

Data Collector TR-57U

User's Manual

**Thank you for purchasing our product.
Carefully read this instruction manual
before using this unit.**



Notices about this User's Manual

In order to properly use this product, please carefully read this manual before using. T&D Corporation accepts no responsibility for any malfunction of and/or trouble with this product or with your computer that is caused by the

improper handling of this product and will deem such trouble or malfunction as falling outside the conditions for free repair outlined in the attached warranty.

- All rights of this User's Manual belong to T&D Corporation. It is prohibited to use, duplicate and/or arrange a part or whole of this User's Manual without the permission of T&D Corporation.
- Microsoft® and Windows® are registered trademarks of Microsoft Corporation USA and are binding in the USA and all other countries. Windows Vista™ is a registered trademark of Microsoft Corporation USA.
- Company names and product names are trademarks or registered trademarks of each company.
- Specifications, design and other contents outlined in this manual are subject to change without notice.
- On screen messages in this manual may vary slightly from the actual messages.
- Please notify the shop where you purchased this product or T&D Corporation of any mistakes, errors or unclear explanations in this manual. T&D Corporation accepts no responsibility for any damage or loss of income caused by the use of our product.
- This product has been designed for private or industrial use only. It is not for use in situations where strict safety precautions are necessary such as in connection with medical equipment, whether directly or indirectly.
- We are not responsible for any malfunction or trouble caused by the use of our product or by any problem caused by the use of measurement results of our unit. Please be fully aware of this before using our product. - Please read the warranty and provisions for free repair carefully.



Safety Precautions and Instructions

To ensure safety obey all of the following warnings







The following items should be strictly obeyed for the safe usage of this unit, and for protecting yourself and other people from bodily harm and/or damage to property. Before using make sure to carefully read, understand and follow the safety rules and precautions for our products as outlined below.

Explanation of Symbols

Explanation of Warning Symbols

 WARNING	These entries are actions that absolutely under no circumstance should be taken. The taking of such an action may cause serious personal physical damage or death.
 CAUTION	These entries are actions that if taken may lead to physical injury or damage to persons or things.

Explanation of Picture Symbols

	Denotes an important warning or caution. Inside or near the symbol may appear another symbol giving details. (EX:  Be careful of electrocution)
	Denotes a forbidden action. Inside or near the symbol may appear another symbol giving details. (EX:  Do not use in wet areas.)
	Denotes an action that you must take. Inside or near the symbol may appear another symbol giving details. (EX:  Unplug power plug from outlet)

⚠ WARNING



Be sure to follow the warnings and notices about use from your PC maker when installing and using this unit.



Do not take apart, repair or modify the main unit.
Doing so may cause fire or electrocution.



If water or a foreign body enters in this unit, turn the power off and remove the batteries.
Continued use may cause fire or electrocution.



Do not use this unit in wet or humid places, such as a bathroom.
It may cause a fire or other trouble including malfunction.



Store TR-57U main units, batteries and communication cables out of the reach of children.
It is dangerous to touch or swallow batteries.



If any smoke or strange smells are emitted from the unit, immediately turn the power OFF and remove the batteries.
Continued use may cause fire or electrocution.



Do not drop the unit, or expose the unit to a strong impact. If that happens to the unit, immediately turn the power OFF and remove the batteries.
Continued use may cause fire or electrocution.



Do not change batteries with wet hands.
This may cause damage or malfunction.

⚠ WARNING

This unit is not water-resistant. If the unit gets dirty, wipe it with a clean cloth and a mild detergent.



Do not put your fingers or foreign matter into the cable communication Jack.



Battery life depends on the kind of the batteries, measurement environment, communication frequency, ambient temperature, and battery quality.



Battery terminals may provide insufficient contact due to age or vibration. This may lead to data loss.



If the unit will not be used for period of time, for safety reasons please remove the battery. If left in the unit, it may leak and lead to malfunctioning.



Condensation may occur if the unit is moved from one environment to another where the difference in temperature is great. Use the unit in an environment where the ambient temperature is from 0°C to 50°C and the humidity is 90% RH (no condensation) or less.



Do not expose the unit to harmful gases or chemicals. It may cause corrosion and / or other danger to the unit and to people handling the unit.



To prevent damage to the unit from static electricity, remove static electricity from your body by touching metal around you (door knob, window frame) before touching the unit. Static electricity may cause not only damage to the unit, but may cause breaks in or a loss of data.

Do not use the unit in places such as listed below. It may cause electrocution, fire or have adverse effects on the unit or your PC.



- In areas exposed to strong magnetic fields.

It may cause damage.

- In areas exposed to static electricity.

It may cause damage.

- In areas exposed to vibration.

It may cause an injury, damage, and/or insufficient contact.

FCC Compliance Statement for American Users

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 to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct 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.

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.

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Before Using...

Important Notes about the Installation Procedure (for using this product with USB communication)

Thank you for choosing T&D Products.

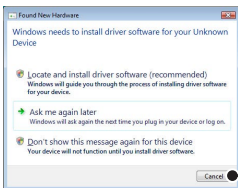
In order to use a USB connection to communicate between this product and a PC, it is necessary to install the application and the USB driver.

Before connecting this product to a PC with a USB cable, it is necessary to first install the application and the USB driver.

If you use the USB cable to connect the product to a PC before installation, the USB driver may not properly install. If you have connected the product to a PC without first installing the driver, please make sure to press [Cancel] in the [Installation Wizard] window when it pops up the PC screen and then disconnect the USB cable from the product.

For more details about the proper installation procedure, see the Software User's Manual that accompanies "T&D Recorder for Windows TR-5, 7xU (E)".

Windows® Vista



[Cancel] Button

For other Windows Operating Systems



[Cancel] Button

* The screen shot below is from Windows XP. For other Windows OS, there is also a [Cancel] Button in the lower right of the screen.
(Your screen may differ slightly if you are using a Windows OS other than XP.)

About Data Collector TR-57U

Outline

This Data Collector device has been designed to collect recorded data which has been measured and stored in T&D Data Logger devices. Even in situations where there is no computer available or it is cumbersome to introduce one, this handy device allows the user to make Recording Start Settings, collect Recorded Data and view that data in Graph form on the spot.

Compatible Data Loggers:

TR-51S/52S, TR-51A/52, TR-71U, TR-72U

- *If a wireless type Data Logger is being used (RTR-51/52/52Pt/53, RVR-52) and you wish to utilize the wireless communication function please purchase a Data Collector which has Wireless Communication capabilities (RTR-57U).*

Basic Functions

Easy Collection for a Variety of Data

The TR-57U can collect data from any TR-5S Series, TR5-Series and TR-7U Series Data Logger.

Collection Capacity of 260,000 Readings

For example, it has the capacity to collect and store 16 units of TR-71U at full capacity (8,000 data readings x 2 CH). Moreover, it can collect and manage data from up to 250 separate collections.

Graph Display on High Quality LCD

Collected data can be viewed immediately on the spot without the need for a computer. The handy operation dial and buttons on the face of the unit make it possible to scroll both left and right thereby making the checking of data a snap.

The handy operation dial provides fingertip control for a variety of operations

Moving the operation dial up and down displays the various menu selections which can be easily selected by pressing in on the dial.

Checking Temperature at the time of Download

By making settings in the TR-57U for upper and lower limits the data readings will be checked at collection to make sure they fall within the acceptable range and results will be displayed.

Make Recording Condition Settings from TR-57U

Recording Condition Settings such as Recording Start Date / Time, Recording Interval and Recording Start Method can be made for any of the following data loggers: TR-5S Series, TR-5 Series and TR-7U Series.

Backup Function

When battery power becomes low, a battery life warning signal will appear in the unit's LCD display and if the battery power becomes even lower the unit will automatically go into sleep mode in order to protect the stored data. In sleep mode all normal operations will stop and it will become impossible to switch on the power of the main unit.

** If a dead battery has been left in a unit, the data will be stored for about one month before deletion.*

Battery Life Warning Display

When the battery power becomes low, a battery life warning signal will appear in the unit's LCD. If the battery power becomes even lower the unit will automatically go into sleep mode whereby it will be impossible to switch on the power of the main unit and the stored data will be protected.

If the unit is used for one hour every day the battery life can be expected to be around one hundred days.

The expected battery for two AAA alkaline batteries (LR03) is as follows: used thirty minutes daily should be about 160 days, used one hour daily should be about 100 days, used two hours daily should be about 50 days. In addition to AAA alkaline batteries, AAA Ni-Cd or AAA Ni-MH batteries (1.2V) may also be used.

** Battery life varies depending upon the type of battery, the measuring environment, the frequency of communication, and the ambient temperature in which it is used.*

Auto Power Off Function

To save battery energy the main unit will automatically be turned off when not in use for 3 minutes.

Backlit Display for Viewing in Dark Places

The TR-57U comes equipped with a Backlit Display for easy viewing even in hard to see places. The light can be switched ON/OFF in the main menu. If set to be ON, it will light up when operation begins and automatically turn off when operation stops for a few seconds, saving battery energy.

** If an outside power source is being used, the back light function will normally be ON.*

Contents of Package

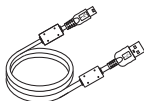
The following items are included in the package.



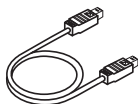
Data Collector
TR-57U x1



Software CD-ROM x1
(T&D Recorder for Windows TR-5,7xU (E))



USB Communication Cable
US-15C x1
(USB-A plug / USB mini-B plug)



RS-232C Communication Cable
TR-6C10 x1
(mini RS / mini RS)

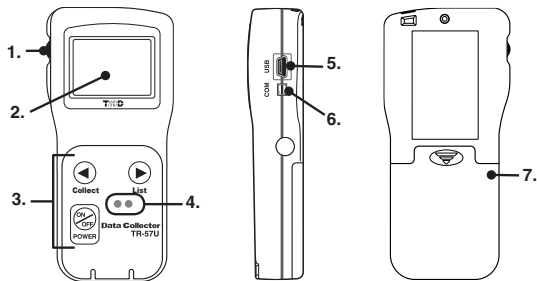


AAA Alkaline Batteries
x2



TR-57U User's Manual
and Warranty x 1
Software User's Manual x 1

Part Names and Functions



1. Operation Dial
2. LCD Display
3. Operation Buttons
4. Optical Communication Spots

5. USB cable connection jack
6. RS-232C Communication cable connection jack
7. Battery Compartment

Explanation of the Button Functions



Collect

- Starts the Downloading of Data from the Data Logger.
- Allows you to swift-scroll across data when viewing a graph or an event list.
- Allows you to swiftly make changes to the upper and lower limit value settings.



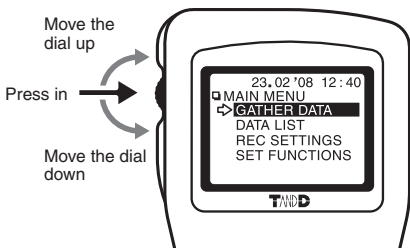
List

- The downloaded data list will be displayed.
- Allows you to swift-scroll across data when viewing a graph or an event list.
- Allows you to swiftly make changes to the upper and lower limit value settings.



- Switch Power ON/OFF. (See P.8)

How to Use the Operation Dial



Moving the dial up and down

- By moving the dial up or down the arrow will move to allow you to choose the desired item. The selected part will be displayed in an easy-to-see inverted shade.
- When setting a numerical value, by moving the dial up the value will become larger and by moving the dial down the value will become smaller.

Pressing in on the dial

- By pressing in on the dial, you can make a desired menu selection or complete and activate a setting.
- Keeping the dial pressed in (1.5 seconds) will activate different functions depending on the display being viewed.

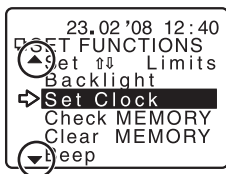
** If you keep it pressed in while viewing the graph display, you can change the display channel.*

** If you keep it pressed in while viewing a menu, a setting display, or the event list display, you will be returned back to the main menu display.*

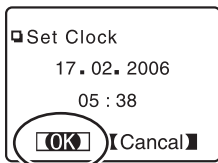
Moving Cursor by Operational Dial



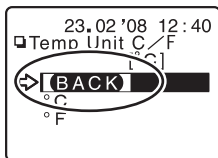
The item marked with an arrow [↔] denotes it has been selected. If you move the operation dial up and down, the arrow will move accordingly and by pressing in the dial the item selected will be activated.



A [▲] [▼] indicates that there are more menu items above [▲] or below the [▼] to view. By moving the Operation Dial up and down it is possible to scroll the display.



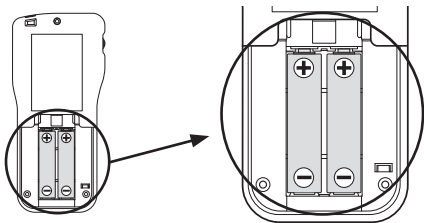
After making a setting, adjust the dial to select [OK] and press to complete the setting procedure.



If there is no [OK] in the setting display, but a [BACK] is displayed, adjust the arrow to [BACK] and press it to complete the setting and take you back to the menu display.


Installing the Batteries

Two AAA type Alkaline, Ni-Cd, or Ni-MH (1.2V) batteries may be used, but be sure not to mix types of batteries and to insert them in the correct direction to align + and -.

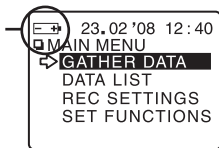


- The TR-57U unit has no battery recharging ability.

About the Battery Life Warning Mark

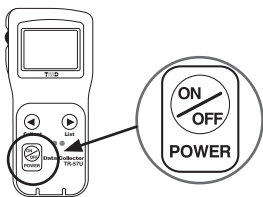
When battery life goes low, a battery life warning mark [] will be displayed to inform you it is time to replace the battery. If battery life goes lower, in order to save data, the main unit automatically goes into sleep mode and cannot be turned on or operated as usual. If all battery power disappears, all data will be lost, so be sure to change the battery as soon as possible. Even if the battery is removed from the unit, the data will be stored without loss for about 5 days. (If the battery had been in the unit for more than 24 hours before removal.)

Battery life
warning Mark

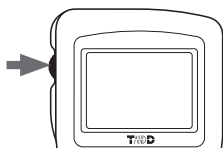


Switching the Power ON / OFF

Switch the power ON by pressing the <POWER> Button or the Operation Dial. To switch the power OFF, press the <POWER> Button. You cannot switch the power OFF with the Operation Dial.



Pressing <POWER> Button



Pressing Operation Dial

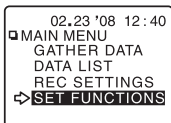
Auto Power Off Function

If the main unit is not in use for 3 minutes, the power will be automatically switched off in order to save battery power. If you wish to continue to use, switch the power on again.

Selecting Temp Unit and Date Format

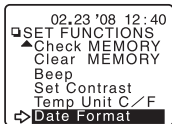
It is possible to switch the Date Format and Unit of Temperature for the display of data downloaded into the TR-57U. The selected settings will be used for all displays in the TR-57U including Graph, Event List and Data Lists. The Clock Display Settings can be changed in the Main Menu Window.

1. In the Main Menu, open [SET FUNCTIONS].



2. Move the Operation Dial to either [Temp Unit] or [Date Format].

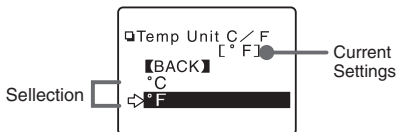
Set Function Window



3. Press the Operation Dial to open the next settings window (see the next page).

Changing Unit of Temperature: Temp Unit C/F

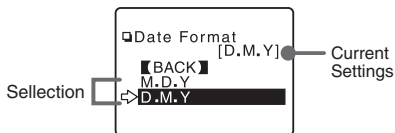
1. By moving the arrow to [°C] or [°F] and pressing the dial, the setting will be completed.



2. Move the arrow to and click [BACK] to finish.

Changing Date Format: Date Format

1. By moving the arrow to [M.D.Y] or [D.M.Y] and pressing the dial, the setting will be completed.



2. Move the arrow to and click [BACK] to finish.

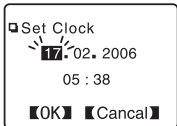
Setting the Date and Time

Please make sure that the date and time settings in the TR-57U are correct, if they are not, the start time and recording time of downloaded data will be incorrect.

NOTE

- After purchasing this product, please be sure to use the attached software to set the clock and date.
- The difference between your local time and GMT will automatically be calculated and written, after which the correct time will be displayed.
- If the date and time of the TR-57U main unit are not accurate, the starting time of a programmed start and the recorded time of downloaded data will be different from the actual one, so please set the date and time accurately.
- When changing the battery, the time of the main unit may become incorrect; please check the time after every change.

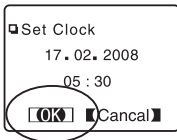
1. In the Main Menu, open [SET FUNCTIONS] - [Set Clock] .
2. Make Clock settings.



- (1) Pressing the "operation dial" will cause the settings item to blink.
- (2) Turn the dial to select the desired number.
- (3) Press the dial again to set the selected number and move to the next settings item.

- It is possible to change the date format between "Month, Date, Year" and "Date, Month, Year". See the page 9-10 for details.

3. When settings are completed, adjust to [OK] and press the dial to complete the setting procedure.



Communication between TR-57U and your Computer

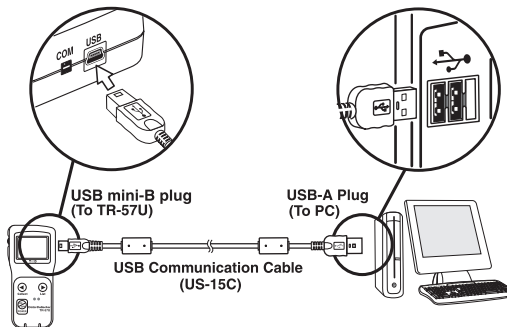
For direct communication with your computer to download or make setting changes, etc... please use a provided USB communication cable or optional RS-232C cable.

NOTE

- Be sure the connections are correct. If wrong, communication will not be possible.

For USB

You will need to install the USB Device Driver in order to use the device with a USB cable and Windows. After installing, your computer will be able to detect and recognize an TR-57U device that has been connected with a USB cable.



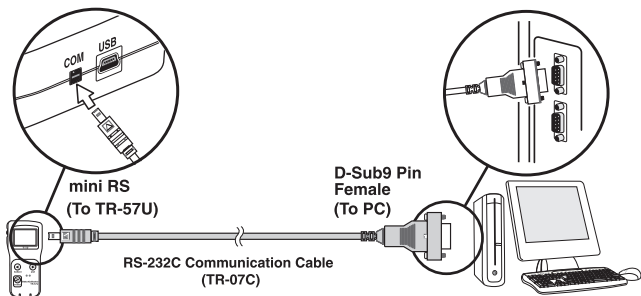
USB Port Mark



The USB communication cable is a USB-A plug and original connector plug. Connect to a place with a mark as such.

For RS-232C (Serial)

Connect the RS-232C Communication Cable (TR-07C) to a RS-232C port on your computer. Connect the Serial Cable to the COM port on the TR-57U.



Examples of RS-232C Port Symbols



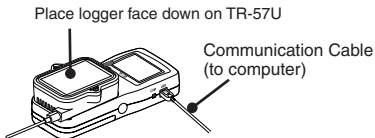
The cable connection is a D-sub 9pin male. Please connect to the place that has such a symbol.

Communication between Data Loggers and your Computer

For TR-51A/51/52, TR-51S/52S

To use your computer to make Recording Start Settings or Download Data, connect the TR-57U to your computer and place the Data Logger on top of the TR-57U to carry out communication.

- 1. Connect the TR-57U to your computer with provided USB communication cable or optional RS-232C (serial) cable.**
- 2. Place the Data Logger on the TR-57U.**

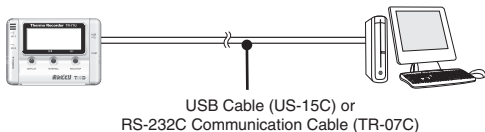


NOTE

- For details about how to register, see the [Help] Menu in the provided software "T&D Recorder for Windows TR-5,7xU (E)" or the accompanying User's Manual.
- If a wireless type Data Logger is being used (RTR-51/52/52Pt/53, RVR-52) and you wish to utilize the wireless communication function please purchase a Data Collector which has Wireless Communication capabilities (RTR-57U).

For TR-71U/72U

TR-71U/72U can be directly connected by communication cable to a computer.

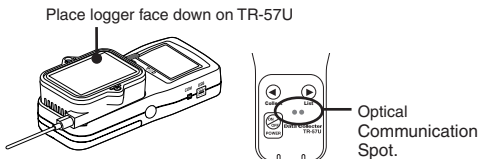


Communicating with the Data Logger

Connect the data logger to the TR-57U to carry out communication. Depending upon what type of logger is being used this connection can be either by communication cable or by directly placing the logger on top of the TR-57U.

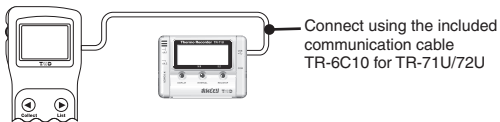
Optical Communication

For TR-51A/51/52, TR-51S/52S,



Via Optional Communication Cable

For TR-71U/72U



The following operations can be done using communication via cable or optical communication.

Download Recorded Data

You can download any data that has been recorded in a Data Logger.

Set the Recording Conditions

You can control and change all recording settings such as Recording Mode, Recording Interval, and Recording Start Date and Time (Programmed Start).

Read Logger Settings

The TR-57U can read and display all settings for the Data Logger that is connected to it.

Recording Start Settings

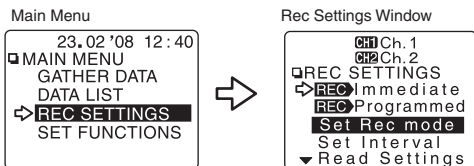
The following settings and changes can be made from TR-57U:

- Recording Start Date and Time (Immediate / Programmed Start)
- Recording Mode (One Time / Endless)
- Recording Interval

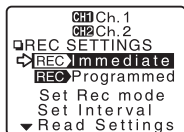
NOTE:

-If either an "Immediate Start" or a "Programmed Start" is executed, all recorded data stored within the data logger will be deleted. Before starting a new recording session, make sure to download all necessary recorded data.

1. In the Main Menu, open [REC SETTINGS].



2. Connect a data logger to the TR-57U. (See page 15 for details)
3. After having made all the desired recording settings, move the arrow to either [Immediate] or [Programmed] and press in on the Operation Dial to start communication.



* For details about Recording Settings see the info that begins on the next page.

4. Once the settings have been successfully transmitted a message will appear, press on the "Operation Dial" to complete the setting procedure.



[Immediate Start / Programmed Start]

Before starting a new recording session, make sure that the date and time settings in the TR-57U are correct. (see p.9) Also, make sure to download all necessary recorded data before starting a new recording session.

Immediate Start: Recording conditions will be immediately sent to the data logger and recording will begin as soon as they are received.

Programmed Start: Programmed Start: The data logger will be programmed to start a new recording session following the set conditions. (For more about the settings procedure see the next page)

[Set Rec Mode (Recording Mode)]

By moving the arrow to [ONETIME] or [Endless] and pressing the dial, the setting will be completed. Move the arrow to and click [BACK] to finish.

ONETIME: Recording will stop when the data capacity becomes full.

Endless: Recording will continue with oldest data continuously overwritten.

[Set Interval (Recording Interval)]

Turning the "Operation Dial" allows you to change numbers and pressing it selects that number as the setting.

Choose from 15 intervals :

S : 1, 2, 5, 10, 15, 20, 30 seconds

M : 1, 2, 5, 10, 15, 20, 30 and 60 minutes.

- *Recording interval settings cannot be made for event recording.*
- *Recording Intervals of 15, 20 seconds and 15, 20 minutes cannot be used with TR-71U/72U Data Loggers.*

[Read Settings]

After connecting a Data Logger to the TR-57U it is possible to upload (read) the recording settings already stored in that Data Logger to the TR-57U. If you wish to make no changes and want to restart recording under the same conditions, please read the current settings first and then restart recording.

[Set to Default]

At any time, you can return the TR-57U to its default settings of

Recording Mode : Endless

Recording Interval : 10 minutes

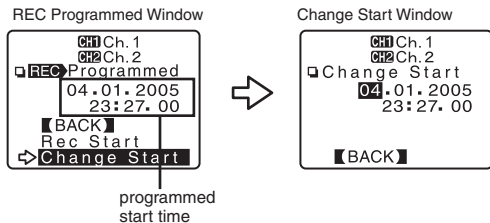
Channel Names : 1 channel (ch.1) / 2 channel (ch.2)

Programmed Start Settings

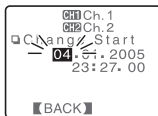
NOTE:

-Before starting a new recording session, make sure to download all necessary recorded data .

1. These settings can be made active from the "Recording Condition Settings" display by clicking [REC Programmed] - [Change Start].



2. Make Clock settings.



- (1) Pressing the "operation dial" will cause the settings item to blink.
- (2) Turn the dial to select the desired number.
- (3) Press the dial again to set the selected number and move to the next settings item.

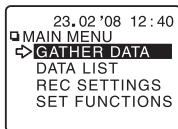
- It is possible to change the date format between "Month, Date, Year" and "Date, Month, Year". See the page 9-10 for details.

3. After having completed the clock settings, move the arrow to [BACK] and press in on the Operation Dial to return to the Programmed Start Window.
4. Connect the Data Logger to the TR-57U.(see p.15)
5. By selecting [REC Start] the settings will be sent to the Remote Unit (Data Logger) and recording will begin based on the set conditions.

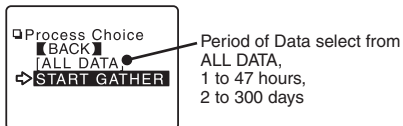
Downloading Recorded Data

This is for downloading recorded data from Data Loggers to the TR-57U.

1. Connect the Data Logger to the TR-57U.(see P.15)
2. In the Main Menu, Click [GATHER DATA] or press the <Collect> button on the TR-57U.
 - With TR-71U/TR-72U, TR-51/52/52A, Downloading will start.



3. With TR-51S/52S you can select to download data from any number of hours or days before now.
4. Move the arrow to and click [START GATHER] to download.



Period of Data

You can set the period (how many hours or days before now) from which you wish to download data.

You can select from 1 to 47 hours (in 1 hour units) / 2 to 300 days (Less than 100 days in units of 1 day, More than 100 days in units of 5 days) / ALL DATA.

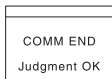
If you specify the period of data that is earlier than the period of the data saved in the remote unit, all saved data will be downloaded.

Message after Downloading



When the downloading is completed, a message will be displayed.

By pressing the operation dial, the display will change to that of a graph.



If you have set the judgment [ON] in [Set(↑↓)Limits] before downloading, the result will be displayed when the downloading is completed.

NOTE

- *The downloaded data for TR-71U / TR-72U will be displayed in the data list under TR-71S / TR-72S.*

If the amount of main unit memory is low, the downloading of recorded data may be impossible.

When you check the amount of the memory to confirm whether the data you wish to download can be saved in the TR-57U, and the data cannot be saved, the message [Memory Full] will be displayed and the downloading will be canceled.

Carry out any new download only after having downloaded the recorded data you wish to save into your computer and having deleted the data from the TR-57U main unit to make space.

(See P. 30-31 for details about deleting data)

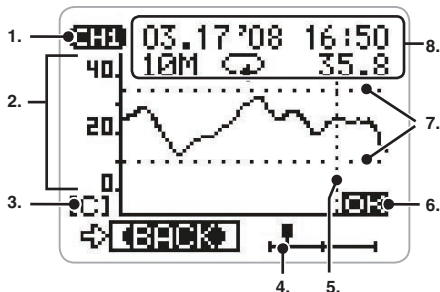


NOTE

- *The memory capacity is about 16 units of TR-51S at full data (16,000 readings) capacity or about 256,000 readings. The maximum number of times you can download recorded data before clearing the memory is 250; this holds true even if there remains empty memory.
(See P.27 for details about checking memory)*

Graph Display

In this display you can view in graph form the downloaded Temperature, Humidity, Voltage and Pulse data. A graph is displayed for each channel of data and can be scrolled left and right with the operation dial or by the buttons on the main unit.



*6., 7. are displayed when [Set↑ ↓ Limits] has been set as ON.

1. Displayed Channel

If there is recorded data in two channels, by holding in the operation dial for more than 1.5 seconds the channel will change.

2. Scale

The scale's vertical axis will display temperature, humidity and pulse. The horizontal axis displays time.

3. Vertical Axis Unit

[F] : Fahrenheit [C] : Celsius [%] : Humidity

- Here it is possible to change the unit of temperature (°C or °F) used in the display. (See p.9 -10 for detail)

4. Cursor

Shows which part of entire data is presently displayed in graph. The display can be scrolled with the operation dial or the buttons on the main unit.

5. Cursor Bar (Fixed Display)

Cursor position is displayed and measurement information is displayed at the top of the LCD display.

6. Upper and Lower Limit Judging Result

When [\uparrow \downarrow Judge] is ON, the result is displayed. If set for [ON], data will be checked and judged as to whether or not it falls within the set upper and lower limits. If set for [OFF], no judgment will occur, even if limits have been set.

7. Upper and Lower Judging Range

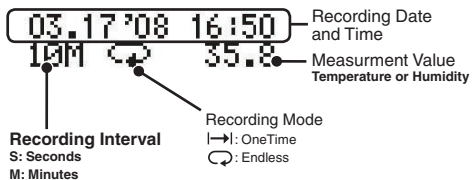
When [\uparrow \downarrow Judge] is ON, the range is displayed.

8. Data Information

Displays the measurement information of the cursor bar position.

- *It is possible to change the date format between "Month, Date, Year" and "Date, Month, Year". See the p. 9 - 10 for details.*

Display Examples:



Upper and Lower Limits: Set Functions

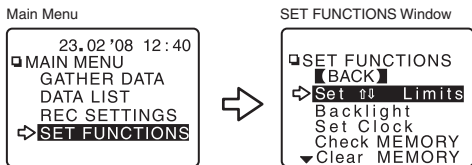
By setting upper and lower limits you can check data as it is downloaded to see if all measurements fall within the limit range and have the results displayed. These Upper and Lower Limit settings are for the TR-57U and will be used by it when downloading data to determine if a reading is within the acceptable range.

NOTE

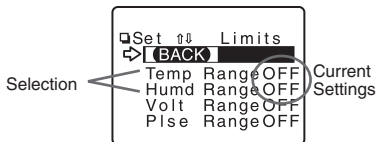
- Upper and Lower Limit settings for TR-51S and TR-52S must be made from the software "T&D Recorder for Windows TR-5,7xU(E)".

Setting the Upper and Lower Limit Range

1. In the Main Menu, open [SET FUNCTIONS] - [Set $\uparrow\downarrow$ Limits].



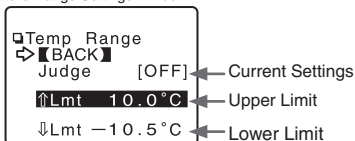
2. Move the arrow to the item you wish to make settings for and open.



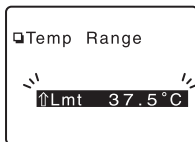
- [Volt] and [Plse] are only for display. The Limit settings function is currently not available.

3. By clicking [Judge OFF], it will change to [ON].

EX.
Temperature Range Settings Window

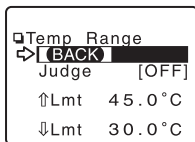


By moving the arrow to the upper or lower limit and clicking, it will allow you to make changes. By turning the operation dial, you can make changes to the value; click to activate the new setting.



By holding down the <Collect> or <List> buttons on the main unit you can make rapid changes to the values. Pressing the <Collect > Button will make the value lower. Pressing the <List > Button will make the value higher.

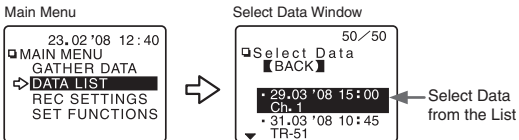
4. When settings are completed, click on [Back] to activate and finish.



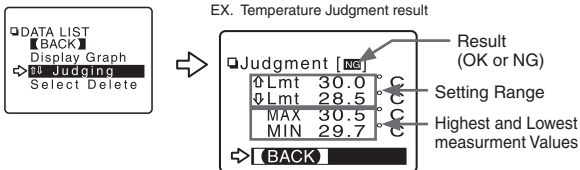
- Here it is possible to change the unit of temperature (°C or °F) used in the display.(See p.9 -10 for detail)

Viewing the Results of Saved Data

1. In the Main Menu, open [DATA LIST] and select the data you wish to check.

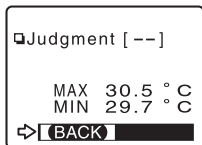


2. Pressing the operation dial will display the menu for view.
3. By clicking on [$\uparrow\downarrow$ Judging], the results will be displayed.



If set for [ON], data will be checked and judged as to whether or not it falls within the set upper and lower limits.

If set for [OFF], no judgment will occur, even if limits have been set.

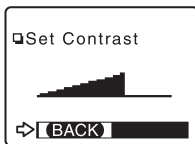


If no upper and lower limits have been set before downloading, the result will appear as [- -] and only the highest and lowest values will appear.

Other Functions: Operational Settings

Adjusting Contrast: Set Contrast

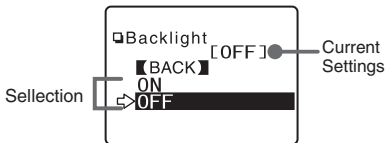
1. In the Main Menu, open [SET FUNCTIONS] - [Set Contrast].
2. Move the operation dial up to make the display darker and down to make it lighter.



3. After completing the setting, press the dial to finish.

Using the Backlight: Backlight

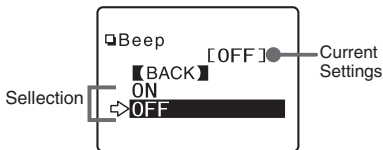
1. In the Main Menu, open [SET FUNCTIONS] - [Backlight].
2. By moving the arrow to [ON] or [OFF] and pressing the dial, the setting will be completed.



3. Move the arrow to and click [BACK] to finish.

Muting the Operations Buzzer: Beep

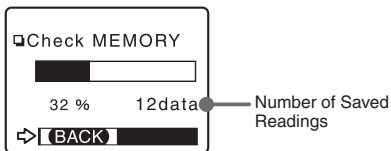
1. In the Main Menu, open [SET FUNCTIONS] - [Beep].



2. By moving the arrow to [ON] or [OFF] and pressing the dial, the setting will be completed.
3. Move the arrow to and click [BACK] to finish.

Checking Memory: Check MEMORY

1. In the Main Menu, open [SET FUNCTIONS] - [Check MEMORY].
2. By pressing the operation dial you can return to the [SET FUNCTIONS] Display.

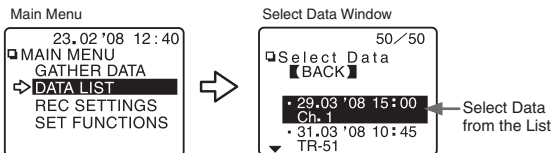


Viewing / Deleting Saved Data

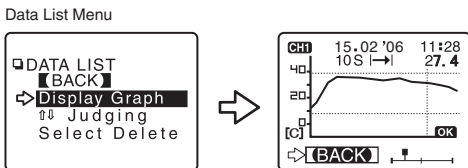
All downloaded data is temporarily saved in the TR-57U. It is possible to select saved data and view it in graph form or select it for deletion.

Displaying Recorded Data in Graph

1. In the Main Menu, open [DATA LIST] or press the <List> Button on the main unit to view the data list.
2. Select the data you wish to view from the data selection display.

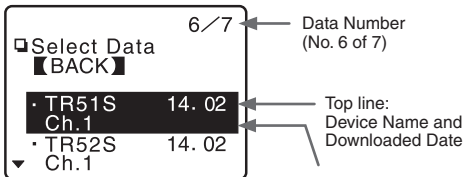


3. Pressing the Operation Dial will display the menu.
4. In the Data List Menu, open [Display Graph] .



Viewing a Data List

In the Main Menu, open [DATA LIST] or press the <List> Button on the main unit to view the data list.



Bottom line:
The notation may differ slightly depending on the Data Logger being used.
TR-5, TR-5S: Ch. Name
TR-7U: Ch.1 and Ch.2 Name

Data Number

The most recently downloaded data will be on top.

The above diagram shows that the data for the cursor position is at the 6th of 7 readings.

Ch.Name

The name which was set when making Recording Start settings.

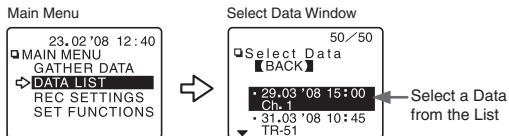
NOTE

- Only the first 6 letters of Ch.Names will be displayed.
- The downloaded data for TR-71U / TR-72U will be displayed in the data list under TR-71S / TR-72S.

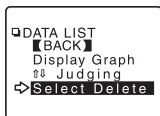
Deleting Data

Deleting Selected Data

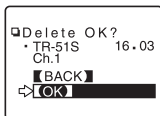
1. In the Main Menu, open [Data List] or press the <List> Button on the main unit.
2. Select the data you wish to delete from the list.



3. Pressing the Operation Dial will display the menu.



4. By clicking [Select Delete], a permission message will appear asking if it is [OK] to delete.



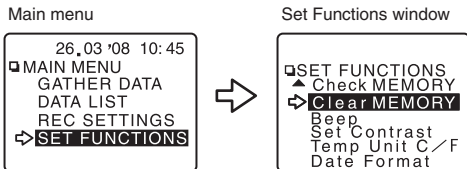
5. When completed, a message will appear. Press the operation dial to finish the deletion process.



- If you wish to continue to delete data one by one, repeat the procedures from step 1 for each data.

Deleting All Data: Clear MEMORY

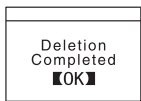
1. In the Main Menu, open [Set Functions] and [Clear MEMORY].



2. A message asking for permission will appear, if OK, move arrow to and click [OK].



3. When completed, a message will appear. Press the operation dial to finish the deletion process.

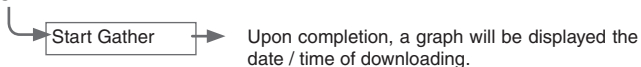


Note

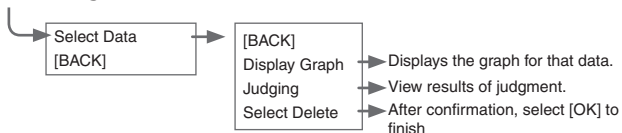
- *Recording Conditions and other settings will not be deleted. Recording conditions can be returned to the original factory settings by going to [REC SETTINGS] – [Initialize].*

Menus at a Glance

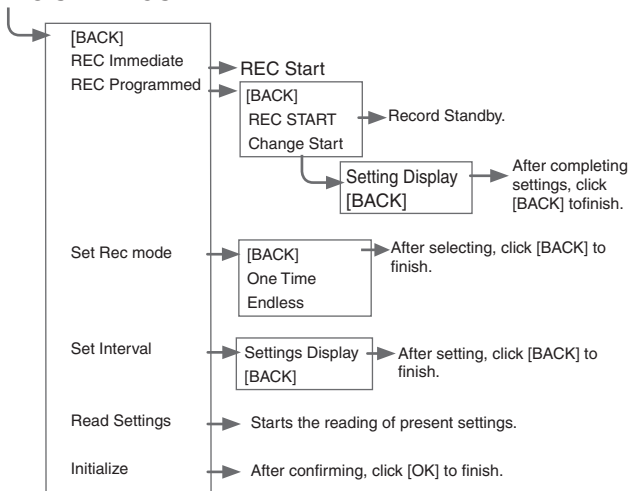
GATHER DATA



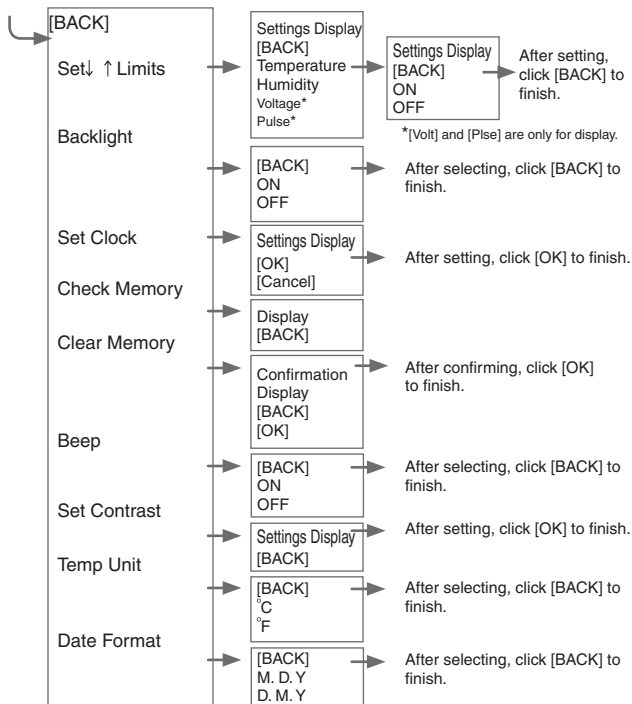
DATA LIST



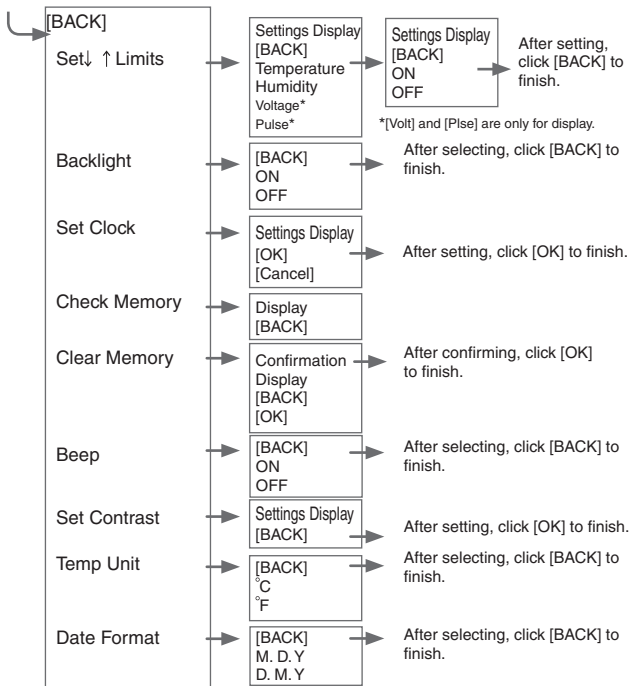
REC SETTINGS



SET FUNCTIONS



SET FUNCTIONS



Specifications

Compatible Devices	TR-51A, TR-52, TR-51, TR-51S, TR-52S, TR-71U, TR-72U
Recording Capacity	256,000 data readings 16 units of TR-71U at full data (16,000 readings x 16) Collect and manage data from up to 250 separate collections.
Functions	Downloading Data (possible to display results of upper and lower limit check after downloading)* Display Saved Data Graphs, Set Recording Start for Remote Data Loggers, Display Saved Data Highest and Lowest measurement values *These Upper and Lower Limit settings are for the TR-57U and will be used by it when downloading data to determine if a reading is within the acceptable range.
LCD Display	Contrast Adjustment, Backlight Function
Power	Two AAA Alkaline Batteries (LR03), Can use rechargeable AAA Ni-Cd or Ni-MH 1.2V batteries
Battery Life	Used 30 minutes daily is about 160 days Used 1 hour daily is about 100 days Used 2 hours daily is about 50 days *Battery life varies depending upon the type of battery, the measuring environment, the frequency of communication, and the ambient temperature in which it is used.
Data Backup	For about 5 days from the time of battery removal (If a working battery has been in the unit for more than twenty-four hours) For about 1 year with batteries in use (If all battery power is lost the stored data will be lost)
PC Communication Interface	USB / RS-232C: 19200bps
Data Logger Communication Interface	RS-232C Communication (Speed : 9600bps) Optical Communication (Speed : 2400bps)

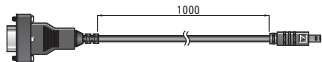
Interface Communication Time	Data from TR-57U to Computer : One Full Logger's Data: USB / 5 sec. RS-232C / 25 sec. Data from TR-7U Series to TR-57U via cable : One Full Logger's Data: 50 sec Data from TR-5, TR-5S Series to TR-57U via optical: One Full Logger's Data: 160sec
Dimensions	H125 x W58 x D23.8 (excluding protruding part)
Weight	Approx. 115g (Including 2 AAA Alkaline batteries)
Operating Conditions	Temperature : 0 °C to 50°C Humidity : Less than 90%RH (Without dew condensation)
Accessories	US-15C (USB communication cable :USB-A plug / USB mini-B plug) x 1 TR-6C10 (communication cable 1.0 m / mini-RS / mini-RS) x 1 AAA Alkaline Batteries (LR03) x 2 User's Manual and Warranty x 1 Software "T&D Recorder for Windows TR-5,7xU (E)" x 1

Option

Communication Cable

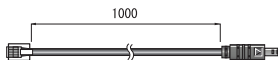
TR-07C

RS-232C Communication Cable
Cable Length: 60 in(1.0m)
Connector Type
Specialized Connector D-sub9pin
For communication with computer



TR-4C10

RS-232C Communication Cable
Cable Length: 60 in(1.0m)
For communication between Data
Collector and Data Logger
(TR-71S,72S,VR-71)



(unit:mm)

For product information or questions contact us at:

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Data Collector TR-57U

User's Manual

Apr. 2009 (3rd Edition)

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