



Molad

A Hebrew calendar application for a Java[™] mobile device

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Introduction

Molad and 'Molad'

Molad (*birth*) is a Hebrew word for *new moon*. While new moon causes superstitions and horror in the Christian world, for the Jewish culture Molad means new month, new year, new live. Despite scientific declarations of the Universal mortality, for me Molad symbolises the eternity of the Universe, live, ... and the calendar !

This application is designed to suit any Java™ compatible mobile device with 50K of RAM. Colour support and screen size 120x120 or more (e.g. Nokia Series 40 and 60, Motorola T720, A830 etc) would be an advantage. With Siemens mobile devices (screen size 101x64 or 101x80 pixels), or Nokia Series 30 (96x65 pixels) the application feels less comfortable though is still fully operational.

The following features are supported:

- Calendar page for a specified day
- List of coming and past events
- Omer days
- Sedrot (Torah readings)
- Custom events

Most of other Hebrew calendar programs don't accept a secular date before year 1752 Common Era (C.E.) – the day when Gregorian calendar was introduced in England (?). It might look naive, but I can't understand why a Hebrew calendar application should depend on such a minor event. This application supports Hebrew years in the range from 1 to 5000000 – hopefully enough for now :). Given that different countries adopted Gregorian calendar at a different time, you can specify the changeover date, so that the appropriate secular calendar will be chosen automatically.

Because of limited resources the application cannot be as versatile as the ones designed for a PC, or for a specific mobile device. Here are the features that I would like to support, but either would make the application less efficient or too big, or simply impossible to implement:

- Calendar clock – I might find time for that one day.
- Monthly calendar pages – this would look terribly bad on a small screen.
- Sunrise, sunset, candle lighting time. Probably all applications (whether or not they tell it) use a sunrise/sunset algorithm from Almac of Computers 1990, published by Nautical Almanac Office United States Naval Observatory Washington, DC 20392. The algorithm significantly relies a lot of trigonometric functions, while J2ME doesn't provide even basic ones. Writing own classes would be inefficient, because of a lot of floating–point calculation being involved. Floating–point calculation can be avoided with precalculated tables, but that would either be inaccurate, or enormously increase the size of application.
- Hebrew characters – concise and no need for short names :) Unfortunately Hebrew characters are not supported by default, while a third party product probably can't be emulated.
- Introduction date for each holiday. As far as I know, holidays like Chanukah or Purim are not as old as Pesach, therefore it doesn't look logical to show Chanukah say for year 1000 H.C. Unfortunately, I don't know exact introduction dates even for new holidays like Yom Zikaron, or Yom Atzmaut.

Credits and Links

HebCal by Danny Sadinoff a UNIX (Linux and Solaris) product ported to Windows.

<http://www.sadinoff.com/hebcad>

Congratulations Danny, well done. The code has been thoroughly studied and used as an excellent source of information.

Chelm.org's explanation of the Jewish Calendar

<http://www.chelm.org/jewish/calendar/explain.html>

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A clear and comprehensive explanation, even a code provided. Unfortunately the code doesn't work before year 1760 C.E., and apart from that, the logic for Rosh HaShanah calculation doesn't look 100% accurate to me.

Judaism 101. Jewish Calendar

<http://www.jewfaq.org/calendar.htm>

Copyright 1995–2001 Tracey R Rich

A very simple explanation of the calendar which doesn't pretend to be exhaustive, but might be sufficient for non-developers.

Orthodox Union

<http://www.ou.org>

A good source of information about Jewish history, culture, holidays. Contains Zmanim tables, publications, and more.

Countries Calendar Reform

<http://webexhibits.org/calendars/year-countries.html>

You might wish to visit the page to find out the date when Gregorian calendar was adopted in your area,

Support

Molad has been developed and is maintained by *Michael Glickman* (Australia) and is distributed free of charge.

Current and the only version is 1.0. Today is 10th of Kislev 5764 (5 Dec 2004). Let it be a Chanukah present for the Jewish community all over the world ... and another chance to oppose Microsoft[®] expansion (J2ME is one of very few platforms completely free of Microsoft interference).

The latest version of Molad will be available from <http://molad.palmcrust.com>

For our other (commercial and free products) for Palm and mobile devices see <http://www.palmcrust.com>

Being interested in Jewish culture, I am not a religious person, have no religious friends, and don't visit a synagogue. This is why your comments are so important to me. Please, send me your suggestions, bug reports, etc to palmcrust@yahoo.com . ***You are strongly advised not to use this address for anything not related to our software.*** The mail box quite often runs out of quota, in which case we are unable to attend a really valuable message.

The code has been developed using j2mewtk v 1.4 and 2.0 for Linux with Nokia Series 30 and 60 MIDP Concept SDKs, and occasionally tested on real devices as well as with Windows-only emulators like Nokia

Series 40, Motorola and Siemens. The manual has been prepared with Netscape 7.02 composer and HTMLDOC for Linux.

For developers

I've build *moladlib* – a library, containing all the calculations used in the application (practically everithing apart from GUI). The libaray is distributed under GNU Public License (GPL). The library is available from the application site.

Another package contains the text classes used by the application. If you want to translate Molad to another language, just replace the text in the classes and send the updated files to me. Please, try to avoid the translation being longer than the original text.

How the calendars operate

This is a very brief explanation. Follow the links from [Credits and Links](#) section for better instructions.

Hebrew calendar

Have you noticed how the moon changes its shape throughout the month? At times, it shines brightly like a cream-colored ball. Other times, we can compare it to a slice of honeydew. On some nights, it looks like a split banana! Sometimes, you can't see it at all! While in bed watching the moon, take a peek through your window, shut your eyes for a moment and imagine a scene taking place many years ago in Eretz Yisrael

In the Great Beit-Din, the chief Rabbi sits in his honored place, greeting the Jew who just arrived in the court. "I saw the moon last night, Rabbi, and I believe it is the beginning of a new month," reports the Jew. The Rabbi motions to a chart with many different moon shapes hanging on the wall. "Is this the shape you saw?" asks the Rabbi, pointing to a particular shape. The man who witnessed the moon would be questioned until the judges were satisfied. When the judges heard proper testimony from at least two witnesses, they would declare that a new month had arrived

Rambam – Sefer HaMitzvot

That's how the calendar worked in good old days, until Hilel II established a fixed calendar in the year 359 C.E.

Current Hebrew Calendar (H.C.) is a synthesis of astronomy, mathematics, religion ... and creativity.

It is a lunisolar (moon + sun) calendar based on the following facts:

1. The lunar month (time between two consecutive new moons) is 29 days 12 hrs and 793 parts (chelekim), each part being a 1/1080 of an hour.
2. 235 lunar months are equal in duration to 19 solar years.

If we temporarily disregard 793 parts in the lunar month we get 29.5 days in month, or 59 days in two months. For that reason Hebrew months alternate in duration between 30 and 29:

No	Month	Days	No	Month	Days
1	Nissan	30	7	Tishri	30
2	Iyar	29	8	Cheshvan	29 or 30 (*)
3	Sivan	30	9	Kislev	30 or 29 (*)
4	Tammuz	29	10	Tevet	29
5	Av	30	11	Shevat	30
6	Elul	29	12	Adar / Adar Alef (**)	29 / 30
			13	Adar Bet (**)	29

(*) Normally Cheshvan has 29 days, Kislev has 30 days. A day can be added to Cheshvan, or taken away from Kislev in order to get a year a day longer, or shorter. See comments below.

(**) Adar Alef and Adar Bet replace Adar in a leap year – see comments below

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A year cannot be purely lunar, otherwise holiday seasons would drift. Relation 2 yields the average number of lunar months in a year as $235/19$ or $12 \frac{7}{19}$. In the Hebrew calendar a "regular" year has 12 months, but whenever the accumulated fraction jumps over a whole number (i.e. $f * (y-1) < N \leq f * y$, where $f = 7/19$, y —year number, N —a whole number (***) , an additional month is added to a year. A year with an additional month is a *leap year*. In a leap year the last month Adar (29 days) is replaced by two months: Adar Alef (Adar 1) of 30 days, and Adar Bet (Adar 2) of 29 days. Simple mathematics show that leap years are 3rd, 6th, 8th, 11th, 14th, 17th and 19th in a 19-year cycle, so that each cycle has 12 non-leap and 7 leap years. (Indeed, 7 and 12 are special for any occasion !) *Please note that the last month in the calendar is not the last month of a year: a new year (Rosh HaShanah) starts at 1 Tishri, just in the middle of a calendar year – after all, a tricky nation can afford a tricky calendar :).*

(***) In fact we don't need to keep the old fraction! Since 19 is a prime number, a fraction like $(7*y)/19$ jumps over a whole number if and only if the remainder $(7*y) \% 19$ gets less than 7.

Remember extra 793 parts in the lunar month ? Something has to be done about that. The solution provided by the calendar is pretty straightforward: calculate the exact time of a new moon (molad) for Tishri (the new year month), if it is noon or afternoon, the new year (Rosh HaShanah) is postponed one day. Well, it looks really simple ... and too simple to be the case. There is also a requirement that some holidays should not fall on a particular day of a week, like Yom Kippur must not be adjacent to Shabbat (i.e. cannot be Yom 6, or Yom 1), and Hoshanah Rabah should not fall on Shabbat. These *dehiot adjustments* might also result in Rosh HaShanah being postponed. See the source code for the details.

In order to postpone Rosh HaShanah, a day is added to Cheshvan, extending it to 30 days. Since year extension is not always astronomically justified, the following year might need to be reduced by one day to keep in path with the solar year. To do that a month is taken from Kislev leaving it with 29 days. Note that only one of the two months can be altered.

Any questions so far ? I have one. How was it possible to calculate all that without a computer ? :=)

Few more remarks not related to the calendar algorithm, but still might interest someone.

1. Relation 2 (19 solar yrs = 235 lunar mnth) is named *Metonic cycle* after Greek (Athenian) astronomer Meton (4th century C.E.), but there is a strong evidence that this relation was known to Babylonian and Chinese astronomers before Meton.
2. Combining facts 1 and 2 we can evaluate solar year as 365 days and 5 1847/4107 hrs, or 365 days 5 hrs 26 min 58.92 sec, where according to the current astonomic data this is 365.242199 or 365 days 5 hours 48 min and 46 sec, which is even less accurate than Julian calendar. I haven't heard about forthcoming reform of Hebrew calendar though :)
3. The Bible refers to months by numbers, not by names, and (as far as I know) there is no evidence to find out how the calendar was organised at that time. But there is a certain evidence that Babylonian calendar used 19 year cycles with 12 years of 12 months and 7 years of 13 months, and the Babylonian names of months (Nisanu, Ayaru, Simann, Du'uru, Abu, Ululu, Tashritu, Avakhsamna, Kislimu, Tebetu, Shabatu, Adaru) sound very similar to Hebrew months, BTW can you guess what was the name of 13th month ? Adaru-2 ! Actually there is a strong belief that current Hebrew calendar is actually derived from the Babylonian and adopted probably during Exile in 6th century B.C.E..

Julian and Gregorian Calendars

The calendar used world wide is derived from Julian calendar attributed to Roman emperor Julius Caesar. The calendar assumes a solar year to be 365 days and 6 hours. This produces one extra day added to February once in every 4 years. The year with 366 instead of 365 days is a *bisesytle* or *leap year*. In *Julian calendar* every multiple of 4 corresponds to a leap year.

By 7th century C.E. the Christian world started counting years from the birth of Christ (H.C. year 3761), what is referred as Common or Christian Era (C.E.) in Jewish terminology, while dates 'Before Christ' are referred as Before Common Era (B.C.E). Please note that there is no year 0, so that year 1 B.C.E. is followed by year 1 C.E.

The actual solar year is "only" about 365 days 5 hrs and 48 min and 46 sec. This gives extra 11 min 14 sec per a year, or extra 3 days in 4 centuries. This suggests that number of years in 4 centuries should be reduced by 3. In the 16th century C.E. the vernal (Spring) equinox fell on 11th of March, i.e, 10 days before the calendar equinox day, which could no longer be tolerated. The new calendar, developed under the leadership of Jesuit mathematician and astronomer Christoph Clavius only slightly differs from Julian calendar. Any multiple of 100 would correspond to a leap year in Julian calendar, whereas in the new calendar for a leap year it must also be a multiple of 400. Thus years 1600 and 2000 are leap years, whereas years 1700, 1800 and 1900 aren't.

The new *Gregorian calendar* was introduced in 1582 by Pope Gregory XIII who ordered that 4th of October was to be followed by 15th of October. That dropped 10 days from October and re-established the consistency of solar and calendar years. The reform took place in Italy, Poland, Portugal and Spain, other catholic countries soon followed. In England and colonies (including Ireland, and Eastern part of USA) Gregorian calendar was introduced in 1752 (2 Sept. followed by 14 Sept.), while Christian orthodox countries adopted Gregorian calendar not until 20th century (Russia: 31Jan1918– 14Feb1918, Greece: 9Mar1924–23Mar1924).

For the complete list of calendar reform dates see <http://webexhibits.org/calendars/year-countries.html>

Using the Application

Terms Explained

Phone Keys

This refers to keys [1] –[9], [*], [0], [#].

T9 layout

[1] [2] [3]
[4] [5] [6]
[7] [8] [9]
[*] [0] [#]

would be the best fit, however a non-T9 keypad (e.g. Nokia 3650 or Siemens SX1) will also do.

Some expensive models (Sony Ericsson P800, Nokia Series 90, Motorola 388) are designed to be used with a stylus, something the application currently does not support. However in some cases there is a way around. For example P800 has buttons labeled [A] [B] [C] [D] translated to corresponding game keys

Other Keys

Screen Buttons	Key located below the screen. All devices have at least two screen buttons: Left and Right, some models also have a middle screen button. Screen buttons are used for entering <u>Commands</u>
LEFT RIGHT UP DOWN	Press corresponding arrow key, or move joystick in appropriate direction
FIRE	The location of FIRE key is device specific. If unsure try the following: <ul style="list-style-type: none">• Press joystick, or the middle of arrow pad• SEND key (often with a green handset picture)• Right screen button
[A] [B] [C] [D]	Additional keys referred as "Game Keys". This is optional

Commands

To enter a command, press Left or Right screen button (depending on the model). This often brings you a list of available commands. Highlight a command using UP and DOWN keys, then enter FIRE to execute it. For your convenience some models assign a command like Quit, Close, Back, Cancel to a separate screen button – just press a button to select it.

Date View ("calendar") Screen

The application starts with a Date View screen for today. You can change date using navigation keys, discussed in [Controlling Date View Screen](#) .

Date View Data

Date View screen consists of several parts.

Dates

Hebrew date (right) and corresponding Common (Gregorian or Julian) date (left) year, day of week, day and month. A Secular (common) year Before Common Era (B.C.E) is shown with suffix B (e.g. 300B stands for year 300 B.C.E.)

The arrow in the middle of Date panel shows current navigation calendar:

- Hebrew calendar is current
- <← Common calendar is current

Navigation calendar is explained in [Controlling Date View Screen](#) section.

Information Bar

A bar below the date shows an additional informations, like indicators, moon phase, day count.

Indicator is one of the following letters:

- J – Julian calendar (if omitted , then Gregorian calendar is used)
- L – Leap year. Left L refers to a Common leap year, while right L denotes Hebrew leap year.

Moon phase is shown as a shape and percentage of lunar month elapsed:

Percentage	Phase		Percentage	Phase
0 – 11	New moon		50 – 61	Full moon
12 – 24	Waxing crescent		62 – 74	Waning gibbous
25 – 37	First quarter		75 – 87	Third quarter

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38 – 49	Waxing gibbous		88 – 99	Waning crescent
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Day count is either an Omer day (Sefirat HaOmer starts after Passover/Pesach and ends before Shavuot), or a day in 3–week period between two fasts (17 Tammuz and 9 Av), or a day from Rosh HaShanah if neither Omer nor 3W apply. Omer and 3W days are shown if 'show Omer/3W' is enabled in Settings, in which case a special colour is used for Omer/3W pages.

The information bar for a Shabbat day might be extended with Shabbat names (like *Shabbat HaGadol* being the last Shabbat before Pesach), or weekly Torah readings (sedrot). For that you need to enable respectively 'show Shabbat' and/or 'show Sedrot' in Settings.

Events

The list of events (holidays and custom events) corresponding to current day. The events shown here are specified with DISPLAYED event option.

Controlling Date View Screen

The following keys are used to control Date View screen

Key (–s)	Action
LEFT or [4]	<u>Previous day</u>
RIGHT or [6]	<u>Next day</u>
UP or [2]	<u>Previous month</u> Goes one Hebrew or Secular month back depending on navigation calendar
DOWN or [8]	<u>Next month</u> Goes one Hebrew or Secular month forward depending on navigation calendar
[*] or [A]	<u>Previous Year</u> Goes one Hebrew or Secular year back depending on navigation calendar.
[#] or [B]	<u>Next Year</u> Goes one Hebrew or Secular year forward depending on navigation calendar.
[3] or [D]	<u>Navigate By</u> Change navigation calendar. Current navigation calendar is indicated by an arrow in the middle of date pane (see <u>Date View Data</u>).
[1]	<u>Settings</u> Show <u>Seatings</u> screen
FIRE or [5]	<u>Today</u> Go to current date
[7]	<u>Coming events</u> Same as Coming Events command (see <u>Date View Commands</u>)
[9]	<u>Past events</u> Same as Past Events command (see <u>Date View Commands</u>)
[0] or [C]	

Turn Page

If the information requires several pages, pressing a key will select next display page.
See Multiple Pages and Auto–Turn Page .

Date View Commands

The following commands are available from Date View screen.

Command Name	Description
Coming Events	Show list of events preceding the viewed date. The events are shown in ascending date order. Each line contains event name and either event date, or number of days left, depending on the List item is <u>Settings</u> . The events shown in the list are specified with LISTED event option.
Past Events	Show list of events following the viewed date. The events are shown in descending date order. Each line contains event name and either event date, or number of days past, depending on the List item is <u>Settings</u> . The events shown in the list are specified with LISTED event option
Today	Go to current date
Set Hebrew Date	Show <u>Date Set screen</u> for entering a Hebrew date
Set Common Date	Show <u>Date Set screen</u> for entering a Common date
Settings	Show <u>Settings</u> screen
Help	Show Help for Date View page
About Molad	Show release information, application details and credits
Quit	Quit application

Multiple Pages and Auto–Turn Page

In some cases (especially with a small size screen) screen size might be insufficient to fit all data. In this case the information is shown in several pages. Use [0] or [C] to turn page. While turning pages you get back to starting page after all pages are displayed.

You can specify Auto–Turn Page option, in which case page will be turned automatically every 4 seconds.

Date Set Screen

Date set screen provides another way for to specify a date for Date View. It might be more efficient than using a navigation keys, especially with a slow device, or the target date is far away from the viewed date. In particular you can jump directly to a specified date.

You can call Date Set to select either Hebrew or Common date. Since only one date is shown, navigation calendar is not applicable to Date Set screen.

Date Set screen is also used to specify the last Julian date for Settings .

Controlling Date Set Screen

The following keys are used:

Key (-s)	Action
LEFT or [4]	<u>Previous day</u>
RIGHT or [6]	<u>Next day</u>
UP or [2]	<u>Previous month</u>
DOWN or [8]	<u>Next month</u>
[7]	<u>Previous week</u>
[9]	<u>Next week</u>
[*] or [A]	<u>Previous year</u>
[#] or [B]	<u>Next year</u>
[1] or [C]	<u>Enter Year</u> Same as Enter Year command
[3] or [D]	<u>Enter Year Before Common Era.</u> (Common date only) Same as Enter Year B.C command
[5]	<u>Today</u> Go to current date
[0]	<u>Default date</u> Go to a date effective before calling Date Set screen
FIRE	<u>OK</u> Show Date View screen for selected date

Date Set Commands

The following commands can be activated from Date Set screen

Command	Description
OK	Show Date View screen for selected date, (accept selected date as the last Julian if called from Settings)
Enter Year	Brings a separate screen for entering year. Only digits can be entered For a common date, Common Era (C.E) is assumed
Enter Year B.C. (Common date only)	Enter A Year Before Common Era (B.C.E), Only digits can be entered.
Today	Go to current day
Help	Show help for Date View page

Cancel	Return to previous screen without changing date
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The application accepts dates in a range from 1 Tishri 1 to 29 Elul 5000000, which corresponds to 7 October 3761 B.C.E. Julian to 1 November 4996299 C.E. Gregorian. Please note that year 0 is never accepted since (as mentioned before) year 1 B.C.E. is followed by year 1 C.E.

Settings Screen

Settings Screen is a actually front end to various other panels, that provide custom features. Top bring up Settings screen press [1] or select Settings command from Date View screen.

To change an item press FIRE key or enter Select command. Some item (Location, Navigate, List) change value "on fly" others will bring up a separate screen.

Settings Screen contains the following items:

Name	Description
Location	Israel or Diaspora. Choice of location affects duration of holidays and sedra scheme. In Israel some holidays are shorter than in Diaspora (that makes sense: major holidays are official non-working days in Israel, but not in Diaspora :))
End Julian	The last day of Julian Calendar. By default it is 4Oct 1582 – the last day of Julian Calendar in the first countries adopted Gregorian calendar. For an English-speaking country you might prefer 2 Sept 1752. Pressing FIRE for this line brings up <u>Set Date screen</u> same as used with Date View.
Navigate	Hebrew or Common. Specifies default calendar used for <u>Date View</u> navigation
List	Specifies which information is shown in the list of Coming or Past events: Date – event common date. Interval – number of days between the event date and view date separated with > for coming events. or < for past events
Options	General options: O Show Omer/3X Highlight Omer or 3week days in <u>Date View screen</u> , show Omer and 3W day numbers in Date View <u>information bar</u> S Show Sedrot Show Torah readings for each Shabbat H Show Shabbat show special Shabbat names M Month Numbers show month numbers (e.g. Kislev [9]) in <u>Date Set screen</u>

	A Auto–Page turn page automatically in Date View screen, as explained in Multiple pages and Auto–Turn Page Pressing FIRE for Options brings a list of options where you need to tick options you wish to enable. Enter Close command for getting back to Settings
Holidays	Show Holidays Setup screen to assign display options for Holidays
Custom Events	Show Custom Events Screen to maintain the list of custom events
Close	Accept new settings and get back to Date View screen.

Holidays and Custom Events

I use term *events* as a common name for *holidays* and *custom events*.

Event Display Options

Event display options control the presence and appearance of an event. The following options are supported

Acronym	Name	If enabled...
L	List	... the event appears in a list of coming and past event
D	Display	... the event is show at Date View page for appropriate date
H	Highlight	... the date view page for the event is show in a different colour
E	Erev (Eve)	... the event is appears for the preceding date as Erev (e.g. 'Erev Rosh HaShanah' at 29 of Adar/AdarB page)
K	Katan	.. the event is celebrated twice in a leap year, as Katan (Small) in AdarA and "Full–Size" in AdarB (appears only for AdarB events). See Adar Bet Events for explanations.

Comments:

1. Highlight and Erev imply Display
2. An event never appears as 'Erev' in a list of Coming/Past events.
3. An event listed as Erev does not cause page highlighting, but its name is typed highlighted, if Highlight is enabled.
4. A Katan Event is not highlighted, but other settings apply. In particular List enables listing Katan Event in Coming/Past, while enabling Erev will produce a line like 'Erev MyEvent Katan' for the date preceding Katan event.

Customising Holidays

Display options is the only customised feature for holidays. You can select holidays to be listed for Coming/Past events, holidays to appear on Date View screens, Date View highlighting and other. See [Event](#)

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Display Options for the details.

To specify display options for a holiday:

1. From Date View screen enter *Settings* command (or press [1] key)
2. In the list of settings select *Holidays* and press FIRE key. This brings up the list of holidays, where each holiday is shown with initial letters of enabled display options
3. Select a holiday you wish to set up and press FIRE key get the list of options.
4. Press FIRE key to enable/disable highlighted option in the list, enter *Close* when done – the new options are now effective. *Please note, that Display will be actually disabled only in case both Highlight and Erev are also disabled.*

Options for holiday name **Rosh Chod.** (short for Rosh Chodesh – start of month) apply to start of each month. If enabled, you get events like 'Rosh Chodesh <month name>' listed / displayed for 1st of each Hebrew month.

Custom Events

For a custom event you need to specify:

- Event Name (up to 20 chars) used for Date View page
- Event Short Name – used for event lists and compound names (i.e with *Erev* and/or *Katan*)
- Event Date: Hebrew day and month, number of days (1 by default)
- Display options, see Event Display Options

To maintain custom events:

1. From Date View screen enter *Settings* command (or press [1] key)
2. In the list of settings select *Custom events* and press FIRE key. This brings up the list of custom events

The list of custom events contains custom event short names with initial letters of enabled display options. The last (or the only) line named **New Event ...** You can have up to 128 custom events.

To add or edit an event, select an event (*New Event ...* for adding) and press FIRE to get Event Setup screen. You can go straight to event options by entering *Set Options* command. To delete an event enter *Delete* command.

Event Setup screen shows event names, event date and options. Use UP and DOWN key to navigate between event names and options (some devices might have it in a different way).

Default display options of a custom event are Listed, Displayed. To edit display options enter *Set Options* command. This brings up *Display Options setup* screen similar to the one used for customising holidays.

Event date is initially set to the day and month of the *active (last viewed) date* – the date shown on Date View Screen before *Settings* command was entered. To change the event date enter *Set Date* command – this brings up **Event Date Setup** screen.

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The following keys are used with Event Date Setup screen:

Key (-s)	Action
LEFT or [4]	Previous day of month
RIGHT or [6]	Next day of month
UP or [2]	Previous month
DOWN or [8]	Next month
[*] or [A]	Reduce number of days
[#] or [B]	Increase number of days
[1] or [C]	Get day and month from the active (last viewed) date
[3] or [D]	Get day and month from today
[7]	Go 7 days back
[9]	Go 7 days forward

Comments:

1. Adar events are celebrated in AdarA during leap years. For AdarB events see [Adar Bet Events](#)
2. It is assumed that Cheshvan, Kislev and Adar have 30 days. In years where a month has 29 days, the event assigned to 30th of the month takes place at 29th of the month

Adar Bet Events

Everybody knows that Purim is a lucky holiday. But someone might not realise that it also has a lucky date: 14 of Adar Bet. Since non-leap years don't have AdarB, the holiday is celebrated at 14 of Adar. But in a leap year Purim is celebrated twice: as Purim Katan ("Small Purim") at 14 of AdarA, and "main" Purim at 14 of AdarB !

If you are lucky enough to be born or married in AdarB, you can follow Purim tradition and celebrate your remarkable date twice in a leap year. To do that you set up a custom event for AdarB, and enable Katan as display option (see [Event Display Options](#))