

METALLUM

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Interstellar travel never developed the way 20th century S-F novelists thought it would. Once all the needed technologies had been discovered it turned out that using them with living organisms would lead to their inevitable degradation.

This discovery started the period of the remote space exploration. Enormous self-sufficient factory ships left gigantic space docks orbiting the Earth and set out towards distant, unexplored star systems. On newly found planets they built complicated networks of automated mines serviced by the so-called Extractor Robots, or plainly Extractors.

Just a few decades later the Earth Government limited all extraterrestrial mining and industrial operations by means of various restrictions and licenses, which could be obtained by only a few powerful corporations. Factory ships kept constructing new mines and excavating all valuable resources, leaving hundreds of distant planets devoid of their treasures – nothing more than drilled and barren husks floating in the cold silence of space. Once all the minerals had been transported to Earth, factory ships moved on to reach even more remote stars. As more and more systems were being discovered and harvested, the corporations remained in a state of a delicate balance – any potential conflicts could only bring financial losses and the vision of almost limitless number of planets to conquer appealed to their faceless owners.

Yet, a time has come when this balance is about to be disturbed. Recently, some forgotten Extractors have come upon a strange and unimaginably powerful material – metallum, a substance allowing living organisms to safely undertake hyperspace travels. It was found in one of the exploited planetary systems, whose long-forgotten name was quickly changed into... Metallum. This has caused all the greedy corporations to look in one direction, the unique place in the whole galaxy. Wishing to avoid any accusations of being corrupt and hoping to stop an open war between corporate

armies, governmental officials have introduced a regulated system of the mining infrastructure control and have promised substantial subventions "with high returns". It's clear that whoever controls this sector of space will finally be granted the exclusive license to mine metallum and, by extension, will gain the upper hand in corporate wars for centuries to come.

Even now the most technologically advanced factory ships belonging to all competitors are entering hyperspace, jumping straight to the Metallum. One of the old planetary installations is activated and "by accident" some extractors are destroyed. It seems the battle for Metallum is about to get ugly...

Meanwhile on the Earth the most promising corporate pilots have taken their seats in front of control terminals. Their task is to program the factory ships and lead their employers to victory. They will be the ones to determine the future of Metallum... and the whole galaxy!

GAME OVERVIEW

Metallum is a strategy game for two players who take on the roles of corporate pilots. They are charged with the task of managing their Factory Ships (referred to as FS) and placing Extractor Robots (or Extractors) on different planets. This way they will bring profit (\$) to the company they represent.

GAME OBJECTIVE

The player with more Credits (\$) at the end of the game will be the winner.

GAME COMPONENTS

Inside the box you will find:

9 Planet Tiles



2 Player Screens



24 Subroutine Tiles
(12 per player)



50 Extractors
(25 per player)



2 Factory Ship (FS) Markers
(1 per player)



2 Scoring Dials



21 Module Cards:

12 Planetary Modules

9 Action Modules



FRONT

BACK

FRONT

BACK

2 Scoring Tokens
worth \$100



7 Rich/Poor Deposits
Markers



FRONT

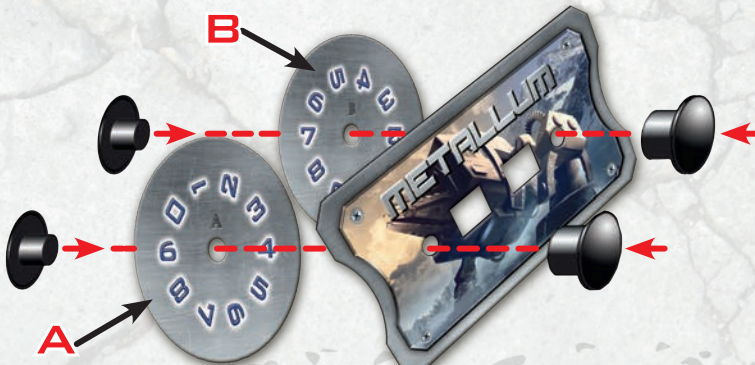
BACK

Module Market Bar



ASSEMBLING SCORING DIALS

In order to assemble a Scoring Dial fix two discs to a tile using connectors, as shown below:



GAME SETUP

Before your first game carefully remove all cardboard elements from their frames. Assemble Scoring Tracks according to the diagram shown on the previous page.

Players sit opposite each other across the table and prepare the game as follows

1. Take **9 Planet Tiles**, find the Alpha tile and the Omega tile and set them aside. Place the other 7 tiles face-down and mix them thoroughly. Then take 2 of them and put them into the box without looking. Place the other 5 Planet Tiles **face-down** in one line in the center of the table between you. On one end of this line place the Alpha tile **face-up** and on the other end the Omega tile **face-down**. This whole line of planets is called the **Planetary System**.

2. Divide **Module Cards** into two decks (according to their colors). Shuffle the Action Module Deck (containing 9 cards) and set it aside – you will need it later during the game. For now you will need just the Planetary Module Deck.

3. Place the **Module Market Bar** next to the Alpha tile. Its lower rim is used to display Module Cards currently available on the market. All Module Cards available for purchase by the players are placed below the bar. The first and

the last space show +1/-1\$ modifiers that influence a cost of a Module Card. During setup draw 3 cards from the Planetary Module Deck and place them in three spaces marked 0, 0, and +1\$ respectively (leave the -1\$ space empty for now).

4. Place double-sided **Rich / Poor Deposits Markers** next to the Planetary System.

5. Choose one color each and take the corresponding set of **12 Subroutine Tiles**, **1 FS Marker**, **25 Extractor Markers** and **1 Player Screen**. Place your FS on the Alpha tile and the Player Screens in front of you. Hide your Subroutine Tiles behind the screens and place your Extractor Markers in front of the screens.

6. Finally, take one **Scoring Dial** each and set in so that it shows “00”, then place it in front of your Player Screens.



PLAYING THE GAME

The game of Metallum is played in 9 rounds. Rounds 1-3 form Sequence I, rounds 4-6 form Sequence II, and rounds 7-9 form Sequence III. Sequence I and Sequence II are played identically while at the beginning of Sequence III players have to make a few additional preparations.

Each round is divided into phases played in the following order:

- Phase 1 – Programming
- Phase 2 – Actions
- Phase 3 – Scoring
- Phase 4 – End of Round

After Phase 4 ends, the current round also ends and another one starts with Phase 1.

Phase 1 – Programming

In Phase 1 each player assembles a program behind his Player Screen. This program will be executed by his FS in the next Action Phase. When programming each player secretly chooses 1 to 4 Subroutine Tiles from his active subroutines and constructs a program out of them.

Each Subroutine Tile contains information about actions that a player can perform and has a **Complexity Rating**, which influences the order of play.

Players must follow certain rules when programming:

- Players **must** choose exactly 1 Move Subroutine Tile.
- Players can choose 1 Subroutine Tile from each of the three other types (see the description of program types on pages 7-8).
- Chosen Subroutine Tiles must match based on their connectors – both their colors and positions.
- All Subroutine Tiles must be connected and form one program.

After both players have finished programming, they reveal their ready programs and the Programming Phase ends.

SAMPLES OF ASSEMBLED PROGRAMS

VALID



INVALID PROGRAM



No Move Subroutine.



Connectors' colors do not match.



Subroutine Tiles do not form one program.

Phase 2 – Actions

Each player adds Complexity Ratings shown on all Subroutine Tiles from which his program is constructed. The player with the lower sum decides who performs his Action Phase first during the current round. In case of a tie the decision is made by the player who has less \$. If there is still a tie, the order is decided randomly.

During his Action Phase, the active player performs following actions in any order he chooses:

- He executes chosen subroutines
- He uses the Planetary Installation located on the planet with his FS
- He uses a Module Card (Module Cards indicate exact timing of their use).

The active player determines the order of his actions and he does not have to execute all his subroutines at once – he can start by executing some of them, then use a Planetary Installation, and finally execute the rest of his subroutines. It is perfectly valid for the active player to use a Planetary Installation first and continue with his subroutines.

The only subroutine the active player must execute is his Move Subroutine. The other subroutines can be ignored even if they are a part of his program. Similarly, there is no obligation to use a Planetary Installation. Even if the active player resigns from executing a subroutine, it is still considered used.

Each subroutine can be executed only once. After executing (or resigning to execute) a subroutine, its Subroutine Tile is disconnected from the program and placed face-down in front of the active player's screen. The used subroutine becomes inactive and cannot be used until it is reactivated (at the end of the current Sequence). Used Subroutine Tiles may be browsed by both players at any time.

After executing all his subroutines, using a Planetary Installation and any Module Cards the first player ends his Action Phase. Then, his opponent starts his Action Phase and performs

it in the same way. Once both players have finished their Action Phases, the Action Phase ends.

Example: During his Action Phase, player executes his Move Subroutine first in order to move his FS. After that he executes the Deployment Subroutine to place his Extractors on a planet. Then, he uses the installation from this planet. After that, he executes the Enhancement Subroutine and finally the Special Action Subroutine.

Phase 3 – Scoring

In this phase players earn \$ (Credits) for their Extractors placed on different Planet Tiles. The game is won by the player who will earn more \$ after three Sequences. Credits are also used as a currency for which players can purchase Module Cards available on the market.

In the Scoring Phase players check who has more Extractors on a given Planet Tile. They start from the Alpha tile and move towards the Omega tile, checking each Planet Tile in the Planetary System. The player who has more Extractors than his opponent on the planet being checked earns \$3. The player who has less Extractors (but at least 1 Extractor) earns \$1. In case of a tie no player earns Credits.

If the planet being checked has a Rich Deposits Marker on its tile, profits of players are higher: \$5 for the player with majority and \$2 for the other player. As before, in order to earn anything player needs to have at least 1 of his Extractors on the planet.

If the planet being checked has a Poor Deposits Marker on its tile, profits of players are lower: \$1 for the player with majority and no Credits for the other player.

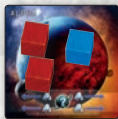
Players record any \$ earned on their Scoring Dials. If \$ gained by a player ever exceed 100, he should take one of the Scoring Tokens worth \$100 to indicate this and continues to record his \$ gains using his Scoring Dial.

After checking all planets and counting Credits earned the Scoring Phase ends.

Phase 4 – End of Round

Example: After finishing the Action Phase the situation on the planets is as follows (see the diagram below). Players advance to the Scoring Phase and check each planet, starting from the Alpha tile:

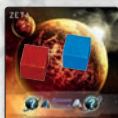
Alpha: The red player earns \$3 and the blue player earns \$1.



Delta: The blue player earns \$3, while the red player earns nothing as he has no Extractors there.



Zeta: Both players have an equal number of Extractors on this planet, so no player earns Credits.



Theta: There are no Extractors on this planet, so no player earns Credits.



Eta: Thanks to a Rich Deposits Marker on this planet the red player earns \$5 and the blue player earns \$2.



Beta: Because of a Poor Deposits Marker on this planet the blue player earns \$1 and the red player earns nothing.



Omega: On this planet there is also a Rich Deposits Marker, so the red player earns \$5. Unfortunately for the blue player he has no Extractors there. That is why he earns \$0.



As a result of this Scoring Phase the red player has earned \$13 and the blue player only \$7.

Players start this phase by removing a Module Card placed in the first space of the Module Market Bar (the one showing -1\$) and placing it in the discard pile (unless it was bought in Phase 2).

Then, they resupply the market so that it contains 4 face-up Module Cards. They slide all present cards left and add new Module Cards from the proper deck until the market is full. If the Module Deck is ever exhausted, just reshuffle current discard pile and form a new deck, placing it face-down.

End of Sequence I (after round 3)

After finishing the third round players take all the used Subroutine Tiles that are lying in front of their Player Screens and hide them behind the screens. This way all subroutines are reactivated and all of the players' Subroutine Tiles become available once more for the coming Sequence II.

End of Sequence II (after round 6)

After finishing the sixth round players follow the same procedure as before, reactivating all used subroutines.

Additionally, they remove from below the Module Market Bar all Planetary Module Cards, take the Planetary Module Deck and its discard pile and set them aside. Then, they take the Action Module Deck prepared during setup and use it to resupply the market, placing 4 cards face-up below the Module Marker Bar. During the whole Sequence III the Action Module Deck replaces the Planetary Module Deck.

Important: All Planetary Modules bought by the players up to this point of the game are left by their planets till the end of the game. Do not discard them!

ENDING THE GAME

The game ends after playing exactly 9 rounds. The winner is the player who has earned more \$.

If there is a tie, count your Extractors present in the Planetary System – the player who has more Extractors on all Planet Tiles wins the game.

If there is still a tie, compare all printed costs of Planetary Modules each player bought – the person whose cards are worth more wins the game.

If there is still a tie, the game ends in a perfect draw unless you want to play a rematch and find who the real winner is.

OTHER RULES

Detailed description of subroutines

Subroutines found in the game are divided into 4 types:

- Move Subroutines
- Deployment Subroutines
- Special Action Subroutines
- Enhancement Subroutines

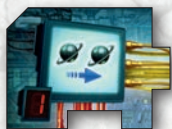
Below you will find their detailed description.

Move Subroutines:



Move by 1: The active player moves his FS to one of the adjacent Planet Tiles.

Complexity Rating: 0



Move by 2: The active player moves his FS by **exactly** 2 Planet Tiles in any direction inside the Planetary System.

He cannot change the direction of movement while moving. If the FS is on the last or next to the last Planet Tile, it must be moved in the opposite direction (the FS cannot fly outside the system).

Complexity Rating: 1



Move by 3: The active player moves his FS by **exactly** 3 Planet Tiles in any direction inside the Planetary System. He cannot change the direction of movement while moving. If the movement in one of the directions is impossible (as the FS cannot fly outside the system), the FS must be moved in the opposite direction.

Complexity Rating: 2

If the active player's FS finishes its move on an undiscovered (face-down) planet, this planet is **discovered** – its Planet Tile is turned face-up and the active player earns \$1.

Important: Players can place/move Extractors on/to, place Module Cards and use Planetary Installations only on discovered planets (with their tiles face-up).

Deployment Subroutines



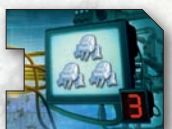
1 Extractor: The active player places **exactly** 1 of his Extractors on the planet with his FS.

Complexity Rating: 0



2 Extractors: The active player places **exactly** 2 of his Extractors on the planet with his FS.

Complexity Rating: 2



3 Extractors: The active player places **exactly** 3 of his Extractors on the planet with his FS.

Complexity Rating: 3

The amount of Extractor Markers is limited to the components from the box (25 per player). If, at any time, the active player has to place a new Extractor on a Planet Tile but has no Extractor Markers in his reserves, he must remove one of his Extractors from any other Planet Tile and place it following the basic deployment rules.

Special Action Subroutines



Deposits Report: The active player chooses one Planet Tile and then places on it or removes from it (if one is already present) a Rich/Poor Deposits

Marker. When placing the marker the active player decides which side it will face. Each Planet Tile may contain no more than one Rich/Poor Deposits Marker. This marker influences the amount of \$ earned by both players in the Scoring Phase.

Complexity Rating: 1



Power Boost: The active player places 1 of his Extractors on the planet with his FS or he moves his FS to one of the adjacent Planet Tiles. During this move he can discover a planet normally.

Complexity Rating: 2



Deep Mining: The active player (and only him) earns \$ for the planet with his FS. This profit is resolved according to normal scoring rules (it is influenced by a Rich/Poor Deposits Marker, Planet Module Cards, number of his and opponent's Extractors present etc.).

Complexity Rating: 3

Enhancement Subroutines



Purchase Module: The active player chooses and purchases 1 of the Module Cards currently available on the market (placed below the Module Market Bar). A cost shown on a card informs about the sum of \$ that has to be paid. Depending on the chosen Module Card's space on the bar this cost may be higher or lower by \$1 (as shown by the modifiers). Also, costs of modules may be influenced by other Module Cards already possessed by players (ex. *Research Station*). The cost of the chosen module cannot be lower than \$0.

After determining the final cost of the Module

Card the active player subtracts a proper amount of \$ from his total (using his Scoring Dial to record his new total) and takes the purchased card.

If he has purchased a Planetary Module Card, he places it on the planet with his FS. If he has purchased an Action Module Card, he places it face-up next to his Player Screen.

Planetary Modules become active the moment they are purchased and stay in the game until its end. Action Modules are **one-use only** and describe the exact timing of their use.

Complexity Rating: 1

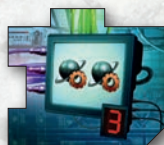


Purchase Module/ Transport Module:

The active player purchases a Module Card according to the basic rules described above or

he transports (moves) 1 of his Planetary Module Cards from one planet to another discovered planet, even if neither of those planets contains his Extractors. In order to do this he just takes the card and places it next to the chosen Planet Tile. The distance between the planets the card is being transported between does not matter.

Complexity Rating: 2



Extra Activation: During his Action Phase the active player uses a second Planetary Installation (normally, he can use only one – see page 10).

When executing the Extra Activation Subroutine the active player uses the Planetary Installation of the planet with his FS.

Important: This subroutine **does not allow** players to use the same Planetary Installation twice in one Action Phase.

Complexity Rating: 3

ACTION PHASE EXAMPLE

In the diagram below you can see a Planetary System and two programs that the players created during the last Programming Phase.



Now, the Action Phase starts and the programs are about to be executed. As both players created programs of identical Complexity Rating (7), the decision about the order of their execution is taken by the player who currently has less \$. As in this case the red player has less \$, he chooses the blue player to start this phase.

The blue player executes his Move Subroutine first, moving his FS by 2 planets and turns the proper Subroutine Tile face-down. As the planet with his FS is undiscovered, he turns its Planet Tile face-up, earning \$1 for it. The planet happens to be Gamma.



Next, the blue player places 2 of his Extractor Markers on the Gamma tile thanks to the Deployment Subroutine (whose tile is immediately turned face-down). Then he decides to use the Gamma Planetary Installation (as his FS is on Gamma). He removes one of his Extractors present on the planet (one of the two he has just placed) in order to remove 2 opponent's Extractors. He chooses 2 red Extractor Markers on Delta (he could also choose enemy Extractors on two different planets). In his next move he executes the Special Action Subroutine, which earns him \$3. Finally, he executes the Enhancement Subroutine allowing him to purchase a Module Card. He chooses Mining

Station card, paying \$3 he has just earned. He must place this Module Card by the planet with his FS (Gamma).

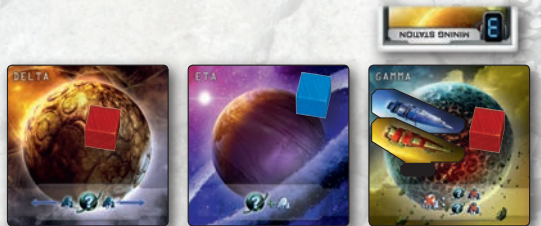
After the blue player's actions the situation is as follows:



Now, it is the red player's turn. He begins his Action Phase by moving his FS to Eta (thereby executing his Move Subroutine) where he uses the Eta Planetary Installation – this action enables him to place 1 of his Extractor Markers on Delta.



Then he executes the Special Actions Subroutine – Power Boost and decides to move his FS again so that it ends on Gamma. Once there, the red player executes the Deployment Subroutine to place 2 of his Extractor Markers on the Gamma tile. In the end, he uses the Gamma Planetary Installation (he has this option as he chose the Enhancement Subroutine – Extra Activation) to remove 1 of his Extractors from Gamma and then remove 2 blue Extractors – 1 from Gamma and 1 from Eta. After the red player has finished his actions the situation is as follows:

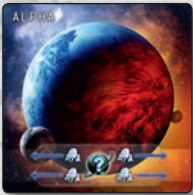


Now, the players start the Scoring Phase – both earn \$3 (the blue player has majority on Eta and the red player on Delta). Neither of them earns Credits for Gamma as they tie in the amount of Extractor Markers there (see: Mining Station).

DETAILED DESCRIPTION OF PLANETARY INSTALLATIONS

Years ago on each planet belonging to the Metallum planetary system its explorers built a special Planetary Installation. Once per round during his Action Phase, the active player may use the Planetary Installation of the planet with his FS. This is an additional option and the installation can be used before or after executing any subroutines.

It is important to note that the active player can only use **one** Planetary Installation in his Action Phase (**exception:** the Enhancement Subroutine – Extra Activation).



Alpha: The active player chooses any Planet Tile in the system and takes from it up to 4 of his Extractor Markers, which he may then place on any discovered Planet Tiles.

He decides if he wants to place those Extractors on one or on many different Planet Tiles and how many Extractors he will place on each of the chosen tiles.



Beta: The active player chooses any Planet Tile in the system and replaces 1 opponent's Extractor Marker with 1 of his Extractor Markers.

The opponent's Extractor is removed from the tile and placed back in its owner's reserves. It can be used normally later in the game. The active player cannot use this installation if there are no opponent's Extractors on the chosen Planet Tile.



Gamma: The active player removes 1 of his Extractor Markers from the Gamma tile to remove up to 2 opponent's Extractor Markers from any planet (or planets) in the system. Enemy Extractors can

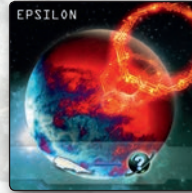
be removed from one or two different Planet Tiles (even from Gamma). All removed markers are placed back in their owners' reserves and can be used normally later in the game.

Important: The active player must first remove his Extractor from the Gamma tile before he can remove any opponent's Extractors.



Delta: The active player chooses any Planet Tile in the system and takes from it up to 2 opponent's Extractor Markers. He places them on any discovered planet (or planets) in the system. Enemy

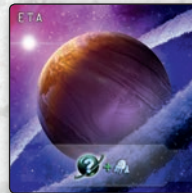
Extractors can be placed on one or two different Planet Tiles.



Epsilon: The active player takes his FS and places (moves) it on any Planet Tile in the system.



Zeta: The active player switches places of 1 of his Extractor Markers from any Planet Tile with 1 opponent's Extractor Marker from another Planet Tile.



Eta: The active player places 1 friendly Extractor Marker from his reserves on any discovered Planet Tile in the system.



Theta: The active player takes up to 2 of his Extractor Markers from a Planet Tile (or Planet Tiles) and places them on any discovered planet. Both markers can come from the same Planet Tile.



Omega: The active player places exactly 3 of his Extractor Markers from his reserves on the Omega tile.

CARD OVERVIEW AND CLARIFICATIONS

Acquire Module: Using this Action Module the active player may take any Planetary Module Card which has not been purchased by any player (i.e. it was discarded during the End of Round Phase or at the end of Sequence II).

Force Shield: This Planetary Module protects its controller against effects of such Action Modules as *Nuclear Explosion* and *Sabotage*, even if the controller plays them himself.

Research Station: This Planetary Module's effect combines with the -1\$ bonus shown on the Module Market Bar.

Research Station and Conglomerate: Despite the fact that those Planetary Module Cards are placed next to one of the planets, their effects are **global** i.e. they affect every purchase (in case of *Research Station*) and every planet (in case of *Conglomerate*).

Signal Jam: This Planetary Module prevents opponents from **moving** Extractor Markers. They can still **place** their Extractors on the planet with Signal Jam (ex. by executing a proper subroutine).

CONTRADICTORY EFFECTS

During the game you may encounter a situation when card texts, subroutine rules or Planetary Installation effects contradict the basic rules found in this rulebook. If this happens, resolve the situation use the following priorities:

1. Subroutine Rules
2. Module Cards
3. Planetary Installations
4. Basic Rules

To put it simply, whenever a card's effects or a tile's effects contradict the basic rules, this card's or tile's effects take precedence.

MODULE CARD ANATOMY

Planetary Module



1. Card Title
2. Purchase Cost
3. Card Text
4. Phase Icons showing when a module is active

Action Module



PHASE ICONS ON PLANETARY MODULE CARDS

Planetary Module Cards show special icons, which graphically inform when a given card is active:

- Phase 1 – Programming
- Phase 2 – Actions
- Phase 3 – Scoring
- Phase 4 – End of Round



Inactive



Active

THE GAME ROUND:

Phase 1 – Programming



Phase 2 – Actions

The player whose program has lower Complexity Rating decides who acts first. In case of a tie the player with less \$ decides.

Phase 3 – Scoring

Phase 4 – End of Round

SCORING:

	5 \$	2 \$
	3 \$	1 \$
	1 \$	0 \$

AFTER ROUND 3

(AT THE END OF SEQUENCE I):

Both players reactivate all their subroutines (take all Subroutine Tiles back).

AFTER ROUND 6

(AT THE END OF SEQUENCE II):

Both players reactivate all their subroutines (take all Subroutine Tiles back).

Remove all Planetary Module Cards from the market and set aside the Planetary Module Deck and its discard pile. Replace this deck with the Action Module Deck and resupply the market using Action Module Cards.

CREDITS

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Metallum has won the 1st place in the S-F category in the Designer Competition organized by Galakta in 2013.

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