Software version "L" is based on a totally new construction which includes not only improved software but also a brand new microcontroller on a new developed circuit board. The new construction offers a higher durability and a longer battery lifetime.

The SASM30/31 replaces Pulsar ® 401 and 402 modules with flick of the wrist feature and magnetic switch setting or auto set, the SASM33/34 Pulsar® 401 and 402 modules with deactivated flick of the wrist feature and with magnetic switch setting or auto set, the SASM40 replaces Pulsar® 102, 104 and 110 modules for dress watches and the SASM41 replaces Pulsar® 101, 103 modules in Pulsar® Ladies watches.

As known from other watch movements produced by StrikesAndSpares Semiconductor these modules are built with original parts from disassembled Pulsar®, Omega® or Hamilton® movements. The red display, the plastic carrier, the quartz crystal and the reed switches will be swapped from your module to a new circuit board.

The Time and Date Feature: Press the lower button once to show the time. The time will light up for 1,5 seconds. Hold the button for seconds display. Press the upper button once to show the date. The date will light up for 1,5 seconds.

Flick of the Wrist Feature (SASM30/31): Quickly turn your wrist to show the time. Please mention that the flick of the wrist feature (mercury switch) will work much better in a warm environment.

Auto-Set - How to set your watch: We recommend to start with the setting of the day and continue to set the month, then hours and finally the minutes. Press the upper button 3 times in less than 3 seconds. The display stays lit. Then use the upper button to set the month and the lower button to set the day. During the setting of the day you should also care about the AM/PM indictor. The upper dot should light up between 00:00h and 11:59h. Between noon and midnight the lower dot should indicate PM time. On February, 29th the date has to be changed to the 1st of March manually (exception: leap years). In the same manner the hours and minutes are set. Push the lower button 3 times in less than 3 seconds. Use the upper button to set the hours and the lower pusher to set the minutes. No operation of a button ends the setting procedure of time and date automatically. Make sure that you always set the minutes to the next following one. For example at 12:09h, set the minutes to 12:10h. The time computing will not start and the time remains at :00 seconds until the time button has been pushed just at 12:10h. The time counting begins at 12:10:00 and the time will light up.

Magnet Set - How to set your watch: Pulsar® 401, 101 and 102 modules were delivered with magnet set. This means that the time and date setting can be activated with the magnet which is hidden in the clasp of the watch. In case you send a 401, 101 or 102 module for repair, your SASM replacement can also be set by magnet. If the original magnet is not available or too weak for various reasons, you can use any magnet to gain access to the setting feature. We recommend to start with the day and continue to set the month, then hours and finally the minutes. Hold the magnet in the "hr" notch and push <u>both</u> command buttons to set the day. During the set of the day you should also care about the AM/PM indictor. The upper dot should light up between 00:00h and 11:59h, between noon and midnight the lower dot should indicate PM time. To increment the month just release the time button (lower push button). On February, 29th the date has to be changed to the 1st of March manually (exception: leap years). In the same manner the hours and minutes are set. Hold the magnet without the actuation of a command button in the "hr" notch to advance the hours. Move the magnet in the "min" notch to increase the minutes. Make sure that you always set the minute to the next following one. For example at 12:09h, set the minutes to 12:10h. The time computing will not start and the time remains at :00 seconds until the time button has been pushed just at 12:10h. The time counting will start at 12:10:00 and the time will light up.

Software Select. The Menu contains the following options:
1) Case Type (P4, Men's Dress or Ladie's)
2) Flick Feature (on/off)
3) Settings (button set, magnet notch set or both)
4) Coarse Tuning (coarse time trimming ±5 seconds/day)
5) Fine Tuning (fine time trimming fraction of second per day)

To access Software Options Menu press and hold upper button until display turns off… while continuing to hold the top button press the bottom button within a half second to access the Software Options Menu.

(Once in the menu, use bottom button to select option, use top button to accept selected option and advance to next menu item. A "button press" is .5 seconds long.)

(1) Case Type. Press bottom button to select "P4", "dress" or "ladies". Press the top button to save selection. "SET" will display on LED. (This module can be used in 3 different watch case types.)

(2) Flick Feature. Press bottom button to select "ON" or "OFF". Press the top button to save selection. "SET" will display on LED. (Sometimes the mercury switch that activates the wrist flick display will be too sensitive causing the display to illuminate too often, causing the batteries to run down quickly. Replacement mercury switches are not available therefore disabling the feature may be desirable. Also, it is desirable to deactivate the Flick Feature when mailing or shipping the watch so it does not continually activate during transport causing batteries to become depleted quickly.)

(3) Settings. Press bottom button to select "both", "notch" or "button". Press the top button to save selection. "SET" will display on LED. (Originally, these watches required the use of time setting magnets to set time and date. Your modern SASM module allows the ability to choose whether to use the buttons or notches to set time and date. If "notch" is selected and saved, you must use a magnet to set time and date, and to access the Software Options Menu a magnet would have to be placed in both notches at the same time.)

(4) Coarse Time Tuning. Press bottom button to select a value from 0.0 to ±5.0 seconds per day in half second increments. Press the top button to save selection. "SET" will display on LED. (The correction value starts with 0.5 and ends with 5.0- (minus 5.0). Example: If the watch gains a half second per day, choose the Coarse Time Tuning value of 0.5- (minus 0.5). In case the watch is running too slow and looses one second per day, choose Coarse Time Tuning value 1.0.)

(5) Fine Time Tuning. Press bottom button to select a value from 0.0 to -0.4 seconds per day. Press the top button to save selection. "SET" will display on LED. (In case the watch is running too slow and looses 1.3 seconds per day, choose Coarse Time Tuning value of 1.0 and Fine Time Tuning value of 0.3.)

Batteries: We recommend installing two Varta cells of the type V13GA, V76PX or V357. Other widely available types which can be used are LR44, #357, #1154, AG13 or SG13.

Warranty: We deliver all SASM modules with a full one year warranty. The appointed date of the warranty is the indicated date of the invoice. Please keep this invoice for your own records and as a document in case of a defect on the module which is covered by this warranty. The warranty does <u>not</u> include defects of the original display unit which is about 40 years in age!

Personalization and Software Releases: All SASM series modules can be programmed with a special, individual message. This message can either be shown when batteries are replaced or during normal operation, for example once you have pushed both time and date button. Please mention, that not all letters can be displayed through a seven segment display and the 1st digit can show the character "1" "," "'" or "I" only except for 24h modules (SASM32). The software version indicator will light up with "IN" *(individual)* to show the module as personalized. A personalization is 89,00 €. You can always change the software back to a standard release at a later point of time which is 29,00 €. The different software releases are arranged by the corresponding letter and are used in the manner you can see below. An update of former releases to software version L is not possible.

E:	Initial release *(Erstausführung)*	A:	1st software modification
b:	2nd software modification	c:	3rd software modification
d:	experimental release	F:	4th software modification
H:	5th software modification	J:	6th software modification
L:	new module relase	IN:	individual module

The SASM 30 replaces Pulsar ® 401 and 402 modules with flick of the wrist feature, the SASM33 Pulsar® 401 and 402 modules with deactivated flick of the wrist feature, the SASM40 replaces Pulsar® 102, 104 and 110 modules for dress watches and the SASM41 replaces Pulsar® 101, 103 modules in Pulsar® Ladies watches.

As known from other watch movements produced by StrikesAndSpares Semiconductor these modules are built with original parts from disassembled Pulsar®, Omega® or Hamilton® movements. The red display, the plastic carrier, the quartz crystal and the reed switches will be swapped from your module to a new circuit board.

The Time and Date Feature: Press the lower button once to show the time. The time will light up for 1,5 seconds. Hold the button for seconds display. Press the upper button once to show the date. The date will light up for 1,5 seconds.

Flick of the Wrist Feature (SASM30): Quickly turn your wrist to show the time. Please mention that the flick of the wrist feature (mercury switch) will work much better in a warm environment.

How to set your watch: We recommend to start with the setting of the day and continue to set the month, then hours and finally the minutes. Press the upper button 3 times in less than 3 seconds. The display stays lit. Then use the upper button to set the month and the lower button to set the day. During the setting of the day you should also care about the AM/PM indictor. The upper dot should light up between 00:00h and 11:59h. Between noon and midnight the lower dot should indicate PM time. On February, 29th the date has to be changed to the 1st of March manually (exception: leap years). In the same manner the hours and minutes are set. Push the lower button 3 times in less than 3 seconds. Use the upper button to set the hours and the lower pusher to set the minutes. No operation of a button ends the setting procedure of time and date automatically. Make sure that you always set the minutes to the next following one. For example at 12:09h, set the minutes to 12:10h. The time computing will not start and the time remains at :00 seconds until the time button has been pushed just at 12:10h. The time counting begins at 12:10:00 and the time will light up.

Magnet Set - How to set your watch: Pulsar® 401, 101 and 102 modules were delivered with magnet set. This means that the time and date setting can be activated with the magnet which is hidden in the clasp of the watch. In case you send a 401, 101 or 102 module for repair, your SASM replacement can also be set by magnet. If the original magnet is not available or too weak for various reasons, you can use any magnet to gain access to the setting feature. We recommend to start with the day and continue to set the month, then hours and finally the minutes. Hold the magnet in the "hr" notch and push both command buttons to set the day. During the set of the day you should also care about the AM/PM indictor. The upper dot should light up between 00:00h and 11:59h, between noon and midnight the lower dot should indicate PM time. To increment the month just release the time button (lower push button). On February, 29th the date has to be changed to the 1st of March manually (exception: leap years).   In the same manner the hours and minutes are set. Hold the magnet without the actuation of a command button in the "hr" notch to advance the hours. Move the magnet in the "min" notch to increase the minutes. Make sure that you always set the minute to the next following one. For example at 12:09h, set the minutes to 12:10h. The time computing will not start and the time remains at :00 seconds until the time button has been pushed just at 12:10h. The time counting will start at 12:10:00 and the time will light up.

Select Software and Trimming Feature: While your module will be returned with a matching software version the software can be selected at a later point of time. Press the date button until the display goes out. Then press the time button at the same time and release both buttons. The display lights up with „CS" for "change software". To toggle between the software versions, push the upper button. To accept, press the lower button. "Set" appears in the display. To trim the time counting the display will light up with „Stt" for **s**tandard **t**ime **t**uning. To diminish or increase the value of the correction parameter, push the upper button. The correction value starts with 0.5 and ends with 5.0- (minus 5.0). Example: If the watch gains half a second per day, choose the Stt value 0.5- (minus 0.5). In case the watch is running too slow and looses one second per day, choose Stt value 1.0. Once the right value is shown on display, push the lower button. "SEt" lights up in the display, followed by "Ftt" (**f**ine **t**ime **t**uning). Change the value between 0.1 and 0.4 seconds a day with the upper button. Example: If the watch gains 0.6 seconds per day, choose the Stt value 0.5- (minus 0.5) and the Ftt value 0.1. In case the watch is running too slow and looses 1.3 seconds per day, choose Stt value 1.0 and Ftt value 0.3. Push the lower button to exit the software select and trimming feature.

Batteries: We recommend installing two Varta cells of the type V13GA, V76PX or V357. Other widely available types which can be used are LR44, #357, #1154, AG13 or SG13.

Warranty: We deliver all SASM modules with a full one year warranty. The appointed date of the warranty is the indicated date of the invoice. Please keep this invoice for your own records and as a document in case of a defect on the module which is covered by this warranty. The warranty does <u>not</u> include defects of the original display unit which is about 40 years in age!

Personalization and Software Releases: All SASM series modules can be programmed with a special, individual message. This message can either be shown when batteries are replaced or during normal operation, for example once you have pushed both time and date button. Please mention, that not all letters can be displayed through a seven segment display and the 1st digit can show the character "1" "," """ or "I" only except for 24h modules (SASM32). The software version indicator will light up with "IN" *(individual)* to show the module as personalized. A personalization is 89,00 €. You can always change the software back to a standard release at a later point of time which is 29,00 €. The different software releases are arranged by the corresponding letter and are used in the manner you can see below. All SASM3X modules can be updated to the latest release, which is also 29,90 € per module.

E:	Initial release *(**Erstausführung**)*	A:	1st software modification
b:	2nd software modification	c:	3rd software modification
d:	experimental release	F:	4th software modification
J:	6th software modification	IN:	individual module

The SASM 30 is a replacement for Pulsar ® 401 modules with flick of the wrist feature. As known from other watch movements produced by StrikesAndSpares Semiconductor the SASM30 is built with original parts from disassembled Pulsar®, Omega® or Hamilton® movements. The red display, the plastic carrier, the quartz crystal and the reed switches will be swapped from your module to a new circuit board. The Pulsar trimmer stays the same and will be fully functional.

The Time and Date Feature: Press the lower button once or quickly turn your wrist to show the time. The time will light up for 1,5 seconds. Hold the button for seconds display. Press the upper button once to show the date. The date will light up for 1,5 seconds. Please mention that the flick of the wrist feature (mercury switch) will work much better in a warm environment.

How to set your watch: The time and date setting and the software time trimming features are activated with the magnet which is hidden in the clasp of the watch. If the original magnet is not available or too weak for various reasons, you can use any magnet to gain access to the setting feature. We recommend to start with the day and continue to set the month, then hours and finally the minutes. Hold the magnet in the "hr" notch and push both command buttons to set the day. During the set of the day you should also care about the AM/PM indictor. The upper dot should light up between 00:00h and 11:59h, between noon and midnight the lower dot should indicate PM time. To increment the month just release the time button (lower push button). On February, 29th the date has to be changed to the 1st of March manually (exception: leap years).
In the same manner the hours and minutes are set. Hold the magnet without the actuation of a command button in the "hr" notch to advance the hours. Move the magnet in the "min" notch to increase the minutes. Make sure that you always set the minute to the next following one. For example at 12:09h, set the minutes to 12:10h. The time computing will not start and the time remains at :00 seconds until the time button has been pushed just at 12:10h. The time counting will start at 12:10:00 and the time will light up.

Trimming: The accuracy of the module can be adjusted by software and the original trimmer. To start the software time correction feature, press the date button for at least 4 seconds. Then press the time button at the same time and release both buttons. The display will light up with „cor" for (time) correction. To diminish or increase the value of the correction parameter, hold a magnet in the "min" notch. The correction value starts with 0.5 and ends with 5.0- (minus 5.0). Example: If the watch gains half a second per day, choose the correction value 0.5- (minus 0.5). In case the watch is running too slow and looses one second per day, choose correction value 1.0. Once the right value is shown in the display, push the time button to quit the time counter correction. "Set" will light up in the display. To deactivate the software trimming feature, choose the value 0.0 and push the time button.

Batteries: We recommend installing two Varta cells of the type V13GA, V76PX or V357. Other widely available types which can be used are LR44, #357, #1154, AG13 or SG13.

Warranty: We deliver all SASM modules with a full one year warranty. The appointed date of the warranty is the indicated date of the invoice. Please keep this invoice for your own records and as a document in case of a defect on the module which is covered by this warranty. The warranty does not include defects of the original display unit which is about 40 years in age!

Personalization and Software Releases: All SASM series modules can be programmed with a special, individual message. This message can either be shown when batteries are replaced or during normal operation, for example once you have pushed both time and date button. Please mention, that not all letters can be displayed through a seven segment display and the 1st digit can show the character "1" "," """ or "I" only except for 24h modules (SASM32). The software version indicator will light up with "IN" *(individual)* to show the module as personalized. A personalization is 89,00 €. You can always change the software back to a standard release at a later point of time which is 29,00 €. The different software releases are arranged by the corresponding letter and are used in the manner you can see below. All SASM3X modules can be updated to the latest release, which is also 29,90 € per module.

E:	Initial release *(Erstausführung)*	A:	1st software modification
b:	2nd software modification	c:	3rd software modification
d:	experimental release	F:	4th software modification
H:	5th software modification	IN:	individual module