

# MARS Fire Control

by Gazz

For X3:*Reunion* ©: v3.04 (discontinued) <http://forum.egosoft.com/viewtopic.php?t=207095>  
For X3:*Terran Conflict* ©: v4.95+ <http://forum.egosoft.com/viewtopic.php?t=217470>  
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Turret Scripts are stupid.

They gleefully fire a 30 sec salvo on an M5 when the proverbial snow ball in hell would have a higher chance of hitting. This was too depressing to watch so I set forth on my personal crusade to create the perfect turret script. (YMMV =)

One that only fires on those targets that it *can hit*.

**MARS Videos:** see Appendix 1

MARS consists of 6 systems:

- Fire Control (Turrets)
- Goblins (your obedient minions)
- Automatic cargo collection
- Satellite deployment
- AL Plugin, that makes MARS available for AI capital ships (optional =)
- Missile Defense Mk2  
This is the Egosoft Missile Defense script with minor enhancements that provide your and AI ships with a low-cost (in CPU time) alternative to MARS.  
A TS simply doesn't have the firepower to do more than missile defense.

Hotkeys:

- Configuration referred to as the MARS menu
- Launch Goblin (requires: Fighter Drone, Mk2, Keris)
- Launch Goblin Mk2 (requires: Keris, Mk2, Fighter Drone)
- Deploy Satellites (requires: Advanced Satellite)
- Cease fire / Ignore target
- Set priority target
- Fighter drones: Shutdown (requires: regular fighter drones)
- Fighter drones: Attack shields (requires: regular fighter drones)

# MARS Menu / Configuration

- This **should** be set to a hotkey.  
It controls practically all aspects of MARS, on your ship as well as on others.
- The main sections (besides the general sector overview) are **target** and **your ship**.

For the **target** you only have very basic options, like launching a goblin at it, making it a (hostile) target for MARS, setting shield-only attack or ignoring it altogether.

If the target is one of your ships, you have a menu entry **>> Ship Options**.  
That way you can switch it to the **your ship** section, where the main options are.

- Further **your ship** options are activated if you use the TC supply features.

On the ship command page (not the MARS menu) you can set the Fuel Resupply Quantity to higher than 0.

Then the jump fuel status of this ship is displayed on the MARS menu and there you can also set values higher than the TC interface allows.

On the weapons screen (not the MARS menu) you can set

Automatic Missile Resupply > 0

Automatic Ammunition Resupply > 0

Again, these values will become available on the MARS menu.

All supply info on the MARS menu is colour coded at 25 % and 50 %.

- Statistics shows an overview of which *and how many* lasers the ship can use and how long it has been using each in fights.
- The last menu entry is **>> Configuration**, which controls many global settings of MARS. The Goblin repair feature, for instance, is disabled by default.
- See Appendix 2 for more detailed descriptions.

## MARS Fire Control: Turrets MARS Defense, MARS Offense

- **Required equipment:**  
Motion Analysis Relay System (sold in nearly all equipment docks)
- Available for: M6 and bigger ships.
- MARS Light available for: anything smaller
  - no weapon switching
  - no automatic launch of goblins except for missile defense.

Note that MARS uses more CPU time than a simple turret script so running it on your 50 M3 might be noticeable.

If you have performance issues, look into the MARS menu under *Performance Settings*.

- MARS does not use area weapons (PSG, Flamer, Clusterf\*\*k) if neutral/friendly ships are within 4 km.  
It also watches for cargo unless the MARS ship has < 20 % shield strength.
- MARS uses all weapons it can find in the cargo hold.
- **It is normal that only 1 laser is installed when there is nothing to shoot at.**  
These lasers are available for **other** turrets when not needed.
- If Tractor Beam, Repair Laser or Mobile Drilling System are installed manually in laser slot 0 of an active MARS turret, this turret is frozen and will cease switching lasers.  
In case of the Repair Laser, MARS will fill the remaining laser slots if possible.  
(can not work while you are personally **in** the turret – that literally freezes the script)

- MARS only fires on targets **that it can hit**.  
If the target does the usual dodge and weave routine, MARS would switch to another ship that does a nice and straight attack run.  
Or maybe a bigger and/or slower ship entered the firing arc...
- Weapon choice.  
Hitting a target is not enough. MARS shoots to kill.  
If it calculates a 50 % hit with HEPT and a 40 % hit with PPC it will use PPC because those 40 % would do 6-7 times the damage...  
Hitting the target is the primary consideration. If a laser is too slow to possibly hit it will not be considered.
- Attack my target  
Even though MARS works independantly of any other script it takes the ship's mission and the player's intention into account.  
Therefore some ships get a bonus to their "value" as a target.  
Attack target of the MARS ship: +20 %  
Attack target of the wing leader: +25 %  
Player's target: +30 %

The ship's mission target is... suggested... as a target but MARS will engage other enemies if it can not possibly **hit** this target.  
If the player targets an M5 but MARS also has a firing solution on the M2 behind it - those 30 % will not make the M5 look like an interesting target.

- Automatic Firepower Management  
MARS continuously adapts the rate of fire of every laser to optimally work with your current FPS.
- The lower the current laser energy is, the higher is the tendency to use ammunition-based lasers. This can be adjusted in the MARS menu configuration.  
At an energy management setting of 60 % and 83 % current laser energy, an ammo laser gets a perceived damage bonus of 10 %. (= 60 % of 17 %)

% Value of ammo using lasers =  

$$((100 - \text{Ship.Laser.Energy\%}) * \text{Energy.Mgmt.Setting\%}) / 100 + 100$$

- In the current X3 version 2.5 there is a bug that typically occurs in high-load situations. It randomly freezes ships and turret scripts for an undetermined length of time. MARS automatically detects that and switches into a workaround mode, skipping a certain script function. After 10-15 min it tries to switch back to normal.

Technically this is a (light) cheat but the alternative is not being able to play at all.

Edit: This is not actually a bug but the way the X3 load balancing works. If you upgrade to a faster CPU or X3 is further optimised through patches, this will happen less frequently.

- Attack Shields (capital ships) – boarding action  
In TC, space marines can board ships after the shields have been reduced to near zero. There is a fight command “Attack Shields” but I was... not impressed after the regular turret scripts turned the target into space dust without hesitation.

On the MARS Menu you can set “Shield Attack” for your current target. MARS also detects if any MARS ship currently executes the Egosoft “Attack Shields”. It only has to be attacking long enough for MARS to detect it – Betty will notify you that the ship is now “targeting shields”. All MARS ships will now try not to destroy this particular ship but only keep the shields down.

A laser will not be used if the ETA of the bullet would exceed 15 sec. Strictly controlled fire is not possible under these conditions. The closer, the better.

Automatic laser switching is required for the accurate firepower adjustment. Small ships (no automatic switching) will ignore this target.

Disabling “Attack Shields” mode:

The “Ignore Target” Hotkey will clear that mode if you first ignore the target, then order “fire free” again.

You can also turn it off on the MARS menu.

There is an additional feature as Hotkey and menu entry to order all *regular* fighter drones in the sector to “attack shields”.

This is the Egosoft standard command that you normally can only apply to every single drone but not sector-wide. It is no MARS script.

- Capture Mode (small ships)  
We brake for... ships! Not for long mind you - MARS is a bloodthirsty god.  
(Settings editable in t\7047-0044.xml)
- Neutral stations are **relatively** save from MARS turrets.

If a neutral station prevents a turret from firing this will be visible on the ship command window because instead of Offense the turret script will be Protect Station.

Cap ships with very long range weaponry may have trouble operating close to stations.  
(Settings editable in t\7047-0044.xml)

The silly huge terran Stations will never be completely safe because 30+ km objects are simply not managable in a script.

Should it still happen that a neutral station is hit in a battle, MARS will send a nice form letter and offer amends in the form of **10.000 credits**.

This only works if the station's hull is at least 95 %.

If it is lower you either fired at it intentionally or really messed up a protect mission. Either way the station owners will not... be in the mood.

This is no cheat to make every station friendly at any time. It only works when the station turns hostile *while* you are fighting in the immediate vicinity.

If the **owner race** of this station hates you or if you set this race to foe in the (pilot) **global settings** then this feature is disabled.

Be careful not to set a race to enemy for a ship but not in the global settings. If you do that, it could (rarely!) happen, that the ship will continue to fire at the station (because the station is an enemy to the **ship**) but it will keep making up excuses and pay 10.000 Cr each time.

The station protection can be configured in the MARS menu. Turrets can hold fire

- if a station is within laser range of the **ship** (safest and uses least CPU time)
- if a station is within the firing arc of a **turret**
- if a station is within the firing arc of a **laser** (uses most CPU time...)

- MARS considers the weapon damage when selecting lasers. It would not bother firing IRE at an M2 or Ions at a ship without shields...
- Saving ammo is not it's job. If there are mass drivers aboard **and** they were selected as "best weapon" then MARS will fire without hesitating until it runs out of ammo. Of course it will then switch to regular lasers.
- MARS works best in a target rich environment. Only if there are several targets available, MARS can pick the one that's easiest to hit.
- The chance of a particular turret hitting it's target **can not** be increased. What MARS does is rate and select targets and eliminate a huge number of guaranteed misfires.
- When your ship's turrets start tracking / turning towards an enemy, the board computer will say "Target locked on". This message is reset after 5 minutes of inactivity.
- When a ship goes OOS or undocks OOS it automatically loads the highest damage weapons it has. This only affects turrets that have a MARS script running.
- MARS can be adapted to modded weapons easily. All the data it needs is found in Textfile 7047-0044.xml.
- **Very** little is hardcoded: Plasma Burst Gen + Clusterf\*\*k + Phased Shockwave Gen are flagged as area weapons.
- Several settings editable in textfile \xx7047.xml  
Safety range for area weapon use and such...

- **Hotkey:** Cease fire / Ignore target  
If an enemy is targeted this ship will permanently be ignored by every MARS system until you cancel the order the same way.  
The turrets and goblins can still "clear the trash" for you while you try to cap that elusive Pirate Nova Raider...

If no enemy is targeted then a cease fire is transmitted to all MARS ships in the sector. It will last 60 seconds (editable in the config file) or until you cancel it the same way. Turrets will continue to track targets so they can resume firing without any delay.

This is also available in the menu.

- **Hotkey:** Set priority target  
This hotkey flags one target as *the* target of choice. If there is any chance to hit it, MARS turrets will fire on it.

This target is also flagged as hostile, saving you the trouble of manually getting a neutral ship hostile. (also possible in the MARS menu)

If a priority target is in your sector and you do not have it targeted, the hotkey will target it.

If you have it targetet, the hotkey can remove the priority status.

## MARS Fire Control: Missiles as targets

- Instead of counting the damage the lasers can do **to** the missile, MARS uses the damage that the missile would do on impact.  
If this damage is greater than 1/4 of the remaining shield strength this missile receives a priority bonus.  
For missile defense MARS uses PSG (preferred) or the laser with the highest bullet speed for this range.  
This "1/4" threshold can be altered in the config file `t\xx7047.xml`  
  
Missiles are still "only targets". If an M2 is firing GPPC at a target it would ignore a Silkworm but would switch to a Thunderbolt or Firestorm.  
If the same M2 is currently firing BPAC at an M5 it would switch to the Silkworm.  
An M5 is far less interesting than a guaranteed hit for 19k.
- Missiles incoming to the Playership are a target for all MARS turrets in the sector.  
All other ships treat them as if they were the missile's target instead.

## Targets:

- Only hostile ships, missiles, and stations are attacked.
- **MARS Defense** is primarily a defense system.  
Enemies are only attacked if **they** are going after a friendly unit or a neutral ship, that the MARS ship is protecting.

The HUD target of the player and the attack target of the MARS ship are always valid targets, provided they are hostile.  
This can also be a station.

MARS protects all assets and attacks the ship's mission target but does not take the initiative and pick fights on it's own.

- **MARS Offense** is the equivalent to Kill All Enemies.  
Now MARS is actively looking for trouble.  
Enemy stations are considered secondary targets - after any kind of ship.  
  
Offensive mode also enlarges the area controlled by the ship. It uses Goblins to intercept and/or delay all enemies within a 16-30km radius.  
Alas this can only work In Sector.
- **MARS Defense** and **MARS Offense** can not be mixed on the same ship.  
This setting controls which targets the central MARS unit relays to the turrets.  
Setting one MARS turret to Defense sets all on Defense.

## MARS Goblins:

Using Fighter Drones to defend freighters is not a novel idea.

Goblins, however, do *much* more for you. They are your obedient minions that distract your enemies, collect loot and deserted ships in the sector, and if launched as a pack even bring down the wayward M5 that your M2 can't catch.

- MARS prefers Fighter Drones (Mk1) but can use Keris or Mk2 if none are available.
- Manual launch of Goblins available for: all ships with MARS installed.
- Automatic launch of Goblins with combat / decoy missions available for: (big) ships with active MARS turrets.
- MARS automatically uses Fighter Drones in the cargo bay, loads them with new software and launches them as Goblins.
- In the MARS menu you can set Goblins to automatically launch for decoy or missile defense missions.
- The main difference to regular drones is the software.  
Fighter drones attack or protect until they are destroyed.  
Goblins are cowardly backstabbers. They do **not** want to get destroyed.  
They attack when the enemy has not noticed them, yet, but when attacked they flee at top speed on a zigzag course towards a spot **behind** their mothership.

If multiple Goblins engage an enemy fighter, usually one of them will put on a great show about "fleeing". If the enemy takes the bait, the others attack.

As a result they are survivors. They tie up enemy ships far longer than regular drones.

- Goblins can **only** be controlled through MARS and it's hotkeys.  
X3 has hotkeys and commands for like "all Fighter Drones in sector, Protect me"  
...Goblins simply ignore these.

The means that the functionality of regular drones is not hurt at all.

Feel free to *also* deploy regular drones and use their classic commands and hotkeys to order them around.

Goblin and fighter drone orders do not interfere with each other in any way.

- MARS ships with turrets can and will **use Goblins against missiles**.  
Watching a swarm of Goblins screen the ship from 40 incoming Tomahawks is quite a sight. In this test, not a single missile got closer than 9800m.

Goblin Missile Defense can be enabled through the menu for all MARS ships whether they have turrets or not.

- MARS preferably uses Goblins against the most dangerous enemy ships.
- Goblins rarely fight but they are tuned for a slightly higher top speed.

- Goblins are launched normally unless the ship has an **Ore Collector** installed. The same low powered gravity field that is used to bring large quantities of Ore aboard is reversed to launch a Goblin at a much higher speed, shortening the time to the target. Especially useful for missile defense.

This costs 1 Energy Cell per launch. The launch catapult is disabled if the ship's energy reserve is down to a jump range of 3 sectors.

Cargo collecting Goblins do not use the catapult. This is rarely a time critical job.

- There is a **Hotkey** for the playership to launch Goblins at an enemy, missile, or to collect cargo. Using the hotkey you can launch up to 2x as many as MARS would launch automatically. They all count towards the same cap so if you launch all manually, MARS has to wait until some of them return home.

They can be used to get the attention of ships and lure them towards the MARS ship. Also **very** useful to pull ships away from a neutral station without turning the station hostile.

Goblin operational range is roughly 120 km.

- **MARS Offense** deploys Goblins to engage ships beyond laser range. Depending on the ship and lasers, the control range of an M2 can be increased to a 16-30 km radius.

This can never work OOS since Goblins heavily rely on quick footwork for survival and this is not possible "out of sector".

- Using the **hotkey** if you have a **cargo container** or **abandoned ship** targeted will send a goblin to leash and retrieve it. Sending several to one item will cause them to spread out and seek out containers independantly.

Goblins that have returned with cargo will bring it into the mothership's cargo bay if possible.

This **can** be disabled for several ship classes in t\7047-0044.xml if you would prefer that only transports pick up cargo while still leaving Mx class ships the option to "recover" valuables to a safer location.

Their engines are weak so don't expect them to be very fast when hauling a heavy ship back to you.

Still - beats flying halfway across the sector with your personal M1. =)

If Goblins automatically (see *Cargo Collection* below) bring abandoned ships back to the mothership, they drop them in the general vicinity.

If they do that on a **manually** given order (abandoned ship targeted) they bring them all to a spot **in front of the mothership**.

With all ships bunched up in front of you, you don't have to do any fancy flying with your 4km ship.

Just fly next to them and capture them using the SOS software.

(On capital ships, the SOS has an enormous range, too.)

- Using the **hotkey** if you have a **neutral ship or station** targeted will send a goblin to protect it. It will then intercept all missiles that are incoming to that object.

If the goblin is running low on energy and has to leave this post, he will automatically request a replacement from the mothership.

If the Repair option has been enabled in the menu, Goblins can also repair.

Either a station – while protecting it – or their own mothership.

Since they have a tiny laser generator and a small laser, it is possible to tone it down far enough to act as a welding torch.

(See optional mod installation notes below)

Goblins can repair but they can not fully replace a shipyard. They only perform battlefield repairs - simple things like armour damage.

They can only repair a maximum of 2/3 of the sustained damage. For anything more you'd need spare parts or a *real* technician. So once your ship drops down to 70% hull, Goblins can not repair it above 90% until you get it fixed up properly in a shipyard.

- Pandora and other special crates (BBS missions) are ignored by the automatic cargo collection and can only be retrieved through an explicit order from the playership.
- If one of **your marines** is targeted then the ship that launched him will send out a goblin for recovery.  
It is not necessary to click through every marine one by one.

It is possible that the ship order of another recovery ship is changed to “Collect Astronauts”. That is unavoidable.

The alternative is manual recovery with your own ship...

- If you target a **friendly ship** (such as a TS) and press the hotkey, **this** ship will send out goblins to retrieve valuables in the sector.  
Obviously your second ship requires MARS and it's own drones.

This can greatly speed up cargo collection and a TS called in to collect dropped cargo can stay well away from the ongoing battle while only endangering the much cheaper and faster goblins.

- If you have an own stationary ship targeted (Satellite, Lasertower, SQUASH) targeted then you can send goblins to collect this exact type of object.

If you use this feature for another ship through the MARS menu, this ship must have the target object as it's own target. (Like following the satellite)

- Droit de Seigneur  
If you order a goblin from your ship to collect a specific cargo container or ship then this takes precedence over all other collecting ships in the sector, even if another goblin is already enroute to or towing this target.

If your ship does not *have* any free goblins at the moment, this only chases away the other goblin that may be enroute to this target.

So if you decide that *you* want this crate of mosquitos instead of your cargo collecting TS you just go MINE! and send a goblin to grab it.

- Activating the hotkey **without a target** selected issues a Return To Base command to all goblins in the sector.  
MARS will also not launch additional ones for 10 minutes.  
A manual launch from your ship also ends the “RTB state”.  
The current status is displayed and selectable in the MARS menu.

Activating the hotkey with a **goblin** targeted will send an RTB order to that particular goblin only.

- Especially when a goblin has to tow a heavy load, it's range is quite limited.  
When the fuel is getting low it will return to the mothership while a colleague launches to take over.
- MARS starts 1 Goblin per enemy ship. The direct hotkey command is not bound by this so you can launch several against a far out M5 or the likes.
- Every MARS system has a control limit. Huge ships can control 12 goblins, all others 8.  
Automatic launches usually use ½ of the maximum capacity.
- Goblins attempt to return to the mothership before their battery runs out.  
A goblin can be operational for about 9 minutes, leaving a fuel reserve for 1 minute.
- All Goblins are automatically collected if they are within 5km of their mothership when it leaves the sector.
- If a goblin has to return to base for whatever reason it will return to it's mothership.  
If that is not present it will return to the closest MARS ship in the sector.  
If even that fails it will shutdown and wait for recovery. A shutdown goblin uses energy at a vastly reduced rate and unlike an active drone, can survive for well over an hour while it waits for recovery.

Any MARS ship with automatic cargo collection can recover these or you can do it manually if you wish.

- While MARS does not actually control your regular Fighter Drones, it is possible to manually shutdown your own drones much like goblins do it automatically.  
You do that by targeting the drone and using the regular Goblin-Hotkey.  
Shutdown drones will automatically be recovered whenever possible.

There is also a Shutdown Hotkey that affects all regular drones in the sector. The same feature is available from the menu.

## Goblin Missile Defense (GMD):

MARS ships with turrets automatically deploy goblins to **intercept missiles far beyond laser range**.

If the Goblin-Hotkey is used on a neutral ship or station, one GMD is launched to protect this object from missiles. If it runs out of fuel then the mothership will automatically launch a replacement.

GMD can be enabled for all MARS equipped ships through the MARS menu.

In a test I was flying an M8 and fired 40 Tomahawk at a MARS ship from 20 km away. It launched up to 4 goblins during the engagement and the closest *any* missile ever got was 9883 m.

It takes a lot more missile firepower than that to overwhelm a MARS ship's defenses.

I did manage to shoot down 1 Goblin with those 40 Tomahawk.  
Not quite the intended degree of success...

## Satellite Deployment:

Sometimes a scout ship or two just isn't enough.  
If you've arrived with your battle fleet... you need intel!

While this feature is also available from the MARS menu, the hotkey offers a bit more flexibility. In the menu you can see how many satellites are available in this sector. (in cargo bays)

- **Hotkey** : Deploy Satellites

From the cockpit you have more direct control while on the sector map, all your ships work together to execute the command.

If you use this hotkey in the cockpit:

- the command is only given to one of your ships if you have one targeted
- if not, it's given to your own ship only

If you use the hotkey on **any sector map**,

- the command is potentially executed by **all ships** in the sector
- They do not waste any effort but instead try to do the job in the most efficient manner.
- If a ship with satellites in the cargo bay is closer to the far gate of the sector, this one will deploy the satellite destined for that gate and all ships' goblins will work together to tow the satellites into place.

If your TS that brought the satellites only has one drone aboard that is not going to delay matters since all other MARS ships in the sector will assist.

- Only **Advanced Satellites** are used.
- The satellite pattern can be adjusted in the MARS menu.

- **Satellite Hotkey 1x**: Deploy default pattern
- **Satellite Hotkey 2x**: Collect all Adv Satellites  
The ship(s) with the most free cargo space will collect as many satellites as it can with one swarm of goblins.  
A regular ship like a TS can collect 8 sats at once, a capital ship 12.

If you give the order from a sector map and the ship runs out cargo space, free goblins, or is simply out of range to get all satellites, other ships will assist.

From the cockpit you can order one specific ship to do the collection.

- There are 3 extra modes to override the preset deployment pattern of the AL Plugin
- **Satellite Hotkey 3x**:  
Deploy 1 sat per jump gate
- **Satellite Hotkey 4x**:  
Deploy 1 sat per jump gate  
+ 8 in box formation
- **Satellite Hotkey 5x**:  
Deploy 1 sat per jump gate  
+ 8 in box formation  
+ light up all trade lanes between all jump gates
- If a deploy order is interrupted / unfinished for any reason then MARS ships in the sector will attempt to complete it.  
After 1 hour the order is forgotten and has to be reissued manually.  
(running such a script indefinitely is uhh... bad =)
- A deploy command can be aborted and resumed at any time using the hotkeys.

For instance, you may have given a global RTB command to all goblins.

If you give another deployment order from the sector map, all ships in range will launch goblins to finish towing the satellites into formation.

- A satellite stays part of the formation **until** a goblin starts towing it away.  
You will see this from the name change.

## Automatic Cargo Collection:

- There is an additional ship command "Collect Cargo"
- Choosing this command **also** brings up the Configuration menu so you can adjust MARS settings on ships that are not in your sector.
- All ships with MARS and fighter drones can use Cargo Collection although it is intended for freighters.
- If an area 7000m around the ship is clear of enemies it starts collecting cargo containers.
- Once cargo collection is enabled, carriers have a new option on the MARS menu to recover abandoned fighters.

These are all towed back to the carrier but not claimed. Alas this task is too complicated for a mere goblin. Still - doing that is not very hard since they are all arranged around the carrier for your convenience.

- TS have the annoying habit of launching *lots* of Fighter Drones when under attack.

If MARS Cargo Collection is active on a ship (not only TS!) then the number of regular fighter drones allowed to Follow/Protect **this** ship is limited to Missile Fire Probability / 5. (You can set this value in 5 % increments)

So if you set MFProbability to 10%, all but 2 regular fighter drones will automatically be recovered when the Egosoft script launched 10...

If the ship's attacker is destroyed or no longer in the same sector, all drones are recovered.

This can also be useful to transfer drones all across a sector.

The donor ship merely ejects all 50 drones into space.

You order all drones to protect the receiving ship.

If the receiving ship has the cargo collect script active it will recover most or all (Missile % setting) of these drones when they get there.

(And drones are considerably faster than a freighter =)

- Pandora and other special crates (BBS missions) are ignored by the automatic cargo collection and can only be retrieved through an explicit order from the playership.
- Ships fill their cargo bay to **almost** 100 %. On a freighter this will not be noticeable.
- Some filtering options are available on the MARS menu.

Military ships **always** use the assigned "Fuel Resupply Quantity in (jumps)" when deciding whether to pick up energy cells or not.

Manual collect orders (Hotkey) disregard every filter.

- In the MARS menu you can enable cargo collection to show free cargo space. The number (added to the ship name) can be
  - green: Goblins active but not necessarily *collecting cargo*
  - yellow: enemies close
  - red: no drones or could not collect last container
  - grey: moving, no cargo to collect, docked... boring.

## Installation:

- MARS is a completely self contained script and should not be incompatible with anything.
- The ZIP contains folders that should be placed into the Terran Conflict folder.
- If Mods change laser data these changes have to be entered in 7047-0044.xml before MARS can properly detect and use these weapons.
- CMOD 3 (and possibly other mods) provides it's own **TC\7047\*.xml** file. Make sure not to overwrite an existing file with the one from mars-tc.zip if you update MARS.
- The MARS Menu always shows the currently installed version.
- **The installation of MARS is delayed** for maximum compatibility and easier troubleshooting.  
After "installation" it takes 2 minutes and 1 save/reload of X3 for MARS to completely activate.
- **TC\types** contains an **optional mod**.  
(already included in TC X-Tended Mod / XTM so do **not** install!)  
It is a ship mod that makes the repair laser available to all 3 types of fighter drone.  
It is *not required* for operation of the repair feature but it's saves CPU time (because no software emulation is necessary) and looks much neater.  
If you don't run a ship mod already, no harm done in using it.

As this overwrites Tships.txt, it overwrites any ship mod you may be using already.

To install it, unpack TC\types\MARS\_Repair\_Drones.zip  
into TC\types\

To uninstall the ship mod simply delete Tships.txt at any time.

**Alternatively** the same "MARS Mod" is available in the **TC\mods** folder and can be activated from the TC launcher (set mod package) or installed as a fake patch.

 [Download: ZIP](#)

[X3:Reunion original development thread](#)

Resources used:

Textfile: 7046

Textfile: 7047 (Laser data for mod-adaption)

Task IDs: all task IDs end with ...7046

Command slot: COMMAND\_TYPE\_TURRET\_46 (Defense)

Command slot: COMMAND\_TYPE\_TURRET\_47 (Standby)

Command slot: COMMAND\_TYPE\_TURRET\_48 (Offense)

Command slot: COMMAND\_TYPE\_SHIP\_51 (Collect cargo)

Library: lib.ut.pos.from.2.grades.and.rad

Library: lib.chem.strings

## Appendix 1: MARS Videos

Unbekannt160 has created a video specifically about MARS.

Alas he can not finish it due to real life issues at work. Therefore all you will see is the last "production demo". What he calls demo, I call bloody amazing.

[>> DOWNLOAD VIDEO 1 <<](#) (11:12, 88 MB)

Here is a much smaller video by Unbekannt160 about a relatively small missile attack. (it was the very first sample)

This time the barrage is small enough to only destroy the MARS ship ohh... 4-5 times?

No music but much higher quality so it's easier to see the goblins at work.

[> > DOWNLOAD VIDEO 2 < <](#)

Subaluigi created a video (6:41, 84 MB) of XTM capital ships which are using MARS.

[> > DOWNLOAD VIDEO 3 < <](#)

## Appendix 2: MARS Menu / Configuration

Some options are rather self-explanatory so I may not list every single one.



Deploy: deploy goblin as per hotkey

Neutral target:  
switches between  
destroy / attack shields  
and can mark a neutral target  
as hostile.

In „attack shields“ mode it also displays  
at what shield level marines can enter  
and how many marines can be sent over.

Valid target: ignore – as per hotkey

x Goblins: fold out manifest

MARS Offense: switch to Defense

MARS turrets: start / terminate all  
turret scripts

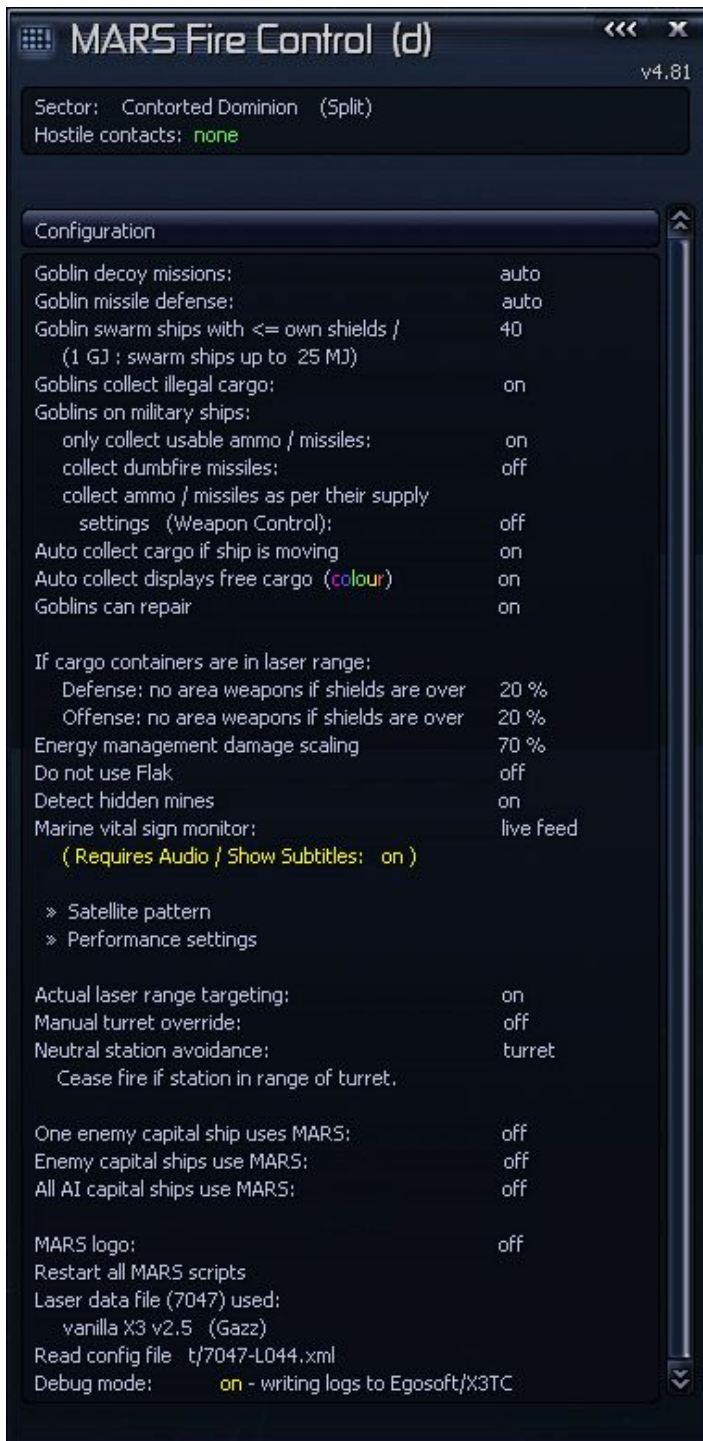
Gob Mis Def: can be activated here if no  
MARS turret scripts are online – or  
if the ship does not have turrets.

Statistics: Laser availability and  
usage statistics.

Launch clearance and Turrets: global settings that affect these MARS features on  
all your ships in the game.

Deploy Sat: Shows how many Adv Satellites are available in your ships' combined cargo  
holds in this sector.

Clicking issues the deploy order which will be executed by all your ships in the sector.



Decoy: global setting for all ships in game. Allows goblin launches against ships.

GMDef: global setting for all ships in game

Gob Swarm: Multiple goblins launch to destroy the last (small) enemy ship. Setting controls what "small" is.

Gob on military ships: TS/TP/TL/TM are unaffected. These are transports (T).

AC displays...: the colour display will make logbook entries regarding this ship unreadable. That is a TC bug and unfixable. Do not use it if you care about logbook entries.

Goblins can repair: Global setting for all ships in game.

Energy management: A higher number means that ammo-based lasers will be used more often to avoid low-energy conditions.

Do not use Flak: Obsolete with TC v2.5 since the Flak Bug was fixed.

Detect mines: as per Reunion rules, hidden mines can be detected at a range of 4 km. This will be done automatically.

Marine vital sign: during boarding

operations this will display critical information as subtitles.

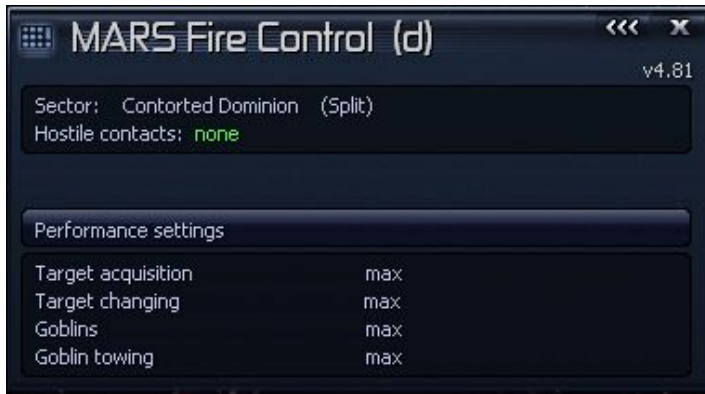
Displays how many marines are currently on board of / en route to the target ship and how many are allowed on the ship.

You can see immediately when marines fall and send reinforcements so the operation does not fail completely for running out of warm bodies.

Actual laser range targeting:

When targeting capital ships and using lasers with < 550 m/s bullet speed, the ships' relative speed is taken into account so heavy lasers can engage targets way beyond their "official" range.

Manual turret override: MARS releases control of a turret when the player manually controls it.



Setting any of these “lower” will make the script more CPU-friendly.

Target acquisition:

MARS is faster to compute target “value” and generally reacts quicker.

Target changing:

MARS fires shorter bursts, adjusting to changed conditions more often.

Goblins:

Goblin tactical reaction speed (like to missile attacks) increased.

Goblin towing:

Looks prettier. Lowest setting uses the “OOS tow mode” without a script controlling the goblins's speed through a workaround.