

Tasker Manual

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Introduction

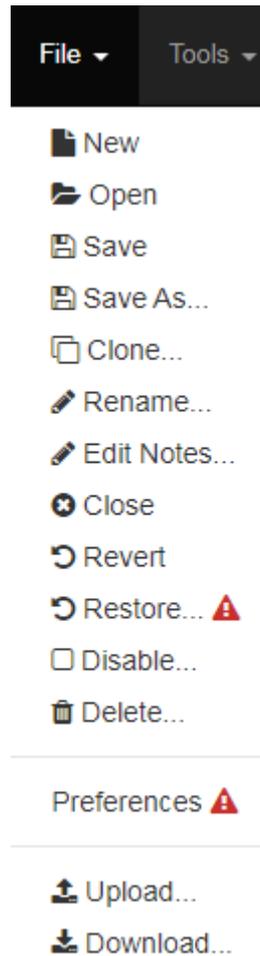
This application can be used to set up tasks, triggers, or schedules that you wish to occur on the JNIOR. It starts with a workspace, which is a way for Tasker to group logic and Task functionality into a JSON file. These tasks can perform many actions, such as controlling outputs, expansion modules, logging information, sending emails, etc. Tasks can be set on timers at different intervals, be connected to different external devices, or be executed by certain triggers as well.

Menus

The Menus are there for directing the User to help load or create workspaces, access helpful

links, and get application information. Some menu items will be hidden until a workspace is open.

File Menu



Adding a new Workspace

Use the  **New** option to add a new Workspace to Tasker. Any changes will not be saved until the Save As... function is performed. Only at that point will the Workspace be loaded by Tasker.

Opening a Workspace

You can open a Workspace by clicking the  Open option. This will open a workspace you select from the available loaded on the JNOR

Saving a Workspace

You can save a Workspace by clicking the  Save option. This will save the current workspace configuration as is.

Saving a Workspace as a new Workspace

By clicking the  Save As... option, you will save the current configuration and have the chance to name it. This will create a new workspace from the save rather than overwrite the old workspace configuration you had.

Cloning a Workspace

You can clone a Workspace by pressing the  Clone... option. If a new Workspace is desired that is close in configuration to a current Workspace then using the Clone a Workspace might be the desired option.

Renaming a Workspace

A Workspace can be renamed by pressing the  Rename... button. A dialog will appear when the icon is selected and you can then enter the new name. Only letters, number, and underscore can be used for the workspaces name, and the name can only start with a letter.

Edit Notes for Workspace

You can edit the notes of a Workspace by clicking the  Edit Notes... option. This will open the a Text box to edit the notes for the current workspace.

Closing a Workspace

Workspaces can be closed by clicking the  Close option. This will exit the current workspace and return you to the Workspace View.

Revert a Workspace

Clicking the  **Revert** option will revert the workspace back to the last saved configuration, getting rid of all the current changes.

Disabling/Enabling a Workspace

You can Enable / Disable a Workspace by clicking the **Enable...** or **Disable...** button. This prevents a workspace from activating tasks and evaluating triggers and schedules.

Removing a Workspace

To remove a Workspace, simply click the  **Delete...** button. The workspace will be renamed on the JNIOR so that it doesn't show up as a valid workspace.

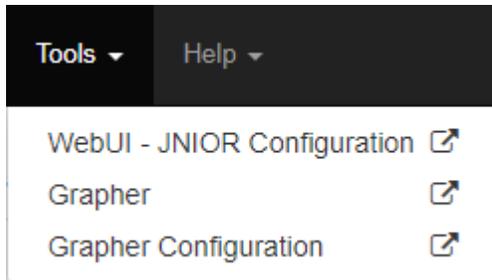
Uploading a Workspace

You can use the  **Upload...** option to load a Workspace to the JNIOR that is saved on your local computer. This will launch the Operating Systems File Upload dialog to allow you to select the Workspace File that you want to upload.

Downloading a Workspace

You can download a Workspace by clicking the  **Download...** option. This will open the Save As dialog on your computer. What happens from here is the same as any other time you download a file from the Internet with your browser.

Tools Menu



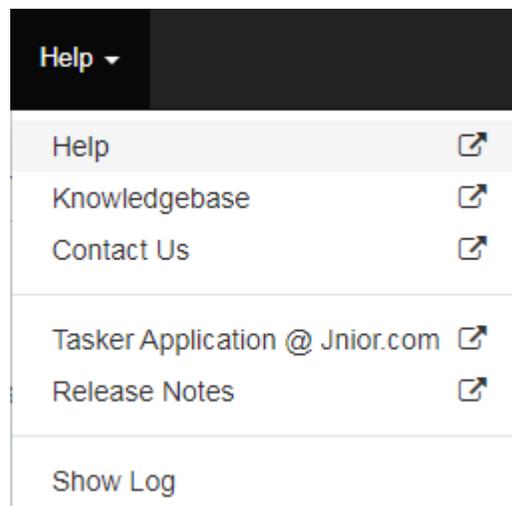
The Web UI

The Web UI Link is used to configure the JNIOR. It allows configuration of I/O, Logs, Command Line, Registry, etc.

Grapher

The Grapher link opens to the Grapher Application, which is a separate program that can import Tasker data using .csv data files to make viewable graphs. The Grapher configuration link opens the page where the options are located to alter and configure the Grapher application.

Help Menu



Help Page

A link to the help web page of the Tasker application, this explains all the actions in more detail, in case the actions need more explanation than what is shown in this manual.

Knowledge base

A link to the Knowledge base, which is on INTEG's website. There are a collection of posts that explain how to setup different configurations in Tasker that could match or do something possibly similar to what someone is trying to accomplish.

Contact Us

A link to the Contact Us page on INTEG's website. If there any questions that aren't answered in the Knowledge Base, this page lets you send an email or join a support chat with someone from the INTEG support team.

Tasker Download

A link to the Tasker application on INTEG's website. In case you need to download an update of Tasker.

Release Notes

A link to the Tasker release notes. This is to see what changes have occurred through different versions of Tasker.

Log

This will display any data that Tasker logs and displays to the screen. It shows the processes it doing and errors it runs into.

Workspaces View

The Workspaces View shows you all of the loaded workspaces on the JNIOR. A workspace is a file that holds a related set of configuration. There can be more than one workspace loaded on a JNIOR.

Workspaces ?

A Workspace is a collection of business logic represented by Tasks, Devices, Loggers, Signals, Triggers, and Schedules. You can have more than one Workspace loaded and evaluated by Tasker at a time. You can also have Workspaces loaded on the unit but are disabled.

Name	Version ?	Summary	Notes
#Disabled_Workspace.json	8.1.2089		(no notes have been defined)
Enabled_Workspace.json	8.1.2089		(no notes have been defined)

[+ Create New Workspace](#) | [Upload Workspace...](#)

* Workspaces that are colored **RED** with a darker **GREY** background and have a **#** prefix are **DISABLED**. Workspaces in **BLUE** are loaded and active.

The table above shows the available Workspaces on the JNIOR. Each Workspace is identified by the file name. Files that are stored in the `/flash/tasker/workspaces` directory that end in `.json` are identified as Workspace files. The Version and Notes are fields are stored inside of the Workspace file. Each workspace file is opened to obtain this information.

There are several user actions that can be performed on the Workspace View page to manage the workspaces files on the JNIOR.

Adding a new Workspace

Use the [+ Add Workspace](#) link to add a new Workspace to Tasker. Any changes will not be saved until the Save As... function is performed. Only at that point will the Workspace be loaded by Tasker.

Uploading a Workspace

You can upload a Workspace to the JNIOR that is saved on your local computer by clicking the [Upload Workspace...](#) link. This will launch the Operating Systems File Upload dialog to allow you to select the Workspace File that you want to upload.

Downloading a Workspace

You can download a Workspace by clicking the  icon. This will open the Save As dialog on your computer. What happens from here is the same as any other time you download a file from the Internet with your browser.

Cloning a Workspace

You can clone a Workspace by pressing the  icon. If a new Workspace is desired that is close in configuration to a current Workspace then using the Clone a Workspace might be the desired option.

Removing a Workspace

To remove a Workspace, simply click the  icon. The workspace will be renamed on the JNIOR so that it doesn't show up as a valid workspace.

Enabling / Disabling a Workspace

You can Enable / Disable a Workspace by toggling the checkbox.

Renaming a Workspace

A Workspace can be renamed by pressing the  icon next to the name of the Workspace.

Editing Notes for a Workspace

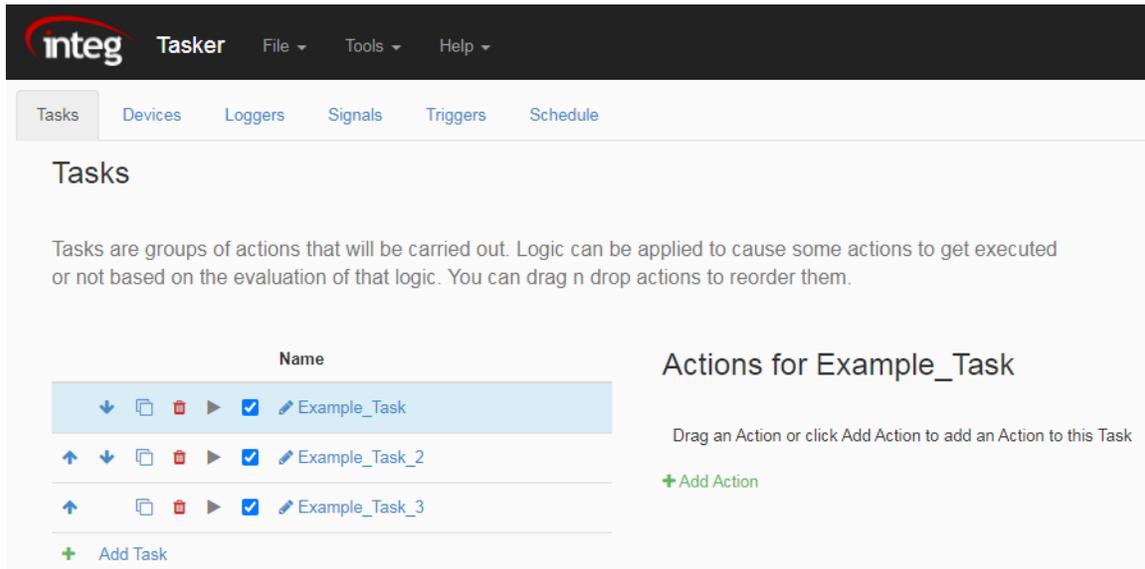
A Workspace can have Notes assigned. These Notes help users understand the purpose of the Workspace. The Notes are optional. You can edit the Notes by pressing the  icon in the Notes column.

Opening a Workspace

You can open a Workspace by clicking on the Name of the Workspace.

Task Tab

The Tasks Tab allows you to manage Tasks that will execute on the JNIOR



Move Tasks Up/Down

The  icons are used to shift tasks up and down to organize them.

Clone Task

The  icon is used to copy a task. Tasks can also be copied by holding down the Control key while performing a drag and drop with a task.

Delete Task

The  icon is used to remove a task.

Rename Task

The  icon is used to rename a task.

Execute Task

The  icon is used to execute a task.

Enable/Disable Task

The and icon is used to set if a task is enabled or not. If a Task is disabled then it will not be executable.

Add Task

The  [Add Task](#) Task button adds a new task after it is named.

Select Task

Clicking on the task name brings up all the actions the task performs.

Task Actions

Actions are the commands that you can add to tasks.

The screenshot shows a blue 'Add Action' dialog box with a close button (X) in the top right corner. On the left side, there is a vertical list of categories: Relay Outputs (highlighted in blue), Digital Inputs, Analog Outputs, Control Panel, Control Structures, File, Other, Timing, Lighting, Logging, and Network. On the right side, under the 'Relay Outputs' category, the following actions are listed: Close Relay(channel), Open Relay(channel), Set Relay State(channel, state), Set Relays(channel_mask, state_mask), Pulse Relay(channel, duration), Pulse Relays(channel_mask, state_mask, duration), and Reset Output Usage Meter(channel).

Relay Output actions

- allow control over setting and pulsing outputs, either by masking or channel.

The **Close Relay** action allows you to close the output channel of the channel number you select.

The **Open Relay** action allows you to open the output channel of the channel number you select.

The **Pulse Relay** action allows you to pulse the output channel of the channel number you select for the time duration you select.

The **Set Relay** action allows the you to control weather a certain output channel is high or low.

The **Set Relays** actions allows you to enter the mask of the channels to select which channels you want to change, and the state mask, which is 1 for closed, and 0 for open.

The **Pulse Relays** actions allows you to enter the mask of the channels to select which channels you want to change, the state mask which is 1 for closed, and 0 for open, and the time duration the pulse should last.

The **Reset Output Usage Meter** action allows you to reset the usage meter of a output channel.

Digital Input actions

- allow control over input inversion, counter reset, and usage reset.

The **Soft Invert Input** action allows you to enter the input channel number and if its should invert or not.

The **Set Input Counter** action allows you to set the counter number for any input you enter.

The **Reset Usage Input Meter** action allows you to reset the usage meter of whatever input channel you enter.

The **Clear Latch Input** action allows you to reset a latch set for an input.

Analog Output actions

- allow control of the 10volt and 4-20ma expansion modules and their outputs in percentage and power.

10volt Analog

The **Set 10v Percentage** action allows one of two channels on the 10v Module to be set as a percentage from 0% - 100%.

The **Set 10v Voltage** action allows one of two channels on the 10v Module to be set as a voltage number between 1 - 10.

4-20ma Analog

The **Set 4-20ma Percentage** action allows one of two channels on the 4-20ma Module to be set as a percentage from 0% - 100%.

The **Set 4-20ma Amps** action allows one of two channels on the 10v Module to be set as milliamps from 4 - 20.

Control Panel actions

- allow the control of the functionality of the control panel expansion module.

LED

The **Set LED** action allows you to set the states of the LED light to any of the 8 switch options on the control panel, with the state options being off, slow, medium, high, on.

Alarm

The **Play Alarm** action activates the alarm on the control panel, which allows you to control how loud the alarm is as a percent from 0% - 100% and the duration in seconds.

The **Silence Alarm** action turns off the alarm if it is currently running.

Control Structure actions

- allow logic to be implemented into tasks, such as loops and if statements.

Loops

The **For Loop** action allows you to first enter the name of the loop you wish to create, and then enter the number range you wish the loop to go through (EX. would be 1 - 10 or 10 - 1).

The **While Loop** action allows you to reiterate some actions for an indefinite amount of time until the condition for the while loop is met.

If Blocks

The **If Block** action allows you to enter a condition in its field, and will execute action inside it once the condition has been met. (EX. `{{din[1].state}} == 1` would make it so that when input one is on, the actions in the If Statement will trigger.)

The **If Else Block** action allows one set of actions to occur if the condition of the If Else Block is met, and another set of actions if the condition is not met.

File actions

- allow files to be managed from within a Task, such as moving or deleting files on the JNIOR.

Filing

The **Delete File** action lets you enter the name of a file on the JNIOR delete it.

The **Prepend File** action lets you enter the name of a file on the JNIOR and some text. It then adds that to text to the front of the file.

The **Copy File** action lets you enter the name of a file and a folder address on the JNIOR. It then copies that file to the folder address.

The **Move File** action lets you enter the name of a file and a folder address on the JNIOR. It then moves that file to the new folder address.

Logging

The **Log Entry** action allow text entered in the first text field to be logged into the file name of second text field.

The **Log Profile** action triggers the Log Profile entered into the text field.

Other actions

- provide other functionality to tasks such as command line commands, comments, and rebooting.

The **Comment** action will allow text entered in the text field to be logged.

The **Command Line** action allows you to enter text into the text field to activate a command line action on the JNIOR.

The **Reboot** action will activate a reboot on the JNIOR (This should be the last action in the task or the tasks after it will not run).

The **Execute Task** action lets you enter a Task that is already created and activate within another.

The **Cancel Task** action lets you end an active task that you specify.

The **Execute Script** action allows space for functions to be called or values to be set within a task.

The **User Alert** action displays the message you enter as an alert to the user on the web page.

The **Registry Write** action lets you set a registry key value in the JNIOR Registry.

The **Set Variable** action lets you create a variable, setting its name and then the value its equivalent to.

Timing actions

- delay commands in units of seconds and milliseconds.

The **Sleep** action requires the unit of time in milliseconds, seconds, or minutes, then the numeric amount of time you want the application to wait.

Lighting actions

- allow control of LEDs for outputs on the JNIOR along with the color of the LED 3 Channel Dimmer.

Set Channel

The **Set LED Channel** action sets 1 of the 3 Dimmer Channels to a percent of 0% - 100%.

The **Set LED RGB** action sets all 3 of the Dimmer Channels each to a percent of 0% - 100%.

Fade Channel

The **Fade LED Channel** action sets 1 of the 3 Dimmer Channels to a percent of 0% - 100% and can set the time in seconds it takes to fade into the channel percentage.

The **Fade LED RGB** action sets all 3 of the Dimmer Channels each to a percent of 0% - 100% and can set the time in seconds it takes to fade into the channel percentage.

Communication actions

- allow sending information over email, SNMP, HTTP, MQTT, and TCP.

Email

The **Email Send** action allows the entry of the Email Address the message is being sent to in the first text field, the subject of the message in the second text field, and message of the email in the text body field.

The **Email Profile Send** action allows the entry of an Email Profile that you have configured for you JNIOR device to activate.

TCP

The **TCP Send** action lets you select a device from the device tab and send it data you enter through TCP.

The **TCP Receive** action lets you select a device from the device tab to receive data from.

The **TCP Close** action closes a TCP connection made with another device.

SNMP

The **SNMP Trap** action lets you use a SNMP device from the Device tab to send data to a create a SNMP Trap.

The **SNMP Set** action lets you set the a defined SNMP value for a device.

HTTP

The **HTTP Post** action lets you post a message on a defined JNIOR's message pump.

The **HTTP Request** action lets you perform a HTTP Request method on a specified URL.

MQTT

The **MQTT Publish** action let you publish a value on the specified topic to a MQTT broker when using the MQTT application with it.

Device Tab

The Device Tab allows you to set a type of Device to communicate through different task actions.

The screenshot shows the 'Devices' tab in the Tasker application. At the top, there are navigation tabs: 'Tasks', 'Devices' (selected), 'Loggers', 'Signals', 'Triggers', and 'Schedule'. Below the tabs, the title 'Devices' is displayed. A descriptive text states: 'Devices allow you to assign a name to be used with Connection Settings. To connect to a device, you can reference a Device by name instead of repeating the IP Address and Port number every time.' Below this text is a table with one device entry: 'JNIOR'. The entry has a trash icon on the left, an edit icon next to the name, and two input fields on the right labeled 'IP Address' and 'Port'. At the bottom left of the device list is a green '+ Add Device' button.

Move Device Up/Down

The  icon allows you to move devices up and down in the list of devices on the Device tab, helping to better organize them.

Add Device

The  button adds a new device after it is named. When adding a device, you'll be given different options for what device type you want it to be. When selecting the device type, simply select the communication that that device will use to talk to the JNIOR. Currently the communication types for devices in Tasker are Ethernet and SNMP.

Remove Device

The  icon is used to remove unwanted Devices from the device tab.

Rename Device

The  icon is used to rename a Device.

Edit Device

The IP Address text field defines the IP of the device. The Port text field defines the port of the device. When editing an ethernet device, you'll use the TCP port number of the device you are trying to send to, while SNMP uses the UDP port number.

Signals Tab

The **Signals Tab** allows you to interact with the I/O of either **Expansion Modules** of a JN10R or the JN10R I/O itself.

Tasks Devices Loggers **Signals** Triggers Schedule

Signals

A Signal defines 'I/O signals' to be used in various Tasks. Tasks are Triggers or Timers (coming soon). To create a Signal you must give it a Name, select a Device and select the Channel on that Device. Some devices, like the temperature probe, have multiple variables that are available. You will need to select that piece of information if it is available.

Name	Signal	Channel	Variable
Example Signal	Select Device		Variable

Add Signal

Move Signal Up/Down

The icon allows you to move signals up and down in the list of signals on the Signal tab, helping to better organize them.

Add Signal

The Add Signal icon lets you add another Signal in the Signal Tab.

Remove Signal

The icon is used to remove Signals from the Signal tab.

Rename Signal

The icon is used to re-name a Signal.

Set Signal

The Signal field is a drop down that lets you select from a list of all possible I/O options either on expansion modules or build into the JNIOR itself.

Set Signal Channel

The Channel field lets you select an I/O from the available ones selected in the Signal field.

Set Signal Value

The Value field can select a value for the channel of the chosen Channel. This will also change depending on the Signal picked.

Trigger Tab

The **Signals Tab** allows you to interact with the I/O of either **Expansion Modules of a JNIOR** or the **JNIOR I/O** itself.

The screenshot shows the 'Triggers' tab in a web interface. At the top, there are navigation tabs: 'Tasks', 'Devices', 'Loggers', 'Signals', 'Triggers' (selected), and 'Schedule'. Below the tabs, the title 'Triggers' is displayed. A paragraph explains that triggers are used to monitor signals for specific conditions and execute tasks. Below the text is a table with columns: 'Name', 'Trigger', 'Reset', and 'Task Name'. The first row shows a trigger named 'Example Trigger' with a trash icon, a pencil icon, and a dropdown menu for 'add/select a value'. Below the table is a '+Add Trigger' button.

Move Trigger Up/Down

The  icon allows you to move triggers up and down in the list of triggers on the Trigger tab, helping to better organize them.

Add Trigger

The  option lets you add a trigger to the page. There are four types of Triggers. The discrete signal is a value such as an input or output on the JNIOR, the continuous signal is a value such as a constant reading from a temperature sensor, the control panel switch value is a button press on the control panel, and the multi panel switch value is two button presses occurring at the same time on the control panel.

Remove Trigger

The  icon is used to remove Triggers from the Trigger tab.

Enable/Disable Trigger

The  and  icons are used to either enable or disable if the Trigger is active.

Rename Trigger

The  icon is used to re-name a Trigger.

Set Trigger Signal

The Trigger field is a drop down that lets you select from a list of all possible Signal options created in the Signal Tab. This will be the Signal will determine if activate a trigger. There is also a drop down for what the value the Signal needs to be.

Add Reset

The  button adds a reset to the trigger. This makes it so that once the Trigger activates, it won't re-activate until the reset condition has occurred. It has the same value options as when adding a Trigger, but it also contains a delayed timer value, which just sets a time in seconds until the Trigger can activate again.

Set Reset Signal

The Reset field is a drop down that lets you select from a list of all possible Signal options created in the Signal Tab, with an additional timed delay reset option. This will be the value that will determine if a Trigger should activate again. Once a trigger activates, if it has a reset it won't activate again until the reset value occurs.

Set Trigger Task

The Task Name field is where you select the task you wish to run when the trigger is activated.

Schedule Tab

The Schedule Tab allows you to create rules that will set a time for when specific task you select should run.

The screenshot shows the 'Schedule' tab selected in a navigation bar with other tabs: Tasks, Devices, Loggers, Signals, Triggers, and Schedule. Below the navigation bar is the 'Schedules' section. It contains a paragraph explaining that timers allow for executing actions once or on a recurring interval, and that rules provide finer control over when actions are valid. A light blue box contains a note about NTP accuracy and a timestamp: 'Last NTP Success: Thu Apr 23 07:40:21 EDT 2020'. Below this is a table with three columns: 'Name', 'Schedule Rules', and 'Task Name'. The 'Name' column contains a trash icon, a checked checkbox, and a pencil icon followed by 'Example Schedule'. The 'Schedule Rules' column contains a green '+ Add Rule' button. The 'Task Name' column contains a dropdown menu with the text 'add/select a value'. At the bottom left of the table area is a green '+ Add Schedule' button.

Move Schedule Up/Down

The  icon allows you to move schedules up and down in the list of schedules on the Schedule tab, helping to better organize them.

Add Schedule

The  button adds a new schedule after its named.

Delete Schedule

The  icon is used to remove schedules from the schedule tab.

Rename Schedule

The  icon is used to rename the created Schedule.

Add Schedule Rule

The  button brings up the Schedule Rule dialog box to add rule conditions to a Schedule. This is explained more in the next section.

Set Schedule Task

The Task Name field is where you select the task you wish to run when the schedule is activated.

Rules

Rules are settings for the Schedule you create.

Schedule Rule ×

Schedule Type

Start On

Start Time :

Repeat every

Date Selection Type

Recur every days

Schedule Type

The Schedule Type can be either Schedule, On boot, Sunrise, Sunset. On boot will run the task every time a reboot occurs. Sunrise and Sunset will run the task at Sunrise or Sunset for that day depending on which one is picked. Schedule allows additional options for a more customizable Schedule.

Start On

The Start On option selects the date when the task will begin to run on a schedule. You first select the Year and the Month in which the task should happen, followed by the day of that Month.

Start Time

The Start Time option allows the task to be scheduled on a 24 hour time frame, down to the minute. An example is if you wanted to enter 5:30pm, you'd enter 17:30 since it goes by hours and then minutes.

Repeat Every Option

The Repeat Every option turns the Schedule from running once a day to running a number of times equal to what you set. It also adds an endtime to set a time interval between the start and end time. It will repeat the set number of times inside that time interval. The end time is also hour based and down to the minute as well, similar to the Start Time option.

Date Selection Type

The Date Selection Type allows the selection of days the task can run. Selecting Daily will make the Recur Every Option let you pick based off how many days between repeating the task. Selecting Weekly will make the Recur Every Option let you pick the days out of the week you wish to repeat the task. Selecting Monthly makes the Recur Every Option let you to pick the days out of the month you wish to repeat the task. The One Time option makes it so that the Schedule will run one time only.

Recur Every Option

The Recur Every Option allows you to select which days the Schedule will run, and changes according to the Date Selection Type chose. It can be either, a one time event, between a certain amount of days, certain days in a week, or certain days in a month.

Summary

Thank you for purchasing the **JNIOR**. Hopefully this manual made the getting-to-know process of your new **JNIOR** very quick and easy. The **JNIOR** has many more wonderful tools and features available, and are explained in detail in the supplied documents.

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Notice Every effort was made to make this manual as accurate and useful as practical at the time of the writing of this manual. However, all information is subject to change.

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