Welcome to RelayRUNNER

Documentation (How To USE the Software)

About RelayRUNNER

RelayRUNNER is available by it self and bundled with several systems that are supplied as kits. These kits may, depending on the specific kit, include the interface-card, cabling, and 1 to 8 remotely switched power outlets, wiring layouts and schematics as appropriate. Therefore, this document contains only information that relates directly to RelayRUNNER. Information relating to kit components is provided in the documentation appropriate to that Kit or component.
Other versions of RelayRUNNER are available with enhanced capabilities.

What RelayRUNNER is

RelayRUNNER is a powerful tool for controlling industry standard digital switching cards and relay cards such as;

> Standard Edition
> 8255 Interface from BoonDog Automation (www.boondog.com)
> PDISO08 (with 8 INPUTS) from Computer boards, Inc (www.computerboards.com) and others
> Relay08 (NO INPUTS) from Computer boards, Inc (www.computerboards.com) and others
> And many other industry standard cards.
>
> Enhanced Edition
> PDSIO16 (with 16 INPUTS) from Computer boards, Inc (www.computerboards.com) and others
> Relay16 (NO INPUTS) also from Computer boards, Inc (www.computerboards.com) and others
> And many other industry standard cards.

What RelayRUNNER does

RelayRUNNER provides an easy method to control on and off cycles for a variety of applications.
Some uses have been complex watering systems, timed ventilation, agricultural systems, automated feeding, watering etc, including Hydroponics systems requiring complex time dependent configurations.
Other uses include Lighting systems for apartment complexes, burn-in testing, stress-testing, failure analysis testing, product reliability testing, home lighting, watering and fountains. One person, even setup his barn to entertain the cows with music and mood lighting before he arrived for the morning milking. One woman used RelayRUNNER to automate her landscape watering. (Got the husband coming in real late).
The uses are limited only by your imagination.
RelayRUNNER includes an "Auto-Restart" feature, which will automatically restart RelayRUNNER running the same time schedule, following a power failure (as long as windows is able to restart).

Registering RelayRUNNER

If you received RelayRUNNER as part of one of our kits
> Please register at NO COST, using the "Proof of Purchase" included with your kit.

If you received RelayRUNNER other than by Direct Purchase or in a kit
> Please Register RelayRUNNER

Upon registration, you will be sent a "KEY code" to unlock the RelayRUNNER program. An unregistered copy will run for about 90 days from first installation, Please Register.

Benefits of registering RelayRUNNER

Upon registration, you will be sent a "KEY code" to unlock the RelayRUNNER program. An unregistered copy will run for about 90 days from first installation, Please Register.

Registered users will receive product support available by e-mail for a period of one year. Registered users will also be notified by email of new versions, as they become available. Registered users, have access to other versions of RelayRUNNER that allow using up to Four interface boards, or 32 outputs and 32 inputs.

Minimum System Requirements to use RelayRUNNER

Operating System:	Windows 95 or 98	
Memory:	32 meg	
CPU	486/66 or better	
Screen resolution:	For One board option	640 X 480 or higher
	For multiple boards	1024 X 768 or higher

Kits Available with RelayRUNNER…(Available soon)

The full kit contains RelayRUNNER, internal interface card, external connectors, connecting cable to remote panel, remote panel; hook-up wire and 8 relay controlled outlets. Connections between your computer and the remote panel are ALL low-voltage and use a standard 9-conductor cable.
Other kits are available including one that contains RelayRUNNER and complete wiring diagrams for several popular interface boards but no parts. Another kit contains RelayRUNNER and only the remote outlet modules with wiring diagrams for several popular interface cards. Kits range from 8 to 32 controlled outlet modules.

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Installing Updates

Make a backup copy of your Time Schedule Files located in your Windows directory. If the upgrade package included a "File Format Conversion" program, you will use that to convert your Time Schedule files to the new format, otherwise you should print each Time Schedule file from the Time Schedule Screen (USING YOUR CURRENT/OLD VERSION) so you will be able to re-enter each of your schedules. For further information and instructions, see the documentation that you received with your update. If the file formats have changed and you load an old format, you will receive errors and the program will not run correctly.

Getting Started

If you started RelayRUNNER before reading this (and even if you didn't)…Don't worry, it is ok.
Because it has so many combinable features, RelayRUNNER can be just a little intimidating at first glance.
Please take time to read through this document so you will have an idea of what it does and how to control it. This will help you get the most from using RelayRUNNER.

If you have not installed your interface card, now is a good time (see installing your interface card).
If you do not yet have your interface card, you can continue, BUT until you have installed your interface card, you will need to always select "Emulation Mode" under the "Tools" menu EACH and EVERY time you start RelayRUNNER before setting time schedules.

Once you have installed your interface card, "Emulation Mode" becomes a convenient way to test schedules without actually turning anything on and off.

PLEASE print this file.

The first best thing to do is to print this file for easy reference (remember when you are installing your card, you will not be able to print or view anything).

Installing RelayRUNNER

Simply run the "Setup" program. If a shortcut was not created in your "Start" Button, then do so.
Next, create a shortcut in the "Startup" group of your "Start" button. This will enable "Auto Restart, (just in case you have a power failure).
NOTE: You may want to wait until everything is setup and your circuits are working before adding RelayRUNNER to your "Startup" group.

A little early,….But……

REMEMBER: If you have anything connected to your output lines, it will work, move, switch and do what ever it should when you enter times or set manuals, inverts, etc., after you have configured both your interface card and RelayRUNNER, even if you are not ready for it to happen . SO USE CAUTION.

The First Time

The first time you run RelayRUNNER, it will not find its configuration file and will ask if you want to "Configure Now?", Of course you do. The following information will help you do just that.

If you have installed your interface cards, please SKIP to "The Configuration Screen"

If you have not installed your interface card(s) yet, you have two options.

OPTION 1: If you have no idea what the address of your card is, you can simply select "Save". Until your interface card is installed and configured, (both on the card and within RelayRUNNER) you need to select "Tools" then "Emulation Mode" this will allow the first (or only) Card Group to respond as though a card is installed.

OPTION 2: Alternately, you may configure RelayRUNNER as though your interface card(s) have been installed (even though they are not) and then (Always until the card(s) are present) select "Tools" then select "Emulation Mode". This will allow you to model your time schedule and see what will happen when you have installed your card(s) and "Go Live".

The configuration screen

What's in an address and why is it important

Computers are just dumb tools. They must be told everything. Sometimes they are told by software, other-times they are told by people. In the case of A/D Cards, Relay cards and the like, A jumper or dipswitch setting on each card most often tells them. The location and meaning of these jumpers vary from manufacturer to manufacturer and from board to board. RelayRUNNER needs to know where (the address) to set the relays on/off.

Finding your Address

Your interface card should have arrived with a manual. In the manual will be a section that Talks about the cards base address. This address will be in hexadecimal also called hex. Most interface card manuals just say something like "the input register is base + 1" or "the control address is base +3", what this means is, if your Hex base address is H300, then your input address is H301 and your control address is H303 (H stands for Hex). Some interface cards will also need to be configured by putting a special value into the "Control address" this value will be indicated (if needed) in the manual, it will be a Hex Value. Also see "PCI and/or PLUG & PLAY" below.

Board name

You can enter anything you want, this is just an informational field at this time.

Base Address (Hex)

This is the address that you set your interface board to. If possible, avoid using base address that do not end in "0" or "4", a good address would be H280 or H300 if available on your card. Addresses to avoid would include H288 or H308. These addresses may be valid, but contribute to address confusion (for people).

Input Address (Hex)

This is the address where the input states are read from. This should be explained in the manual that came with your card. The input address is usually stated as "base address + 1" or "base address +2). If you can not find the information in the manual, call your interface card vendor for this information.

Control Address (Hex)

Not All interface cards need this. This is the address where the configuration value will be written. This address can be more difficult to find then the base or input addresses. PDSIO08, PDSIO16 Relay08 and Relay16 from Computer Boards do not use this, The RelayRUNNER interface card does and it is "Base address + 3". Other interface cards use other addresses. If you cannot find it in the manual that came with your card, call the vendor or manufacturer to get it.

Control/Configuration value (Hex)

Not All interface cards need this. This is the value used to set the interface cards registers to the correct configuration. This information is contained in the manual that came with your interface card. PDISO08, PDISO16, Relay08 and Relay16 from Computer Boards and other manufacturers do not use this.

Example Addresses   (All addresses and Control Values are Hex)

For 8255Kit, PDISO08, PDISO16, Relay08 and Relay16

Card Name	8255Kit				
Base Address	280	or	284	or	288
Input Address	281	or	285	or	289
Control Address	283	or	287	or	28B
Control Value	80	or	80	or	80

Card Name	PDSIO08				
Base Address	300	or	304	or	308
Input Address	301	or	305	or	309
Control Address	blank	or	blank	or	blank
Control Value	blank	or	blank	or	blank

Card Name	PDSIO16 A/B		
Base Address	300/304	or	308/30C
Input Address	301/305	or	309/30D
Control Address	blank/blank	or	blank/blank
Control Value	blank/blank	or	blank/blank

Card Name	Relay08	(Card has No Inputs)			
Base Address	300	or	304	or	308
Input Address	blank	or	blank	or	blank
Control Address	blank	or	blank	or	blank
Control Value	blank	or	blank	or	blank

Card Name	Relay16 A/B		(Card has No Inputs)
Base Address	300/304	or	308/30C
Input Address	blank/blank	or	blank/blank
Control Address	blank/blank	or	blank/blank
Control Value	blank/blank	or	blank/blank

Logging

Check the box for each boards relay states and input states that you want to log, when you turn Logging ON in the tools menu.

Reset on Exit/Change

Check the box for each board that you want to reset all of its outputs/relays when you exit RelayRUNNER, Select NEW under file, or Load another Time Schedule File.
(Most people prefer to not reset everything, and will simply make it a point to turn things off before exiting.

Default Relay Names

Enter the name you wish to display for each relay when creating New Time Schedules. It can be any thing you like, but it must be short. Remember that you can always change a relay's name on the main schedule screen at any time.

Relay Background colors

If you do not like the current background colors, you can select one that you like the looks of on your monitor. Not all colors look good everywhere.

Action/State colors

If you do not like the current Action/State colors, simply select those you do. Remember that not all colors will look the same everywhere. Some color combinations are simply unreadable. These selections will also be effected by changes you make to your display appearance within windows control panel.

The Configuration screen (Problems caused by incorrect values)

Incorrect Base Address will prevent relays from turning on/off.
Incorrect Input Address will prevent input states from being displayed.
Incorrect Control Address (if needed) will prevent everything anything from working.
Incorrect Control Value (if needed) will prevent everything/anything from working
Poor choice of colors can make the screen unreadable.

The Configuration screen (changing values while running)

Changing anything, other then a Relay Name will take effect immediately on return to the main screen.
Changing Default Relay Names will not show until you select File, NEW.

Building your Time Schedules
Planning your collection of Time Schedule files.
If you have a project that has a sequence of schedules, such as for 3 weeks you want one schedule, then another schedule for 8 weeks followed by another for a week, you can create a set of Time Schedules files, and at the appropriate time, simply load the next schedule. Future releases will support automated loading of the next run file on a given date).

What are all the boxes are used for
Lets begin with some samples

Example files are located in the same directory as RelayRUNNER was installed.
 (probably "c:\program files\RelayRUNNER\")

If RelayRUNNER is not running, start it now.

Example 1: Complex

You have a hothouse. You want the main lighting on for 12 hours, the cutting lights on for 18 Hours. You want to water for 20 minutes at 6:00, 12:00 and 5:30. The cuttings will get root rot

if watered too frequently, so they only need water 2 times a day, 3 days a week. Each afternoon you want to vent the house from 5:30 until 11:00pm. With all this watering, you need to refill your water tank at 3:17am.

Load "Example1.run" using "File" then "Open", and select Example1.run.

    The screen shows how this would be setup.

Example 2: Simple

To keep things simple, this example controls only 1 relay, that relay is called………………
Load "Example2.run" using "File" then "Open", and select Example2.run.

    The screen shows how this would be setup.

Example 3: Simple

To keep things simple, this example controls only 1 relay, that relay is called…
Load "Example2.run" using "File" then "Open", and select Example2.run.

    The screen shows how this would be setup.

Example 4: Simple

To keep things simple, this example controls only 1 relay, that relay is called…
Load "Example2.run" using "File" then "Open", and select Example2.run.

    The screen shows how this would be setup.

A description of the fields and what you can put into each of them

RelayRUNNER offers a variety of control parameters. Using them will allow you to come up with an almost unlimited set of ON/OFF events to meet practically any need.

The main screen of RelayRUNNER has many fields that can be changed.
> These are: Relay Name, Icon, Start & End Time-pairs, Days of week and Even/Odd

The main screen also has buttons that control what is happening and displayed
> These are Manual Button, Invert Button, Counter and STOP.

Relay Name is just that and you change it to any short text you like. This name will be stored in the "Schedule" file.

Days-Of-Week box. Initially this box will contain "ALL Days".
> The days of week box is used to limit the days of the week that time-pairs and Even/Odd can turn the associated relay ON.
> "AllDays" can be changed the numbers 1 to 7, each representing a day of the week.
>> Sunday is 1, Monday is 2, Tuesday is 3, Wednesday is 4, Friday is 6, Saturday is 7.
>> Example: If days of week - 246 and on-time = 08:00 and off-time = 15:00
>>   then the relay will be on Monday, Wednesday & Friday
>>   from 08:00 until 15:00(3:00pm)

Even/Odd box (initially this box will contain"EO")
> The Even/Odd box can be changed to a variety of CODES.
>> Valid Codes are ED, OD, EH, OH, EM, OM, ES, OS, TH, MH, BH and blank.

> ED, OD - Activate time-pairs on Even/Odd days only,
> Example: If Even/Odd = ED and time-pairs are 09:30 & 14:00 and 15:00 & 19:00,
>   relay will be on 09:30-14:00(2:00pm) and 15:00-19:00(7:00pm) on even
>   numbered days of the month.

> EH, OH - Activate relay Even/Odd Hours only, within time-pairs,
> Example: If Even/Odd = EH and time-pairs are 09:30 & 13:00 and 15:00 & 19:00,
>   relay will be on 10:30-11:00, 12:00-13:00 and 16:00-17:00 and 18:00-
>   19:00(7:00pm).

> EM, OM - Activate relay Even/Odd Minutes only within time-pairs,
> Example: If Even/Odd = OM and time-pairs are 09:30 & 14:00 and 15:00 & 19:00,
>   relay will be on 09:30-14:00(2:00pm) and 15:00-19:00(7:00pm) on Odd
>   minutes ONLY.

> ES, OS - Activate relay Even/Odd Seconds only, within time-pairs.
> Example: If Even/Odd = ES and time-pairs are 09:30 & 14:00 and 15:00 & 19:00, relay
>   will be on 09:30-14:00(2:00pm) and 15:00-19:00(7:00pm) on Even seconds
>   ONLY.

> NOTE: When using TH, MH, BH the first Time-pair is special purpose, the remaining time-pairs
>   will behave just as thought Even/Odd is blank or empty.

> TH   - Activate relay for minutes at beginning of the hour
> Example: If Even/Odd = TO and the FIRST time-pair is 09:10 & 18:00 relay will be on
>   from the hour until 10 minutes past, (08:00-08:10, 09:00-09:10, 10:00-10:10
>   etc..)

> MH - Activate relay for minutes in middle of the hour
> Example: If Even/Odd = MH and the FIRST time-pair is 09:15 & 18:25 the relay will be

on from 15 minutes after the hour until 25 minutes past the hour, (09:15-09:25, 10:15-10:25, 11:15-11:25 etc..)

BH - Activate relay for minutes at end of hour
Example: If Even/Odd = BH and the first time-pair is 09:50 & 18:00 the relay will be on the last 10 minutes before the hour until the hour from 09:00 to 18:00(6:00pm), (9:50am-10:00am & 10:50-11:00am & 11:50-12:00pm, etc).

3H - Activate re lay for minutes at beginning, middle and end of hour
Example: If Even/Odd = 3H and the first time-pair is 09:10 & 18:00 and the second time pair is 09:25 & 18:35 ant the third time pair is 09:50 & 18:00, the relay will be on the first 10 minutes of the hour, from 25 minutes past the hour to 35 minutes past the hour and then again the last 10 minutes before the hour until the hour, from 09:00 to 18:00(6:00pm),
(09:00am - 09:10am & 09:25am - 09:35am & 09:50am-10:00am &
 10:00am - 10:10am & 10:25am - 10:35am & 10:50am -11:00am &
 11:00am - 11:10am & 11:25am - 11:35am & 11:50am - 12:00pm, etc).

- Cycle relay On and Off for ## minutes each cycle
Example: If Even/Odd = 26 and the first time-pair is 09:00 & 18:00 the relay will be on For 26 minutes and then off for 26 minutes then on again for 26 minutes Beginning at 09:00am and ending at 18:00(06:00pm).

Manual is an ON/OFF toggle. It is Manual ON or not. It CANNOT be used to force a relay to be OFF. It does, however ,override all other settings.

Invert will Invert ALL settings except "Days of Week" and "Minutes Cyclic "

Time-Pairs, (six of them), The top Time box is the ON time and the lower is the OFF time. Times can overlap.

Counter will count number of times that the input signal turns ON,
          Left-click to turn on/Off toggle,
          Right-click to zero individual counters.
          NOTE: What and how you wire/set-up your system will have a huge effect on what you are counting. For example: if you are using a solar-cell to indicate a light is on and its output voltage is marginal to the "trip voltage" of your interface card, the counter may show a large number of on inputs even though the light has been on continuously. This is caused by the input going low when the voltage goes below the threshold voltage and then increases above the threshold voltage.

STOP will turn the relay OFF and will hold it off until undone or RelayRUNNER is restarted.

Indicators
     Relay ON/OFF Lights reflect register settings (Actual state of the Relay)

     Input ON/OFF Lights reflect register settings (Actual state of the Input)

     Time-pair lights, Manual lights, Day-of-week lights, Even/Odd lights ONLY reflect intent, (for Actual relay & Input state refer to Relay ON/OFF and Input ON/OFF).

(NOTE: Using ES and OS (Even/Odd Seconds) can be fun,....
          but are only as accurate as the motherboards internal clock)

Going Live, the real thing. Part 1.

Miscellaneous

Requests for enhancements, option requests, comments and feedback in general can be sent to
edm@adnc.com

Files created by RelayRUNNER
Your Time Schedule files ("____.run") are saved wherever you choose
The Restart file is created in the root of your C drive (C:\RelayRUNNER_Restart.txt)
Log files are created by default in the root directory, however in the configuration; you may
select any directory you wish.
No other files are created.

Restart function relies on you having created a shortcut to RelayRUNNER in the Startup group of
your start button.

A word about various Interface cards (they are not created equal)

While most relay or A/D interface cards with switchable outputs can be adapted to a variety of similar uses it should be noted that OLDER interface cards are NOT as reliable as newer versions, even of the same card. Some Interface cards do not respond as fast to setting the registers as is needed for RelayRUNNER. While these older cards can be used, you should not expect the accuracy from them that you would from a newer interface card. Some cards that have known problems are Advantech PCL-725 and Adlink ACL-7125. Samples of both these cards manufactured in 1995 will not perform at the same levels as Computer Boards PDSIO08, PDSIO16, Relay08 and Relay16, which were also manufactured in 1995.

Anomalies related to OLDER (slower) Interface Cards

Among the various things that may behave differently or with no apparent reason are things like, logging may show a relay on only when paired with an adjacent relay (on the same card) or a failure to reset on program exit or selecting New Time Schedule. As to the logging, the displayed state is correct.

General Information about Relay and A/D interface cards

The most common method of interfacing a microcomputer system, such as the PC, is through the use of programmable digital input and output registers. It is the purpose of RelayRUNNER to provide an easy way for you to control the input and output registers without needing to program.

With digital output registers, the computer can write data into the registers, treating the register as an I/O port. The output of these registers can then be wired to an interface device, such as a power-switching relay. Thus, by writing data to an output register, it would be possible to actuate and deactivate a relay. The relay could, in turn, control, for example, the power to a motor or a light or a solenoid, etc.

Digital input registers are similar but are used to sample the status of signals attached to their inputs. For example, if a program wants to determine if a switch is open or closed, the switch can be tied to the input of a digital input register. A digital input register can be thought of as an I/O port that has wires attached to individual bit locations. When read, the data results reflect the state of the signals on the wires.

Typically, the 8 on-board relays (or digital outputs) can serve as ON/OFF control devices or small (LOW) power switches. The Digital Input channels are ideal devices for collecting information about things that are OFF or ON.

NOTE:
The pin-outs vary from one interface card to another, even if the plug or sockets "LOOK THE SAME"!

More variations of Interface cards (PCI and/or "PLUG & PLAY")

With the advent of PCI and "Plug & Play" interface cards, some of the "OLD RELIABLES" are not so reliable any more. The long and short of this is that if the base address of your interface card is not "Hard Set" using dipswitch or jumper settings, then it is probably a "Plug & Play" interface card. Plug & play interface cards usually come packaged with an installation disk / program. Using this should show you the address that your interface is configured/installed at. The "Plug & Play" creates special considerations. These include the need to verify the address and reconfigure RelayRUNNER EACH TIME you add or change the interface cards installed in your computer. This is also necessary if your battery becomes completely discharged (runs-down).

A Word about System Capacities

RelayRUNNER is very demanding software. If you attempt to do too many things in addition to RelayRUNNER, it is very possible to hang your computer, resulting in having to reboot. It is reasonable to

do several things at once but there is a limit. One way to test for this is to start RelayRUNNER, and one or two other programs. Then load a word or text processor, load a document (large), then make it less then full screen, then reposition the window from one spot to another RAPIDLY. If you can do this, fast enough to slow or stop the time update of seconds, then you are at risk of overloading your processor and experiencing a hung system. Otherwise you should be OK.

Frequently Asked Questions (FAQ) for RelayRUNNER (Software Only)

Q. When setting colors, why does "Double-click" not work?
A. The active-x control for this does not support "Double-click" (aren't you glad you asked?),
We expect the control to be fixed soon and will incorporate it when available.

Q. My friends monitor shows the colors different then mine, Why?
A. Each video card and monitor combination display colors just a bit different then any other
combination. Just select colors that you like to work with or have a meaning to you.

Q. The Icon looks really small, where is the rest of it?
A. Icons by their nature are small. Depending on how they were made or created by an "icon
maker" they may or may not look like what you expected. Also, the box that icons are
displayed in does not allow for variable size icons/pictures to be displayed. Only 32 x 32
pixels are shown.

Q. Does the program timing stop when I am in the Configuration screen?
A. Yes, all timing is suspended until you exit the configuration screen.

Q. Is there an "ALL STOP" function?
A. Not specifically. However you can use "Tools", "Reset All Relays (with Pause)", this will reset
all relays and wait for your response to continue timings.

Q. If I go on vacation, how can I check on my system?
A. Relay does not directly address this need, however you can use a remote access program such
as "PC Anywhere". Using this you should be able to check on your system as well as
reconfigure your Timings from anywhere, Just as though you were sitting in front of your
computer.

Q. The relay group background colors change the icon background, why?
A. The Icons background was created as transparent meaning whatever color is behind it is the
icons background color. If this is objectionable, use an icon with an opaque background.

Q. I have 24 outputs on my card, can I run more than one copy of Relay?
A. No, however a version of relay is available that will run up to 32 outputs with 32 corresponding
Inputs.

Q. I got RelayRUNNER as shareware, Why should I pay you for RelayRUNNER?
A. Think about it. I have put many hours into creating Relay and it will take more time to support
and improve RelayRUNNER. If you don't support it through payments, what motivation do I
have to keep any of it available in the shareware arena? Also, the shareware version has
several features limited. Everyone benefits if everyone shares. Also, if you read the license
screen RelayRUNNER is released more as "Trial-Ware", meaning try it, if you like it, support
it by registering. Registered users have access to versions that will support up to 32 outputs
and 32 inputs. The expanded Relay does require a high-resolution screen and video card as
well as the interface cards. Registration also gets you the latest version with "Auto-Restart"
feature.

Q. Why are the fast timings (ES/OS) not quite right?
A. Timing accuracy is a direct function of your computers clock and windows internal event timer.
If these have any deviations (and most do) then seconds will have a variance. Even/Odd
Seconds are really more of a novelty than a useful tool. For most applications that
RelayRUNNER will be used, seconds just do not matter.

Q. Things don't happen when I am in the Configuration Screen, Why?

A. Event checking is suspended while in the Configuration screen, after all if you are changing an address or configuration value, your card is probably not responding, or you just added a new card and have not started your control run yet.

(Note: When running a Time-Schedule, do not leave RelayRUNNER in the configuration screen)

Q. There are more boards shown then I need. Can I give the next Board Panel the same address to get more ON/OFF time-pairs?

A. This method is not recommended. However, it often will work when properly setup. To try doing so, use the same base address, and the same input address. FOR THE SECOND BOARD PANEL, DO NOT enter anything other than blank or 0 in the cntl address and cntl value fields. "Both Cards" will show the same relay state and input state and input counts.

Q. My board from Computer Boards came with a program called "CB Install", should I install it?

A. RelayRUNNER does not need any software that did not come with it. RelayRUNNER interacts with the interface card directly, so you do not need to install anything else that came with your board. If you have some other reason to use them or CBW.DLL or "InstaCal", you can install them. They will not effect RelayRUNNER since it does not use them.

Q. My Interface Card has switch settings for "Response Input Filter", Why should I set it or not?

A. This is an interface card vendor specific option. You should contact the card vendor for information on using this feature. RelayRUNNER does not know about this filtering, however setting it or not may effect when an input signal is present.

Q. I am using a "BoonDog" Interface card and I can't tell if anything works.

A. There are several ways of looking at this question. If you bought the "BoonDog" kit already assembled, then the Led on the external card should be Green, if the card is correctly installed. Once you are sure the card is correctly installed, the next question deals with the settings you Have entered on the configuration screen. Dealing with only one board, i.e. the first set of 8 relays, if you toggle the "Manual" button by clicking on it, the ON/OFF status light will turn on and off in response, if your base address is correct. If they do not you can go to "Tools" menu and select "Emulation Mode (running with no boards)", then toggle the "Manual" Button. If the ON/OFF status light now turns on and off in response, then you can be certain that, you have not selected the correct "Base Address".

Note: once you have selected "Emulation Mode" you will need to exit Relay and restart the program to begin looking for/at actual installed cards.

Q. I Turned off the computer and installed the board. Does it work, how do I tell if it works? It just sits there and nothing happens.

A. Most vendors supply documentation with their products that cover selecting a base address, setting The card to that address and simple test to check it function. Once you have completed the installation and check of the card, the question moves to installing and configuring RelayRUNNER. Once the addresses and codes are entered in the Configuration screen, you can test the complete installation. If you are using a relay card (mechanical not solid-state), you will be able to hear the relays opening and closing when you toggle the manual and or Invert buttons. You can also turn them on using time-pairs and hear the relay. If you do not, then most likely the card is not at the address you entered in "Base Address". If you are using a solid-state card, then you will need to wire up a relay or what ever your design is with an indicator light or such. Then the manual and/or Invert buttons should cause your indicator to change state. If it does not, you have probably not entered the same base address as the card is set to. The input indicators can only be tested with an appropriate input signal. Do not worry about the inputs until you have the relays/outputs working correctly. We do offer pre-assembled kits comprised of internal card, short or long connecting cable, and remote-switched 120v module

Q. My computer hangs-up or crashes occasionally, what going on?

A. RelayRUNNER is very demanding software. If you attempt to do too many things in addition to RelayRUNNER, it is very possible to hang your computer, resulting in having to reboot. It is reasonable to do several things at once but there is a limit. One way to test for this is to start RelayRUNNER, and one or two other programs. Then load a word or text processor, load a document (large), then make it less then full screen, then reposition the window from one spot to another RAPIDLY. If you can do this fast enough to slow or stop the time update of seconds, then you are at risk of overloading your processor and experience