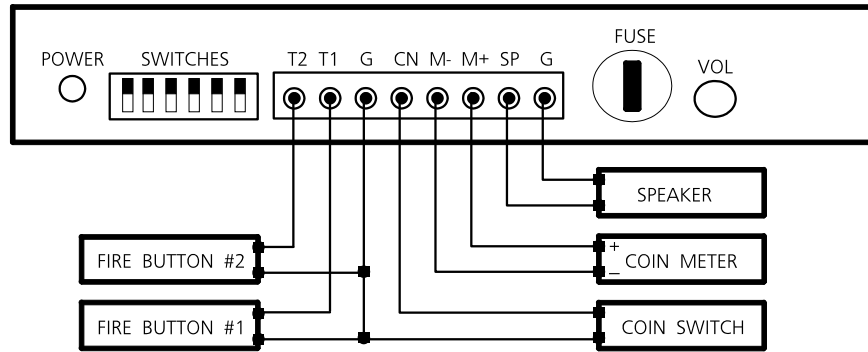# EM2021D/EM2021D-4/EM2021D-M User's Guide

EM2021D is a highly reliable controller box designed for use in coin operated kiddie rides with the following features:

* Integrated timer function with coin meter output
* Max. 10 amp output to the motor
* Digital sound loop plus two fire button sound effects
* Emergency stop button support
* Optionally plays a safety message before starting the motor
* Optionally plays an attract sound periodically

Up to two fire buttons can be connected to the unit for activating short sound effects for ride participaton. These fire buttons would make the ride more fun but are totally optional.

Ride audio is stored in a socketed sound chip which can be replaced easily in case the ride needs a new sound. In addition to the sounds in our sound library, we can also create custom audio for a nominal fee.

Power Input
Connect power input to the short power cord.

Power Output
The two power outlets have identical output. Use one for motor, and the other for (optional) light flasher.

Power Light
The power light turns on when power is applied to the unit.

DIP Switch Settings

Number of coins per play
> 1 coin = #1 ON, #2 OFF
> 2 coins = #1 OFF, #2 ON
> 3 coins = #1 ON, #2 ON
> 4 coins = #1 OFF, #2 OFF

Play time
> 45 seconds = #3 OFF, #4 OFF
> 60 seconds = #3 ON, #4 OFF
> 90 seconds = #3 OFF, #4 ON
> 120 seconds = #3 ON, #4 ON

Safety mode
Plays a brief safety message before the ride starts.
> Enable = #5 ON,   Disable = #5 OFF

Attract mode
Plays a short sound effect once every 4 minutes.
> Enable = #6 ON,   Disable = #6 OFF

Fire Buttons
Up to two normally-open momentary push buttons can be optionally connected for activating short sound effects for ride participation.

Emergency Stop Button
If an emergency stop button is needed, connect a normally-closed momentary push button as fire button #2. The ride will stop immediately when this button is pressed.

Coin Switch
All mechanical coin mechanisms are compatible. Some electronic coin mechanisms (ECM) that generate dry contact closures are also compatible. ECM usually generates only one pulse regardless of number of coins per play, therefore DIP switches #1 and #2 should be set for 1 coin per play.

Coin Meter
A mechanical coin meter can be connected to track revenue. If you are concerned about employee cheating by disconnecting the coin meter, consider using the EM2021D-M which has a software based coin meter that can never be tampered with.

Speaker
The unit comes with an internal speaker. You may add an external speaker via the speaker terminals. For maximum output to the external speaker, disconnect the internal one.

Fuse
Use a 5mm x 20mm, 10A~15A slow-blo (time delay) fuse. If the fuse keeps getting blown, lubricate the motor and/or adjust the belt. Do not replace the fuse with wires!

Volume Control (VOL)
Turn volume pot VR1 clockwise to increase the volume.

EM2021D-4
EM2021D-4 h as four different songs instead of one. These songs are played in rotation, one per play.

EM2021D-M
EM2021D-M has an internal 6-digit non-resettable coin meter. The count is announced via the speaker upon power-up, or when either one of the fire buttons is pressed down for 10 seconds. Unlike mechanical coin meters that can be easily disconnected by a cheating employee, the internal meter cannot be tampered with.