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SYSTEM OPERATION

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NOTE:

All features, specifications and information detailed in this document are subject to change without notice. Use of this information or any systems based on it is at your own risk. The designer does not accept liability for injury to persons or damage to equipment resulting from use of the information, circuits and systems described herein.

CONSTRUCTION NOTES

- **Config Switch:** This switch should be a Key Operated switch. The key should be removable in the OFF position or in BOTH positions.
- **LCD Display:** Most inexpensive 2-line LCD displays capable of operating in 4-bit parallel mode should work. Recommend use of an 8-character x 2-line display with backlighting. Some LCDs have built in dropping resistors for the backlight. Also it may be necessary to alter the jumper settings on the LCD (see mfr datasheet).
- **Sensors:** Recommend using three sensors mounted on a hat (e.g. baseball cap). This provides 360-degree coverage.

POWER ON:

Config Switch = OFF : System is DEAD at power-on. Must be restarted by opponent or master controller. This is a useful anti-cheating feature.

Config Switch = ON : Player is ALIVE at power-on.

OPERATION NOTES:

- **Configuration Menus:** You do not *need* a Master Controller device, computer or programming skills to customize the MilesTag system to fit your needs. You can modify nearly every feature of the system right on the gun itself using the built-in Configuration Menus. Everything can be changed "on the fly", in the field, between games. Endless variations of game play can be achieved by changing the various parameters. All settings are saved into non-volatile memory, so the next time you power up the system it will still have all of its previous settings intact. A Cloning function is also available from within the Configuration Menus. The configuration menus can only be accessed while the Config Switch is ON.
 - **Recommendation:** Before starting a game, set all guns to a unique Player ID. For Team Games, make sure all guns for each team are set to the correct Team ID. Also make sure that Friendly Fire is turned OFF to keep from accidentally tagging your own team members.

- **Recommendation:** For most games, all players' guns should be configured identically. Use the Clone feature to quickly set up all players' guns. Cloning will not affect the Player ID, Team ID and Game ID settings.
- **Reloading:** Don't stand out in the open while you are reloading. This ain't the Revolutionary War. Take cover! If an opponent tags you while you are reloading, the reload will be interrupted and must be re-started. Make sure you are safely hidden from opponents (out of the line-of-fire) during reloads!
- **Kevlar:** The Kevlar value sets how many "hits" your virtual "Kevlar Vest" can take before it loses effectiveness. The Kevlar value is reduced by "1" after each hit. When it reaches "0", it is automatically disabled (thrown away). While it's still working, the Kevlar cuts the damage received in half. So a hit from a weapon set to 10 hit points would only take 5 points from your health value.
- **Friendly Fire:** You can decide whether to allow Friendly Fire (FF) hits in your game. If FF is turned ON, all players can be "tagged" any other player regardless of Team ID assignments. Note that while FF is ON, players will be unable to Restart (resurrect) each other. If FF is turned OFF, Team IDs are recognized by the system and accidental "tags" against your own team members will not be counted.

LCD MENUS:

Menu Button – Steps through the available LCD screens. Some screens may not be available depending on the gun's configuration settings.

Trigger Button – Fires the currently selected weapon.

Reload Button – Initiates reload when clip is empty. Toggles LCD backlight On/Off when clip is not empty.

Main Firing Screen:	
R30 C10	Rounds = 30 Clips = 10
100Red01	Health = 100 Last Hit by: TeamID = Red PlayerID = 01
RPG Firing Screen (<i>must be enabled in configuration settings</i>):	
RPG 3	RPG Rounds = 3
Restart Opponent Screen (<i>must be enabled in configuration settings</i>):	
Restart Opponent	Press TRIGGER to send restart (resurrect) command.
Access Configuration Menus (<i>must be enabled by keyswitch</i>):	
Config Gun	Press TRIGGER to enter Configuration Menus.
Reloading Progress Screen	
Reload ■■■■■	The bar shows reload progress. Only available if there are remaining clips. Note: The reloading cycle will be aborted if a hit is detected.

CONFIGURATION MENUS:

Menu Button – Steps through the available configuration options. Not all screens are available depending on configuration settings.

Trigger Button – Change Value/Parameter

Reload Button – LCD backlight On/Off.

Change Game ID:	
Game A	A or B All players MUST be assigned to the same Game ID.
Change Team ID:	
Team Red	Red – Blu – Yel – Grn – Blk – Wht – Pur Assign teams for games where Friendly Fire is set to OFF.
Change Player ID:	
Player 001	0 to 31 Assign a different ID to each player.
Change Initial Health Value:	
Health 100	5 to 250 Normal setting is 100.
Change Hit Delay:	
HitDly 000	0 to 20 seconds Sets delay after being hit during which the player cannot shoot or be hit.
Change Kevlar (Shield) Value:	
Kevlar 000	0 to 30 hits This sets the number of hits your "Kevlar Vest" can sustain.
Change Primary Weapon (Gun) Hit Points:	
GunHP 019	1 to 100 Sets the Damage inflicted by the Primary Weapon (Gun).
Change Number of Clips:	
Clips 010	1 to 99 (99 = unlimited) Number of clips available for the Primary Weapon (Gun).
Change Rounds per Clip:	
Rnd/Clip 030	1 to 99 (99 = unlimited) Number of rounds in each clip.
Enable / Disable RPG (Rockets):	
RPG On	On – Off If set to "Off", the RPG firing screen will not be available.

Change Secondary Weapon (RPG) Hit Points:	
RPG HP 030	5 to 200 Sets the Damage inflicted by the Secondary Weapon (RPG).
Change Number of RPG Rounds:	
RPGs 003	1 to 99 (99 = unlimited) Available Rounds for Secondary Weapon (RPG).
Select Firing Mode:	
FullAuto On	On - Off On = Full-Auto Off = Semi-Auto
Adjust Cyclic Rate:	
Cyclic 050	1 - 200 mS (Normal setting is 50.) Sets the delay between rounds for auto and semi-auto fire.
Adjust Reload Time:	
Reload 005	1 to 30 seconds Sets delay for reload cycle (clip change).
Enable / Disable Muzzle Flash:	
MuzFlsh On	On - Off
Enable / Disable Restart (Resurrect) Opponent:	
Restart On	On - Off If set to "Off", the Restart Opponent screen will not be available.
Enable / Disable Sound:	
Sound On	On - Off Turns all sounds on or off.
Enable (Allow) Friendly Fire:	
FrndFire Off	On - Off When friendly fire is On, players with the same TeamID can tag you.
Clone Gun - Transmits All Configuration Parameters:	
Clone	Press Trigger to transmit all configuration settings. (<i>GameID, TeamID and PlayerID are not cloned.</i>) Press Menu to continue editing.
Save Configuration Settings to Nonvolatile Memory:	
Save?	Press Trigger to save current settings. (<i>Settings are still retained while system power is off.</i>) Press Menu to continue editing.