the best PAIN RELIEF.

Because the Hi-Dow Pro System is wireless - Needing No Lead Wires - you must use only Hi-Dow SNAP Electrodes.

## PULSE PARAMETERS

PRO TOUCH WIRELESS 6-12		TABLE: PULSE parameters			
Rated Supply Voltage (V)..... :		DC 3.7 V			
Load Resistance ( $\Omega$ ) ..... :		1000 $\Omega$			
PULSE DURATION( $\mu$ s)	PULSE repetition frequencies(Hz)	PULSE repetition amplitudes(V)	DC component(V)	Deviation (%)	Remarks
100	53Hz	45~85	--	See Remark	Mode 1
100	6Hz	45~85	--	See Remark	Mode 2
100	1.3Hz	45~85	--	See Remark	Mode 3
100	53Hz	45~85	--	See Remark	Mode 4
100	63Hz	45~85	--	See Remark	Mode 5
100	55Hz	45~85	--	See Remark	Mode 6
100	53Hz	45~85	--	See Remark	Mode 7.1; 7.2
100	<70	45~85	--	See Remark	Mode 8.1; 8.2; 8.3; 8.4;
100	<60	45~85	--	See Remark	Mode 9.1; 9.2; 9.3;

100	<48	45~85	--	See Remark	Mode 10.1; 10.2;
100	8Hz	45~85	--	See Remark	Mode 11
100	<60	45~85	--	See Remark	Mode 12.1; 12.2; 12.3; 12.4;
Remark: shall not deviate by more than $\pm 20\%$					

### Mode Description when used as TENS (Pain Relief)

**Mode 3:** Tapping: simulates a second heart beat. By tapping the muscle you increase the body's natural blood flow and oxygen supply to target area. This also helps flush any inflammation or swelling in target area.

**Mode 4:** Hot Stone: relaxation mode. This simulates a regular manual rolling massage helping the soft tissue to release and relax.

**Mode 6:** Shuffle: This is a combination mode. This is a great mode to use when cooling down from an exercise.

**Mode 8:** Ramping wave: This mode is designed to start out with number 3, tapping. It will get faster and deeper into the belly of the muscle as it continues until it goes to a fully facilitated contraction. Then it will allow the muscle to release. This has been used to increase endurance and build fatigue resistance.

**Mode 10:** Reflexology: This mode has been designed for the shoes. It simulates a reflexology session through the socks and/or shoes using several different stimulation patterns.

**Mode 11:** Auricular Therapy: This mode is also known as "alpha stim" or "micro current". When used properly you should use the earflap attachment. It works 2 ways. By simulating an alpha wave in the brain it has been known to help sleep patterns, behavior, and endorphin release. Also, it will relax the sub occipital muscles and vaso dilate, helping with migraines and headaches.

### **Mode Description when used as EMS (Muscle Stimulation)**

**Mode 1:** Kneading: simulates the thumbs fingers and palms of a real massage therapist. The sensation should feel like a vibration. Focuses on hypertension and stress and helps to break that down returning full range of motion and flexibility.

**Mode 2:** Acupressure: a much more rapid and focused pulse that focuses on any knot or adhesion in the body. It puts enough pressure on it to break it down and release any acidic (lactic) content within.

**Mode 5:** Cupping: This will reach in, grab, and stretch the muscle. Help to lengthen and broaden it, then release it as it sets it back. This will help to increase flexibility and mobility of the muscle.

**Mode 7:** Contract and Hold: This mode is the longest contraction on the machine. It is designed to simulate a flex movement to help build muscle tissue.

**Mode 9:** Tapping and kneading: a mixture of the fast and slow contractions.

**Mode 12:** Atlas: It is used for muscle confusion and athletic enhancement.

### **CONTRAINDICATIONS**

DO NOT use this device if you have any of the following medical conditions:

1. An implanted cardiac pacemaker, defibrillator or other implanted metallic or electronic device
2. Undiagnosed pain syndromes
3. Have been diagnosed with cancer
4. Are pregnant
5. Have suffered acute trauma or surgical procedure in the past six months

6. Have cardiac problems or cardiac disease
7. Have epilepsy
8. Have painful and/or atrophied muscles
9. Have abdominal or inguinal hernia
10. Have limited range of motion in skeletal joints
11. Have blood circulatory problems

The PRO TOUCH WIRELESS 6-12 unit is intended for use by ADULT and ONLY on healthy muscles. NEVER use this device on muscles that are: atrophied, painful, suffer spasms, on a limb with painful or otherwise afflicted joints.

The PRO TOUCH WIRELESS 6-12 unit is not intended for the application of any medical condition or disease nor is it intended for physiotherapy or muscle rehabilitation. It is contraindicated for use on any muscle that is injured or diseased.

Do not attempt to use PRO TOUCH WIRELESS 6-12 unit for muscle reeducation, to prevent muscle atrophy or spasms, improving range of motion, blood flow deficiencies/venous thrombosis.

## **WARNINGS**

1. Stimulation should not be applied over the carotid sinus nerves, particularly in patients with a known sensitivity to the carotid sinus reflex.
2. Stimulation should not be applied transthoracically in that the introduction of electrical current into the heart



may cause cardiac arrhythmias.

3. Stimulation should not be applied transcranially.

4. Apply electrode ONLY to normal, intact, clean skin. Do not apply electrodes over open wounds or over swollen, infected or inflamed areas or skin eruptions, e.g., phlebitis, thrombophlebitis, varicose veins, etc.

5. DO NOT APPLY STIMULATION:

- Over frontal area of the neck (near site of carotid sinus nerves)
- Over the neck or mouth. Severe spasms of the laryngeal and pharyngeal muscles may occur with contractions strong enough to and /or cause difficulty in breathing. Stimulation over the neck could also have adverse effects on the heart rhythm or blood pressure.
- Transcranially.
- Over the swollen, infected or inflamed areas of skin eruptions (e.g. phlebitis, thrombophlebitis, varicose veins, etc.).
- Across the chest. Consult your physician before using this device because it may be possible to cause lethal rhythm disturbances to the heart in susceptible individuals.
- Over, or in proximity to cancerous lesion.
- If you are epileptic.
- After experiencing acute trauma or fracture.
- Following recent surgery.
- If you have a hernia (abdominal or inguinal)
- To the frontal, laryngeal and temporal region of the neck.

6. Never use the PRO TOUCH WIRELESS 6-12 unit while driving, operating machinery or during activities in which

involuntary muscle contractions may endanger the user or others.

7.The effects of stimulation of the brain are unknown. Therefore, do not apply stimulation across the head and do not place electrodes opposite sides of the head.

8.Do not use the PRO TOUCH WIRELESS 6-12 unit in the bath or shower.

9.Persons with suspected heart problems or epilepsy should obtain apposite medical advice.

10.Never use the PRO TOUCH WIRELESS 6-12 unit while sleeping.

11.Never immerse the PRO TOUCH WIRELESS 6-12 unit in any liquid.

12.No modification of this equipment is allowed.

13.Do not use the ACCESSORIES, detachable parts, and materials not described in the instruction.

14.Do not connect this equipment to other equipment not described in the instruction.

15.A warning on potential hazard from simultaneous connection of a PATIENT to a high frequency surgical ME EQUIPMENT and the STIMULATOR that may result in burns and possible damage to the STIMULATOR.

16.A warning that operation in close proximity (e.g. 1 m) to a shortwave or microwave therapy me equipment may produce instability in the stimulator output.

17.A warning that the application of electrodes near the thorax may increase the risk of cardiac fibrillation.

### **FCC WARNING STATEMENT**

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

**FCC RF Radiation Exposure Statement:**

1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This equipment complies with RF radiation exposure limits set forth for an uncontrolled environment.
3. The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

**Part 15.105**

Note: 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.

## **PRECAUTIONS**

- This PRO TOUCH WIRELESS 6-12 unit should be used only with the electrodes and accessories provided by the manufacturer.
- This PRO TOUCH WIRELESS 6-12 unit should not be used while driving, operating machinery, or during any activity in which involuntary muscle contractions may put the user at undue risk of injury.

## **ADVERSE REACTIONS**

- You may experience skin irritation and burns beneath the stimulation electrodes applied to your skin;
- You may experience headache and other painful sensations during or following the application of electrical stimulation near your eyes and to your head and face; and
- You should stop using the PRO TOUCH WIRELESS 6-12 unit and should consult with your physician if you experience adverse reactions from the unit.

## **GENERAL INFORMATION**

### **Included in this package:**

- 1 REMOTE Control
- 2 RECEIVERS (NUMBERED 1 and 2)
- 1 piece of Lower back sized adhesive electrode pads (4x9 inches - rectangular shape)
- 1 set of EXTRA-LARGE single sided adhesive electrode pads (3 3/4x1 7/8 inches - rectangular shape)
- 1 set of LARGE single sided adhesive electrode pads (2.4x2.4 inches - round shape)
- 2 Electrode Wires (8 inches)
- 1 set of Ear Clips
- 2 USB Cables for Recharging
- AC Adapter
- User Manual



1 REMOTE Control



2 RECEIVERS (NUMBERED 1 and 2)



AC Adapter



USB Cables for Recharging



1 set of Ear Clips



1 piece of Lower back sized adhesive electrode pads



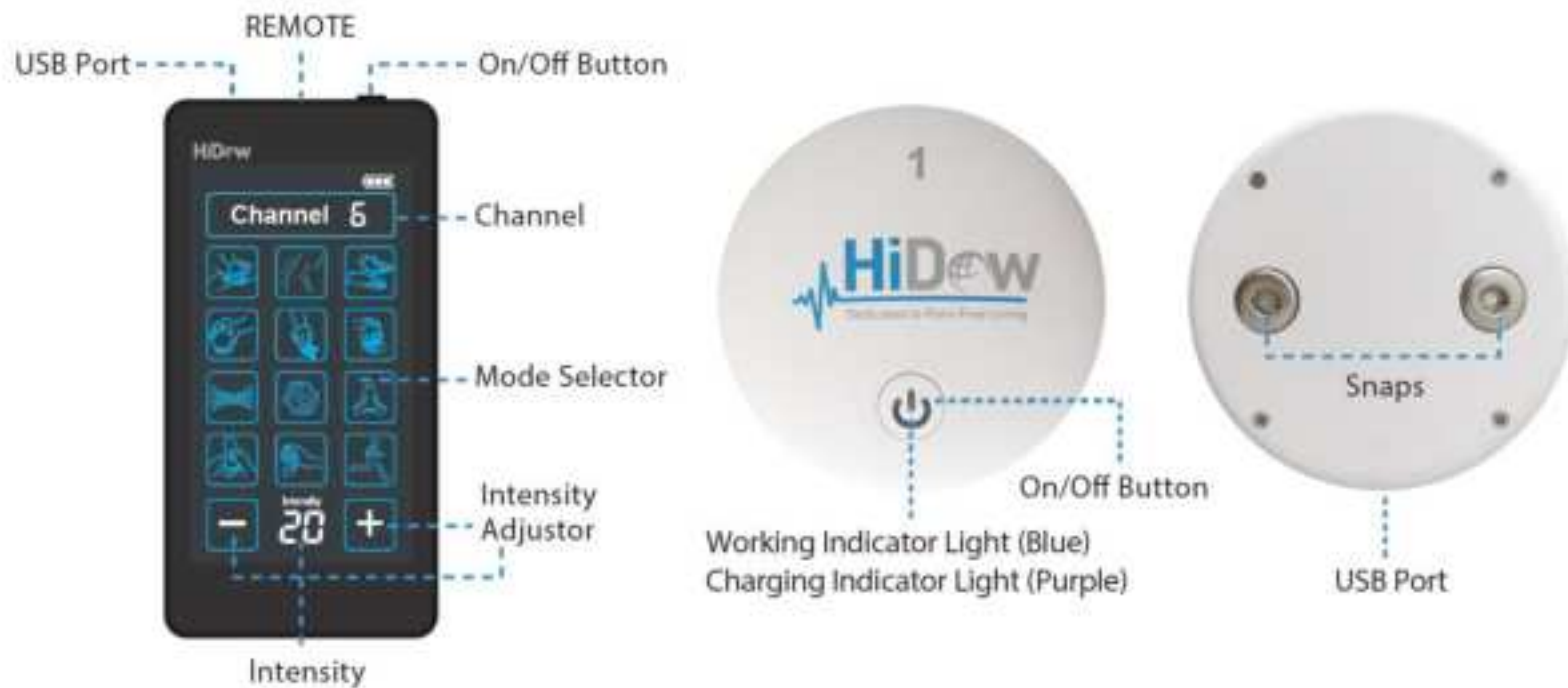
1 set of LARGE single sided adhesive electrode pads



1 set of EXTRA-LARGE single sided adhesive electrode pads



2 Electrode Wires (8 inches)



\*In case of any discrepancy between the physical and picture, refer to the actual product.

## QUICK START GUIDE FOR SIMPLE USE

1. Snap the electrode pads onto the round RECEIVER. Both connection points on the RECEIVERS must be engaged.



2. Remove the electrode pad Im and securely place the adhesive pads directly on the skin over the pain area.



3. Turn on the REMOTE by pressing the ON/OFF button until the back light of screen is on. Turn on the RECEIVER by pressing the power button until the indicator light is blue.



4. Choose Channel 1, Channel 2, Channel 3, Channel 4, Channel 5 or Channel 6 by touching the “Channel” area, number 1, 2, 3, 4, 5 or 6 will display on LCD screen. For more RECEIVERS, first sync the REMOTE and RECEIVERS, please refer to “TROUBLESHOOTING” on page 28.
5. See the modes of the selected RECEIVER by touching the 12 mode icons on the LCD screen. (This function will only



work when both the REMOTE and RECEIVER are turned on)



6. Adjust the intensity of the selected RECEIVER by touching + or – on the REMOTE. Do this until the sensation under the RECEIVER and electrode pads is felt as being comfortable. NOTE: The intensity level will need to be adjusted each time the mode is changed. (This function will only work when both the REMOTE and the RECEIVER are turned on)

**Notes:**

1. The patient is an intended OPERATOR. While using the unit, no service and no maintenance shall be done.
2. The device is very safe at the maximum output value.
3. It is recommended that, at a minimum, 3x4.5 (cm) self-adhering electrode pads are used at the treatment area.

## **INSTRUCTIONS FOR USE**

**THE REMOTE** control is full touch screen. + and – for intensity up and down, Channel icon for choosing RECEIVER 1 / Channel 1 or RECEIVER 2 / Channel 2 (For more RECEIVERS, RECEIVER 3 / Channel 3, RECEIVER 4 / Channel 4, RECEIVER 5 / Channel 5, RECEIVER 6 / Channel 6), and 12 mode icons on the LCD screen to control the MODE functions of the RECEIVERS.

The default setting time of REMOTE and RECEIVER is 1 hour.

The REMOTE and RECEIVER will shut off automatically after that time, or you can manually turn off.

### **ON/OFF**

The ON/OFF button is located on the top of the REMOTE. The LCD display illuminates when the REMOTE is “ON”. If the LCD display is blank, the unit is “OFF” or the REMOTE and/or the RECEIVERS need to be recharged.

### **LOCK FUNCTIONS**

The REMOTE has lock function under the following two conditions: The back light will be turned off automatically after 30 seconds; Press the on/off button, the back light is turned off.

How to unlock the REMOTE? Press the on/off. button of the REMOTE and the back light is on.

### **RECEIVER(S) CONTROL**

Push and hold the power button on each RECEIVER until you can see the blue light. Push again, and the RECEIVER turns off. If the blue light becomes red, the RECEIVER needs to be recharged.

### **INTENSITY**

INTENSITY adjusting on the REMOTE is just below the 12 mode icons figured as + and -. The more you touch + the higher up the intensity level of the Channel shown in the LCD display goes. The more you touch - the lower down the intensity level of the Channel shown in the LCD display goes. (There are 20 intensity levels)

### **CHANNEL and RECEIVER CONTROLS**

There are 2 RECEIVERS labeled as 1 and 2. \*RECEIVER 1 is Channel 1 and RECEIVER 2 is Channel 2. Both Channels are controlled by the REMOTE. To use Channel 1 or Channel 2, touch the “Channel” area on the REMOTE, then set the MODE by touching the 12 mode icons on the LCD screen.

**\*Note:** To add more RECEIVERS, first sync the REMOTE Channels and RECEIVERS, please refer to the “TROUBLESHOOTING” [on page 28](#).

**\*Note:** Each Round Receiver must be connected to either 1 large (2 pins on it) or 2 small (1 pin on each) electrodes to function. Using only 1 small electrode will result in non-function.

### ***MODES-Pre-Programmed Mode Functions***

Simply touch any of the 12 mode icons on the LCD screen, to choose the mode you need.

## **MAINTENANCE, STORAGE and DISPOSAL**

### **Maintenance**

1. Make sure your skin is free from any dirt, oil or lotions.
2. Before applying the electrodes, suggest spraying HiDow conductor on your fingers and rub them on both pads.  
This will help the electrodes maintain their adhesiveness.
3. When you finish using the device, turn it off.
4. Take off the electrodes.
5. Place the protective films back on the electrodes or place the electrodes on the pad holder.
6. Place back in the box until next use.

### **Storage**

1. For prolonged application, store the device in a cool, dry room and protect it against heat, sunshine and moisture.
2. Store the device in a cool, well-ventilated place.
3. Never place any heavy objects on the device.

### **Disposal**

1. The device must be disposed in accordance with the laws in your area.

2. The electrodes are disposable and should be routinely replaced before they start to lose their adhesive nature. And the electrodes should be disposed in accordance with the laws in your area.

*Note: The expected service time of the device is 3 years, and expected service time of electrodes is 2 years*



## **ELECTRODE OPTIONS**

Follow application procedures outlined in electrode packing, to maintain stimulation and prevent skin irritation. Use “ONLY” Hi-DOW SNAP electrodes with this WIRELESS system. Replace Electrodes when they don’t stick any longer.

## **CONTIGUOUS PLACEMENT**

This is the most common placement technique. It involves placing the electrodes alongside the area of localized pain site, in such a way as to direct the flow of current through or around the area of pain.

In a single channel application, this would involve placing each pad on either side of the pain site if the pain is localized on a limb and deep within the tissue. Pad placement on the posterior and anterior aspects of the affected limb will allow the current to flow completely.

## **ELECTRODE PLACEMENT**

The placement of electrodes can be one of the most important parameters in achieving success with TENS therapy. Of utmost importance is the willingness of the user to try the various styles of electrode placement to find which method best fits his or her needs.

Every user responds to electrical stimulation differently and their needs may vary from the conventional settings suggested here. If the initial results are not positive, feel free to experiment.

**NOTE:** You may have to ask for help if you cannot reach the area to be stimulated.

## **APPLICATION OF RE-USABLE SELF ADHESIVE ELECTRODES**

### **Application**

1. Clean and dry the skin area thoroughly with soap and water prior to application of electrodes.
2. Remove the electrode pad film and securely place the adhesive pad attached to the RECEIVER firmly onto the skin over or near the pain area.

### **Care and Storage**

1. Between uses, store the electrodes in the resealed bag in a cool dry place.
2. It may be helpful to improve repeated application by spreading a few drops of cold water over the adhesive and turn the surface up to air dry. Over-saturation with water will reduce the adhesive properties.

### **Notes:**

1. Do not apply to broken skin.
2. The electrodes should be discarded when they are no longer adhering.
3. The electrodes are intended for single patient use only.
4. If irritation occurs, discontinue use and consult your clinician.

## **TIPS FOR SKIN CARE**

To avoid skin irritation, especially if you have sensitive skin, follow these suggestions:

1. Wash the area of skin where you will be placing the electrodes, using mild soap and water before applying electrodes, and after taking them off. Be sure to rinse soap off thoroughly and dry skin well.
2. Excess hair may be clipped with scissors; do not shave stimulation area.
3. Wipe the area with the skin preparation your clinician has recommended. Let this dry. Apply electrodes as directed.
4. Many skin problems arise from the “pulling stress” from adhesive patches that are excessively stretched across the skin during application. To prevent this, apply electrodes from center outward; avoid stretching over the skin.
5. To minimize the “pulling stress”, tape extra lengths of lead wires to the skin in a loop to prevent tugging on electrodes.
6. When removing electrodes, always remove by pulling in the direction of hair growth.
7. It may be helpful to rub skin lotion on electrode placement area during application down time when you are not wearing electrodes.
6. Never apply electrodes over irritated or broken skin.

## **BATTERY INFORMATION**

### **Rechargeable Batteries**

Prior to the use of a new unit, the rechargeable battery in the REMOTE and the RECEIVER may need to be charged.

After being stored for 60 days or more, the batteries may lose their charge.

After long periods of storage, batteries should be charged prior to use.

## Battery Charging for REMOTE and RECEIVER

### \*Via a standard wall outlet

1. Connect the AC adapter to any standard wall outlet.
2. Connect the small end of the USB cable to the unit and the bigger end to the AC adapter.

3. REMOTE: The unit is finished charging when the battery icon indicates full.

RECEIVER: While charging, the indicator light is purple, and the light is blue after finishing.



### \*Via a computer USB port

1. Connect the small end of the USB cable to the unit and bigger end to the USB port on a computer (computer must be turned on).
2. REMOTE: The unit is finished charging when the battery icon indicates full.

RECEIVER: While charging, the indicator light is purple, and the light is blue after finishing.



### Notes:

1. The adapter is a separate power supply to the device, NOT a part of the ME EQUIPMENT, and it is a combination of a ME EQUIPMENT SYSTEM.
3. The device can't be used while charging.

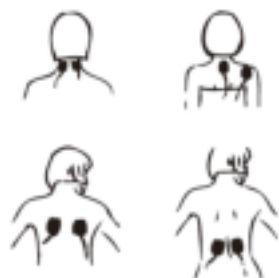
## REGULAR APPLICATION PRINCIPLES

- Find the exact pain point. The points which the electrode pads are attached to should be the most painful point in normal time.
- Intensity - The intensity must be gradually increased and it's better to reach the highest intensity you can stand, without feeling uncomfortable.
- Application duration: 2-3 times/day, 45 minutes every time, over 10 days for one course.

There are two ways to place the pads, in twin and opposed modes.

### Figure 1: Twin mode

Fix the two pads at the top and bottom or both ends on the same side of the human body



### Figure 2: Opposed mode

Fix the two pads respectively on the opposite sides of the application position, as shown below



## REGULAR APPLICATION METHODS

### Pain in the trunk

1. Probably pain points in the trunk

According to traditional Chinese medicine (TCM), the most sensible pressure pain point is the key point, the most



proper position to be applied. Find the pressure pain point with reference to Fig.1. Apply one pad onto it. Apply the other pad onto a proper point symmetrical to the chosen pressure pain point or near to it, but the two pads should not be overlapping. If there are several separated pressure pain points, apply them one by one.

2. Recommended positions of pads for application on the neck, shoulder and back (See Fig.3)

**Figure 3**



Mode 1 for 30 minutes, Mode 2 or Mode 3 for 30 minutes by turns for A, B and C. Longer time is needed for those parts of great pain. It is advisable to use fairly large intensity.

3. Recommended positions of pads for application of the waist (See Fig. 4)

**Figure 4**



Mode 1 for 30 minutes, Mode 2 for 20 minutes or Mode 7, 8, 9 for 30 minutes. It is advisable to do some waist exercise after the application.

**Long application is needed for more serious aches and pains.**

### **Pain in the joints and limbs**

Pain in the joints, sport injuries, soft tissue injuries, may cause joint aches, which often occur in the joints of shoulder, elbow, knee, wrist, ankle, etc.



① Position of pads

For joint pain, two pads should be applied to the two symmetrical sides of the painful point, see Fig. 2 (opposed mode).

② Mode and length of operation time

Mode 1 for 30 minutes, the Mode 3 for 30 minutes, 2-3 times a day.

Pain in the muscles and tendons of the limbs, it is often caused by sport injury, overstrain or some other factors.

The common signs are muscular pain, swelling and spasm.

① Position of pads

Apply the pads to each end of the painful muscle or apply one pad to the muscle and the other to the tendon.

The position can be slightly regulated according to sensation.

② Mode and length of time

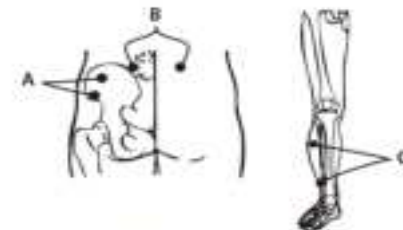
Mode 2 for 20 minutes, then Mode 3 for 20 minutes. Consult the doctor if the injury has laceration of muscle or tendon.

**Electrode placement variations:**

--> **Shoulders**



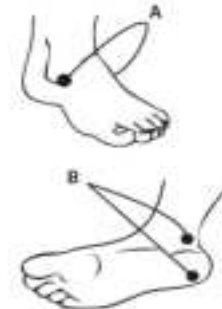
--> **Waist and leg**



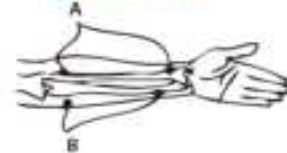
--> **Hands**



--> **Feet**

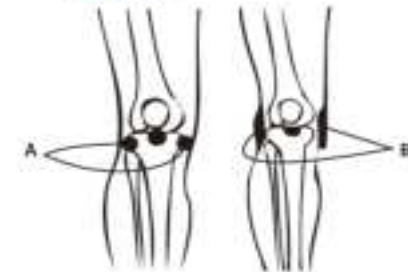


--> **Forearm**



--> **Hip**

--> **Knees**



## **TROUBLESHOOTING**

### **Problem**

The REMOTE is not turning on or I cannot see anything on the screen.

### **Cause**

Battery is depleted.

### **Solution**

Make sure the REMOTE has been fully charged.

### **Problem**

The indicator light of RECEIVER becomes red.

### **Cause**

The battery is low.

### **Solution**

Charge the RECEIVER soon or it will turn off automatically.

### **Problem**

Adhesive electrode pads do not stick to skin even after cleaning and moistening their surface.

### **Cause**

Adhesive gel pads need to be replaced.

### **Solution**

Replace the adhesive gel pads. Pads can be purchased from your local distributor or from [www.hidow.com](http://www.hidow.com).

**Problem**

The REMOTE and/or RECEIVER do(es) not seem to be charging.

**Cause**

Charging cable not plugged in fully.

**Solution**

Ensure the USB cable is firmly in the REMOTE/RECEIVER on one side and plugged into the AC adapter into the electrical socket on the other side.

**Problem**

During use the skin feels a painful burning sensation or the stimulation becomes weakened.

**Cause**

Adhesive gel pads are not adhering firmly to the skin or the gel pads are too dry.

**Solution**

Put a few drops of water on your fingers and rub them on both pads, which will help the electrodes maintain their adhesiveness. And make sure the pads are pressed firmly to the skin during application.

**Problem**

When pressing Mode icons and “+” “-“(Intensity adjustor) of the REMOTE, there is no any reaction.

**Cause**

The RECEIVER is not turned on, or it is not synced correctly with the REMOTE.

**Solution**

Make sure the REMOTE and RECEIVERS are turned on, and the Channel number on the REMOTE syncs the RECEIVER number correctly.

If still no reaction, the user should sync the REMOTE and RECEIVERS as to the following steps: Turn on the REMOTE, within 10 seconds, double click the ON/OFF button of REMOTE, you will see both the “Channel 1” icon and its border flashing, which means the sync starts. Touch the “Channel” area and choose the sync channel, then double click the power button of RECEIVER, if the sync is finished, the “Channel” number will automatically skip to the next, and the indicator light will also stop flashing. Finally you need to touch the “Channel” area until to “Channel 1” to leave the sync mode, or restart the REMOTE to continue.

Note: The sync should be done within 10 seconds after turning on the REMOTE.

**Problem**

The REMOTE can not control the RECEIVER well.

**Cause**

There is no electrical signal transmission between them.

**Solution**

Make sure the distance between the REMOTE and RECEIVER is less than 8 meters.

**CONFORMITY TO SAFETY STANDARDS**

Hi-Dow International Inc. declares that the device complies with the following normative documents:

## Statement of EMC

IEC 60601-1-2:2014+A1:2020

## Conformity to MDD Requirements

IEC 60601-1:2005+AMD1:2012+AMD2:2020/ANSI/AAMI ES60601-1:2005+A1:2012, IEC 60601-1-11:2015+A1:2020, IEC 60601-2-10:2012+A1:2016

## Conformity to FCC Requirements

The devices are in compliance with FCC Part 15.247.

## TECHNICAL INFORMATION








Channel	6 Channels, independent intensity control
Power Supply	Remote: DC3.7V
	Receiver: DC3.7V
Dimensions	Remote: 128.2mm x 65.2mm x 10.85mm
	Receiver: 63mm x 14.23mm
Net weight	Remote: 96g
	Receiver: 25g
Operating conditions	5°C to 40°C (41°F to 104°F) with a relative humidity (non-condensing) of 30% - 75%, atmospheric pressure from 700 to 1,060 HPa

Storage and transportation conditions	-10℃ to 55℃ (14°F to 131°F) with a relative humidity (non-condensing) of 10% - 90%, atmospheric pressure from 700 to 1,060 HPa
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## ACCESSORIES LIST

NO	Accessories Name	Quantity	Specification
1	AC adapter	1 piece	Input:AC 100-240V 50/60Hz 0.5A Output:DC 5V 1000mA
2	Lower back sized adhesive electrode pads	1 piece	4x9 inches - rectangular shape
3	LARGE single sided adhesive electrode pads	1 pair	2.4x2.4 inches - round shape
4	EXTRA-LARGE single sided adhesive electrode pads	1 pair	3 3/4x1 7/8 inches - rectangular shape
5	USB cable	2 pcs	39 inches
6	Ear Clips	1 set	59 inches
7	Electrode Wires	2 pcs	8 inches

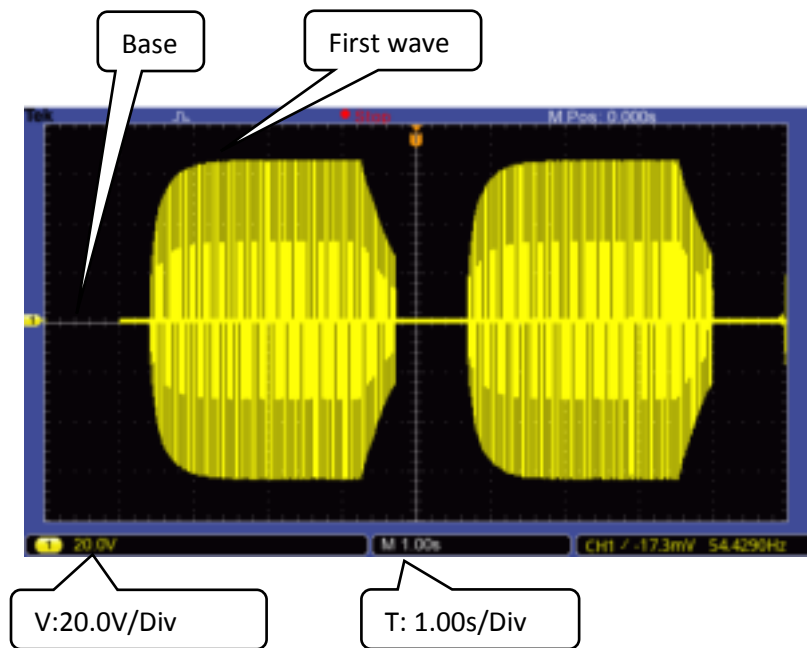
## EXPLANATION OF SYMBOLS

	Class II equipment
	Date of manufacture.
	Manufacturer
	Specifies serial number
	Type BF applied part
	DISPOSAL: Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.
	Follow instructions for use.
<b>IP22</b>	The first number 2: Protected against solid foreign objects of 12,5 mm $\Phi$ and greater. The second number: Protected against vertically falling water drops when enclosure is tilted up to 15°. Vertically falling drops shall have no harmful effects when the enclosure is tilted at any angle up to 15° on either side of the vertical.

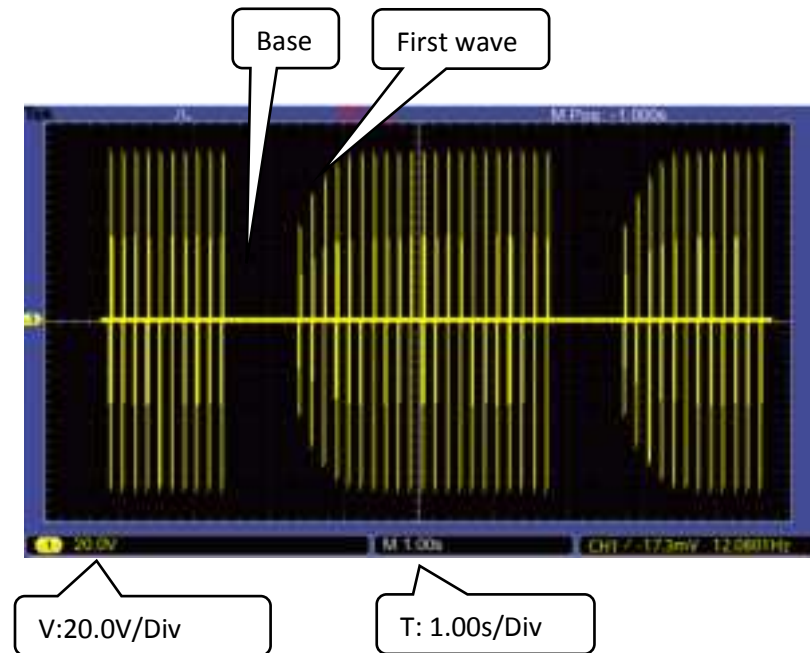


## WAVEFORMS

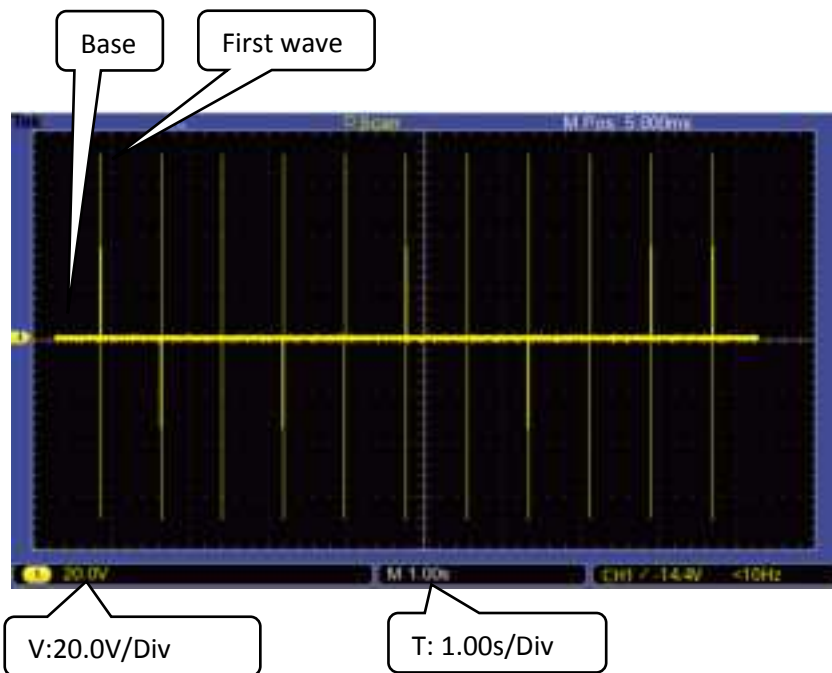
Mode 1 :



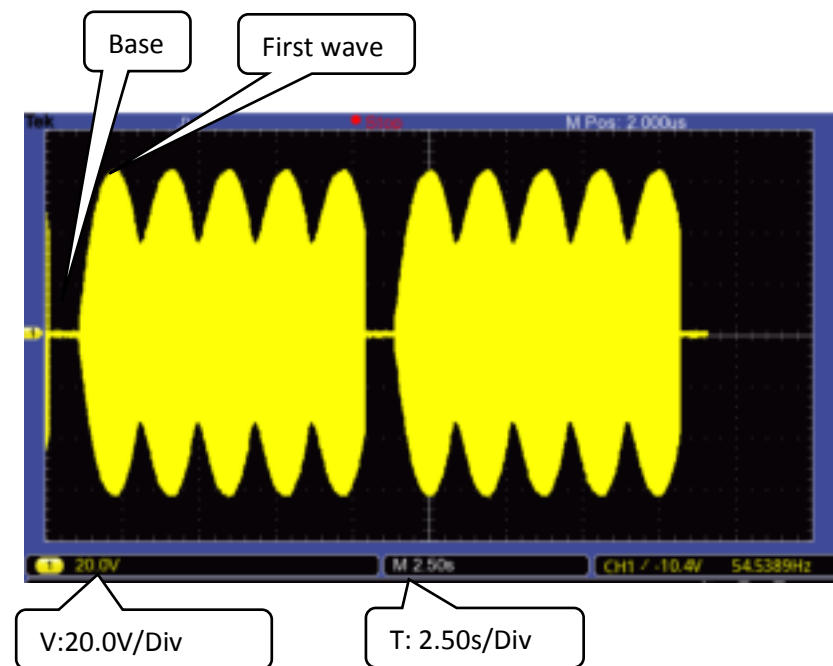
Mode 2 :



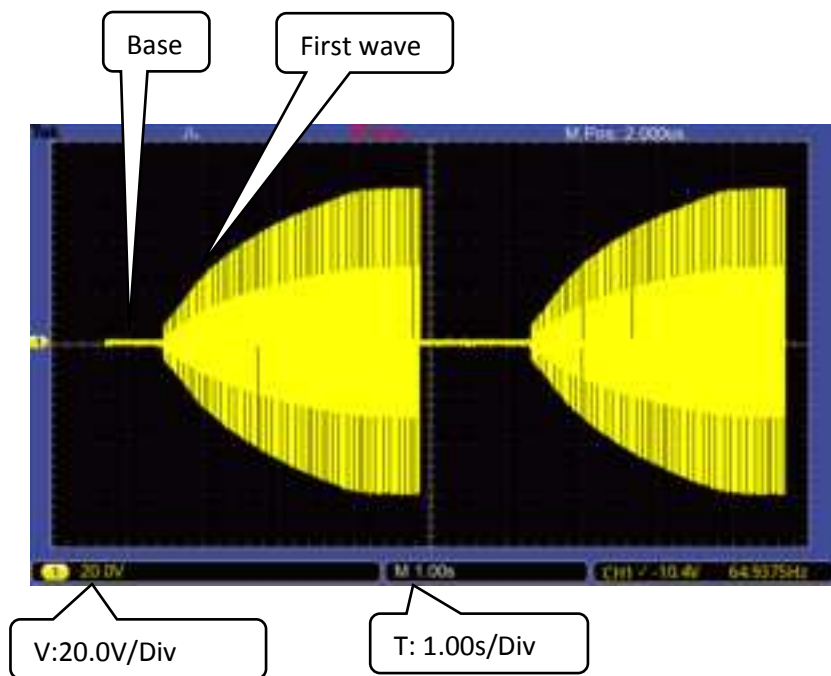
Mode 3 :



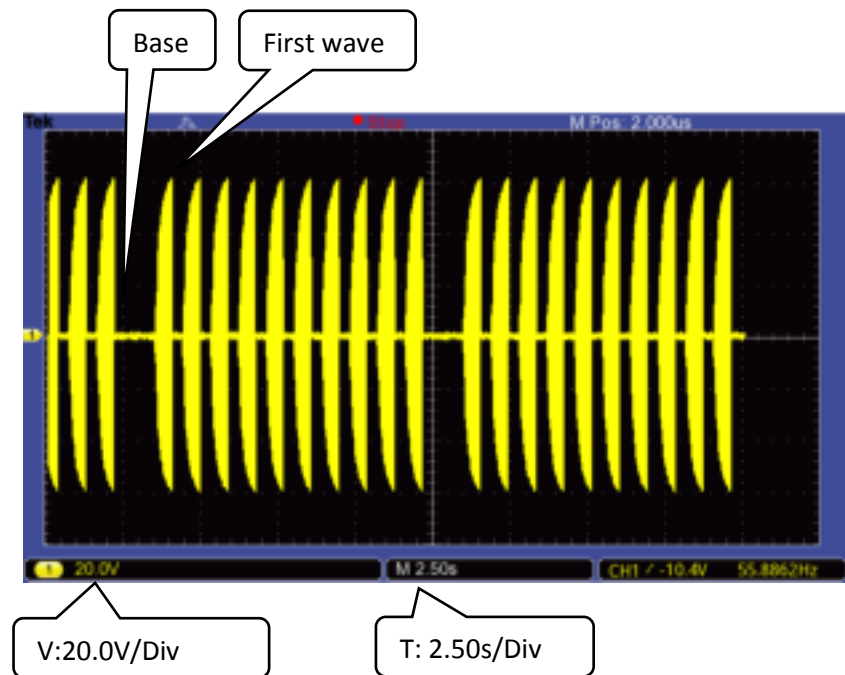
Mode 4 :



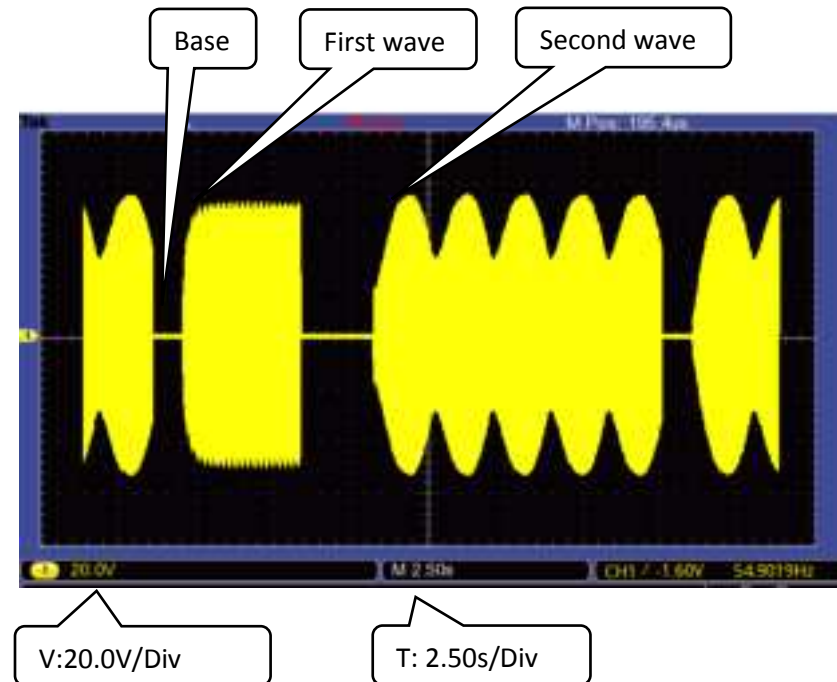
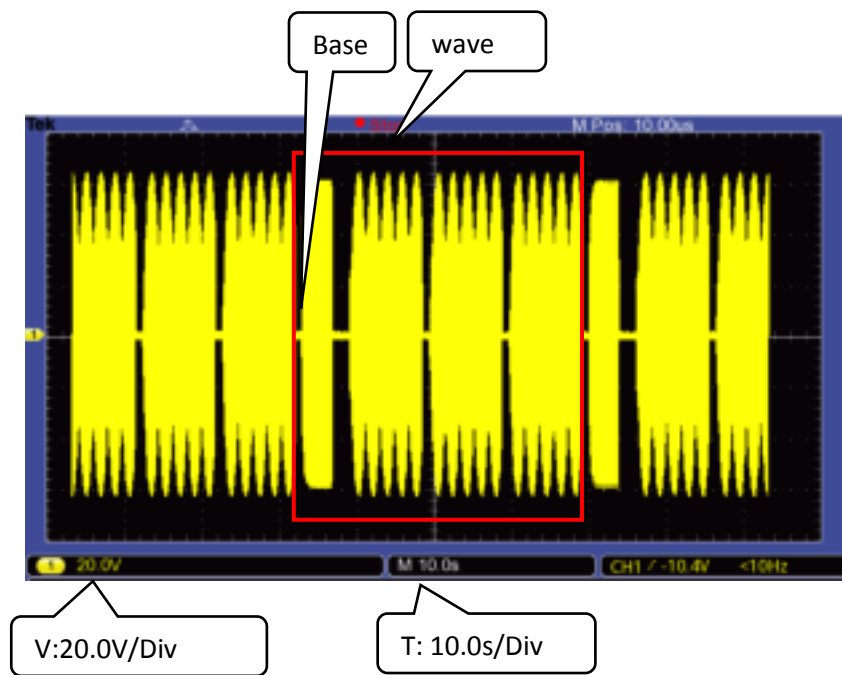
Mode 5 :



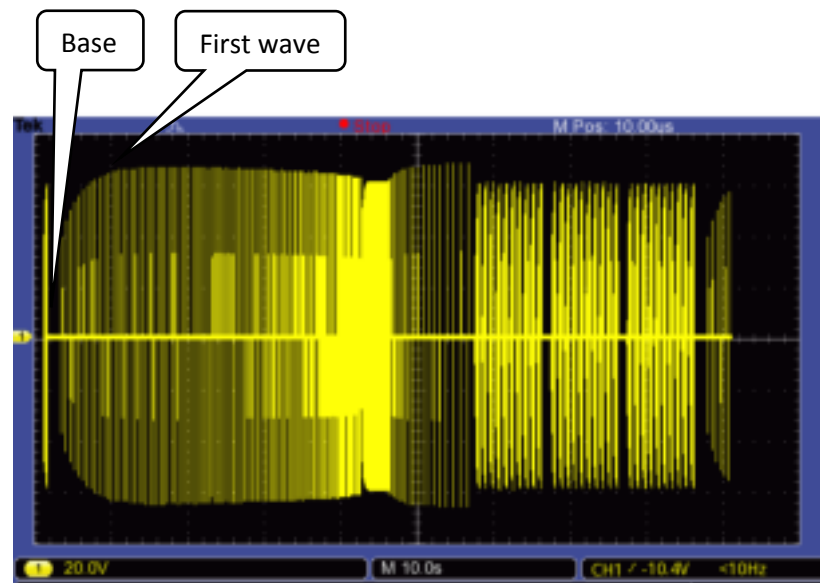
Mode 6 :



Mode 7 :

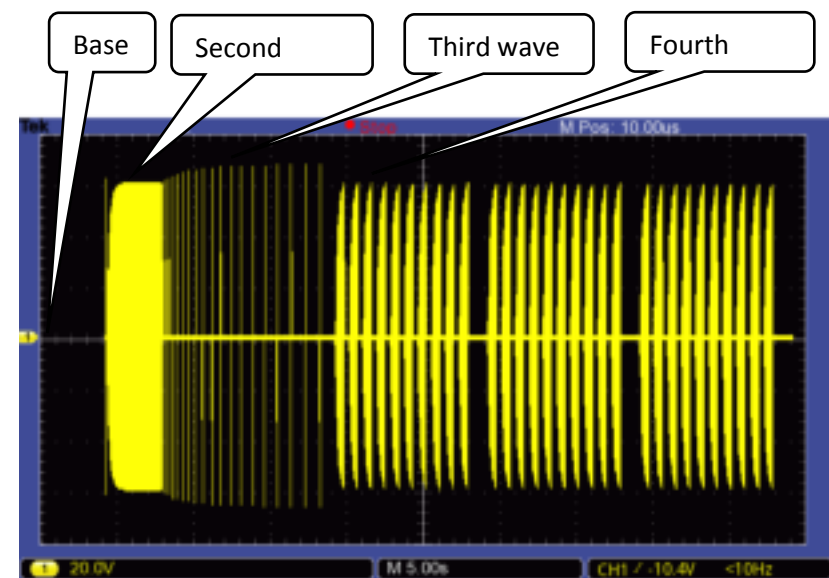


## Mode 8:



V:20.0V/Div

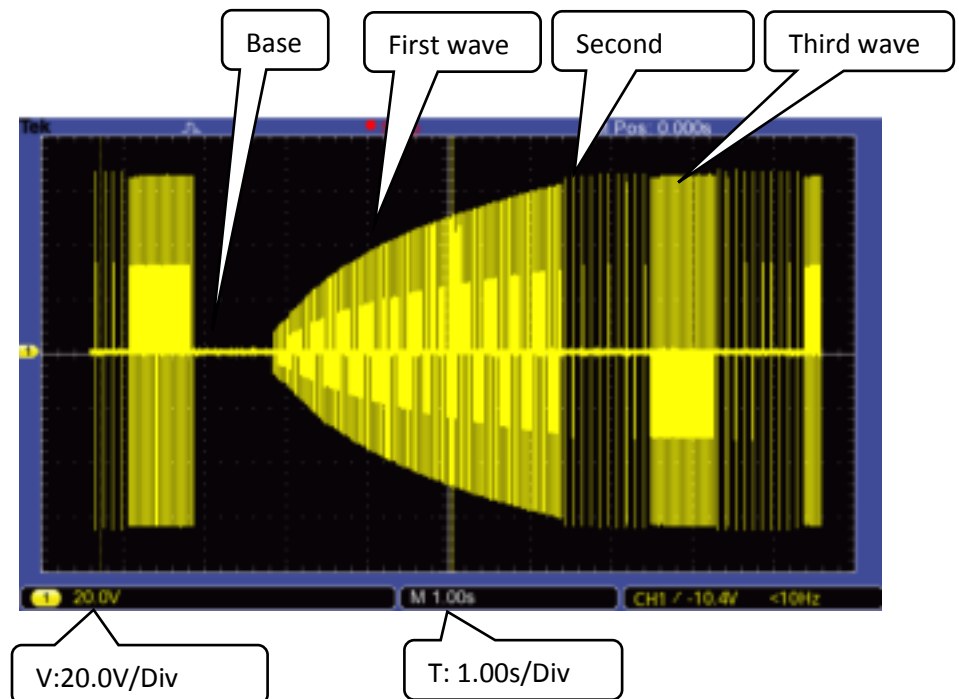
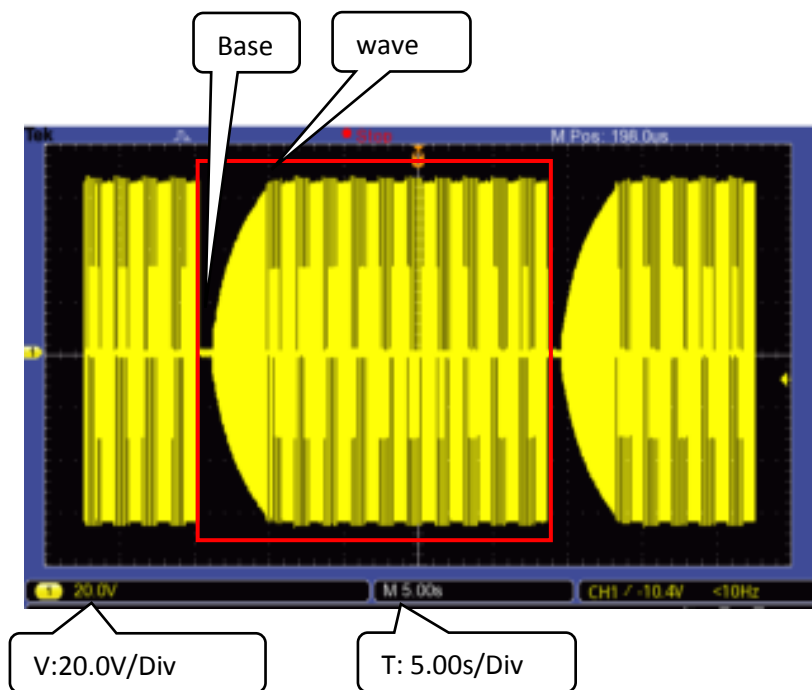
T: 10.0s/Div



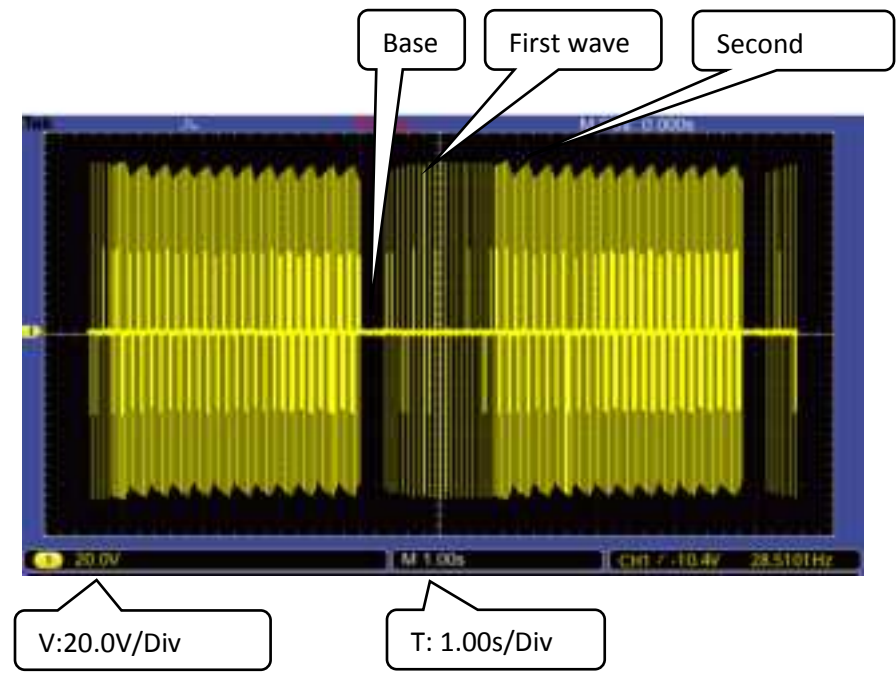
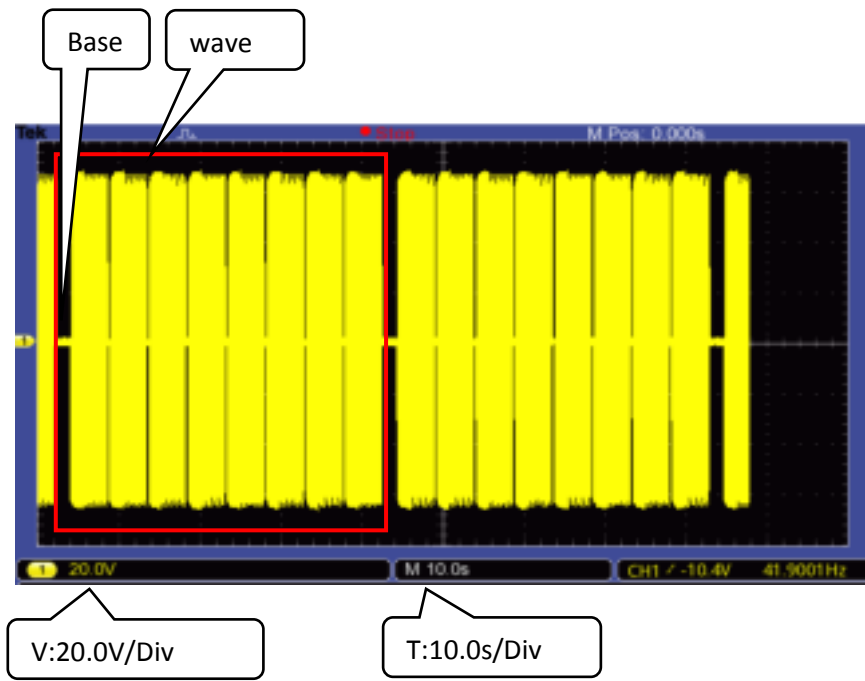
V:20.0V/Div

T: 5.00s/Div

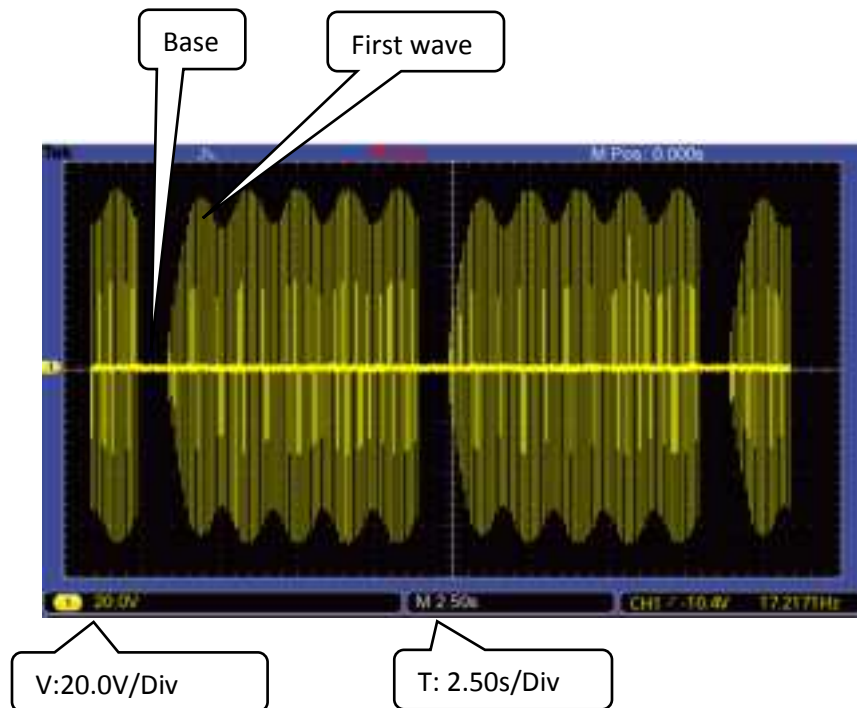
## Mode 9 :



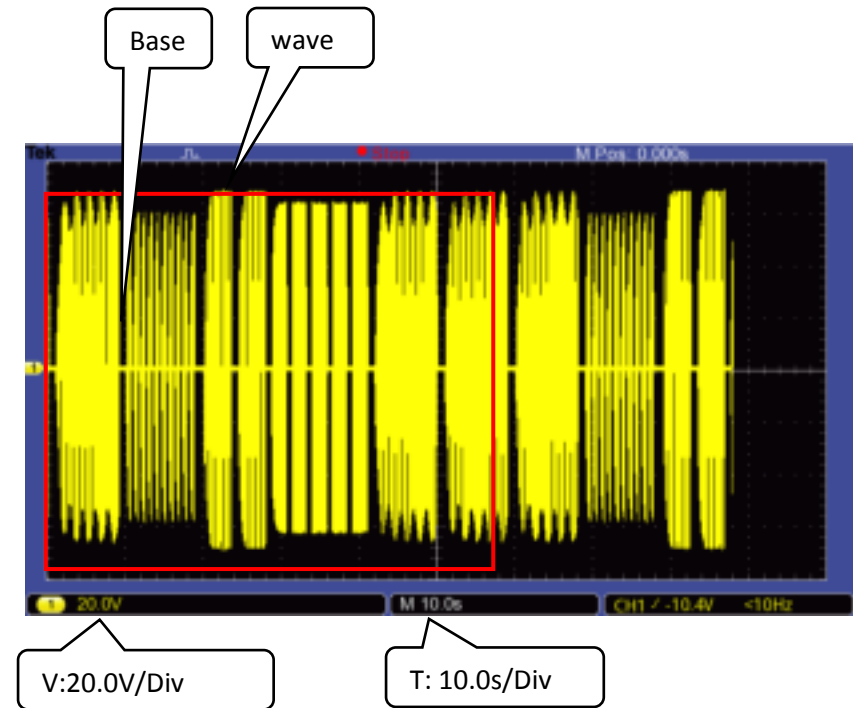
## Mode 10 :



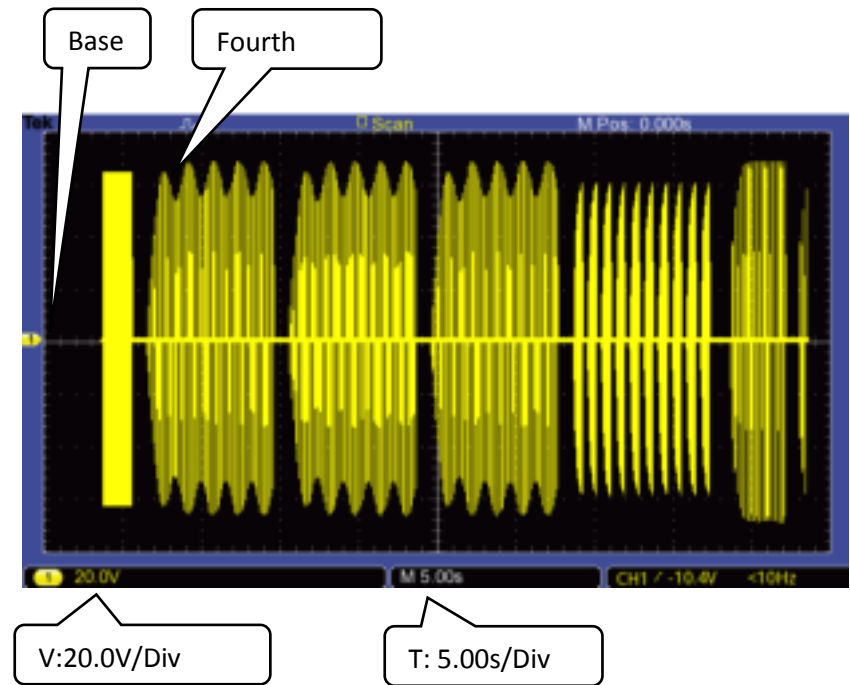
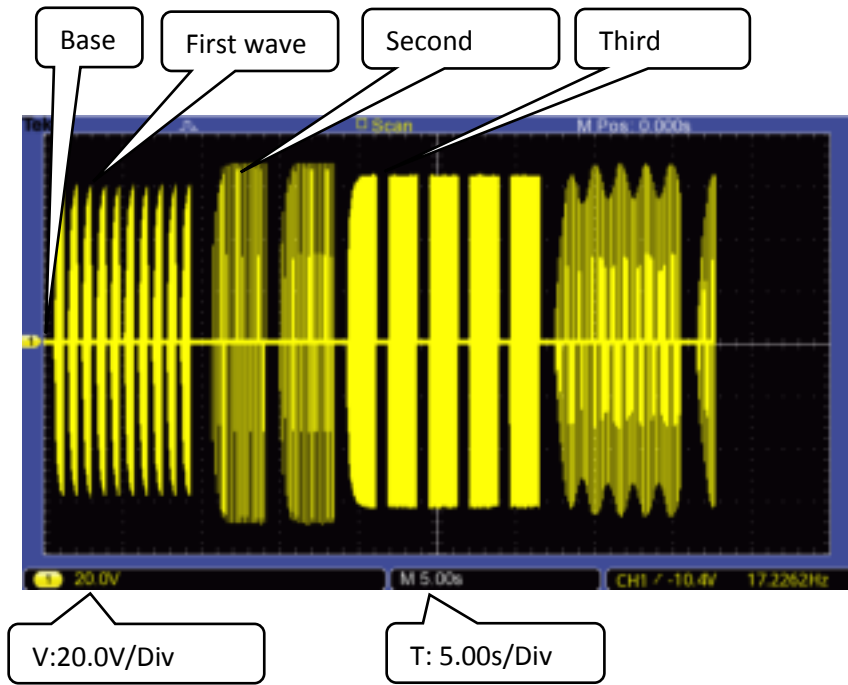
Mode 11 :



Mode 12 :







## **WIRELESS SPECIFICATIONS**

Frequency band: 2400-2483.5Mhz

Modulation method: GFSK

Transmit Power: 0dBm (1mW)

Receiver Sensitivity: -88dBm

Effective transmission distance: ≤8 meters

## **DESCRIPTIONS FOR SAFE WIRELESS TRANSMISSION**

The Remote and the Receivers have a unique address. Before leaving the factory, the Remote and the Receivers will be matched. The address information to each other is saved as to prevent any unauthorized access. In the wireless transmission, the address information will be sent out together; only the correct address information can be received.

## **Electromagnetic Compatibility Descriptions**

This product needs special precautions regarding EMC and needs to be installed and put into service according to the EMC information provided, and this unit can be affected by portable and mobile RF communications equipment.

- 1) Do not use a mobile phone or other devices that emit electromagnetic fields, near the unit. This may result in incorrect operation of the unit.
- 2) Caution: This unit has been thoroughly tested and inspected to assure proper performance and operation!
- 3) Caution: This machine should not be used adjacent to or stacked with other equipment and that if

adjacent or stacked use is necessary, this machine should be observed to verify normal operation in the configuration in which it will be used.

**Guidance and manufacturer's declaration – electromagnetic emission –  
for all EQUIPMENT AND SYSTEMS**

<b>Guidance and manufacturer's declaration – electromagnetic emission</b>		
The <b>HD-19A</b> is intended for use in the electromagnetic environment specified below. The customer or the user of <b>HD-19A</b> should assure that it is used in such an environment.		
<b>Emissions test</b>	<b>Compliance</b>	<b>Electromagnetic environment - guidance</b>
RF emissions CISPR 11	Group 1	The <b>HD-19A</b> uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The <b>HD-19A</b> is suitable for use in all establishments other than domestic and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Class A	

Voltage fluctuations  flicker emissions  IEC 61000-3-3	Complies	
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## 1.1 Electromagnetic Immunity

### Guidance and manufacturer's declaration – electromagnetic immunity – for all EQUIPMENT and SYSTEMS

Guidance and manufacturer's declaration – electromagnetic immunity			
The <b>HD-19A</b> is intended for use in the electromagnetic environment specified below. The customer or the user of the <b>HD-19A</b> should assure that it is used in such an environment.			
Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
Electrostatic discharge (ESD) IEC 61000-4-2	± 8 kV contact  ± 2 kV, ± 4 kV,  ± 8 kV,  ± 15 kV air	± 8 kV contact  ± 2 kV, ± 4 kV,  ± 8 kV,  ± 15 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.

Electrostatic transient / burst IEC 61000-4-4	± 2 kV for power supply lines ± 1 kV for input/output lines	± 2 kV for power supply lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	±1 kV differential mode ± 2 kV common mode	±1 kV differential mode	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4- 11	0 % UT; 0,5 cycle g) At 0°, 45°, 90°, 135°, 180°, 225°, 270° and 315° 0 % UT; 1 cycle and 70 % UT; 25/30 cycles Single phase: at 0°	0 % UT; 0,5 cycle g) At 0°, 45°, 90°, 135°, 180°, 225°, 270° and 315° 0 % UT; 1 cycle and 70 % UT; 25/30 cycles Single phase: at 0°	Mains power quality should be that of a typical commercial or hospital environment. If the user of the <b>HD-19A</b> requires continued operation during power mains interruptions, it is recommended that the <b>HD-19A</b> be powered from an uninterruptible power supply or a battery.

	0 % UT; 250/300 cycle	0 % UT; 250/300 cycle	
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	30 A/m	30 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
NOTE $U_T$ is the a. c. mains voltage prior to application of the test level.			

## 1.2 Recommended isolation distance

### Guidance and manufacturer's declaration – electromagnetic immunity – for EQUIPMENT and SYSTEM

Guidance and manufacturer's declaration – electromagnetic immunity			
The <b>HD-19A</b> is intended for use in the electromagnetic environment specified below. The customer or the user of the <b>HD-19A</b> should assure that it is used in such an environment.			
Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
Conducted RF IEC 61000-	3 Vrms  150 kHz to 80	3V  150 kHz to 80 MHz	Portable and mobile RF communications equipment should be used no closer to any part of the <b>HD-19A</b> , including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.

4-6  Radiated RF  IEC 61000-4-3	<p>MHz</p> <p>6 V in ISM and amateur radio bands between 0,15 MHz and 80 MHz</p> <p>10 V/m</p> <p>80 MHz to 2.7 GHz</p> <p>385MHz-5785MHz Test specifications for ENCLOSURE PORT IMMUNITY to RF wireless communication equipment (Refer to table 9 of IEC 60601-1-2:2014)</p>	<p>6 V in ISM and amateur radio bands between 0,15 MHz and 80 MHz</p> <p>10 V/m</p> <p>80 MHz to 2.7 GHz</p> <p>385MHz-5785MHz Test specifications for ENCLOSURE PORT IMMUNITY to RF wireless communication equipment (Refer to table 9 of IEC 60601-1-2:2014)</p>	<p>1.2.1 Recommended separation distance</p> $d = \left[ \frac{3.5}{V_1} \right] \sqrt{P}$ $d = \left[ \frac{12}{V_2} \right] \sqrt{P}$ $d = \left[ \frac{3.5}{E_1} \right] \sqrt{P} \quad 80 \text{ MHz to } 800 \text{ MHz}$ $d = \left[ \frac{7}{E_1} \right] \sqrt{P} \quad 800 \text{ MHz to } 2.7 \text{ GHz}$ <p>where <math>p</math> is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and <math>d</math> is the recommended separation distance in metres (m).<sup>b</sup></p> <p>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,<sup>a</sup> should be less than the compliance level in each frequency range.<sup>b</sup></p> <p>Interference may occur in the vicinity of equipment marked with the following symbol:</p>
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NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic is affected by absorption and reflection from structures, objects and people.

<sup>a</sup> The ISM (industrial, scientific and medical) bands between 150 kHz and 80 MHz are 6,765 MHz to 6,795 MHz; 13,553 MHz to 13,567 MHz; 26,957 MHz to 27,283 MHz; and 40,66 MHz to 40,70 MHz. The amateur radio bands between 0,15 MHz and 80 MHz are 1,8 MHz to 2,0 MHz, 3,5 MHz to 4,0 MHz, 5,3 MHz to 5,4 MHz, 7 MHz to 7,3 MHz, 10,1 MHz to 10,15 MHz, 14 MHz to 14,2 MHz, 18,07 MHz to 18,17 MHz, 21,0 MHz to 21,4 MHz, 24,89 MHz to 24,99 MHz, 28,0 MHz to 29,7 MHz and 50,0 MHz to 54,0 MHz.

<sup>b</sup> Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the **HD-19A** is used exceeds the applicable RF compliance level above, the **HD-19A** should be observed to verify normal operation.

If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the **HD-19A**.

<sup>c</sup> Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3V/m.

**Recommended separation distances between portable and mobile  
RF communications equipment and the EQUIPMENT or SYSTEM -  
for EQUIPMENT and SYSTEMS**



**Recommended separation distances between  
portable and mobile RF communications equipment and the HD-19A**

The **HD-19A** is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the **HD-19A** can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the **HD-19A** as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output of transmitter  W	Separation distance according to frequency of transmitter			
	m			
	150 kHz to 80 MHz outside ISM and amateur radio bands  $d = [\frac{3.5}{V_1}] \sqrt{P}$	150 kHz to 80 MHz in ISM and amateur radio bands  $d = [\frac{12}{V_2}] \sqrt{P}$	80 MHz to 800 MHz  $d = [\frac{3.5}{E_1}] \sqrt{P}$	800 MHz to 2.7 GHz  $d = [\frac{7}{E_1}] \sqrt{P}$
0.01	0.12	0.20	0.035	0.07
0.1	0.38	0.63	0.11	0.22
1	1.2	2.00	0.35	0.70
10	3.8	6.32	1.10	2.21
100	12	20.00	35	70

For transmitters rated at a maximum output power not listed above the recommended separation distance  $d$  in metres (m) can be estimated using the equation applicable to the frequency of the transmitter, where  $P$  is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE 1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

## **WARRANTY**

All Hi-Dow TENS models carry a warranty of two years from the date of purchase. The warranty applies to the TENS/EMS stimulator REMOTE and RECEIVER only.

The warranty does not apply to damage resulting from failure to follow the operating instructions, accidents, abuse, alteration or disassembly by unauthorized personnel.

## **CONTACT INFORMATION**

Customer Service

Hi-Dow International Inc.

2555 Metro Blvd, Maryland Heights, MO 63043 U. S. A.

Email: [manager@hidow.com](mailto:manager@hidow.com)

[www.hidow.com](http://www.hidow.com)

*User Manual Version:1.0*

*Software Version:1.0*

**Model : HD-19A**



Hi-Dow Electron Technology (Hefei) Inc., Ltd.

Building D17/22, Baiyan Sci-tech Industrial Park, No.168 Xiang zhang Road, Hefei, Anhui,230088,P.R.China