

Mini-IT

The **Mini_IT** is a low cost, limited function alternative to the original and Radio-linked ITs. It can be configured in a variety of ways.

Install **Mini-ITs** at least 2.4m above floor level. Each target will require a local mains power point. When choosing places to locate the targets, consider what they will be used for and whether the IR output needs to be confined. For instance, a Recharge Station is best located at the back of a three-sided space about 1.2m square, with a wall facing the open side, so that IR cannot leak too far.

At the back of the Mini-IT is a pluggable push-fit terminal block that can be used to make external connections. Looking at the Mini-IT from the rear, ie at the terminal block, the connections from left to right are:

[DC Socket] - (1) Aux 5V (2) Relay1 (3) Relay2 (4) 0V (5) Ext Trigger - [DIP Switch]

- Aux 5V is a limited current output so that the Relay1/2 terminals can be used to switch a solid-state relay. Solid state relays are used for controlling higher voltages and currents. The cabling from the Mini-IT to the solid-state relay circuitry should be at least one metre, preferably more. All mains voltage equipment should be suitably suppressed against interference.
- Relay1 and Relay2 are a pair of low current contacts, closed by the Mini-IT when it is active. To operate a solid-state relay, connect Aux 5 to Relay1, Relay2 to the +ve input of the solid-state relay, and the -ve of the solid-state relay to 0V
- 0V - This is used to complete the wiring to a solid-state relay. It is also used for making a connection to an external trigger.
- Ext Trig - connecting Ext Trig to the 0V terminal triggers the Mini-IT
- **Note** - With External Trigger operation, hostile modes are triggered for a full active period (five seconds). Non-hostile modes cause a single code burst to be output.

There are three types of DIP switch setting required:

Mini-IT Operational Mode - There are five modes, set by the first three segments of the DIP switch on the rear of the Mini-IT

Delay - This is the dwell time between the active periods of the Mini-IT. This only applies to hostile modes and is variable between 10 seconds and 5 minutes. There is also an external trigger DIP switch setting. If set to External Trigger

- **Recharge Station** - In this mode the IT periodically (once a second) puts out an IR signal that will recharge players.
- **Wildcard** - This has the same effect as a phaser hit - loss of one life and same down time.
- **Mine** - A mine will strip all lives, requiring a recharge for the player to continue.
- **Timekiller** - When active, the player has 5 seconds to get out of range or will lose all lives, require a recharge.
- **Quarantine** - If a Marshall decides a player is unruly then he may zap the player with code F8 on his Hand Zapper. The player must then stand within range of the IT for the period defined on the Phasers Tab (AtriumPlus Set Up). Alternatively the player can be released by the Marshall zapping the player with code F9

Team - The Mini-IT can be used to work with either team or both teams

Use the 8 position DIP-switch at the back of the Mini-IT to configure the unit:

Switch segment	Mode			Delay			Team	
	1	2	3	4	5	6	7	8
Recharge	Off	Off	Off	-	-	-	-	-
Quarantine	On	Off	Off	-	-	-	-	-
WildCard	Off	On	Off	-	-	-	-	-
Mine	On	On	Off	-	-	-	-	-
TimeKiller	Off	Off	On	-	-	-	-	-
Delay 10 secs	-	-	-	Off	Off	Off	-	-
Delay 20 secs	-	-	-	On	Off	Off	-	-
Delay 40 secs	-	-	-	Off	On	Off	-	-
Delay 1 min	-	-	-	On	On	Off	-	-
Delay 90 secs	-	-	-	Off	Off	On	-	-
Delay 2 mins	-	-	-	On	Off	On	-	-
Delay 5 mins	-	-	-	Off	On	On	-	-
Remote Control (External Trigger)	-	-	-	On	On	On	-	- (see below)
Red IT	-	-	-	-	-	-	On	Off
Green IT	-	-	-	-	-	-	Off	On
Both Teams	-	-	-	-	-	-	On	On

Changes in the DIP-switch settings will be implemented on the next cycle of operation - it not necessary to switch off and then re-power the unit.

For 'benign' modes (recharging and quarantine), the colour of the IT will affect all players of that colour, ie a red Mini_IT will recharge a red player.

For the other, 'aggressive', modes, the Mini-IT will hit a player of the opposite colour, ie a red Mini_IT will hit a green player.

In **Recharge** and **Quarantine** mode, code is output every second and the tri-colour LEDs will toggle each time code is output.

For all other modes, the tri-colour LEDs will flash briefly every second and will toggle every 0.4 seconds when the unit is outputting IR code.

In **Wildcard** and **Mine** modes the active period (IR code being output) is 5 seconds. For the **Timekiller** mode the code is output for 10 seconds.

External Trigger Operation (See terminal block description above)

External triggering is effected by momentarily connecting the EXT terminal block connection to 0V.

When operating in remote mode, then closing the input contacts (or shorting together the flying lead conductors) will trigger code output. In the case of Recharge or Quarantine, one burst of code will be output. and the LEDs will light for approximately one second. For hostile modes (Wildcard, Mine, TimeKiller), the code is output for 5 or 10 seconds (as described above) and the leds flash alternately during that sequence.

Installation

- The Mini-IT should be mounted above head level, preferably high enough to be out of arms reach.
- Position and angle the Mini-IT to give the best coverage over the area in front of it.
- If you have purchased the Mini-IT with the ball-joint mounting, the wing nuts need only be lightly tightened - do not over-tighten.
- Only power the Mini-IT with the supplied PSU.
- A pluggable terminal block is supplied. This provides a pair of clean relay contacts that will switch 50V/1A to a maximum of 10VA. The relay is activated during the active period of 'aggressive' modes and can be used to trigger other electronic equipment. If you wish to operate main equipment, then a solid-state relay should be used, driven from the relay contacts.
- If you select a mode switch group setting other than listed above then the Mini-IT will switch to Recharge mode.

Note: If you do not select a team or teams, then the Mini-IT will switch to Recharge mode but the tri-colour LEDs will not light.