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Klendathu



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KLENDATHU — THE STORY BEHIND THE GAME

I. THE BUG WAR

The Bugs live on the planet Klendathu. Or rather they live *in* Klendathu, burrowing underground — hiding from the enemy. You mustn't let their crawly appearance deceive you; they are good soldiers.

I am in M.I. — Mobile Infantry — the “cap” troopers. We are like the aviators in the earlier mechanized wars; a long and decorated military career might be just a few hours of actual battle, face-to-face with the enemy. In between, we train, get ready, drop . . . return to ship and practice, practice, practice for the next drop.

M.I. means a potent and fierce fighting organization — the best in the Federation, at least in my opinion. It's the bloody infantry, the doughboy division that takes the fight to the enemy; our brand of soldiering hasn't changed much in 5,000 years, only our weapons.

Each M.I. is assigned to a Federation ship, then strapped inside a capsule and fired like a missile onto the enemy planet. The rendezvous ship fires down some empty capsules to fool the Bugs, of course, but you're still a big, fat target. Still, the beauty of M.I. is that it's so selective; a ship's captain can spray a specific piece of the surface with cap troopers who will eliminate only those with red eyes, or five eyes, or whatever. Punch quick and clean, then return to ship — always on the bounce.

“You guys have got it soft,” a Navy gunner told me back at Luna Base. “Loaf 30 days, work thirty minutes.” Maybe so. But he never had to look at those Bugs eye-to-eye.

They aren't like us at all, the Bugs. Those pseudo-arachnids aren't even like spiders; they look more like some madman's terror of a giant, intelligent spider. Yet they are communal entities, the ultimate dictatorship within the hive. The Bugs even cooperate better than M.I., since their brain caste, the queens, are usually deep inside one of the holes — and the Federation doesn't know where or just how deep; none of our boys who ventured down the holes ever came up.

Protecting the burrowing royalty are the Bug warriors. These are smart, aggressive fighters — smarter than you if they fire first. The warrior's personal weapons are not heavy by M.I. standards, but they are very lethal. Each warrior has a beam that can slash suit armor — and then flesh — like a hardboiled egg. And a warrior doesn't surrender — he can't. An M.I. can burn off one leg and the warrior won't slow; burn off all four and it flops to one side without losing a shot. You have to aim for its nerve case at the center and hit it with an H.E. bomb, or maybe something larger.

The rest of the hierarchy — 49 out of 50 — are workers. They can't fight and wouldn't attack you for the world, but you can waste a lot of firepower gunning down workers.

The more Bugs we destroy, the more warriors the brain caste hatches — yes, from eggs in reserve; they not only lay them, they hatch them as needed. If we kill 5,000 warriors on a drop, 5,000 replacements are hatched before we return to ship, and are fighting before we reach Base. You see, it takes at least a year to train a private in M.I., but a Bug is hatched and ready.

Imagine a Bug director of Population Control monitoring the battle: "Warm up 6,000 warriors and have 'em for me in an hour. And turn on Reserve Incubators 12, 14, and 16." I don't know if this is what happens on Klendathu, or any of the Bug planet colonies, but it might as well — that's the effect.

Well, we weren't always at war with the Bugs — at first, we were "in conflict." While I was training for M.I. at Camp Arthur Currie, the Terran Federation was "at peace." By the end of boot, we had reached a "state of emergency." When the Bugs finally found Earth and destroyed Buenos Aires, we were "at war."

Now that it's official, the historians can't agree whether to call it "The Third Space War" — or The Fourth — or whether it's "The First Interstellar War." We just call it "The Bug War." Until now, the fighting was just "incidents" or "patrols" or "police actions." But it doesn't really matter; you're just as dead if you buy the farm in an "incident" as if you buy it in a declared war.

One dodge that the Bugs use on us is land mines. When we spar — M.I. on the surface, Bugs underground — several of my mates always "find" the mines. If you are near the explosion on the ground, the ground shock gets you; if you are in the air on a jump, the concussion wave can scramble your gyros and send your power suit out of control. Either way, the mines are effective.

Our spatial sensors — the Federation calls them "The Talents" — can sniff out Bugs, but not their mines. Bring in one talent and some good combat engineers, and you can have a whole planet marked up — five warriors here, a whole settlement over there — in a few hours. A talent doesn't wear a power suit, nor does he carry a weapon; he wears fatigues, without insignia, and an oxygen mask. And when a talent says bounce over there, you do it — no questions.

I say "he" because only men can be spatial sensors, just like all Federation ship captains are women. A skipper has to have a gentle and steady touch; men jerk the controls, overshoot a retrieval. And if the skipper misses her retrieval, she'll find some cap troopers floating belly-up — out of ammo and suit power.

II. POWER SUIT

An M.I. without his power suit is like a turtle without his shell: vulnerable, helpless, and probably dead. It's half the reason why cap troopers are called the "Mobile Infantry," instead of just "infantry." (The spaceships that drop us are the other half of the reason.) The suit is a lot more than armor; it senses what you want to do and does it, but a lot faster and stronger. It works off of negative feedback. The suit will actually match any motion you make, but with much greater force. The inside is a pulsating network of pressure receptors, hundreds of them. Say you want to jump over the tree on your right. You push off the ground with your feet, and the suit feels it, magnifies it, and pushes you into the air — how high depends on how much pressure you exert on the receptors. Any of the larger public libraries has books on the scientific hows and whys.

You don't even have to think about it. You don't have to drive it, fly it, or work it at all; you just wear it and it does what your muscles tell it to do. It's all controlled force...force you have without ever having to think about it. Your legs say jump and a three-jet shove pulls your center of mass off the ground; proximity and closing gear, working off the jets, ease you back to the ground.

The average suit weighs about 2,000 pounds; but for a ton of armor, it fits like your skin. Maybe better. One M.I. private with a suit can cripple a squadron of tanks while hardly tapping the power unit. In fact, in a power suit the M.I. is almost indestructible — almost; neither enemy spaceships nor atmosphere craft can challenge an M.I. in armor. A ship would have to use saturation bombings of the entire area to kill an M.I.

It's like burning down the house for one termite.

The Terran Federation has developed three different kinds of power suits. The first, the scout suits, are very quick and responsive and long-range, but too light in weapons for heavy Bug combat. Command suits are big on bounce juice, and they're fast; these suits also have three times the communication and radar gear of the other suits, plus a deadly inertial tracker. Marauder suits are for the real fighters, those troopers in the ranks with that sleepy look. The marauder suit isn't high on bounce or tracking power, but on a decent M.I. it can scour a planet.

Each marauder suit has three audio circuits, and so does the scout. The command suit, worn by officers and fleet non-coms, has five. These circuits are the trooper's eyes and ears.

Each circuit operates on at least two frequencies to maintain tactical security; each frequency operates under the control of a cesium clock, timed to a micro-microsecond with the other. (Again, for diagrams and stereos of the audio circuits, you'll have to visit the public library.) All you need to know is that to get your squad leader on circuit A, bite down once; for circuit B, bite twice, and so on. A mike is taped to your throat, so just talk.

For ears, the suit's helmet has highly sensitive mikes at each side, so you hear binaurally — as if you weren't wearing a suit at all.

Toss your head back and your infrared snoopers move to your forehead; toss again and the snoopers fall back to ready. Move a chin plate inside the helmet and all video displays are flashed onto a mirror in front of your forehead, so you can see what your mates are doing and where the Bugs are heading.

In short, the reason the power suit is complex is only to make your life — your combat life — simple. The masses of circuits and receptors are designated to leave you free to follow your trade: combat on an alien planet.

The suits allow you to fight faster, "cleaner," and much longer. Through forced sleep, elevated blood sugar count, and hypno indoctrination, an M.I. can stay alert and combat-ready for more than a week; with extra power units and super H.P. air cartridges to recharge the suit, an M.I. can remain in a foreign atmosphere much longer.

True, the suit gives you better eyes, better ears, a stronger back, and amazing endurance, but not even a power suit can make you a smarter M.I. You can carry more firepower, but you have to know how to use it . . . and when . . . and how much. If you fire an H-rocket at a Bug, you'd better hit it — or you might hit another trooper a few miles away.

And make sure your suit's power unit never runs out during a drop; be on the bounce, but don't exhaust your power before retrieval. You'll never live to die in bed that way. . . .

III. OPERATION BUGHOUSE

For months now, the Sky Marshal and his generals had been diverting countless spaceships and M.I. several light-years into Bug space — off challenging enemy warriors far away. The strategy worked, and Planning Staff estimated that the Bugs had at last stretched their warriors too thin. They wouldn't tell us how thin; Planning never makes guarantees.

What they would tell us is that, in an attack on the Bugs' home planet Klendathu, the enemy would expend 70 to 90 percent of their warriors to drive us off the surface. Staff likes numbers like that. So M.I. was informed of the battle plan for "Operation Bughouse."

The strategy for "Bughouse" is simple, I guess, if you don't mind thousands of losses: let the Bugs crawl out of their holes — let them; then meet them on the surface and blast them. It's an M.I. specialty. Trooper for warrior, we can swat them on the surface; ship for ship, our Navy is stronger. Underground it's their ballgame.

The Federation hopes to get three drops from each M.I. involved in Bughouse, and every available trooper will be involved. We'll use 135 ships for the first drop and slightly fewer for the next, depending on the casualties.

First, the Navy will plaster the planet with firepower; by the time M.I. is dropped, the surface should be a radioactive glaze. Then we wait and listen. You see, you can hear a Bug digging through the rock — it sounds like frying bacon, of all things. In fact, when a trooper hears a Bug burrowing to the surface, he relays it as "Frying bacon!" over his audio circuit.

But just because we can hear them doesn't mean we understand them; we don't, no more than we know ants. The Psychological Warfare people think they know them — maybe. But what if the bugs don't like to be ambushed? What if they stay in their holes and wait for troopers to come down and get them? The Federation was finally taking the war right down to the Bugs' home planet; how far would it go? The captain said that Bughouse will either win us the war . . . or destroy us; when you bring the battle to the enemy, your odds aren't much above 50-50.

Our only other attack on a Bug colony was at Sheol. Our goal there was to slaughter all the Bugs on the surface, then send M.I. down the holes to take prisoners — only the queens, though. The workers and warriors would be killed. We thought that if we could capture some queens we could better understand them; the Psychological Corps thought so anyway.

What we did learn from Sheol was that troopers don't belong in Bug holes; we lost 1,500 M.I. in the surface fighting and 2,500 down the holes. Bad numbers . . . and still no queens.

Operation Bughouse would be different. Klendathu has more Bugs on it than Sheol did. (The bugs are stretched thin, but this is their home planet.) Just before the fleet left Base, the generals dispatched the following: "NO PRISONERS ARE TO BE TAKEN. DESTROY ALL BUGS ON SIGHT. NO M.I. IS TO DESCEND INTO ENEMY HOLES UNDER ANY CIRCUMSTANCES. TAKE NO CHANCES." Orders. And stay on the bounce.

On the enemy planet, no M.I. is likely to go hunting medals, but it's good to make it official.

As the Third Regiment, we will relieve the Fifth on our first drop; the 2nd Platoon, H Company, will hit first and act as scouts. Our group — 1st Platoon, B Company, 5th Battalion — should drop a few minutes later and form the right flank. Ours is an area 17×40 miles and riddled with Bug holes, Staff said, so we'll have to stay on the bounce; a private in a marauder suit can cover his share of terrain, but nothing ruins your day like a Bug blast between the eyes.

After the three drops on Klendathu, each M.I. will be eligible for sovereign franchise by special dispensation of the Federation government.

In addition, Bughouse is a special mission; brave and effective fighting in these drops can win you a promotion high up the ranks — a lot higher and faster than the rewards for the average battle. An M.I. private can wind up a sergeant, a lieutenant, even a captain. But don't go looking for it; all you'll find is the farm.

The pay scale for Operation Bughouse is also accelerated, though an M.I. never works for the wage. Each M.I. will be paid according to what he kills (queens, warriors, or just workers), how many he kills, and how much suit energy he retains on his jump back to ship. Every drop is expensive (any one could buy you the farm); a good M.I. should exhaust all his weapon power, but save enough suit juice to bounce back to retrieval and up to ship. If you're not hovering over the pickup area at retrieval — or if your suit has burned all its power — you've bought it.

GAME STRATEGY

Hints for M.I. Troopers — OPERATION BUGHOUSE

As an M.I., your job is to destroy Bugs — as many of them and as quickly as time and your fire and suit energy allow. Your score, rank, and pay depend upon exhausting all your firepower while conserving as much suit energy as possible. If you run out of time before you are prepared to jump back to the ship, you'll miss the ship. If you run out of suit energy before you run out of time, you won't have the energy to make the jump back to the ship. So when you flame a queen, don't expect to see the rewards right away; you have to use up all your firepower and then come back alive first.

Which brings us to the Bugs themselves, all three creeping varieties. In KLENDATHU, the queens are red and worth 5,000 points. The warriors and workers look identical and are green. The warriors are worth 500 points and the workers — little more than nuisances — are 50 points apiece. You can waste a lot of ammo shooting up workers, so watch for a red circle coming from the Bugs' heads with a gunshot sound — these Bugs are the warriors, and they can kill you if they get close enough. Queens can't fire on you, but they're always escorted by warriors, never workers.

The power suit absorbs these Bug energy blasts, but only if it's charged. Suit energy is burned while you are on the planet grid, jumping to and from Klendathu, bouncing about the surface, and repelling bug blasts. Firepower is exhausted when the torch is used on the surface. And your time is always ticking down. And watch out for warriors that get too close to you — that is, that approach the bottom of the display screen. Their weapons are much more effective at short range.

The time duration that you choose for each one of the three Bughouse drops directly affects your score and rank. If you choose a "1", you'll get a shorter overall game, limiting your promotion potential to sergeant. (In case you've forgotten, your M.I. ranks are private, corporal, sergeant, lieutenant, captain, major, colonel, and general.)

Remember orders: Don't go bucking for medals or promotions! In the usual drop, you'll fall in front of the Bugs; they'll come to you. Sometimes, though, a ship drops you right in the middle of them — not intentionally, but it happens. React fast. Start firing or bounce back to the grid (where you can hover out of reach for a moment) and pick another block on the surface. Don't hesitate; those Bugs are crawling closer and closer.

Alternate Strategies

If you opt for the Color Computer keyboard over the joystick, use the arrow keys to move through the planet grid and across the Klendathu terrain. The **ENTER** key activates your torch.

If a pair of troopers are dropped together (two players), the joysticks must be used. And watch the screen: the right joystick (the first player) is a cross mark; the left joystick (the second) is a square.

Stay on the bounce, troopers!

THE KLENDATHU GAME

A Video Game for the TRS-80 Color Computer

KLENDATHU is a video game for the TRS-80 Color Computer 16K cassette tape system. The BASIC game was designed with embedded machine level routines, and offers sound effects through a television speaker.

Based on the Robert A. Heinlein novel *Starship Troopers*, KLENDATHU demands the coordination of firepower, suit energy and time limitations for each M.I. drop; the program includes on-screen bar indicators monitoring the FIRE, SUIT, and TIME remaining.

The game can be played by one or two players, using either a joystick or the Color Computer keyboard.

Loading the KLENDATHU program

1. Turn on the TRS-80 Color Computer. (The ON/OFF button is located at the back of the keyboard, to the left.)
2. Turn on the attached TRS-80 Color Video, or any attached color television.
3. Place the KLENDATHU cassette tape in the cassette recorder and press REWIND, to assure that you start at the beginning of the game. When the tape is rewound, press STOP, then press PLAY.
4. Type **CLOAD** at the Color Computer keyboard and press **ENTER**.

5. Your screen should now read:

Soon, this prompt will appear:

```
F KLENDATH
OK
```

Type **RUN** and press **ENTER**. The KLENDATHU title screen will appear.

Playing the Klendathu Game

Once the Klendathu program is loaded, the first thing you'll see is the title screen (a colorful screen, with green Bugs entering from the top). At the title screen, press **CLEAR** on the Color Computer keyboard, and a question will be displayed:

```
EASY <E   H> HARD?
```

For your first try, type **E**.

Now the screen asks you to choose a GAME TIME from the following:

```
SELECT GAME TIME
SHORT <1  2  3  4  5> LONG
```

Let's pick a shorter game; type **2**.

The screen will now read:

<J> JOYSTICKS OR <K> KEYBOARD?

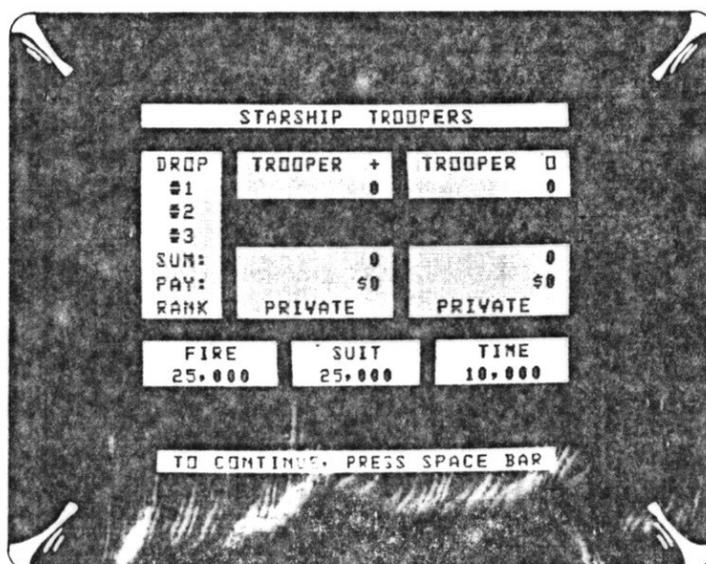
For this game, type **J** to use the joystick.

NOTE: If you choose to play using the keyboard (by typing **K** for the last question) the next screen will not appear – since only one player can use the keyboard at a time.

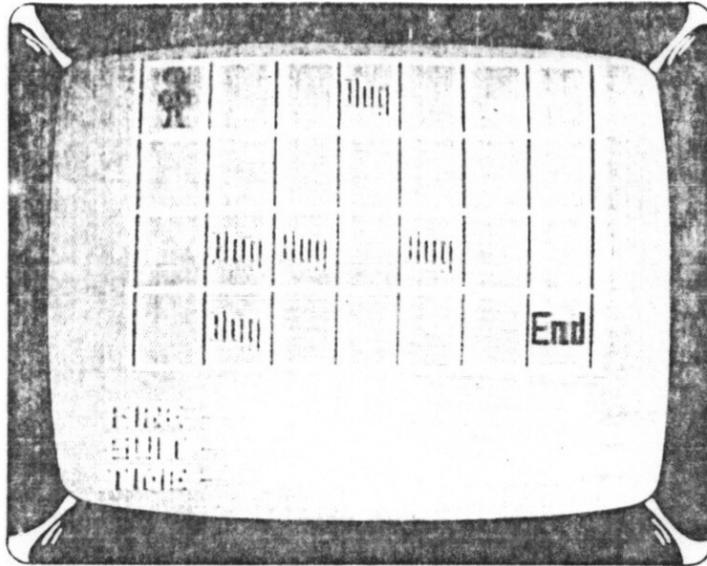
Your next screen will ask you for the number of players (troopers) in this drop:

<1> OR <2> PLAYERS?

Type **1**. Next you'll see the Score Display screen:

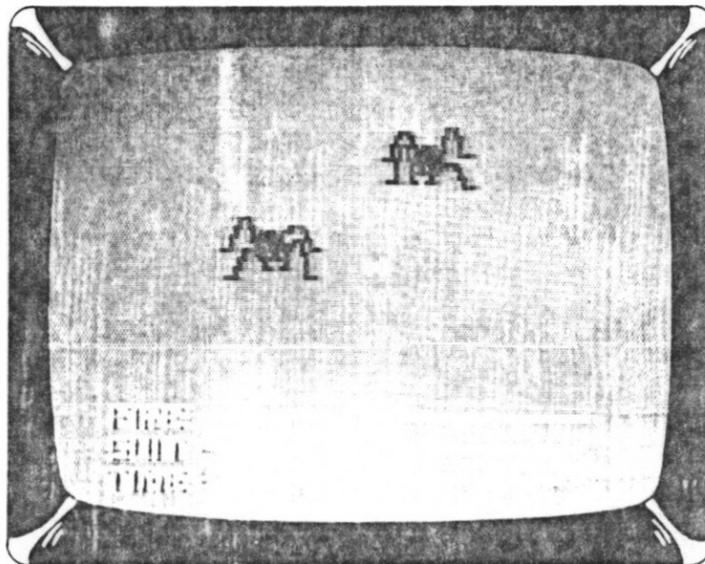


This Score Display will be updated after each drop – after, since you have to live through the drop to earn any credit. Notice that both FIRE and SUIT register 25,000; this number is a constant for all M.I. drops. The TIME limit here is set at 10,000 (option “2” in the GAME TIME screen); this number will vary according to the time chosen for each drop – from 5,000 for “1” to 25,000 for “5”. Press the space bar; the game will move to the planet grid, as below:



You are the green figure, the M.I. in the upper left corner. Move through the four rows of seven blocks each - up, down, across, diagonally - using the arrow keys on the Color Computer keyboard. Notice that your spatial sensor is indicating which of the 28 blocks have Bugs by flashing the word "Bug" in red over those areas of the planet's surface. (Those locations which show no activity may have underground bug groups which will surface during your drop.) Move to one of the "Bug" locations and press the **CLEAR** key.

Once you are on the planet's surface, use your joystick to move about the screen. YOU ARE THE CROSS HAIR ON THE SCREEN. Watch out for Bugs crawling down from the top of your screen; activate your torch by pressing the red button on the joystick (or by pressing **ENTER** if you are not using joysticks).



Kill as many of the Bugs as you can, but be sure that no Bug warriors crawl close to the **FIRE**, **SUIT**, and **TIME** bars at the bottom of the screen; if one does, this means they're getting close to you and if they fire, you've bought the farm and the screen will read,

**YOU HAVE BOUGHT THE FARM
KILLED BY BUGS
TO CONTINUE, PRESS SPACE BAR**

The game will return you to the KLENDATHU title screen to begin again.

After you've killed all of the bugs on the screen, press **CLEAR** ; this returns you to the planet grid. (You can also press **CLEAR** to return to the planet grid if the action gets too hot for you in a location, and then return to the same location or move on to another place.) Choose another block of Klendathu's surface where Bugs have been "sensed" and press **CLEAR** to drop.

Scour this area of Bugs. Progress through the grid this way, dropping to each infested area and killing as many Bugs as possible. (Most grid locations do not contain queens, so you may need to "shop around" to find them.)

Retrieval

You should ready yourself for retrieval only after your **FIRE** is exhausted or when your **TIME** is almost up. (Check your on-screen **FIRE** bar for a reading of the remaining power.) Be sure to allow yourself enough **SUIT ENERGY** and **TIME** to make the jump back to ship. Remember that **SUIT ENERGY** must not be zero as **TIME** runs out or you will not be able to jump up to the recovery ship.

Once you've decided to return to ship, press **CLEAR** on the keyboard; this takes you off the surface and displays the planet grid. Again, use your arrow keys to move through the grid, down to the block marked "End". Now press **Q** to move into the Score Display phase. (Press **T** to clear the **TIME**, if any time still remains from the drop.)

If you have completed the drop, the screen will read:

**YOU HAVE FINISHED DROP #1
TO CONTINUE, PRESS SPACE BAR**

The Score Display will then register your score and pay for Drop #1.

However...

If your **SUIT ENERGY** was exhausted before retrieval, the screen will read:

**YOU HAVE BOUGHT THE FARM
ZERO SUIT ENERGY DURING JUMP
TO CONTINUE, PRESS SPACE BAR**

If **TIME** expired, the screen will read:

**YOU HAVE BOUGHT THE FARM
YOU'VE MISSED RETRIEVAL SHIP
TO CONTINUE, PRESS SPACE BAR**

In either case, pressing the space bar will return you to the KLENDATHU title screen to begin again.

At last...

If you complete all three drops of Operation Bughouse, the screen will read:

**YOU HAVE SOVEREIGN FRANCHISE
YOU HAVE FINISHED DROP #3
TO CONTINUE, PRESS SPACE BAR**

MAKING A BACKUP COPY OF THE KLENDATHU PROGRAM CASSETTE

It is good practice to make a backup copy of the Klendathu program cassette. The original cassette supplied with the program should be stored to protect it from damage. To make a backup copy, follow the steps below.

I. GETTING READY

A. If the computer is off:

1. Turn on the color video receiver or TV, and turn the volume all the way down. Select channel 3 or 4 (whichever is weaker or not used in your area). Select the same channel on the "channel select" switch at the rear of your computer.
2. Turn on the computer by pushing in the power button on the back left of the computer case. You'll see an "OK" prompt appear on the video screen.
3. Skip to II.

B. If the computer is on and the Klendathu program is loaded:

1. If the program is running, terminate the program by pressing **BREAK** and wait for the "OK" prompt.
2. When the "OK" prompt is showing, skip to III.

C. If the computer is on and a program other than Klendathu is loaded:

1. If the program is running, terminate the program by using the **BREAK** key or any special code that may apply to that program.
2. When the "OK" prompt appears, type **NEW** and press **ENTER**.
3. When the "OK" prompt appears again, you are ready to load the Klendathu program.

II. LOADING THE KLENDATHU PROGRAM

Follow steps 3 and 4 on page 7 of this manual.

III. MAKING A NEW COPY OF THE PROGRAM TAPE

- A. Place a blank cassette in the recorder. (Use only TRS-80 C-20 certified cassettes, or other digital quality cassettes.)
- B. Make sure the tape is rewound. Use the "FAST FORWARD" button if necessary to advance the tape past the leader.
- C. Press "PLAY" and "RECORD" simultaneously.
- D. Type **CSAVE "K"** and press **ENTER**.

- E. Wait for the “OK” prompt to reappear. (The recorder will start to run and will stop automatically when the prompt appears.)
- F. Rewind the cassette.
- G. Remove and label the cassette, which now contains a new copy of the Klendathu program.

ABOUT THE AUTHORS



Photo by Jay Kay Klein

ROBERT A. HEINLEIN, widely acknowledged as the dean of science fiction writers, has won a record four Hugo awards for individual books (*Starship Troopers* was one of the winners). In 1975, he earned the Grand Master Nebula Award for lifetime achievement. Heinlein's books have been translated throughout the world, and an estimated forty million copies are in print. His latest novel *Friday* was a best seller. In *Starship Troopers*, Heinlein, a graduate of Annapolis with five years of active Navy duty, tells the story of an infantryman of the future.



LEO B. CHRISTOPHERSON, author of the *Klendathu* program, has become a familiar name to many TRS-80 enthusiasts for his imaginative TRS-80 programs and his articles in computer journals. Christopherson's strong interest in art can be seen in the computer graphics and animation he created for *Klendathu* and for *Dancing Demon*, another Christopherson program sold by Radio Shack. A junior high school math, science, and computer science teacher for eighteen years, Christopherson has been reading and collecting science fiction books since he was in junior high.