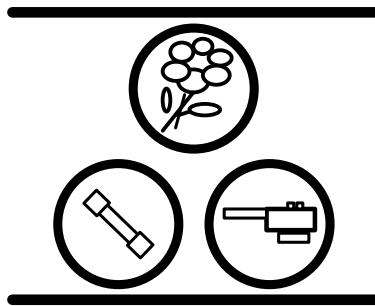


Trade Command Software MK3

Technical Datasheet



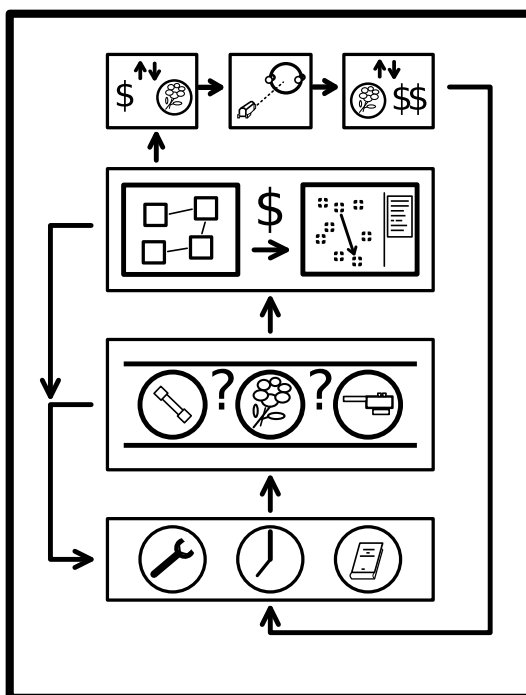
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1 Trade Command Software MK3

The *Trade Command Software MK3* is a software bundle available at many Teladi Equipment Docks, some docks in Terran sectors, and the Terracorp Headquarters in Home of Light. The software adds two commands to the ship command console. By calling the command *Start sector trader*, a pilot gets hired for the ship, who is then your employee and does trade runs for you. Buying wares at a low price and selling to some higher price, the **Sector Trader** earns money for your bank account, and at the same time stimulates the economy. Areas with one or more of these traders soon have noticeably more active economy, with less stations in urgent need of wares to start production.

As you go on with your missions, trading or capturing ships, the **Sector Trader** learns from the experiences of his career and gains skills in trade efficiency, learns to handle dangerous situations and is at some point able to expand his horizons. After a while, the trader advances to **level 6** and can then use his **Local Trader** abilities. After proceeding to **level 8**, the second MK3-command is available: The option to start the **Galaxy Trader**.

1.1 Sector Trader

Starting out for the first time, your pilot is restricted, as a **Sector Trader**, to only one sector. With the latest firmware version of his trade software, he is able to make the best of it though: On this local level, the computer always finds the ideal trade route within that sector. The drawback of that is that two sector traders in the same sector may try the same ideal route - one trader per sector should be enough anyway.

1.2 Local Trader

The **Local Trader** is handled exactly the same as the **Sector Trader** - it even starts with the same ship command. When **level 6** is reached, starting the **Sector Trader** command prompts you to input a jumprange within certain limits. Any jumprange higher than zero will make the **Sector Trader** a **Local Trader**. The **Local Trader**, however, also has a lot in common with the **Galaxy Trader**: From a trading jumprange of 2 upwards, the trade computer does not dare calculate the most profitable route anymore, but uses a non-deterministic algorithm to look for good trade runs. This is exactly how the **Galaxy Trader** works - there's only little difference between a high-range **Local Trader** and a **Galaxy Trader**, which is why the TerraCorp recommends using a low jumprange setting.

Compared to the **Sector Trader** and the **Galaxy Trader**, the **Local Trader** is a very recent development which was introduced to close the gap between those two options. It combines the higher profit opportunities of trans-sector trading with the advantages of having a pilot who knows the area, is on good terms with the station owners and always aware of possible security threats.

1.3 Galaxy Trader

After working as a **Sector Trader** or **Local Trader** for a long time, the command *Start universe trader* is available to pilots with **level 8** or higher. The **Galaxy Trader** is in no way dependent on any sector - it just takes the next possible profit opportunity, regardless of where in the universe it may end up. Later, the pilot will even buy a jumpdrive and fighter drones to trade faster and escape hostile attacks. A **Galaxy Trader** needs almost no attention from its owner and only reports back when it runs into serious problems that cannot be resolved by the pilot himself.

2 Training Courses

Before the **Local Trader** was introduced, the **Galaxy Trader** used to be a source of certain and constant profit. However, the courses that trade pilots would take to acquire trading skills for a globalized trading career did not keep up with the changing economy. Traders were seen in bars and pubs when they should have been out and trading, they made bad choices about their trading routes and were subject to criticism from several sides. When the problems were spotted, new pilot training courses were created to get those traders back on track. Those new courses are very expensive, but the providers think that they're worth the money. For the complete schedule, see table 2.

The courses take place at many stations in all sectors: When a pilot needs to take a course, he will just dock at a station and start the training. The pilot will be ready to take a course once he has earned a certain amount of money. The courses are expensive, but the providers will not take more money than the trader earned in the previous working phase. You can see the related data in table 1. Here you should know that interrupting the pilot by giving a new order will lengthen the time period until the pilot is able to take the next training course.

Note that certain courses are only available to the **Local Trader** or **Galaxy Trader**, even though the other options can profit from those skills too. Having a **Sector Trader** first earn some experience as a **Local Trader** before switching back to sector business will enable the pilot to use the advanced knowledge of courses like "Communication devices" or even the ability to sell wares below average price and still make money.

3 Ship Classes

All trading commands of the *Trade Command Software MK3* are available on **TS**, **TP**, **TM** and **M3** class ships. The **Sector Trader** and **Local Trader** can also be used on **M4** class ships. The different ship classes have different strengths and weaknesses:

3.1 TS

Normal TS-class ships have the biggest possible cargospace for a MK3 trader. They are the standard choice when it comes to standard trading. With 4.000 or more free cargo units, they're not often in danger of missing profit because of a full cargo bay. There are even some TS with 15.000 available units. However, high cargo capacity is often connected to very slow speed. A ship with 14.000 units of cargo space, but only 54 m/s maximum speed is not likely to arrive on time for the best deals. The OTAS and Paranid, on the other hand, are known to offer a good compromise between speed and cargo space on their ships, the Split Caiman in its variations isn't bad either.

3.2 TP

TP-class passenger transports are faster than most freighters, but are also capable of carrying freight. However, their limited cargo bay size (which cannot even hold all cargo classes) and high cost make them a bad choice for automated trading.

3.3 TM

Most known for its ability to carry several smaller fighters in its internal docks, TM-class military transports also have hidden abilities as trading ships. Despite their relatively small cargo bay of 1.200 - 1.700 units, their speed and shielding make

them a good choice for a dangerous universe. The ability to carry around their own little escorts in their cargo bay that do not need extra jump energy should not be underestimated either: TMs are a good investment, at 400,000Cr, for trading in areas that a regular TS pilot would be afraid of.

3.4 M3

M3s are fighters, which makes them very expensive. With its very small cargospace, the M3 won't do big money either. Its only strength is the speed, ranging from 100 to 450 m/s, which enables it to outrun a lot of possible attackers or competitors.

3.5 M4

An M4 class ship has got about the same weaknesses as an M3. The cargo bay being even smaller, there is not much reason why you should use an M4 for sector trading.

3.6 M6

M6 class corvettes are costly fighting ships that are built to remove aggressors, not to run away from them with valuable cargo in their holds. Nevertheless, they can be used for trading - if you can afford them, that is.

4 Logging

As you have to invest a lot of money into any trader, you have the right to know what your trader is doing all the time. For this purpose, all traders can write a log about their trading activities. With this datasheet, you find a "trader"-folder that you need to copy into your game directory. You find several files in that folder that are named based on what they do:

- `logging_on.bat` turns the logging function on
- `create_stats.bat` converts the plain text log into an xml file that can be viewed with any web browser. As the absolute path name of the text log depends on the language settings of your PC, this currently works on English and German PCs only.
- `view_stats.html` opens your standard web browser to view the statistics. To refresh the log after some time of playing, you first need to re-apply `create_stats.bat` (by clicking on it, that is), then refresh your browser (by clicking on the correct browser tab and pressing F5).
- `clear_log.bat` clears your log. The latest cleared log is still available in the "files" subfolder (in case you executed `clear_log` by accident).
- `logging_off.bat` turns the logging function off. As the log is being written to your harddrive, logging can slow down your machine if you have performance problems, especially with a slow HDD.

5 Technical components

You can skip this paragraph if you are not interested in the internal structure of this piece of software. This paragraph may contain spoilers and technical information that you don't want to know. It may even confuse you, which is not what the author intended when writing this paragraph.

The whole *Trade Command Software MK3* is written in MSCI (Manual Ship Computer Interface), an internal X3TC language that can be written, edited and run from an in-built script editor. You can learn more about the possibilities of this language by visiting the Scripts and Modding-forum on forum.egosoft.com. It is possible to edit any piece of the trader software, after activating the script editor, to change or improve the software's behavior in your savegames. Except for the Main routines, the plugins will be used instead of the original ones if you remove the *.pck-versions of the scripts changed by you from the "scripts"-folder and only keep the *.xml-versions. However, the author recommends to learn scripting with more simple tasks first, and especially to always keep backup versions of everything.

5.1 Main routine

The scripts `plugin.autotrade.sector` and `plugin.autotrade.local` contain the main code for the traders. They are responsible for calling all other plugins, for buying and selling the wares and managing the pilot training. They are long and complicated, so they should not be edited.

5.2 GetRoute routine

The heart and soul of the *Trade Command Software MK3* are the two routines `plugin.autotrade.getroute.short` and `plugin.autotrade.getroute.long`. Those are the two different algorithms that contain the code to find a trade route for the trader. They return an array of the buystation, sellstation and the ware to trade.

- The `short` routine is a very recent development, optimized for a range of 0 to 2 sectors. It makes a list of all wares that are bought and sold within a specified jumprange and looks for the connection with the absolute maximum profit. As this routine is scanning a lot of stations and doing a lot of calculations in the process, it cannot be used for a bigger range.
- The `long` routine has been part of the *Trade Command Software MK3* for a long time. Based on a key of probabilities, it iteratively selects a random ware and tries to find a cheap offer and high selling price for it. Especially over many sectors, this concept is very successful in finding a good trader route, but unlike the `short` routine, it won't come up with the same result if started twice in a row. This way, many traders in one area won't all waste their time flying to the same station when only one trader can make the deal.

5.3 Sector Blacklist

The script `plugin.autotrade.blacklistsector` replaces the old lockmaster system. It is being used to create and manage a blacklist of all sectors and stations that traders should not select as target. This is the code behind the "Pilot Radio" functionality.

5.4 Upgrading

When the trader levels up, `plugin.autotrade.buyupgrades` is called, which equips it with cargobay-, engine and rudder tunings. A more passive way of upgrading the ship is calling `plugin.autotrade.delivery`, which calls in a special Goner Delivery Service to deliver a Jumpdrive or Fighter Drones to the ship - at an increased price, that is.

5.5 MovePilot

The script `plugin.autotrade.movepilot.start` is an additional ship command available to traders with the *Special Command Software MK1* installed. Technically, it swaps a list of local variables between the ships. That list is being stored in the global array "movepilot.locvars" and reinitialized with every reinit of script cache.

A Charts and Tables

#	Profit	Δ_{Profit}	Cost	Quota
1	0 <i>cr</i>	0 <i>cr</i>	Hiring Pilot	
2	10 <i>k cr</i>	10 <i>k cr</i>	7 <i>k cr</i>	70.0%
3	30 <i>k cr</i>	20 <i>k cr</i>	8 <i>k cr</i>	40.0%
4	60 <i>k cr</i>	30 <i>k cr</i>	9 <i>k cr</i>	30.0%
5	100 <i>k cr</i>	40 <i>k cr</i>	10 <i>k cr</i>	25.0%
6	150 <i>k cr</i>	50 <i>k cr</i>	11 <i>k cr</i>	22.0%
7	210 <i>k cr</i>	60 <i>k cr</i>	12 <i>k cr</i>	20.0%
8	280 <i>k cr</i>	70 <i>k cr</i>	13 <i>k cr</i>	18.5%
9	360 <i>k cr</i>	80 <i>k cr</i>	14 <i>k cr</i>	17.5%
10	450 <i>k cr</i>	90 <i>k cr</i>	15 <i>k cr</i>	16.7%
11	550 <i>k cr</i>	100 <i>k cr</i>	16 <i>k cr</i>	16.0%
12	660 <i>k cr</i>	110 <i>k cr</i>	17 <i>k cr</i>	15.5%
13	780 <i>k cr</i>	120 <i>k cr</i>	18 <i>k cr</i>	15.0%
14	910 <i>k cr</i>	130 <i>k cr</i>	19 <i>k cr</i>	14.6%
15	1.050 <i>k cr</i>	140 <i>k cr</i>	20 <i>k cr</i>	14.3%
16	1.200 <i>k cr</i>	150 <i>k cr</i>	21 <i>k cr</i>	14.0%
17	1.360 <i>k cr</i>	160 <i>k cr</i>	22 <i>k cr</i>	13.8%
18	1.530 <i>k cr</i>	170 <i>k cr</i>	23 <i>k cr</i>	13.5%
19	1.710 <i>k cr</i>	180 <i>k cr</i>	24 <i>k cr</i>	13.3%
20	1.900 <i>k cr</i>	190 <i>k cr</i>	25 <i>k cr</i>	13.2%
21	2.100 <i>k cr</i>	200 <i>k cr</i>	26 <i>k cr</i>	13.0%
22	2.310 <i>k cr</i>	210 <i>k cr</i>	27 <i>k cr</i>	12.9%
23	2.530 <i>k cr</i>	220 <i>k cr</i>	28 <i>k cr</i>	12.7%
24	2.760 <i>k cr</i>	230 <i>k cr</i>	29 <i>k cr</i>	12.6%
25	3.000 <i>k cr</i>	240 <i>k cr</i>	30 <i>k cr</i>	12.5%

Table 1: Education cost compared to total profit

Course	Cost	Contents
Courier	7,000 cr	Introduction to pilot training Using the new pilot training system
Freight Pilot 2nd Class	8,000 cr	Trading with trade docks
Freight Pilot 1st Class	9,000 cr	Business Japanese
Freight Pilot	10,000 cr	Communication devices: Listening to Pilot Radio for the latest updates on locked sectors and stations
Assistant Distributor	11,000 cr	Local Trading: Economy analysis in a 1-sector-range
Distributor	12,000 cr	Customer relations
Chief Distributor	13,000 cr	Basics of Galaxy Trading Local Trading in a 2-sector-range
Paymaster	14,000 cr	Keeping the ship in good shape: Fly to nearest shipyard for major technical problems
Senior Paymaster	15,000 cr	Local Trading in a 3-sector-range <i>This is the last course on the Sector Trader schedule</i>
Chief Paymaster	16,000 cr	Communication devices: Using Pilot Radio to broadcast the latest updates on locked sectors and stations
Trade Negotiator	17,000 cr	Calling the delivery service for Jump-drives Local Trading in a 4-sector-range
Senior Trade Negotiator	18,000 cr	Galaxy Trading: Selling wares in a 5-sector-range
Chief Trade Negotiator	19,000 cr	Cultures of the Universe
Small Trader	20,000 cr	Selling below average price and still making money - a miracle?
Trader	21,000 cr	Galaxy Trading: Buying in a 3-sector-range of unknown territory Local Trading: Hacking the Trade Network to get data in an 8-sector-range
Major Trader	22,000 cr	Galaxy Trading: Selling in a 12-sector-range
International Trader	23,000 cr	Race Diplomacy I
Dealer	24,000 cr	Race Diplomacy II
Major Dealer	25,000 cr	Local Trading: Trading up to 10 sectors around the home sector. <i>This is the last course on the Local Trader schedule</i>
International Dealer	26,000 cr	Galaxy Trading: Buying in a 5-sector-range, selling in a 20-sector-range
Production Assistant	27,000 cr	Marvels of the Universe
Production Expert	28,000 cr	Economic Ideologies I
Production Manager	29,000 cr	Economic Ideologies II
Production Director	30,000 cr	Developing markets: Taking an active part in changing an economy <i>This is the last course on the Galaxy Trader schedule</i>

Table 2: Courses for Trader Education