

SEIKO

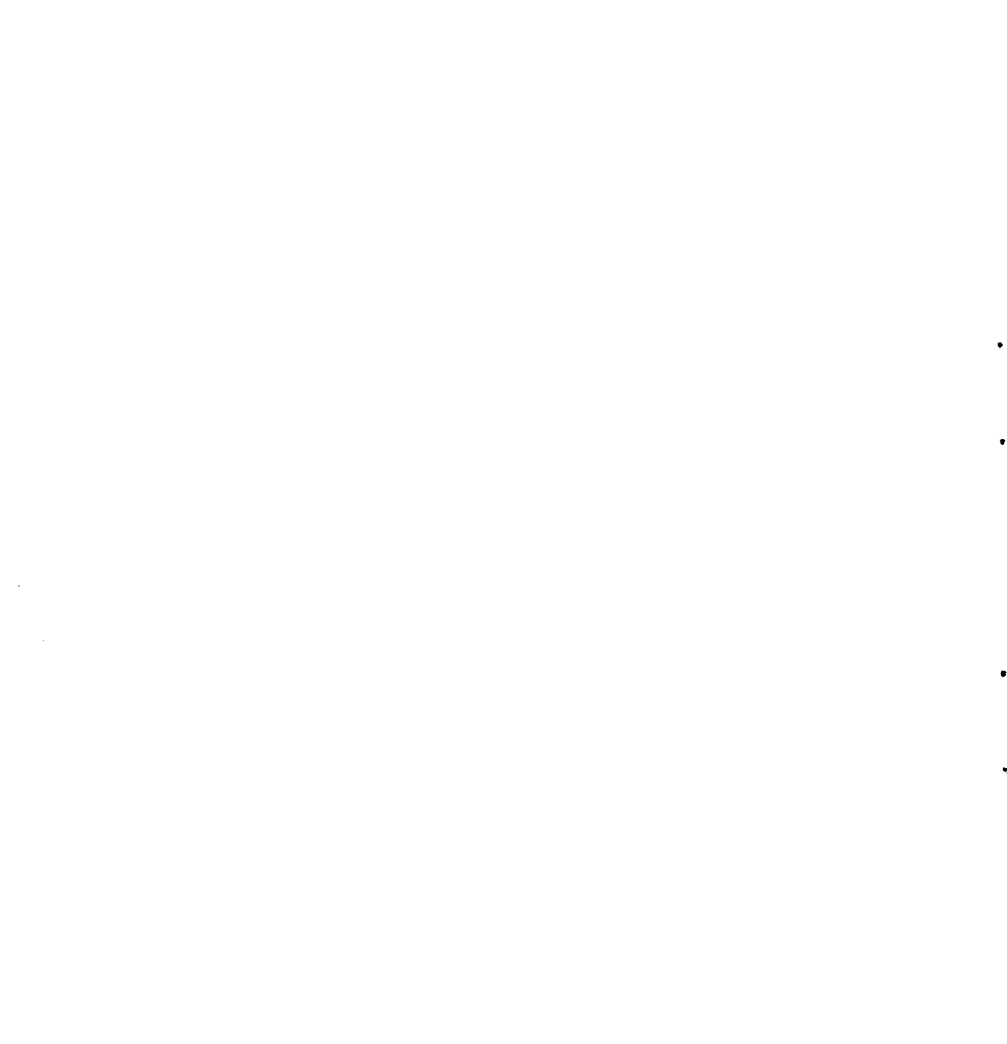
Software Operator's Manual

WRIST TERMINAL
RC-1000

NOTICE

The SEIKO PCDatagraph RC-1000 and the Data Manager software require that an RS232C serial interface be installed on your computer. In some cases, a cable adaptor (not sold by SEIKO) may also be required to connect the RC-1000 PCDatagraph cable to the computer.

The necessary RS232C serial interface for your computer and cable adaptor (if required) may be purchased from your local computer dealer if it is not supplied with your computer.



SEIKO PCDatagraph Data Manager Version 1.00 Operating Manual

This documentation also covers all sub-versions of the SEIKO PCDatagraph RC1000 Data Manager program.

SEIKO PCDatagraph RC1000 Data Manager 1.00

By H.C. Pennington

**SEIKO PCDatagraph RC1000™ Operator's Manual
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**SEIKO PCDatagraph Data Manager™ Program
Copyright © 1984, Hattori Corporation of America**

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Introduction

The SEIKO PCDatagraph is a “mini-word processor” and data file manager which creates and edits data files which may, in turn, be loaded into the SEIKO PCDatagraph Wrist Terminal.

You will not need a training course to use this software. It is “menu driven” — that is, in order to carry out any operation you want to do, the choice is made from a menu.

When you are editing or creating data, the editing commands are displayed on the video — you do not have to remember any complicated commands. The program will not let you enter any “illegal” data which the SEIKO PCDatagraph Wrist Terminal cannot use or which will make the SEIKO PCDatagraph operate incorrectly. Everything is managed for you. If you can't do it, the SEIKO PCDatagraph cannot handle it. It is that simple and easy.

About the SEIKO PCDatagraph RC1000 Wrist Watch/Terminal

A fancy name for a clock or watch is “chronograph.” The SEIKO PCDatagraph is a “data terminal and wrist chronograph” — a “Datagraph.” The data is “loaded” into the watch with a “PC,” a “personal computer.” And, of course, the PCDatagraph is manufactured by SEIKO, a worldwide leader in technology and fine chronographs. The SEIKO PCDatagraph is the beginning of a new dimension in time keeping and information — it is the future, and it is now!

About the SEIKO PCDatagraph RC1000 Data Manager Program

The SEIKO PCDatagraph Data Manager Program is written in the BASIC language. Although BASIC is an interpretive language which is slow by machine language standards, the Data Manager program is more than adequately fast for the function it serves.

Programs written in BASIC have many advantages. BASIC is a “universal” language which is easy to learn and understand, and is easily changed or modified. This means that you may modify the Data Manager program yourself, if you have the inclination to do so.

BASIC Goes to “Sleep”

For all of the BASIC computer language’s advantages, it has one disadvantage — some versions of BASIC will seem to go to “sleep” from time to time. That is, things will appear to “freeze-up” for a few seconds. Do not become alarmed, this condition will take care of itself after a few seconds, and everything will return to normal.

When BASIC goes to “sleep,” programmers call this “housekeeping.” It means that BASIC is going through its memory and throwing away everything it doesn’t need in order to make room for new information. This process takes a second or two, and will occur more frequently on computers with limited memory.

Some versions of BASIC do not have this problem. If your computer seems to “go to sleep,” don’t worry about it — in a few moments everything will return to normal.

Using this Manual

The best way to learn to use the SEIKO PCDatagraph Data Manager is to try using the menu selections and editing commands as you read about them. By experimenting with different combinations and using the SEIKO PCDatagraph Data Manager Program, you will discover the best way to do the things you want to do.

If this is the first time you have used your computer and all this is “new” to you, it is recommended that you thoroughly review the instructions for your computer before proceeding with the SEIKO PCDatagraph Data Manager program.

Notation

One of the most frustrating and confusing things about a computer manual is the notation used to indicate what you enter (or type) into the computer, what the computer prints out on the video display, and how we indicate, in a manual, a sequence of keys to press or keys that must be pressed at the same time. Here are the special notations that are used in this manual:

<K> A letter or word enclosed in this type of brackets indicates a key on the computer keyboard, — in this case, the “K” key. <SHIFT> would indicate the shift key, <Esc>

indicates the escape key, <HOME> indicates the home key, and so on.

<CTRL> This represents the “control” key. Not all computers have a “control” key. In those cases, another key is substituted for the control key. However, <CTRL> will be used in this manual regardless of the actual key your computer uses. When you see “<CTRL>”, use the key designated for your computer for this key. See the Command Summary for the substitutions which apply to your computer.

“file specification” The computer stores all information on diskettes and cassettes as a “file” — picture it as a file folder with a name on it. Programs stored on diskettes or cassettes are also called “files” — they are just a different type of file. If you want a particular file folder out of your file cabinet at home or work, you must know the name of the file you want. (Excuse me, could you pull the Jones file and put it on my desk?) The computer works in the same way — in order to “get a file” from the diskette or cassette, you need a file specification which is the name of the file, and may also include other information about the device (disk drive, cassette player, etc.) which has the file stored on it.

Check your computer’s manual about the file specifications which it will require, if any.

“File name” Everyone (almost everyone, anyway) has a first and last name. Files can have “first” and “last” names too. When a file has a “last” name, we call it a file name extension. Usually there is a special character between the “first” and “last” names of a file. It may be a period (.) or slash (/) or even a space. This special character is called a “delimiter” and is used to distinguish between the parts of the file name. In any case, read your computer documentation to determine which delimiter to use between the file name and file name extension.

<Enter> The “enter key” corresponds to the “carriage return” key on a typewriter. On some computers, it is called the “return” key. It may be marked “Enter” or “Return” or have some special graphic marking such as an arrow that is “bent” like this: ↵. <Enter> is used throughout this manual to indicate that this key is to be pressed regardless of what it is called on your computer.

<CTRL>-<T> Bracketed keys with a dash between them indicate that both keys are to

pressed at the same time. In this case you would hold the control key down while you press the "T" key.

Characters: Letters, Numbers and Symbols

When using a computer, letters, numbers and symbols are called "characters." This way we do not need to distinguish between letters, numbers and symbols — they are simply called, "characters." The letter "L" is the "L-character," and the "*" is the asterisk-character, while the number "1" is the "one-character."

"Illegal" and "Legal" Characters and Operations — when a character is not permitted, it is called an "illegal" character, while a "legal" character is one which is permitted. An "illegal" operation is one which is not permitted, and a "legal" operation is one which is permitted.

Zero The zero character looks like the capital letter "O," and it is everywhere. The confusion arises when we need to represent a zero, not the letter "O." To eliminate the confusion, we will make the number zero like this: 0.

Spaces A difficult concept to grasp is that on a computer "spaces" are treated as a character or symbol. It is simply a "character" which appears to be nothing!

Hardware Requirements

Listed below are the Personal Computers, mass storage systems, and the version of the SEIKO PCDatagraph Data Manager program which will run on each computer.

SEIKO Data Manager V1.00 ap
Apple // - Disk only
Apple //+ - Disk only
Apple //e - Disk only

SEIKO Data Manager V1.00 c64
Commodore 64 - Disk

SEIKO Data Manager V1.00 i/ms

Columbia – Disk only

Compaq – Disk only

Corona – Disk only

Tandy 1200

IBM PCjr – Disk only

IBM PC – Disk only

IBM PC/XT – Disk only

All IBM PC compatible computers

RS232C Interface card (various manufacturers)

Note: All serial interfaces must be capable of suppressing or ignoring DTR (data terminal ready) and CTS (clear to send) signals. For this reason, “modem” type RS232C serial interface cards or units may not function with the SEIKO PCDatagraph Wrist Terminal.

A discussion of RS232C serial interfaces, cables and connectors is contained in Appendix V.

The Distribution Copy of the SEIKO Data Manager Program

The SEIKO PCDatagraph Data Manager program is distributed on a cassette tape or diskette prepared especially for each of the above listed computers. The tape or diskette contains the Data Manager program and data files necessary for the operation of each computer's version of the program.

BACKUP Your Distribution Copy of the Data Manager Program

Make a backup copy of the distribution cassette or diskette before using the program. Consult your computer's operating manual for details on making backup copies of cassettes or diskettes.

It is always a good "computer practice" to make several backups of programs. Never use your distribution copy of a program except to make backups from — always protect yourself. Once you have made a backup of the distribution copy of the program, put it in a safe, cool place.

Loading and RUNNING the SEIKO PCDatagraph Data Manager Program

Cassette Systems Computer systems using cassette systems for mass storage are in BASIC when they are turned on. It is only necessary to LOAD the Data Manager program (it is the first program on the tape) and RUN it. (Note: There is a second copy of the program and program data file on the cassette tape approximately 10 seconds after the first copy.) Consult your computer manual for details on LOADING and RUNNING a BASIC program. The name of the program (on all tape systems which permit tape files to be named) is "RC" or "R".

After the SEIKO PCDatagraph Data Manager is loaded, do not remove the tape or rewind it. The Data Manager program will need to use the data files that immediately follow the program file. After the tape has run a second time, it may be rewound and removed.

Disk Systems Disk systems operate in two separate and distinct ways. Either they "power up" in BASIC mode or in "DOS" (Disk Operating System) mode.

BASIC Mode Systems If your computer is in BASIC when you turn the power on, all that is necessary is to insert the distribution disk into the disk drive and LOAD and/or RUN the program. (Note: On some computers the program must be LOADED before it can be RUN. On others, the LOAD is automatic when the RUN command is used with a file specification. Consult your computer manual for details on LOAD and RUN.)

DOS Mode Systems If your computer "powers-up" in DOS mode, it will be necessary to load and execute BASIC before LOADING and RUNNING the Data Manager Program. Some DOS systems require that a "system disk" be in "drive 0" or "drive A:". On these systems it is necessary to transfer all of the programs from the distribution disk to a "system disk" if you have only one disk drive.

On those systems which do not require a "system disk," the programs may be loaded and run directly from your backup of the distribution disk.

On multiple drive systems, the programs may be loaded and run from any active drive on the system.

On those systems which permit "auto" run files (also called "batch" files), there is a batch or auto file called "RC.BAT." By typing: RC <Enter>, BASIC will be loaded and executed, and the Data Manager Program will be RUN automatically.

SEIKO Data Manager Program Differences

There are nine versions of the SEIKO PCDatagraph Data Manager program which run on over 20 computers with different keyboards, hardware capabilities, display (video) types, operating systems and different versions of the BASIC language. Although they all have the same "version number" and have the same functionality, there are differences between each "sub-version" of the program. (The sub-version is designated by the letter/number combination following the version number. For example, "i/ms" designates a sub-version, as does "c64," and so on.)

Some versions have more features than others. There are more "world time cities" on some versions than on others. Throughout this documentation, the differences are noted. If there is any doubt about whether or not you can use a particular command or function, try it — it won't hurt anything.

Another area of substantial differences between versions is the video display. Some computers have displays which are 80 characters wide and 25 lines tall. Others have the same width, but only 24 lines, while yet others are 32 or 40 characters wide with as few as 16 lines vertically. One version is only 40 columns by 8 lines! Obviously there will be differences in the way the various versions make use of the video display.

The final major difference between computers is the use of the keyboard — there is a bewildering number of keys on some — which don't exist on others — and virtually every computer has significant differences in the way the keyboard is handled internally.

For these reasons, there are differences between the various sub-versions of the SEIKO PCDatagraph Data Manager program in the keys used for the editing and creation of watch data files.

In Case You Have Difficulty . . .

In Appendix II of this manual you will find instructions for using Customer Service to resolve problems you may have which you cannot solve.

The SEIKO Data Manager Program

With the Data Manager Program, you can create and edit “watch data files” which can be sent to the SEIKO PCDatagraph Wrist Terminal.

You may create new watch data files or edit old files. You may save watch data files under different names and print them on a line printer (so you may have a “hard copy” printed record of your watch data files).

The SEIKO PCDatagraph Wrist Terminal can accept four different kinds of data:

- Memos
- Schedule Alarms
- Weekly Alarms
- World Times

SEIKO PCDatagraph “Vital Statistics”

The SEIKO PCDatagraph can store a total of 80 “lines” of 24 characters.

Each of these “data lines” must be 24 characters in length.

Each data line must be one of the four data types listed above.

At the beginning of each data type, there must be a “label.”

There must be no more than a total of 12 labels in a watch data file.

Schedule and Weekly Alarms and World Times must have only 1 label each.

There may be as many labels for memos (up to 12 labels) as you want.

Each data type must be sent to the SEIKO PCDatagraph in a special “format.”

This seems like a bewildering number of “musts,” but the SEIKO PCDatagraph Data Manager program will take care of everything for you. You will not be able to enter data which the SEIKO PCDatagraph cannot handle. All data is sent to the SEIKO PCDatagraph in the correct “data format.” All you have to do is enter the data and send it to the PCDatagraph.

Before we run the program, let's examine each data type and understand how the SEIKO PCDatagraph will use it.

Labels

If we were to put information into a file folder, we would "label" each folder with the contents of that folder. Think of each SEIKO PCDatagraph "label" as a "file folder." The SEIKO PCDatagraph can have up to 12 "file folders" or "labels." In each file folder we would put pieces of paper, or "pages" of information. In the SEIKO PCDatagraph, we call each "page" of our file folder a "data line."

Since the SEIKO PCDatagraph can store up to 80 data lines of information, it would be inconvenient to have to browse through all 80 data lines in order to find something. However, it is very easy to browse through the labels — especially if we have given each label a title meaningful to the data lines which are stored under them.

To "browse" through the labels, all we have to do is press the "TERMINAL" button on the SEIKO PCDatagraph. Each label will be displayed. When you come to the label which has the information you want, you can then press the "up" or "down arrow" buttons on the SEIKO PCDatagraph and "browse" through the data lines stored under that label.

Labels may be up to 24 characters long and may contain any legal character which can be displayed by the SEIKO PCDatagraph.

Memos

A "memo" is a note — no doubt you have used memos to remind yourself of important dates or appointments or to remember a phone number. Now you can keep your important memos on your wrist.

The SEIKO PCDatagraph displays memos in two lines of twelve characters — a total of 24 characters for each memo.

Memos and memo labels permit any character which can be displayed on the PCDatagraph to be entered.

Schedule Alarm and Weekly Alarm

A “Schedule Alarm” is an alarm which is set for a future day and month. You can schedule an alarm to sound a full year from now! Schedule alarms are handy for reminding you of important appointments, anniversaries, birthdays, holidays or any other future date and time. You can have up to 80 scheduled alarms! Of course, this will fill the SEIKO PCDatagraph, and you cannot have any other type of data if you use all 80 entries for scheduled alarms.

Schedule and weekly alarms may be entered in any order (under their respective labels, of course); however, they are sent to the PCDatagraph in ascending sorted date order regardless of their order within the watch data file. This relieves you of all responsibility for the order of the alarm data.

When entering months and days (schedule alarm), the program will not permit a non-existent day to be entered. Each month, as well as leap years, is checked prior to allowing any input for “days.” If the month is changed after the day has been entered, the day is automatically reset to “01,” thereby forcing the re-entry of the days. This prevents a date which is non-existent to be entered, e.g., “02/29” when the target year is not a leap year.

Leap years are considered any time the schedule alarm month is February (‘02’). The computer’s system date must be correct to the extent that the year is correct. (The program has a provision for setting the date if it is not correct). If your computer does not have a “system” date and time function (usually called a “real-time clock”), you will be prompted to enter a date when the Data Manager is RUN.

Weekly Alarm

Weekly Alarms are especially handy. You can set an alarm for any day of the week, say Sunday at 6:30 P.M. Then, every Sunday, at 6:30 P.M., the alarm will sound, and a 12 character message (reminding you of what the alarm is for) is displayed on the SEIKO PCDatagraph.

You can use it as a daily reminder to take medicine, a reminder for special television shows, or for chores which have to be done every week — have you ever forgotten to set the trash out the night before trash day? No more! Now you can wear your memory on you wrist.

The Weekly alarm is set by pressing a key to set the days, a key to set the A.M./P.M., a key for the hours and another for the minutes. Only correct choices may be selected.

The message areas for schedule alarms, weekly alarms and world times are treated the same as memos and labels with the exception that they may only have 12 characters.

World Time

“What time is it in London? Let’s see . . . if it’s three hours earlier in New York, and it’s another five time zones to London . . . or should I go the other way? Hmmm . . . if London is 12 hours from the date line and I’m 4 hours from the date . . .” — have you ever had a “conversation” with yourself like this one? If you have, you’ll never have it again. With the SEIKO PCDatagraph and the Data Manager, you can set your SEIKO PCDatagraph to display the time anywhere in the world. Not only that, you can set your SEIKO PCDatagraph to display up to 79 world times!

It’s easy, too. You enter the time zone you are in and the time zone of the city or place you want along with the name of the city or place, and the rest is magic. That’s it. There is nothing else to do. Then, after you have loaded the watch, press the “TERMINAL” button until the “world time label” is displayed. After that, press one of the buttons until the city or place you want is displayed.

“How do I know what time zone I’m in, and the time zone of the city I want,” you ask? Well, it’s pretty simple, really. In Appendix I is a map of the world time zones. There is a number for each zone. It’s a “piece of cake.”

There are four ways you can enter a World Time. You can:

1. “Scroll” the cities and places up and down by pressing a key;
2. “Find” a city or place by entering a city or place name;
3. Type a city name and set the time zone by using the map in Appendix I.
4. A combination of all of the above.

Some versions of the Data Manager program have over 2000 cities or “places” from every time zone, including the offset in minutes where appropriate. Other versions of the Data Manager have a smaller list of world times because of memory and machine limitations.

However, the complete list of world time cities is included as a part of Appendix I, and can be typed in.

You can access the world time cities list by scrolling it (pressing a key) or by searching for a name or name fragment (i.e., “TOK” for “TOKYO”). If the name is found, the data and city are displayed in the “active” edit line.

A Few Words About Time Zones

The world’s time zones are not “logical” in their boundaries (except in a very general sense) — they are “political,” somewhat arbitrary, and, in some cases, obviously defined by custom rather than by the actual time of day. Daylight Savings Time further complicates the time zone picture. Arizona and most of Indiana *never* observe Daylight Savings Time. You can imagine how confusing this gets on a world wide scale; some areas of the world are on “permanent” Daylight Savings Time (in effect, moving the time one zone to the East). In addition, a general Daylight Savings Time rule cannot be applied to time zones in the areas below (or above) the equator within the same time zone since when the top half of one hemisphere is winter, the bottom half is summer, and some areas only use Daylight Savings Time in the spring and summer. When in doubt, consult a local authority in the “target time zone.”

The time zones are numbered from the International Date Line from West to East. From the time zone map, you can determine the time zone of the “target city” which you want displayed in the PCDatagraph’s world time function.

If the “target” city is on Daylight Savings Time, you can make an adjustment in the time zone setting by pressing the “hours” key, and thereby add or subtract an hour.

The Data Manager program automatically defaults *your* time zone setting to “4” (Pacific Standard Time) when it is RUN. However, once you have set the time zone and a file has been SAVED, the time zone setting in effect at the time the file was SAVED will be used each time the file is LOADED.

World time hours and minute differences are presented in the Data Manager’s display as an “offset” from the International Date Line. When this data is sent to the PCDatagraph it is sent as the *difference* between *your* time zone and the time zone of the “target” city. In this way, if you move to another time zone and wish to reset all the world times in relation to a

different local time, all you must do is enter a new “system time zone setting” and load the SEIKO PCDatagraph. Everything is automatically taken care of!

Running the SEIKO PCDatagraph Data Manager Program . . . a Sample Session

Now that you have a general picture of what the Data Manager program does and the different types of data you can load into the SEIKO PCDatagraph Wrist Terminal, let's use the program. The following applies to version 1.00 i/ms and r/ms of the Data Manager program.

Important Notice:

Because there are some features which are not available on all computers, you will have to consult the *Command Summary* to determine which keys and which editing features are available for your computer.

RUN the Data Manager Program

First, get into BASIC (if you are not already there) and **LOAD** and **RUN** the Data Manager program. The name of the program is “RC1000”, and the file name extension is “BAS” on all disk systems. On cassette systems, it is “R” or “RC”.

The Billboard The first thing you will see is the program “billboard.” Press any character key, the billboard will be cleared, and the program will begin **RUNNING**. After the program has been “initialized” — that is to say, all of the information and data have been organized and set-up, ready for use, the “Main Menu” is displayed.

Some computer systems do not have a “real time” system clock. On these systems you will be asked to enter the date. The data will be checked for validity before the program continues. If you have entered an invalid date, you will be asked to re-enter the date until a valid date entry is made.

The Main Menu After the Data Manager program is “initialized,” the Main Menu is displayed. You will have the following five choices:

1. Edit/Create Watch Data
2. Transmit to PCDatagraph (Load Watch)
3. Print Watch Data
4. System Menu
5. Quit Program

Edit/Create We’ll go through the choices in order — press the <1> key. The Main Menu will disappear from the display and a flashing cursor will appear on the “active data line.” (NOTE: on some computers the cursor will not flash, it will simply be a solid block). The “active data line” is the watch file data line that we can type on.

At this point, there is only one line in the watch data file: a “memo label.” Type a few characters — any characters will do. Notice that as you type, the cursor moves to show you where you are in the line, and each character is placed in the active data line as you type it. At this point, you are in “type mode.” Anything you can type is displayed in the active data line. If you type an “illegal” character, a “blat” sound will be made (on those computers which can make sounds) to indicate that the character you have typed cannot be displayed.

Editing a Data Line Besides being able to type characters into the active data line, you can *edit* data which is already in the line. (Note: there are some editing features which are not available on all computers; you will have to consult the *Command Summary* to determine which keys and which editing features are available for your computer.)

Before you can edit data, you will need some data to edit. We’ll create some “dummy data” and then go through all of the editing features.

Insert Data There is only one data line in your watch data file at this point. Press <CTRL>-<I> (remember: consult the *Command summary* to find the key combination for your particular computer). The “Insert Menu” is displayed with five choices:

1. Add Memo Label
2. Add Memo Data
3. Add Schedule Alarm Data/Label
4. Add Weekly Alarm Data/Label
5. Add World Time Data/Label

Notice that only the “memo” data type has two choices. This is because you can have more than one memo label. Schedule Alarms, Weekly Alarms and World Time can only have one label each. When you select 3, 4, or 5, a label will be inserted if it is needed. If a label already exists, data will be inserted. The same is true if you select “Add Memo Data,” choice number 2. If there is no label, one will be inserted.

Ok, let’s insert some data — Press <5> twice. The first time it is pressed, a label is inserted. The second time it is pressed, data is inserted. Press <5> again. Now you have one world time label and two world time data lines. The labels and data lines are “dummy lines”— you will be able to change them when you get back to the “Edit/Create Mode.”

Now press the <3> three times. A Schedule Alarm label and two data lines will be inserted.

Press the <4> key three times. You now have 4 labels (one of each “data type”) and six lines of data, but no “memo data.”

Press the <2> key two times. Notice that the memo data was inserted *below* the memo label even though the active data line *was* a Weekly Alarm data line.

No matter what your choice is, the data lines will be inserted into the correct place regardless of what is displayed on the active data line at the time of insert. *You can’t make a mistake!* Press the <5> key. Another world data line will be inserted into the correct place. Once again, the data was inserted in the correct place without your having to worry about “data types,” or labels.

So far, we have inserted everything but a memo label. Press the <1> key. If you are not on a data line which is a memo, the new memo label will be inserted *below* the first memo label in the watch data file. If there is not a memo label in the file in the first place, the memo label will be inserted at the *end* of the watch data file.

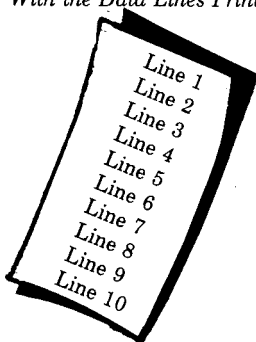
Press the <2> key twice. The new memo data lines will be inserted beneath the new label. We are now ready to begin editing our file, but first, a few words about the data display.

The Data Display On most computers, the data display area displays 11 lines of the watch data file; however, no matter how many lines your computer displays, the following explanation of the file's display applies.

As we added data and label lines to the watch data file, the lines were displayed from the active data line, in the middle of the data line display area, toward the bottom of the display. As lines were added to various labels in the file, the display was shifted up or down to show the lines as they were added. When enough lines are added to the watch data file, the display of the file becomes "circular."

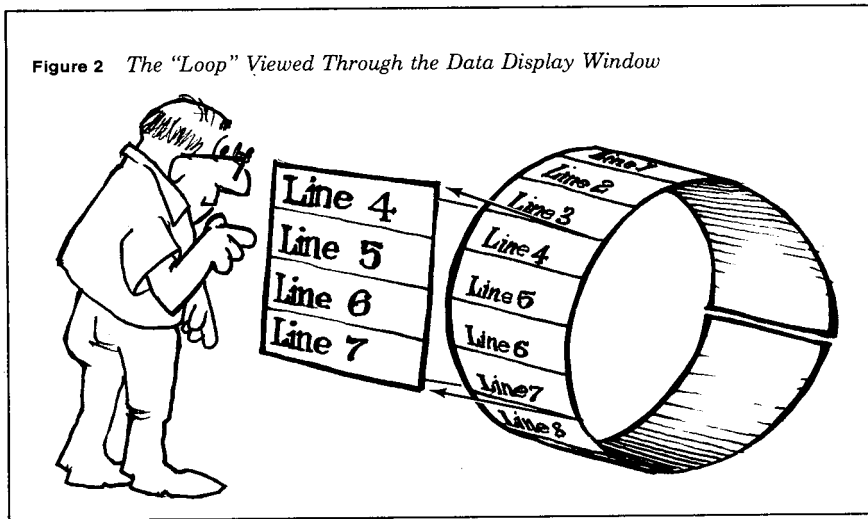
Imagine a strip of paper with each data line printed across the strip. Also imagine that the strip is only as long as the number of data lines in the file.

Figure 1 A "Strip" of Paper With the Data Lines Printed on it



As data lines are added, the strip will become longer. Now, imagine that the strip is formed into a loop with line 12 butted to line 1 and taped together. The file is now “circular.” The computer’s data display area is like a “window,” and we can view 11 lines of the loop at a time. The loop may get bigger, but the data display window remains the same size. If you have ever seen a Las Vegas slot machine, it is like looking at one of the wheels through the glass window — you can only see a part of the wheel at one time.

Figure 2 *The “Loop” Viewed Through the Data Display Window*



Return to the Edit/Create mode Press the <Esc> key. The Insert Menu will be cleared, and cursor control will be returned to the active data line in the data display window.

The <Esc> (escape) key The <Esc> (escape) key is used to exit from all menus and operations to the previous operation. This “circular escape route” makes it easy to move

from choice to choice. The escape key always performs the same, regardless of the menu displayed or the operation being performed.

If you press the <Esc> key several times from the Edit/Create mode you will switch to the Main Menu and back to the Edit/Create mode. Pressing <Esc> when in the Main Menu is the same as pressing the <1> key.

Moving around in the file Before you can edit the data you need to be able to get to it. Being able to “jump” from one place in the file to another is very convenient . . .

Jump to a label Press <CTRL>-<J>. The active data line will be the next label in the file. Press <CTRL>-<J> several times. This is just like pressing the “TERMINAL” button on the SEIKO PCDatagraph — you can “jump” from one label to another.

Jump to the beginning of the watch data file Press <CTRL>-. Line number 1 will be displayed as the active data line. No matter what line is in the active data line whenever <CTRL>- is pressed, line number 1 will be displayed as the active data line.

Jump to the end of the watch data file Press <CTRL>-<N>. The last line of the watch data file will be displayed as the active data line. No matter what line is in the active data line, whenever <CTRL>-<N> is pressed, the last line of the watch data file will be displayed as the active data line.

Move the cursor up 1 “page” Press the <PgUp> key. The file will be shifted downward (effectively moving the cursor *up* within the file) one “page.” A “page” is the maximum number of lines of data that can be displayed in the display window at one time. If your computer has 11 data lines displayed, a “page” is 11 lines.

Move the cursor down 1 “page” Press the <PgDn> key. The file will be shifted upward (effectively moving the cursor *down* within the file) one “page.” By pressing the <PgDn> and <PgUp> keys repeatedly, the entire file can be “paged” through from beginning to end.

Move Up one data line Press the <Up Arrow> key. The cursor will be moved up one data line. Each time the <Up Arrow> key is pressed, the cursor is moved up one data line (or one line is moved down, depending on how you look at it).

Move Down one data line Press the <Down Arrow> key. The cursor will be moved down one data line. Each time the <Down Arrow> key is pressed, the cursor is moved down one data line. Press the <Enter> key. This has the same effect as as pressing the <Down Arrow> key.

Now that you know how to “move around” in the file, let’s see how easy it is to edit the data lines. Press <CTRL>-<J> until the first memo label in the file is in the active data line.

Typing on a data line Since this is a label, you can type any legal character and it will be displayed in the active data line. Typing an illegal character will cause a “blat” sound, and the data line will remain unchanged. Type until the line is filled up.

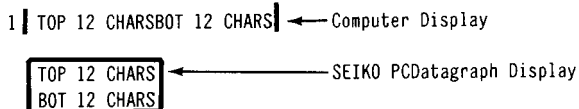
Move the cursor to the beginning of the data line Press the <Home> key. The cursor will move to the leftmost position of the active data line.

Move the cursor to the end of the data line Press the <End> key. The cursor will move to the rightmost position of the the active data line.

Tab to center/beginning of the data line Press <CTRL>-<T>. If the cursor is to the right of the center of the data line, it will move to the beginning of the line. If it is to the left of center, it will move to the center of the line.

The SEIKO PCdatagraph has two 12-character display lines. By using the “tab” function, you can position the cursor to the beginning of each 12-character line even though a data line is 24 characters long on the computer display.

Figure 3 *A Data Line as it is Displayed on the Computer and PCdatagraph*



Notice that in the computer display the words “CHARS” (characters) and “BOT” (bottom) are run together, but on the watch display they are on separate lines. By using the tab function you can determine the start of the second line of the watch display without having to count the characters you have typed.

Move the cursor right and left Press the <Right Arrow> key several times. Notice that the cursor moves to the right, but does not disturb the characters it moves over. This is called “non-destructive” cursor movement. Press the <Right Arrow> key until it is in the very last position on the right. Press it one more time. The cursor will “jump” from the right edge of the line to the left edge. This is called “wrap-around.”

Press the <Left Arrow> key several times and the cursor will move to the left. With the arrow keys you can move (non-destructively) to any place on the data line. Once you have positioned the cursor, you can type over any other character. This is called “overwrite” mode.

Backspace and erase Move the cursor to the middle of the data line and press the <Backspace> key (this is different from the “left arrow” key, but this key usually has an arrow pointing left also — it is usually a bigger arrow).

This is a “destructive” cursor movement. The character immediately to the left of the cursor is erased and the cursor is moved left 1 space. Characters to the right of the cursor are not affected. This key works slightly differently when you are in “Insert Mode.” This will be discussed in detail later.

Delete a character Place the cursor over a character and press the (delete) key. The character directly beneath the cursor is erased and the characters to the right of the cursor are moved left one character.

Erase all characters to the right of the cursor Press the <CTRL>-<E> keys. All characters to the right of the cursor are erased.

Insert characters (“insert mode”) Press the <Ins> (insert) key. The cursor will change size, and the active line prompt, “Type mode,” will change to “Insert mode.” Move the cursor over a character in the middle of the line and type a few characters. The new characters will

be inserted at the cursor's position, and the characters to the right of the cursor are moved to the right.

Press the <Backspace> key. It is still destructive; however, the characters to the right of the cursor are now moved to the left *with* the cursor.

Press the <Right Arrow> or <Left Arrow> keys until the cursor wraps around. The mode will automatically change to "Type mode" when the cursor wraps around.

Characters "pushed" off the right margin are lost and cannot be recovered.

Restore a data line to its original contents Press <CTRL>-<R>. Voila! You are right back where you started. The contents of a data line can be "restored" to its original contents as long as you have not moved the line off the active data line.

Before moving to the next series of operations, we need to make an "example line" to use for demonstration purposes. Press the <Home> key (cursor to beginning of the line), press <CTRL>-<E> (erase to the end of the line) and type in the following characters (including the dashes) in the active data line:

THIS-IS-AN-EXAMPLE LINE

Load the Cut and Paste Buffer A "buffer" is simply a temporary storage place. Press the <F7> key. In the "help" display (where the menus are displayed), notice that an asterisk (*) is now displayed next to the word "Cut." This means that the "cut and paste" buffer now has something in it.

Later, we can "paste" the data we have "cut out" into another data line or back into the one we cut it from.

Paste First restore the present line to its original contents by pressing the <CTRL>-<R> keys. Now the original contents of the line are displayed. Press the <F8> key and the contents of the "cut and paste" buffer will be "pasted" into the line. We can use the "cut and paste" buffer to "paste" this same data into as many lines as we want. Move to another data line by pressing the <Down Arrow> key and then press the <F7> key again. Now there are

two lines with the same contents. Use this function to copy parts of one data line into another or to move data from one line to another.

Delete a data line Press the <CTRL>-<D> keys. A message is printed informing you that the delete action is taking place, and the active data line is deleted. Move the cursor to the *first* memo label and press the <CTRL>-<D> keys again. This time the prompt, “Data below label will be lost – continue (Y/N)?”

You *must* answer this question by pressing the <Y> or <N> key. The reason all the data associated with that label is “lost” is because the SEIKO PCDatagraph requires a label to precede all data. If the label is deleted, the remaining data may not be compatible with the label and data immediately above it. Therefore, all data associated with a label is deleted when a label is deleted.

Search the watch data file Many times, especially when you have a large watch data file, you will want to edit a particular line and won’t want to have to search for it line-by-line. You can search your files by pressing the <CTRL>-<S> keys.

The prompt, “Search for:” will be displayed. Enter the characters you want to find and press the <Enter> key. If no match is found, the message “Can’t find target” will be displayed.

If there is a match, the data line in which the match was made will be displayed as the active data line.

On computers with Microsoft BASIC, a match may occur in any part of a data line. On other computers, the match *must* be an exact match, for the length of the search characters, beginning with the first character of the data line, although the entire data line does not have to match the search characters.

Schedule Alarms So far we have only edited labels and memo data. It is now time to set a Schedule Alarm. Jump to the Schedule Alarm label and then press the <Down Arrow> key until the active data line is a Schedule Alarm data line.

The first 12 characters of the Schedule Alarm data line are “memo” characters. This is the top line of the SEIKO PCDatagraph watch display. This side is treated exactly the same as memos and labels. Notice that you can type only the left 12 characters — the right 12 characters cannot be typed — they are “rolled” by pressing a key.

Set A.M./P.M. Press the <F1> or <F2> key (both keys do the same thing). Notice that the A.M./P.M. portion of the time switches from “A” to “P” and vice-versa. This is how A.M. and P.M. are set.

Set the hours and Minutes Press the <F3> key several times. Notice that the “hours” portion of the display is “rolled.” This operation is identical to that of setting the hours on the watch. Hold a key down until you reach the hour setting you want, and then release it. (NOTE: some computers do not have a “repeat key” function and the key must be pressed for each time you want to change the hour, minute, month or day.)

Press the <F4> key, and the “minutes” display will be “rolled.” This action is identical to hours.

Set the month The <F5> key rolls the months. The action of this key is identical to the hours and minutes keys.

Set the day of the month The <F6> key rolls the months. The action of this key is identical to the hours, minutes and month keys. After setting the day of the month, change the month by pressing the <F5> key again. Notice that the day of the month is reset to “01.” This will prevent a non-existent date from being entered, such as February 31st.

Weekly Alarms Weekly Alarms are handled in exactly the same way as Schedule Alarms except there is no month setting. The “day” setting is limited to Sunday through Saturday. Move the active data line to Weekly Alarm data.

Using the <F1>, <F2>, <F3> and <F4> keys, set a Weekly Alarm time. Press the <F5> key — it won't do anything because it is used to set months, and there are no months to set.

Press the <F6> key. The “days” (Sunday through Saturday) will “roll” by. Use the <F6> key to set the day of the week.

World Time Move the active data line to a World Time data line. Setting up a time display for any place in the world is so easy, you won't believe your eyes. . .

Scan the cities list Press the <F9> key a few times. Various cities and places will be

displayed on the active line. Press the <F10> key and the cities will be “rolled” in the other direction.

By holding down one of these two keys, you can “scan” through the entire list of cities and places with their world times.

Find a city Many times it is inconvenient to “scan” the list of cities one city at a time, especially when you know what city you want. Press the <CTRL>-<F> keys. You will see the prompt, “Find city:”. Type: NEW YORK <Enter>

In a second or two, NEW YORK will be displayed in the active data line with its time zone. Press the <CTRL>-<F> key again and this time, type: TOK <Enter>

“TOKYO” will be displayed in the active data line. There are over 2000 cities and places in the World Time list. Chances are, the city or place you want will be in the file.

If no match is found, the message “Can’t find target” will be displayed. If there is a match, the city or place will be displayed as the active data line.

Now that you know how to create and edit a watch data file, construct a sample file of your own — don’t make it too big — we’ll use it in the examples that follow.

If you cannot find a city in the list of cities, you can insert a city that is in the same time zone, and type in your own city name, or simply enter a city name and timezone to suit yourself.

Transmit Data to the SEIKO PCDatagraph Wrist Terminal Return to the Main Menu by pressing the <Esc> key. When the Main Menu is displayed, select option number two — Transmit to PCDatagraph (Load Watch). When you have the watch properly connected to the computer, press the <Enter> key. **NOTE:** *The RC-1000 Wrist Terminal cable must be connected to the computer’s RS232C serial port.*

As soon as the watch starts receiving data, it will “beep.” As each data line is sent to the watch, the line number is displayed on the computer. When the file is being sorted and nothing seems to be happening, an asterisk or dash will flash next to the number — this is to let you know that, indeed, something *is* happening. When the load is complete, the Main Menu will be redisplayed.

You will notice that Schedule Alarm and Weekly Alarm data may be in the SEIKO

PCDatagraph in an order which is different from your computer file. This is because alarms *must* be in month, day, hour, minute sorted order.

Print the watch data file on the printer If you have a printer attached to your computer, you can print the data file on a single sheet of paper. From the Main Menu, select option number three (press the <3> key), “Print Watch Data.”

The message, “Ready printer – press <Enter> when ready” will be displayed. When your printer is set to go (properly attached to the computer, etc.), press the <Enter> key and the entire watch data file will be printed. You will now have a “hard copy” of your watch data file.

Quit the Data Manager program This is Main Menu option five. If you press the <5> key, the Data Manager program and all files will be cleared from the computer’s memory. If you have not SAVEed your data file, it will be lost. Before erasing itself, the Data Manager program will give you the prompt, “Are you sure (Y/N)?” Pressing the <N> key (no) will return you to the Main Menu. Pressing the <Y> key causes memory to be cleared. Do not make this selection now. Wait until this demonstration is over . . .

System Menu Main Menu option four is the System Menu. Pressing the <4> key will display the System Menu. The System Menu also has 5 choices.

The System Menu choices are:

1. Name File
2. Change Date/Time
3. Load File
4. Save File
5. Change Time Zone

Name the watch data file Before a file can be SAVEed or LOADED (on a disk system), it *must* have a name. It may also have a file specification and a file name extension.

If the file in memory has not been named, “— none —” will be displayed with the “Active file:” legend. Any attempt to LOAD or SAVE a file before it is named will cause the error message, “Can’t LOAD/SAVE — no file name” to be displayed. Press the <1> key to name the file. The prompt, “Enter file name:” is displayed.

Consult your computer documentation for specifics on naming files for your system. Most disk systems permit file names of 8 characters and extensions of 3 characters. Cassette systems usually permit one or two character file names, and a few allow up to six characters.

Enter a file name and press <Enter>. For this demonstration session type: TEST <Enter>. "TEST" will be displayed with the "Active file:" legend.

Saving a watch data file Now that the file has been named, it can be SAVED and later, LOADED for editing and revision. First we will SAVE the file. Press the <4> key.

On *most* disk versions of the Data Manager program, the disk will be checked to see if the file already exists. If it does, you will be asked, "File already exists – use it anyway (Y/N)?" This will prevent the accidental saving of one file over "on top" of another because you forgot to change the file name. A <N> (no) answer will return you to the System Menu. A <Y> (yes) answer will cause the new file to be saved over the old file.

Cassette systems will merely prompt with, "Ready Cassette. Press <Enter> when ready." No check is made to verify the contents of the cassette tape.

Loading a watch data file Once a data file has been SAVED, it can be LOADED. Press the <3> key. The program will attempt to LOAD a file which has the file name displayed with the "Active file:" legend. If you try to LOAD a file and the current file in the computer's memory has been altered and *has not been saved*, the message, "Current file not saved – continue (Y/N)?" is displayed. A <Y> answer will cause the current file in memory to be "thrown out." A <N> answer will return you to the System Menu input.

I/O Errors – "I/O" means "input-output." An I/O error is one which occurs because of some problem while SAVEing or LOADING files. It could be that the file does not exist, a disk drive is open, there is a bad disk or cassette, or any one of dozens of other causes. Any time a file cannot be LOADED or SAVEed because of an I/O error, the message, "I/O error – correct and retry" will be displayed.

Change the time and date Press the <2> key. The prompt, "Enter time (HH:MM:SS):" will be displayed. System time is entered as "24-hour" or "military" time. "HH" means enter the hours as 2 digits. If you are unfamiliar with 24 hour time, here is a chart of times:

Figure 4 24 Hour Times

A.M./P.M. times are on the left of each column. "24 hour" time is on the right of each column.

A.M.	P.M.	
12 (Midnight)	00 or 24	12 (Noon)12
1 . . . . .	.01	113
2 . . . . .	.02	214
3 . . . . .	.03	315
4 . . . . .	.04	416
5 . . . . .	.05	517
6 . . . . .	.06	618
7 . . . . .	.07	719
8 . . . . .	.08	820
9 . . . . .	.09	921
10 . . . . .	.10	1022
11 . . . . .	.11	1123

The minutes and seconds entries are the same in 24 hour time. Enter 2 digits from 00 to 59 to set the hours and minutes.

If you do not want to set the time, press the <Esc> or <Enter> key, and the time entry will be skipped. If you make an invalid time entry, you will be admonished with an error message and prompted to re-enter a valid time.

After the time has been entered or “skipped,” the prompt, “Enter date (MM/DD/YY):” is displayed. Enter “today’s date” and press the <Enter> key.

An invalid date (February 30th, for example) will cause the error message to be printed and the prompt to be displayed.

You may also “skip” this entry by pressing <Enter> or <Esc>.

Change the Time Zone Press the <5> key. The prompt, “Enter new time zone:” is displayed. You may enter any number from 1 to 24. This number represents the *time zone you are in right now*. To find the time zone you are in, consult the Time Zone Map in Appendix I. If you live in the United States, Figure 5 is a brief chart of time zones:

Figure 5 *United States Time Zones*

Hawaii	--	2
Pacific Time	--	4
Mountain Time	--	5
Alaska	--	2*
Central Time	--	6
Eastern Time	--	7

* Except Western tip

An invalid time zone entry will cause the error message, “Invalid input – re-enter” to be displayed. When the file is SAVED, the current time zone setting is SAVED with the file. When a File is LOADED, the time zone which was set when the file was SAVED is used. If

<Enter> or <Esc> is pressed, the input is canceled, and the current time zone setting is not changed.

In conclusion . . . You are now ready to create and edit your own watch data files. There is a sample file, called "SAMPLE" which you may LOAD and SAVE if you wish to experiment further.

Return to the Main Menu Press <Esc> to exit the System Menu and return to the Main Menu.

Edit/Create Command Summary

The following is a summary of the command operations which may be performed while in the Edit/Create mode. Following this summary is a cross reference of the keys used on all versions. Write the keys which are used for your version in the boxes provided.

Cursor Up One Line

<Up Arrow>

Moves the cursor up one line. The display is shifted down, effectively moving the cursor up. Any changes made to a line become "permanent" when the up arrow key is pressed.

Cursor Down 1 Line

<Down Arrow>/<Enter>

Moves the cursor down one line. The <Enter> key functions identically to the down arrow key while in Edit/Create mode.

Cursor Left

<Left Arrow>

Moves the cursor to the left 1 character position. If the cursor is at the left margin of the active data line, it is "wrapped" around to the right margin of the active data line. The left arrow is non-destructive — it may be moved over characters without changing them.

Cursor Right

<Right Arrow>

Moves the cursor to the right 1 character position. If the cursor is at the right margin of the active data line, it is “wrapped” around to the right margin of the active data line. The right arrow is non-destructive — it may be moved over characters without changing them.

Cursor Up 1 Page

<PgUp>

Causes the file to be moved up one “page.” If the file is smaller than 11 data lines, pressing the <PgUp> key functions the same as the <Up Arrow> key.

Cursor Down 1 Page

<PgDn>

Causes the file to be moved down one “page.” If the file is smaller than 11 data lines, pressing the <PgUp> key functions the same as the Down Arrow> key.

Cursor to Beginning of the File

<CTRL>-

Causes the first line of the file to be displayed in the active line.

Cursor to End of the File

<CTRL>-<N>

Causes the last line for the file to be displayed in the active line.

Jump to Next Label in the File

<CTRL>-<J>

Causes the next label to be displayed in the active line. If the end of the file is encountered, the “next” label will be the label at the top of the file.

Cursor to Beginning of Line

<Home>

Causes the cursor to be sent to the left margin of the active line.

Cursor to End of Line

<End>

Causes the cursor to be sent to the right margin of the active line.

Tab Cursor to Center of Line

<CTRL>.<T>

Causes the cursor to be sent to character position 13 which is the PCDatagraph's second display line. If the cursor is to the right of position 13, it is sent to the left margin of the active line.

Insert Character Mode

<Ins>

Puts the editor into "insert character" mode. When in insert mode, an "Insert mode" message is displayed. Any characters typed will be inserted, and characters to the right of the cursor are moved to the right. Characters which are moved off the right margin are "lost."

If the cursor is wrapped from either margin, the insert mode is terminated.

If the backspace key is used, the cursor is moved to the left, and the characters to the right of the cursor are also moved with it.

Pressing the insert key while in the insert mode switches the mode back to "type," i.e., it is turned off. Also see "R (Restore)" and "<Backspace>," below.

Delete Character

Causes the character under the cursor to be deleted, and the text to the right of the cursor to be moved one character to the left.

Backspace and Erase

<Backspace>

Causes the cursor to be moved 1 space to the left, and the character to the left of the cursor to be deleted. Characters to the right of the cursor are unaffected. Also see "<Ins> key," above.

Erase from Cursor to End of Line

<CTRL>-<E>

Causes all characters to the right of the cursor to be erased.

Restore Data Line Contents

<CTRL>-<R>

Causes the text in the active line to be restored to its original contents. Lines that have been deleted cannot be “restored.”

Delete a Data Line

<CTRL>-<D>

Causes the active line to be deleted. If the line is a label, all the data associated with that label will be deleted. In the case of a label, a warning message is printed that data lines associated with that label will be deleted. The prompt requires a “Y” or “N” (“Yes” or “No”) answer to the prompt: “Data below label will be lost – continue (Y/N)?”. A “No” response will cancel the delete operation.

Insert Data Lines

<CTRL>-<I>

Causes the Insert Menu to be displayed. Five options may be selected: Insert Memo Label, Insert Memo Data, Insert Schedule Alarm Data/Label, Insert Weekly Alarms Data/Label, Insert World Time Data/Label. <Esc> is used to return to the Edit/Create mode from the Insert Menu.

Search for “String” of Characters

<CTRL>-<S>

Causes a prompt to be displayed requesting the characters to be searched for. Any character in the file may be the target of a search. If the target is found, it will be displayed in the active line.

Any portion of a data line may be the target of a search. “NEW Y” will find “NEW YORK”, as will “W YO”.

The search is carried out from the active line to the end of the data file.

Find a City in World Time List

<CTRL>-<F>

This function works when the active line is a world time data line. Instead of searching the data file, it searches the world time city list. If the target city is found, it is displayed in the active line.

Any portion of a data line may be the target of a “find city” search. “TOK”, “TOKY” or “TOKYO” will find “TOKYO”.

Terminate/Cancel Operation

<Esc>

Causes the Edit/Create mode to be terminated and the Main Menu to be displayed.

Load Cut and Paste Buffer

<F7>

This key causes the current contents of the active line to be placed in a “cut & paste buffer.” The contents of this buffer may be “pasted” into another line anywhere in the watch data file.

When the cut & paste buffer contains data, an asterisk will appear on the edit help screen in the F7 key notation area.

The contents of the cut & paste buffer may be used as many times as desired. The contents of this buffer are changed only when the F7 key is pressed.

“Paste” Cut Buffer into Data Line

<F8>

This key causes the current contents of the cut & paste buffer to be inserted into the current active line. If the current active line is the same data type as the line from which the cut & paste buffer was copied, the entire contents of the cut and paste buffer will be placed into the current active line.

If the current active line is a “memo data” line or a “label,” the entire contents will be placed into the the active line.

If the current active line is a “world time,” “schedule alarm” or “weekly alarm” data line and the contents of the cut & paste are not compatible with the active line, only the first 12

characters of the cut & paste buffer will be inserted into the line.

For example, if a line from a *world time* data line were “cut” and later “pasted” into a *schedule alarm* data line, only the first 12 characters of the cut & paste buffer would be inserted into the schedule alarm line because the “time data” of world time is incompatible with the “time data” of the schedule alarm. On the other hand, the world time data can be inserted into a label or memo data line in its entirety since memos and labels “don’t care” about the time data in the rightmost 12 characters of the line. Of course, this “time data” in a memo or label line will not affect the watch — it is treated as “text” and is displayed “as is.”

The following keys are only used when setting Schedule Alarm, Weekly Alarm or World Time. If they are used at any other time, they are ignored.

Set A.M./P.M.

<F1>/<F2>

“Switch” A.M./P.M. setting. Switches from one to the other.

Set Hours

<F3>

Sets the hours’ entries. Holding the key causes the hours to be continuously “rolled.” When setting World Time, the range of hours is from 00 to 23. When setting a Schedule or Weekly alarm, the range of hours is from 1 to 12.

Set Minutes

<F4>

Sets the minutes’ entries. Holding the key causes the minutes to be continuously “rolled.”

Set Months

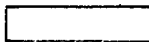
<F5>

Sets the months’ entries. Holding the key causes the months to be continuously “rolled.”

Set Days

<F6>

Sets the days’ entries. Holding the key causes the days to be continuously “rolled.”

Scroll World Time Cities List “Up”

<F9>

“Scrolls” the world time cities list up. Holding the key causes the list to be continuously scrolled.

Scroll World Time Cities List “Down”

<F10>

“Scrolls” the world time cities list down. Holding the key causes the list to be continuously scrolled.

Command Summary

Version/Key Cross Reference

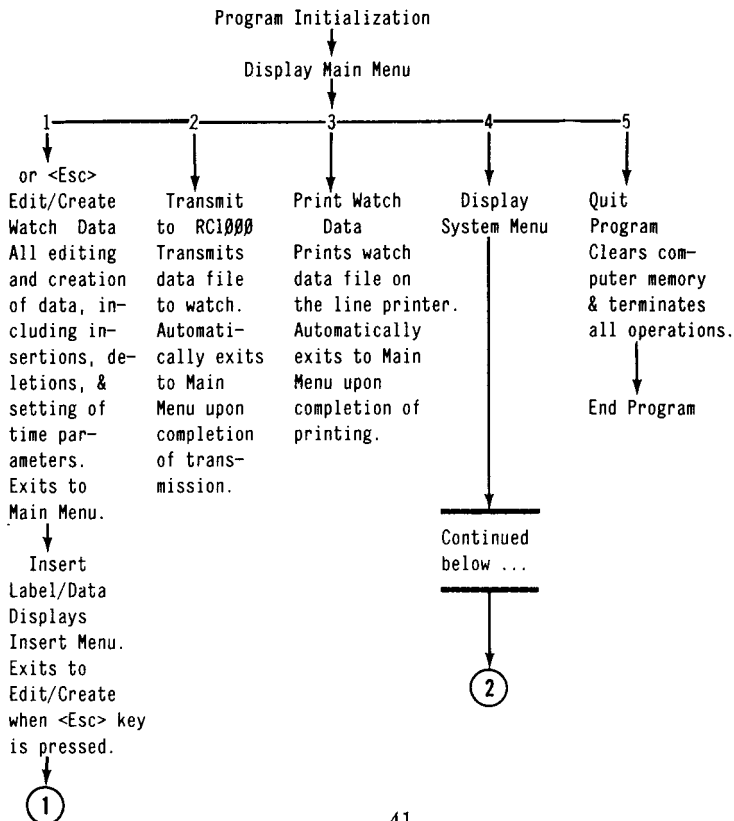
Legend

Chart Symbol	Use Key Marked:	Meaning
~	<CTRL>	Control key
/	<SHIFT>	Shift key
#	<GRPH>	Graphics key
BKSP	<Back Space>	Back space and erase
---		Function not available on this version
Lt	<←→>	Non-destructive cursor movement left
Rt	<→←>	Non-destructive cursor movement right
Up	<↑>	Non-destructive cursor movement up
Dn	<↓>	Non-destructive cursor movement down

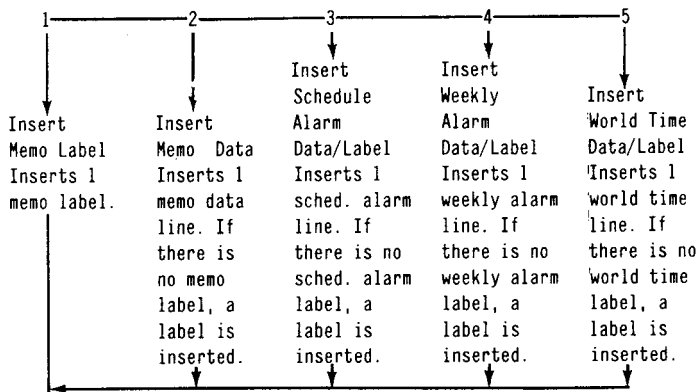
Feature	Version/Key			
	Documen- tation	ap	c64	i/ms r/ms
Cursor Up	Up	^K*	Up	Up
Cursor Down	Dn	^J*	Dn	Dn
Cursor Left	Lt	^H*	Lt	Lt
Cursor Right	Rt	^U*	Rt	Rt
Cursor 1 Page Up	PgUp	^O	<	PgUp
Cursor 1 Page Down	PgDn	^V	>	PgDn
Cursor to Beg of File	^B	^Q	^B	^B
Cursor to End of File	^N	^W	^E	^N
Jump to Next Label	^J	^A	^J	^J
Cursor to Beg of Line	Home	^B	/B	Home
Cursor to End of Line	End	^N	/E	End
Tab to Center of Line	^T	^T	/T	^T
Insert Character Mode	Ins	^I	/I	Ins
Delete Character	Del	^D*	/D	Del
Backspace & Erase	BKSP	^L	/L	BKSP
Erase to End of Line	^E	^E	/E	^E
Restore Current Line	^R	^R	/R	^R
Delete Data Line	^D	^Y	^D	^D
Insert Data Line	^I	^G	^I	^I
Search File for Chars	^S	^S	^S	^S
Find a City	^F	^F	^F	^F
Terminate Operation	Esc	Esc	Home	Esc
"Cut"	F7	^C	/C	F7
"Paste"	F8	^P	/P	F8
Set A.M./P.M.	F1	!	^1	F1
Set Hours	F3	\$	^2	F3
Set Minutes	F4	%	^3	F4
Set Months	F5	(	^4	F5
Set Days	F6	)	^5	F6
Scroll Cities Up	F9	^Z	^6	F9
Scroll Cities Down	F10	^X	---	F10
Display Help	---	;	^H	---

* Keys marked with these functions may also be used on later model computers.

Figure 6 Schematic of Data Manager Program Functions



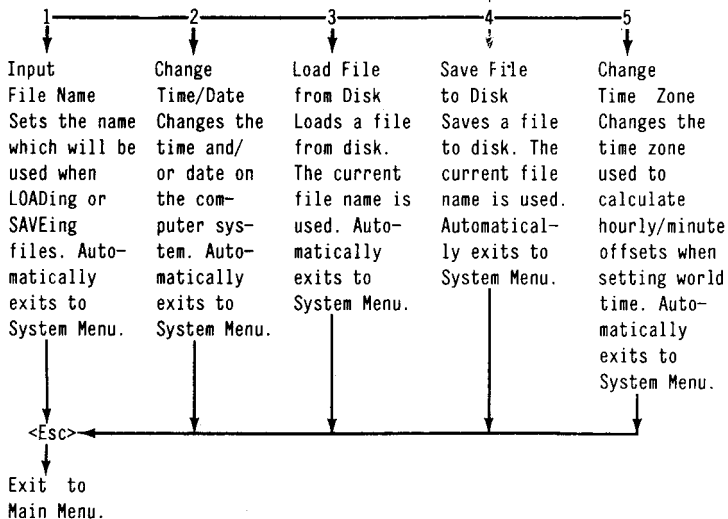
1



All insert functions exit to the Insert Menu Automatically.

2

System Menu
continued...



Appendix I

Program Information and Error Messages

Active File: The file name which will be used to SAVE and LOAD watch data files is displayed with this message. If no file name has been specified, “— none —” will be displayed with this message.

Already have 12 labels—unable to insert Displayed during an attempt to insert a label when the maximum number of labels which a file may contain has been reached. (Also see Labels Free, above.)

Are you sure (Y/N)? Displayed when Main Menu option 5 is selected (program termination). A “yes” response causes the program and data to be cleared from the computer’s memory. This prompt requires an explicit key press, “Y” for “yes” or “N” for “no.” The prompt will not respond to any other key press.

Can’t find target Displayed when a match for a “search” or “find city” cannot be made. Control is automatically returned to Edit/Create mode after the message is displayed.

Can’t LOAD/SAVE - no file name Displayed when an attempt is made to LOAD or SAVE a watch data file, and a file name has not been specified. The condition is corrected by specifying a file name and retrying the LOAD or SAVE operation.

Current file not saved - continue (Y/N)? Displayed when an attempt to load a file is made from the System Menu and the current file has been altered and not SAVEd after the alteration has been made. This prompt requires an explicit key press, “Y” for “yes” or “N” for “no.” The prompt will not respond to any other key press.

Data below label will be lost-continue (Y/N)? Displayed when the delete line request is to delete a label which has data beneath it. The SEIKO PCDatagraph Wrist Terminal is dependent upon the labels to identify the various data locations. All data associated with a label is deleted along with that label. This prompt requires an explicit key press, “Y” for “yes” or “N” for “no.” The prompt will not respond to any other key press.

I/O error – correct and retry An error message which is displayed when an attempt is made to LOAD or SAVE a file and the system cannot perform the operation due to an error condition associated with the diskette or cassette. The error may be due to an open disk drive door or a diskette which is physically damaged. There are many types of errors which may occur. It is up to the user to determine the cause of the error and correct the condition.

Enter date (MM/DD/YY): Displayed when System Menu option 2 is selected. This prompt follows the time input (see “Enter Time”). It requires that values for the date be entered along with a delimiter (slash “/” or dash “.”) between the months, days and year values. The user entry is checked for validity and format, e.g., February 29, 1985 [2-29-85] will generate an error response.

A “null” or <Esc> entry cancels the input, and the current time is not changed.

An invalid input will cause an error message (“Invalid input re-enter”) to be displayed. After the error message is displayed, the time prompt is re-displayed. (Also see “Enter time.”)

Enter file name: Displayed when System Menu option 1 is selected. This is a prompt which requires that the file name and file specification (if necessary) be entered.

A “null” or <Esc> entry cancels the input, and the current file name is not changed. An invalid file name or specification will not cause an error message until an attempt is made to use the invalid name. This error must be corrected by entering a valid file name and specification.

Enter new time zone: Displayed when System Menu option 5 is selected. This is a prompt which requires a value from 1 to 24 be entered. This value represents the time zone in which the user resides or the time zone from which all world times are to be computed. A “null” or <Esc> entry cancels the input and the current time zone is not changed. An invalid input (say, 25) will cause an error message (“Invalid input re-enter”) to be displayed. After an invalid input, the prompt is redisplayed.

Enter time (HH:MM:SS): Displayed when System Menu option 2 is selected. This prompt requires that values for the time be entered along with a delimiter (colon “:”) between the hours, minutes and seconds values. The hours are entered in “24 hour time” (“military”

time). The entry is checked for validity and format (i.e., seconds may not exceed 59, minutes may not exceed 59, and so on). A “null” or <Esc> entry cancels the input. The current time is not changed. An invalid input will cause an error message (“Invalid input re-enter”) to be displayed. After the error message is displayed, the time prompt is re-displayed. (Also see “Enter date.”)

File already exists – use it anyway (Y/N)? (Disk systems only) Displayed when an attempt is made to SAVE a file over a file name which already exists. This provides an opportunity to decide whether or not to write over the file or to specify a new file name for the current watch data file. This prompt requires an explicit key press, “Y” for “yes” or “N” for “no.” The prompt will not respond to any other key press.

Find city: A prompt which is displayed in response to the <CTRL>-<F> key when the active line is World Time. Up to 24 characters may be entered. Only the 12 leftmost characters will be used in the “find city” search. Any part of a city or place name may be entered. Upon pressing the <Enter> key, the list of cities in the file “TIMEZONE.DAT” will be searched. If a match is found, the result is displayed in the active data line.

A “null” or <Esc> entry cancels the input and returns control to Edit/Create mode.

Inserting label/data Displayed during an insert. This is an informational message to indicate that the requested operation is taking place.

Insert Mode or I Appears opposite the “active data line” when in Edit/Create mode. Indicates that all characters typed will be “inserted” into the text at the cursor’s current location, and that any text to the right of the cursor will be moved to the right to accommodate the inserted characters.

Invalid input – re-enter Displayed when an invalid input is made to an input prompt. The message is “timed,” and the original prompt will be redisplayed after this message is flashed several times.

Labels Free: Indicates how many additional labels may be inserted into the watch data file. The PCDatagraph may have a total of 12 label lines. When there are zero labels free, this message will display “0”.

Lines Free: Indicates how many additional lines may be inserted into the watch data file. The PCDatagraph may have a total of 80 lines. When there are zero lines free, this message will display “0”.

Loading data file Displayed when a file is LOADED from a disk or cassette. This is an informational message to indicate that the requested operation is taking place.

Press <Esc> to exit An informational “help” message printed on all menus.

Press a number key Displayed beneath all menus which have multiple choices.

Ready printer-press <Enter> when ready An informational message permitting necessary adjustments to be made to the printer before actually printing the watch data file.

Saving data file Displayed when a file is SAVED to disk or cassette. This is an informational message to indicate that the requested operation is taking place.

Searching ... Displayed during a search or find city operation. This is an informational message indicating that the requested operation is taking place.

Search for: A prompt which is displayed in response to the <CTRL>-<S> key. Up to 24 characters may be entered. Upon pressing the <Enter> key, the entire active watch data file is searched. If a match is found, the “target” data line is displayed as the active line, and control is returned to Edit/Create mode.

A “null” or <Esc> entry cancels the input and returns control to Edit/Create mode.

SEIKO PCDatagraph Watch Data File: Header used when printing the watch data file to the line printer device.

Set watch to RECEIVE mode An informational message displayed when Main Menu option 2 is selected.

Time Zone: Used in the status display to indicate the time zone for which the computer system time is currently set. The displayed time zone does not affect the watch data file

display. It does, however, affect the file when it is sent to the SEIKO PCDatagraph. World times are sent to the watch with an offset appropriate to the value displayed opposite this message.

Typing Mode or T Appears opposite the “active data line” when in Edit/Create mode. Indicates that typing on the keyboard will be “normal,” that is, typing on the keyboard will achieve expected results.

Watch full Displayed during an attempt to insert additional data or label lines when the maximum number of lines has been reached. (Also see “Lines Free” above.)

Writing data to PCDatagraph... Displayed while data is being written to the watch. This is an informational message to indicate that the requested operation is taking place. To the right of this message, numbers are displayed to indicate that the “write to watch” activity is taking place.

Appendix II

In Case You Have Difficulty

When you are having trouble, it is sometimes impossible to tell whether the trouble is hardware, software, or even if it comes from an outside source such as the power company. With a machine as complex as a computer, it is amazing that it works at all. A comprehensive guide to hardware/software troubleshooting would be a large book in itself. Additional complications such as operating systems, diskettes, cassettes, disk drives, interfaces and printers compound the complexity of the problem. We have tried to take into account the various computers, devices and versions of BASIC which are used on the various machines the program was designed to run on.

When you have trouble, and before going into “panic mode,” check the following items:

1. Make sure that all cable connections are correct and that all edge card connectors are clean.
2. That the system software (if any) is functioning correctly. If in doubt, power up from a “cold” start (everything off) and verify the system’s operation with other programs that have run correctly in the past.
3. Verify that the system information, on the diskette or cassette, (usually the directory) is correct and that the program and data files have not been damaged in some way.
4. Make sure that your peripheral devices (printer, disk drive, cassette drive, etc.) are properly attached, and in working order.
5. When files mysteriously “disappear” from directories, diskettes, cassettes, etc., or when you are suddenly unable to **LOAD** or **SAVE** to particular diskettes or cassettes, look for the trouble to be primarily related to the computer’s operating system software, and secondarily related to hardware problems with the drives or controllers. Files do not just “disappear” without a reason.

Cassette tape systems can give you particularly difficult problems. If your tape fails to LOAD, first make sure the tape is recorded. Play it on an audio cassette machine. You should hear a distinctive "rush" of harsh trilling sounds. There is a second copy of the program and data files on each cassette which starts about ten seconds after the end of the first copy. Be sure to write down the numbers on the cassette counter so you can find the second copy.

Nearly all tape loading difficulties can be resolved by adjusting the volume control and tone setting on your cassette player (if you have a volume control). The tone should be set for "High." Experiment with your cassette player, and when it loads properly, write down the setting on the cassette label. Be sure to try both copies before giving up.

If you cannot find any rational, reasonable or electro-mechanical cause for your problem, please contact your local computer dealer.

Appendix III

Data Manager Video Screen Layouts

Figure 7 80- X 25-Column Screen

```

                                Main Menu
                                1. Edit/Create Watch Data
                                2. Transmit to RC-1000 (Load Watch)
                                3. Print Watch Data
                                4. System Menu
                                5. Quit Program

                                Press a number key.

                                Press <Esc> to exit
```

Lines Free: 34

Labels Free: 8

Time Zone: 16

```

42 SR ELECT. 213-966-5926 Data: Memo
43 SNTA ATA 818-453-4441 Data: Memo
44 ONTRIO MKT 444-2231 Data: Memo
45 M&I/PETER 357-3158 Data: Memo
46 -----END----- Data: Memo
> 1 -----SCHED. ALARM Label: Sched. Alarm
  2 ANNIV TOMORO05/01 P01:00 Data: Sched. Alarm
  3 TAX APPT 02/06 A11:15 Data: Sched. Alarm
  4 -----WEEKLY ALARM Label: Weekly Alarm
  5 TV-60 MINITS0 SUN P06:30 Data: Weekly Alarm
  6 CALL BROKER 1 MON P01:20 Data: Weekly Alarm
```

Active File:

SAMPLE

TIME: 14:22:27

DATE: 1-1-1984

Figure 10 40- X 25-Column Screen

Press <HOME> TO EXIT

MAIN MENU

1. EDIT/CREATE WATCH DATA
2. XMIT TO WATCH
3. PRINT WATCH DATA
4. SYSTEM MENU
5. QUIT PROGRAM

Press a number key.

FILE: SAMPLE

42	SR ELECT.	213-966-5926	FREE: 34
43	SNTA ATA	818-453-4441	LABELS
44	ONTRIO MKT	444-2231	FREE: 8
45	M&I/PETER	357-3158	
46	-----END-----		
1	-----SCHED. ALARM	<LBL: MEMO	
2	ANNIV TOMOR05/01 P01:00	INS MODE	
3	TAX APPT 02/06 11:15		
4	-----WEEKLY ALARM		
5	TV-60 MINITS0 SUN P06:30	TIME	
6	CALL BROKER 1 MON P01:20	ZONE: 16	

DATE: 10/01/84

Appendix IV

RS232C Serial Interfaces, Cables and Connectors

The RS232C serial interface is a “standard” that is *perceived* as “the same” regardless of the computer or device which uses it. What is not understood is that RS232C is a standard for a *scheme* or plan for sending and receiving signals between devices. Beyond that very little is “standard.” Most people equate the shape of the plug — usually a D-shaped plug with 25 pins called a DB-25 connector — with the “RS232C standard.” This is unfortunate, because the plug itself has nothing whatsoever to do with what is sent through it.

To further complicate matters, virtually every manufacturer of computers and computer peripherals makes some minor change in the serial output’s pin arrangement, signal assignment, “handshake protocol” or connector that makes it somewhat difficult to attach one device to another.

Compounding the aggravation is the fact that most plugs come in two forms, a “male” and “female” type. Each has the same shape and number of connections, but the “male” plug has pins and the “female” has holes. Obviously, you cannot plug two “male” connectors together; you will need a “female-to-female” adaptor to go between the two “male” plugs. Conversely, when trying to connect two female plugs; you will need a “male-to-male” adaptor. Depending on your computer, there may be other plug combinations to contend with in order in order to connect one serial device to another.

In order to make some sense out of this computer version of the “tower of babel,” you can find help from your local computer dealer. Pick a computer dealer that has some technical knowledge and a good selection of cable and plug adaptors. Explain any interfacing problem you may have. You will find that there is an “off-the-shelf” solution to almost every cable interfacing problem possible. In rare cases, the dealer can make an adaptor for your unique situation.

Setting Up the Serial Interface

Besides the differences in plugs, cables, connectors, pins, etc., there are a number of differences in how some computers are instructed to send the desired "data format" to the device you have connected to the computer.

Some computers use "software control" while others require you to open the computer and set switches. If it is necessary to set switches on your computer, the following is a table of requirements for communications with the RC-1000 wrist terminal:

Parity	None
Word Length.	8 bits
Stop Bits.	2
Baud Rate.	2400
X-On/X-off	Off

The RC-1000 Wrist Terminal does not "hand shake" with the computer. It is therefore necessary to disable the DTR and CTS (Data Terminal Ready and Clear To Send) signals. This is usually done by shorting the DTS and CTS signal pins within the connector housing. However, some computers will permit these signals to be disabled or ignored under software control.

The RS-1000 Wrist Terminal makes use of only two of the RS232C signals; TXD (Transmit Data or Send Line) and SG (Signal Ground). A third optional connection may be made by shorting PG (Protective Ground) to SG.

RS-232 Serial Port

The SEIKO PCDatagraph RC-1000 Wrist Terminal and the Data Manager software require that an RS232C serial interface be installed on your computer. In some cases, a cable adaptor (not sold by SEIKO) may also be required to connect the RC-1000 Wrist Terminal cable to the computer.

The necessary RS232C serial interface for your computer and cable adaptor (if required) may be purchased from your local computer dealer if it is not supplied with your computer.

The figure 1 is the "standard" pin-out of the RS232C 25 pin DB-25 connector. Should your computer use a different pin-out, you may make a connector or connector adaptor by matching the signals as depicted in this figure to those on your computer. Your computer manual will have the necessary information on the pin-out used by your computer.

Some RS232C serial output ports will require pins 5 and 20 to be "shorted"

or "tied together."

If you are unsure whether or not these pins are to be shorted, they may be tied together without damage to the RC-1000 or the computer.

NOTE: If your computer's pin-out is different from that depicted below, short the pins which have the identical signals to those shown in figure 1 below.

The watch cable is configured as follows: Shield (outer copper wrapping), signal ground; Signal, red wire; Signal ground, white wire.

Figure 1 -- "Standard" RS232C Pin-out

Signal	Function	Pin	RC-1000 Cable
PG	Protective ground	1	← Shield (outer copper wrapping)
TD	Transmitted data	2	← Signal (red wire)
RD	Received data	3	
RTS	Request to send	4	
CTS	Clear to send	5	←
DSR	Data set ready	6	
SG	Signal ground	7	← Signal ground (white wire)
DCD	Data carrier detect	8	
	Positive DC test voltage	9	
	Negative DC test voltage	10	
QM	Equalizer mode	11	
DCD (S)	2nd data carrier detect	12	
CTS (S)	2nd clear to send	13	← Optional connection
TD (S)	2nd transmitted data	14	See Note above.
TC	Transmitter clock	15	
RD (S)	2nd received data	16	
RC	Receiver clock	17	
DCR	Divided clock receiver	18	
RTS (S)	2nd request to send	19	
DTR	Data terminal ready	20	←
SQ	Signal quality detect	21	
RI	Ring indicator	22	
	Data rate selector	23	
	Ext transmitter clock	24	
	Busy	25	

Cable Adaptors for IBM PC and IBM PC Compatible Computers

Due to the lack of standardization between various computer manufacturers, RS232 adaptor board manufacturers and computer models by the same manufacturer, the cable supplied with your RC-1000 Wrist Terminal and IBM compatible software, may require a "gender change" adaptor to interface the RC-1000 Wrist Terminal cable to your RS232 serial output port.

Some RS232 boards for the IBM PC and IBM PC compatible computers may not be compatible with IBM BASIC or GW-BASIC (Microsoft version of IBM BASIC) and require additional connections to "short out" certain signals. Consult the manufacturer of your RS232 board for this information or use the information contained in RS232 Serial Port above.

The IBM PCjr requires an adaptor to attach the RC-1000 Wrist Terminal cable to the RS232 serial output port. Also see RS232 Serial Port, above.

Appendix V

List of World Time Cities and Places

Time Zone: 01:00

NOME DUTCH HARBOR MIDWAY IS. W. SAMOA TONGA

Time Zone: 01:30

COOK ISLANDS

Time Zone: 02:00

ANCHORAGE HONOLULU CHRISTMAS IS TAHITI

Time Zone: 02:30

MARQUESAS IS

Time Zone: 03:00

PITCAIRN

Time Zone: 04:00

DAWSON FAIRBANKS JUNEAU VANCOUVER SEATTLE SAN FRANCISCO
LOS ANGELES DUCIE IS

Time Zone: 05:00

EDMONTON BUTTE DENVER PHOENIX MAZATLAN EASTER ISLAND

Time Zone: 06:00

CHURCHILL WINNIPEG CHICAGO DALLAS MEXICO CITY MANAGUA

Time Zone: 07:00

MONTREAL NEW YORK WASH D.C. MIAMI HAVANA PORT AU PRINCE
PANAMA CITY BOGOTA LIMA

Time Zone: 08:00

GOOSE BAY GANDER HALIFAX VIRGIN ISLANDS CARACAS LA PAZ
SANTIAGO FALKLAND IS.

Time Zone: 08:15

GEORGETOWN

Time Zone: 09:00

RIO DE JANEIRO MONTEVIDEO BUENOS AIRES

Time Zone: 10:00

GODTHAB

Time Zone: 11:00

AZORES

Time Zone: 12:00

REYKJAVIK DUBLIN LONDON CASABLANCA DAKAR ACCRA
ASCENSION**Time Zone: 13:00**

SPITZBERGEN STOCKHOLM OSLO COPENHAGEN BERLIN AMSTERDAM
WARSAW BRUSSELS PRAGUE PARIS VIENNA BUDAPEST
BELGRADE LISBON MADRID BELGRADE ROME ALGIERS
BRAZZAVILLE HELSINKI**Time Zone: 14:00**

BUCHAREST SOFIA ATHENS JERUSALEM CAIRO KHARTOUM
STANLEYVILLE JOHANNESBURG CAPETOWN**Time Zone: 15:00**

MURMANSK LENINGRAD MOSCOW ISTANBUL ANKRA BAGHDAD
RIYADH MECCA NAIROBI ZANZIBAR**Time Zone: 15:30**

TEHRAN

Time Zone: 16:00

GORKY ASTRAKHAN TBILISI DUBAI SEYCHELLES PORT LOUIS

Time Zone: 16:30

KABUL

Time Zone: 17:00

PERM UFA LAHORE KARACHI NOVYY PORT

Time Zone: 17:30

NEW DELHI BOMBAY CALCUTTA SRI LANKA

Time Zone: 18:00

TASHKENT MANDALAY RANGOON

Time Zone: 18:30

COCOS IS.

Time Zone: 19:00

IGARKA TOMSK HANOI BANGKOK DJAKARTA

Time Zone: 19:30

KUALA LUMPUR SINGAPORE

Time Zone: 20:00

IRKUTSK ULAN BATOR LHASA PEKING HONG KONG TAIPEI
PERTH

Time Zone: 21:00

OLEKMINSK SEUL TOKYO NAGOYA OSAKA

Time Zone: 21:30

DARWIN ADELAIDE

Time Zone: 22:00

VLADIVOSTOK GUAM PORT MORESBY SIDNEY MELBOURNE

Time Zone: 23:00

MAGADAN SOLOMON IS.

Time Zone: 23:30

NAURU

Time Zone: 24:00

KAMCHATKA PN WAKE IS. BIKINI IS. FIJI AUKLAND WELLINGTON

Time Zone: 24:15

CHATHAM IS.

World Time Zone Map

