

Radio Shack®

TRS-80
MICRO
COMPUTER
SYSTEM

Catalog Number 26-1906

INVASION FORCE



Loading Instructions

Invasion Force is written in Machine Language, and the asterisks will flash at a much slower rate than normal. If you have a Level II Disk System, this program will not load into Disk Basic. You must use BASIC2 to load this program. Follow the instructions for Level II as shown below.

Level I:

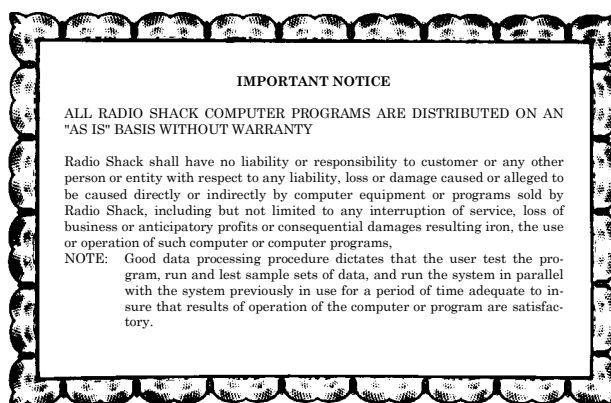
1. Place the tape in the Cassette Recorder, and press "Play".
2. Type `C L` , and press `ENTER`.
3. When the program is loaded into the TRS-80, it will start playing automatically.
4. Choose a difficulty factor 0-9 (0 is the hardest, 9 is the easiest).
5. After each command, you must press the `ENTER` key, except to change direction.


Level II

1. Place the tape in the Cassette Recorder, and press "Play".
2. When MEMORY SIZE?_ appears, press `ENTER`.
3. When READY_ appears, type `SYSTEM` , and press `ENTER`.
4. Screen will show *?_. Type `INVADE` , and press `ENTER`.
5. When *?_ appears again, type `/` , and press `ENTER`.
6. Choose a difficulty factor 0 - 9 (0 is the hardest, 9 is the easiest).
7. After each command, you must press the `ENTER` key, except to change direction.

All the commands, symbols, abbreviations, and controls are summarized on the inside of the Back Cover. The story contains examples of the commands, and descriptions of the weapons and terms.

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Invasion Force

The sleep period bell sounded throughout the ship. Commander Neal rolled over and stared at the low ceiling in his quarters. "Why do they call it a 'sleep period bell' when it wakes you up?" he mused aloud. The Voicecom box was silent. It was not programmed to answer that kind of question. Only the main computer could track that one down, and it probably wasn't worth the time.

As he dressed, he glanced at the starship's system status display, and muttered a soft curse. "He's doing it again," Commander Neal thought to himself. He hated the idea of another confrontation with his first officer, but he had no choice. "Flood," he yelled, "Have you gone crazy?" Silence... a very long silence. Then the sound of First Officer Flood's voice lazily drifted out of the Voicecom box.

"Yes, Captain Neal?", the disembodied voice sarcastically replied. Commander Neal fought back the choking sensation. "It's Commander Neal, Flood", he said for the tenth time in as many hours. "The Power Distribution, Flood. I've told you before, you run it too close. We only have 9% Reserve Power left." Neal looked back at the status display. "Redistribute the power to the Hyperdrives and the Short Range Sensors", he commanded. "Cut the Hyperdrives from 20% to 10%, and reduce the Short Range Sensors to 5%." He paused. "Is that an order, Sir?", the disembodied voice inquired. "No, you idiot, it's common sense," Neal shouted, as his fist came down on the Voicecom switch. The room lapsed into silence.

He did some quick mental calculations. At 20% to the starship Hyperdrives, the ship could stay in Hyperspace for the next ten thousand years, Earth time. For the crew, time would be suspended in Hyperspace travel. Once you kicked in the "Hypers", no power was needed. It was the Ion Drives that ate up all the power. Even a school kid knew that. In an emergency, Neal knew he could get by with only 6% of the starship's power diverted to the Hyperdrives, but it was risky. He knew Flood wouldn't even consider it. Commander Neal smiled, and headed for the bridge.

As he stepped onto the moving gangway, he wondered if Dar could handle someone like First Officer Flood. In spite of Captain Dar's brilliant combat record, how do you handle a dolt who diverts 20% of the ship's power to the Short Range Sensors? "Darned fool," Neal thought. "They only need 5% at most, to work." "What in blazes was Flood looking for, marbles?", he speculated. "I hope he didn't do any damage," he muttered, as he stepped onto the Command Bridge. Everyone saluted, except Flood, who pretended he didn't notice the Commander's arrival.

Neal lowered himself into the command chair. He studied the vital signs of his starship carefully as he checked the screen built into the arm of his command chair. The other arm of the chair contained the fighting and maneuvering controls that gave him full control of the ship. His control panel was a direct link to the ship's main computer. In the command chair, his power was absolute. The life of every person in the ship depended on his combat reflexes. That was the sole reason for his presence on the Command Bridge. Flood would have preferred someone else.

His monitor screen was tightly packed with data. The center section was devoted to the Short Range Scanners, which Flood had so grossly abused. They showed everything that Commander Neal needed to know about the ship's present location. A 10 by 10 grid marked the exact sector of every object in the quadrant, but in symbol form. Neal never actually "saw" the enemy. Just a little mark on the screen, which would disappear, as one thousand life forms were disintegrated – because Neal had touched a button on his control panel.

In the upper left corner of the display, the Long Range Scanners summarized the present quadrant, and the 8 adjoining quadrants. Each quadrant was represented by a three digit number. To Neal, 315 indicated 3 Jovian Warships, 1 Space Station, and 5 Stars within the quadrant.

This entire galaxy was composed of a star cluster that measured 10 quadrants' deep by 10 quadrants wide. Each quadrant was divided into 100 sectors, and the enemy could be hiding in any sector. In all, there were 10,000 sectors of space to cover, and all Neal had to work with was his instincts, his ship, and First Officer Flood.

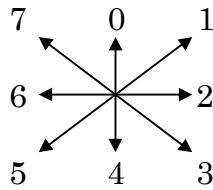
Below the Long Range Scanner display was the Power Distribution Display. Except for 1% of the ship's power (reserved for the life support systems), the balance of the ship's power could be distributed as Neal saw fit. "Let's distribute the power a little differently" he said, to nobody in particular. He noticed that Flood had not changed the settings. Neal's fingers instinctively headed for the keypad. Without taking his eyes off the screen, he set about redistributing the ship's power, to get the ship up to battle trim.

The main computer fought a losing battle with Neal, as it tried to keep pace with his entries, and adjust power levels accordingly. The letters and numbers flashed on the screen in rapid succession, as the crew stopped to witness the silent contest between man and machine. Neal always won, and somehow the crew felt superior because of it.

DH10 was Neal's shorthand command to the computer to Distribute 10% of the ship's power to the Hyper and Ion Drives. **DL5** Distributed 5% of the power to the Long Range Scanners. **DS5** gave the Short Range Scanners 5% also. **DD30** brought the Deflector Shields up to 30%. **DM10** and **DT10** changed the power to the Maser Cannons and the Triton Missiles. The starship was ready for any encounter.

The upper right corner of Neal's screen showed the date, the ship's battle status, the present quadrant, the present sector, the number of remaining Jovian Warships, Anti-matter Pods, and a Stellar Coordinate Direction Map.

The Stellar Coordinate Map was the only reference point the starship used for directions in deep space. All the Map Coordinates were in terms relative to the ship's present location. The map was set up like this:



These were both movement, and weapon firing directions. To move within a quadrant, for example, Commander Neal merely had to press two keys. Pressing `↑2` would move the ship to the right, using the Ion Drives. Pressing `→` would stop the starship. To fire the Masers to the right, Neal would press `M2`, which would activate the Starboard Maser Tubes.

The controls were easy to master – anyone on the ship could run the system. The trick was to develop lightning fast reflexes to run the ship by "instinctive reaction", as it was called in the Academy. Neal was the best, and he knew it. He had graduated with the highest scores ever recorded, and for this, he was given the command of the USS Hephaestus. Neal hated the ship, and everything in it.

The USS Hephaestus was the oldest ship in the Star Fleet, and it was falling apart in front of his eyes. It was built on Earth, in the latter part of the last century, by a Greek shipping tycoon – when contracts were awarded by a curious system called, "the lowest bid." The name was Greek, yet stood for "Vulcan", the Roman God of Fire. Very few people knew the origin of the name, and the ship was constantly ridiculed.

Over the years, the Hephaestus acquired a dubious reputation, until it became the final haven for every misfit in the service. If there was a dirty job to be done, Neal would be picked for it. After all, what loss to the service would result from the destruction of an old decrepit starship, and a group of outcasts? True, the service had made a feeble gesture of support to the Hephaestus, when they authorized the use of Antimatter Pods against the larger Jovian Command Cruisers. They were the only known defense against the Jovian Command ships. Neal didn't trust the Pods because of their unpredictability. But then, Neal had never fought a Jovian Command Cruiser before, either. No one in the service had ...and lived to tell about it, anyway.

The Antimatter Pods were the most powerful, and most dangerous, of all the ship's weapons. A single Pod could completely erase nine sectors of space, creating an impenetrable void. Not only must the ship be clear of the area when the Pod is detonated, but the ship must stay clear of the blast area afterwards. The Pods were so unstable, that the Hephaestus was only allowed to carry three Antimatter Pods at any time. Neal had seen a demonstration of the Pod's effectiveness, and he had been impressed. But, unfortunately, the Antimatter Pods had some problems.

A long chain of commands was necessary to trigger an Antimatter Pod. First, the Pod had to be armed, then the number of the Pod had to be specified. Each Pod was numbered, to avoid accidental detonation. The third part of the arming sequence was to aim the Pod in the right general direction. Since the Pod's design consisted of a dense layer of positrons bonded to the inner surface of the Pod, the resulting instability would cause the Pod to wander aimlessly within the quadrant, once it was launched. If you moved out of a quadrant, it would often follow you into the next quadrant. Neal had even heard stories about Antimatter Pods following a starship into Hyperspace, although he thought someone simply had an overactive imagination.

Even after arming, and a successful launch, the Pod required additional commands to detonate. While you waited for the Pod to reach the target area, you could not use any of the ship's controls, unless you aborted the detonation command. The full sequence of commands to launch and explode a Pod were: **A** **1** **0** **0** meant Arm Pod number 1 to be launched in direction 0 at speed 0. **X** **1** would start the detonation sequence. **EX**plode Pod number 1. When the Pod was in range of the target, Neal could then press the white key on his keyboard to explode the Pod.

The Experimental Ray device was more straightforward. Commander Neal had no uncertainties about the E-Ray, it merely scared the heck out of him – no ifs, ands, or buts.


It was one thing to have the Antimatter Pods on board, but it was quite another to have the E-Ray – no one knew how it worked, or what it would do. If ever a curse arrived, disguised as a blessing, the E-Ray was the curse. Neal wasn't even sure whose side the E-Ray was on. Half of the time, it created more damage to the ship than the enemy. You couldn't even aim it, you could only fire it, and see what happens. Neal had met the inventor of the E-Ray, and he was certain that the man was certifiably insane.



The Jovians were a race of humanoid creatures that had developed a parallel culture, with a slight difference. Since the Jovians believed themselves to be the highest form of life, any other life form must necessarily be on a lower level, and therefore, must be eliminated as a source of possible contamination. This made any attempts at negotiations somewhat difficult. When a Jovian saw another species, the Jovian immediately set about his sworn task of eradicating the offending culture. There was no such thing as surrender, or terms, or peaceful coexistence. To a Jovian, there could be only one logical course of action when confronted by an un-Jovian life form. Neal looked at Flood, and wondered if the Jovians might be right after all.



"Stand by for switch to Hyperdrives," alerted the Navigation Officer, as he saw the slight nod from Commander Neal. Everyone braced for the momentary blackout that always accompanied the transition to deep space. The ship lurched, and disappeared.

Inside the USS Hephaestus, everyone, except Neal, struggled to regain their lost sense of equilibrium. As the whirling sensation subsided, all eyes turned to Neal, who was oblivious to the attention, as he peered intently at the Long Range Scanner Display. As the numbers flashed by, Neal concentrated on the middle digit, which would give him the location of an Automated Space Station within the vicinity. In Hyperspace, the ship was safe from attack, but only because no one had figured out how to conduct war in a place where time had no meaning.










Several years ago, the United Planet System had constructed automated Space Stations, which were equipped with Ion Conversion Accumulators, to transfer a specific amount of energy, Antimatter Pods, and Triton Missiles to Systems Starships. These silent sentinels stood at the edge of space, roaming through the quadrants, searching for new sources of radiant energy.

Without warning, Nest punched the  key to bring the Hephaestus out of Hyperdrive. The Commander smiled, as he watched some of the crew stagger to a more or less upright position, amid the grumbling noises of the crewmembers taken by surprise. No one voiced their indignation, since Commander Neal had constantly warned them about their laxness during routine maneuvers. Now, as they recovered, they noticed they had arrived in a 013 quadrant, which meant 0 Jovians, 1 Space Station, and 3 Stars in this quadrant. The Long Range Scanners showed the adjacent quadrants contained Jovian warships. The crew moved to their battle stations quietly, and waited for the Commander's next move.

As Neal pressed  , the crew watched the Short Range Sensor Screen, and marked the ship's upward passage, as the Hephaestus moved toward the upper left corner of the quadrant and into the adjoining quadrant. Their arrival was greeted with the sounds of the Red Alert signal, and the dull explosion of a missile fired from the lone occupant of the quadrant – a Jovian Battle Cruiser.

The lone attacker was directly "above" the Hephaestus. There was nothing between the enemy and Neal. "Some people don't deserve to command a Battle Cruiser," Neal thought to himself, as he pressed  , and watched the Triton Missile speed toward its intended target. Above, in the Jovian ship, the captain turned to answer a question from his lieutenant. He never completed the sentence.

Satisfied with his performance, Neal checked the damage as the main computer softly intoned, "Object Destroyed." Neal laughed, and thought to himself, "One of these days, that thing is going to tell me something I don't already know, and the shock will probably kill me." To the computer, the Jovian was simply an object, like a rock, or a star, or a piece of space debris. It was there or it wasn't, nothing in between. Whether it could shoot back or not, was immaterial to the computer, it had done its job. The computer registered the rough equivalent of satisfaction with itself, as it waited for its next task.

The Power Indicator stood at 97%, and the Deflectors were at 27%, which was a relatively small amount of damage, compared to the quick victory they had just scored.   set them on a downward course, toward the Space Station. The Hephaestus entered the quadrant near the top left corner. As the starship hung motionless in space, Neal sought the location of the Space Station on the Short Range Scanners. At last, he found it, below the Hephaestus, and to the right. A star, directly between the ship and the station, prevented a diagonal docking maneuver. He pressed   , which started the ship on a gentle descent. As soon as the ship came level with the station, Neal rapidly pressed , which caused the ship to swing to the right, without pause, till it reached the Space Station. Any other ship's officer would have halted the ship, using the  control, and then pressed   to move the ship up to the station. Neal didn't see the need for double entries.

The automated station acknowledged the presence of the ship, and set about its routine task of restoring the ship to full operating capacity. Within seconds, the energy level stood at 99%, and the Triton Missile supply was replenished. Commander Neal reset the Deflectors to 40%, and a silence fell over the bridge. A quick glance at the Long Range Scanners confirmed the crew's unvoiced fears. The quadrant directly to the left of the ship showed 4 Jovian Warships. If Neal raised the level of the deflectors to 40%, that had to be the next battle area.

Within the span of a few seconds after they watched Neal press **⏏**, the crew's worst fears were realized. The new quadrant contained a Jovian Command Cruiser, flanked by two smaller Battle Cruisers, while a third Battle Cruiser met them with a barrage of Maser fire as the Hephaestus entered the quadrant.

In less than a heartbeat, Neal disposed of the nearest Jovian Battle Cruiser with a well-placed Maser blast. The three remaining Jovian ships hung together in a cluster in the far corner of the quadrant. Neal frowned, as he launched an Antimatter Pod speeding toward the menacing trio. He did not fully trust the Pods, but they were the only known defense against a Jovian Command Cruiser. He quickly pressed **⏏**, and poised his finger above the white key that would instantly execute, the detonate command, as he waited for the Pod to reach the target area.

The seconds ticked by, as the Antimatter Pod threaded its way among the objects in the quadrant. Meanwhile, the Hephaestus was under constant bombardment from the remaining Jovian vessels. The steady attack was beginning to take its toll. The overall power was down to 72%, and falling fast. The deflectors now stood at 20%, only half of their former effectiveness. The ship's condition was approaching Critical.

Without warning, the Antimatter Pod reversed direction, and began a homing run, on a collision course with the Jovian Command Cruiser. Power had dropped to the 65% level, and was still falling. Neal sat waiting, not daring to breathe. At the exact instant the Hephaestus went Critical, Neal stabbed his finger downward, and the Jovian Command Cruiser, and one of the Battle Cruisers, simply ceased to exist, as the Antimatter void engulfed them.

Neal paid no attention to the last Battle Cruiser, as he brought all the Maser, Tritons, and Deflector power levels to 0. Flood watched in open mouthed astonishment, as Neal stripped the ship of all its defenses. Before Flood could issue a protest, Neal started the Ion engines, sending them on a swing to the right, and out of the quadrant, leaving the surviving Jovian in complete control – of a totally empty quadrant.

The power level stood at only 51%, as the Space Station mechanically informed the communications officer that docking had been achieved. As damages were repaired, and power replenished, Neal lazily brought up the distribution levels to the Deflectors, Triton Firing Tubes, and the Masers. The slow realization of the Commander's last strategy began to circulate throughout the Hephaestus. Even Flood grudgingly admitted a degree of brilliance in the move.

By reducing the power requirements of the weapons to 0, Neal had relieved the ship's critical condition, which would have led to certain destruction. At the same time, he had guaranteed sufficient power to the Ion impulse engines, to insure a fast getaway, before the remaining Jovian could resume the attack. By moving back to the quadrant containing the Space Station, he wouldn't need his weapons, since the quadrant was free of Jovians. He could refuel, and rearm at his leisure, and continue the attack on the remaining Jovian at his convenience. With all systems at full power, the remaining Jovian wouldn't know what hit him until it was too late.

Instead of renewing the attack on the remaining Jovian, the Commander prepared to switch to Hyperdrives to seek out any other quadrants that might contain Space Stations. Neal did not know how many Space Stations were in this galaxy, since they had a habit of wandering through space, on the lookout for new sources of radiant energy. The present Space Station was located in quadrant 2-3. He would have to find the other Space Stations, if there were any more.

The crew braced themselves this time, as the ship vanished into Hyperspace. Commander Neal set himself to the task of watching the Long Range Scanners for any signs of another Space Station in this galaxy. As he watched, he made mental note of any concentrations of Jovian ships, for future use. From time to time, he would look up from the Long Range Scanners, to mark the location of a quadrant that contained only one or two Jovian ships. Those would be easy.

Neal saw it a split second before the crew, but it was enough time for the crew to be ready when he brought the ship out of Hyperdrive. Neal had found another Space Station – and it was surrounded by four Jovian Battle Cruisers. They had been waiting for him. All four ships opened fire, when he came out of Hyperdrive.

Commander Neal was totally unprepared for the onslaught. Power levels were dropping. The deflectors were falling apart. Neal had no choices left. He started the sequence that would fire the Experimental Ray. There was nothing to lose. He glanced at Flood, who returned his look with a contemptuous smirk that told Neal that this was the moment Flood had been waiting for. Flood would go to his death in triumph. Neal pressed the white key.

As suddenly as the battle started, it was over. Flood stared at his console in utter disbelief. "The Experimental Ray", he announced, "has destroyed all the Jovians in the quadrant." Neal had won. "Let's get the 'Hep' fixed," he tried to shout over the exuberant cheering of the crew. He set the ship on a docking course with the Space Station. The E-Ray had worked this time, but could he depend on it next time? He doubted it.

Commander Neal returned to his quarters, undressed, and dropped to his bed, exhausted. He had disposed of seven Jovian Battle Cruisers, and he had the distinction of being the first person to destroy an enemy Command Cruiser, and live to tell about it. It was a good day's work. He fell asleep the instant his head touched the pillow.

The alarm bell sounded throughout the ship. Commander Neal rolled over, and stared at the system status display, and muttered a soft curse.

Now YOU know almost everything that Commander Neal knows. Our planets are still threatened by the Jovians, and we're desperate for new Starship Commanders. Are you willing to accept command of the Hephaestus? Yes, it's still around. It's yours, if you want it. It's the only available ship we have.

There are a few points we should mention before you begin. About the Long Range Scanners – the center quadrant is the quadrant shown at the right side of your monitor screen. To visualize its position in the galaxy, refer to your Quadrant Coordinate Map (in the back of this manual). It's very handy to remember the coordinates of any quadrants that contain Space Stations. Some Commanders will use the Hyperdrives to check out all the Space Stations in the galaxy before they engage in any battles.

Jovian Captains are tricky. They move just before you fire. If you hit a Triton Mine, you're done for. If you hit an unknown object, there's no way of predicting what will happen. An unknown, might may be a Space Station covered with space debris, and a Maser blast may clear the debris. The Experimental Ray is totally unpredictable, so be careful. When fighting the Jovians, you can direct your Maser Canons wherever you wish, using the Ship Firing Commands (also in the back of this manual). Your speed controls are only effective in Ion Drive. You can also add speed commands to the Triton Missiles, and Antimatter Pods, at the time of launch.

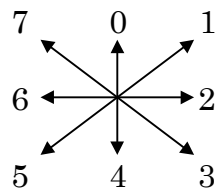
The command for Distribution of Power is initiated by typing **[D]**, then the command code for the device, and the percentage of power. To give the deflectors 20% of the ship's power, type n **[DD20]**, and press **[ENTER]**. Use your Ion Engines to move between quadrants, and watch your power levels. If the Available Power falls below your Distributed Power, the ship will go "Critical". You have just a few seconds to redistribute the power before your ship explodes.

GOOD LUCK!!!

Short Range Scanner Symbols

- ! USS Hephaestus
- & Jovian Battle Cruiser
- @ Jovian Command Cruiser
- Ø Space Station
- * Star
- Empty Sector
- % Triton Mine
- X Unknown Object
- + Triton Missile
- # Antimatter Pod

Directions



Command Codes

- H Hyperdrives
- I Ion Engines
- L Long Range Scanners
- S Short Range Scanners
- D Deflectors
- T Triton Missiles
- M Masers
- A1 Antimatter Pod # 1
- X1 Explode Antimatter Pod # 1
- E Experimental-Ray
- S self-destruct (Must Be Cancelled Within The First 6 Seconds)
- Cancel Any Previous Order

Quadrant Coordinates

0-0	0-1	0-2	0-3	0-4	0-5	0-6	0-7	0-8	0-9
1-0	1-1	1-2	1-3	1-4	1-5	1-6	1-7	1-8	1-9
2-0	2-1	2-2	2-3	2-4	2-5	2-6	2-7	2-8	2-9
3-0	3-1	3-2	3-3	3-4	3-5	3-6	3-7	3-8	3-9
4-0	4-1	4-2	4-3	4-4	4-5	4-6	4-7	4-8	4-9
5-0	5-1	5-2	5-3	5-4	5-5	5-6	5-7	5-8	5-9
6-0	6-1	6-2	6-3	6-4	6-5	6-6	6-7	6-8	6-9
7-0	7-1	7-2	7-3	7-4	7-5	7-6	7-7	7-8	7-9
8-0	8-1	8-2	8-3	8-4	8-5	8-6	8-7	8-8	8-9
9-0	9-1	9-2	9-3	9-4	9-5	9-6	9-7	9-8	9-9

Ship Movement Commands

	Power	Direction	Speed
I25	Ion	Right	Medium
H2	Hyper	Right	
A105	Launch Pod # 1	0	5
M2	Fire Masers	2	
T2	Fire Triton Missile	2	

Power Distribution Code

- DH% Distributes % To Hyper & Ion Drive
- DL% Long Range Scanners
- DS% Short Range Scanners
- DD% Deflectors
- DT% Triton Missile Firing Tubes
- DM% Masers

