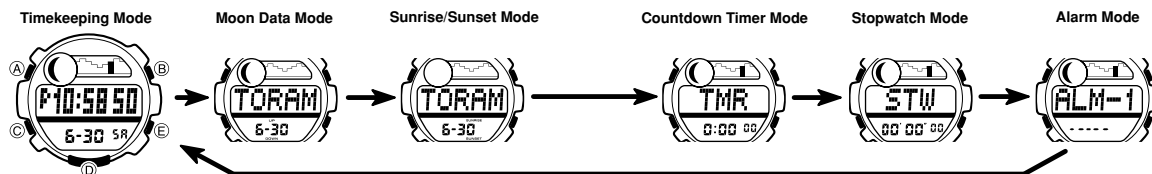


Module No. 2269

2269-1

GENERAL GUIDE

- Press **(C)** to change from mode to mode. After you perform an operation in Countdown Timer Mode or Stopwatch Mode, pressing **(C)** returns to the Timekeeping Mode.
- In the Timekeeping Mode, Moon Data Mode, Sunrise/Sunset Mode or Alarm Mode, press **(D)** to illuminate the display for about two seconds. In the Countdown Timer Mode or Stopwatch Mode, press **(E)** to illuminate the display for about two seconds.



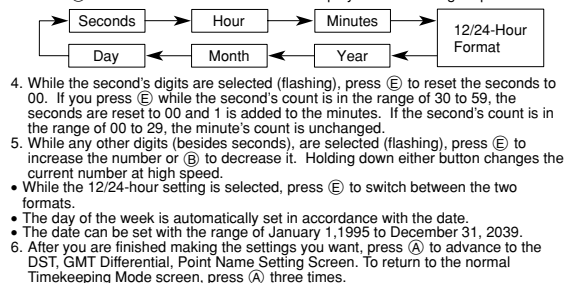
TIMEKEEPING MODE

The settings you make in the Timekeeping Mode are very important, because they affect the Moon Data, Tide Graph, and Sunrise/Sunset functions. There are three setting screens in the Timekeeping Mode: the Time and Date Setting Screen, DST, GMT Differential, Point Name Setting Screen, and Longitude/Latitude, Lunar Tide Interval Setting Screen.

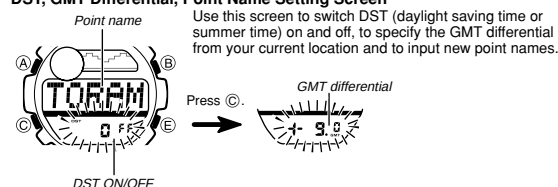
- For normal timekeeping, you need to set the time, and date, and turn daylight saving time (summer time) on or off.
- To use the Moon Data, Tide Graph, and Sunrise/Sunset functions, you must set the GMT differential, your current longitude and latitude, and the lunar tide interval on your point.
- If you do not operate any button for a few minutes while a selection is flashing, the flashing stops and the watch goes back to the Timekeeping Mode automatically.
- Any time you change a setting on one of the three setting screens, exiting the setting screens causes the graphics at the top of the display to perform an animated pattern for a few minutes while the watch calculates data.

To set the time and date

- Hour : Minutes : Seconds
- Tide graph
- Moon graph
- Day of week
- Month - Day
- PM indicator
- Use this screen to set the current time and date, to reset the seconds to 00, and to toggle between 12-hour and 24-hour timekeeping.
 - In the Timekeeping Mode, check if the DST indicator is displayed, and change the DST setting in accordance with the timekeeping in your area.
 - Turn on DST if daylight saving time (summer time) is currently in effect in your area. If daylight saving time is not currently in effect in your area, be sure to turn DST off.
 - See "DST, GMT Differential, Point Name Setting Screen" for details about turning DST on and off.
 - In the Timekeeping Mode, hold down **(A)** until the second's digits start to flash. This is the Time and Date Setting Screen.
 - Press **(C)** to move the selection around the display in the following sequence.



DST, GMT Differential, Point Name Setting Screen



To turn DST on and off

While **ON** or **OFF** and the small **DST** mark is flashing on the display, press **(E)** to toggle DST on and off.

- Use **(C)** to move the flashing to the GMT differential value.

Important!

- Be sure to use this procedure to turn daylight saving time (summer time) on and off. Never manually change the timekeeping setting to adjust for daylight saving time. Doing so will produce incorrect Moon Data, Tide Graph, and Sunrise/Sunset data.

To set the GMT differential

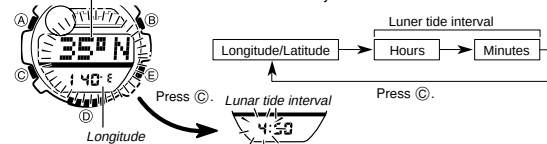
- The GMT differential is the difference in time between the time zone where you are currently located and Greenwich Mean Time (GMT).
- See "TIME ZONE CHART" for information about determining the GMT differential in your area.
- Press **(E)** to increase the value or **(B)** to decrease it. Holding down either button changes the setting at high speed.
- Use **(C)** to move the flashing to the first character of the point name.

To change a point name

- Press **(E)** to scroll forward through the characters at the current flashing location, or **(B)** to scroll backwards. Holding down either button changes the current characters at high speed.
- When the character you want is displayed, press **(C)** to advance to the next character.
- Repeat steps 1 and 2 for all eight characters of the point name.
- After you are finished making the settings you want, press **(A)** to advance to the Longitude/Latitude, Lunar Tide Interval Setting Screen.

Longitude/Latitude, Lunar Tide Interval Setting Screen

Use this screen to specify the longitude, latitude, and lunar tide interval of your current location.



To set the longitude and latitude of your current location

- While the Longitude/Latitude is flashing on the display, use **(E)** to change the longitude value and **(B)** to change the latitude value. To reverse the direction of the change (from increase to decrease, or from decrease to increase), press **(D)**.
- After you are finished making the settings you want, press **(C)** to advance to the Lunar Tide Interval Setting Screen.

To set the lunar tide interval at your current location

- Press **(E)** to increase the hours value or **(B)** to decrease it. Holding down either button changes the setting at high speed.
- Press **(C)** to move to the minute's digits.
- Press **(E)** to increase the minutes value or **(B)** to decrease it.
- After you are finished making the settings you want, press **(A)** to return to the normal Timekeeping Mode Screen.

About the lunar tide interval

The lunar tide interval is the period from the moon's upper transit (moon up) to high tide. If you know the lunar tide interval, tide changes can be determined using the moon age. This watch calculates tide changes according to the current time and the location setting, and displays them graphically.

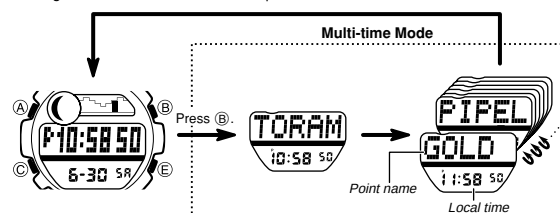
To calculate the lunar tide interval

- Look up the high tide time for the flood tide of the location whose tide changes you want to know.
- Use this watch to look up the moon up time that occurs immediately before this time.
- Subtracting the moon up time from the high tide time produces the lunar tide interval.

MULTI-TIME MODE

To view point data

- In the Timekeeping Mode, press **(B)** to enter the Multi-time Mode. The first point that appears is the one you selected as your home (Timekeeping Mode) point.
- Press **(B)** to scroll through the data for the 10 points. The watch beeps and returns to the Timekeeping Mode after the tenth point.
- Pressing **(C)** at any time in the Multi-time Mode immediately returns to the Timekeeping Mode.
- You can use the procedure under "DST, GMT Differential, Point Name Setting Screen" and "Longitude/Latitude, Lunar Tide Interval Setting Screen" to change the name and other data of a point.



This watch comes pre-programmed with data for 10 surfing points around the world. The data for each point includes an 8-character point name, GMT differential, longitude and latitude, and lunar tide interval. Setting the current time and date for any of the points causes the time and date settings for all other points to be adjusted accordingly. In the case of DST, however, you must make a separate setting for each point. You can use the following procedure to select any one of the ten points as your home time point.

- See the "PRESET LOCATION CHART" for details on the locations whose data is preset in watch memory when you purchase it.

To select a point for your home time

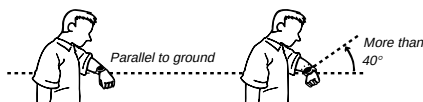
While the point you want to use for your home time is displayed in the Multi-time Mode, hold down **(E)** for about two seconds.

ABOUT THE BACKLIGHT

About the Auto Light Switch

When the auto light switch is turned on, the backlight automatically turns on for two seconds under the conditions described below. Avoid wearing the watch on the inside of your wrist. Doing so causes the auto light switch to operate when not needed, which shortens battery life.

Moving the watch to a position that is parallel to the ground and then tilting it towards you more than 40 degrees causes the backlight to illuminate.



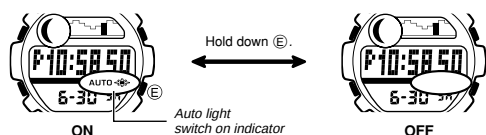
- The backlight may not illuminate if the face of the watch is more than 15 degrees off parallel to the left or right. Make sure that the back of your hand is parallel to the ground.



- Static electricity or magnetic force can interfere with proper operation of the auto light switch function. If the backlight does not illuminate, try moving the watch back to the starting position (parallel with the ground) and then tilt it back toward you again. If this does not work, drop your arm all the way down so it hangs at your side, and then bring it back up again.
- Under certain conditions the backlight may not light until about one second after you turn the face of the watch towards you. This does not necessarily indicate malfunction of the backlight.

To turn the auto light switch on and off

In the Timekeeping Mode, hold down (E) for one or two seconds to turn the auto light switch function on and off.



- The auto light switch indicator is shown on the display in all modes while the auto light switch is on.
- In order to protect against running down the battery, the auto light switch is automatically turned off approximately six hours after you turn it on. Repeat the above procedure to turn the auto light switch back on if you want.
- Pressing (D) (Timekeeping Mode, Moon Data Mode, Tide Graph Mode, Sunrise/Sunset Mode, Alarm Mode) or (E) (Countdown Timer Mode, Stopwatch Mode) illuminates the display, regardless of the auto light switch's on/off setting.

Caution

- The backlight of this watch employs an electro-luminescent (EL) light, which loses its illuminating power after very long term use.
- Frequent use of the backlight shortens the battery life.
- The watch may emit an audible sound whenever the display is illuminated. This is due to vibration of the EL panel used for illumination, and does not indicate malfunction.

Warning!

- Never try to read your watch when mountain climbing or hiking in areas that are dark or in areas with poor footing. Doing so is dangerous and can result in serious personal injury.
- Never try to read your watch when running where there is the danger of accidents, especially in locations where there might be vehicular or pedestrian traffic. Doing so is dangerous and can result in serious personal injury.
- Never try to read your watch when riding on a bicycle or when operating a motorcycle or any other motor vehicle. Doing so is dangerous and can result in a traffic accident and serious personal injury.
- When you are wearing the watch, make sure that its auto backlight function is turned off before riding on a bicycle or operating a motorcycle or any other motor vehicle. Sudden and unintended operation of the auto backlight can create a distraction, which can result in a traffic accident and serious personal injury.

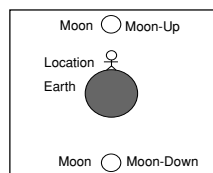
MOON DATA MODE

Be sure to set the current time and your current location before trying to use the Moon Data Mode.

The Moon Data Mode display shows the current moon age, as well as moon up and moon down times. Moon age is indicated both by a value and one of the following graphics.

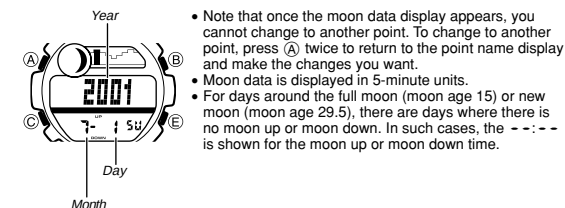
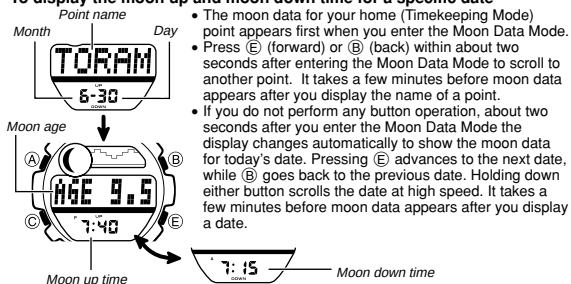


- The light part of the moon graph shows the part of the Moon that is visible in the sky during each particular phase.
- The moon graph shows the Moon as viewed at noon from a position in the Northern Hemisphere looking south. Note that at times the image shown by the moon graph may differ from that of the actual Moon in your area.
- The left-right orientation of the Moon phase is reversed when viewing from the Southern Hemisphere or from a point near the equator.



- The moon up time indicates when the moon will reach its highest point relative to your current location (upper transit), while the moon down time indicates when it will reach its lowest point (lower transit). Note that moon up and moon down times are accurate up to ± 30 minutes.

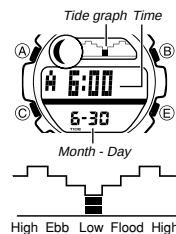
To display the moon up and moon down time for a specific date



- Note that once the moon data display appears, you cannot change to another point. To change to another point, press (A) twice to return to the point name display and make the changes you want.
- Moon data is displayed in 5-minute units.
- For days around the full moon (moon age 15) or new moon (moon age 29.5), there are days where there is no moon up or moon down. In such cases, the --- is shown for the moon up or moon down time.

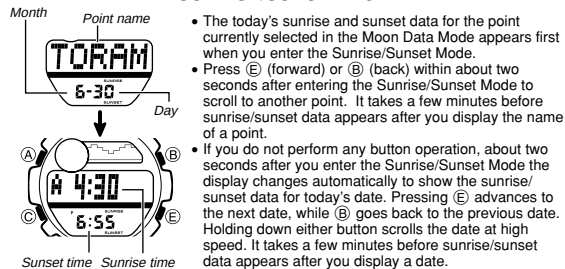
TIDE GRAPH MODE

- Press (A) while in the Moon Data Mode to enter the Tide Graph Mode. The display shows the tide graph for 6:00 am on the date that was selected in the Moon Data Mode.
- Use (E) (forward) and (B) (back) to scroll the time in 1-hour increments. Holding down either button changes the time at high speed.
- Note that once you enter the Tide Graph Mode, you cannot change to another point or date. To change to another point or date, press (A) to return to the Moon Data Mode, make the changes you want, and then reenter the Tide Graph Mode.



The black bar on the tide graph indicates the current tide.

SUNRISE/SUNSET MODE

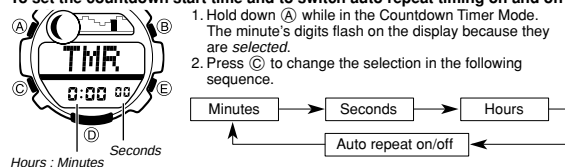


- Note that once the sunrise/sunset data display appears, you cannot change to another point. To change to another point, press (A) to return to the point name display and make the changes you want.
- Sunrise/sunset data is displayed in 5-minute units.

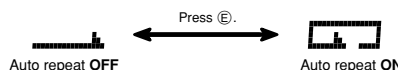
COUNTDOWN TIMER MODE

The countdown start time can be set within a range of 1 second to 24 hours. When the countdown reaches zero, an alarm sounds.

To set the countdown start time and to switch auto repeat timing on and off



- While the hour, minutes, or second's digits are flashing, press (E) to increase the value or (B) to decrease it. Holding down either button changes the value at high speed.
- To set the starting value of the countdown time to 24 hours, set 0:00 00.
- While the auto repeat indicator is flashing, press (E) toggle auto repeat on and off. The auto repeat indicator is on the display only while you are setting the countdown start time.



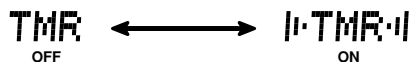
- After you set the countdown start time and auto repeat timing on and off, press (A) to return to the Countdown Timer Mode.

To use the countdown alarm

1. Press (D) while in the Countdown Timer Mode to start the countdown alarm.
2. Press (D) again to stop the countdown alarm.
- You can resume countdown alarm operation by pressing (D).
3. Press (D) to stop the countdown alarm, and then press (B) to reset the countdown time to its starting value.
- When the end of the countdown is reached and auto repeat timing is off, the alarm sounds for 10 seconds or until you stop the alarm by pressing any button.
- Countdown timing stops and the countdown time is automatically reset to its starting value after the alarm stops.
- When the end of the countdown is reached while auto repeat is on, the alarm sounds, but the countdown restarts from the beginning without stopping. You can stop the countdown by pressing (D) and manually reset to the start time by pressing (B).
- If you set a starting time of 10 seconds or less and have Auto Repeat turned on, the countdown alarm tone (which normally sounds for 10 seconds) sounds for only one second.

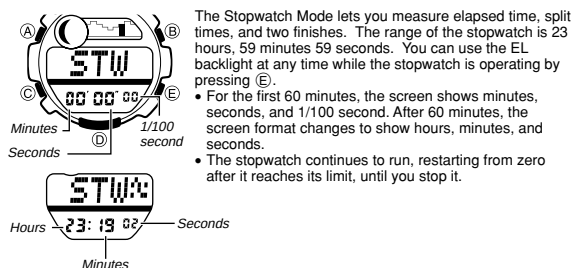
To turn the progress beeper on and off

While the Countdown Timer Mode screen shows its starting value or while a countdown operation is in progress, press (B) to toggle the progress beeper on and off.



- When the progress beeper is turned on, the watch beeps as the countdown time passes the 10, 5, 4, 3, 2, and 1-minute marks, and the 50, 40, 30, 20, 10, 5, 4, 3, 2, and 1-second marks.

STOPWATCH MODE



Elapsed time measurement



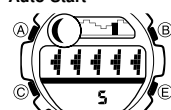
Split time measurement



Split time and 1st-2nd place times



Auto-Start



- In addition to the normal instant start at the press of a button, the stopwatch can also be set up to start timing automatically after five seconds have elapsed.
- While the stopwatch is stopped and cleared to all zeros, press (A) to toggle auto-start on and off. Turning on auto-start displays 5 in the lower part of the display. 00' 00" 00 is displayed when auto-start is turned off.

ALARM MODE

- You can set three independent alarms with the hour, minutes, month and day. Use the Alarm Mode to turn the alarm and the Hourly Time Signal on and off.
- When an alarm is turned on, an alarm tone sounds for 20 seconds when the preset time reached.
 - When the Hourly Time Signal is turned on, the watch beeps every hour on the hour.

Alarm types

The types of alarm you get depends on the information you set.

To set a daily alarm

Set the hour and minutes for the alarm time. Set "--" for the month and day. This type of setting causes the alarm to sound everyday at the time you set.

To set a date alarm

Set the month, day, hour and minutes for the alarm time. This type of setting causes the alarm to sound at the specific time, on the specific date you set.

To set a 1-month alarm

Set the month, hour and minutes for the alarm time. Set "--" for the day. This type setting causes the alarm to sound every day at the time you set, only during the month you set.

To set a month alarm

Set the day, hour and minutes for the alarm time. Set "--" for the month. This type of the setting causes the alarm to sound every month at the time you set, on the day you set.

To set the alarm time

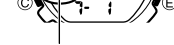
1. Press (E) while in the Alarm Mode to select Alarm 1 through Alarm 3 and Hourly Time Signal.
2. After you select an alarm, hold down (A) until the hour digits start to flash on the display. The hour digits flash because they are selected. At this time the Alarm is automatically switched on.
3. Press (C) to change the selection in the following sequence.
4. Press (E) to increase the number or (B) to decrease it. Holding down either button changes the current number at high speed.
- The format (12-hour and 24-hour) of the alarm time matches the format you select for normal timekeeping.
- When setting the alarm time using the 12-hour format, take care to set the time correctly as morning or afternoon.
5. After you set the alarm time, press (A) to return to the Alarm Mode.
- If you do not operate any button for a few minutes while a selection is flashing, the flashing stops and the watch goes back to the Alarm Mode automatically.

To stop the alarm

- Press any button to stop the alarm after it starts to sound.

To switch an alarm on and off

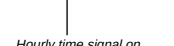
1. In the Alarm Mode, press (E) to select an alarm.
2. When an alarm you want to is selected, press (B) to switch it on and off.
- If any alarm is on, the alarm on indicator is shown on the display when you change to another mode.



Alarm on indicator

To switch the Hourly Time Signal on and off

1. In the Alarm Mode, press (E) to select the Hourly Time Signal.
2. When Hourly Time Signal is selected, press (B) to switch it on and off.
- If Hourly Time Signal is on, the Hourly Time Signal On indicator is shown on the display when you change to another mode.

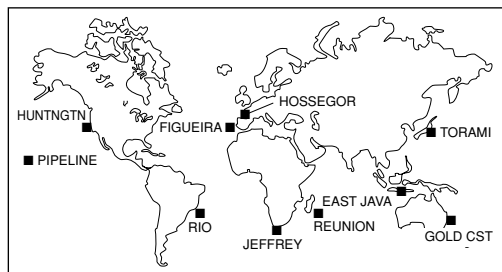


Hourly time signal on indicator

To test the alarm

Hold down (E) while in the Alarm Mode to sound the alarm.

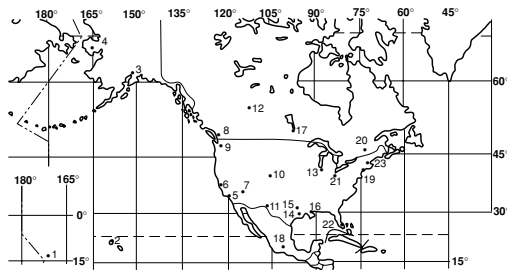
PRESET LOCATION CHART



Point name	Longitude	Latitude	GMT differential	Lunar Tide Interval
TORAMI	140° E	35° N	9	4:50
GOLD CST	154° E	28° S	10	8:30
PIPELINE	158° W	22° N	-10	3:00
HUNTINGTN	118° W	34° N	-8	9:20
RIO	43° W	23° S	-3	3:00
FIGUEIRA	9° W	40° N	0	2:10
HOSSEGOR	1° W	44° N	1	3:10
JEFFREY	25° E	34° S	2	3:10
REUNION	55° E	21° S	4	1:40
EAST JAVA	114° E	9° S	7	10:40

TIME ZONE CHART

North America



NO.	CITY	THE DIFFERENCE FROM GMT FOR STANDARD TIME	LONGITUDE	LATITUDE
1.	PAGO PAGO	-11	171°W	14°N
2.	HONOLULU	-10	158°W	21°N
3.	ANCHORAGE	-9	150°W	61°N
4.	NOME	-9	165°W	65°N
5.	LOS ANGELES	-8	118°W	34°N
6.	SAN FRANCISCO	-8	122°W	38°N
7.	LAS VEGAS	-8	115°W	36°N
8.	VANCOUVER	-8	123°W	49°N
9.	SEATTLE	-8	122°W	48°N
10.	DENVER	-7	105°W	40°N
11.	EL PASO	-7	106°W	32°N
12.	EDMONTON	-7	114°W	54°N
13.	CHICAGO	-6	88°W	42°N
14.	HOUSTON	-6	95°W	30°N

NO.	CITY	THE DIFFERENCE FROM GMT FOR STANDARD TIME	LONGITUDE	LATITUDE
15.	DALLAS/ FORT WORTH	-6	97°W	33°N
16.	NEW ORLEANS	-6	90°W	30°N
17.	WINNIPEG	-6	97°W	50°N
18.	MEXICO CITY	-6	99°W	19°N
19.	NEW YORK	-5	74°W	41°N
20.	MONTREAL	-5	74°W	45°N
21.	DETROIT	-5	83°W	42°N
22.	MIAMI	-5	80°W	26°N
23.	BOSTON	-5	71°W	42°N

Add 1 hour to the difference time if DST (Daylight Saving Time) is used. (EX. if difference of standard time is +2, that of DST is +3.)

Central and South America

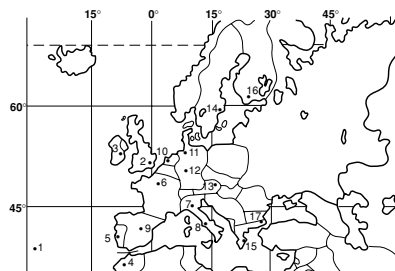


NO.	CITY	THE DIFFERENCE FROM GMT FOR STANDARD TIME	LONGITUDE	LATITUDE
1.	PANAMA CITY	-5	80°W	9°N
2.	LIMA	-5	77°W	12°S
3.	BOGOTA	-5	74°W	5°N
4.	CARACAS	-4	67°W	10°N
5.	LA PAZ	-4	68°W	17°S
6.	SANTIAGO	-4	71°W	33°S
7.	PORT OF SPAIN	-4	61°W	11°N
8.	RIO DE JANEIRO	-3	43°W	23°S
9.	SAO PAULO	-3	47°W	24°S
10.	BRASILIA	-3	48°W	16°S
11.	BUENOS AIRES	-3	58°W	35°S
12.	MONTEVIDEO	-3	56°W	35°S

NO.	CITY	THE DIFFERENCE FROM GMT FOR STANDARD TIME	LONGITUDE	LATITUDE
-----	------	---	-----------	----------

Add 1 hour to the difference time if DST (Daylight Saving Time) is used. (EX. if difference of standard time is +2, that of DST is +3.)

Europe

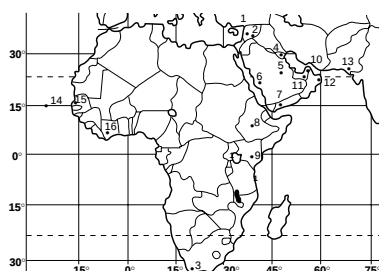


NO.	CITY	THE DIFFERENCE FROM GMT FOR STANDARD TIME	LONGITUDE	LATITUDE
1.	AZORES	-1	25°W	38°N
2.	LONDON	+0	0°E	51°N
3.	DUBLIN	+0	6°W	53°N
4.	CASABLANCA	+0	8°W	34°N
5.	LISBON	+0	9°W	39°N
6.	PARIS	+1	2°E	49°N
7.	MILAN	+1	9°E	45°N
8.	ROME	+1	12°E	42°N
9.	MADRID	+1	4°W	40°N
10.	AMSTERDAM	+1	5°E	52°N
11.	HAMBURG	+1	10°E	54°N
12.	FRANKFURT	+1	9°E	50°N
13.	VIENNA	+1	16°E	48°N
14.	STOCKHOLM	+1	18°E	59°N

NO.	CITY	THE DIFFERENCE FROM GMT FOR STANDARD TIME	LONGITUDE	LATITUDE
15.	ATHENS	+2	24°E	38°N
16.	HELSINKI	+2	25°E	60°N
17.	ISTANBUL	+2	29°E	41°N

Add 1 hour to the difference time if DST (Daylight Saving Time) is used. (EX. if difference of standard time is +2, that of DST is +3.)

Africa and Middle East

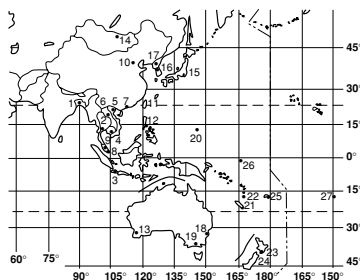


NO.	CITY	THE DIFFERENCE FROM GMT FOR STANDARD TIME	LONGITUDE	LATITUDE
1.	BEIRUT	+2	35°E	34°N
2.	DAMASCUS	+2	36°E	33°N
3.	CAPE TOWN	+2	18°E	34°S
4.	KUWAIT	+3	48°E	29°N
5.	RIYADH	+3	47°E	25°N
6.	JEDDAH	+3	39°E	21°N
7.	ADEN	+3	45°E	13°N
8.	ADDIS ABABA	+3	39°E	9°N
9.	NAIROBI	+3	37°E	1°S
10.	DUBAI	+4	55°E	25°N
11.	ABU DHABI	+4	54°E	24°N
12.	MUSCAT	+4	58°E	23°N
13.	KARACHI	+5	67°E	25°N
14.	PRAIA	-1	23°W	15°N

NO.	CITY	THE DIFFERENCE FROM GMT FOR STANDARD TIME	LONGITUDE	LATITUDE
15.	DAKAR	+0	17°W	15°N
16.	ABIDJAN	+0	4°W	5°N

Add 1 hour to the difference time if DST (Daylight Saving Time) is used. (EX. if difference of standard time is +2, that of DST is +3.)

Asia and South Pacific



NO.	CITY	THE DIFFERENCE FROM GMT FOR STANDARD TIME	LONGITUDE	LATITUDE
1.	DHAKA	+6	90°E	24°N
2.	BANGKOK	+7	101°E	14°N
3.	JAKARTA	+7	107°E	6°S
4.	PHNOM PENH	+7	105°E	12°N
5.	HANOI	+7	106°E	21°N
6.	VIENTIANE	+7	103°E	18°N
7.	HONG KONG	+8	114°E	22°N
8.	SINGAPORE	+8	104°E	1°N
9.	KUALA LUMPUR	+8	102°E	3°N
10.	BEIJING	+8	116°E	40°N
11.	TAIPEI	+8	121°E	25°N
12.	MANILA	+8	121°E	15°N
13.	PERTH	+8	116°E	32°S
14.	ULANBAATAR	+8	107°E	48°N
15.	TOKYO	+9	140°E	36°N

NO.	CITY	THE DIFFERENCE FROM GMT FOR STANDARD TIME	LONGITUDE	LATITUDE
16.	SEOUL	+9	127°E	38°N
17.	PYONGYANG	+9	126°E	39°N
18.	SYDNEY	+10	151°E	34°S
19.	MELBOURNE	+10	145°E	38°S
20.	GUAM	+10	145°E	13°N
21.	NOUMEA	+11	166°E	22°S
22.	PORT VILA	+11	168°E	18°S
23.	WELLINGTON	+12	175°E	41°S
24.	CHRISTCHURCH	+12	173°E	44°S
25.	NADI	+12	177°E	18°S
26.	NAURU ISLAND	+12	167°E	1°S
27.	PAPEETE	-10	150°W	18°S

Add 1 hour to the difference time if DST (Daylight Saving Time) is used. (EX. if difference of standard time is +2, that of DST is +3.)