HERUTU

Specified Low-power

1mW Transmitter

AN426T Ⅱ

Instruction Manual V2.20

Please use this Instruction manual correctly on reading well.

Please keep it carefully to be able to read immediately, when required.

CONTENTS

1. Before Use

1-1. Introduction

This instruction manual describes the information required for using this product including overview, installation, and operation of this product. Read this manual carefully before using this product. Keep this manual handy so that you can take it out immediately.

Available in Japan and Thailand

■Japan

This product is certified as radio equipment for specified low-power radio stations telemeter & telecontrol.

< Information on radio equipment for telemeter & telecontrol >

Radio equipment for telemeter:

Refers to radio equipment which is intended to utilize radio waves to automatically display or record the measurement results of a remotely located measuring instrument.

Radio equipment for telecontrol:

Refers to radio equipment which is intended to utilize radio waves to transmit the signals for starting, changing, or stopping the functions of a remotely located device.

1. Do not use this system for any applications that could cause harm or damage to human life or to other equipment or devices. Also, do not use it in the vicinity of any devices that could malfunction due to the radio waves from the transmitter.
2. Disassembling or making modification to any equipment or devices certified to comply with the technical standards is prohibited by law.
3. The casing of the transmitter bears a certification label for compliance with the technical standards. Do not remove the label from the casing of the transmitter. Using the transmitter with the certification label removed is prohibited by law.
4. The communication performance varies depending on the ambient environment. Before installation, ensure that the installation location is within the coverage.

■Thailand

This system has acquired the certification of the Thailand Radio Law (SDoC). The Radio Law is only effective within the territory of Thailand. To use this system outside Thailand, make sure that it conforms to the local laws in the country where you are going to use it. Besides, you are not allowed to use the system in a condition that it is connected with an electrical communication line.

Thailand Radio Law (SDoC)

This telecommunication equipment is in compliance with NBTC requirements.

1-2. Outline

This product "AN426TII" (hereinafter called "the transmitter") is a transmitter for the wireless call systems using specified low-power radio. When the push button is pressed or the terminal block input is performed, the radio signal corresponding to the input is transmitted.

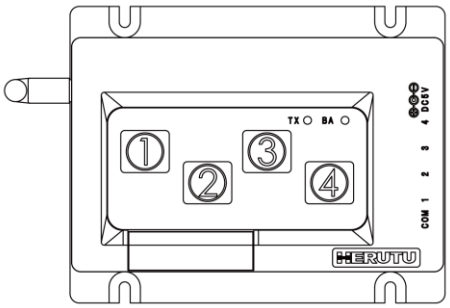
< Features >

1. It can be used in combination with various types of receivers such as the wireless Andon series AN426Ⅱ, the open collector output type receiver WCP-426R-A, and the LAN connection type Andon receiver WCL-426R.
2. At the transmitter, there are two selectable input methods: one with four push buttons (1 (orange)/ 2 (red)/ 3 (green)/ 4 (white)) and one with four external inputs (1 (orange)/ 2 (red)/ 3 (green)/ 4 (white)).
3. The transmitter can communicate with the receiver by matching the settings (channel, set number, and unit number) with those of the receiver.
   *The range of numbers to be used depends on the model of the receiver. Set the numbers according to your receiver.
4. You can select from the following two transmission modes.
   Normal transmission:
   The transmitter repeats radio signal transmission for 5 seconds and transmission pause for 2 seconds while the push button is pressed or the external input is performed.
   Event transmission:
   The transmitter transmits a radio signal for about 1 second when input state is changed.
   For example, the transmitter transmits once when the push button is pressed or the external input is performed, and transmits once when the push button is released or the external input is stopped.
5. This product is designed as a successor to the AN426T, and can also be used as the AN426T. Please set either the AN426TII mode or the AN426T mode (earlier mode) according to your receiver. In the AN426T mode (earlier mode), three push buttons (1 (CALL)/2 (STOP)/4 (CLR)) and three external inputs (1 (CALL)/2 (STOP)/4 (CLR)) can be used.
   * In the AN426T mode (earlier mode), "3 (green)" of the push button and the external input are unused.
   * If the transmitter is used in combination with the following models, set the AN426T mode (earlier mode). BN426RⅡ / BNW426RⅡ / AN426R
6. Use the attached AC adapter for the power supply. Even three AA dry batteries can be used.

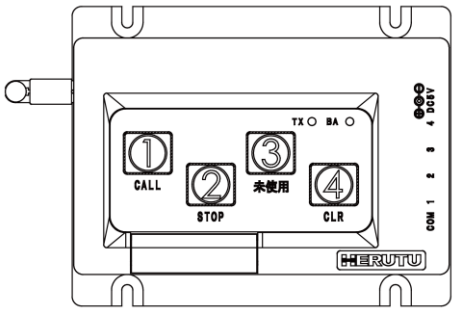
1-3. Main Unit and Accessory

Main Unit

・Transmitter　AN426TⅡ



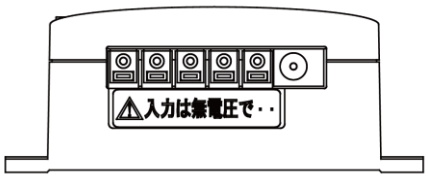
・ If you order the product in AN426T mode (earlier mode), the product will be shipped with the earlier mode sticker on the surface of it.



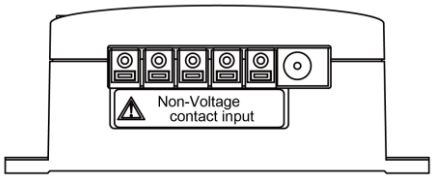
AN426T mode (earlier mode)

・ The contents of the sticker put under the terminal block differs between Japan and Thailand. For Japan, it is written in Japanese, and for Thailand, it is written in English.

For Japan

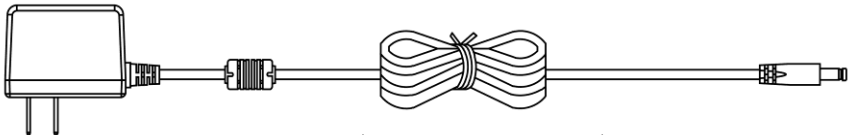


For Thailand



Accessory

・AC adapter　ADB05100



（Cable approx. 1.5m）

1-4. Safety Precautions (Be Sure to Read This)

This section describes the matters to be observed in order to prevent harm to the users and other persons and damages to the property.

■ The following marks and displays classify and describe the extent of harm and damage caused by failing to observe the display content and using this product wrongly.

Warning	This display column shows "a failure to do observe it could result in death or serious personal injury".
Caution	This display column shows "a failure to do observe it could result in only the personal injury or property damage".

Caution

■ Common matters in handling

● Avoid using this product in the humid or dusty place. Dusts or water enters the product, which may cause the fault, fire, or electric shock.	

■ Handling this product

● This product is the wireless communication equipment made of precision parts. Do not disassemble or modify it. Or the accident or fault may occur.	

Warning

■ Handling this product

● Do not use this product for application that requires the extremely high reliability affecting the human life.	
● Do not use this product in the area which the radio wave reaches or not.	

■ Handling the power supply

Be sure to observe the followings in order to prevent the accidents such as heat generation, damage, or ignition of AC adapter and power cord.

● Do not place the AC adapter and power cord close to fire or insert them into fire. Or they may be burst and ignited, resulting in the accident.	
● Use the AC adapter and main body only at the specified power supply voltage in order to prevent burst and ignition accidents.	

● Do not use the AC adapter and main body at the location where they easily get wet. Or the accidents including heat generation, ignition, or electric shock and faults may occur.
● Do not touch the AC adapter, main body, power cord, and outlet with wet hands. Or the accident such as an electric shock may occur.
● Do not damage the power cord. Short-circuit or heat generation may cause fire or electric shock.
● Do not use the power plug with dusts attached. Short-circuit or heat generation may cause fire or electric shock.
● Do not give a strong shock to the AC adapter. Or the accident or fault may occur.
● If you find a deformation in the AC adapter, do not use it. Or the accident or fault may occur.
● Do not charge the main body at the location where the flammable gas is generated. Or the ignition accident may occur.
● Never disassemble the AC adapter. Or the accident or fault may occur.

■ Never disassemble the AC adapter.

Remove the power plug from the outlet because it may cause fire and electric shock. Request the dealer or our company to repair it.

● When smoke comes or there is a strange smell, immediately stop usage and remove the power plug from the outlet because it may cause fire and electric shock. Request the dealer or our company to repair it.
● If the cord is damaged, do not use it. Using the cord damaged continuously may cause fire or electric shock.

■ Reliability of wireless communication

As wireless communication has properties that are different from those of wired communication, communication errors may occur due to the following.

・Exceeds the communication distance.

・Enters a dead zone.

・Interfered by strong jamming

If signals are often jammed, or being jammed leads to operational problems, stop using the systems and restart using the systems after removal of the cause.

Radio waves may not be received due to various reasons other than the above. Please understand this before using the systems.

*A dead zone is an area where the radio wave transmitted from the transmitter becomes extremely weak due to radio waves reflected from walls or other objects.

1-5. Specifications

1-5-1. Radio Section

Item	Specifications
Device Category	A specified low-power radio station in compliance with ARIB STD-T67. (Radio equipment for specified low-power radio stations telemeter & telecontrol)
Frequency Band	426.0250MHz - 426.1375MHz (12.5kHz steps - 10 channels)
Type of Radio Wave	F1D
Antenna Power	1mW ＋20% －50%
Antenna	λ/4 whip antenna
Modulation System	Direct 2-FSK modulation
Modulation Speed	977bps
Communication Method	Simplex communication x Sporadic communication (*1)
Others	[Transmission time constraints] (*2) Transmission time: 5 seconds or shorter Transmission pause time: 2 seconds or longer

(*1) “Simplex communication” is a type of communication in which a transmitting device can only engage in one-way transmission to a single receiving device.

(*2) Based on the Radio Law, this equipment can execute a transmission only after the emission of radio waves has been stopped during a transmission duration after the start of emission and the time of a transmission pause has elapsed after that.

However, it can re-execute a transmission without the transmission pause of 2 seconds or longer intervened only if the emission of radio waves has been stopped within five consecutive seconds after the start of emission. (This feature is a requirement for this equipment being certified as “radio equipment for specified lower-power radio stations telemeter & telecontrol.”)

1-5-2. General Section

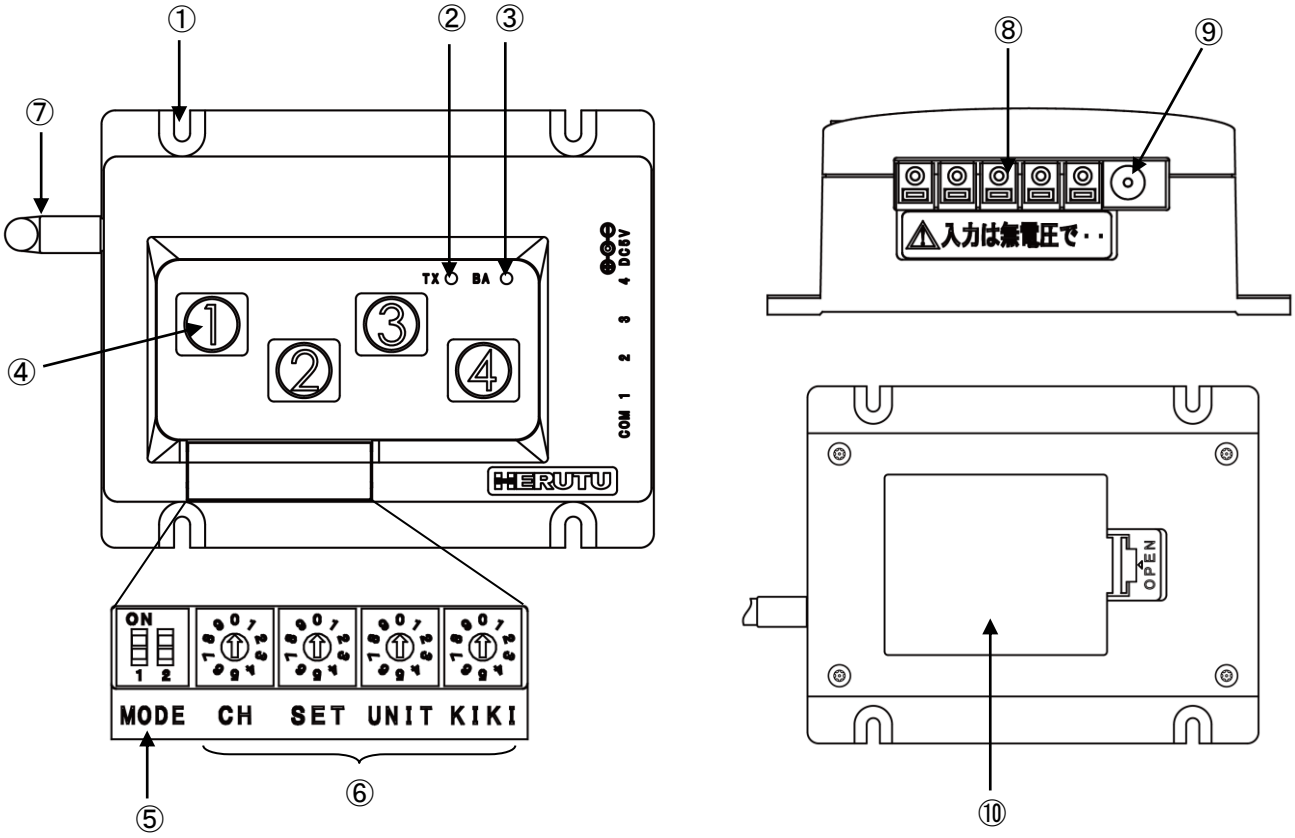
Item	Specifications
Inputs	4 Push button (1(Orange)/ 2(Red)/ 3(Green)/ 4(White)) 4 External input (1(Orange)/ 2(Red)/ 3(Green)/ 4(White))
Switches	2P DIP switch x 1 (for switching a transmission mode) 10P Rotary switch x 4 (for setting Channel, Set No., Unit No., and Kiki No.)
Indicator Element	1 Red LED (for power alarm) 1 Green LED (lights during transmission)
Power Source	DC5V AC 100-240V (Using included AC Adapter) or size AA battery x 3
Current Consumption	Max 105mA (Using included AC Adapter) (*1)
External Dimensions	(W x H x D)120 x 95 x 37.5 mm (4.7 x 3.7 x 1.5”) (with projections excluded)
Weight	Approx. 170g
Operating Environment	Temperature: 0 - +50°C Humidity: 85% or less (without condensation)

(*1) The current consumption in each state is as follows.

Condition	Consumption current	
	Using dry batteries (DC 4.5V)	Using AC adapter (DC 5.0V)
Push button transmission	Approx. 35 mA	Approx. 85 mA
Push button transmission pause	Approx. 6.5 mA	Approx. 60 mA
Terminal input transmission (*2)	Max 60 mA	Max 105 mA
Terminal input transmission pause (*2)	Max 30 mA	Max 80 mA
Standby (*3)	Approx. 0.5 μA	Approx. 55 mA

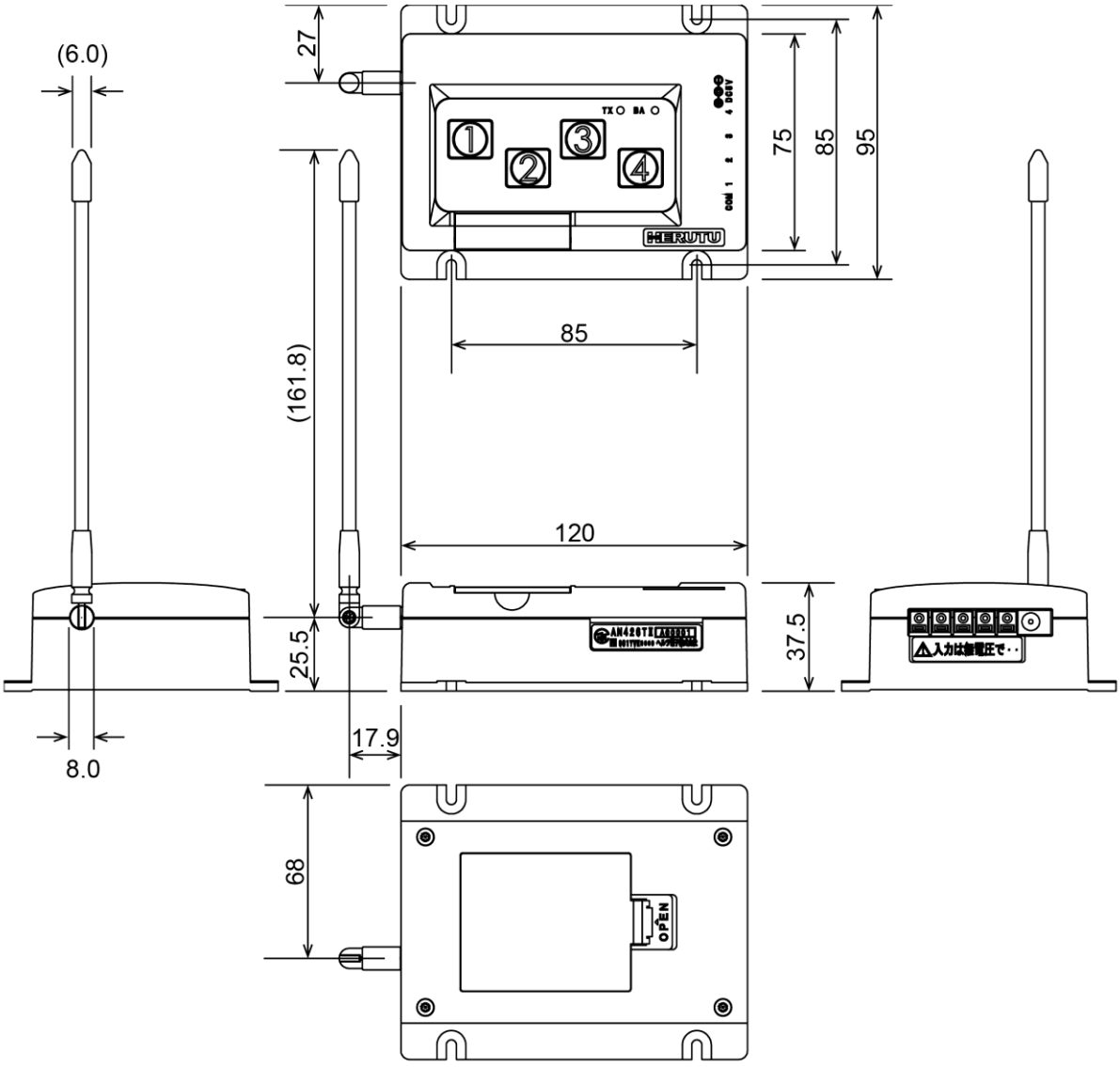
(*2) The maximum state at the time of external input is when all external input terminals (terminals 1 - 4) are short-circuited with COM.
(*3) "Standby" is a state in which 5 seconds or more have passed since all the push buttons and external input terminals were released.

1-6. Part Names and Descriptions



Item	Description
①Mounting Holes	Used to anchor the transmitter to a panel etc. R1.75 mm, R central pitch: 85 x 85 mm
②TX LED (Green)	Lights during transmission.
③BA LED (Red)	Power supply alarm LED. If the LED remains lit during transmission, the battery voltage has dropped. If the LED is blinking, the battery voltage has more dropped. It is the state of being unable to transmit. If dry batteries are used for the power supply, replace them with new ones as soon as possible.
④Push-Buttons	Button switches in 1(Orange)/ 2(Red)/ 3(Green)/ 4(White).
⑤MODE Setting Switch	1: Switches between AN426TII mode and AN426T mode (earlier mode). 2: Switch the transmission mode.
⑥Setting Switches	Configures the settings for Channel, Set No., Unit No. and Kiki No.
⑦Antenna	Antenna.
⑧Input Terminal Block for External Contact	External inputs in 1(Orange)/ 2(Red)/ 3(Green)/ 4(White). Input the no-voltage contact signals.
⑨DC Jack	DC jack for connection of the included AC adapter.
⑩Dry Battery Case Cover	When using dry batteries as a power supply, insert three AA dry batteries.

1-7. Dimensional Drawing



1-8. Installation

1-8-1. Installation of This Product

For installation, pay attention to the following:

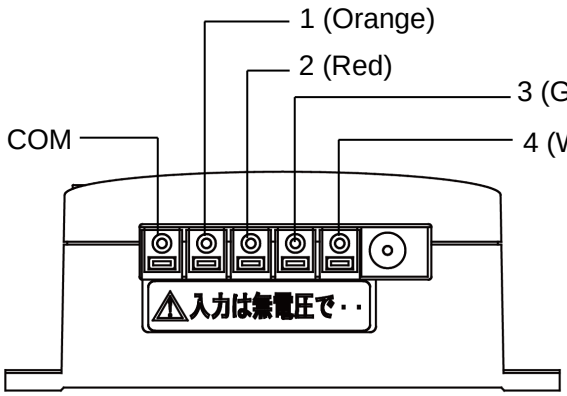
1. Set the antenna as upright as possible so as to ensure it is not parallel to any metallic sheet or wire.
2. Keep the antenna as far away from any metallic sheet or wire as possible.
3. Space the antenna and any noise source apart as far as possible.
4. Wherever possible, choose an installation location free from shielding objects between the antennas of the transmitter and the receiver.
5. The communication performance largely depends on the installation environment.
   Before installation, make sure the location is within the coverage.
6. When anchoring the transmitter to a panel etc., use the mounting slots.
7. This equipment is not dust-proof or drip proof in construction.
   Take a dust- or drip-proofing measure if the installation environment so requires.

<Notes for installation>

For installation, avoid choosing such installations as:

1. Within reach of direct sunlight
2. In the presence of an extremely high level of moisture
3. In the vicinity of TV or radio
4. In the vicinity of sparking devices such as a motor
5. In the presence of an intense magnetic field
6. In an area surrounded by steel frames or metallic walls

1-8-2. External Input

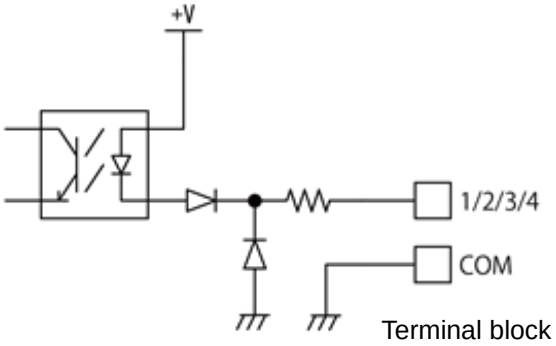


(Screwless terminal block)
Applicable wire range:
Single wire: φ0.4 mm (AWG26) – φ1.0 mm (AWG18)
Stranded wire: φ0.3 mm^2 (AWG22) – φ0.75 mm^2 (AWG20)
Strand diameter of φ0.18 or more

To the external input terminals (terminals 1-4), dry contacts are to be contacted, such as a relay, a micro switch, and a limit switch. The transmitter transmits a radio signal according to each input terminal.

- For connections to the terminals, choose a dry contact that is not only less susceptible to chattering but also meets the following requirements:
  For the included AC adapter: Steady ON/OFF switching of voltage/current 5.0 V/3 mA
  For dry batteries: Steady ON/OFF switching of voltage/current 3.0 V/2.5 mA
- A chattering checking time for about 50 msec is provided for input detection. If all input states of the push button inputs and the external inputs are held for about 50 msec or more, the input will be fixed.

Input Circuit



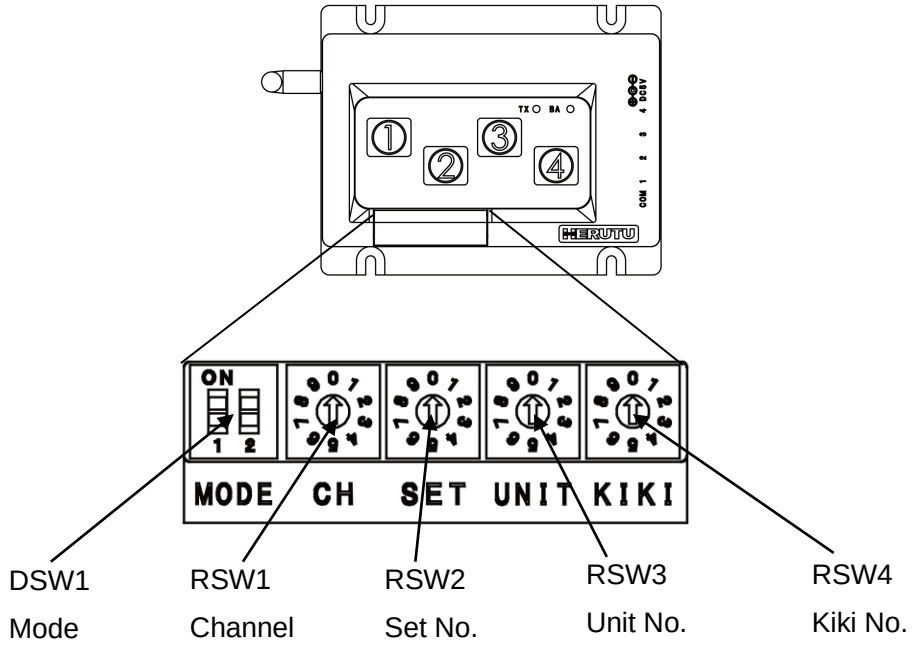
+ V depends on the type of power supply.
・For the included AC adapter : 4.0V
・For dry batteries : 4.5V - 3.3V

1-8-3. Power Supply

When using the external inputs, turn on the power after completing the connection to the external input. Use the attached AC adapter for the power supply. Even three AA dry batteries can be used.
The polarity of the DC jack for a connection to the AC adaptor is center-negative.
When using an adapter other than the attached AC adaptor, pay attention to its polarity.
Also, choose an adapter that is designed for an output voltage of DC 5V and an output current of 400mA or more. The power supply voltage input range of the included AC adapter is AC 100-240V.

1-9. Setting Switches

For settings of the transmitter, use the DIP switches and rotary switches.



- **Mode (Operation Mode and Transmission Mode)**

The transmitter has the following six combinations of the operation mode and the transmission mode. Please choose according to the conditions of use. For details on these modes, refer to "2-2. Operation Mode and Transmission Mode".

DSW1－1	DSW1－2	RSW2	Operation mode	Transmission mode
ON	ON	0-9	AN426TⅡ mode	Normal transmission
ON	OFF	0-9	AN426TⅡ mode	Event transmission
OFF	ON	1-8	AN426T mode (earlier mode)	Normal transmission with the set number
OFF	OFF	1-8	AN426T mode (earlier mode)	Special transmission with the set number
OFF	ON	0	AN426T mode (earlier mode)	Normal transmission without the set number
OFF	OFF	0	AN426T mode (earlier mode)	Special transmission without the set number

< About the set number in the AN426T mode (earlier mode) >

Some receiver models do not use the set numbers. If your receiver does not use the set number, select “normal transmission without the set number” or “special transmission without the set number”. Set RSW2 (SET) to 0 when the set number is not used, and set it to 1 to 8 when the set number is used.

***Note: If the input signal is held for a fixed time, such as when an unusual signal from the machine is externally input, set the transmission mode to <u>event transmission</u> or <u>special transmission</u> to prevent interference.**

- **Channel / Set No. / Unit No. / Kiki No.**

Match the settings for Channel/ Set No. /Unit No. with those of the receiver.

< Channel >

RSW1	Channel	Frequency (MHz)	RSW1	Channel	Frequency (MHz)
1	1	426.0250	6	6	426.0875
2	2	426.0375	7	7	426.1000
3	3	426.0500	8	8	426.1125
4	4	426.0625	9	9	426.1250
5	5	426.0750	0	10	426.1375

< Set No. >

RSW2	Set No.
0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

< Unit No. >

RSW3	Unit No.
0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

< Kiki No. >

RSW4	Kiki No.
0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

When using in AN426T mode (earlier mode), set in the following range:

< Without the set number >

Set No. 0

Unit No. and Kiki No. 1-8

< With the set number >

Set No., Unit No. and Kiki No. 1-8

*Some Set No./ Unit No./ Kiki No. are not used depending on the model of the receiver. Please check the instruction manual of the receiver.

2. Description of Operation

2-1. Detection of Push Button Input and External Input

A chattering checking time for about 50 msec is provided for input detection. When all input states of the push button inputs and the external inputs are held for about 50 msec or more, the input is fixed.

2-2. Operation Mode and Transmission Mode

Select from the following six combinations of operation modes and transmission modes according to conditions of use. Refer to “1-9. Setting switches” for the setting method.
This product is designed as a successor to the AN426T, and can also be used as the AN426T.

Mode	Operation mode	Transmission mode
Mode 1	AN426TⅡ mode	Normal transmission
Mode 2	AN426TⅡ mode	Event transmission
Mode 3	AN426T mode (earlier mode)	Normal transmission with the set No.
Mode 4	AN426T mode (earlier mode)	Special transmission with the set No.
Mode 5	AN426T mode (earlier mode)	Normal transmission without the set No.
Mode 6	AN426T mode (earlier mode)	Special transmission without the set No.

Please refer to “2-2-1. AN426TⅡ Mode” when using in the AN426TⅡ mode, and “2-2-2. AN426T Mode (Earlier Mode)” when using in the AN426T mode (earlier mode).

2-2-1. AN426TⅡ Mode

4 push buttons (1 (orange) / 2 (red) / 3 (green) / 4 (white)) and 4 external inputs (1 (orange) / 2 (red) / 3 (green) / 4 (white Input from)) are available.

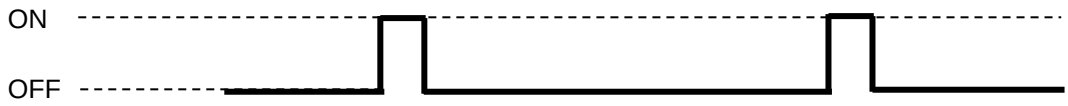
There are two types of transmission modes: “normal transmission” and “event transmission”.

- **< Mode 1 > Normal transmission**

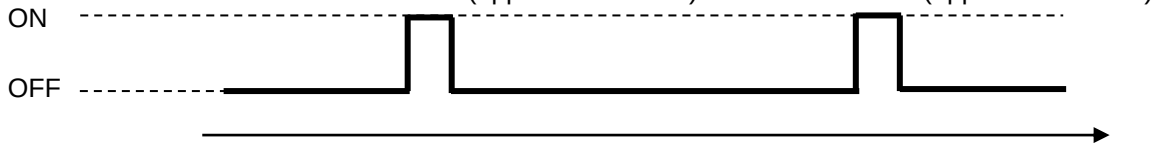
In the normal transmission, the transmitter repeats transmission for 5 seconds and transmission pause for 2 seconds while input continues. The operation is the same whether the push button or the external input is used.

Single input (minimum transmission)

Push button or External input



Transmission status

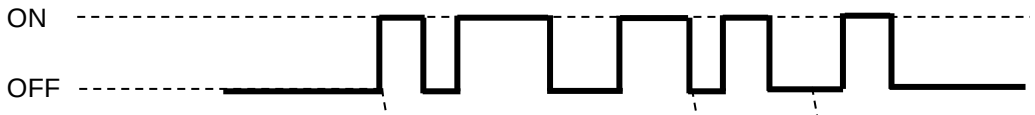


*If the push button input or the external input continues even after the transmission time for about 130 msec has elapsed, the signal will be transmitted again.

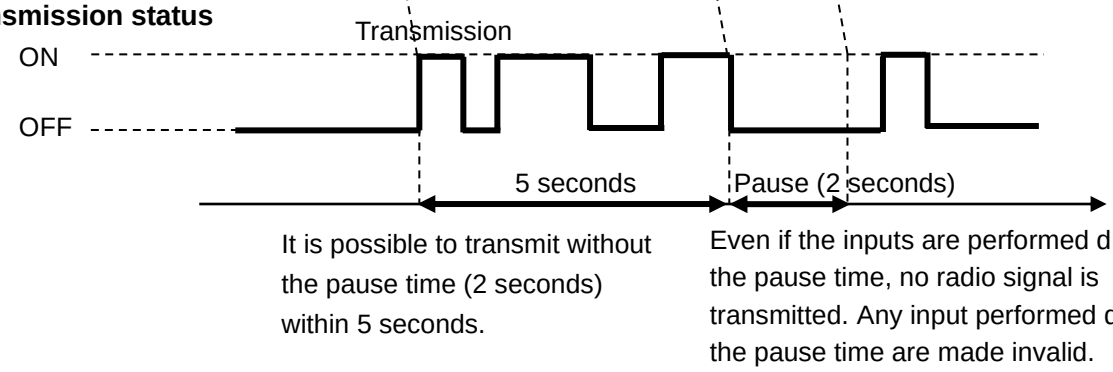
Multiple inputs

Only within 5 consecutive seconds after the start of a transmission, the transmitter can transmit without waiting for the transmission pause time (2 seconds).

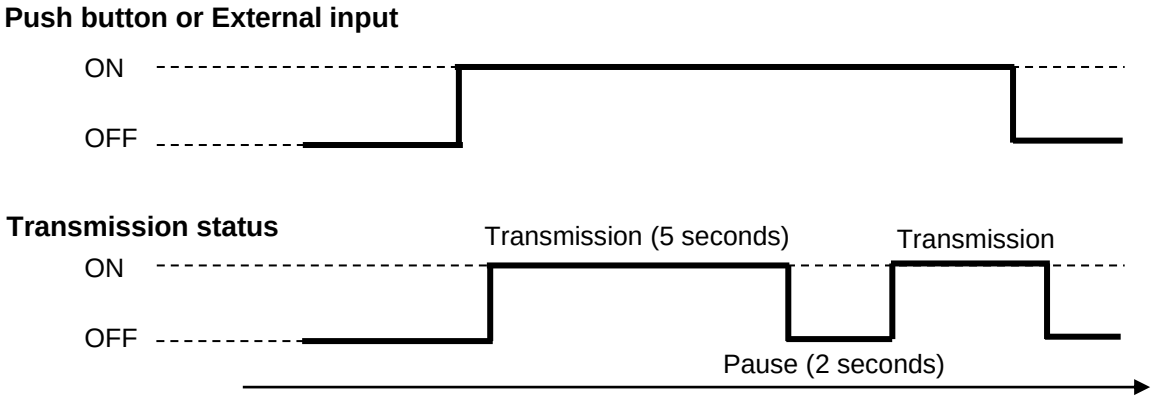
Push button or External input



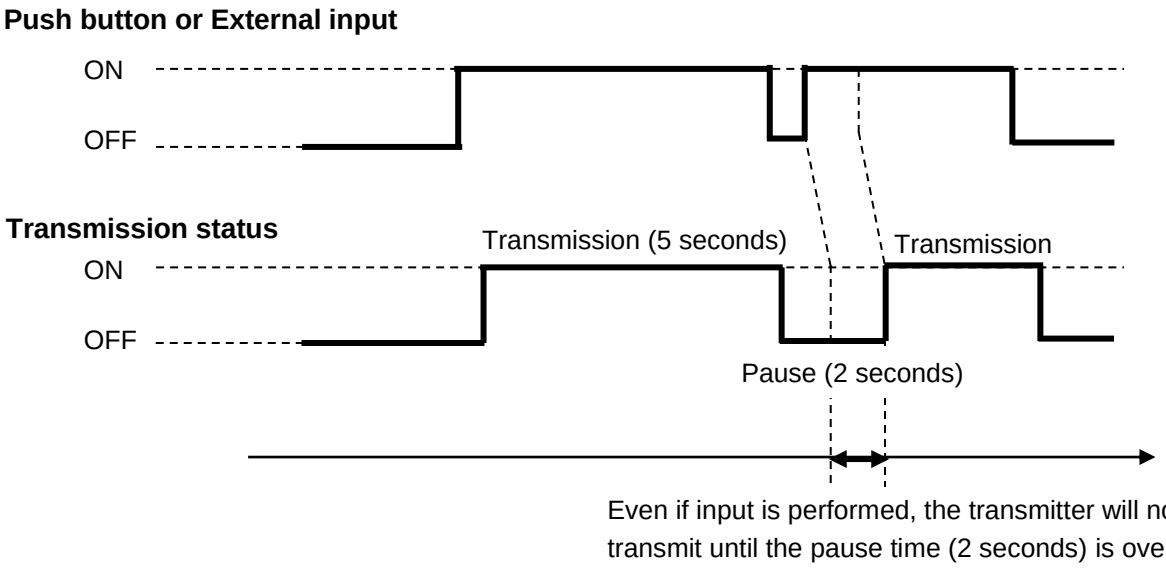
Transmission status



Continuous input

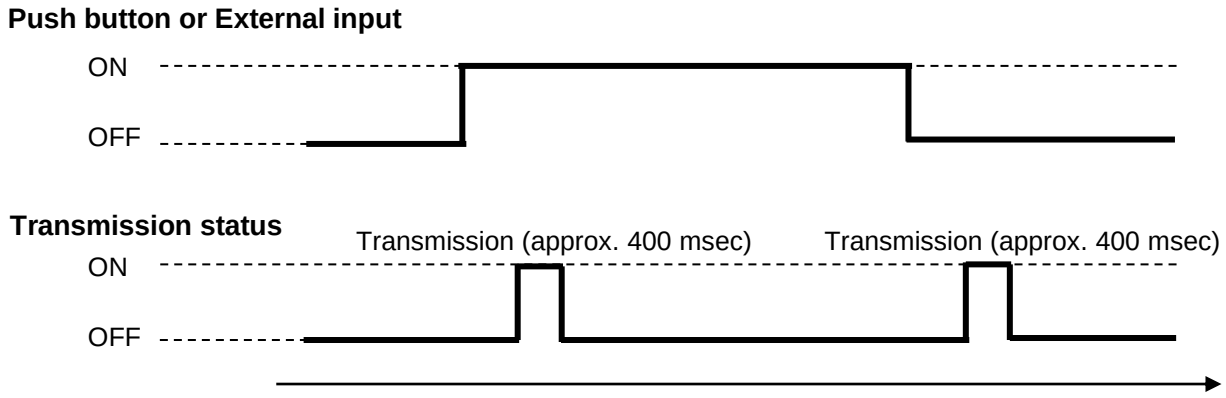


The transmitter pauses transmission for 2 seconds after transmitting for 5 seconds. The input is ignored during transmission pause. The input status is confirmed after the pause time has elapsed.



- **< Mode 2 > Event transmission**

The transmitter transmits one time every time the input state is changed. The operation is the same whether the push button or the external input is used.



2-2-2. AN426T Mode (Earlier Mode)

In the AN426T mode (earlier mode), 3 push buttons (1 (CALL) / 2 (STOP) / 4 (CLR)) and 3 external inputs (1 (CALL) / 2 (STOP) / 4 (CLR)) are available.

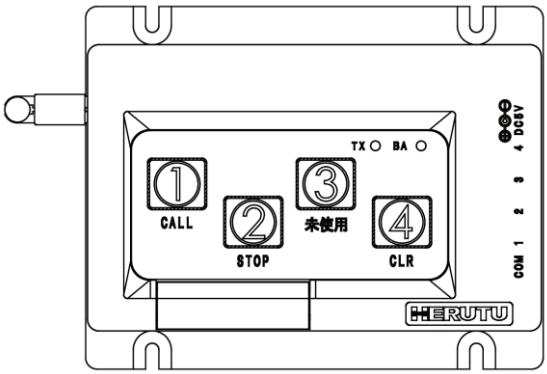
*In this mode, push button and external input “3” are not used.

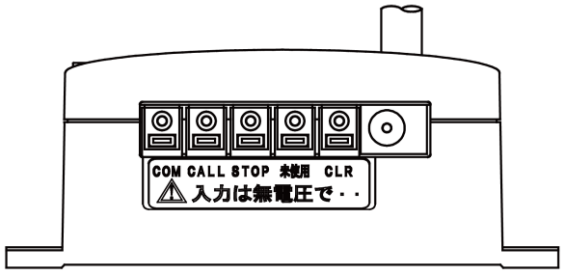
* If the transmitter is used in combination with the following models, set the AN426T mode (earlier mode). BN426RⅡ / BNW426RⅡ / AN426R

There are four types of transmission modes: “normal transmission with the set No.”, “special transmission with the set No.”, “normal transmission without the set No.” and “special transmission without the set No.”.

Some receiver models do not use the set numbers. If your receiver does not use the set number, select “normal transmission without the set number” or “special transmission without the set number”.

With the set number	Set the set number (RSW2) within the range of 1-8.
Without the set number	Set the set number (RSW2) to 0.





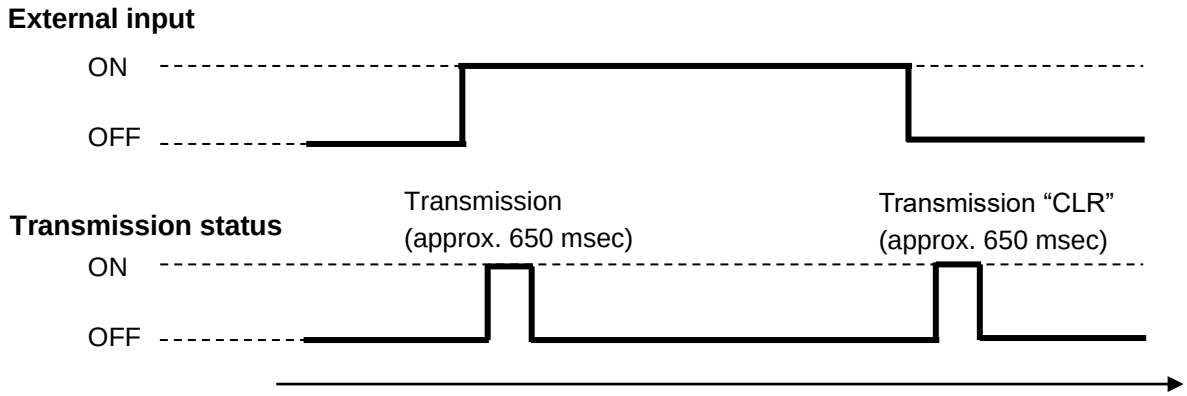
*If you order the product in AN426T mode (earlier mode), the product will be shipped with the earlier mode sticker on the surface of it.

- **< Mode 3 > Normal transmission with the set No.**
  / < Mode 5 > Normal transmission without the set No.

In the normal transmission, the transmitter repeats transmission for 5 seconds and transmission pause for 2 seconds while input continues. Even if whichever the push button or the external input is used, the operation is the same as the normal transmission in the AN426T II mode.
(Refer to “< Mode 1 > Normal transmission”.)

- **< Mode 4 > Special transmission with the set No.**
  / < Mode 6 > Special transmission without the set No.

The operation differs between the push button input and the external input.
When the external input is used, the transmitter transmits one time every time the input state is changed. The transmitter transmits the “CLR” signal when all external inputs are stopped.



When the push button input is used, the operation is the same as the normal transmission in the AN426TII mode. (Refer to “< Mode 1 > Normal transmission”.)

2-3. Voltage Check Function

If a dry battery is used as the operating power supply for this unit, the BA LED (for power alarm) lights when transmitting a wireless signal when the power supply voltage drops.Continue to use after that, when the power supply voltage further drops, the BA LED will change to blinking when inputting.Since the wireless signal cannot be transmitted when the BA LED is blinking, replace the dry batteries with new ones.

3. Introduction to Using Dry Batteries

This product can use dry batteries as its power source.

If you are going to use dry batteries, read the following instructions carefully to ensure the proper use of dry batteries.

3-1. Dry Batteries Replacement

For dry batteries, alkaline dry batteries are recommended for use with this product.

Follow the steps below to replace the dry batteries:

1. Remove the lid of the plastic dry battery compartment which is located on the bottom surface of the main unit.
2. Set size AA dry batteries in the inner battery case.
   At this time, take care not to get the polarity of battery wrong.
3. Attach the lid to the battery compartment.

3-2. Notes for Using Dry Batteries

1. Remove the dry batteries when leaving the transmitter out of service for a long time or when storing it.
2. When using the AC adapter for power, remove the dry batteries in the interest of safety.
3. If the BA LED continues to lit during transmission, the supply voltage is low. If the lamp flashes, the battery voltage has more dropped. It is the situation not to transmit. Please replace it with the new dry batteries as soon as possible.
4. For all of the three replacement dry batteries, be sure to use new ones of the same kind.
   Using exhausted dry batteries or a mixture of different dry batteries will not only shorten their lives, but it could also be a cause of failure.
5. If an AC adapter is used, the unit will operate using dry batteries if no voltage is input from the adapter.

4. Troubleshooting

Symptom	Possible causes & Remedy
While the push button input or the external input is performed and the radio signals are transmitted, the BA LED (for power alarm) lights up or blinks.	If you are using dry batteries, they are exhausted. →Please replace with new dry batteries.
The TX LED (lights during transmission) does not light even when the push button input or the external input is performed.	If you are using the AC adapter, check it for connection. → If a defect is suspected about the AC adapter, make sure whether or not dry batteries can be used instead. If you are already using dry batteries for power, then • Make sure if dry batteries are set properly. • Make sure if dry batteries are exhausted. Isn't it during transmission pause time for 2 seconds? →In the normal transmission, the transmitter repeats transmission for 5 seconds and transmission pause for 2 seconds while input continues. The TX LED turns off while transmission is paused for 2 seconds. For details, refer to “2-2. Operation Mode and Transmission Mode”. Is the transmission mode set to “event transmission” or “special transmission”? →If the input state does not change, no transmission is performed, so the TX LED remains off. If the push button input or the external input is held, transmission processing is not executed until the input status changes.
Unable to receive radio waves at the receiver side.	Are the transmitter and receiver properly installed? →Refer to the “1-8. Installation” and install them correctly according to the precautions. Are the settings for the channel, the set number and the unit number of the transmitter different from those of the receiver. →Match the settings for the channel, the set number and the unit number with those of the receiver. For details on how to set the transmitter, refer to “1-9. Setting switches”. For details on how to set the receiver, refer to the instruction manual of your receiver.

5. After Service and Warranty

If something is wrong. If you should find anything wrong with the machine when using it under normal conditions, check the warranty and repair regulations and contact the outlet store through which you purchased the product or our Sales Office. The latest warranty and repair regulations can be found on our website.

The user is prohibited by law from disassembling or making modification to the unit or otherwise may be subject to punishment.

〔Warranty Regulation〕

This regulation (hereinafter referred to as the "Regulation") is for post-shipment warranty provided by HERUTU ELECTRONICS CORPORATION (hereinafter referred to as the "Company") so that you can use the Company's product you have purchased with confidence. The Regulation does not apply to special order products (custom products). In addition, purchased products shall be subject to the relevant manufacturer's warranty regulations, and the Regulation shall not apply.

Please note that in the event that the product you purchased comes with an instruction manual that describes the Company's old repair regulation, the latest Regulation will still apply.

1. Warranty period

Unless otherwise specified, the warranty period shall be "up to thirteen months from the date of shipment of the product by the Company". During the warranty period, the Company will replace the product with a new one or repair it free of charge in accordance with the provisions of the Regulation.

In addition, if a failure occurs during the warranty period due to the Company's responsibility and the product with the failure (hereinafter referred to as the "Product") is replaced with a new one or repaired free of charge, the warranty period of the Product will be “thirteen months from the date of initial shipment of the Product, or six months from the date of shipment of the Product that has been replaced or repaired, whichever comes later”.

The warranty period for paid repairs shall be in accordance with the provisions of the Company's repair regulation.

2. Warranty scope

If a failure occurs during the warranty period due to the Company's responsibility, the Company will replace the product with a new one or repair it free of charge.

Even within the warranty period, the warranty does not apply in the following cases:

A) In the event of failure or damage caused by improper handling by the customer, such as dropping or impact during transportation or movement by the customer
B) In case of failure due to disassembly or modification of the main unit by the customer
C) In case of natural disasters such as fires, earthquakes, floods, and in case of failure or damage due to abnormal voltage

D) In case of failure caused by failure of equipment other than the Company's designated equipment connected to the Product
E) In case of failure of the Product's accessories (AC adapter, antenna, connection cable, etc.)
F) If damage is caused by the failure of consumables or limited-life parts included in the Product:
   1. Consumables: Batteries (rechargeable, batteries, dry batteries, button batteries, etc.), recording media (SD cards, etc.)
   2. Limited-life parts: Various switches (limit switches, push button switches, etc.) and various sensors
   3. Other items that are worn out or have a service life due to use

   If consumables or limited-life parts fail, we will replace or repair the parts for a fee.
G) In case of failure caused by handling contrary to the usage and precautions described in the instruction manual of the Product
H) If repaired, adjusted, or improved by elsewhere other than the Company
I) If the Company is unable to reproduce the failure

3. About repair of the Product

Please note that repairing the Product requires equipment such as measuring instruments and tools, so the Company will handle it as a pick-up repair service at the Company.

4. About the shipping cost for replacement or repair of the Product

Shipping charges for sending the Product to the Company or a distributor, as well as shipping charges for sending the Product that has been replaced or repaired by the Company or the distributor to the customer, will be borne by the Company or the distributor.

5. Disclaimer

The Company is not responsible for any direct or indirect damages or monetary loss caused by failure of the Product or its use.

6. Additional notes

Please note in advance that the information of the Product described on the Company's website and in the catalogs, instruction manuals, technical materials, and other materials provided by the Company are subject to change without notice to customers.

〔Repair Regulation〕

This regulation (hereinafter referred to as the "Regulation") shall be applied to paid repair service (hereinafter referred to as the "Service") provided by HERUTU ELECTRONICS CORPORATION (hereinafter referred to as the "Company"). The Regulation does not apply to special order products (custom products). In addition, purchased products shall be subject to relevant manufacturer's repair regulations, and the Regulation shall not apply.

Please note that in the event that the product you purchased comes with an instruction manual that

describes the Company's old repair regulation, the latest Regulation will still apply.

1. Subject of the Regulation

The Service is provided for the Company's products that are "beyond the scope of the warranty specified in the warranty regulation" and "from the sales start date to the end date of the repair period (seven years from the production end date)". However, please note that the end date of the repair implementation period may be earlier depending on the availability and procurement status of repair parts.

2. Establishment of contract

The contract shall be established when the customer approves the quotation presented by the Company and issues an order form before the end of the repair implementation period.

3. Purpose of the Service

The Company will provide the Service for the purpose of repairing the function and performance of the Company's product used by the customer if it fails beyond the scope of the warranty specified in the warranty regulation. Please note that the Service requires equipment such as measuring instruments and tools, so the Company will handle it as a pick-up repair service at the Company.

4. Usage fee for the Service

The usage fee for the Service shall be the total of the following fees:

A) Repair service fee

The repair service fee is the total amount of technical fees, parts costs, other expenses incurred, and applicable taxes associated with repairing the Company's product (hereinafter referred to as the "Product for repair") that the customer wishes to repair.

B) Shipping fee (including the cost of packaging boxes)

The Company kindly asks that customers bear the shipping costs for sending the Product for repair to the Company and for returning it from the Company. However, in the event that the Product for repair is sent by payment on delivery by the customer, the shipping cost will be included in the Service charge.

5. Warranty period and scope of the Product for repair

The warranty period for the Product for repair is "up to six months from the date of repair completion". However, please note that failures other than the repaired parts (repaired places or replaced parts) are not covered by the warranty of the Product for repair. In addition, if a failure occurs due to the Company's responsibility within the warranty period, the Company will again repair the product free of charge.

6. Handling of repair parts

A) In order to provide the Service stably for a long time and to promote environmental protection,

etc., the Company may use recycled parts or alternative parts at the time of repair at its discretion.

B) The Company may, at its own discretion, collect the removed parts for the purpose of recycling or analysis at the time of parts replacement through the regulation of the Service. Please note that the collected parts are the property of the Company and will be recycled, used or discarded at its discretion.

7. Estimate for the Service

The estimate for the Service is basically free of charge. However, if the Company is unable to reproduce the failure, it will not be able to carry out repairs and will not provide an estimate. If a technical investigation is required to reproduce the failure, the Company will estimate the cost of reproducing the failure.

8. Return of unrepaired product

If the Company does not estimate the cost of the Service due to reasons such as being unable to reproduce the failure, it will return the Product for repair to the customer.

In addition, if the customer does not place an order within three months from the date of creation of the quotation, or if the customer does not accept the quotation and the customer expresses an intention not to carry out the repair, the Company will assume that the customer has canceled the request for the Service, and the Company will return the Product for repair to the customer without carrying out the repair.

In addition, if a shipping fee is incurred for returning the product, it will be borne by the customer.

9. Handling of personal information

The Company will properly handle personal information such as names and addresses being provided in accordance with the privacy policy posted on the Company's website.

10. Compensation for damages

A) The responsibility of the Company for providing the Service shall be limited to the matters and contents specified in the repair regulation, and shall not include any damages incurred by the customer due to special circumstances (including loss of profits of the customer and damages based on claims for compensation made by third parties against the customer) and damages caused by the customer being unable to use the product due to a failure or defect of the Product for repair. However, this does not apply if the damage was caused by the Company's willful misconduct or gross negligence.

B) Even if the Company is liable to the customer for damages in connection with the regulation of the Service, the Company's liability shall not exceed the amount equivalent to the value of the Product for repair, except in cases of willful misconduct or gross negligence on the part of the Company. The value of the Product for repair shall be calculated based on the residual value after depreciation or the price of products with equivalent performance sold in the market at the

time of damage.

11. Additional notes

A) The Company cannot restore stickers, LCD protective sheets, and coloring applied to the outer casing parts that you have attached yourself. In addition, if advertisement stickers were affixed at the time of sale, they cannot be newly prepared as repair parts when replacing the outer casing parts. After replacing the outer casing parts, the advertisement stickers will be returned without being affixed.

B) Please note in advance that the information of the Product on the Company's website and in the catalogs, instruction manuals, technical materials, and other materials provided by the Company are subject to change without notice to customers.

HERUTU

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