

Midi-IT Instructions



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Description

The **Midi-IT** is the new companion to the ever-popular Mini-IT and additionally features >

- Radio link to the main system, allowing players to score and be scored for hits made by or on them by the IT.
- Illuminated LCD display.
- More detailed tri-colour LED display
- Sounder
- As previously, clean relay contact plus supply feed for energising solid state relays.
- Remote trigger option.

The **Midi-IT** can be programmed to act as a >

Recharge Station – this can apply to only one team (red or green) or equally to both teams. Recharge code is outputted once a second. As this is a benign mode, players shoot at their own team colour, or at a 'both-team' unit.

Target – this can apply to only one team (red or green) or equally to both teams. Players who hit a target score points. The target can be made to retaliate, either taking one life or all lives, affecting the points yet again.

Holding Tank/Jail – Players who have been sent to the Holding Tank or Jail (Quarantine) by a Marshall are required to stay right by such an IT under their 'sentence' has expired, at which time their phaser will re-enable. If a player leaves the jail area then his/her 'sentence' will be re-applied. The Jail or Quarantine period is set on the **AtriumPlus > Utilities > Set Up > Phasers** tab.

Add Lives and Shots – four levels are provided, two for shots and two for lives. Players who hit the **Midi-IT** are rewarded with a top-up code. This does not affect points. Like for the Recharge Stations, red players shoot at red **Midi-Its** and so on.

TimeBomb – When active, a player has five seconds maximum to get out of the area, or else will suffer a hit that will totally de-energise their pack, requiring a visit to a Recharge Station. While the **TimeBomb** is active it will beep a warning and the phaser will also put out a warning. The player may be able to score a lucky hit on the IT during this period.

Wildcard Mine - A hit from this IT will cost the player just one life, assuming that the player has sufficient energy in the first instance. A small advance warning is given (several beeps) and during that time, the player may be able to score a lucky hit on the IT.

Fatal Mine – When active, a player may suffer a hit that will totally de-energise their pack, requiring a visit to a Recharge Station. An advance warning is given (several beeps) and during that time, the player may be able to score a lucky hit on the IT.

Disabled – the operator may, for whatever reason, choose to disable any or all **Midi-Its**.

Installation

The **Midi-IT** is supplied in a similar housing to the Crystallite pack vest chest and back modules. There are four fixing holes and spacers to hold the IT away from the surface on which it is fitted.

- Remove the cover of the IT
- Locate the power supply/adaptor above the IT so that the 2.1mm DC supply cable can pass through the aperture at the rear of the IT about 1.5m above floor level.
- Fix the IT in place, having passed the supply cable through the above aperture
- Plug the supply cable into the socket marked 'DC ADAPTOR' just under the fuse (FS1).
- Switch the power supply/adaptor on.



On Power-Up

When a **Midi-IT** powers up for the first time it will initialise to default settings which you can then change >

Unit ID = 1 – This is the identity of the IT.

Recharge Station

Both Teams

Sounder ON – The sounder will only be used in hostile modes, ie when the IT is outputting code that could take a live or all lives from any player(s) that is/are hit. The sounder is not used when the IT is in Recharge or Jail mode as the IT will be outputting code once every second.

When a **Midi-IT** powers up you first have the option to change the Unit ID, the Radio Channel, or to test the unit (See blow). Then the **Midi-IT** will display the following data >

- Unit ID
- 'Soft Reset' only if the power-down was extremely brief
- Function – Recharge Station, for instance
- Team setting – Red, Green, or both
- Dwell Time setting
- Sounder status (ON or OFF)
- Current firmware version

Once the power-up process is completed the LCD display will alternate between different messages. For example, with no radio link operating, the display will toggle between > Function (eg Recharge Station) and 'No Radio Link'.

If the Radio link is operating (ie the Poll LED and, periodically, the Unit LED, are flashing) then the display will toggle between the function (eg Recharge Station) and the **Midi-IT** UnitID and firmware version #. Once the unit is powered up and initialised you can set any operation parameters you wish – please see the topic **Setting the Midi-IT Operating Parameters** below.

Changing the ID

Hold down the **Mode** button and then press and release the **Reset (RES)**. You will see the screen messages – ‘Soft Reset’ - followed by – ‘Setting Unit ID’.

To increment the ID press and release the ‘Select’ button

To decrement the ID press and release the ‘Mode’ button

As you will have to identify ITs and Home Base Targets in **AtriumPlus**, you should assign Unit IDs in sequence – ie if you have six **Midi-IT**'s then assign them Unit IDs in that range.

Note: Midi-ITs that are to only be used as Recharge Stations or Jails should have the higher Unit IDs as they will not take part in any scoring. So, if you want to have three mines, two Recharge Stations and a Jail, assign Unit IDs of 1, 2 and 3 to the three mines – that way you will not start wondering why no hit data ever appears on the **Arena Equipment** screen in **AtriumPlus**!



To store the new ID and continue press and release the ‘Enter’ button. The display will advise ‘Unit xx Written’.

Changing the Radio Band

Note: Do not change the Radio Band setting unless advised to do so – this could result in the unit not responding to system polls.

The default band setting is Channel 0 (868 MHz). A change of band may be required to ensure compatibility with other **LaserVenture** equipment operating in, for example, the US.

To change the channel hold down the 'Select' button and then press and release the Reset (RES) button. After 'Soft Reset' has been displayed, the LCD will display 'Getting Channel' and then will display the channel and a dialogue. Use the 'Select' button to advance to the channel you require and then press the 'Enter' button.

If you have changed the channel you can check whether you have done this correctly by >

- a) watching for the green poll LED to flash at the left of the IT (The Red 'UNIT') LED will flash once every time the actual IT is polled
- b) checking that the IT appears in the Arena Equipment in **AtriumPlus** (Results Tab > Equipment)

Note: You must have incremented the number of targets on the 'Radio ITs' Tab in **AtriumPlus > Utilities > Set Up**.

Testing the Midi-IT

Hold down the 'Enter' button and then press and release the 'Reset' (RES) button. After 'Soft Reset' has been displayed the display will first show 'Testing System'. Release the 'Enter' button. Pressing the 'Enter' button at any time during testing will exit the test routine.

The Midi-IT functions are tested in the following order – you can move onto the next and previous items using the << and >> buttons >

- Red LEDs
- Green LEDs
- Poll, Unit and Diag LEDs, followed by energising the relay – if the radio loop is active then the Midi-IT will continue to display received data during this test
- IR Emitters output incrementing code which can only be detected with the right equipment . This section of the test routine may take a second or so to respond to a button press.
- IR Sensors will indicate any received IR data - This section of the test routine may take a second or so to respond to a button press.

Setting the Midi-IT Operating Parameters

Midi-ITs are set up on the Midi-IT tab in the Utilities > AtiumPlus Set Up Window.

To initialise the set up for a number of **Midi-ITs** use the **Reset Defaults** button.

Select the number of **Midi-ITs** in your system using the top Up/down button. Select the **Midi-IT** to edit using the lower up/down button.

When you select the function the appropriate parameters are enabled so that they can be changed – remember to save any changes.

Note regarding Team setting > 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. The same applies to units in Target mode – a red player will hit a green 'Target' Midi-IT.

External Terminations

The **Midi-IT** is fitted with a four pole terminal block which allows you to switch other equipment on/off during the Midi-IT active period.

Switching External Equipment

SW+ and SW on the terminal block are connected to a clean set of relay contacts which close during the active period. These terminals will switch a maximum of 12 volts at up to 100mA. **DO NOT** connect any high voltage equipment to the terminals.

If you only wish to switch low voltages and currents with the on-board relay then the jumper should be set to 'OFF'. Although you could switch (for instance) a 12 volt sounder or LED display with the jumper set to 'ON', do not draw more than 500mA under any circumstances.

For switching higher voltages, you may employ a solid state relay. To allow you to do this, a jumper is provided at the top left of the **Midi-IT**. This jumper is titled '12V switched to SW+ pin'. If you shift the jumper to the upper (ON) position, then when the **IT** is active, 12 volts will be output to enable a solid state (or other type of) relay to be energised. Solid state relays should always be used in preference to mechanical relays as the risk of interference is then minimised - please keep all high voltage wiring at least 2m from the **Midi-IT**.

External Trigger

Note – at the time of preparation of this instructions pdf, the External Trigger has yet to be implemented. Reason? This will depend on feedback from customers as there are many considerations, given the larger number of **Midi-IT** functions.

Further Notes:

The **Midi-IT** is continually being revised in line with customer requests. This section is reserved for recent update information:

- Recharge Station mode – In addition to either or both teams you may now set the unit to randomly swap teams.
- Jail mode – This mode applies to either or both teams. There need only be one jail in an arena!
- Re: Progress file entries. Hit on a Midi-IT are reported as exactly that, including the Unit ID. Hits by both Mini-Its and Midi-Its are simply reported as mine hits (NF=non-fatal or F=Fatal) - there is no way of identifying the source of the hit in the progress file



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