

The Dream Player MK2

User Manual

Dream Player MK2 User Manual
Version 1.0
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1 Overview

Congratulations!

You have just received an extraordinary little device.

The Dream Player MK2 is packed full with an extensive array of features and measuring only 3 ½ by 3 ½ inches, this is truly the best item of its kind.

Your sound files are stored on a microSD Card readily available at any electronics store as well as through PRICOM Design. We have tested sizes ranging from 512MB-16GB from a variety of manufactures and have success with them all. This means you could have 25 hours of CD quality music playing in your project using a 16GB SD Card.

Also by using a microSD Card you are able to mount the board to anything and anywhere, and easily change out or update the sounds that the device plays.

What about quality? The MK2 supports exceptionally high quality 44.1 KHz, stereo, 16bit, WAV Files.

You may also control the MK2 via external controls such as a button or motion sensor, and also control Output devices such as LED's with it.

Another exiting feature of the Dream Player MK2 is the "CONFIG.TXT" file that is stored on the SD Card. With this file you may change the characteristics of the Player. Things such as how long a fade out can be? Should it be 5 seconds? 1 second? None at all? Would you like the sound file to play only while you hold a button? How about starting the track when the button is released and stop playing when pressed again? These are just a handful of configuration combinations that you may have, and the beauty of it all is that you may change it at anytime and to your exact situation.

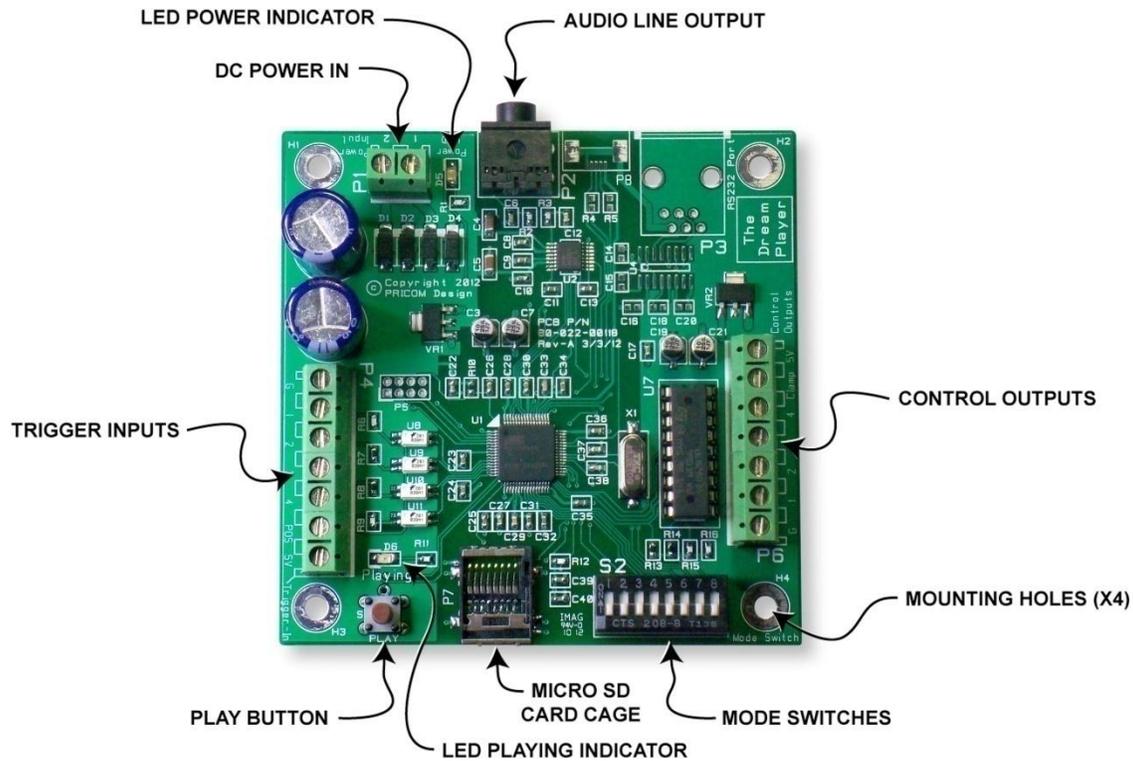
Included with the Dream Player packaging is a CD containing sample Audio Files, a sample CONFIG.TXT File, the complete User's Manual, and several other items to make your experience as enjoyable as possible.

So read within to learn about the many exciting features of The Dream Player Mk2.



2 Using the Dream Player MK2

The following pages describe the Configuration and operation of the Dream Player. You can keep it as simple, or make it as complicated as you wish. With so many options and Configurations available to you, the possible uses are endless.



2.1 Power Indicator

This LED will be lit whenever there is power supplied to the Power Input terminals. The LED is also used to indicate the status of firmware updates as discussed later in on in this manual.

2.2 Status Indicator

This LED will be lit when the Dream Player is currently playing an Audio Track or busy reading the SD Card. If there is any trouble loading the SD Card, or a bad WAV file was encountered this indicator will flash.



Upon power up, when you insert an SD Card into the SD Card Socket the status indicator will blink once for every file on the SD Card then turn off. If you push the PLAY button while the SD Card is initializing, the Dream Player will begin playing the first audio track once the initialization is complete.

The status indicator will also rapidly blink when a firmware update is in progress, as described later.

2.3 PLAY Button

To play the first Track on the SD card at any time, you can simply hit the PLAY button. If you press the PLAY button when the Dream Player is already playing, the sound will fade out and stop, or whatever the settings on the CONFIG.TXT file may be set for.

2.4 Trigger Input

This input is the way to control the activities of the Dream Player. In its factory state, when the Dream Player is idle, the trigger input will cause the track to play. While the Dream Player is playing a track, any kind of trigger input will cause the current track to fade out.

Now any of the above mentioned scenarios may be customized using the CONFIG.TXT file as described latter in this manual.

2.5 Audio Output

Audio is supplied by the Dream Player by means of a standard 1/8 inch stereo jack. You may use any standard powered computer speakers as described in the next section. You can also directly drive non-powered speakers, i.e. headphones, but the volume may be fairly low. It is advisable that an Amplifier be used if you are using the Dream Player with non-powered speakers.

2.6 Power Input

The MK2 may be supplied with AC or DC power ranging from 7-24 Volts and will draw about 100ma when playing. The polarity actually is irrelevant on this board, you may hook up the wires in either way and the device will still power on.

2.7 Control Output

As its name implies, you may use this function on the Dream Player to control up to four outputs such as LED's, Relays, etc... The outputs will activate relative to their track number/trigger number, but there is plenty more to learn about this feature in section 3.4.



2.8 SD Card and Socket

Your Audio content, CONFIG.TXT File, and any firmware updates are loaded onto a micro SD FLASH Card, and then inserted into the SD Card Socket. The connector used on the Dream Players is unique in that the card is loaded from the top and not from the front like standard connectors. One major feature of this style is that it ensures that the card does not accidentally fall out when the device is mounted.

To load the card into the connector, simply insert the card into the socket from the top and while pushing down with your finger, pull towards yourself, you will feel when it is secure. If the card is not properly fitted into the socket, it will actually pop back up, the only time the card remain down is when it is correctly inserted into the connector.

2.9 Mode Switches

If you do not have access to a computer or do not have the time to change the CONFIG.TXT file then you may set the characteristics of the Dream Player by setting the mode switches. Whatever you set on these switches will override anything on the CONFIG.TXT File. To use the settings on the CONFIG.TXT file then leave all of the switches in the off position.

2.10 Creating WAV Files

Any suitable sound editor can be used to create WAV files. The Dream Player will play Stereo, 16-bit samples, at a 44.1KHz sample rate. This is the same format used for CD Players and is quite standard.

Note: The Dream Player can NOT play MP3 files or other non-wav files.

Please visit the PRICOM Design web site (www.pricom.com), for some ideas and tips on creating your own WAV Files.

We recommend numbering your files once you load them onto the SD Card. The Dream Player will understand the numbers '1', '2', '3', or '4' when placed in front of the file name. These numbers indicate to the Dream Player what 'track' they are. If you do not number the files, then the oldest file written to the card will be considered track 1.

You can name your files anything you want. For your convenience, you can name the files something sensible like "Mountain Day.wav" on your computer, and then rename the file once it is on the SD Card. A good file name is something like "1-Mountain Day.wav" which would be treated as Track-1.

During normal operation the Dream Player will play track 1 by default when the on-board button is pressed or is triggered from an outside source via the trigger input.



2.11 Loading the SD Card

In order for the Dream Player to read the files, they must be copied onto the micro SD Card. Any standard SD Card reader attached to any computer can be used. The Dream Player will accept any brand of SD Card, in any capacity up to 16GB.

Simply copy your wav files onto the micro SD Card. The Dream Player will not look in any folders or sub-directories for its files. After you copy files onto the SD Card, a file may be renamed at any time. The MK2 will accept fragmented cards, meaning you do not have to delete all files off the card before loading your news ones on. For example if you had 4 tracks on your card and you wanted to change track 2 you can simply delete the old track and put the new one on the card, without having to delete and then rewrite ALL the files.



3 Connections

The following section provides detailed instructions for connecting your Dream Player MK2. To get started quickly, all you need to do is connect the Power Input, and the Audio Output. Then when you are ready, you can get more advanced and use the Trigger Inputs and Control Outputs.

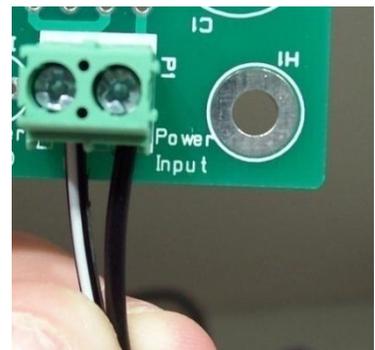
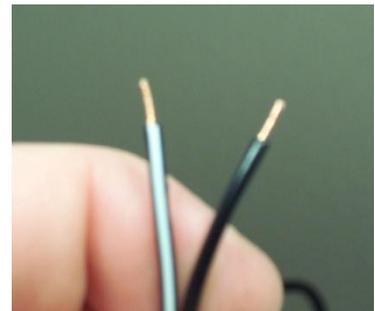
3.1 Power Input

The Dream Player can accept AC or DC power inputs. Typically a wall transformer, or wall-wart is used, but any suitable AC or DC power supply can be used. Any voltage from 7V to 24V AC or DC can be used, but the higher the voltage, the warmer the Dream Player will run. The most efficient voltage to use is 9VDC. At this voltage, the Dream Player will draw about 120MA when playing, so use a power supply that can supply 200MA or more of current. If you wish to power multiple Dream Players, a single larger power supply can be used, just allow for 200MA for each Dream Player you wish to power. As a convenience to you, we also offer wall-transformer power supplies tested and ready to run with your Dream Player at www.pricom.com

The power source used can be shared with other devices, but be careful as the Audio Ground will be referenced to this power source. If you observe a buzzing or other interference noise, it would be best to give your Dream Player its own power supply.

To connect the power supply to the Dream Player, locate the 2-position “Power Input” terminal strip.

If your desired power-supply comes with a connector on the end, simply clip it off as shown to the right. Separate the two wires and strip some insulation off to expose the actual wires then twist them to keep the strands together. Secure the stripped wire ends to the 2 terminals of the Power Input terminal strip. The polarity of an AC or DC power source is not important as there is a bridge rectifier included with the Dream Player.



3.2 Audio Output Connector

The Dream Player can drive any audio amplifier, powered speakers, or media speakers that are typically used on a computer. A very nifty feature of The Dream Player LITE is that it *can* directly drive non-powered or conventional speakers without an amplifier, headphones or ear buds for example.

Prices of media speakers are quite reasonable and you may obtain them from practically every computer store and electronic outlet. Depending on the quality and volume you are trying to achieve, these speakers can be purchased anywhere from \$15-\$50, or as high as \$100+. We have found that many of the \$35-\$50 speakers sound terrific for any application and meet most of our customer's needs just fine, and some of them are quite small and easy to conceal. Choose your speakers wisely as the best audio you can get is often times limited by the quality of the speakers you choose. If you are at a loss for what speakers to get, we offer some reviews of speakers we have purchased on-line with some links to how you may purchase them. Please visit

www.pricom.com



To connect the speakers to the Dream Player, you simply plug-in the stereo plug from the speakers into the Audio Output jack on the Dream Player. You can insert as many extensions as needed to accomplish your wiring. These extensions are 1/8" stereo cables, and sometimes are sold as headphone extension cables. Again many electronic stores will sell this item.



To avoid 'blowing something up' set the volume on the speakers' pretty low to start with, and then adjust as appropriate for your sounds and speaker setup. All sounds are clearly not created and mixed on equal levels, and we would hate for you to blow a good set of speakers after start-up. To state the obvious, start low and work your way up from there.



3.3 Trigger Input Terminal Strip

More than simply playing a sound file, your Dream Player is capable of acting and reacting based on input from you or the devices it is controlling. This section describes the electrical connections for the Trigger Inputs. Section-3 entitled “Using the Dream Player” describes the operational functions and events that are controlled by the Trigger Inputs.

The Trigger Inputs of the Dream Player are optically isolated which means you can wire the inputs so that they are electrically isolated from the Dream Player. Why is that important? Because sharing a common ground between an Audio Playback system and any other system can, and usually does, create ground loops and noises such as ‘buzz’ and ‘hum’. By isolating the Trigger Inputs, we have removed this problem for you!

As a convenience to your wiring, you may use the power supplied on the Trigger Input Terminal Strip, but doing so will defeat the isolation offered by the Dream Player. If you are simply wiring switches or buttons, there isn’t much chance of a ‘ground loop’ or ‘noise’, so we give you the best of both worlds.

Figure 1 – Trigger Input Terminal Strip Pinout (P4)

Terminal	Name	Description
1	GND	Convenience power supply ground
2	Trigger-1	Opto-Isolated Trigger #1 Input
3	Trigger-2	Opto-Isolated Trigger #2 Input
4	Trigger-3	Opto-Isolated Trigger #3 Input
5	Trigger-4	Opto-Isolated Trigger #4 Input
6	POS	Opto-Isolator Shared Power Input
7	5V	Convenience power supply (5VDC)

The trigger input terminals (Trigger-1 to Trigger-4) provide connection to the low-side (Cathode) of the LED in each opto-isolator. Current limiting resistors are built-in, so you can simply connect any Trigger Input to GND to cause the Trigger to occur.

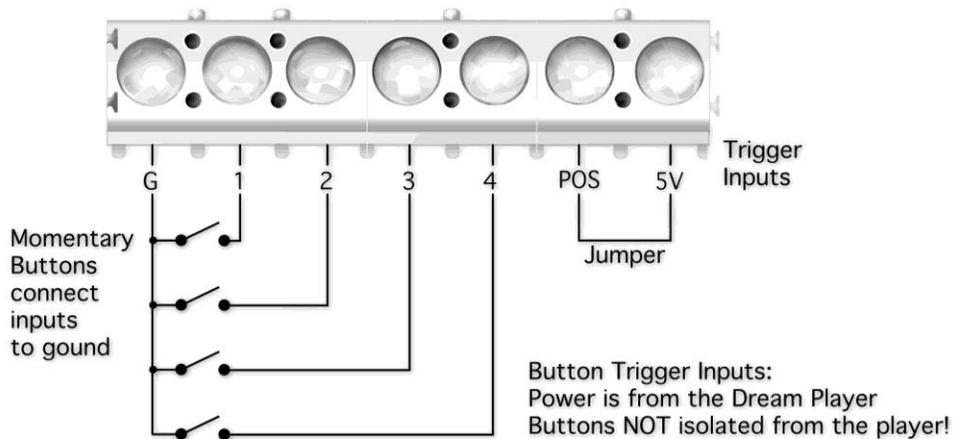
Terminal #6 (POS) is connected to the high-side (Anode) of all 4 opto-isolators. Typically Terminal #6 is connected to the power source to be used to trigger the inputs. This can be an external power source or Terminal #7 (5V), if you do not need to isolate the Dream Player ground. The internal current limit resistors are suitable for voltages from 5VDC up to 24VDC. If higher voltages are required please contact us to determine suitable added current limit resistors.

Terminal #1 and Terminal #7 provide a local power source that is not isolated from the Dream Player, but can be used to simplify wiring if just using push-buttons, relays, or other input that doesn’t require optical isolation.



The following example shows how to connect switches (or relays for that matter) directly to the Dream Player without utilizing the ground isolation features of the opto-isolators. The convenience 5VDC power supply from the Dream Player is jumped to the opto-isolator POS terminal to supply the shared LED Anodes. Each Trigger Input can then be individually connected to the convenience GND pin though any suitable switching device such as a push-button or relay.

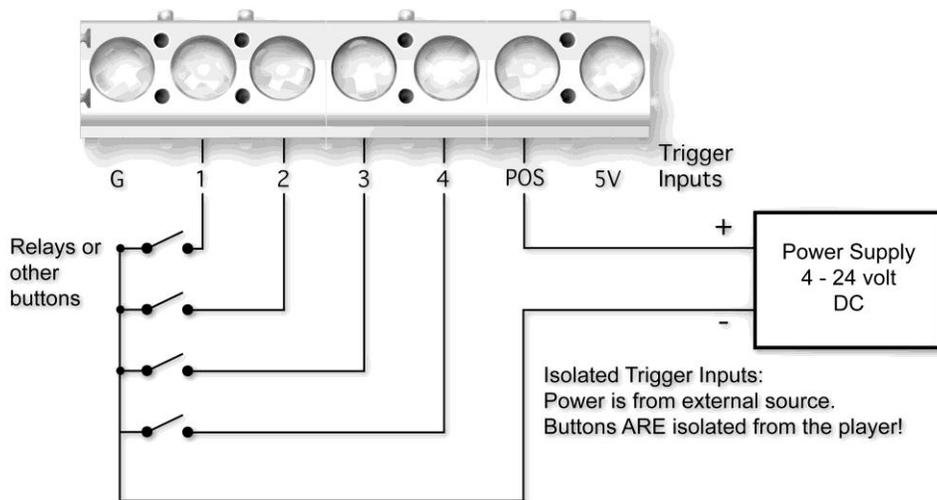
Figure 2 - Simple Trigger Input Button Connections



Note: The actual function of each Trigger Input is determined by DIP Switch settings. More detailed application information is located in Section-3 of this manual.

In the next example, we will use an external power supply to enable the opto-isolators to completely isolate the Dream Player Ground from the controlling device. Notice that the POS terminal is used, but not the 5V or G terminals. Opto-isolator power is supplied from the external 4-24VDC Power Supply.

Figure 3 - Isolated Trigger Input Button Connections

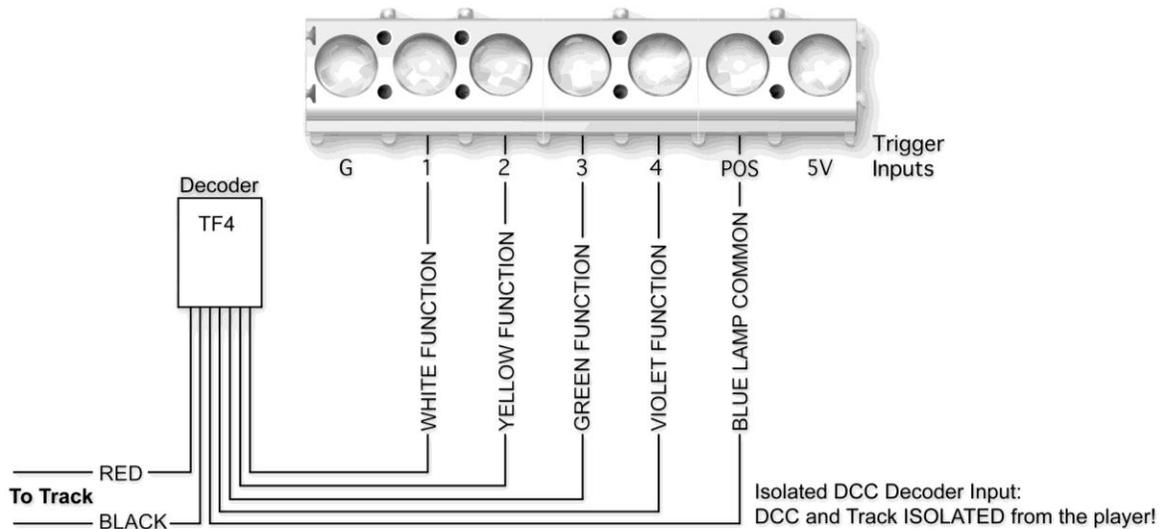


The switch examples shown above don't really need the opto-isolators, so where would you need the opto-isolators? How about connecting to a DCC Decoder!

In the next example, we will connect a Digitrax TF4 to allow the Dream Player to be controlled directly from your DCC System. Any brand of mobile or stationary decoder could be used, but the low-cost of the TF4 lends itself nicely to this application.

Here we have connected the 4 function outputs of the TF4 to the 4 Dream Player Trigger Inputs. Since the DCC Decoder must be connected to the DCC System, where there is considerable noise, some kind of isolation would really help us here. The Dream Player opto-isolators keep the DCC system completely isolated from the Audio Ground and remove any chance of noise entering the sound system and speakers. Note that the 5V and the G terminals are left un-connected since the opto-isolators are being powered from the DCC decoder lamp power lead.

Figure 4 - Isolated DCC Decoder Connections



Note: The actual function of each Trigger Input is determined by the on-board DIP Switch settings or using the CONFIG.TXT File.



3.4 Control Output Terminal Strip

The Dream Player is capable of controlling many types of devices and loads connected to the Control Outputs. This section describes the electrical connections for the Control Outputs.

The Control Outputs of the Dream Player are not isolated in any way from the Audio Ground of the Dream Player. Why is that important? Because sharing a common ground between an Audio Playback system and any other system can, and usually does, create ground loops and noises such as ‘buzz’ and ‘hum’. If grounding problems become an issue for your application, an external relay can be used to isolate the load from the Dream Player.

As a convenience to your wiring, you may use the power supplied on the Control Output Terminal Strip, but doing so will draw power from the internal 5V regulated supply used to power the Dream Player. Use this convenience power for LED’s, small relays, or triggering another Dream Player, but if you intend to power any larger loads, please consider an external power source for the Control Outputs.

Figure 5 – Control Output Terminal Strip Pinout (P6)

Terminal	Name	Description
1	GND	Convenience power supply ground
2	Output-1	Control Output #1
3	Output-2	Control Output #2
4	Output-3	Control Output #3
5	Output-4	Control Output #4
6	Clamp	Common Clamp Diode Connection
7	5V	Convenience power supply (5VDC)

The control output terminals (Output-1 to Output-4) provide connection to a Darlington Transistor Array (Collector) used to Sink Power, but can not Supply Power. Each Output is capable of sinking 400MA using the ULN2803 in the socket at U7. The Darlington Array has its Emitters connected to the GND Terminal #1. External or Convenience power can be used to power the load, but the reference and current ground will be using GND Terminal #1.

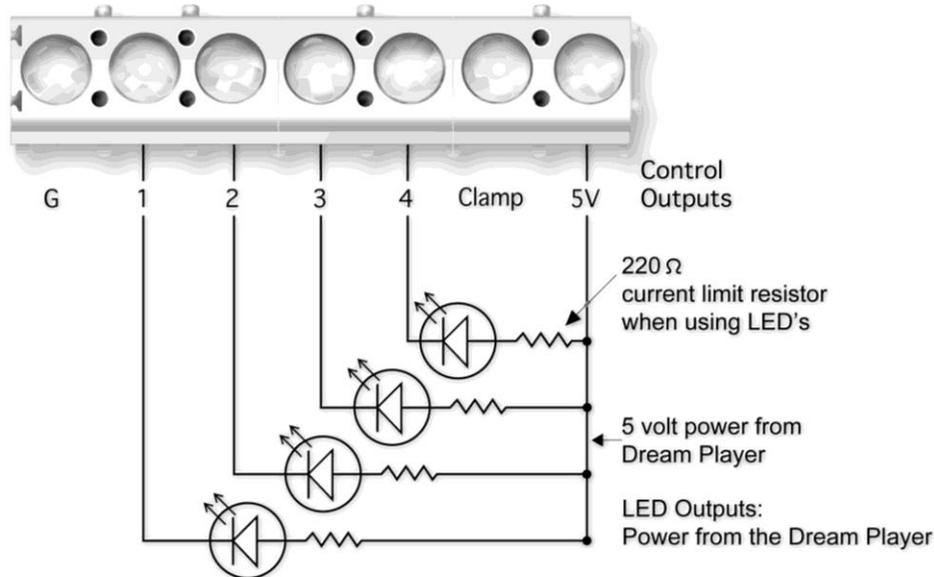
Terminal #6 (Clamp) is connected to the Darlington Array protection diodes (Cathode) for all 4 outputs. If you are driving an inductive load such as a relay, the Clamp terminal should be connected to the power source being used for the load. This Clamp Terminal will prevent the back-lash of the relay from destroying the Darlington Array. If simply driving LED’s this terminal can be left un-connected.

Terminal #7 provides a local power source that is not isolated from the Dream Player, but can be used to simplify wiring if just powering LED’s or other small loads. Power used from this terminal can cause the on-board voltage regulator to become hot under load.



The following example shows a simple way to connect status LED's to the Dream Player using the convenience 5VDC power supply. The LED's will require current-limiting resistors since each Control Output can sink 400MA and would burn-out the LED's. Since the LED's do not present an inductive load, the Clamp terminal has been left unconnected.

Figure 6 - Simple Control Output LED Connections



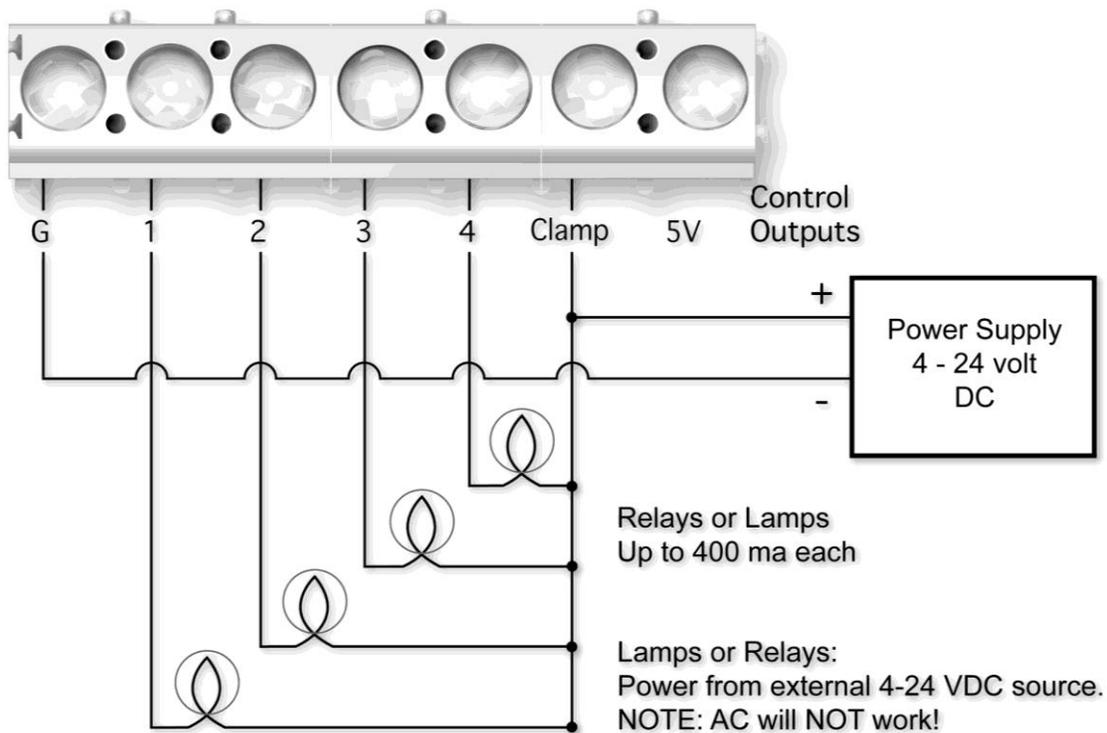
Note: The function of each Control Output is determined by the on-board DIP Switch, or the CONFIG.TXT File. See the information contained in this manual about functionality

The Dream Player can also be used to drive conventional DC powered lamps or DC powered relays. Using external relays allow much higher power to be controlled, or even AC Line voltage. The possibilities are endless, but the next example shows how to connect external lamps or relays using an external power source.

The external power source is used for this example so that not too much power is consumed from the Dream Player's on-board 5VDC power supply regulator. If the relays are high-efficiency and can be powered from 5VDC, then the on-board 5VDC power source could be used. In the following example, we are using an external power source.



Figure 7 - Lamp/Relay Control Output Connections



The common lamp/relay connection must be to the Positive terminal of the power supply, and also is connected to the Clamp terminal to utilize the Dream Player's built-in protection diodes. The external power supply Negative terminal is connected to the GND Control Output terminal. This arrangement causes the positive voltage to flow through the lamp/relay, into the Control Output terminal, and back out the G Control terminal, and complete the circuit at the power supply negative terminal.

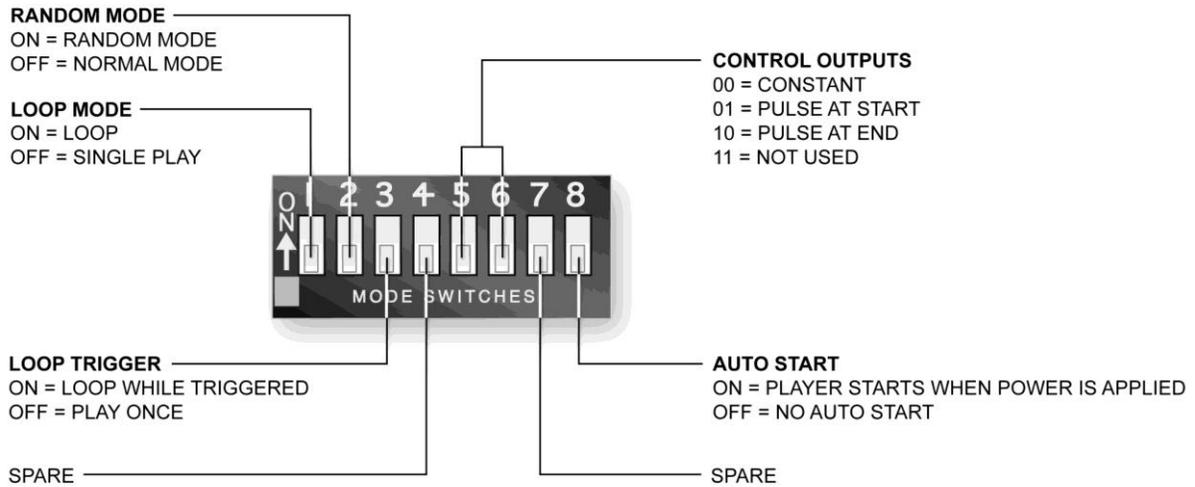
Because the Dream Player uses a Darlington Transistor array for the output control switching element, AC power cannot be used, only DC is possible.

3.5 Mode Switches

The Dream Player has many options available for the Trigger Inputs, Control Outputs, and other functions. These features may be tailored to your specific situation using the CONFIG.TXT file which we will cover later on. However most of these options may also be set using the onboard Mode DIP Switches. Whatever is set on the DIP switch will take priority over whatever is set on the CONFIG.TXT file. If all the switches are in the down/off position then the Dream Player will use whatever settings are in the CONFIG.TXT file.



Figure 8 - Mode Switch Settings



Switch 1 – Loop Mode	
ON	The selected audio track will play continuously over and over until another Trigger Input is detected or the PLAY button is pressed
OFF	The audio tracks will play once only and stop when the end is reached

Switch 2 – Random Mode	
ON	A trigger will cause a random track to be selected and played. The random track will play once or loop forever depending on the setting of Switch 1 – Loop Mode
OFF	Random track selection is not enabled

Note: When Random Mode and Loop Mode are both ON, Trigger #1 will pick a new random track with each playback loop. Trigger #2 will pick a random track and continue to loop that single random track.

Switch 3 – Loop While Trigger	
ON	The selected audio track will continue to loop and play as long as the respective trigger input is present. Once the trigger is removed, the current track is played to completion then the Dream Player will stop
OFF	Loop while trigger is not enabled

Note: Loop While Trigger can also be combined with the Random Play Mode to cause random tracks to be played as long as the Trigger is present.

Switch 4 – Spare	
ON	Not used yet
OFF	Not used yet



	Switch 5	Switch 6	Control Outputs
	ON	ON	This mode selection is not used yet
	ON	OFF	At the END of each track, the respective Control Output will momentarily go active or pulse
	OFF	ON	At the BEGINNING of each track, the respective Control Output will momentarily go active or pulse
	OFF	OFF	During PLAY of each track, the respective Control Output will constantly be held active

Switch 7 – Spare	
ON	Not used yet
OFF	Not used yet

Switch 8 – Auto Start	
ON	When power is applied to the Dream Player, playback of Track #1 will automatically begin playing after about 2 seconds
OFF	Playback will NOT automatically start at power-on

All switch modes can be combined in any manner. For example, a useful setup would be combining Auto Start Mode, Random Mode, and Loop Mode. This would cause the Dream Player to start playing a random track after power-up, when the track ends, pick another random track and play. This process would continue until a trigger input is detected or the PLAY button is pressed.

3.6 Mounting Holes

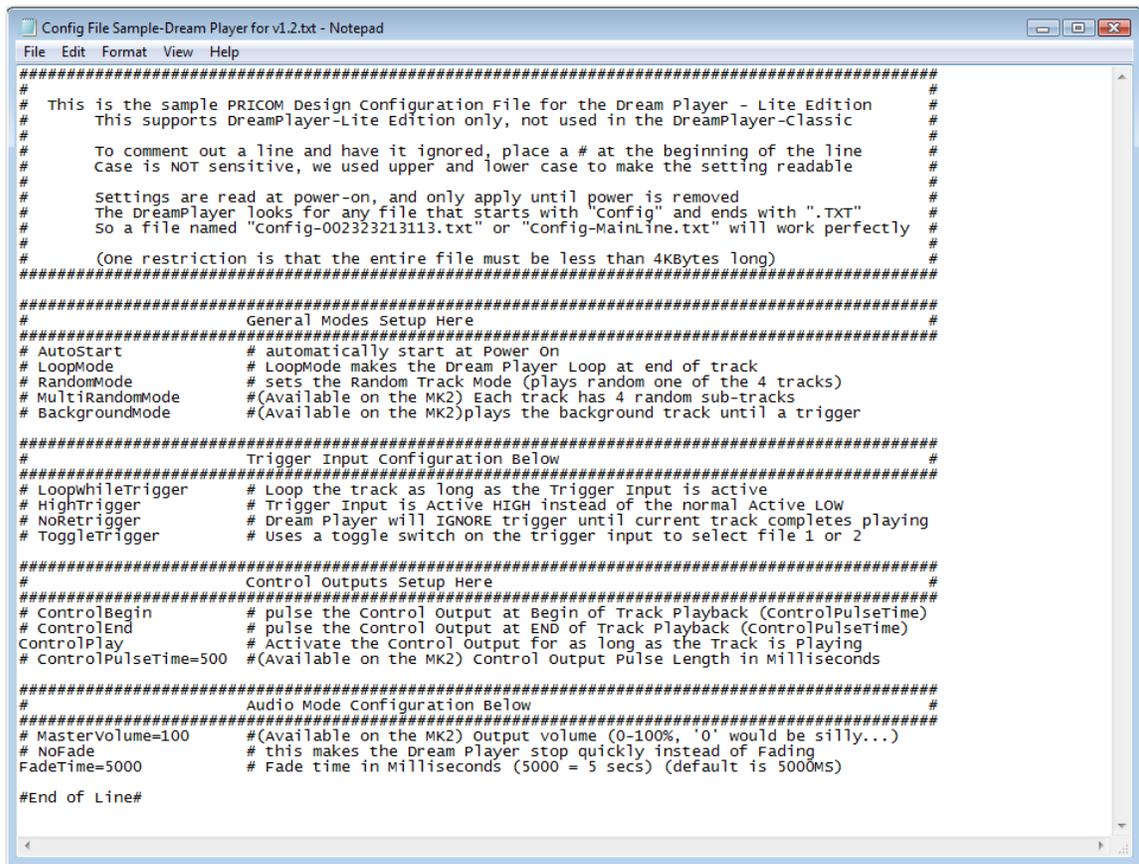
The Dream Player can be mounted to any non-conducting surface using the supplied mounting holes. Although there are not any components on the back of the LITE, using some form of stand-off would be advisable to keep from breaking anything and more importantly avoid any unwanted short circuits. The mounting holes are electrically isolated however, and using steel screws is fine, but please do be careful not to over tighten them.



4 Introducing the CONFIG.TXT File

Upon first glance the CONFIG.TXT file looks intimidating but is pretty self explanatory, and easy to use. The below screen is as it appears directly off a PRICOM Design supplied microSD Card, downloaded off our website, or from the included CD.

If for some reason you neglect to put the CONFIG.TXT file onto your SD Card this is the standard CONFIG.TXT that the MK2 would revert to.



```

#####
#
# This is the sample PRICOM Design Configuration File for the Dream Player - Lite Edition
# This supports DreamPlayer-Lite Edition only, not used in the DreamPlayer-Classic
#
# To comment out a line and have it ignored, place a # at the beginning of the line
# Case is NOT sensitive, we used upper and lower case to make the setting readable
#
# Settings are read at power-on, and only apply until power is removed
# The DreamPlayer looks for any file that starts with "config" and ends with ".TXT"
# so a file named "Config-002323213113.txt" or "config-MainLine.txt" will work perfectly
#
# (One restriction is that the entire file must be less than 4KBytes long)
#####
#
##### General Modes Setup Here #####
#
# AutoStart # automatically start at Power on
# LoopMode # LoopMode makes the Dream Player Loop at end of track
# RandomMode # sets the Random Track Mode (plays random one of the 4 tracks)
# MultiRandomMode #(Available on the MK2) Each track has 4 random sub-tracks
# BackgroundMode #(Available on the MK2)plays the background track until a trigger
#####
#
##### Trigger Input Configuration Below #####
#
# LoopwhileTrigger # Loop the track as long as the Trigger Input is active
# HighTrigger # Trigger Input is Active HIGH instead of the normal Active LOW
# NoRetrigger # Dream Player will IGNORE trigger until current track completes playing
# ToggleTrigger # Uses a toggle switch on the trigger input to select file 1 or 2
#####
#
##### Control Outputs Setup Here #####
#
# ControlBegin # pulse the control output at Begin of Track Playback (ControlPulseTime)
# ControlEnd # pulse the control output at END of Track Playback (ControlPulseTime)
# ControlPlay # Activate the Control output for as long as the Track is Playing
# ControlPulseTime=500 #(Available on the MK2) control output Pulse Length in Milliseconds
#####
#
##### Audio Mode Configuration Below #####
#
# MasterVolume=100 #(Available on the MK2) output volume (0-100%, '0' would be silly...)
# NoFade # this makes the Dream Player stop quickly instead of Fading
# FadeTime=5000 # Fade time in Milliseconds (5000 = 5 secs) (default is 5000MS)
#End of Line#

```



We will just go ahead and simply go down the list of what we can do with this awesome little file.

First off;

To make a Function ACTIVE, remove the “#” from in front of it. If a feature is not applicable to your situation and you do not need it, simply insert a “#” in front of the name.

You may name the file whatever you want just so long as it starts with “CONFIG.TXT” and ends with .txt. For example “CONFIG.TXT-bobsstuff.txt”, “CONFIG.TXT.txt” and “CONFIG.TXT-thisismysampltestfile.txt” would all work.

There should only ever be one CONFIG.TXT file on the mirco SD Card.

This CONFIG.TXT File must be less than 4KB long. We have a limited about of memory space that we can dedicate to reading this specific file and 4KB happened to be that number. In its original condition and as it is displayed above it measures about 3.01KB. But the above includes a lot of text and to make the file do its job you should not have to mess with the text at all. So space should not be too much of an issue. Just don't go writing any excessively long comments to yourself.

Overall the nice thing is that if for some reason you forget what a particular function does, the description is found in the file and will pretty much just explain itself.

So enough housekeeping let's get into what each one does.



4.1 General Mode Setup

```
#####
#                               General Modes Setup Here                               #
#####
# AutoStart                     # automatically start at Power On
# LoopMode                      # LoopMode makes the Dream Player Loop at end of track
# RandomMode                    # sets the Random Track Mode (plays random one of the 4 tracks)
# MultiRandomMode              #(Available on the MK2) Each track has 4 random sub-tracks
# BackgroundMode               #(Available on the MK2) Plays the background track until a trigger
```

Feature	Description
Auto Start	The file will begin to play automatically as soon as the power is applied to the device.
Loop Mode	Will continuously loop the sound until an outside trigger stops it (a button for example).
Random Mode:	Will randomly select from up to 4 files on the SD card. The player will only play the selected file once, unless this mode is combined with Loop Mode.
Multi Random:	You may have up to four files per track, and the Dream Player will randomly play from these four. For example, if you have this feature enabled and you trigger track one it will play randomly from the four track ones. This effectively enables you to have up to sixteen tracks on a Dream Player.
Background Mode:	In addition to the normal pre file numbering 1-,2-3-,4-. You may have a track “0-” that acts as a “background” track. When you use this feature, the Dream Player will continuously play the 0- track until a trigger is activated. The Player will then play that file until the end and resume the background track.

If you want your device to start playing while continuously looping 4 randomly selected tracks as soon you apply power, your file would look like this.

```
#####
#                               General Modes Setup Here                               #
#####
AutoStart                     # automatically start at Power On
LoopMode                      # LoopMode makes the Dream Player Loop at end of track
RandomMode                    # sets the Random Track Mode (plays random one of the 4 tracks)
# MultiRandomMode              #(Available on the MK2) Each track has 4 random sub-tracks
# BackgroundMode               #(Available on the MK2) Plays the background track until a trigger
```



4.2 Trigger Input Configuration

```
#####
#                               Trigger Input Configuration Below                               #
#####
# LoopwhileTrigger             # Loop the track as long as the Trigger Input is active
# HighTrigger                  # Trigger Input is Active HIGH instead of the normal Active LOW
# NoRetrigger                  # Dream Player will IGNORE trigger until current track completes playing
# ToggleTrigger                # Uses a toggle switch on the trigger input to select file 1 or 2
```

Feature	Description
Loop While Trigger	Just as its name implies this feature will make the Dream Player continue to loop the file and play it over and over so long as the button/input is active. If you are using a button as your input, then if you press and hold the button the file will play continuously. Release the button and the file will play to the end and then stop.
High Trigger	Instead of playing the file when the trigger input is closed, this reverses the trigger logic so that it plays when open. With a button as an example of input then the file will play when the button is released “open” and then stop playback when you press the button “closed”. This is a great option for motion detectors.
NO Retrigger	Once a file is playing the trigger input is ignored until the file has completed playing. Also great for motion detectors.*
Toggle Trigger	Using the toggle trigger feature allows you to switch between two files on the same device. Switching between a Daytime track and a nighttime track is a good example. This is done by using a switch connected to the trigger input. Now it has to be a switch, a button (momentary contact) will not work.

*This would be perfect if you put the Dream Player in a high traffic area where people may be pushing the button quite often and complete playback of the audio track is desired. With this feature you may elect to have the Dream Player ignore all outside triggers until the track finishes. This means you could have a thousand people walk by and push the button but the sound will continue to play for the person that initially played that track regardless of what people ask of it.



4.3 Control Output Setup

```
#####
# Control Outputs Setup Here #
#####
# ControlBegin # pulse the control output at Begin of Track Playback (ControlPulseTime)
# ControlEnd # pulse the control output at END of Track Playback (ControlPulseTime)
ControlPlay # Activate the Control Output for as long as the Track is Playing
# ControlPulseTime=500 #(Available on the MK2) Control Output Pulse Length in Milliseconds
```

You may want to control some LED's, motors, or some other form of "action" items. In this section of the CONFIG.TXT file you may select whether you want the output item to be active as long as the file is playing or only at the beginning or end of the track.

Feature	Description
Control Begin	When the track starts playing and you have this feature enabled, the output device will be active for the specified amount of time as defined in the later CONFIG.TXT file then stop for the remainder of the track.
Control End	Just the opposite of the Control Begin (funny how that works). That means that the output device will become active for the specified amount of time <i>after</i> the file plays.
Control Play	The control output will simply stay active as long as the file is playing.
Control Pulse Time	You may define exactly how long the output is active. Times are defined in Milliseconds and if our math is right 1000MS amounts to 1 full second, you can actually set your output to pulse for just 1MS. Doubtful it will be of any interest flashing an LED for 1MS, but maybe one of you has the application that requires such a rapid output. If both Control Begin and End features are disabled then the pulse time is not used



4.4 Audio Mode Configuration

```
#####  
#                               Audio Mode Configuration Below                               #  
#####  
# MasterVolume=100             #(Available on the MK2) output volume (0-100%, '0' would be silly...)  
# NoFade                       # this makes the Dream Player stop quickly instead of Fading  
FadeTime=5000                 # Fade time in Milliseconds (5000 = 5 secs) (default is 5000MS)
```

The last category is the audio output preferences. This section allows you to make a few simple adjustments to adapt the MK2 to your specific situation. Your project may require a quicker fade than the default settings or maybe you need instant stoppage of playback, and what if the output seems too loud? You may change the settings here to suite your needs very specifically.

Feature	Description
Master Volume	The output volume of the Dream Player may be adjusted to your situation. For example if you have a set of speakers in your project but cannot access the volume on the physical speaker you may adjust the volume that the Dream Player produces.
No Fade	One of the most self explanatory features in the file. If you want the Dream Player to fade, leave this feature disabled with a “#” in front of it. If you want the audio to instantly stop instead of fading then activate the feature.
Fade Time	A neat feature of this CONFIG.TXT file is that you may customize the fade time exactly to the millisecond that you need. You may use anything from 1MS to 65000MS. If you have No Fade enabled then the fade time is irrelevant.



5 Firmware Updates

5.1 Updating Your Firmware

One very special feature of the Dream Player is the convenience of updating firmware, no cables needed. Revisions of firmware are loaded onto the micro SD Card which allows you to load any critical updates to the firmware without having to totally dismantle your project to get the unit to your computer.

5.2 Downloading the Firmware Update

When firmware updates become available we will announce it on our website www.pricom.com. On the download's page find the updated version of firmware and click the download link.

The firmware updates are a special PRICOM Design file called PDI, which means your machine will most likely not recognize the format and so you will be prompted with a box asking if you want to Find, Save, or Cancel.

You will want to SAVE the file, and to a folder somewhere that makes sense and you can find it, "PRICOM Downloads" would be a good example.

After you save the file to your machine you may simply load it onto your micro SD Card.

5.3 How to Update Your Firmware

To initiate the firmware update process just follow the steps below.

1. Power off the Dream Player.
2. Remove the mirco SD Card.
3. Load the Card into your computer.
4. Copy the PDI File onto the card.
5. Insert the card back into its position on the Dream Player.
6. (important) Hold down the onboard button *while* reapplying power.
7. Reapply power to the Dream Player.
8. The two LED's will flash four times to indicate the unit is in update mode.
9. You may stop holding down the button at this point.
10. The Red LED will rapidly strobe while the update is taking place.
11. Generally the update takes only a few seconds and upon completion of the update the LED will stop flashing, and you are ready to go.

Note: Remember to hold down the button when reapplying power to the unit. Otherwise the Dream Player will not look for the Firmware.



6 Problems & Support

Our goal is a product that is robust and trouble-free for you, however in the real-world, problems unfortunately do arise.

6.1 Help, I broke it!

If you are not happy, then we are not happy! If you have a mishap with your Dream Player, please let us know. Contact us at the e-mail below if you have questions or problems. Generally the problems end up being simple fixes that can be diagnosed and repaired by you the user with help from us here.

6.2 E-mail

If you are experiencing trouble with your Dream Player, please let us know. We are here to help you, and want your experience to be creative and fun. If you need help of any kind, please contact us via e-mail. The support e-mail address is Help@pricom.com.

6.3 Web Site

The PRICOM web site is where we will post any upgrades, updates, and improvements. Please be sure to check for Hardware and Software updates. www.pricom.com



7 Dream Player Specifications

Power Input:	7-24V AC or DC Connection using 2 position terminal strip Current consumption approximately 120mA while playing
Trigger Input:	4 Inputs for Switches or Contact Closures Connection using 2 position terminal strip Optically isolated with built-in current limit resistors
Trigger Output:	4 Outputs may be used for relays, lamps, LEDs, and other trigger able devices. Connection using 7 position terminal strip Pulls to GND. Output rated for 200mA
Audio Output:	Line Level Analog Audio Output Connection using 3.5mm (1/8") Stereo Jack Allows direct connection of amplified 'media speakers' May also use non-powered speakers, such as headphones
Audio Formats:	16bit, stereo
Sample Rates:	44.1KHz
Output Level:	3V Peak-To-Peak Maximum
Storage Device:	micro SD FLASH Card 64MB up to 16GB Files use about 10MB/minute. 64MB holds about 7 minutes 1GB about 100 minuets 2GB about 3 hours 16GB about 25 hours
Storage Format:	FAT, FAT32 formatted cards (standard)
File Format:	Standard WAV files placed in the root folder of the card



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Version 1.0
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