



customcodecrafters

2 x 2 Event scheduler

GENERAL INFORMATION

SIMPLWINDOWS FILE NAME: C3 2x2 event scheduler Vx.xx.umc

CATEGORY: Time/Date

CURRENT VERSION: 1.15

PROGRAMMER: C3

SYSTEMBUILDER COMPATIBLE Yes

SUMMARY: This module provides 2 on & 2 off 7 day programmable events.

The purpose of this module is to allow for the storing/retrieval and programming of system events. The module provides a very simple user interface where any changes made can be seen in real time and stored to either NVRAM disk or compact flash (CF).

Features:

- 2 on & 2 off daily events with adjustable time
- Adjustable system clock
- Adjustable snooze time ranging from 5min - 30min by increments of 5min
- All event times and on/off states are stored to disk. This will recall all saved event times on a system reboot
- All event actions can be manually over-ridden with on/off toggle functions

Uses:

- HVAC & Central heating controls
- Alarm clock
- System scheduling. Record DVD-R at a specified

Operation: NOTE: Commands specific to the page (Using supplied VT-Pro demo panel)

RUN Page:

- [Toggle Event .n (On/Off)] Manually override this event. If the event is off it will switch on & vice-versa. Toggle events can be used irrespective of the state of [Enable Schedule]. Manual over-ride is always available and the event action will always be stored in memory.

EDIT EVENTS Page:

To edit/set an event:

- Press [Edit Event .n (On/Off)]
- Select Event [On] or [Off] to enable or disable the event
- Set the time for the event to action using the Hour/Minute [up]/[down] buttons
- Add or remove the days the event is to occur by toggling the [day] buttons on/off

When an event occurs, the status lights indicate whether the event is on or off.

SET CLOCK Page:

To set the Crestron/Scheduler clock simply use the Hour/Minute [up]/[down] buttons. The clock is updated in real time. NOTE: This will affect all other scheduled events running on the Crestron system that rely on the system clock.

Master Controls: NOTE: Commands available on all pages

[Enable Schedule] Enables/disables the timed events.

- Enabled: The timer will action the events at the specified times. Recalls any previous events that were running
- Disabled: All events are switched off. All timer functions & outputs are disabled. All event status are memorized for recalling when enabled

[Reset Active Events(s)] Clears the current triggered event(s).

NOTE: This will not stop other events from occurring if [Enable Schedule] is active

Options: NOTE: Commands available on all pages

[Enable Event Page] When active the event will trigger an event subpage. Further action may be taken

[Recall Event State] Recalls the events when the system reboots

[Interlock Event Groups] Enables event grouping

- Enabled: Only one event can be active at a time
- Disabled: Event 1 on is interlocked with Event 1 off. Event 2 on is interlocked with Event 2 off. Events 1 & 2 can operate independently of each other

GENERAL NOTES:

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	ADDITIONAL NOTES: The scheduler is always enabled when the system is restarted. The events are stored on the processors NVRAM drive or CF card. If the system is restarted then the last event state is recalled irrespective of the time.
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REQUIRED AUXILIARY FILES:	C3 2x2 event processor V1.15.usp
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INPUT DEFINITIONS

enable	D	Enable the module
[select.run.event]	D	Select the RUN sub page (non volatile)
[select.edit.event]	D	Select the EDIT sub page (non volatile)
[select.clock]	D	Select the CLOCK sub page (non volatile)
[select.snooze]	D	Select the SNOOZE sub page (non volatile)
[ignore]	D	When an enabled event occurs the scheduler will enable the [event.active.sp] output. Ignore will return the user to the last active subpage
[page]	A	Direct analog subpage selection
[interlock.events.set]	D	Enables interlocking between event 1/2 & event 3/4. When enabled only 1 event may be active at a time (non volatile)
[interlock.events.rst]	D	Disables interlocking between event 1/2 & event 3/4. When disabled 2 events may be active at a time. 1 or 2 and 3 or 4 (non volatile)
[interlock.events.toggle]	D	Toggles event interlocking (non volatile)
[recall.event.state.toggle]	D	Enable recall of event states from disk on reboot. When disabled all outputs will be switched off on reboot (non volatile)
[enable.active.event.page.flip]	D	Determines how active events are handled. When the feedback is high and an event occurs, then [event.active.sp] will go high (non volatile)
[enable.shedule.set]	D	Enables the event scheduler (non volatile)
[enable.shedule.rst]	D	Disables the event scheduler (non volatile)
[enable.shedule.toggle]	D	Toggles the event scheduler
[edit.event.on]	D	Edit event - turns the selected event on
[edit.event.off]	D	Edit event - turns the selected event off
[event.set.hour+]	D	Edit event - select the event hour +
[event.set.hour-]	D	Edit event - select the event hour -
[event.set.minute+]	D	Edit event - select the event minute +
[event.set.minute-]	D	Edit event - select the event minute -
[event1.on.edit]	D	Edit event - select Event 1 On for editing
[event1.on.action]	D	Action event - toggle Event 1 On



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[event1.on.action.trig]	D	Action event – High input activates Event 1 On, Low input deactivates Event 1 On. This input is designed to be connected to the digital I/O's
[event1.off.edit]	D	Edit event – select Event 1 Off for editing
[event1.off.action]	D	Action event – toggle Event 1 Off
[event1.off.action.trig]	D	Action event – High input activates Event 1 Off, Low input deactivates Event 1 Off. This input is designed to be connected to the digital I/O's
[event2.on.edit]	D	Edit event – select Event 2 On for editing
[event2.on.action]	D	Action event – toggle Event 2 On
[event2.on.action.trig]	D	Action event – High input activates Event 2 On, Low input deactivates Event 2 On. This input is designed to be connected to the digital I/O's
[event2.off.edit]	D	Edit event – select Event 2 Off for editing
[event2.off.action]	D	Action event – toggle Event 2 Off
[event2.off.action.trig]	D	Action event – High input activates Event 2 Off, Low input deactivates Event 2 Off. This input is designed to be connected to the digital I/O's
[event.reset]	D	Turns off all active events
[event.dotw]	D	Edit event – select the day(s) of the week the event should occur
[clock.set.hour+]	D	Set system clock up in 1 hour increments
[clock.set.hour-]	D	Set system clock down in 1 hour increments
[clock.set.minute+]	D	Set system clock up in 1 minute increments
[clock.set.minute-]	D	Set system clock down in 1 minute increments
[snooze]	D	Snooze current event
[snooze+]	D	Set time up in 5 minute increments
[snooze-]	D	Set time down in 5 minute increments

OUTPUT DEFINITIONS

[select.run.event.fb]	D	RUN sub page selection fb (non volatile)
[select.edit.event.fb]	D	EDIT sub page selection fb (non volatile)
[select.clock.fb]	D	CLOCK sub page selection fb (non volatile)
[select.snooze.fb]	D	SNOOZE sub page selection fb (non volatile)
[run.event.sp]	D	RUN sub page (non volatile)
[edit.event.sp]	D	EDIT sub page (non volatile)
[clock.sp]	D	CLOCK sub page (non volatile)
[snooze.sp]	D	SNOOZE sub page (non volatile)
[event.active.sp]	D	EVENT sub page (non volatile)
[page.fb]	A	Current selected page fb (non volatile)

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[interlock.events.fb]	D	Event interlocking fb (non volatile)
[recall.event.state.fb]	D	Recall events fb (non volatile)
[enable.active.event.page.flip.fb]	D	When the feedback is high and an event occurs, [event.active.sp] will go high (non volatile)
[enable.shedule.fb]	D	Enables the event scheduler fb (non volatile)
[edit.event.on]	D	Edit event - selected event on fb
[edit.event.off]	D	Edit event - selected event on fb* (inverse)
[event.time.fb\$]	S	Indirect text indicating the event time (includes MSP)
[event1.on.edit]	D	Edit event – indicates that Event 1 On is active for editing
[event1.on.status.fb]	D	Status indication for Event 1 On. This should drive a legend with an indirect text field for [event1.on.time.fb\$]
[event1.on.action.fb]	D	Feedback for Event 1 On
[event1.on.action.fb*]	D	Inverse feedback for Event 1 On
[event1.on.time.fb\$]	S	Indicates Event 1 On time (includes MSP)
[event1.off.edit]	D	Edit event – indicates that Event 1 Off is active for editing
[event1.off.status.fb]	D	Status indication for Event 1 Off. This should drive a legend with an indirect text field for [event1.off.time.fb\$]
[event1.off.action.fb]	D	Feedback for Event 1 Off
[event1.off.action.fb*]	D	Inverse feedback for Event 1 Off
[event1.off.time.fb\$]	S	Indicates Event 1 Off time (includes MSP)
[event2.on.edit]	D	Edit event – indicates that Event 2 On is active for editing
[event2.on.status.fb]	D	Status indication for Event 2 On. This should drive a legend with an indirect text field for [event2.on.time.fb\$]
[event2.on.action.fb]	D	Feedback for Event 2 On
[event2.on.action.fb*]	D	Inverse feedback for Event 2 On
[event2.on.time.fb\$]	S	Indicates Event 2 On time (includes MSP)
[event2.off.edit]	D	Edit event – indicates that Event 2 Off is active for editing
[event2.off.status.fb]	D	Status indication for Event 2 Off. This should drive a legend with an indirect text field for [event2.off.time.fb\$]
[event2.off.action.fb]	D	Feedback for Event 2 Off
[event2.off.action.fb*]	D	Inverse feedback for Event 2 Off
[event2.off.time.fb\$]	S	Indicates Event 2 Off time (includes MSP)
[on.events.active.fb]	D	Indicates that an 'On Event' is active
[off.events.active.fb]	D	Indicates that an 'Off Event' is active



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[event.dotw.fb]	D	Feedback for Edit Event day of the week toggles
[clock.time.fb\$]	S	Serialised system time feedback (includes MSP)
[snooze.active.fb]	D	Indicates that the snooze function has been enabled
[snooze.time.fb\$]	S	Snooze time feedback (includes MSP)
[info.fb\$]	S	Serial information & messages from the scheduler (includes MSP)
[notification.fb]	D	Use this output to play a sound when the user requires notification

PARAMETERS

filename	(s)	The full path and file name of the scheduler data file. This file will be automatically created on first use. Note: the use of '\\' is mandatory to indicate drives and folders
disk size	(d)	Set the size or type of disk in use. Options are: <ul style="list-style-type: none">• None (use CF) [0d]• 64K disk [64d] – set up a 64Kb NVRAM drive• 128K disk [128d] – set up a 128Kb NVRAM drive

REVISION NOTES

Revision	Programmer	Notes
1.15	KW	<ul style="list-style-type: none">• Updated module to run on 3 series processor
1.14	GO	<ul style="list-style-type: none">• Moved all s+ events out of function main to resolve timing issues when a large program is initialising.• Changed disk detection routine so that it is now only called when 'enable' is asserted.
1.13	GO	<ul style="list-style-type: none">• Revised file system logic to improve performance• Added discrete on/off action• File system errors now logged to processor event log• Added logic to store UI states to disk• Modification to start up routine. It was found that some programs that create a lot of resource use on start up could create a situation that caused some file system errors. The file system is now disabled completely until the enable input is asserted.
1.00	GO	<ul style="list-style-type: none">• Initial release

COMMENTS:

Inputs/outputs marked as (non volatile) are stored to disk. These events will be recalled on system restart. Outputs marked (includes MSP) include a Make String Permanent symbol. There is no need to include these symbols in the program.

The module has been designed to use subpages. The outputs with a **.sp** suffix may also be used to drive page flips.

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