

# Tour-10

## RGB LED light controller manual



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# Important Information

## Warnings

- Connect this unit's power cord only to an AC outlet of the type stated in this Owner's Manual or as marked on the unit. Failure to do so is a fire and electrical shock hazard.
- Be sure to connect to an appropriate outlet with a protective grounding connection. Improper grounding can result in electrical shock.
- Do not allow water to enter this unit or allow the unit to become wet. Fire or electrical shock may result.
- Do not place heavy objects, including this unit, on top of the power cord. A damaged power cord is a fire and electrical shock hazard. In particular, be careful not to place heavy objects on a power cord covered by a carpet.
- Do not place a container with liquid or small metal objects on top of this unit. Liquid or metal objects inside this unit are a fire and electrical shock hazard.
- This unit is equipped with a dedicated ground connection to prevent electrical shock. Before connecting the power plug to an AC outlet, be sure to ground the unit. If the power cord has a three-pin plug, it will provide sufficient grounding so long as the AC outlet is grounded correctly.
- Do not scratch, bend, twist, pull, or heat the power cord. A damaged power cord is a fire and electrical shock hazard.
- Do not remove the unit's cover. You could receive an electrical shock. If you think internal inspection, maintenance, or repair is necessary, contact your dealer.
- Do not modify the unit. Doing so is a fire and electrical shock hazard.
- If lightning begins to occur, turn off the power switch of the unit as soon as possible, and unplug the power cable plug from the electrical outlet.
- If there is a possibility of lightning, do not touch the power cable plug if it is still connected. Doing so may be an electrical shock hazard.
- Use only the included power cord for this unit. Using other types may be a fire and electrical shock hazard.
- If the power cord is damaged (i.e., cut or a bare wire is exposed), ask your dealer for a replacement. Using the unit with a damaged power cord is a fire and electrical shock hazard.
- If you notice any abnormality, such as smoke, odor, or noise, or if a foreign object or liquid gets inside the unit, turn it off immediately. Remove the power cord from the AC outlet. Consult your dealer for repair. Using the unit in this condition is a fire and electrical shock hazard.
- Should this unit be dropped or the cabinet be damaged, turn the power switch off, remove the power plug from the AC outlet, and contact your dealer. If you continue using the unit without heeding this instruction, fire or electrical shock may result.

## Cautions

- Keep this unit away from the following locations:
  - Locations exposed to oil splashes or steam, such as near cooking stoves, humidifiers, etc.
  - Unstable surfaces, such as a wobbly table or slope.
  - Locations exposed to excessive heat, such as inside a car with all the windows closed, or places that receive direct sunlight.
  - Locations subject to excessive humidity or dust accumulation.
- Hold the power cord plug when disconnecting it from an AC outlet. Never pull the cord. A damaged power cord is a potential fire and electrical shock hazard.
- Do not touch the power plug with wet hands. Doing so is a potential electrical shock hazard.
- This unit has ventilation holes along the left side and at the rear to prevent the internal temperature from rising too high. Do not block them. Blocked ventilation holes are a fire hazard. In particular, do not operate the unit while it's on its side or while it's covered with a cloth or dust sheet.
- To relocate the unit, turn the power switch off, remove the power plug from the AC outlet, and remove all connecting cables. Damaged cables may cause fire or electrical shock.
- When setting up the product, make sure that the AC outlet you are using is easily accessible. If some trouble or malfunction occurs, immediately turn off the power switch and disconnect the plug from the outlet. When you are not using the product for a long time, make sure to unplug the power cord from the wall AC outlet.
- If you know you will not use this unit for a long period of time, such as when going on vacation, remove the power plug from the AC outlet. Leaving it connected is a potential fire hazard.
- The inside of the unit should be cleaned periodically. Dust accumulation inside the unit may cause malfunction and is a potential fire hazard. Consult your dealer for information about cleaning.
- To prevent electrical shock when cleaning the unit, remove the power plug from the AC outlet.

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## **Interference**

The TOUR-10 uses high-frequency digital circuits that may cause interference on radio and television equipment located nearby. If interference is a problem, relocate the affected equipment.

## **TOUR-10 Exclusion of Certain Responsibility**

Manufacturer, importer, or dealer shall not be liable for any incidental damages including personal injury or any other damages caused by improper use or operation of the TOUR-10.

**Thank you for purchasing the BrightBeats TOUR-10 RGB LED system!  
This is our most advanced system yet and is loaded with features!**

The TOUR-10 system has the following specifications:

- Full color 4.3" WVGA touch screen
- 10 Channels with full RGB color control
- DMX integration for control of some or all outputs
- 350 watts continuous output at 12 volts
- Aux input for a 2 channel foot switch
- USB port to save or restore system settings to a flash drive
- Rugged 19" 2U rack mount case

## **Basic system handling and cleaning**

The TOUR-10 system is built tough to withstand the normal abuses of a touring musician but there are some basic rules that should be followed to make sure your system continues to perform at its peak.

### **Touch Screen:**

The system touch screen needs to be handled with care. Sharp objects including pens, pencils etc should NEVER be used on the screen and can cause damage.

The best methods would be to use a stylus, finger or anything that will not scratch the screen.

Screen cleaning can be done with a damp cloth or even spraying a small amount of cleaner on a cloth and then wiping the screen. Do not spray anything directly on the screen. This may cause a short and damage the unit.

### **Static Electricity precautions (ESD):**

Even though the TOUR-10 controller has built in protection for ESD discharge, damage can still occur. Care should be taken to ground your body before touching any of the connectors or screen. The best method would be to touch some part of the chassis to discharge any voltage before working with it.

## Setting up your system

Depending on what type of drums and LED's you have the installation will vary. A typical system will consist of the TOUR-10 controller, a trigger for each drum to be lit and a length of LED's to be driven for that channel.

Each input channel of the TOUR-10 is a ¼ inch mono connector. In general, the safe input range is from 0-10 volts. These inputs can be connected to various devices depending on how you wish to trigger the LED's. In addition to triggers, musical instruments, audio outs and similar devices can be used to trigger *but care must be taken not to overdrive the input or damage may occur.*

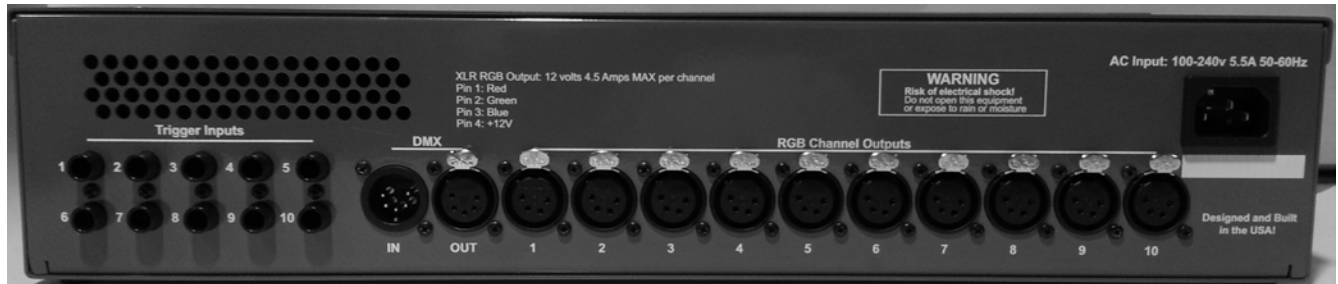
This system has also been tested with Roland VDrum controllers as well as 2Box. You can split the trigger output from a drum or cymbal with a "Y" cable and feed both the drum controller and the TOUR-10. If the drum is a dual zone with a TRS connector, you will have to choose which trigger to use from the splitter and make a custom cable that only connects to one of the outputs.

## Trigger Placement

The TOUR-10 inputs can be set to be very sensitive. This allows for many options when triggering. Typically triggers can be placed in the traditional way directly on the head of the drum or they can be placed on the shell of the drum if a stick-on model is used.

Every situation is different so a test should be conducted to determine what the best method is to achieve the best response and also to reduce cross triggering.

# Output Connections



The back panel of the unit has 10 4-pin female XLR output connectors. Each connector will drive up to 4.5 amps at 12 volts for your LED's. The maximum draw from all channels at the same time must not exceed 29 amps.

The pinouts are as follows:

- Pin 1: Red output (neg)
- Pin 2: Green Output (neg)
- Pin 3: Blue Output (neg)
- Pin 4: +12 volts

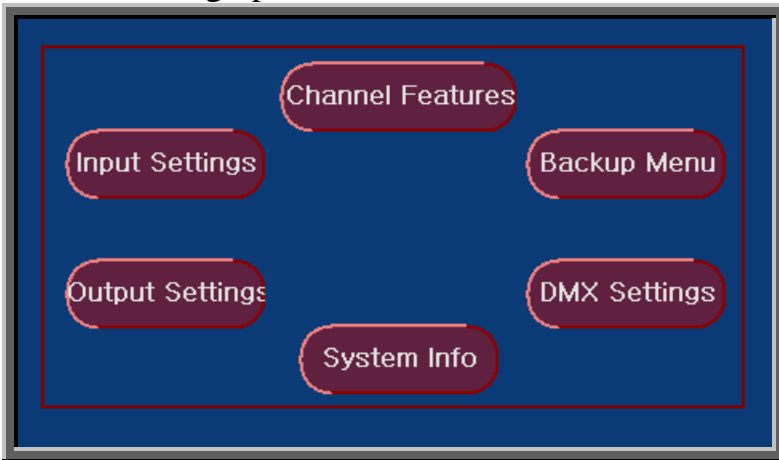
**If you are making your own cables be sure to use the proper gauge to minimize voltage drop and have the ampacity to safely carry the current for your LED's!**

## Software configuration

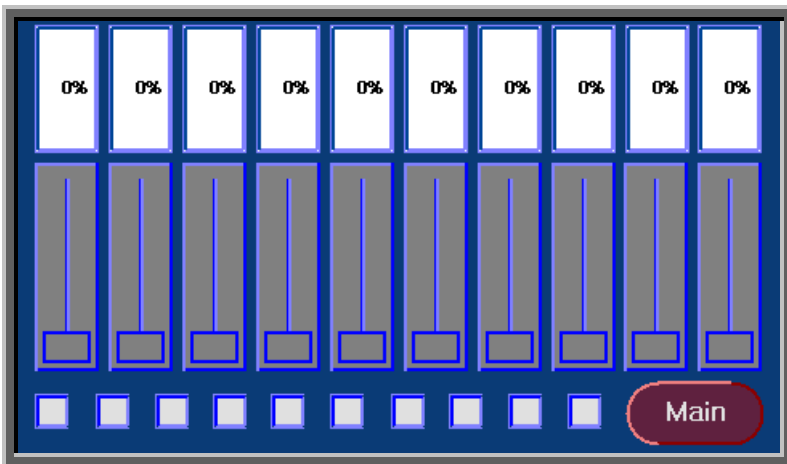
Upon initial power up the system will be at the startup screen. Press the Menu button to open up the configuration menu



This will bring up the main menu



From here, select **Input Settings** to start



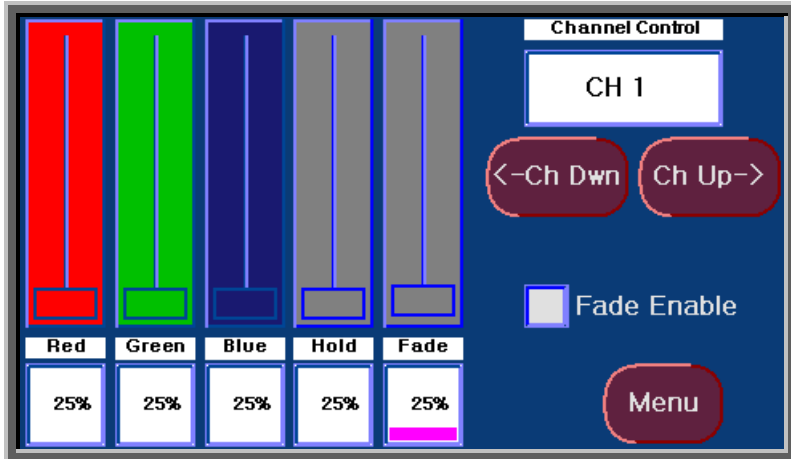
The checkboxes on the bottom will enable or disable each channels input. Start by setting these according to what channels will be used.

The input sliders adjust how sensitive each input will be. 0% is off and 100% is crazy sensitive! You will want to set these so that they are just slightly above the point at which they trigger. Try playing different things and see if you get the response you like. Setting the input higher will give a different response depending on what is being played and how the output settings are configured. Remember that the output settings play a big part in this too.



# Output Settings

From the input menu press the **Main** button on the bottom to return to the main menu and then press the **Output Settings** button.



The channel box on the upper right designates which channel you are currently looking at. You can press the **Channel up** or **Channel down** buttons to configure other channels.

The color sliders will define what percentage of brightness each output will emit. You can slide these up or down to get different colors on the channel.

The **Hold** slider will set how long the channel will keep its output on after the trigger hit is detected. Set it to about 1%, for example, for very fast snare rolls.

The **Fade** slider controls the fade speed of the particular channel. The Fade Enable check box must be enabled for this effect to work.

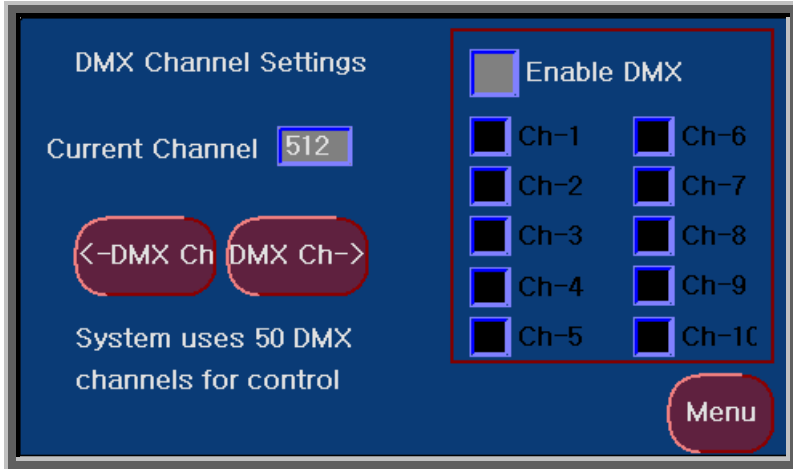
The fade will not become active until after the hold time has expired. Lots of different combinations can be achieved with these settings. You can also use the fade to achieve a color blend on the fade. If you set a color slider at 100% and then set the others at a lower percentage, the color slider at the lower setting will fade out first leaving the higher color on last.

*Note: Changes are not committed to flash until you return to the main menu. While the settings take effect immediately, if you were to power the unit off before returning to the main menu the changes would be lost. This is true for all menus.*

# DMX Settings

DMX control provides full control from lighting software or hardware of some or all of the TOUR-10 channels. Channel control allows the triggers to be turned on or off remotely allowing the drummer to have the LED's trigger only during the parts of the show they want them to. Color control tells the Tour-10 where to get the output color for each channel when trigger override is enabled for each channel.

## DMX control menu



To enable DMX, check the master enable box. This will allow you to select channels to enable DMX control. Only the channels selected here will listen to DMX control signals.

The TOUR-10 uses 80 DMX channels. The channel map is below:

Description	DMX ch	Description	DMX Ch	Description	DMX ch	Description	DMX Ch
CH1 R	1	CH7 B	21	Ch1 Color ctrl	41	Ch4 G Constant Color	61
CH1 G	2	CH8 R	22	Ch2 Color ctrl	42	Ch4 B Constant Color	62
CH1 B	3	CH8 G	23	Ch3 Color ctrl	43	Ch5 R Constant Color	63
CH2 R	4	CH8 B	24	Ch4 Color ctrl	44	Ch5 G Constant Color	64
CH2 G	5	CH9 R	25	Ch5 Color ctrl	45	Ch5 B Constant Color	65
CH2 B	6	CH9 G	26	Ch6 Color ctrl	46	Ch6 R Constant Color	66
CH3 R	7	CH9 B	27	Ch7 Color ctrl	47	Ch6 G Constant Color	67
CH3 G	8	CH10 R	28	Ch8 Color ctrl	48	Ch6 B Constant Color	68
CH3 B	9	CH10 G	29	Ch9 Color ctrl	49	Ch7 R Constant Color	69
CH4 R	10	CH10 B	30	Ch10 Color ctrl	50	Ch7 G Constant Color	70
CH4 G	11	Ch1 trig ctrl	31	Ch1 R Constant Color	51	Ch7 B Constant Color	71
CH4 B	12	Ch2 trig ctrl	32	Ch1 G Constant Color	52	Ch8 R Constant Color	72
CH5 R	13	Ch3 trig ctrl	33	Ch1 B Constant Color	53	Ch8 G Constant Color	73
CH5 G	14	Ch4 trig ctrl	34	Ch2 R Constant Color	54	Ch8 B Constant Color	74
CH5 B	15	Ch5 trig ctrl	35	Ch2 G Constant Color	55	Ch9 R Constant Color	75
CH6 R	16	Ch6 trig ctrl	36	Ch2 B Constant Color	56	Ch9 G Constant Color	76
CH6 G	17	Ch7 trig ctrl	37	Ch3 R Constant Color	57	Ch9 B Constant Color	77
CH6 B	18	Ch8 trig ctrl	38	Ch3 G Constant Color	58	Ch10 R Constant Color	78
CH7 R	19	Ch9 trig ctrl	39	Ch3 B Constant Color	59	Ch10 G Constant Color	79
CH7 G	20	Ch10 trig ctrl	40	Ch4 R Constant Color	60	Ch10 B Constant Color	80

## DMX Continued

The table above assumes a DMX start channel setting of 1.

DMX channels (1-30) are the output color for each drum. These are only used when the color control DMX channel (41-50) are set above 128 and DMX is enabled.

DMX channels (31-40) are used to control the trigger input for each of the DMX enabled outputs. Setting these to a value above 128 will turn on the trigger input and disable the DMX output to that channel but will enable constant color output from DMX channels (51-80).

DMX channels (41-50) are used to control where each channel's color is read from while the trigger control channel is above 128. Setting these to a value lower than 128 will cause that channel to read its color settings from memory. Setting these to a value above 128 will cause that channel to read its color settings from the current DMX values (DMX channels 1-30) corresponding to that channel. When this setting is enabled, the color settings for each channel are actually written to working memory for that channel.

What these settings allow you to do is put the drummer into trigger mode and change the color in real time while he plays. What you cannot control is the input sensitivity and the fade time/control for each channel. These features are only adjustable from the Tour-10 control panel.

DMX channels (51-80) allow you to have a constant background color which can be in contrast to the strike color. These channels are automatically in use whenever DMX is enabled on the controller. An example of its use would be to have the drums constantly lit blue and then flash white when hit. All of these colors are controllable from the DMX channels they follow.

**Note:** You also have to remember that if you turn on Color control for a channel and then blackout your lights, nothing will light up when the triggers fire because each channel's settings will be at zero. It would be better to set a fixed color for that channel in DMX and then shut off the corresponding DMX color control channel before blacking out since this will set that channel at that color.

## Features Menu

The Features menu has options for channel linking and external stomp switch control.



### Channel Control Settings

These settings correspond to the **Aux** input on the front panel. At the current time the **Foot-Sw** and **Aux** buttons are disabled for future use. To enable a foot switch check the **Enable Control** box. Select from the list the channels you want to control. The foot switch will allow you to shut down the LED's on the selected channels with one switch or turn them fully on with the other switch ignoring the input. This can be useful when there is no DMX control and the drummer wants to take control on stage. If DMX is in use, it can override this control.

The **Aux** input is a tip, ring, sleeve configuration. The sleeve is ground, the ring is **Channels on** and the tip is **Disable channels**.

A very basic dual foot switch is all that is needed. No active components can be in the foot switch. Simply grounding the proper pin will activate the function. A good example of this type of switch would be a Vox VFS-2.

\*\*Under no circumstances should any voltage be applied to the **Aux** input. Damage can occur!

## Channel Linking

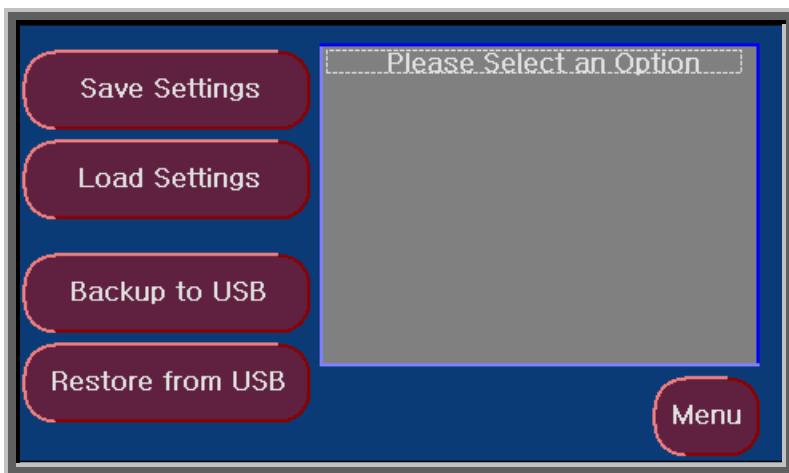
When this box is checked the channel inputs will be tied together for the respective channels. The first channel input will be the active one. For example, if channel 1 and 2 are linked, the input for channel 1 should be used. The input on channel 2 will be disabled. This will only apply to the trigger input. If DMX is enabled on both channels they can be controlled independently.

This is a great feature if you want to light the top and bottom of a drum and have them use only one trigger. The channels are still totally independent of each other as far as settings are concerned. This includes the trigger input sensitivity. What this also allows you to do is have different colors and fades for the top and bottom of the drum as well as a different sensitivity setting. You could have one channel light up on soft hits and then have both light on more powerful hits.

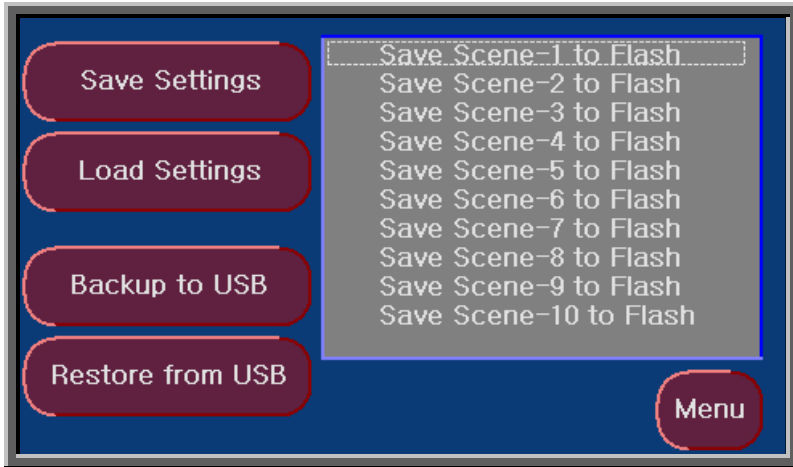
## Backup and Restore features

The TOUR-10 allows for saving and recalling up to 10 different global scene settings. This can be very useful when you want to custom tailor your settings for different equipment, shows or even songs.

When you press **Save Settings** or **Load Settings**, a menu list will appear in the box to the right. Select the appropriate scene number and confirm your selection.



After pressing **Save Settings** the save menu appears to the right



After selecting the scene you will see a confirmation to save the settings. Press **YES** to confirm. The same applies for loading settings.

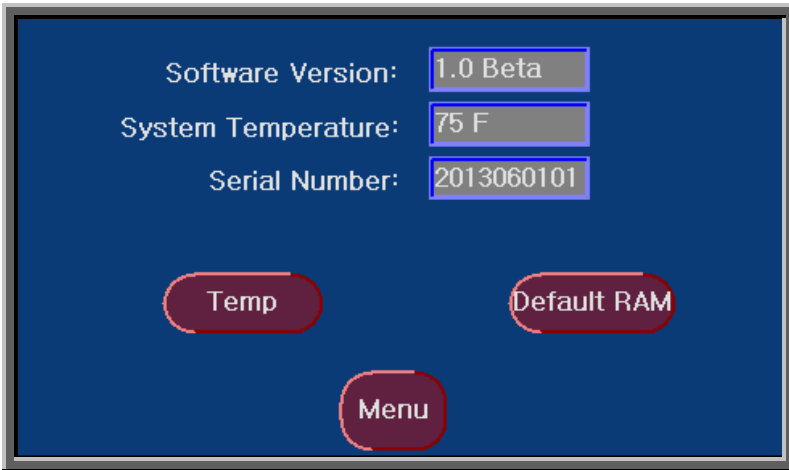
## USB Save and Restore

This is a great feature to backup or restore all of your settings in one shot. The only requirement is that the USB drive is already formatted with the FAT file system. A very small file called BBDATA.TXT will be created.

Once you push the **Backup** or **Restore** button the system will immediately look for a USB flash drive and read or write the file. Best practice would be to press the option first and then insert the flash drive. Make sure you backup your existing system first if you wish to save those settings!

If you already have an existing backup file on the flash drive the TOUR-10 will overwrite this file with the new backup. If you want to backup multiple systems on one USB drive, just rename them something different.

# System Info Screen



This screen displays support information and also shows the current board temperature. You can update the temperature displayed by pressing the **Temp** button.

There is also a **Default RAM** button. This will wipe out the current working-memory settings back to factory default. It will not change the settings stored in Scene Flash memory.



## Electrical input specifications

Parameter		Conditions / Description	Min	Nom	Max	Unit
$V_{i\text{nom}}$	Nominal input voltage		100		240	VAC
$V_i$	Input voltage ranges	Normal operating ( $V_{i\text{min}}$ to $V_{i\text{max}}$ )	90		264	VAC
$I_{i\text{max}}$	Max input current				6.5	$A_{\text{rms}}$
$I_{i\text{p}}$	Inrush current limitation	$V_{i\text{nom}}=115\text{VAC}$ , $T=25^\circ\text{C}$ (see Figure 2)			30	$A_{\text{p}}$
		$V_{i\text{nom}}=230\text{VAC}$ , $T=25^\circ\text{C}$ (see Figure 3)			60	
$F_i$	Input frequency		47	50/60	63	Hz
PF	Power factor	$V_{i\text{nom}}=264\text{VAC}$ , $> 0.5 I_{o\text{nom}}$	0.9			WVA
$V_{i\text{on}}$	Turn-on input voltage <sup>1)</sup>	Ramping up	80		88	VAC
$V_{i\text{off}}$	Turn-off input voltage <sup>1)</sup>	Ramping down	72		80	VAC
$\eta$	Efficiency	$V_{i\text{nom}}=230\text{VAC}$ , $0.5 \cdot I_{o\text{nom}}$ , $V_{o\text{nom}}$ , $T_A = 25^\circ\text{C}$		89		%
		$V_{i\text{nom}}=230\text{VAC}$ , $1.0 \cdot I_{o\text{nom}}$ , $V_{o\text{nom}}$ , $T_A = 25^\circ\text{C}$		90		
$T_{\text{hold}}$	Hold-up Time	After last AC zero point, $V_o$ within regulation, $V_i = 115\text{VAC}$ , $P_{o\text{nom}}$	16			ms

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