CASIO
Logosease

Logosease RG-004 SDF
Instruction Manual and Warranty Certificate ver. 2.1

YAMAGATA CASIO CO.

Index

Please read [1. During Use] carefully beforehand and use the unit properly. After reading, please keep this Instruction Manual at hand.

We recommend you to register in the URL below. Please access "My Page" from the URL below. Once registered, you can use our services as downloading software.

http://logosease.yamagata-casio.co.jp

To safely use Logosease

Warning signs

⚠️ **Warning**

This denotes hazards which could result in death or severe personal injury with incorrect use.

⚠️ **Caution**

This denotes hazards which could result in minor personal injury and/or equipment damaged with incorrect use.

In order to avoid getting yourself and other people injured and equipment damaged, strictly follow the safety instructions.

1. During Use

⚠️ **Warning**

- This unit does not guarantee the safety underwater.
- Do not use the unit in the condition which will cause immediate danger if conversation is stopped. Also do not use it for emergency contact as main purpose.
- Do not disassemble or modify the unit.
- Do not use the unit if it has abnormal condition as being heated, smoked, or with unusual odor. If you keep using it in such condition, it will start fire or cause electrification.
- Do not leave the unit in the places as in a car where temperature will be very high under the direct sunlight.
- Wipe the water off the unit properly before setting it in the cradle. Make sure USB terminals of the unit has no water drop. PC connected to USB may be damaged with water drop.
- Do not put the unit near the heaters. Temperature inside the unit will rise, and it may cause fire, burn or unit damage.
- Do not damage, put heavy thing on, and/or heat the USB cable. It will cause fire or electrification.

⚠️ **Caution**

⊘ Logosease RG004 is resistible pressure of 55M water depth.
Please do not bring Logosease deeper than the depth limit of each unit.
※ The deepest possible point for recreational diving is 40M.

- Surfactant as detergent makes water enter inside the unit easier. Do not put unfog liquid on the unit. If it is attached, wash it away with pure water or sea water at once.
- Soaking the unit into chemical substance deteriorates the unit condition. If hairdressing, detergent or sunscreen is attached, wash it away with pure water at once.
- Do not drop the unit to the ground. You can enter the sea as usual with the unit.

2. Features

■ This is a dive-transceiver that allows divers to have conversation underwater attachable to normal recreational diving gears as mask and regulator. Since we employed bone conduction technology for both microphone and speaker, the unit is small enough not to interfere the normal diving gears or to disturb your diving.
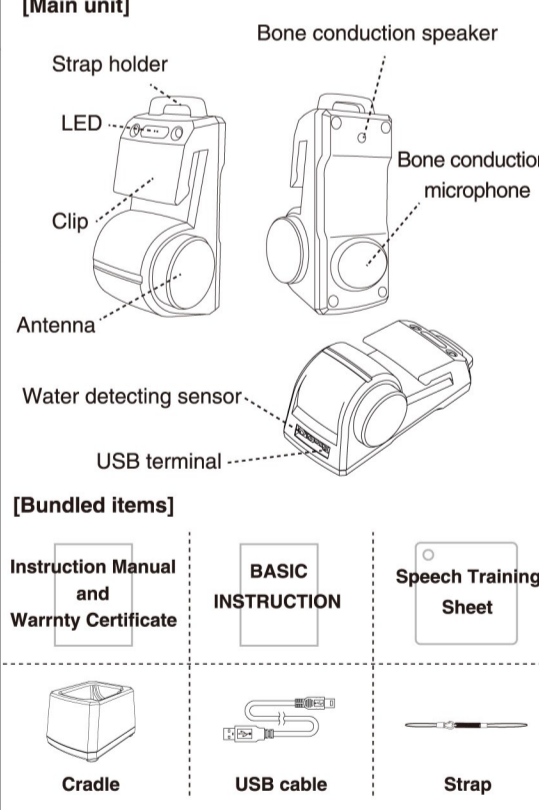
■ Conversation is available with this unit just as transceiver. When speaking, switch the mode to transmitting. When speaking is done, cancel the transmitting mode. You can not have both transmitting and receiving modes at the same time. When transmitting by one unit, all other units can receive it. When more than one unit transmit, mixed voices will be heard.

■ Ultrasound is used for transmitting and receiving. When the distance between units is further, voice level becomes smaller. When transmitting behind the rock, voice level becomes smaller also. The condition with best sensitivity is when transmitting and receiving divers are facing each other. When you speak louder, heard voice is also louder.The voice of diver located closer to you is heard louder, and vice versa.

■ To make the conversation smooth, it is important to practice speaking with a regulator in your mouth at the beginning. **Please use the attached Speech Training Sheet in practice. More you speak, more you improve.**

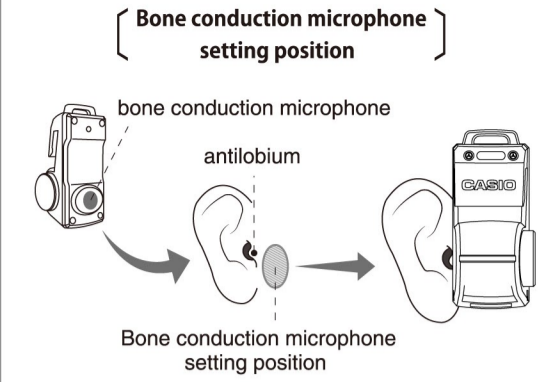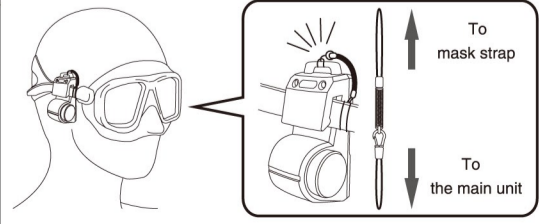Please understand the features of Logosease well and enjoy conversation underwater.

3. Name of each part / Bundled items

[Main unit]

Strap holder
Bone conduction speaker
LED
Clip
Bone conduction microphone
Antenna
Water detecting sensor
USB terminal

[Bundled items]

Instruction Manual and Warranty Certificate | BASIC INSTRUCTION | Speech Training Sheet

Cradle | USB cable | Strap

4. How to set the unit

Set the unit **at right side of mask strap by clip.**
To avoid dropping the unit, set a strap at the strap holder and put it into the mask.

After purchasing, charge the power of the unit first. For details, please refer to the [10 How to charge]

Bone conduction microphone setting position

bone conduction microphone
antilobium

Bone conduction microphone setting position

⚠️ **IMPORTANT !**

Set a bone conduction microphone as touching the bone in front of antilobium (base of jaw). (Please refer to the drawing above). The sound transmitted by bone conduction has extremely little vibration. Touching the microphone to the above section correctly and attaching close to your face as much as possible is important to transmit the sound to other divers.
Adjust microphone setting positions to hear the transmitted voice in the best condition. Setting position of speaker does not make much difference on its performance.
An antenna is set toward the front, and designed as the strongest level of ultrasonic sound can reach at the line of sight. Anything including barriers and bubbles attached to the antenna degrades transmitting/receiving quality. Make sure nothing is attached to the antenna.
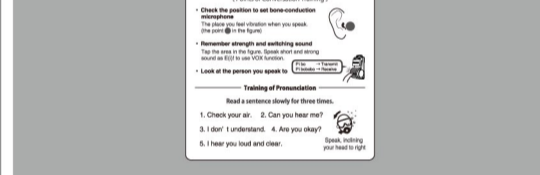
[Using Logosease with a hood]

■ **Using Logosease with a store-bought hood together is not recommended. Make sure to wear the hood specialized for Logosease (sold separately) when you use a hood.**

■ In setting the unit with a store-bought hood, setting a microphone outside on the hood causes difficulty in collecting bone conduction sounds, and the sound would not be reached to your buddy.

■ Hood shields ultrasound. Communication is not possible when setting the unit under the store-bought hood. You may feel pain on your face where the unit touches under the hood by tightening the hood.

☀️ **IMPORTANT**

Before actually start speaking underwater,,, please practice speaking with a regulator in your mouth at the beginning.
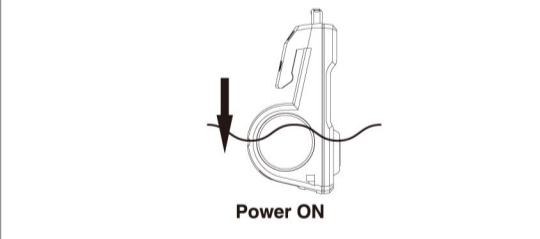
Speech Training Sheet

To get accustomed the conversation underwater smoothly, please use the attached Speech Training Sheet in practice. You will learn how to pronounce underwater and get the knack of smooth conversation.
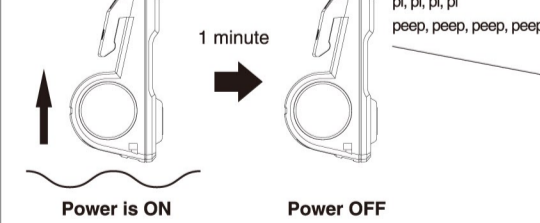・Use the Speech Training Sheet in the water.

5. Turning Power ON / OFF

Power will be ON/OFF by detecting water.

[Power ON]

Power ON

Power will be ON automatically by putting the unit in the water. If battery is not charged at all, the power will be OFF. Please charge the battery then.

[Power OFF]

1 minute
pi, pi, pi, pi peep, peep, peep, peep

Power is ON → Power OFF

Power will be OFF automatically in 1 minute after bringing the unit out of water. The sound of pi, pi, pi, pi, peep, peep, peep, peep will be released to notify the power is being OFF.

6. Receiving

Power is ON →, the unit becomes receiving mode automatically. In this mode, no sound is heard until voice is transmitted. When transmitting by other diver, the voice will be heard from the speaker.
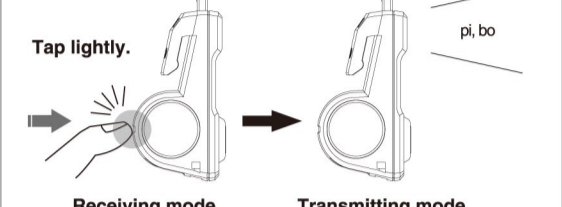
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7. Transmitting

There are two ways to switch to transmit mode.

■ With the VOX (hands-free) function
In the function, Logosease automatically turns into transmitting mode when you speak. With this function, you can enjoy Hands-free conversation. Make sure to speak clear sound such as "EEE!" at first in receiving mode. You will hear "pi bo" from the speaker and the unit will turn into transmitting mode automatically. The sound "EEE!" is the switch the mode to transmitting. A receiver will not hear the sound "EEE!".
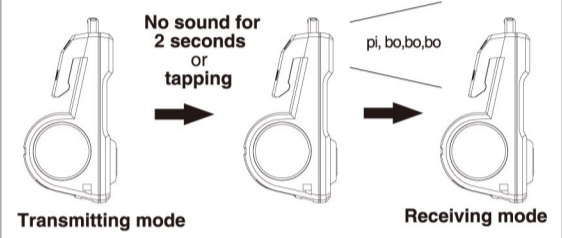*We recommend the sound "EEE!" to switch into transmitting mode.
*VOX function does not work in receiving mode. In that case, cover the antenna with your hand and tap.
*VOX function/automatic transmission OFF function may not work well depending on voice character or way of speaking. In this case, please turn the functions off, and change the mode by tapping

■ With tapping
Tap the side of the unit one time lightly. You will hear pi, bo, from the speaker to make the mode transmitting.
*Acceleration sensor detects tapping. The sensor may cause glitch to make the mode transmitting accidentally. In this case, tap the unit again to make the mode back to the receiving mode.

Tap lightly.
pi, bo

Receiving mode → Transmitting mode

No sound for 2 seconds or tapping one time makes the transmitting mode finish. You will hear pi, bo, bo, bo from the speaker, and the mode will change to receiving mode.
* If distance is too close or in the location where sounds echoes easily such as in a pool, acoustic feedback may happen between 2 units.

No sound for 2 seconds or tapping
pi, bo,bo,bo

Transmitting mode → Receiving mode

8. LED display

Embedded LED is ON only in charging (in red).

9. Other functions

9-1〔Channel switching〕
You can select a channel from A or S.

Channel A : 32 KHz USB
Channel S : 36 KHz LSB

Channel A and Channel S may interfere a bit each other, but what is said will not be understood.
Default setting of channel is channel A. To change the channel, use the Customized Tool on PC. Please refer to 9-3.

9-2〔Voice recording〕
Logosease has built-in 512 MB flash memory. It records voice in each dive and supports divers as diving recorder. You can set 4 patterns of recording. One recorded file is made for one dive.

- **"Transmitting record" mode**
  Recording transmitted voice only in the file.
- **"Receiving record" mode**
  Recording received voice only in the file.
- **"All record" mode**
  Recording both transmitted and received voice in the file.
- **"Record only (Voice recorder)" mode**
  This is the mode functioning as voice recorder without transmitting/receiving voices. Use this mode when you want to use the unit as voice recorder, not as two way radio. Voice is recorded in the training mode by tapping blinking in white, and LED turns into pink while recording.

Default setting of voice recording function is "All record" mode. To change the setting, please use the Customized Tool from PC. Please refer to 9-3.

- **Recorded voice specification**
  ・8 KHz sampling rate,monaural
  ・16 bit quantized code
  ・File format : wav
  ・Memory capacity : max. 480 minutes voice data.
- **folder composition**
  Under the VOICE folder, voice data files will be stored. Stored files have sequential numbers from No.1 to No.99. File names are set as below rule.

  RG-4-0001.WAV to **RG-4-0099.WAV**

  When you recorded up to No.99, old files will be overwritten. If the memory is insufficient while writing, writing stops at the point.

- **How to retrieve voice data**
  *Connect Windows PC -> USB-Hub -> attached USB cable -> cradle in order.
  *After diving, wipe water off from the Logosease and set at the cradle.
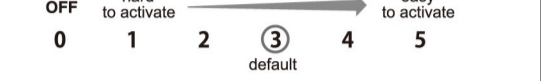 *Logosease is recognized as USB memory. Retrieve the voice data file from VOICE folder.
  *When you do not access for 10 min. from connection, the connection is automatically disconnected. When more than 10 minutes passed from connection, please connect the unit again.

9-3〔Customized tool〕
This function works in Windows XP, Vista, 7, and 8 only. Please make sure to connect via USB-HUB.

・Adjusting volume (Volume)
You can adjust volume in 5 different levels. With higher volume level, the clearer voices you can hear even it comes far away. However, depending on the regulator you use, you may hear your breathing sound from the speaker loudly. Turning down the volume, voice level will become appropriate for close distance conversation.
Default setting is level 5 (max.).

・"Automatic transmission OFF " setting
(Automatic switching from "Transmitting"to"Receiving")
"Automatic transmission OFF" is the function to switch into receiving mode automatically when no sounds heard from the unit for 3 seconds in transmitting mode.
*Not use
*Use (default)

・VOX function (Hands-free-mode)
You can select to use or not to use VOX function. By setting ON, you can adjust the sensitivity to activate VOX function as you like. If VOX is not activated easily or is activated too easily, adjust the VOX sensitivity level.

OFF   hard to activate ← → easy to activate
0   1   2   ③   4   5
      default

・Selecting channel (Channel)
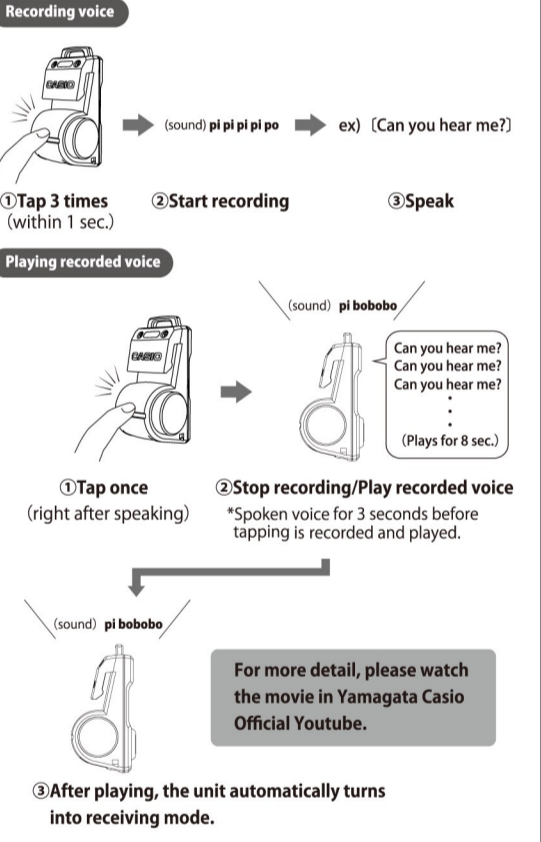You can select channel from below.
*Channel A (default)
*Channel S

・Voice recording function(Voice Recorder)
You can select 5 options below.
*OFF - Not use
*All record - Recording both transmitted/received voices (default)
*Transmitting record - Recording only transmitted voice
*Receiving record - Recording only received voice
*Record only - No transmitting/receiving voices but use as voice recorder.
In using as voice recorder, the unit records voices with usual transmitting operation.

9-4〔Training mode〕
When you switch into training mode,your voice will be recorded temporarily and repeated for a certain period of time. By this function, you can check how your voice would be heard to your buddy. Please use the function for speech practice or checking mount position of bone conduction microphone.

■How to switch into training mode
(Make sure to switch the unit in the water)

Recording voice

(sound) pi pi pi pi po   ex)〔Can you hear me?〕

①Tap 3 times (within 1 sec.) ②Start recording ③Speak

Playing recorded voice

(sound) pi bobobo
Can you hear me?
Can you hear me?
Can you hear me?
(Plays for 8 sec.)

①Tap once (right after speaking) ②Stop recording/Play recorded voice
*Spoken voice for 3 seconds before tapping is recorded and played.

(sound) pi bobobo

③After playing, the unit automatically turns into receiving mode.

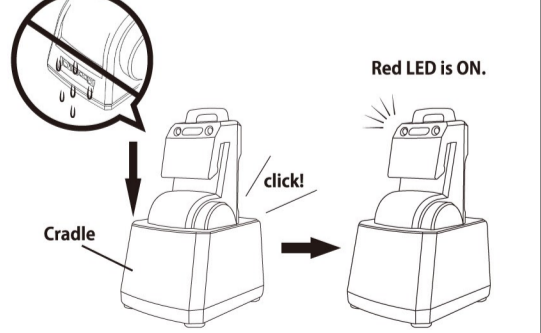For more detail, please watch the movie in Yamagata Casio Official Youtube.

10.Maintenance after diving

Wash the unit with pure water to wash sea water and dirt away, then dry it with dried cloth before storing. **Do not wash with detergent.** Especially, if USB terminal is dirty, it may cause a malfunction. Clean it with brush when it is dirty. When soaking the units in water to get the salt out, make the units' mode receiving. Both transmitting and receiving modes exist, acoustic feedback may occur.

11.Charge the Battery

Lithium-ion battery is built-in the unit. Charging by USB is available. The full-charged battery is enough for 3 hours. Charge the battery after diving is done for a day.

Cradle
click!
Red LED is ON.

Make sure USB terminal of the unit has no water drop. Connect the USB cable to the cradle and PC.

Set the unit at the cradle. Push it until you hear the "click". While charging, red LED is ON. When charging (for about 2 hours) is finished, red LED will be OFF. Once charging is done, remove the unit from the cradle.

***If you can not charge, clean terminals in the cradle.**
When battery is being charged correctly, red LED is ON and when charging is done, it will be OFF.If LED is not ON or is blinking, charging is not being done correctly. If you can not charge correctly, clean USB terminal with brush, and try again.

12.Built - in battery

Please use the battery properly to improve its life.

■ Make sure to charge the unit before use when you use it first time or you have not used it for long time.

■ Charging battery too often makes its life shorter. Charge it when its level falls.

■ Charge the battery in the temperature between 0℃ to 40℃. If not, charging time may get longer or full charging is not available. Also it will degrade the battery or cause malfunction.

■ Using the unit in low temperature decreases the capacity of the battery and shortens usable time of the unit.

■ When storing the unit for long time, do not charge it full or leave it with no charge. If the unit has not been charged for so long, it will be discharged completely, and recharging may not be available. Please charge the unit at least once in 6 months.

■ Built-in battery degrades with ages. Especially, if the battery is fully-charged and kept in high temperature, it may degrade for short time.

■ If the unit will not make a full functional recovery even after charging, battery life should have ended. You need to exchange the built-in battery. Please contact the shop you bought the unit. (Exchanging built-in battery is chargeable.)

■ Built-in battery can be recycled, and please contact nearest CASIO service center.

13.Troubleshooting

A unit doesn't work no matter how many times you charge, or it shuts down immediately.
→The built-in battery is too old to work. Please contact the shop you bought the unit. The battery will be replaced by the manufacturer (Yamagata Casio Co., Ltd.)

USB charging doesn't work well.
→Clean up the unit and the contact point of the cradle with brush. Charge the battery in the appropriate temperature (between 0℃ to 40℃).

A unit shuts down in water.
→Power may become OFF when bubbles touch on sensor. Please wipe out the connector sec. with your fingers.

Power would not be OFF even after exiting.
→Water may be attached to the sensor. Wipe it out with towel.Static electrical charge may turn the power ON. In this case, the power will be OFF in 1 minute.

A unit has acoustic feedback.
→It may happen in the narrow place with walls as in a bath room.

Hears unidentified voices.
→Depending on the condition of the sea, the unit may capture voices about 100 meter away from you. It's not malfunction.

Cannot hear the speaker's voice well.
→The voice reachable distance depends on the condition of the sea. Please try below A to E. It may be a problem of speaker side or receiver side.

A. Communication sensitivity improves the most when a speaker and a receiver are located in face-to-face. On the contrary, the sensitivity declines drastically when a speaker and a receiver face opposite with each other. Check your facing directions.

B. Check whether a bone-conduction microphone is touched on the right position on the face of a transmitting diver as stated in the [4. How to set the unit].

C. Transmitting and receiving quality gets degraded drastically when hood, cover, or air bubble are attached to antennas. Please check.

D. Low voice may not reach a receiver. Talk with large voice as same as talking to a person away from you on land.

E. Ultrasonic wave may not reach a receiver correctly behind rock, in the shallow water, and in rushing stream. It's not malfunction.

Hearing noise in receiving mode.
→When you exhale, ultrasonic sound may occur, when it goes through regulator, and you may hear it as noise. Depending on structure of regulator, the degree of noise is different. It is not malfunction.

Interrupting voice communication (Cannot hear initial word of speaker).
→Depending on the word you speak or sound volume of your voice, there is the case that you cannot hear initial word received. The degree is various up to the environment. It's not malfunction.

The unit does not switch into receiving mode in 2 seconds after you speak.
→When the unit catches a sound in transmitting mode, it may stay for more than 2 seconds. It's not malfunction.

14.Specifications

Out package	Colors	Mat black , Mat yellow
	Size	89.0 mm ×41.0 mm ×44.8 mm
	Weight	Approx. 107g
	Max water pressure	At 55m depth
	Temperature in use	0℃~ 40℃
Audio section	Microphone	Bone conduction microphone
	Speaker	Magnetic-type bone conduction speaker
Communication section	Channels	3ch. (Channel A ,B , and S) *Default is channel A
	Frequencies	(ultrasound wave) Channel A 32KHz USB / Channel S : 36KHz LSB / (band frequency) 4KHz,SSB-AM basis
	Antenna	Ceramic piezoelectric element
	Transmission Range	50 ~ 100m (Channel A) / *face-to-face position in clear and calm sea.
	Directionality	The power of communication will be max. when front side of the antenna of each divers faces each other.It will be min. when they are facing opposite ways.
Display	LED while charging	Red LED is ON
	LED after charging	LED is OFF
Operation section	Acceleration sensor	Tapping once in receiving mode → transmitting mode starts. / Tapping once in transmitting mode → transmitting mode finishes. / (receiving mode starts) / + No sounds for 2 seconds will end transmission mode. (Receiving mode starts)
Recording section	Flash memory	512MB
Power switch	ON	Turns on by detecting water
	OFF	Automatically turns off in 1 minute after removed from water.
USB	Battery charging	Recharged about 2 hours at 500 mA
Battery	Rating	560mAh with Li-ion battery
	Charging method	by USB
	Duration	About 3 hours (assuming 10% of the time is used for transmitting)
	Maintenance	The manufacturer replaces the Li-ion battery
Other functions	Version up	OK
	Recording mode	
	Training mode	
	Customized tool	
	Accessories	Cradle x 1, USB cable x 1, Strap x 1, Speech Training Sheet x 1

15. Warranty

Yamagata CASIO Limited Warranty
THIS WARRANTY CARD IS VALID ONLY ON PRODUCTS IN THE COUNTRY OF PURCHASE.

This product, except consumables or articles with limited resistance (e.g. battery, case), is warranted by Yamagata CASIO and its distributors to theoriginal purchaser to be free from defects of quality at the time of delivery for a period of one year from the date of purchase ("warranty period"). During the warranty period, and upon proof of purchase, the product will be repaired by calling Yamagata CASIO replacement or reconditioned parts or the product will be replaced with the same or a similar replacement or reconditioned model. To obtain these warranty services, please take or send the product, postage paid, with a copy of your sales receipt or other proof of purchase that shows the date of purchase, to a Marine System Sec. in Yamagata CASIO or the store where purchased. There will be no parts or labor charge to you for valid warranty services. Due to the possibility of damage or loss during shipping, it is recommended when sending the product for service that you package the product securely and send it insured, return receipt requested.

The customer shall NOT have any claim under this warranty for repair or adjustment expenses if:

(1) The problem is caused by improper, rough or careless treatment;
(2) The problem is caused by a fire or other natural calamity;
(3) The problem is caused by improper repair or adjustment made by anyone other than Marine System Sec. in Yamagata CASIO.
(4) The problem is caused by battery leakage, bending of the unit, broken display or key;
(5) The case or battery is damaged or worn;
(6) Maintenance requested consists of repair or replacement of options, accessories, software, or consumables (AC adaptor, cable, battery, etc.);
(7) The proof of purchase is not presented when requesting service;
(8) The warranty period has expired.

NEITHER THIS WARRANTY NOR ANY OTHER WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, INCLUDING ANYIMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, SHALL EXTEND BEYOND THE WARRANTY PERIOD. NO RESPONSIBILITY IS ASSUMED FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING, WITHOUT LIMITATION, DAMAGES RESULTING FROM INACCURACY OR MATHEMATICAL INACCURACY OF THE PRODUCT OR LOSS OF STORED DATA. SOME STATES OR JURISDICTIONS DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS AND SOME STATES OR JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, OR THE EXCLUSION OR LIMITATION BY A PARTY OR LIABILITY FOR DEATH OR PERSONAL INJURY CAUSED BY THAT PARTY' S NEGLIGENCE, SO THE ABOVE LIMITATIONS OR EXCLUSIONS SHALL NOT IN SUCH CASES APPLY. THIS WARRANTY GIVES YOU SPECIFIC RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS THAT VARY FROM STATE TO STATE, JURISDICTION TO JURISDICTION, OR COUNTRY TO COUNTRY. NOTHING IN THIS WARRANTY AFFECTS YOUR STATUTORY RIGHTS.THANK YOU FOR CHOOSING YAMAGATA CASIO PRODUCT.

・If you have any problems with this product, please contact Marine System Sec. in Yamagata Casio or the store where purchased.

・For more information about Marine System Sec. in Yamagata Casio, please visit the following URL: **http://logosease.yamagata-casio.co.jp/en/** or send E mail to **misinfo@yamagata-casio.co.jp**

WARRNTY CARD

Product	Logosease
MODEL	LGS-RG004 SDF
Items under warrnty	main unit(except expendables),battery charger,USB cable
Warranty period	1 year from the purchase date
DATE OF PURCHASE（dd/mm/yy）	/ /
CUSTOMER'S NAME	
OFFICIAL DEALER STAMP	

Please put the Serial No. label here.

For more information, please access FAQ from the Support Page of below web site.

http://logosease.yamagata-casio.co.jp/en/

YAMAGATA CASIO CO.,LTD.