

COMPUTECH

DataMaxx Jr. Dash Instruction Manual



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GETTING STARTED

“PLAN YOUR WORK & WORK YOUR PLAN”

The above quote is something my grandfather has always told me, and this holds true with the *DATAMAXX*. If you plan out where things will be installed then your installation will be stress free. If you dive in without reading the manual, you will get frustrated, so “Plan your work and work your plan.”

1. Read the Entire Getting Started Section
2. Install Battery/Module Tray
3. Install the Main Module
4. Install the Jr. Dash Display
5. Run the Sensor Harness
6. Install Sensors
7. Install Record Switch
8. Finalize DataMaxx Wiring
9. Initial Jr. Dash Display Setup
10. Test Idle While Recording
11. Downloading Your Logfiles
12. Ready To Go Race

1. **Read The Entire Getting Started Section**

When you first open up your box, we want to take inventory to make sure you have all of the parts that you requested. Make sure that you have the correct options as well

Jr Dash Mounting Options: *Standard Mount or Flush Mount*
 Sensor Harness Options: *Magneto or PVL*
 Pre-Wiring Options: *Pre-Wired or DIY Wiring*
 Battery Tray Options: *None or Universal Mounting Tray*

Inside the box you should have the following:

- DataMaxx Main Module
- DataMaxx Jr. Dash
- Jr. Sensor Harness
- Jr. Record Switch & Cable
- Jr. Dash Extension Cable
- Jr. 4-Magnet Jackshaft Collar
- Computech DataMaxx SD Cards x 2
- Computech Flat Head Screwdriver
- DataMaxx Jr. Instruction Manual
- Computech Contingency Decals

2. Install Battery/Module Tray

The first step is to plan out where everything is going to be installed. We need to install the DataMaxx Main Module in front of the drivers footbox. On most junior dragsters there are mounting tabs for a front weight tank in this location. This is where we typically will mount a tray to hold the battery and the Main Module. Computech offers a Universal Mounting Tray that will fit a YTX12-BS 12v Lithium Battery as well as our Main Module. This universal mount is made out of stainless steel and has welded tabs combined with bolts to safely contain the 12v battery.

To install the Universal Mounting Tray, place the tray underneath the front footbox area so that you can tell where the mounting holes would be. We need the main module to hang out the front side of the tray so that we can access the SD card, so the battery will have to go towards the back (make sure there is enough room by mocking the install with battery sitting on the tray). Ideally we want the bolts to connect the tray to the chassis to be in an area the main module does not take up but it CANNOT go where the battery has to go. Once you have found the ideal mounting location, place the tray on top of the mounting location and using a sharpie mark the holes, drill and bolt down securely.

Next, we can install the battery itself. Place the 12v Battery in between the welded tabs and use the supplied bolts to secure the battery to the tray. Ideally, position the contacts forward.

If you already have a 12v battery on the car located remotely, then you can be more flexible on where the DataMaxx Main Module is located, however it still needs to be in front of the footbox. This means that it can be mounted on top of a weight tank if desired by simply drilling and taping the weight tank.

If you are using a 16v or 20v battery, you will need to utilize a 12v knockdown regulator to ensure the DataMaxx system gets the correct voltage.



3. Install the Main Module

Now that the battery and tray are installed, we can mount the main module. If you purchased the Universal Mounting Tray then you should already have holes for the DataMaxx Main Module. We need to position the Main Module as close to the edge as possible with the SD card slot near this edge. This is so that we can simply reach under the body of the car and pop the SD card out.

If you opted for the Pre-Wired system then your DataMaxx Main Module will have wires coming out of them, for the moment do not worry about zip tying or even organizing them yet. Just get the Main Module mounted and we will address the wires soon.

4. Install The Jr. Dash

The installation of the Jr. Dash is going to be very different from installation to installation simply because of the differences of chassis sizes and manufacturers. We do recommend that if you do not have a place to mount your dash, to reach out to your chassis manufacturer to purchase a retrofit kit to be able to put a dash in your junior dragster. Halfscale and Mike Bos have samples of both our Standard Mount and our Flush Mount dash's to make sure your fit is perfect.

Standard Mount Installation:

The standard mount has 4 holes that are just barely accessible from the side of the screen. Installing this mount is as simple as holding the screen up to the panel you will mount it to, get it perfectly centered and aligned and then drill your holes. We do recommend drilling the top left first, putting a bolt in it, re-centering the dash and then drill the lower right hole, and put a bolt in. At this point the dash should be perfectly centered and you can drill and bolt the final two holes.



Flush Mount Installation:

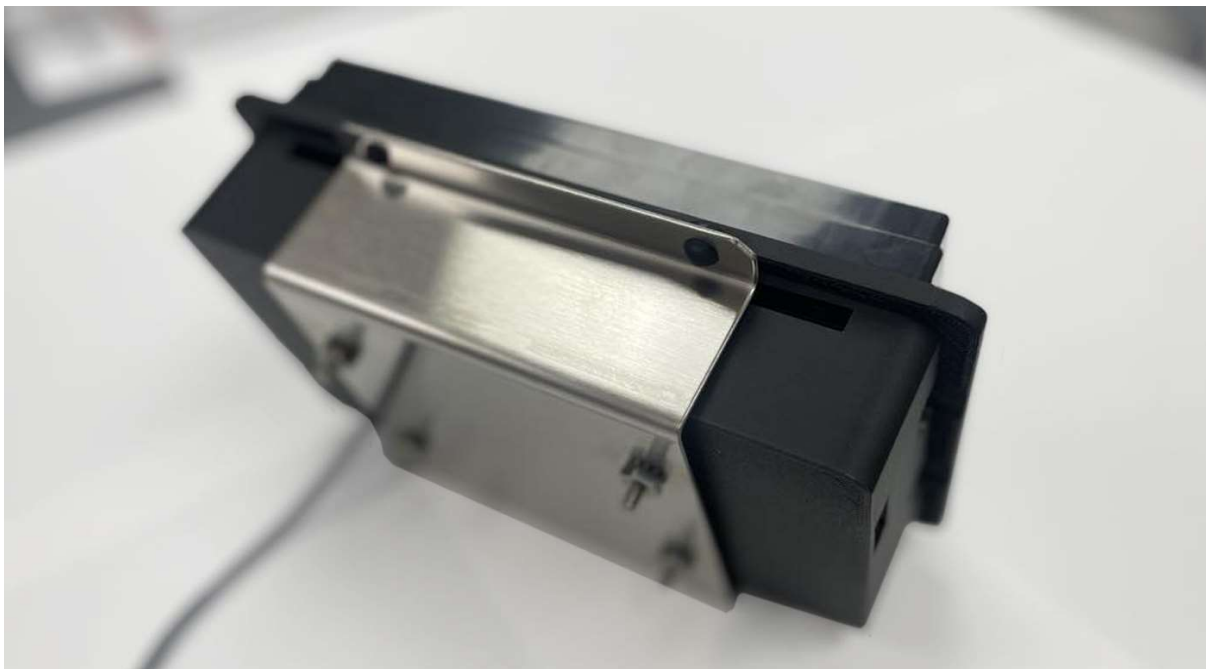
The flush mount allows the screen to be recessed behind the dash panel and although it makes the installation look much cleaner, is also a bit more work. First, because we do have to cut a big hole out to recess the dash, lets place painters tape all over the area we expect to have to cut out.

When you received your Jr. Dash, you should have also received a thin template. Place that on your dash and using painters tape, hold it securely in place. Next look behind the area that you will create as a hole and ensure that there is both nothing on the backside and that there is enough room for half of the screen to be recessed there. If everything looks ok, using a pen, trace the inside of the template so that we know exactly where to cut. Remove the template and cut out the center.

After the hole is cut into your dash panel, take the stainless steel backing off of the dash, slide the dash in through the front and then using the backing plate and locking nuts, tighten the screen to the panel.

USE BLUE LOCKTITE THREADLOCKER AND DO NOT OVERTIGHTEN!!!!

Now you can install your sensors. First mount all of your sensors in the appropriate places. Each sensor has an overview, part numbers, installation instructions, calibration, testing associated with it, and should be read over carefully before attempting to install. Do not run any wires until all of the sensors are installed in the correct location.



5. Run The Sensor Harness

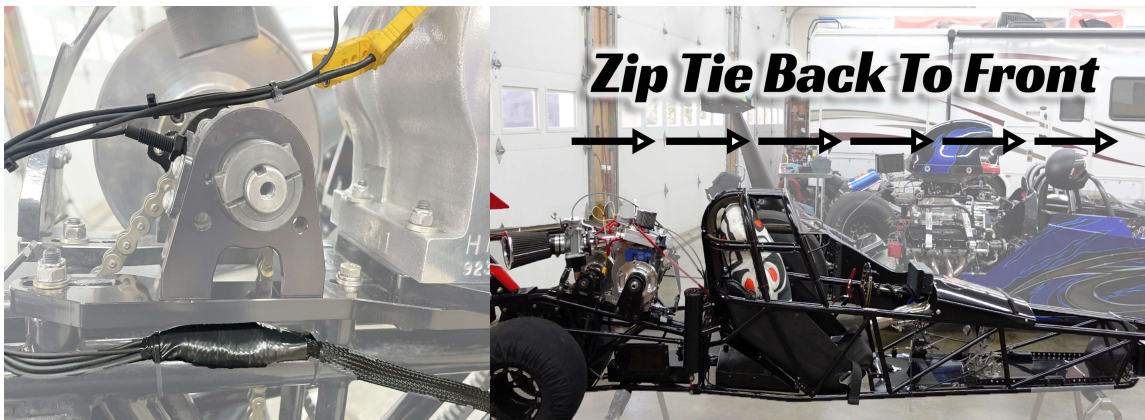
Next we want to run the sensor wire down the car in the direct path that we want the wire to follow. This is extremely important if you opted for the Pre-Wiring option as you cannot go around a different bar without re-doing this step or re-wiring.

At the end of the sensor harness you will feel a hard section that has a circuit board inside with 4 wires coming out of the other end. We want to zip tie that part to the chassis underneath the engine positioned directly underneath the jackshaft. With it positioned here, you should be able to take the jackshaft sensor and have it point from the back of the car to the front at the jackshaft itself.

Before we finalize the wire tie aspect, make sure the sensor bundle is far back enough on the car that you can adjust the chain length without having to strain the jackshaft sensor. Then start zip tying the sensor bundle to the frame starting at the back of the car and working forward.

Pro tip: Cut a wire that is 6" or 8" long and use as a spacer for how often to place a wire tie

When you get to the DataMaxx Main Module, you will likely have extra wire. Simply allow the wire to go past the Main Module and then loop back. This service loop gives you room to maneuver the main module as well as extra cable to re-terminate if needed. If you did not opt for the pre-wiring then make sure there is enough room for the wire to reach the end of the Main Module case.



6. Install Sensors

Now that the sensor bundle is secured we can go back to the engine and hook up each of the sensors.

Jackshaft Sensor: The jackshaft sensor should come with two jam nuts and a 4 magnet collar. All junior dragsters already have a jackshaft sensor tab, so using spacers position the 4 magnet collar so that it is directly overtop of the jackshaft sensor hole. Once the collar has been installed, we can insert the sensor in and then gap the sensor to the collar using a 1/8" drill bit. Be careful not to over-tighten the nuts on the sensor as they are plastic threads.

Exhaust and Head Temp Sensors: These are pretty straight forward and should be appropriately labeled and staggered. We want the extension cables to come up from the back side of the engine and they are staggered on purpose in case your labels ever wear off. If you zip tie your head and exhaust sensors on the other side then you'll always know which goes where.



Engine RPM Magneto: The magneto or inductive RPM pickup is a single wire that is significantly longer than you will need. However, we do not want to cut it too short because doing so will require you to replace your entire sensor harness. Take the rubber band off and take of the plastic spark plug wire clip. Place two small wire ties through the hole opening and zip tie to themselves, leaving enough room to slide a wire in, then clip on the spark plug. This should create a perpendicular area for the wire to slide into. Then run the engine RPM wire up the back of the engine, giving yourself enough slack to be able to move the engine as far forward or as far back as possible. Slide the wire through the two wire ties, get your slack correct, then tighten the zip ties and cut the excess wire off.



Engine RPM PVL Coil: For a PVL coil, instead of a single wire for engine RPM you will have two wires coming out, a black and a purple wire. The black wire needs to go to a solid ground preferably a ring terminal that is tightened down with the engine block itself. The purple wire needs to go to the terminal block that is connected to the coil blade.

7. Install Record Switch

The record switch is both your record switch and your power switch. It is a three position toggle where center is off, up is on and down is on and recording. It is important that this switch be located outside of the drivers compartment and typically we want it in an area easy for the crew chief to be able to activate.

According to NHRA rules, recording can only be activated by a record switch. In order to pass the NHRA rulebook we oblige by this clearly defined rule and require our users to flip the switch from the On (top) or Off (middle) position to the Record position to actually get a recording. Yes, we are aware that the Aim MyChron records automatically based off of the jackshaft reading however that is in clear violation of the rules.

To install the record switch, we first need to determine where we want the switch to go, typically on the back of the deflector plate and typically on the passenger side since that is the side we typically adjust the carb on. Once you have identified a location, drill a 15/32" or .468" hole.

If you have opted for the pre-wiring, then we need to run the pre-wired record switch all the way from the main module and along the route you want the wire to go. Then place the record switch into the hole with the wires facing downward, screw nut overtop and tighten with pliers. Then zip tie the wire to the frame starting at the record switch and moving towards the main module with any extra going past the main module and then back into it.

If you did not opt for the pre-wiring, we will first need to wire up the record switch using the supplied crimp terminals and the shrink tube labels. Using the supplied 4 conductor record switch cable, strip 3" of insulation off of one end, then remove the aluminum foil shield and the shield wire. Cut 3/4" off of the black and red wire, then strip the insulation off of each wire, just enough to go into the crimpable section of the terminal. Slide the shrink tube over each wire and then crimp down. Give it a gentle tug after. Then install the terminals onto the record switch in the correct number order. Then zip tie the wire to the frame starting at the record switch and moving towards the main module with any extra going past the main module and then back into it.

1-Record	=	Green wire
2-Ground	=	Black wire
4-DX 12v	=	White wire
5-Batt 12v	=	Red wire
4/6 Jmpr	=	Extra Black wire cut off

8. Finalize DataMaxx Wiring

If you opted for the pre-wired system then the first step is to run the dash extension cable to your already installed Jr. Dash and then zip tie it to the frame as you make your way back to the data logger with any extra going past the DataMaxx Main Module. Then we need to put terminals onto the main power and ground wire. Get the wires to the correct length to reach your already installed battery, then cut, strip and crimp the terminals. Connect to the Battery.

If you did not opt for the pre-wired system then please go to Main Module instructions and refer to the Wiring A Jr. Main Module instructions.

9. Initial Jr. Dash Display Setup

Now that everything is wired up correctly we are finally ready to fire up the dash and start to customize it for your application. Flip your switch to the ON position and you will then have to wait approximately 60 seconds to boot up since it is booting up from a shutdown. In the future, turning the switch to ON will have your gauges live in 10 seconds. Eventually, your screen should end up showing the gauges.

Next we want to get the dash synced correctly to the main module and to do this we need to go to the main menu by swiping down and then hit the Settings option. Once there, click on the red calibration button and then select Yes. The screen should change back to the gauges and then say something along the lines of “Discovering Sensors...”, “Discovering Sensors... Waiting for stragglers...”, and then it should say “Sensor Discovery Complete” and then list how many sensors are found. If it calibrated correctly it should be “13 sensors found”

The best part of the Jr. Dash is the ability to completely customize it for your particular application. Anytime we want to edit the gauges, we first have to unlock them by swiping down to get to the home menu, then hit the Settings icon. In settings you will see a big lock icon, click on that to change the icon to unlocked and then swipe up to get back to your gauges. Once there you can click and hold on a gauge to edit it.



Engine RPM: Click and hold on the Engine RPM gauge and then hit Edit gauge. The first thing we want to set is the target RPM. Then set the range to either 200 (smaller window) or 300-400 (wider window). Next we want to set the min and max gauge value to either 300 below and 300 above your target (high resolution) or 500 below and 500 above your target (low resolution). By setting the min and max the same value from target, it allows your target RPM to be at the 12 o'clock position. So not only will the needle be in the green to let you know you're good to go but it will also be in the 12 o'clock position. When you are done hit Save.

Head Temp: Click and hold on the Head temp gauge and then hit Edit gauge. First we want to set the target to the ideal temperature and then set the range to 30 (smaller window) or 40-60 (wider window). When it comes to setting the min and max, we typically want to set the min to something close to regular ambient temperature, so 70. Then we need to do a little math to determine what your max temp should be so we can get the ideal temperature to be 12 o'clock. The formula is $Target\ Temp - Gauge\ Min + Target\ Temp$
 If your goal is 150 and min is 70 then: $150 - 70 + 150 = 230$
 Enter in your max value and then hit Save.

Saving Gauge Changes: In order for your changes to be saved, we have to swipe down to get to the Home Menu and then hit the Settings icon, then click on the lock icon again to lock and save the gauge package. For more information on how to customize the gauges, please go to Jr. Dash part of the manual, specifically the Gauge Customization Options section.

10. Test Idle While Recording

Now that the system is installed, the gauges are setup and reading, we can finally fire this thing up. Make sure that you have one of your DataMaxx SD Cards in the main module and then turn the system on by moving the switch all the way up to the ON position. Once the gauges are showing and the needles are showing, flip the record switch on by moving the switch quickly past the OFF position and into the RECORD position. We want to make this motion quickly so the unit does not actually trigger the Off mode.

After 2-5 seconds you should see the Record toggle on your screen go from red to green to indicate that you are recording. You can now fire up the engine. You should now be able to bring up the engine RPM's until the needle starts to move and then get it set at your perfect idle.

When you are done with your warm up, turn the engine off and then turn the DataMaxx switch to the OFF position. Then pop your SD card out of your DataMaxx and take it back to your laptop.

Needle Bouncing Off To The Right: If the needle is stable and then all of a sudden jolting to the right and showing double the RPM it actually is, then odds are we have a bit of noise on the inductive RPM pickup and will need to adjust it. Magneto ignitions can be very noisy, so having the pickup stay on the other side of the engine, and allowing the engine to block some of the noise can help. Also, re-position the sensor wire closer to the spark plug itself.

No Engine RPM Showing: If there is no engine RPM showing at all while the engine is running, pull the inductive pickup wire out of the spark plug clip and try placing it directly to the wire itself. If something appears then you just need to find the sweet spot. If nothing appears then go back to Settings and hit the red Calibration button again. If still nothing call Computech at 301-884-5718.

11. Downloading Your Logfiles

In order to download your logfile, we first need to download the DataMaxx software by going to Computech.com then mousing over Tech Support and clicking on DataMaxx. There you should see the DataMaxx software and can select the appropriate option. When it is done downloading you will have to click on it to install.

With a new install, the first thing you should see when opening the program is the SD card setup wizard. We want to take our SD card that we just recorded our warm up with and place it into the laptop. Then hit Next and follow the instructions on the screen until you see Finished. Hit Finish. At this point you should be at a blank and basic DataMaxx screen.

To Download A Logfile: Click on the SD icon on the DataMaxx software toolbar. This should open up a window with green arrows. This is where we can create an event, i.e. a folder that we will then store the runs in. So follow the second green arrow and then erase the words "Type New Event Here" but leaving the date (helps keep it organized). Then type in First DataMaxx Warm Up. This should mean your even will be something like 11-08-23 First DataMaxx Warm Up. Then hit the Copy Here button to the right. It should say Successfully Copied 1 Logfile. Hit Ok and it will open up the logfile and show a black background.

Viewing Your Logfile: Now that your warm up is open, you should be able to hit the RPM eyeball icon at the top and see the engine rpm moving up and down as it was idling. If you don't see the entire thing, you can hit the W button to view the Whole run. We are not going to go over the details of the software in this section. Instead please check out the Software section of the manual or go to Computech.com, Tech Support, DataMaxx and watch our video tutorials.

12. Ready To Go Race

Now that you have confirmed everything is working correctly, we can go to the track and start getting some real data. Remember that we need to have the SD card in the DataMaxx Main Module in order to record AND we need to flip the switch to the RECORD position. Failure to do so means that you will not get your data for that specific run.

DATA MAXX CONFIGURATION

Main Module

Engine RPM:	<u>Engine</u>	Cylinders:	<u>Shaft RPM – 1 mag</u>	PuP:	<u>Off</u>	GND:	<u>On</u>
Mag RPM:	<u>None</u>	Cylinders:	<u>None</u>	PuP:	<u>Off</u>	GND:	<u>On</u>
Driveshaft RPM:	<u>None</u>	Magnets:	<u>Shaft RPM – 4 mag</u>	PuP:	<u>On</u>	GND:	<u>On</u>
Inputshaft RPM:	<u>None</u>	Magnets:	<u>None</u>	PuP:	<u>On</u>	GND:	<u>On</u>
Switch 1:	<u>None</u>	Light 1:	<u>None</u>				
Switch 2:	<u>None</u>	Light 2:	<u>None</u>				
Analog M1:	<u>Head</u>	Sensor Type:	<u>Temp (470 deg)</u>	RTD:	<u>Off</u>	GND:	<u>On</u>
Analog M2:	<u>None</u>	Sensor Type:	<u>None</u>	RTD:	<u>Off</u>	GND:	<u>On</u>
Analog M3:	<u>Exhaust</u>	Sensor Type:	<u>Exhaust (1800 deg)</u>	RTD:	<u>Off</u>	GND:	<u>On</u>
Analog M4:	<u>None</u>	Sensor Type:	<u>None</u>	RTD:	<u>Off</u>	GND:	<u>On</u>

MODULES

MAIN MODULE

Overview:

The Main Module is the heart and brain of the *DATA MAXX* system. It serves as the communication hub, and has the largest capacity for sensors. The Main Module also has 5 CAN Bus ports that act as the communication medium to LCD, Analog, and EGT modules. This unit will store your custom calibration in itself so that every log file recorded will have the correct location of where each sensor is installed and what it is named. The main module alone only draws about 400mA and it is not necessary to place a fuse inline, but if desired should be 2 Amps or less. Please note that you can only place a single SD card in the DataMaxx system at a time, whether that be in the Main, LCD or Remote SD module is up to you.

Capabilities:

- 4 RPM Channels
- 4 Analog Channels
- 5 CAN Bus Connections
- 3 Switch Inputs
- 2 Light Outputs
- 1 SD Card Slot

Installation:

For the DataMaxx Jr. we want to mount the Main Module in front of the foot-box. We do this for a couple reasons. First, we are not allowed to have the data logger inside of the cockpit and because we want to keep the circuitry as far away from the noisy magneto coil as we can.

We offer an optional Universal Battery/Module Tray that will give you room for both your Main Module and a YTX12-BS 12 volt battery. This universal tray should allow you to mount to the front tank mounting tabs.

When mounting the main module, we need to ensure that the SD card is pointed out to the edge of whatever it is mounted to. This is because we need to be able to reach underneath the body and then pop the SD card out.

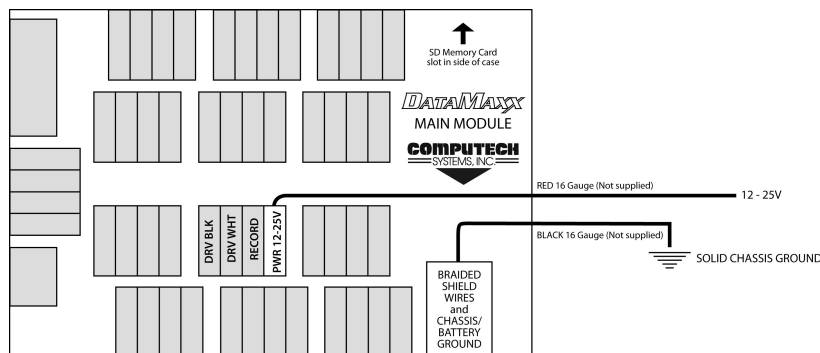
The Main Module should not be mounted where it is exposed to rain, excessive engine exhaust, or transmission heat. If you are not using an LCD Dash unit then you will need to mount the Main Module where you can easily access the SD memory card slot. For more information on avoiding ignition interference, refer to “Avoiding RFI Noise” in the Additional Information section.

The Main Module is the only part of the system that receives a power connection and powers the rest of the system through this one power wire. The best Main Module power connection is the same place you power the majority of your electronics and tachometers. The next best connection is directly to the positive and negative terminals on your battery.

Connect the positive wire to the Main Module red color-coded terminal labeled “POWER 11-25V” (id #36), and connect the negative (ground) wire to one of the shield terminal screws.

For more information on correctly wiring your *DATA MAXX*, refer to the “Additional Information: Advanced Wiring Techniques”.

After the system is completely installed, including the sensors and the wiring, you can move on to calibrating the entire system. To do so, it is recommended to go to the Initial Calibration of the Software section. Additionally, you can refer to each individual sensors calibration instructions.



Light Scheme:

Blinking Pattern for GREEN LED	Meaning
Green Light Blinking	Normal. System is operating correctly.
Green Light Pulsating	Recording Normal. Seeing a half blink in between the normal blinks means the light is pulsating and recording. Note that it will only pulsate if the SD card is located in the Main module. If the SD card is in the LCD, or Remote SD, it can record correctly, but the main module light will not pulsate.
Other Green Light Patterns	Refer to the Main Module Troubleshooting.

Blinking Pattern for RED LED	Meaning
No Red Blinks	Normal, the SD card is in the system and ready to record.
Two Red Blinks	CAN Bus Error. See Main Module Troubleshooting.
Three Red Blinks	SD Card Missing. This is a normal condition when there is not currently an SD card in the system.
Other Red Blink Patterns	Refer to the Main Module Troubleshooting.

Default Dip Switch Settings:

A: MAG PuP	OFF	E: A1 RTD	OFF
B: MAG GND	ON	F: A1 GND	ON
C: INP PuP	ON	G: A2 RTD	OFF
D: INP GND	ON	H: A2 GND	ON
		I: A3 RTD	OFF
		J: A3 GND	ON
		K: A4 RTD	OFF
		L: A4 GND	ON

Additional Information:

Recording: The Main Module has a dedicated terminal for a record switch. Connecting a switch to this terminal (id #35) will automatically enable recording without any additional configuration.

Wiring: When wiring the main module, strip back the insulation for each wire, place into appropriate terminal and screw terminal to tightly connect to the *DATAMAXX*. Be sure to connect all shield wires to one of the four ground / shield drain screws. For more information on wiring correctly, refer to the “How to Wire Correctly” in the Additional Information section.

JR. DASH

Overview:

Congratulations on your new purchase of the DataMaxx Jr. Dash. Your dash has the ability to show an unlimited combination of sensors and will allow you to customize the look and feel for your particular style.

Before you can get your Jr. Dash setup for you installation, we will first need to install the DataMaxx Main Module and all accompanying sensors. It is only after the entire DataMaxx system is installed and calibrated that we start to customize the Jr. Dash.

Jr. Dash Initial Setup & Calibration:

Your Jr. Dash is easy to setup and get customized but does require you follow a couple instructions. Below are the quick bullet points on what you need to do and further below is a more in depth description of each step. Follow the instructions and your installation will be smooth and easy.

1. Watch 2 online video tutorials before doing anything
2. Calibrate the main module using the laptop software
3. Calibrate the Jr. Dash
4. Unlock edit mode and edit your gauges
5. Save your gauges and calibration
6. Test and Go Racing!

1. Before we even begin getting things setup, we highly recommend you go to our website compu-tech.com and go to Tech Support, then DataMaxx. There you will see a Jr. Dash Initial Setup video that will walk you through the entire process described below. You will then need to watch the Initial Calibration video which will walk you through how to setup and calibrate your DataMaxx system. Watch both of these videos before getting started. You can also reach this page by going to compu-tech.com/Tech/DataMaxx

2. The next step in setting up your new data logger is to follow the primary instructions in the manual as if you do not have a dash. After getting everything physically installed, the manual will have you calibrate your unit to the sensors you physically have installed. At the end of this process it would typically have you click on the Configure LCD button, which you will not be doing with the new Jr. Dash. Once you have everything calibrated, send the calibration back to the DataMaxx via the SD card and wait one minute for it to go through the calibration process.

3. Once your main module hardware has been calibrated, we can now setup your Jr. Dash to talk to your DataMaxx. To do this, swipe down until you see the home screen and then hit the Settings button. There you will see a red button that looks like a caliper, click on it. A pop up will appear asking if you want to calibrate the system, click Ok and the Jr. Dash should change to your latest gauge page. After a couple second the sensor discovery will complete and all of your sensors will be found. Congrats, you

can now start to customize your screen however you like.

4. We have pre-fabricated two different pages of gauges that you can toggle between by swiping left or right. Now that the Jr. Dash has learned your sensors, we can start customizing what sensor is connected to each gauge and even the size and what the gauge looks like. To edit your gauges, you must first swipe down to get to the home menu and then hit Settings. There you will see a large lock button on the top left, click on it and you will see the lock unlock and change the background to yellow. Now if you swipe up you will see your gauges have a yellow background that indicates that you are in the editing mode.

You can touch and hold on a gauge, select Edit Gauge, and select a different sensor from the Gauge Sensor dropdown list. You can also change, the size, gauge type, refresh rate and min and max range of the gauge. If you don't like the gauge there, you can easily delete it or move it. You can also create a new page by touching and holding anywhere on the screen, select More Options and then Add New Page. There are infinite options for customization and more options and features will likely be added in the future.

5. When you are completely done editing your gauges and pages and are happy with how everything looks, we then need to save the gauges and disable the editing mode. To do this, simply swipe back down until we get to the main menu, select Settings and then click on the button of the unlocked lock. This should cause the lock to lock and the background to become silver. At this point you have now edited your gauge package, saved it and locked it from accidentally editing it.

6. Congratulations, you have now completed the Initial Setup process of the DataMaxx Jr. Dash. Now you can fire up the car and do a recording to ensure that everything is working properly. Once you've confirmed everything is reading correctly, then you're ready to go racing!

Edit A Gauge:

As you can see on your dash, you already have quite a few gauges on the screen and you may like the setup but want to tweak it for your particular application. This is made extremely easy and intuitive because it will act just like a smart phone that you're already used to using.

Before editing we will need to swipe down to the Home screen and click on Settings. There you will see a button in the top left that is a lock. Click on the lock and you will see it unlock and the background of the button will now be changed to yellow. Swipe up and you will also see that your gauge background is now a yellow color, giving you a visual indicator that you are in editing mode.

Simply place your finger on the gauge you want to edit and hold it there. A menu will appear and you can select Edit Gauge. Once here you will be presented with 3 different tabs that control all of the aspects of displaying this gauge to you. You should never need to go into Advanced and unless you are trying to change the colors of the name, value or needle, we don't need to go into the Style tab, so we'll focus on the General tab where most of the settings are made.

- **Gauge Sensor** – This is where you set what channel this gauge is going to display. Once connected and calibrated your Jr. Dash will automatically sense all of the sensor in your

DataMaxx and you will then have those sensors as options in your drop down list. Please note that whatever name you calibrate a channel for in the DataMaxx calibration process is what will be displayed here. If there are not any sensors in this drop down list, you need to go to Settings and then click on the red Calibration button that looks like a caliper.

- **Gauge Size** – Easily change the size of gauge. Choose between Extra Small, Small, Medium, Large and Extra Large.
- **Gauge Type** – Allows you to change the look and feel of the gauge. You options are Full Needle Dial, 90% Needle Dial, Half Needle Dial, Alphanumeric, Switch Display, Record and Thermometer.
- **Refresh Rate** – This modifies how quickly the needle updates and how much smoothing is involved. The default refresh rate is fast, however, if you have a signal that is noisy and the needle is bouncing around too much, move the refresh rate to Medium or Slow. Options are Full (no smoothing or delay, 100% raw data), Fast (quick reaction, minimal smoothing), Medium (quick reaction, more smoothing), Slow (slower reaction, max smoothing).
- **Gauge Range** – This will determine what the minimum and maximum values shown on the gauge will be. There are typically two methods to setting the min and max. The first is to set it based on the min and max ability of the sensor in question (i.e. 15 psi min is 0 and max is 15). The second option is to set them in a way that allows your ideal condition make the needle stay at 12 o'clock. If you always want to launch the car when the temp gets to 140 then make the min 70 and the max 210. This means the the 140 degree ideal range will be when the needle is perfectly at 12 o'clock and gives you instant visual feedback.
- **Scale Type** – This will change whether the gauge numbers will be divided by 1, 100 or 1,000. If you are using the gauge for RPM you will likely want to set it to divide by 1,000.
- **Gauge Target** – Setting the gauge target will place a green area where the needle should be. Setting the +/- of the gauge target will set how wide the green background is. Then you know that as long as the needle is bouncing around the green, that you're good to go. This is especially useful for starting line times when you want to make sure your pressures are where the should be and that you engine is as warmed up as you want.
- **Gauge Warn** – Setting the warn level on the gauge will cause the gauge name and the gauge number to flash colors, attracting your attention to the problem. If you want to change from <=, simply click on the button and it should toggle between <=, =, >=
- **Save** – Once you are done making changes to your gauge, be sure to click on the Save button at the top right. If you click outside of the text box it will cancel the gauge editing and not save any changes that were made.

Move Gauge

If you would like to move the position of one of your gauges, the process is extremely easy. First unlock editing ability by swiping down to the home screen, Settings and clicking on the lock button. Then swipe up to the page of gauges you would like to edit. Simply touch and hold the gauge you want to move, and then select the Move Gauge option. You will now notice that a square green border appears to show you the boundaries of the gauge. You can now place your finger on the gauge and move it to whatever location you would like. Once you lift your finger off the screen the gauge location will be saved, so be sure to keep your finger on the screen until your happy with the new location. It is ok to place gauges on top of or behind other gauges.

Bring To Front / Send To Back

The DataMaxx Jr. dash gives you a lot of flexibility on how you would like your display to look and feel. This means that you can have gauges that can overlay each other to some degree so we can maximize our screen. And once we have the ability to overlay, we have to have the ability to choose which one is on top of the other. This is done easily by placing your finger on the gauge you want to change, and then select either Bring to Front to make it be on top of all other gauges or Send to Back to make it behind other gauges.

Delete Gauge

If you want to delete the gauge, simply place your finger on the gauge you wish to delete and hold it there. When the menu option appears, select Delete Gauge. Note that this does not delete the sensor settings on your data logger but just removes that particular display from your dash page.

Creating a New Page

Your DataMaxx Dash has the ability to show an unlimited combination of sensors and we accomplish this by having multiple pages you can swipe between. By default, your dash should have two pages, one with a tach in the center and 4 other dial gauges and the second page should have a tach on the left and all 8 EGT temperatures on the right. You can get between these two pages by swiping left or right on your dash.

To add a new page you must first put the unit in editing mode. Swipe down until you see the home menu and click on Settings, then click on the lock mechanism button. Then swipe up to the gauges, place your finger anywhere on the screen and hold it there. If you were touching a gauge you will first have to choose More Options. You should now see options such as Add New Page, Delete Page, Move Page Left and Move Page Right. Select the Add New Page option and you should now have a blank page with nothing but messages to start with. You will notice messages has a green box around it and ready to move, so move it to whatever position you would like.

Installation

The installation of the Jr. Dash is going to be very different from installation to installation simply because of the differences of chassis sizes and manufacturers. We do recommend that if you do not have a place to mount your dash, to reach out to your chassis manufacturer to purchase a retrofit kit to be able to put a dash in your junior dragster. Halfscale and Mike Bos have samples of both our Standard Mount and our Flush Mount dash's to make sure your fit is perfect.

Standard Mount Installation:

The standard mount has 4 holes that are just barely accessible from the side of the screen. Installing this mount is as simple as holding the screen up to the panel you will mount it to, get it perfectly centered and aligned and then drill your holes. We do recommend drilling the top left first, putting a bolt in it, re-centering the dash and then drill the lower right hole, and put a bolt in. At this point the dash should be perfectly centered and you can drill and bolt the final two holes.

Flush Mount Installation:

The flush mount allows the screen to be recessed behind the dash panel and although it makes the installation look much cleaner, is also a bit more work. First, because we do have to cut a big hole out to recess the dash, lets place painters tape all over the area we expect to have to cut out.

When you received your Jr. Dash, you should have also received a thin template. Place that on your dash and using painters tape, hold it securely in place. Next look behind the area that you will create as a hole and ensure that there is both nothing on the backside and that there is enough room for half of the screen to be recessed there. If everything looks ok, using a pen, trace the inside of the template so that we know exactly where to cut. Remove the template and cut out the center.

After the hole is cut into your dash panel, take the stainless steel backing off of the dash, slide the dash in through the front and then using the backing plate and locking nuts, tighten the screen to the panel.

USE BLUE LOCKTITE THREADLOCKER AND DO NOT OVERTIGHTEN!!!!

Now you can install your sensors. First mount all of your sensors in the appropriate places. Each sensor has an overview, part numbers, installation instructions, calibration, testing associated with it, and should be read over carefully before attempting to install. Do not run any wires until all of the sensors are installed in the correct location.

Calibrating For Your Sensors

When you first get your DataMaxx Jr. Dash, you will have multiple gauges that have names like Engine and Exhaust, but they may not match your actual installation.

Once you connect your DataMaxx Main Module and power up, swipe down until you get to the home menu, click on Settings and then click on the red calibration button that looks like a caliper. It will ask if you are sure, hit Ok and it will automatically move you to the gauge age. There if you look at the bottom message area, you will see text that says scan complete and will list how many sensors were found. After the sensor discover is done, you can confirm that your sensors are there by creating a new gauge and looking at the Gauge Sensor dropdown list.

If you are moving the DataMaxx Jr. Dash to a different data logger or have made calibration changes to your DataMaxx Main Module, you will need to clear out the default calibration. To do this place your finger on the dash and hold, if you were on a sensor select More Options. Then select the Forget All Sensors options.

Upgrading Your Jr. Dash

When a new version becomes available for the Jr. Dash, we will notify via our email list that was given during your initial purchase. If you would like to add yourself to this list, feel free to email sales@compu-tech.com asking to be added to the Jr. Dash Updates Email List.

The update file will be downloaded from a link on our site at compu-tech.com/pro-dash and will be a file named `datamaxx.tar`. All you have to do is place this file on a thumb drive and then place into the side of the DataMaxx Jr. Dash. After a couple seconds a DataMaxxDash Installer will appear. Click on the Run Setup button, then click on Install. After it is done it will toggle back to the gauges and you can remove the thumb drive.

SENSORS

RECORD SWITCH

Overview:

For the DataMaxx Jr. Kit we have supplied a special switch that can be configured in one of two ways. The first is a simple power and record switch. When the switch is up the power is on, middle is off and down is power on and record on. The second option is to disable the LCD dash while your driver is going down the track. This is good for any young racers that are not quite ready to have a heads up display in their car. With this option, when the switch is up the power and dash are on, middle is off and down is recording on with the dash off. You can choose either method and can later change this by simply modifying the wiring to the switch and LCD.

1. Power & Record Switch

- Switch Up = Power On, Record Off, LCD On
- Switch Middle = Power Off, Record Off, LCD Off
- Switch Down = Power On, Record On, LCD On

2. Power, Record and LCD Dash Kill Switch

- Switch Up = Power On, Record Off, LCD On
- Switch Middle = Power Off, Record Off, LCD Off
- Switch Down = Power On, Record On, LCD Off

Installation:

The record switch is both your record switch and your power switch. It is a three position toggle where center is off, up is on and down is on and recording. It is important that this switch be located outside of the drivers compartment and typically we want it in an area easy for the crew chief to be able to activate.

According to NHRA rules, recording can only be activated by a record switch. In order to pass the NHRA rulebook we oblige by this clearly defined rule and require our users to flip the switch from the On (top) or Off (middle) position to the Record position to actual get a recording. Yes, we are aware that the Aim MyChron records automatically based off of the jackshaft reading however that is in clear violation of the rules listed below.

To install the record switch, we first need to determine where we want the switch to go, typically on the back of the deflector plate and typically on the passenger side since that is the side we typically adjust the carb on. Once you have identified a location, drill a XX” hole.

If you have opted for the pre-wiring, then we need to run the pre-wired record switch all the way from the main module and along the route you want the wire to go. Then place the record switch into the hole with the wires facing downward, screw nut overtop and tighten with pliers. Then zip tie the wire to the frame starting at the record switch and moving towards the main module with any extra going past the main module and then back into it.

If you did not opt for the pre-wiring, we will first need to wire up the record switch using the supplied crimp terminals and the shrink tube labels. Using the supplied 4 conductor record switch cable, strip 3” of insulation off of one end, then remove the aluminum foil shield and the shield wire. Cut 3/4” off of the black and red wire, then strip the insulation off of each wire, just enough to go into the crimpable section of the terminal. Slide the shrink tube over each wire and then crimp down. Give it a gentle tug after. Then install the terminals onto the record switch in the correct number order. Then zip tie the wire to the frame starting at the record switch and moving towards the main module with any extra going past the main module and then back into it.

- 1-Record = Green wire
- 2-Ground = Black wire
- 4-DX 12v = White wire
- 5-Batt 12v = Red wire
- 4/6 Jmpr = Extra Black wire cut off

Calibration:

The *DATAMAXX* unit is pre-configured to start recording whenever the record terminal is connected to ground, so if you install the record switch correctly, you should not need to calibrate. If you do, follow the instructions below.

To Calibrate:

- Follow the Initial Calibration instructions in the Software section, OR:
- Record a short 5 second test log file, and download the log file correctly using the SD button.
- Select Edit, then Properties. You are now in the Channel Properties area.
- Find the Record line, follow it to the right, and click on the finger pushing a red button
- Change the Type of Sensor to either Switch (Ground is 'ON') or Switch (Ground is 'OFF'), and change the Channel Name to what you want.
- Then select the Lights and Record tab and make sure that the check box is selected for “Record Automatically if... Reading is at or BELOW Warn Level 1” and that Warn Level 1 is zero.
- When you are done, select OK, and then “Send Config to DataMaxx”.

Testing:

To test, simply place the SD card into one of the DataMaxx Modules (only one SD card in the system at a time) and turn the record switch on. If the SD card is in the Main Module, you will notice that the green light went from blinking to pulsating. If you have an LCD, you will notice that “Recording” will show up at the upper right area of the screen. You can then confirm that it is working by simply downloading the log file to your DataMaxx software, using the SD button inside of the software itself.

ENGINE RPM

Overview:

The *DATAMAXX* can read your engine RPM from any of the standard ignition systems as well as any magneto. Your engine RPM signal is by far the most used channel and because of that, we want to have the cleanest signal possible. To do this, please follow the instructions below for your specific type of ignition system.

Installation:

Standard Junior Dragster Ignitions:

Junior dragsters do not have a typical ignition box with a nice clean and condition tach output signal. Instead we need to connect directly to the positive side of the coil which will always lead to a noiser signal than a conditioned one. For that reason we have supplied a tach signal filter that is to be connected in between the coil and the DataMaxx.

To connect, simply follow the wiring diagram below. It is recommended to keep the shrink tubed section of the filter as close to the coil as possible. This ensures that cable running the distance to the Main Module is a clean and conditioned signal instead of a noisy coil signal that can spread ignition noise throughout the air.

Dip Switch Setting: N/A

Calibration:

The *DATAMAXX* engine RPM channel is pre-configured to an 8 cylinder, four stroke engine, for both normal engine RPM and magneto. You can, however, change the number of cylinders and switch between four and two stroke engines.

To Calibrate:

- Follow the Initial Calibration instructions in the Software section, OR:
- Record a short 5 second test log file, and download the log file correctly using the SD button.
- Select Edit, then Properties. You are now in the Channel Properties area.
- Find the Engine RPM line, follow it to the right, and click on the finger pushing a red button.
- Change the “Type of Sensor” and “Channel Name” to what you want.
- ◦ Note that changing the channel name to anything besides “Engine” will disable your calculated channels.
- When you are done, select OK, and then “Send Config to DataMaxx”.

Testing:

To test your RPM signal, crank the engine and let it idle. If you have an LCD module, the display should indicate the correct RPM. Your graph should be smooth in general, but keep in mind that many race ignition systems generate a great deal of radio frequency interference, and that the ignition noise can cause erratic RPM readings. If you believe you are a victim of this interference noise, then make sure that all *DATAMAXX* components, including wires, are as far away from ignition components as possible. Also, refer to Avoiding RFI Noise in the Additional Information section.

DRIVE SHAFT RPM

Overview:

The drive shaft RPM will tell you how many revolutions per minute your drive shaft is spinning. Typically each drive shaft kit will come with a 2 magnet collar—although 1, 4 and 8 magnet collars are available for special order. Note that the threads are 5/16”.

Part Numbers:

#8010	9” Ford Small Pinion Drive shaft RPM Monitor Kit	1.878”
#8015	9” Ford Large Pinion Drive shaft RPM Monitor Kit	2.190”
#8020	Universal Drive shaft RPM Monitor Kit	

#8210

Jr. Dragster Jackshaft Collar

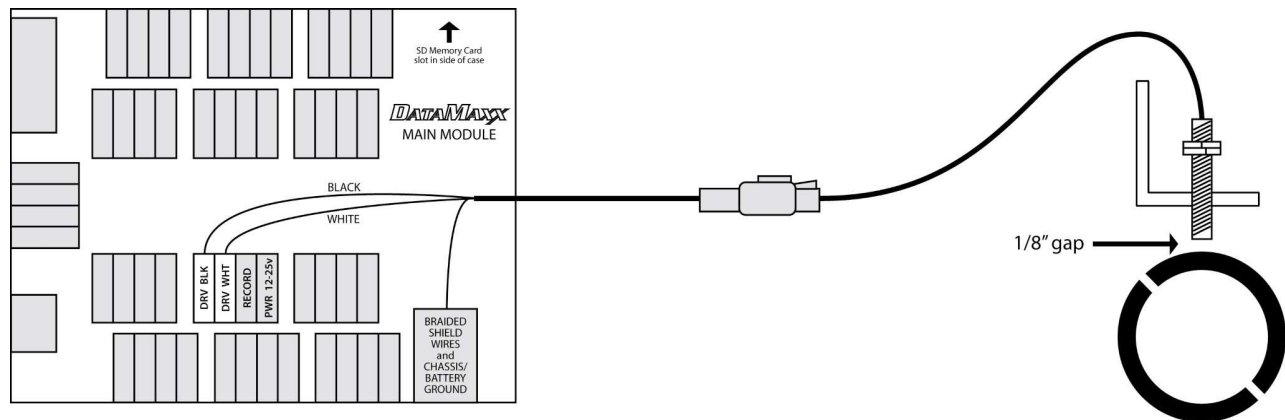
0.700"

Installation:

First, verify that the collar (if ordered) fits your drive shaft. When installing the collar, you want to make sure that it is located in a position that the sensor can look directly down upon. You also want to make sure that the magnets are completely opposite of each other (180 degrees) and not right next to each other (90 degrees). Doing this will result in a constantly fast, then slow signal, that will look very spiky. If your collar does not tighten down enough, remove it, and shave down the 4 spots where each half of the collar meets each other. Be sure to shave an equal amount off of all 4 edges so the magnets will stay a true 180 degrees apart.

The drive shaft sensor is to be passed through the hole in the bracket and then held in position by the two plastic jam nuts. The sensor should be pointed directly toward the center of the rotating shaft. The exact position of the sensor in the bracket should be adjusted to achieve a gap of approximately 1/8". Using a 1/8" drill bit in between the collar and the sensor will give you a quick and easy gap placement.

Connect the white wire to the Main module "DRV WHT" terminal (id #34) and the black wire to "GND BLK" terminal (id #33).



Calibration:

The DATAMAXX drive shaft RPM channel is pre-configured for use with a 2 magnet collar. You have the option of a 1, 2, and 4 magnet configuration, as well as, the ability to use this channel for Engine RPM and switch events.

To Calibrate:

- Record a 5 second test log file, and download the log file correctly using the SD button.
- Select Edit, then Properties. You are now in the Channel Properties area.

- Find the “Drvshf” line, follow it to the right and click on the finger pushing a red button
- Change the “Type of Sensor” and change the “Channel Name” to what you want.
- Note that changing the channel name anything besides “Drvshf” will disable your calculated channels.
- When you are done, select OK, and then “Send Config to DataMaxx”.

For more information, please see “Initial Calibration” in the Software section.

Testing:

Testing the drive shaft input can be dangerous. The safest method is to wait until you’re on the track. Nevertheless, it is possible to test this input by putting the car on stands. Again for the sake of safety, it is not recommended that you run the engine in order to turn the drive shaft and tires. Instead, spin the tires by hand as fast as you can while the transmission is in neutral. The drive shaft should turn fast enough to get a very small reading. If you can’t get a reading, you may not be able to turn the tires fast enough, and should wait until you get to the track.

THERMOCOUPLE SENSOR

Overview:

Using exhaust gas temperature probes can be a valuable tool for tuning, and as a warning system to prevent engine damage. Your *DATAMAXX* is designed for use with K-type thermocouple probes for measuring exhaust gas temperature, with a maximum reading capability of approximately 1800 F. Special K-type extension cable must be used, without exception.

Part Numbers:

- #8035 Single Exhaust Gas Temperature Kit
- #8036 Custom 8 Cylinder Thermocouple Kit

Installation:

First, install the sensor probes on the exhaust itself by following the directions below.

1. Measure a spot 1 ¼” from the header flange. If more than one probe is to be mounted, it is important that all probes be located the same distance from the header flange. This will allow for comparison from cylinder to cylinder.
2. Once the spot has been located, drill a 5/16” diameter hole in the header pipe.
3. Center the weld-in weldment on the hole and weld to the header pipe a full 360°.
4. Coat the 1/8” pipe threads on the compression fitting liberally with anti-seize, and install the

male connector portion of the compression fitting into the weldment and tighten.

5. Now, using a marker or pencil, make a mark on the probe that is half the diameter of the header pipe **plus** 1" (the length of the weldment and the compression fitting) from the exposed tip of the probe. Verify this depth by visual inspection into the pipe. The tip of the probe should reach to the center of the pipe. (For example, for a 1 1/2" header pipe, the mark on the probe should be half of this diameter plus 1" from the tip, which amounts to 1 3/4" from the tip. For a 2" header pipe, the mark should be 2" from the tip.)
6. Slip the nut (with the cup side to the exposed tip of the probe) and the ferrule onto the probe.
7. Insert the probe into the compression fitting base to the point where the ferrule and the line on the probe come together. This will insure that the probe is in the middle of the exhaust stream and will set the ferrule on the probe sheath.
8. Holding the probe in place, tighten the compression nut down tight. **Make certain that the thermocouple probe is in its proper position prior to tightening the compression nut.**
9. Loosen the nut to the point that the probe will turn and, if room permits, align the transition spring and the lead wire at a 90 degree angle from the exhaust pipe. This will position the sender tip correctly in the exhaust stream.
10. Tighten the nut back down to secure the probe.
11. Route the probe's cable to the junction box, using tie wraps along the way, but leaving sufficient slack to easily insert the connector into the appropriate junction box jack. **Do not harness the cable tightly, being sure to use sweeping bends and loosely guiding the cable to the junction box.** This will allow the cable to absorb vibrations along its length.
12. The male connector on the end of the probe's cable should properly mate with any of the thermocouple jacks coming from the junction box, so pay attention to the labels on the junction box lid in order to associate the correct cylinder with the correct channel. Insert the male connector into the appropriate jack. It will only go on one way.
13. The cable may be shortened if required. Cut the cable to the desired length (plus some to spare) and carefully cut the stainless steel over-braid back approximately 1". Shrink tubing should be used over the cable where it exists the connector to make for a neater installation. Make certain that the over-braid in no way comes in contact with the wire terminals in the connector. Strip the RED wire back approximately 1/2" and connect to the minus (-) terminal in the connector. Repeat the process for the YELLOW wire and connect to the positive (+) terminal. NOTE: Only this wire can be utilized. Substitution of a different wire **will** affect the operation of the sensor. **REMEMBER - The RED wire must be connected to the MINUS (-) terminal and the YELLOW wire must be connected to the POSITIVE (+) terminal.**

After the sensor itself has been installed, you need to connect it to the DataMaxx system. If you are utilizing an EGT Module then you simply have to plug it into the corresponding channel as indicated on the label of the EGT Module.

If you are installing the sensor into an open analog channel, you will first need to remove the yellow K-type connector. To do this, remove the two screws that hold the case together and then loosen the two

screws that hold the probe wires to the connector. At this point you can shorten the probe lead if you want but be careful as the stainless steel braiding around the sensor can stab you. At this point, we want to visually verify which lead is the red one and which is the yellow. The red lead will go to the Ground Black terminal and the yellow lead will go to the A_ White signal terminal. This may seem counterintuitive as the red lead is going to ground, but this is the correct way.

If you cannot determine which lead is yellow and which is red, do not worry as placing them in incorrectly will not damage the sensor or the DataMaxx. If you are unsure, make your best guess then test the sensor. If the sensor is not reading correctly then swap the leads. If the leads are backwards the temp should read backwards.

Dip Switches: RTD – OFF
 GND – ON

Calibration:

If you are installing the EGT probe into an EGT module then there is no calibration needed. Simply plug the probe into the corresponding spot according to the label on the EGT Module and it is ready to go.

If you are installing the EGT probe in an analog channel, you will need to tell the computer and the *DATAMAXX* what type of sensor it is. You will also need to know which Module and analog channel that you have plugged it into.

To Calibrate:

- Follow the Initial Calibration instructions in the Software section, OR:
- Record a short 5 second test log file, and download the log file correctly using the SD button.
- Select Edit, then Properties. You are now in the Channel Properties area.
- Find the Analog channel line that you installed the sensor on, follow it to the right and click on the finger pushing a red button.
- Change the “Type of Sensor” to “EGT” (1800 degree range using K thermocouple) and change the “Channel Name” to what you want.
- When you are done, select OK and then Send Config To DataMaxx

Testing:

If the engine is off and cold, the readings should be within 20 degrees Fahrenheit of room temperature. If the engine is warm, appropriate readings should be seen. If your probes are reading close to 30 degrees, then there is very likely an accidental reversal of wires somewhere. If your probe is reading a maximum or close to 1800 degrees, then there is an open circuit, and most likely a wire unplugged. Check all connections between the actual probe and the *DATAMAXX* module.

SOFTWARE

INSTALLING THE DATAMAXX VIEWER

Overview:

The DataMaxx software is where you can download your runs, view the information and analyze what it means. This software is where you will be spending the majority of your time so it will pay to learn as much about how to operate it as possible.

We start out with how to install the software then get into how to do your initial calibration. This calibration is critical as we tell the system where each sensor was installed and allow the system to operate correctly. Then we get into some of the different software features and how to perform different tasks.

The software will work with any Windows XP, Vista, 7, 8 or 10 PC.

Installation:

Your *DATAMAXX* system comes with the *DATAMAXX* Viewer CD, and is also available online at www.computech.com. Because we make changes to the software to enhance the user experience, it is recommended to download the latest version of software from our website. To do this, go to www.computech.com then Support and Data Loggers. In the center column you will see a section for Downloads and the latest version of the DataMaxx software. Click on the link and it should ask you if you want to “Run” or “Save” the file. Say run and then follow the instructions in the install wizard. If it asks you if you are sure that you want to run the program, say “Run”.

After the DataMaxx viewer software has been installed, we want to install the “SD Formatting” software so that we can clear off the SD cards whenever the need arises. To do this go to www.computech.com, then Support and Data Loggers. In the center column, you will see a section for Downloads and a link for SD Memory Card Formatter. Click on the link and it should ask if you want to “Run” or “Save” the file. Say “Run” and then follow the instructions on the install wizard. If it asks you if you are sure that you want to run the program, say “Run”.

If you cannot access the internet with your computer, both the DataMaxx viewer software and the “SD Memory Card Formatting” software are on the disk that came with your system. To install them simply go to Start, then Computer. In the Computer area, you should see your different drives like your hard drive and your CD/DVD drive. Right click on your CD/DVD drive and select “Explore”. This will show you the contents of the cd and you can then double click each program to start the install wizard.

SD CARD SETUP WIZARD

After installing your DataMaxx software for the first time, a pop up window labeled “SD Card Setup Wizard” will appear. This wizard will allow your software to automatically find and associate your SD card reader slot with the DataMaxx. However, to complete this wizard, you will need to have first recorded a DataMaxx log file to one of your SD cards. It is recommended to finish the entire installation first before diving into the computer software.

To complete the SD Card Setup Wizard follow the following directions:

1. Place only one SD card into your DataMaxx hardware—preferably in the Main Module.
2. Using the record switch or the record button on the LCD, record a short 10 second log file.
3. Open up your DataMaxx software and ensure that the SD Card Setup Wizard window is open. If it is not, you can simply go to “Download” → “Run SD Card Setup Wizard” (for new SD card location).
4. Hit the “Next” button so that your SD Card Wizard is on the Request Card section.
5. Place the SD card into your computers SD card reader and hit the “Next” button.
6. Follow the instructions on the screen. If it says “Finished So Soon”, then it has found your SD card location and you can hit the “Finish” button.

If you ever change your SD card location (use a different SD card reader) then you will need to run the SD Card Setup Wizard again.

If you go to download a log file and receive the message “No log files found on this media” and are sure that there is a log file on the card, run the SD Card Setup Wizard again.

HOW TO DOWNLOAD LOGFILES CORRECTLY

Downloading your log files correctly is extremely important for a couple of reasons. First, downloading them correctly allows all of your runs to be stored and organized on your computer. It also ensures that your SD card stays clean because each time we correctly download the log file, it saves the runs to your computer and then clears the runs off of your SD card automatically for you. It is also extremely important to download correctly because you cannot calibrate your system unless the log file has been saved to your computer.

Follow the instructions below to correctly download your log file.

1. After recording a log file, place the SD card into your computer.
2. If a window automatically opens up that says something like “Auto Play”, “Removable Disk”, or you see a file like “DATAMX01” then you need to close this window.

3. If a window automatically opens up that has 3 green arrows, then skip ahead to step 5.
4. With the DataMaxx software open, click on the “SD” button on the top toolbar.
5. This window with green arrows is how we organize and save all of our log files. The first green arrow allows you to save a log file to an existing event, the second green arrow allows you to create a new event, and the third green arrow allows you to cancel.
6. If this is the first run of a new event then you want to follow the second green arrow, erase the words “Type New Event Name Here”, but leave today’s date. Then type in the event name for easy referencing, and hit the “Copy Here” button directly to the right.
7. If this is the second or subsequent runs of an event that you already created, follow the first green arrow, and find the event that you would like to save the run to. Click on that event name and hit the “Copy Here” button directly to the right.
8. You should now have a window pop up that tells you that it “Successfully Copied “X” Amount of Log Files”. Select Ok, and it will then open your run.

INITIAL CALIBRATION

Overview:

The first steps in installing the DataMaxx system is to install the modules, then install the sensors and run the wires. If you have not performed these tasks then there is no reason to perform the Initial Calibration, and you need to do that first. Please refer to “Getting Started” in the beginning of the instruction manual.

Now that you have all of the hardware installed, we need to calibrate the system. The DataMaxx system is unique in the fact that we can accept any sensor on the market and it can be installed in many different channels. Because of this, we have to know where you physically installed each sensor. To make life easier for you, please fill out the “Configuration” sheet on page 5. Once you have done this you can follow the instructions below.

Instructions:

1. After you have installed the modules and sensors, ran and terminated the wires, you can fill out the “Configuration” sheet on page 5, and then install the DataMaxx software.
2. Turn power on to your DataMaxx system, place the SD card in the Main Module and record a short 10 second log file. Turn the record switch off, and remove the SD card from the Main module.
3. Place the SD card in your computer. If a window pops up that does not have green arrows, then immediately close it.
4. Open the DataMaxx software. If this is your first time opening the software the SD Card Wizard will be displayed, follow the directions on the screen to set up the SD card. After the SD card has been found it is time to download the log file.

5. To properly download the log file, hit the SD button located in the top toolbar of the software. This will bring up a window with three green arrows. Follow the second green arrow and you will see a text box with today's date and "Type New Event Name Here". Delete the words "Type New Event Name Here", but leave today's date. Then type in "Calibration". This will mean the event name will be today's Date Calibration. Then hit the "Copy Here" button directly to the right. It will then say "Successfully Copied X Log files". Hit Ok.
6. Select Edit and then Properties. This has brought you to the channel properties where you can make all of the changes to the system.
7. The first line is **Record**.
 - This is for the physical record switch and we want to leave this alone.
8. The next line is **Engine**.
 - If you are running a standard Jr. Dragster engine, follow the line all the way to the right and click on the calibration button (finger pushing a red button). Change the type of sensor to Engine RPM(1 cylinders) and leave the channel name as Engine. Then hit Ok to return to the channel properties.
9. The next line is **Drvshf**.
 - Our DataMaxx Jr Kit comes standard with a 4 magnet collar. Find the driveshaft line, follow the line all the way to the right and click on the calibration button finger pushing a red button). Change the type of sensor to Shaft RPM (4 magnet/revolution) and leave the channel name spelling as Drvshf. Then hit Ok to return to the channel properties.
10. The next line is **Magneto**.
 - Follow the line all the way to the right, and click on the "Calibration" button (finger pushing a red button). Select "None" from the top of the "Type of Sensor" drop down list. Then hit Ok to return to the channel properties.
11. The next line is **Inpshf**.
 - Follow the line all the way to the right, and click on the calibration button (finger pushing a red button). Select "None" from the top of the "Type of Sensor" drop down list. Then hit Ok to return to the channel properties.
12. The next line is the **Switch 1** monitor.
 - Follow the line all the way to the right, and click on the "Calibration" button (finger pushing a red button). Select "None" from the top of the "Type of Sensor" drop down list. Then hit Ok to return to the channel properties.
13. The next line is the **Switch 2** monitor.
 - Follow the line all the way to the right, and click on the "Calibration" button (finger pushing a red button). Select "None" from the top of the "Type of Sensor" drop down list. Then hit Ok to return to the channel properties.

14. The next line is the **Main Module A1** channel.
 - Your Main Module A1 should be your Head Temp sensor. Find the line for Main A1, follow the line to the right, and click on the “Calibration” button (finger pushing a red button). Change the channel name to Head and change the type of sensor to TEMP 470 degree range. Then hit Ok to return to the Channel Properties

15. The next line is the **Main Module A2** channel.
 - Follow the line all the way to the right, and click on the “Calibration” button (finger pushing a red button). Select “None” from the top of the “Type of Sensor” drop down list. Then hit Ok to return to the channel properties.

16. The next line is the **Main Module A3** channel.
 - Your Main Module A3 should be your Exhaust Temp sensor. Find the line for Main A1, follow the line to the right, and click on the “Calibration” button (finger pushing a red button). Change the channel name to ExhaustX and change the type of sensor to EGT 1800 degree range. Then hit Ok to return to the Channel Properties

17. The next line is the **Main Module A4** channel.
 - Follow the line all the way to the right, and click on the “Calibration” button (finger pushing a red button). Select “None” from the top of the “Type of Sensor” drop down list. Then hit Ok to return to the channel properties.

 - Then go back and fix the Exhaust name in channel A3 from ExhaustX to Exhaust

18. The next line is the **Battery** channel.
 - Leave this line alone. We determine what your battery voltage is by monitoring the amount of power your DataMaxx system receives.

19. The next line is the **MPH** channel.
 - If you have a driveshaft sensor and the channel name is “Drvshf”, then you can automatically determine your MPH. To do this, follow the line to the right, and click on the “Calibration” button (finger pushing a red button). To the right of the “Type of Sensor” drop down list is another calibration button. Hit this, and make sure that you are on the MPH tab. Then enter in your “Tire Circumference” and “Rear End Ratio”. When you are done hit Ok, and Ok again, to return to the channel properties.
 - If you do not want to configure the MPH channel, follow the line all the way to the right, and click on the “Calibration” button (finger pushing a red button). Select “None” from the top of the “Type of Sensor” drop down list. Then hit Ok to return to the channel properties.

20. The next line is the **TIME** channel.
 - The time channel will display the time at the top of your screen, there is nothing you can change here.

21. The next line is the **Convrtr Slip** channel.

- The Converter Slip channel is a calculated channel that takes the “Engine” and “Drvshf” channel names to calculate the converter slippage. If you do not have two channels that are named precisely “Engine” and “Drvshf”, then the calculated channel will not work correctly.

22. The next line is the **Clutch Slip** channel.

- The Clutch Slip channel is a calculated channel that takes the “Engine” and “Inpshf” channel names to calculate the clutch slippage. If you do not have two channels that are named precisely “Engine” and “Inpshf” then the calculated channel will not work correctly.

23. If you have the “Beta Features” enabled then these ET Slip Calculated channels will show here. For more information about the Beta Features, please see the “ET Slip Calculated Channels” topic in the Software section.

24. Click on the “Send Configuration to DataMaxx (via SD Card)” button at the bottom right of the channel properties screen. If a window opens up saying that there is No LCD Module found, that is ok, select Ok. It should then ask you if you want to set the Hardware Clock. If you are near the DataMaxx system then say Ok, if not then select No (for every second it takes you to get to the system is a second the SD card does not know has past—for instance, if it takes you 3 minutes to get to the DataMaxx your clock will be 3 minutes slow). Then select Ok, and Ok again, then take the SD card out of your computer.

25. Take the SD card to your DataMaxx system, turn the power on, wait at least 5 seconds and then place the SD card into the Main Module. You will notice the lights on the Main Module acting unusual, and if you have an LCD Dash you will see things—such as Config #10 done. Wait approximately 1 minute, and you have completed your DataMaxx Calibration.

ZONES AND SUBZONES

The DataMaxx software is designed to allow you to easily see and understand your cars data. To aide in this process, we separate sensors into different zones. The idea behind this is that you don't want to have a 30psi sensor in the same zone as a 2000 psi sensor because the 30 psi sensor will look like a flat line. The software will automatically place sensors in the correct zone based on the type of sensor it is. You can however customize these zones.

To Customize a Sensors Zone:

1. Open your most recent log file, select Edit, and then Properties.
2. Click on the “All-In-One View” preferences button to show the zones and subzones column.
3. Find the channel you would like to change the zone to and delete the words “Auto” from the zone column. Then simply type in the number you would like that sensor to be in. If you look at the right of the text field, you will see a number in parenthesis as to which zone it is defaulted to.
4. When you are done making all of your zone changes, simply press Ok. It is not necessary to send the calibration back to the DataMaxx as this is a software only setting. This does, however, mean that if you make a zone change on one computer, you will need to do it to any other computers you plan on using to view your log files.

Default Zones:

1. Time & Switches
2. Main RPM (engine, driveshaft, input shaft, magneto)
3. Derived RPM (converter slippage, clutch slippage, gear ratio, mph)
4. Low Range Temperatures
5. Exhaust Gas Temperatures
6. Accessories (accelerometer, oxygen sensors, shock travel)
7. Low Range Pressures (Vacuum, 24 psi, 30 psi, Battery)
8. Mid-Range Pressures (Oil psi, 500 psi)
9. High Range Pressures (2000 psi)
10. ET Slip Calculated Channels (Beta Features)
99. The Hidden Zone. Sensors that are listed as “None” default here

For our customers that are more used to the Racepak style of viewing log files, we have a special view called the “All-In-One” view that is similar. If you consider the bottom of the screen as 0% and the top of the screen as 100% then you can customize where each sensor will be placed in that screen. If you look at the Subzone column, you will see that by default, the RPM channels are in the top third of the screen (66-100)—whereas the low range pressures are at the bottom third (0-33). This is all completely customizable, but simply deleting the words auto and putting in your own range. This allows you to see all of your sensors in one large zone, but have the ability to customize it so that your sensors are not crisscrossing over each other.

FILTERS

The DataMaxx software has filters built into it to ensure that your graphs are as smooth and readable as possible. By default, all of the channels are set to the recommended filter setting of “Smooth by following the general average” with the Heavy filter weight. If you would like to modify a filter setting please follow the instructions below.

1. Open up any of your log files, select Edit, and then Properties.
2. Find the channel you would like to change the filter on, and click on the “Filter” button.
- 3.
4. Select the “Smooth by following the general average Smoothing” option.
5. Select the filter weight you would like to use (heavy is recommended).
6. When you are done making all of your zone changes, simply press Ok. It is not necessary to send the calibration back to the DataMaxx, as this is a software only setting. This does, however, mean that if you make a zone change on one computer, you will need to do it to any other computers you plan on using to view your log files.

ZEROING SENSORS

Sometimes a sensor will not always read absolutely zero, or be off by a certain amount. The DataMaxx software has the ability to rectify this with our “Make Minor Adjustment” feature.

1. Open a log file that needs to be adjusted. Go to Edit, and then Properties.
2. Find the sensor that needs adjusting, follow the line to the right, and click on the “Calibration” button (finger pushing a red button).
3. To the right of the “Type of Sensor” drop down list, click on the “Calibration” button again.
4. Click on the “Calibration Builder” tab at the top, and make sure that the check box is checked for “Use Calibration Builder” for this sensor.
5. The bottom is the area where you can make minor adjustments to all your readings. If your sensor is always reading 2 psi higher than it should then you would want to type in -2, and then hit the “Add Adjustment to All Readings” button.
6. Select Ok, and then Ok again, to get you back to the channel properties.
7. Because this has now changed the sensor to a Custom calibration, the software does not know

which zone to place it in. So click on the “All-In-One View” preferences button and change the sensors zone to the correct zone.

8. When you are done, click on the “Send Configuration to DataMaxx (via SD Card)” button at the bottom right of the channel properties screen. It should then ask you if you want to set the Hardware Clock. If you are near the DataMaxx system then say Ok, if not then select No (for every second it takes you to get to the system is a second the SD card does not know has past—for instance, if it takes you 3 minutes to get to the DataMaxx your clock will be 3 minutes slow). Then select Ok, and Ok again, then take the SD card out of your computer.
9. Take the SD card to your DataMaxx system, turn the power on, wait at least 5 seconds and then place the SD card into the Main Module. You will notice the lights on the Main Module acting unusual, and if you have an LCD Dash you will see thing—such as Config #10 done. Wait approximately 1 minute and you have completed your DataMaxx LCD Dash Calibration.

VIEWS

The DataMaxx software has 5 predefined zoned views, 1 “All-In-One” view and 5 customizable views. The predefined zoned views are: All, RPM, Temperatures, Pressures and Accessories. You can customize any of these views by grabbing the horizontal divider that separates the different zones and moving them up or down to maximize or minimize any zone you want. If you do find a custom view that you like, you can save it as one of your custom views by going to “View”, “Save View as Custom View”, and then select which “User-Defined” view you would like to save it as.

In addition to the views themselves, there are a couple useful features that the software has. On the left hand side of your screen you will have each sensor name that is being shown, followed by a colored box. To hide that line, simply click on the colored box, and the graph will disappear. To make the graph come back, simply click on the spot where the colored box should be, and the graph will re-appear.

There is also a graph highlighting feature that will make it easier to find a specific line in a sea of lines. To do this, simply click and hold on the sensors name on the left and it will cause that specific graph to highlight. To stop the highlighting, simply let go of the mouse. You can also cause it to continuously highlight by clicking and holding the mouse down on the sensors name, and then move the mouse off the name and let go. It will then continue to highlight until you click on the sensor name again.

Default Views and Associated Zones:

ALL	-	Zones 1, 2, 3, 4, 5, 6, 7, 8, 9, 10
RPM	-	Zones 1, 2, 3
TMP	-	Zones 1, 2, 4, 5
PRS	-	Zones 1, 2, 7, 8, 9
ACC	-	Zones 1, 2, 6, 10

ZEROING RUNS

Zeroing out your runs is extremely important for a couple of reasons. First, it allows you to view your data in relationship to your ET slip. Secondly, it allows you the ability to overlay runs. If you do not zero your runs before overlaying then they will not have the same starting reference point, and you will not get any valuable information from the overlay.

To zero your runs, click on the “RPM” view so that we are looking at a large graph of the Driveshaft sensor. Click your mouse on the spot of the graph, just after the driveshaft line jumps up from zero. Then using your keyboard control, hit the left arrow while watching the Driveshaft value on the left. Continue hitting the left button until your driveshaft value drops to 5 RPM, or below. Once you reach that point, hit the “Z” key on the keyboard. It will then ask you if you want to move the zero time point. Say yes, and you should notice that the time where your cursor is, is now at zero seconds. At this point, you can overlay runs and reference your log file in conjunction with your ET Slip.

SHORTCUT KEYS

There are a couple of shortcut keys for the DataMaxx software to make your life a little easier.

I	=	Zoom In
O	=	Zoom Out
W	=	View The Whole Recording
Z	=	Set Zero Time Point
A	=	Show All Of The Run You Care About (only works after zeroing)

HOW TO DELETE EXCESS LOGFILE

If you find that you have extra data at the end of the run that is not needed (you forget to turn off the recording), you can truncate, or delete the unwanted data. To do this, open the log file, place the cursor at the point you want to delete everything to the right, then select “View”, “Truncate Log file at Cursor”. A window will pop up asking you if you want to truncate the remainder of the log file, say Ok, it will reopen the run and you should see that, that specific part has been removed.

There is also an option to restore the data that you deleted. To do this, simply open the log file you wish to restore and go to “View”, then “Restore Truncated Log File”. A window will pop up asking you want to restore the log file, say Ok, it will re-open the run and the rest of the log file will be there.

OVERLAYING MULTIPLE RUNS

Overlaying runs is one of the biggest advantages of having a data logger. The ability to record a run, make a change to your setup, make another run and look at the two runs over top of each other can make a big difference. You can easily determine if your shift points were different, what advantages you get from the different shift point, etc. However, to correctly overlay runs, you first need to zero each log file. Without doing this, the two runs will have different starting points and you can't compare them. To learn how to zero your runs, please refer to the “Zeroing Runs” topic in the Software section.

To overlay a run, first open up the first log file you wish to compare. Then click on the “Open Folder” button at the top right of the toolbar, find the log file you wish to overlay, click it once, and then select the “Overlay” button at the bottom. It will then open both log files on top of each other. To close the overlay, simply open another log file by double clicking, or click the “Close Log file” button (folder w/ red square).

ET SLIP INFORMATION

The DataMaxx software has a convenient way to store your ET slip and weather information, as well as a convenient place to keep notes on your run called the “Run Notes”. To access the run notes, you first need to have a log file open, then click on the “Run Notes” icon in the toolbar (pencil w/ a plus sign). When the Run Notes opens, you can place in whatever information you would like.

In order for the software to calculate your ET Slip Calculated channels (Beta Feature), the ET info of your log file needs to be filled out. Once this is done, you will be able to see the values for Feet (ET Slip), MPH (ET Slip), Accel (ET Slip), HP (ET Slip), and Torque (ET Slip). Without the ET Info entered into the Run Notes, you cannot get the extra calculated channels.

ET SLIP CALCULATED CHANNELS

By using your sensors, we can calculate multiple different graphs that may be helpful to you. These additional calculated channels are Feet, MPH, Accel, HP and Torque. To get these features go to Edit, Properties, and then click on the “Miscellaneous Settings” tab. Check the checkbox for “Enable Untested Beta Features” and select Ok.

Although the “ET Slip Calculated” channels are currently a Beta feature, the “Drvshf” variants are quite accurate. At the moment, we recommend to ignore or hide (by placing the channel into zone 99) the Accel variants, as well as, the Tire spin ft. & %, and as HP (Torque). We are in the process of

perfecting these variations, and will incorporate it into the software when it's ready.

EDITING RUN DESCRIPTIONS

You can edit your already saved Run numbers, as well as, add a couple notes to associate with the actual log file filename. To do this, simply click on the “Open Folder” button at the top left of the toolbar (Folder opening). Select the log file you would like to change with a single mouse click, then select the Edit button. You can now change the Run number, as well as, add a Comment for the filename. Many users like to add their ET in the comment section, as they remember ET better than an actual run number.

WHERE YOUR LOGFILES ARE STORED

Your log files are store in “My Documents”, in a folder labeled “My DataMaxx”. Once you open that folder, you should see that all of your events are actually folders, then inside those folders are your actual runs. This keeps things very organized and gives you more control over the structure of these files. For instance, you can create a folder inside of My DataMaxx called “2012”, and place all of your previous year’s folders inside of this “2012” folder. The big advantage of this is the ability to minimize the cluster of events when you are trying to open, or find a log file. This is also the only way that you can edit the name of the event after it has been created. To do this, just right click on the folder you wish to change, and select “Rename”.

My Documents → My DataMaxx is the place you need to go when trying to attach a log file.

EMAILING A LOGFILE

Emailing a DataMaxx log file only requires that you be comfortable sending an email attachment. If you know how to do that then follow these simple instructions.

To Email a Single Log file:

1. Open your email program, or website, and create a new message.

2. Fill in who you are sending it to, a subject line, and whatever additional text you would like in the body of the message.
3. When you are done, select the attach button. Sometimes this will look like a paperclip, other times it may actually say "Attach".
4. This will open up a little window to allow you to find and select a file. Select either "My Documents (Windows XP)" or "Documents (Vista, 7 & 8)".
5. Now you should see a folder labeled "My DataMaxx", double click on that.
6. At this point, you should see a folder for each event that you created, simply double click on the event you want, then select the specific log file you want and select "Attach", "Select", or "Ok".
7. You have now attached a log file to your email and can either continue attaching additional log files, or simply send the email.

To Email A Single Event:

1. If you want to email the entire event, we first need to zip up the event file so that it can email its entirety easily.
2. Click on your "Start" button at the bottom left—Windows Vista, 7 & 8 users will see the Windows logo.
3. Select "My Documents (Windows XP)" or "Documents (Vista, 7, & 8)".
4. Double click on the folder labeled "My DataMaxx".
5. Find the Event that you would like to email, right click on the folder, select "Send To" and then "Compressed (zipped) folder".
6. You have now created a zipped folder of the event you are trying to email, allowing you to attach a single file that has all of the log files associated with the event.
7. Open your email program, or website, and create a new message.
8. Fill in who you are sending it to, a subject line, and whatever additional text you would like in the body of the message.
9. When you are done, select the attach button. Sometimes this will look like a paperclip, other times it may actually say "Attach".
10. This will open up a little window to allow you to find and select a file. Select either "My Documents (Windows XP)" or "Documents (Vista, 7 & 8)".
11. Now you should see a folder labeled "My DataMaxx", double click on that.
12. You should now see two folders with the name of the event you are trying to email. If you look at the icon for each one, you will see that one looks like an open folder, whereas the other looks like a folder with a zipper. You want to select the one that looks like a zipped up folder and select "Attach", "Select", or "Ok".
13. You have now attached an entire event to your email and can either continue attaching additional log files, or simply send the email.

To Email All of Your Log files:

1. If you want to email all of your log files (which is a good way to back up your data) or get all of your log files on a different computer, we first need to zip up the My DataMaxx so that it can email its entirety easily.
2. Click on your "Start" button at the bottom left—Windows Vista, 7 & 8 users will see the Windows logo.
3. Select "My Documents (Windows XP)" or "Documents (Vista, 7, & 8)".

4. Right click on the folder "My DataMaxx", select "Send To" and then "Compressed (zipped) folder".
5. You have now created a zipped folder of all of your events that you are trying to email, allowing you to attach a single file that has all of your log files.
6. Open your email program, or website, and create a new message.
7. Fill in who you are sending it to, a subject line, and whatever additional text you would like in the body of the message.
8. When you are done, select the "Attach" button. Sometimes this will look like a paperclip, other times it may actually say "Attach".
9. This will open up a little window to allow you to find and select a file. Select either "My Documents (Windows XP)" or "Documents (Vista, 7 & 8)",
10. You should now see two folders with the name "My DataMaxx". If you look at the icon for each one, you will see that one looks like an open folder, whereas the other looks like a folder with a zipper. You want to select the one that looks like a zipped up folder and select "Attach", "Select", or "Ok".
11. You have now attached all of your log files to your email and can simply send the email.

SOFTWARE UPDATES

From time to time, we will release software updates based on various customer recommendations. To check if there is a newer version of software available, first go to "Help" then "About", and look at which version you are currently running. Then go to computech.com, Support, Data Loggers and in the center section is an area for downloads. If there is a newer version available, simply click on the link. If you are using Internet Explorer it will ask if you want to Run, Save or Cancel. Select Run. If it tells you that the publisher could not be verified, select Run, and if it asks you if you want to allow it, say Allow. Then just follow the instructions on the install wizard. When you are finished open the software, go to "Help", then "About" and double check to make sure you correctly installed the new version of software.

SOFTWARE TRICKS

Run Highlighting:

The graph highlighting feature will make it easier to find a specific line in a sea of lines. To do this, simply click and hold on the sensors name on the left and it will cause that specific graph to highlight. To stop the highlighting, simply let go of the mouse. You can also cause it to continuously highlight by clicking and holding the mouse down on the sensors name and then move the mouse off the name and let go. It will then continue to highlight until you click on the sensor name again.

Quick Hide:

On the left hand side of the screen you will see sensor names and a colored box after it. By clicking on the colored box, you cause the graph for that sensor to disappear. To make the graph reappear, simply click on the area where the colored box should be.

Scaling:

When looking at a sensor in a zone with other sensors, sometimes you wish to focus on a certain graph, and make that as big as possible. You can do this by right clicking on the sensor name and selecting “Set Scale to this Channel”. It will then use as much vertical space as possible for that sensor, maximizing the details you can see. You can also right click in the black background of a zone and either set a manual scale, or go to an automatic scale.

Easy Zoom:

The easiest way to zoom into a specific area of your log file is to click and hold down the mouse to the left of where you want to see, then drag the mouse across to the end of what you want to see, and then let go of the mouse button. This will zoom into just the section where you dragged the mouse.

Channel Values:

When changing between different Views, you will see some sensors values and other ones will be hidden. If you like, you can right click in the black space directly under the sensor names and select either “All Channels Shown” or “Graphed Channels Shown”.

ADDITIONAL INFORMATION

HOW TO WIRE CORRECTLY

How you wire your *DATAMAXX* unit is one of the most critical and important steps in the installation process. Sensor wires should be at least 8" away from any ignition component, otherwise your signals will be erratic and hard to read. Ignition components include ignition boxes, ignition coils, distributors, magnetos, and even ignition kill switches. If possible, you want to run your data cables together back to the main and/or analog module as this will reduce the amount of noise we are susceptible to.

Almost every cable provided with your *DATAMAXX* has a shield (drain) wire. On the *DATAMAXX* Module end of the cable, trim your cable insulation back about 3", leaving all the wires and aluminum foil and shield wire. Next, untwist and cut off the aluminum foil. You should have left the insulated wires plus the bare shield wire.

Prepare the ends of each insulated wire, and affix each under the appropriate screw terminal, leaving the shield wire loose. Tinning each wire with solder before screwing it into the terminal will improve reliability.

As the last step, loop the shield wire under one of the shield screws (near the cable entry). Pull the shield wire so as to drag the sheathed cable right up against the screw terminal. Tighten the screw, then cut off the excess shield wire.

It is helpful to connect several cables without connecting the shield wires. Then, gather multiple shield wires at once, twist them together, and pull the whole assembly under a shield screw.

When wiring an economy sensor that did not have a supplied cable, it is recommended to use a wire between the gauges of 18 to 22.

DIP SWITCH SETTINGS

The dip switches on the Main and Analog module are used to specify the type of sensor being used.

If you are using a magneto: Turn both dip switches A and B to the OFF position (Mag pup and Mag gnd). The lightning / kill wire needs to be plugged into the mag RPM slot (42) and the mag ground needs to be plugged into the mag gnd slot (41). The mag ground is a separate wire that you run from terminal 41 to a convenient mag or chassis ground location, as close to the magneto as possible.

If you are using an input shaft sensor: Turn both dip switches C and D to the ON position (Inp

pup and Inp gnd). Connect your white input shaft wire to the “Inp Wht (#30)”, black input shaft wire to GND BLK (#29), and the red input shaft wire to 12V RED (#31). If for some reason you seem to be getting spikes or noise in your readings, then turn dip switch D to the OFF position.

If you are using an economy pressure or economy temperature sensor: An economy sensor will be a brass colored sensor that must be connected using a screw on terminal. Turn the corresponding analog RTD and GND switches to the ON position.

If you are using a standard analog sensor: Standard sensors include any pressure sensor that has a supplied connector, any temperature sensor with a K-type connector and red/yellow wires, or any sensor that needs to be connected to a power connection inside the *DATAMAXX*. If using one of these sensors, turn the corresponding analog RTD to the OFF position, and the GND to the ON position.

RECORDING A LOG FILE

Recording a log file can be done multiple ways.

Record Switch: The first and easiest is to connect a switch to the record terminal (id #35). One side will be connected to the *DATAMAXX* and the other to a convenient chassis ground. The software is already pre-calibrated to trigger recording.

LCD: If you are using an LCD Module, there is a built record button that will automatically trigger recording. To turn off recording, it is necessary to press and hold the record button. The software is already pre-calibrated to trigger recording.

SD CARD INFORMATION

The SD card used with the DataMaxx system is an extremely fast card, and it is recommended to only use one purchased through Computech. The reason for this is that we sample thousands of samples every second and write them instantaneously to the SD card. This requires a fast card, and we have had consistent success with the cards that we supply you with—but less success with other cards on the market (even ones that say they are fast). You can tell if the SD card is an approved one by looking on the label. If it says “Qmemory” or has the Computech logo on it, then it is approved. If not, we cannot guarantee that it will work correctly.

There can only be one SD card in the system at a time. It does not matter if that place is the Main Module, LCD Module or the Remote SD Module. Under no circumstance can there be more than one

card in the system at a time.

Downloading run information is done via an SD memory card. After recording a run, place the SD card in your computer's digital media slot, open the *DATAMAXX* Viewer software, and click on the "SD" button at the top of the screen. This will automatically save the runs to your computer and delete them from the SD card.

If you are prompted with the message "No log files found. Search for another location?" it means that you either do not have any runs on your SD card or you are looking in the wrong location. If you choose yes to the prompt, it will open a browser window that will allow you to find your SD drive and select it for download.

When using a Main and LCD Module, it is recommended to use the Main module for any calibration purposes. For recording a log file, you can use either the Main or LCD, whichever is more convenient.

If you would like to purchase an additional SD card, the only SD cards that will work with the *DATAMAXX* are ones that are labeled as 150X times faster than the standard card. These cards are available through Computech and at many retail stores, but having the faster than average speed is essential for correct operation.

CAN Bus

The *DATAMAXX* modules communicate with each other using a CAN (Controller Area Network) cable. This CAN system works very similar to the way the internet works, it sends packets across the line with a packet title so the Main Module can tell which module it came from. Because of this it does not matter which CAN Bus terminal you connect your extra modules.

The cable must be 4-conductor twisted pair and shielded, as provided with your unit. The individual colored wires should be connected to the matching color terminal in each module.

ANALOG –VS– DIGITAL

There are two different signal types that can be used with the *DATAMAXX* system, analog and digital. An analog sensor will take a specific voltage and vary the voltage depending on pre-set conditions. The *DATAMAXX* software will then convert the voltage into a useful number in the form of a pressure or temperature. A digital signal is simply either on or off, and is associated with RPM signals and switches.

TROUBLESHOOTING

MAIN MODULE

The first step in troubleshooting the main module is to place the SD card into the main module and turn the power on. At this point we want to look at the LED lights on the Main module to determine what is happening to the system.

- **1 Red Blink:** Your SD card is most likely experiencing issues and needs to be re-formatted. Please see “Re-Formatting the SD Card” in the Additional Information section for instructions on how to do this. If after re-formatting it still gives you a single red blink, use the other SD card that was supplied with the system. The only SD cards that will work correctly with the system are ones supplied through Computech, or are the “QMemory” brand.
- **2 Red Blinks:** You are getting a generic CAN Bus error. Please see “Diagnosing a CAN Bus Error” in the Troubleshooting section.
- **3 Red Blinks:** This is a typical error message letting you know that there is no SD card in the system and it cannot record until there is one. If you do have an SD card in the Main module and are getting this error message, please follow the troubleshooting instructions for ‘1 Red Blink’ above.
- **4-7 Red Blinks:** One of your expansion modules (LCD, Analog, EGT or Remote SD) are causing a traffic jam on the CAN Bus. Please see “Diagnosing a CAN Bus Error” in the Troubleshooting section.
- **Green Light Blinking:** The green light blinking is actually not an error, but an indication that the system is working and has power.
- **Green Light Pulsating:** This is a normal condition for when the SD card is in the main module and the system is currently recording. If your SD card is in another module (LCD or Remote SD) then the green light on the main module will not pulsate. It will only pulsate when the SD card is in the main and it is recording.
- **No Green Light:** The first step is to check with a volt meter to make sure that you have power at the power terminal in the main module. If you do have power over 12 volts, turn power off, and remove the 4 screws that hold the circuit board to the case. On the bottom of the circuit board, there is a power transistor that is black and silver and has three prongs that connect it to the board. Make sure that all of the leads are sufficiently attached to the board. If they are not, please call Computech Tech Support to arrange to have the power transistor replaced on your circuit board. If

the power transistor appears to be intact, replace the 4 screws, then remove all of the wires from your main module except for power and ground. Power the system on again, and if it still does not show any green light, contact Computech Tech Support. If the green light turns on and blinks, turn power off to the main module and slowly begin reconnecting each sensor, powering up after each one in order to determine which one is causing the power failure.

- Green Light Always On: This is usually an indication that there is something wrong with the calibration. Please refer to “Factory Reset / Re-Calibration” in the Troubleshooting section.
- No Log files Found: If after recording a log file, you place the SD card in your computer, and select the SD button in the DataMaxx software, if you get a message stating “No log files found on this media.” The first step is to determine if there is in fact a log file on the SD card. To do this, go to “Start”, “Computer”, and then your SD card. If there is a log file it should say DATAMX01 or a number similar. If there is not a log file on your card, please refer to either the “Record Switch” or “LCD Troubleshooting”, in regards to recording a log file. If there is, you may simply need to run the SD card setup wizard again. To do this, select “Download”, then run “SD Card Setup Wizard” and follow the instructions. When the wizard is complete, hit the SD button again and you should be able to correctly download your log file.
- Corrupted Log file: If when opening a run, you get a message stating that the log file is corrupted, you will need to reformat your SD card. To do so, please refer to “Re-Formatting the SD Card” in the Additional Information section. Now that we have fixed the card, it should work fine with the car off, but we still need to address what corrupted it in the first place. This corruption is almost always a direct result of excessive ignition noise although sometimes it can simply be a bad SD card. Even though it is a different problem, follow the “Getting Cut off Runs” instructions in the Troubleshooting section to make sure you are doing everything possible to combat and prevent excessive ignition noise. If the problem persists, replace your SD card, or call Computech Tech Support.
- Graph Shows Numbers Instead Of Names: If after opening your log file, your channel names to the left are showing a number instead of the name you are expecting, your log file and possibly even your DataMaxx calibration, has been corrupted. Refer to “Factory Reset / Re-Calibration” in the Troubleshooting section to solve the issue. If the problem persists, refer to “Getting Cut off Runs” in the Troubleshooting section to prevent excessive ignition noise.
- Cut off Recordings w/Car off: If you cannot record for extended periods of time without getting a single log file, there is most likely an issue with your SD card. Please refer to “Reformatting the SD Card” in the Additional Information section and try again. If the problem persists, try using your spare SD card.
- Cut off Recordings w/Car on: Please refer to “Getting Cut off Runs” in the Troubleshooting section.

ENGINE RPM

- **Tap Test:** If you are not getting any Engine RPM, the first step is to make sure that the channel on the Main Module is working correctly. To do this we need to perform a “Tap Test”. Please refer to “Testing RPM Channels” in the Troubleshooting section on instructions on how to do the Tap test properly. If the tap test fails, please call Computech Tech Support for more information. If you get a signal from the Tap test then that tells us that the Module and sensor channel are working correctly and the issue is the source of the Engine RPM.
- **Tach Output Test:** After we have confirmed that the DataMaxx is functioning properly, we need to examine your tach output line. Typically this line should come from an MSD ignition box, and be a specific colored wire, or labeled terminal. For the 7AL series, there should be a dedicated terminal for you to connect to, labeled either “Tach” or “T”. If you have determined that you are tapping into the correct wire, try running a temporary wire from the tach output to the DataMaxx to ensure that we are getting the correct signal. If you get no signal, move on to the “Analog Gauge Test”. For the MSD Digital, Programmable and Power Grid ignition systems, the tach output wire should be the gray wire. If the wire is not extended and connected directly to the DataMaxx, then move on to the “Analog Gauge Test”. If it is extended, double check your extension job and if satisfactory move on to the “Analog Gauge Test”.
- **Analog Gauge Test:** If you still do not have an Engine RPM registering in the DataMaxx, the final step is to hook your tach output wire to a normal analog style tachometer. If the analog tach shows the RPM correctly, contact Computech Customer Support for more information. If the analog tach does not register an RPM, contact MSD Tech Support for more information.
- **Tractor Pullers:** If you are using one of the Drive Shaft sensors and a magnet to obtain your Engine RPM you will need to refer to the Drive Shaft RPM troubleshooting section. Before going there however, please make sure that your magnet is less than 1.5” from the center of your rotating mass. Failure to do so will result in receiving an RPM at lower levels and losing it at higher levels.

DRIVESHAFT RPM

- **Adjust The Gap:** If you are not getting any signal after going down the track, the first step is to adjust the gap between your driveshaft sensor and the collar. It's recommended to first move the sensor closer, incrementally until you cannot move it any closer. If that does not work then start backing it out. Once you find a spot where it works well, you should be good to go. If adjusting the gap does not change anything you need to perform the “Tap Test”.
- **Tap Test:** If adjusting the gap does not work, the next step is to perform a Tap Test. Please refer to “Testing RPM Channels” in the Troubleshooting section on instructions on how to do the Tap test properly. If the tap test fails, please call Computech Tech Support for more information. If you get a

signal from the Tap test then that tells us that the Module and sensor channel are working correctly and the issue is either the wiring, extension cable, the sensor itself or the gap and you need to perform the “Magnet Test”.

- Magnet Test: The next step after confirming the Tap test works is to remove the sensor from where it is mounted, leaving it wired up to the entire system. We now want to record a log file while waving a magnet in front of the tip of the sensor. To do this properly, you want to get the magnet as close to the tip as possible and move it back and forth rather quickly, and steadily. Doing so should result in at least some random spikes on the graph and if done consistently will result in a steady RPM. If the magnet waving test works and you see an RPM signal on your graph, then you now know that the wiring, extension cable and sensor itself are working correctly and the issue must be your gap. At this point, go back to the 1/8” gap and incrementally move closer. If you still cannot get it after adjusting the gap again, call Computech Tech Support. If the magnet test fails, then we need to “Check the Extension Cable”.
- Check the Extension Cable: The first step is to make sure your extension cable is making a good connection at the Module. To do this, it's recommended to physically remove the wires from the terminal, visually inspect them to make sure the insulation was not being crimped down on, and then re-install the wires back into the terminals. Do the Magnet Test again. If the Magnet Test fails again then the final step is to check continuity between the end of the extension cable and the terminals the wire is connected to. To do this, you may have to remove the orange cover off of the extension cable plug—take a pair of needle nose pliers and pull it out. Then check the continuity between the plug and the terminal it is connected to. If you have continuity, your extension cable is fine, and the issue is your driveshaft sensor itself. Contact Computech Tech Support. If the continuity test fails, the issue is your extension cable and you need to replace it with a new one.

THERMOCOUPLE SENSOR

- Verify The Calibration: Record a short 5 second log file, and download to your computer using the SD button in the DataMaxx software, and save to an event. Once the log file is open, select Edit, then Properties. Find the channel in question, and verify that the calibration is set to “EGT (1800 degree range using K thermocouple)”. If it is not, follow the calibration instructions for the “Exhaust Gas Temperature Probes” in the manual. If the calibration is correct, “Check the Hardware Settings”.
- Check Hardware Settings: The first step is to visually confirm which channel the sensor in question is physically going to. If this is not the same as the calibration, then re-calibrate. If the sensor is going to the channel you thought, then we need to make sure that the wires are going to the correct terminals. The red wire should go to the black ground terminal and the yellow wire should go to the white signal terminal. If you are having difficulty determining which color is which, simply try swapping the two—as it will not damage the probe or channel. If that is correct, we then need to

make sure that the corresponding RTD dip switch is OFF, and that the GND is on. Refer to the back of your lid to determine which dip switch corresponds to which channel. If none of the Hardware Settings are incorrect then the problem is most likely a dead probe and will need to be replaced.

TESTING RPM CHANNELS

If you need to test one of your RPM Channels (Engine, Drivshf, Inpshf, Mag, Switch 1 or Switch 2) then follow the instructions below.

1. Remove the wire in question from the terminal.
2. Create a jumper wire by stripping both ends of an 8" wire.
3. Screw one end of the jumper wire into the terminal in question.
4. Power up the DataMaxx system, place the SD card into the main module and begin recording.
5. Quickly tap the other end of the jumper wire to one of the 4 ground posts for approximately 15 seconds.
6. Stop the recording, correctly download the log file, and go to a view that will show you the RPM channel in question.

At this point, if you see any type of jump in signal then the channel itself and the DataMaxx are working correctly. If you do not see any signal, send a "Factory Reset" to the system and repeat the test. If the test fails after a Factory Reset, please call Computech Tech Support.

DIAGNOSING A CAN BUS ERROR

The first step of diagnosing a CAN Bus error is to verify that you are in fact getting a CAN Bus error. To do this, simply insert the SD card in the main module with the power on and wait approximately 20 seconds. If you do not see any red lights then you do not have a CAN Bus error. If you see the red light blink in a pattern of either 2 red blinks or 4-7 red blinks then you do in fact have a CAN Bus error.

You can think of the CAN Bus as a large 10 lane highway with traffic moving in both directions. On rare occasion a module can "crash" and cause a pile up on the CAN Bus highway. When this happens it is hard to predict whether the crash will block all lanes and bring traffic to a stand-still, or if it will allow traffic to freely flow in all the other lanes except the one that crashed. Because of these differences, sometimes a CAN Bus failure can cause the entire system to shut down and other times it can cause just the affected module to shut down.

The real question is to determine which module has "crashed" on the CAN Bus. The best way to do this is to divide and conquer. Disconnect a module, then re-power the DataMaxx. If the error goes away then you know that the unit you just disconnected was the one that crashed. Disconnect your modules in the following order (skip over ones you don't have).

- Remote SD Module
- Expansion Analog Module
- LCD Module
- EGT Module

If you find that removing one of the modules gets rid of the CAN Bus error, the next step is to reconnect the module into the system. The most common cause for a CAN Bus wire is faulty wiring, so the mere act of disconnecting and re-connecting the module in question will usually solve the issue. If when you re-connect the module, the CAN Bus error comes back, the next step is to send a factory reset and re-calibrate the system. To do this, please follow the “Factory Reset / Re-Calibration” instructions below. If the “Factory Reset / Re-Calibration” does not resolve the issue then the module that “crashed” will most likely need to be sent back for repair. Please call Computech Tech Support to arrange the repair.

FACTORY RESET / RE-CALIBRATION

Your DataMaxx system is custom calibrated based on your specific installation. Occasionally this calibration file can get corrupted and need to be reset. To perform a factory reset and re-calibration please follow the instructions below.

1. Open the DataMaxx software, and open a log file where everything was working well.
2. Select Edit, then Properties, then select the “Factory Reset” button.
3. After sending the “Factory Reset” to your card, power up the DataMaxx and place the SD card in.
4. Wait 2 minutes, remove the SD card, and place it back in your computer.
5. With the “Channel Properties” window still open on your good log file, hit the “Send Config to DataMaxx” button.
6. Place the SD card in the main module and wait 2 minutes.

At this point, you have performed a factory reset and re-calibrated the DataMaxx system.

GETTING CUT OFF RUNS

If your DataMaxx recording is cutting off in the middle of the run, you most likely have an ignition noise problem. The first step is to check to see if you are getting an error light on the Main module with

the SD card in the Main module. If you are getting a red light, please refer to the “Main Module Troubleshooting” section to diagnose and resolve the issue.

The next step is to determine if the recording issue also applies to when the car is off. To do this, simply record a 5 minute recording (time it) and download the log file. If the 5 minute recording is cut off or downloads multiple log files, then the issue is most likely related to your SD card, please see “Reformatting the SD Card” in the Additional Information section. If you see that it recorded for the full 5 minutes then we know that the run cutoff issue is directly related to the environment that occurs when your engine is running. If this is the case, the answer is almost always excessive ignition noise.

The best way to combat ignition noise is to follow a couple general practices for avoiding RFI Noise. Read and make any changes to your system that is detailed in the “Avoiding RFI Noise” in the Additional Information section. After you have taken all of the precautions to minimize your ignition noise, try recording going down the track again. If you still have an issue, you may be a candidate for a Remote SD Module, a box that was specifically designed to get the SD card as far away as possible from any potential ignition noise. Please call Computech Tech Support so that we can discuss your options in resolving your run cutoff issue.