Retrogaming Times Monthly

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Attract Mode
by *Scott Jacobi*

This month's editorial was one that I had been putting off for a while. Partly because it's not especially retro related (unless you consider Street Fighter II retro, which I do), and partly because it was just a hypothesis of mine and not a theory. But Capcom recently made an announcement that helped lessen my concern. So what the heck am I talking about? I'm talking about MUGEN's effect on the 2D fighting genre.

If you're unfamiliar with MUGEN, don't be surprised. It's something of an underground phenomenon. One only needs to put "MUGEN" in the YouTube search bar to get a quick education about it. It's a fighting engine that allows people to import their own fighter designs into a fully customizable fighting engine to create their own fighting games. At least, that's what it is in theory. It's interesting to see what happens when you put unlimited creative potential in peoples' hands. A small portion of the MUGEN creations that I've seen made available have been rather impressive... I'm talking entire games that are good enough to rival the best that Capcom and SNK have had to offer.

However, the majority of MUGEN packs that I had found on the internet offer pretty much one thing: the ability for every fighter from every existing game by every existing company to fight each other (along with the occasional appearance of a Simpsons or Family Guy character). Simply put, they make Capcom vs. SNK 2 look like a small affair. While some characters lack quality or are missing certain abilities, most of them are quite complete, and in the case of several key popular characters (especially Ken, Ryu, and Akuma), offer severely enhanced and over powered varieties in addition to the originals. Let's just say that in a lot of cases, balance is not a concern.

The new ideas and concepts that people have presented through MUGEN are quite intriguing, but it made me wonder: if hardcore fighting fans can download MUGEN from any one of the available torrents, what motivation is there for companies like Capcom and SNK to provide new 2D fighting experiences? And they can provide something that MUGEN can't in many cases: polish and balance. Could MUGEN be responsible for eliminating incentive for a new 2D fighting game franchise? Fortunately, the world recently learned that the answer is no.

In the middle of October, Capcom announced that Street Fighter IV is in development. Now, it's only

speculation that the game (and let's face it, series) will be in 2D, and nothing more is known about it beyond a painted animation of a fight between Ken and Ryu, but I'm sure it was a relief to people like myself who wondered if we would ever see anything official, or if we would need to turn to MUGEN for any new 2D fighting experience. While MUGEN is a fantastic tool, it has the potential, like all tools, to be abused. I'm happy to see, however, that it has not erased the drive to create newer and better 2D fighting games. I can't wait to see what Capcom has to offer with SF4.

	## The Many Faces of . . . Tutankham
	### by Alan Hewston

We are back to reviewing the Many Faces of 1982, this time the Konami arcade game Tutankham. Now a quarter of a century old, Tutankham matches well with this time of year, and Halloween. You are a brave explorer who may have to face a "trick", (find the keys in the maze) in his effort to collect "treats" (artifacts or treasures) in the tomb. You have to navigate your way inside the dangerous and spooky Egyptian burial vault of the boy king. Tut's tomb is filled with unlimited numbers of monsters such as asps, vultures, parrots, bats, dragons and curses. A brave and resourceful archeologist can make it through all 4 chambers and ultimately recover the prized Golden Death Mask of Tutankhamen. After obtaining this prize, you have conquered all that there is, but wait there is more. The next time through the tomb, beginning at stage 1 again, you'll play at the next harder skill level. You'll now face even more frequent and faster enemies, more locks and thus more keys required to complete each stage. Eventually the mazes will change slightly, filling in some of the open spaces and altering the paths to become more difficult. How far can you go?

Many screenshots can be found at:
www.mobygames.com/game/tutankham/screenshots

Arcade: 1982 by Konami - unknown programmer
All home versions released in 1983 by Parker Brothers.
Atari 2600 by Dave Engman & Dawn Stockbridge - cart rarity uncommon
Atari 8 bit computer by unknown - original diskette fairly hard to find
Intellivision by unknown - cart only released in Europe, very rare in USA
Colecovision by George French - cart rarity uncommon
Odyssey 2 by unknown - protoype and all packaging exist but went unrealeased
Vic 20 by unknown - cart rarity semi rare
Ti-99 by Steven Zedeck - a few of these 1984 completed prototype carts do exist

Rumor Mill: Atari 800 and 5200 carts listed in catalogs.

Beautiful arcade screenshot of courtesy of KLOV.com

Home Version Similarities - except those in < >
all home versions have: a choice of a start level difficulty or starting stage <Vic 20>; a choice of 1 or 2 players; a pause at any time <CV & 2600>; the on-screen playfield resembles the arcade size (14 x 10 blocks); each maze scrolls

to the right <2600 (down)>, and extends more than 40 blocks wide (long); the tomb layout/map matches or attempts to match the arcade <2600>; there are a variety of enemies, some distinct to each stage; all enemies are created at a monster generator <2600 at least 1 generator is invisible>; just before each enemy is generated you see a visual <2600> and hear an audio warning; on each system, there is a fixed limit (2 to 8, varies from system to system) to how many enemies can be on screen at the same time - so use this to your advantage as you scroll across the tomb; as you eliminate the enemy, or the screen scrolls them out of sight, more enemies can and will be generated to replace them; shooting an enemy with your nearly unlimited firepower will instantly eliminate them; each stage you begin with a set amount (time) of energy charging your weapon, so pay attention to that meter (or timer) as it counts

Parker Brothers did all the classic era home versions of Tutakham

down; once depleted, you can no longer fire your weapon; if depleted and you die, the next life begins with it still depleted <Vic (full charge)>; if not depleted and you die, the next life begins with that same energy level remaining; you are also limited in that you can only fire your weapon to the left or right, never up and down; this limitation seems OK when you consider the maze scrolls horizontally <2600> and so the majority of your movement is in those firing directions; no matter what, you'll eventually get trapped with enemies above and/or below you, and that is when that you call upon your special weapon, the "Flash Bomb"; this bomb works like a "Defender Smart Bomb", as it eliminates all the on-screen enemies with a bright flash and you earn the points for vanquishing them as well; you begin each game with only 3 "Flash Bombs" <Atari 8 bit (1 max)> and earn one more each time you complete a stage <2600 (every 4 stages)>; when moving in the maze you are somewhat limited in how you can move and fire; once you move down a hallway you continue to move in that direction (or you can change direction) until you reach a wall; you cannot simply stop at any spot in the maze and fire; you can however fire while you are moving, and when reaching a stopping point, you can then sit there and hold the fire button to fire L or R <800 (must be moving left to fire left)>; when you complete a stage you'll see the final door open and reveal your treasure <2600>, plus you'll earn bonus points for the time remaining on your weapon's meter; you can see <CV & 2600> these bonus points tally up on your score; if you complete all 4 stages to the tomb and find the death mask, you then begin over at the next higher difficulty; the next higher skill level typically presents more challenges, such as faster enemies, more frequently regenerated enemies, more keys required to complete each stage and finally on some home versions the passageways will be partially or completely filled in, requiring longer and more dangerous routes through the maze; if you earn 30K points, you'll earn a bonus life; you lose a life any time you touch any of the tomb's denizens; fortunately, before you begin your next life, all enemies are cleared out and you begin at the same (or nearly the same) location in the maze; all other items are as they were, so you do not have to restart the stage or re-collect any key(s); you have a choice to seek or ignore the treasures for bonus points; but it is mandatory to collect all the keys <2600 (1 key)>, one at a time and unlock all the doors; the doors must be unlocked to reach the treasure room <2600> and complete each stage; the keys look the same and are interchangeable, but you can only carry one key at a time; you can see when you are carrying one on your person <800 & Vic (are shown in your inventory above)>; once you unlock a door you can then collect another key and so, where up to 4 keys must be found per stage; besides the locked doors, some parts of the maze are separate and can only be accessed by "warp zones" or teleports; these teleportation rooms always work in pairs, you enter one room and come out the other, and vice versa; once you have found the map, you will see <CV, 2600 & Vic> the map of the maze, its enemies and treasures shown above the playfield; about the only use for the map, even on the superior graphic capability of the

arcade screen, is to see how much further till the end [IMHO poor use of the screen]; the two player version is not recommended as it forces both players to share the same controller and then be caught off guard when it is your turn and the action begins without you; none of the home versions have a musical sound track, but they all have similar intro music, effects for moving around and for every action in the game, except when an enemy is vanquished; the musical jingles have an Egyptian style. No home version has a complete demo, but the Atari 800 does come close, showing the enemies move about the screen, even going where they are not supposed to. No home version has any on-screen text, not even "Game Over".

Disqualified: The Intellivision port is extremely rare and both the O2 the TI-99 versions went unreleased - so neither will be covered here. With some help, I will eventually review and score these two together in a Lost Faces review. For now, here is some info on these ports.

The Intellivision is extremely rare (only released in Europe) but hopefully I can someday get IntelliSteve to assist me in a review of this port as a lost Face. Screenshots alone tell me that it could beat out the 2600. The TI-99 port was completed, but cancelled just before its release. Recently, some prototypes have been announced in an AtariAge forum. Hopefully one of the proud owners, none other than RTM staff writer Bryan Roppolo, will help me to reveal the details on this Lost Face. It looks like it might have won the Gold Medal had it been released. Because it was not officially released and there is no TI-99 multi-cart or other way for most of us to review this one an actual console it will always be disqualified from any medals. There is quite a lot of info on the web about this TI-99 arcade port, including an interview with its programmer, and Tutankham arcade fan, Steve Zedek. He and the CV programmer shared all of the characters/sprites and treasures between the TI & CV ports. See: www.digitpress.com/library/interviews/interview_steve_zedeck.html

Odyssey 2 (Videopac) A last minute addition, thanks to one of our astute readers, Doug, reminded me that the O2 port was not only done, but was nearly released in Europe and the box, manual and label exist. Doug says it plays better than the 2600, but I did not find time to do research on the various Videopac web sites, such as this forum at: www.videopac.org/forums/viewtopic.php?t=182 Too bad the ROM was found too late to make it on the O2 multi-cart. We really hope that some day we can review this as a lost face as well.

Screen shot of Intellivision Tutankham courtesy of INTV Funhouse
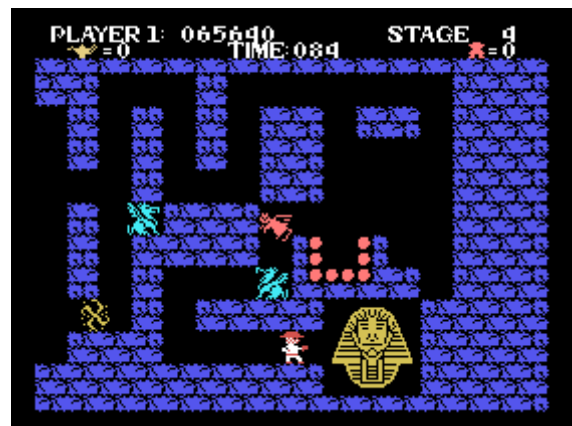
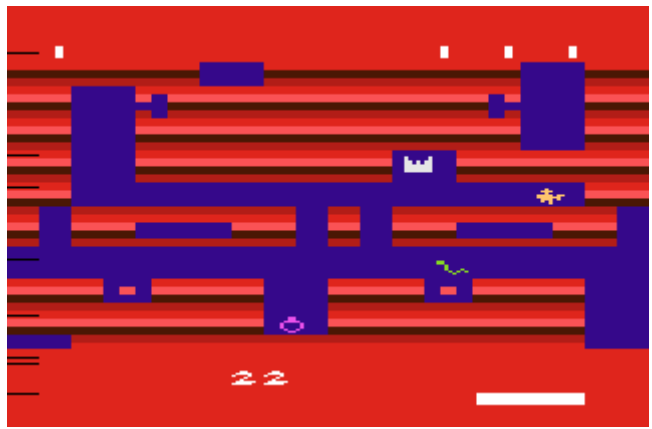Screen shot of TI-99 Tutankham courtesy of TI Videogame Funhouse

Have Nots: Atari 2600 (35)
My first reaction was 2 thumbs down for the vertical instead of horizontal scrolling maze.
If the 2600 was easier to scroll downwards than right, then why not attempt the arcade map/layout, but rotated 90 degrees and scroll vertically. Then of course, adjust the gameplay to let the shots fire U/D instead of L/R. The Gameplay is OK (6) and

resembles the arcade to some extent. The choice of skill level allows you to start at levels 1 through 4 in difficulty, but always at stage (maze 1). There is no easy way to see/learn all the mazes other than to earn your way there. With only 2 enemies at a time, you don't have too much strategy or thinking - just reacting. After dying your next life does not always begin exactly where you died, but can be a little closer to the starting location. The path you chose is also very limited and straightforward, with only a few places where getting that extra treasure is risky. The traps are not so difficult that the enemy will get you, but rather that the odd shaped maze you cause you

to more easily get stuck in a nook or a half sized block. The delay in getting out of there will be enough to eat up many of your lives. The maze does have some open spaces, but not really a treasure room, and there is only 1 key to collect. The screen playfield is OK at 18 x 11 blocks, compared to the arcade 14x10. The Addictiveness is good enough (6) to try it all the way through each stage, but maybe not much more. There is no way to pause the action at all. The progression of difficulty is barely noticeable. As levels progress, there is nothing new added, no extra keys, no extra monsters, not a harder maze (narrower hallways), just the increased difficulty of the enemies appearing more quickly sand moving faster; there is no treasure room and no surprises, but the overall graphical variety to the treasures is far superior to any other version. You cannot "see" the enemy appearing, only hear them, which means you have to plan for them to appear at any/all generators on screen. Or they could appear on a generator that is invisible - at least one exists. There are some collision detection issues as you can be diagonal to the enemy and yet you die. Finally, you only get a new Flash Bomb after completing an entire level, not each stage. Graphics are (6) respectable and pretty good for the 2600, with good clarity, decent details, good color variety and graphics variety. The scores and displays are OK, the scrolling is decent, and the animation is alright. The action is very limited with only you and two enemies. There is no stage number displayed, no "end of round" activity or animated doors, and nothing is multi-colored, except the background walls. The use of the screen space is reasonable and you can tell when you are carrying the key. Sound is very good (7) with nice power up music and all of the sound effects. The effects are a bit repetitive and not as good as other versions, but not enough to lower the score. Controls are perfect (10).   Use the fire button and move upwards to activate a Flash Bomb.   The full maps of all 4 stages can be found at AtariAge.com

Bronze Medal: Vic 20 (39)

My first reaction was too much of the screen space is wasted for the map, which is not even there. Gameplay is impressive (8) with most of the arcade look and feel. There is no difficulty or chance to start at a given stage. Facing 8 enemies at a time, gives you too much to think about, but they seem to move aimlessly and mostly just take up space, blocking your path. The layout resembles the arcade map, but the screen playfield is bigger, 22 x 9 blocks, compared to 14x10. Some of the hallways spots are only half sized in height which is weird. The size of each on screen location, or block is narrower, than the arcade, and to adjust for this, the vertical hallways are mostly doubled in width. A minor glitch is that you can only collect the treasures by moving
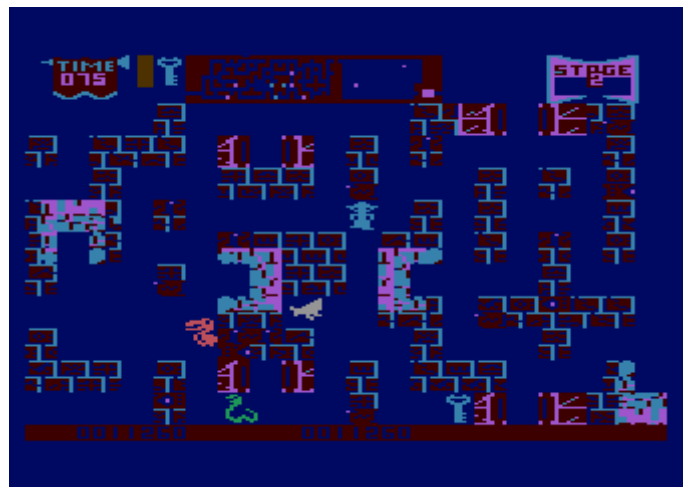
L/R onto them and not U/D. The change in the hallway size detracts from your strategy and leaves more time clearing them out, or waiting for a safe path to get the same task accomplished. Addictiveness is very good (7), but lower than I expected. The enemy movement and collision detection problems are really weird/bad here. Enemies will often sit around doing nothing, and can even be right next to you without causing your death. You cannot even ram into them - they are like a wall. This makes the game a bit easier, but not satisfying as you rely too much on luck and not on skill or planning. Another problem lies in the worst progression of difficulty. You start out and right away will see 8 enemies, as opposed to maybe 2 or 3 and gradually seeing more as the stages or levels increase. I did not play far enough into the difficulty to see if their intelligence improves much either.   You must collect a second key on the second stage. This seems way too early (why not stage 4 or level 2?), but perhaps this is what is done at the arcade (I cannot recall) and so I should not penalize it here. Use <Shift/Lock> to toggle the Pause. As expected, when you lose a life, the next one begins with the timer/energy where it was when you expired. But a flaw (feature) in the programming occurs if the timer reached zero & you die, your next life gets the full timer. Graphics are (7) exciting with the most enemies, up to 8. But 8 may be too much as the 8 are not moving simultaneously but sporadic and jerky, not the least bit smooth & flowing. As noted, the displays waste a lot of space, but are adequate. Too bad they did not use that space to make the spaces and characters larger and more detailed. Another glitch is that your shots go through walls and sometimes hit enemies. A nice touch is that the energy timer/meter begins flashing as a warning, but it seems to occur too early, like the half way point. The graphics have some details and adequate backgrounds, with nice color variety and some graphical variety. The scrolling action is also choppy, possibly since this port has the most combined objects and enemies on-screen. There is no use of multi-color, but a bit of animation and the end of stage action. Sound is effective (7) with some limited intro music and all the effects. This port has the most effects, and is possibly the best overall due to its unique addition of effects for both the end of a game and the adding of a bonus life. Small deduction was made for repeat similar effects. Controls are perfect (10). <F1> & <F3> start a 1 or 2 player game respectfully. <Space Bar> activates the Flash Bomb.

Silver Medal: Atari 8 bit computer (42)

My first reaction was the controls do not permit one to hold and fire left, and you must use the other controller fire button for the Flash Bomb. Gameplay is superb (9) as the screen playfield is wider 20 x 11 blocks, than the arcade 14x10, and does not double up the vertical hallways like the Vic did. Instead, a bit more of the maze is seen before the scrolling occurs, which is a good thing. The biggest drawbacks are facing only 3 enemies and you only can have 1 Flash Bomb at a time. You earn a new one each life or each stage but you cannot stockpile them for use later. Like the 2600, when you die, you may start the next life a bit off from where you died. You are overwhelmed with the unique option to practice any of the game's 16 stages by using <Select> to

Emulator screenshot captured - courtesy of Scott

increment one stage at a time. This allows you to see the entire set of stages, including how the maze hallways partially or completely fill in, making it more challenging. This is the only version with a demo (partial). Addictiveness is great (9) with no problems to deter your interest - other than Graphics, which are penalized later. The Pause feature is nice, but may appear to be overkill, as ANY key on the keyboard will toggle the pause. Methinks that the easy-to-use pause provides the most effective/reliable use of the Flash Bomb. First, quickly hit any key to pause. Then swap out sticks to hold the second controller. Once you are ready, hit any key to un-pause and immediately fire the button to flash, then immediately hit any key to pause again. Then switch sticks and un-pause again. The progression of difficulty is good and there are no collision detection problems that I could see. The stage numbers are even displayed beyond 16. Graphics are (7) exciting, but there are critical

problems. The text score is very small and hard to read, especially if you have any chroma distortion. With only 3 enemies there is not that much action going on, but better than the 2600. The details of the characters, backgrounds and treasures are pretty good, but the colors clash and the variety is so poor that it makes it very hard to discern what is going on. The animation is very good, but use of multi-color is limited. Graphical glitches occur during scrolling - that is, enemies are generated, then after scrolling, end up partially visible behind walls, but not really there (harmless). Eventually scrolling will reset them, but in the mean time, I think the glitches count towards the limit of 3 enemies. This is the only version AFAIK where you do get to see the actual map and enemy & treasure positions displayed on it. Sound is pretty good (7) with all the musical intros and effects in place. Some effects sound a bit repetitive and the effect you hear all the time, your firing sound, is the worst. Controls are (9) perfect aside from 1 thing. When holding the fire button and moving left, nothing happens. You can only hold and fire right. You have to already be moving left before you can fire left, which takes quite some getting used to. I did not deduct for using the second controller fire button for the Flash Bomb. In fact, as mentioned above, this may be the easiest to use, when couple with the easy-to-use pause. <Option> key to select 1 or 2 players. This version was only released on diskette.

Gold Medal: Colecovision (43)

My first reaction was it will probably win the gold. It did not win by much and there is much room for improvement here. I look forward to finding out if the similar looking TI-99 port would have beaten it. Maybe when that TI-99 multi-cart finally comes out (hint-hint). Gameplay is fantastic (9) with no drawbacks. The screen playfield is 16 x 11 blocks and there are 4 enemies to contend with. You cannot select and practice the starting stages, but can adjust the difficulty for levels 1 to 3. This version has fewer features than the Atari, but is the most arcade like - of those reviewed here. The Addictiveness is enjoyable (8) with the only setback being that of some frustration due to inconsistent collision detection. There is no pause (penalty -1), but the progression of difficulty seems to be the best here. This is the only version having on-screen bonus points displayed when collecting a treasure. Graphics are outstanding, easily the best, (9). The details, backgrounds, clarity, use of screen space and color variety are the best. Use of multicolor is limited but the animation and scrolling are good. Sound is very good (7) with all the musical intros and effects - possibly the best variety. Controls I scored a (10). This pretty much breaks the tie but I dunno if I am justified in doing so. The firing of your weapon L and R is different here and will take some getting used to. Unlike the Atari where you fire 1 button, you use the L fire button to fire L, R fire button to fire R. Pressing both buttons simultaneously activates a Flash Bomb. I'm not the only gamer who dislikes the symmetric two-button controllers like the CV, Inty and 7800. Using one hand to hold it and that hand's thumb to fire one direction and the index finger the other direction just is not easy to do repetitively. I tried all the CV controllers and really had a hard time using them but decided that the Super Action controller works best for me and gets that little bit extra to score a 10. There is one problem though as the SA controller is not fully compatible and its keyboard does not work. You need to either have a joystick Y-cable hooked up with another controller, or start the game with another controller, quickly unplug it and then plug in the SA controller. Overall this one barely wins the gold, as the Atari is not too far behind. Both versions should have been coded much better, and who knows, we may see the TI-99 get a higher score some day in a Lost Faces review. And darn it PB, where's that C64 port to challenge here?

Acknowledgements, Updates and Errata since last month.
Yes, the pickings keep getting slimmer and there are not as many faces out there as there use to be, but we keep on ticking. I'm also finding it harder to accumulate titles as too many of those remaining are available only on diskette - which are rarer and more likely to not be working when found.

Come back next month for a return to 1982 reviews, hopefully (if I can borrow the Vic 20 cart), we'll visit the Many Faces of "Lode Runner" for the Atari 8 bit, CV, C64 & Vic 20. Contact Alan at: Hewston95@NOSPAMstratos.net or visit the Many Faces of site: http://my.stratos.net/~hewston95/RT/ManyFacesHome.htm

The (Lost) Titles of Tengen - Xybots
by David Lundin, Jr.

In this return to my favorite independent NES developer we take a look at a lost Tengen arcade conversion. While all the commercially released Tengen NES cartridges have been reviewed in this column over the years, there are still a handful of games that never made it into final production. These are of course prototypes, preliminary builds of games in varying stages development used for testing and promotion. Prototypes are hard to come by but Tengen prototypes seem to be impossibly rare with only two publicly acknowledged to have been found to my knowledge - Airball and Xybots. Thanks to the dedicated hobbyists over at Lost Levels, Xybots was finally released to the public in the Summer of 2007. Of all the known unreleased Tengen games, Xybots was the single title I was most interested in as I have always enjoyed the arcade original and Atari Lynx version.

Please keep in mind prototypes are in a development stage and as such usually are not complete or ready for commercial release. It's still common practice to give games their final polish toward the end of development and the prototype of Xybots is no different. It is absolutely playable and all the core parts of the game are in place however it lacks the above mentioned polish. Due to this the eventual retail release could have appeared different if the game had progressed further. I am reviewing the game as it is in this prerelease state, not as it could have been. By my estimate, which by no means is to be taken as fact, I'd say that development is at around 90% completion in the prototype. The prototype is also being reviewed via emulation as I do not own nor claim to own a physical prototype or reproduction of this game.

Released into arcades in 1987, Xybots was a 3D over-the-shoulder sci-fi maze based run and gun game. The Xybots have invaded a once peaceful planet and Major Rock Hardy and Captain Ace Gunn are dispatched to remove the mechanical menace. Destruction of the Master Xybots will liberate the planet however their underground multilevel fortress is infested with lower level Xybots under the control of the Master Xybots themselves. Fight your way through the mass of metal, descending deeper and deeper into the fortress depths. What is unique about Xybots is the way the perspective is presented.

The levels are laid out like large grids, each square can contain four walls. Although the game is in 3D is it incremented one square at a time. Moving the joystick in any of the standard eight directions moves your player relative to the direction they are facing. For instance continuously holding up on the joystick will cause your player to run forward, once they reach the edge of a square they will move to the next one unless there is a wall. The next square will scroll down, giving a primitive sense of 3D. Twisting the joystick a quarter turn clockwise will rotate the perspective 90 degrees to the right. Likewise twisting the joystick a quarter turn counter-clockwise will rotate the perspective 90 degrees to the left. If left or right is pressed without twisting the joystick the player will run to the left or right, causing the screen to move to the next square in the respective direction when the end of the current one is reached. In this way strafing is possible, making running attacks at enemies from the sides. There are two fire buttons which both cause your player to shoot and the Start button doubles as a super zapper. The super zapper stuns all enemies in close proximity and destroys all plasma shots currently sailing through the air however it drains 10% off your energy meter for each use. The energy meter constantly drains away slowly and your energy level is reduced each time you are hit. Picking up energy pods replenishes the meter but it will continue to slowly drain. Once the meter is at

zero it's game over.

Throughout the mazes there are coins, keys, and weapon powerups in addition to enemies and energy pods. Coins can be spent at the end of each level on upgrades such as faster shots, slower energy drain, radar enhancements and more. Keys open panels that contain keyholes, many of these have special bonuses or warps behind them. Opening locked panels is often the only way to completely clear a level of Xybots, netting a hefty amount of bonus points. The objective of each level is to find and then reach the exit, which will allow you to descend further in the Xybots base. Some levels feature alternate exits which act as warps and allow the player to skip levels. Every few levels there will be a confrontation with a Master Xybot which is an exercise in strafing and avoiding shots.

3D isn't something the NES is known for at any stretch so bringing over a game such as Xybots sounds like a daunting task. However once broken down to its core, that of levels composed of interconnected squares, it seems much more feasible. Games like Golgo 13 Top Secret Episode and The Lone Ranger had maze based 3D stages however they were shown from a first person perspective and thereby didn't scroll fluidly. While Xybots doesn't scroll dynamically, it does have a fluid sense of moving in a 3D space and since the player is shown on screen it plays much faster. Tengen did all they could to keep the action moving at a rapid pace. This is an action arcade shooter after all, so fluidity of gameplay is important. The directional pad moves your player as it did in the arcade, respective to the direction they are facing. Instead of rotating a joystick, holding down the B button and pressing left or right on the directional pad rotates the perspective in that corresponding direction. This works great and would eventually be duplicated on the Atari Lynx version. You have complete control the entire time. The A button fires your blaster and the Select button fires the super zapper.

Arcade Original   NES Version

All the powerups and features of the arcade version make it into the home release. Locked doors, coins, weapon upgrades, the radar system, warp exits, teleport pads, it's all here. Graphics are very low resolution, especially in the case of the Master Xybots which are nearly unidentifiable due to the way the screen is laid out. Standard Xybots are decent representations of their arcade counterparts and they behave as they did originally however there are far fewer of them around than in the arcade. The reason the stages aren't overflowing with enemies becomes apparent the first time a situation filled with them arises - it causes the game to flicker horribly. With all the enemies being drawn in different scale, moving freely in the distance and up close, the player running around and changing the scale of the maze, and laser bolts being shot constantly the NES hardware just can't keep up. Granted the game keeps from choking and slowing down but it becomes nearly impossible to hit targets that keep disappearing and reappearing. The intermission screen is not present so rather than showing the elevator stop at a computer console and the player running over to purchase upgrades, the upgrade selection screen is displayed immediately after a level is completed. One would hope that Tengen intended to eventually add the intermission sequence in a later build since finishing a level feels empty without it. At least the title screen is a very nice representation of the original and there's a well done text tutorial that plays during the attract sequence that explains the

controls.

Aside from the attract music playing at the title screen and during the tutorial there is no music in the Tengen version. One would assume that it had yet to be inserted but considering how much flicker there is in the game already it could have been omitted to help with game speed. Either way, the game feels empty without music pulsing away in the background as it did in the arcade, it removes a lot of intensity. Sound effects are good but of course none of the digitized speech and sound effects from the arcade are present on the NES. The effects that are there are quite passable however.

The more I play the prototype the more I realize why the game was never released. It's a nice effort, it plays okay, but it is obviously running on under powered hardware for the game it's trying to be. Xybots is simply a different kind of game than what the NES was designed to handle and too many sacrifices have to be made to get it to play anywhere close to how the original did. The end result is an extremely barebones version of a great arcade game that was more than likely abandoned because it hit a refinement hurdle. I can't see this game being further improved without sacrificing even more stability, four sprites on screen at once is all it takes for this game to stop being fun real fast as it is. Sometimes games aren't released for a reason and the technical challenges of fast paced real 3D on the NES seems to be why Xybots never showed up on store shelves. It's still a nice little oddity and an important chapter in Tengen NES development. Thanks again to Lost Levels for releasing the dump of the prototype, it is greatly appreciated.

"InsaneDavid" also runs a slowly growing gaming site at http://www.classicplastic.net/dvgi

Newsbytes

We have some news this month!

CreatiVision Multicart

If you're a handheld simulator fan, then you may recognize the name Luca "MADrigal" Antignano. This author of 37 amazing Game & Watch simulators has succeeded in building a homebrew cartridge for the creatiVision, which was a very popular system that was sold in Europe, Australia, Asia, and Africa. The only existing NTSC version was released in Japan and is highly sought-after. Luca and his partner have built 100 numbered copies for collectors. Each comes with an individually numbered glossy cardboard box, internal cartridge holder, plastic casing cart, 5-way DIP switch to select games, a 12 page manual and 6 joystick overlays (similar to Intellivision's overlays). The included 1MB EEPROM features the entire set of known progreams and gamres that were developed for the creatiVision (a total of 27 games!) Each cartridge can all be purchased for 43 euros, compared to other multicarts that sell for over 60 euros and don't come with any packaging.

Please visit his site for more information www.madrigaldesign.it/creativemu/ and visit the Multicart page at: www.madrigaldesign.it/creativemu/multicart.php

Chip Tunes

Thomas Humphrey would like to point you in the direction of his website: http://www.handbakedarcade.co.uk/. On there you will can learn about how he has set up temporary arcades in at galleries in London. Additionally, if you follow the link to 8bit music towards the top, you can then listen to his 'chips n bits' dj mix. Its a free 40 minute mix of contemporary chip tunes from different artists across the world. According to Tom, its a great soundtrack for trying to get past that especially difficult stage boss! Chip tunes are an aspect of retrogaming that gets relatively little attention here, so give it a shot if you'd like to see what it's all about.

I got back last Sunday from a two week vacation/jaunt through China with my parents. It's my third trip to China (and other provinces like Hong Kong/Macau) in the last 4 years (2004, 2006 previously). As it was previously, the trip was tiring and educational at the same time. It was tiring in that the first week of the trip was part of a tour group. If you've ever been part of a tour group going anywhere in the world, you know how it feels. The tour guides have you on very tight schedules, you spend a lot of time on buses and in general feel like you are being herded around like sheep. I ended going around to 6 or 7 cities in the span of a week. Also thanks to the tour, I stopped by a city where my company has an office. Though I wasn't able to stop by the office itself, I met up with two co-workers for some late night snacks.

The second week wasn't much better. Our tour ended after a week but we met up with my dad's co-worker. The co-worker had family in China and so we were able to stay at someone's house instead of a hotel. However, we were once again whisked around various locales around the area and I returned to the US jet lagged and pretty tired.

As far as the educational bit goes, I took away a lot from the trip. One, there's a lot of diversity and culture in China. Just think of the 50 states in the United States. Each state has it's own sub-culture and little differences. China has a lot of the same in each of cities and provinces. There may be a universally accepted language (Mandarin) but each city has it's own twist on language, food and culture.

Two, China may be a growing super-power, but there's still a lot of poor people. My family and I rode on Rickshaws (tri-cycles) where we paid the driver about 5 to 6 Yuan (Chinese currency). That's the equivalent to LESS THAN ONE US DOLLAR for some pretty tough physical labor.

Three, If anyone's interested in visiting China, now's the time to do it. When 2008 rolls around, with the Olympics around the corner, you'll probably face high prices and a crazy amount of tourists trying to visit China at the last minute. Visiting China will be a much different experience than visiting your local Chinatown (if you have one).

Ok, enough about my China trip. On the way back, I was wondering what I was going to write for this month's column. I decided it would be something related to my China trip. The trouble was what to write about. What are the Chinese most known for here in the US? Food? Bruce Lee? Jackie Chan? Yao Ming? Martial Arts/Kung Fu? Finally, after much thought, I came up with something less obvious, but still distinctly Chinese.

In 1986, Activision released a new puzzle game called Shanghai. Shanghai was "based" on a Chinese tile game called Mah-Jong. In reality, the premise of Shanghai had nothing to do with the game of Mah-Jong. The only similiarity between Shanghai and Mah-Jong was that Shanghai used the

tiles of Mah-Jong for gameplay. The game play of Mah-Jong had no impact on how you played the game of Shanghai. Trying to explain the game of Mah-Jong is probably way beyond the scope of what I can do here. But Mah-Jong is a deeply complex strategy game that involves reading and understanding the tiles that Shanghai uses.

In Shanghai, your initial goal is to locate any two matching tiles and click on them to remove them from the game board. Ultimately, the gamer's final goal was to remove all the pairs and clear the board to win the game. Sounds simple enough right? Well, the catch was the tiles were laid out in something close to a pyramid shape (don't remember exactly). There was a chance that some tiles were be blocked by others. When you got to a point where you could no longer remove any tiles, then the game was over.
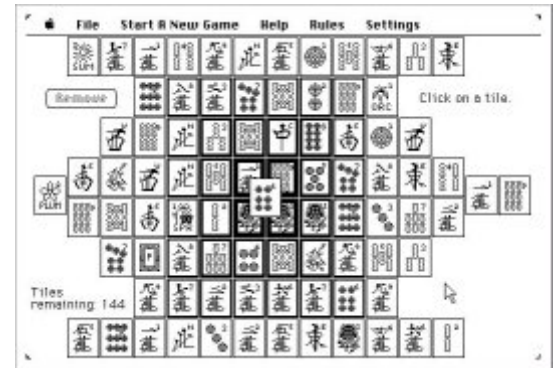
I personally first played this game on a old black and white Macintosh. I hardly played the Apple IIGS version of the game and never played the 8-bit Apple II version of the game though I saw screen shots of the 8-bit version. The Macintosh version had the sharpest graphics thanks to the slightly higher resolution graphics that were employed over the Apple IIGS version. However, thanks to the IIGS's color graphics, programmers were able to simulated the 3D effects a little better. Of course, it should come as no surprise that the 8-bit version of the game has the weakest graphics though the programmers did as well as they could.

Shanghai was a pretty big hit back when it was released and still has some fans. Personally, I didn't find the point and click premise of the game all that interesting. Essentially, Shanghai removed all the complex elements out of Mah-Jong and made it into a very simple game.

	Nintendo Realm: September 1986
	by Scott Jacobi

Super Pitfall released by Pony Canyon on September 5th, 1986. Released in the United States by Activision in 1987
I can already hear the groans as I begin to type this out. Yes, Super Pitfall is one of those much-hated games towards the top of nearly everyone's worst NES games list. And like most games on that list, it has its defenders. I am not one of them. Simply put, you either love this game or hate it, and most people end up hating it. There are a lot of good reasons for that. First and foremost is the addition of the gun. Pitfall Harry never used a gun in the first two Pitfall games, so why does he have to start using one now? The answer is simple: the game would be impossible without one. The problem is, there are so many enemies, that move fairly quickly, and they appear on the screen so quickly that you rarely have a chance to react to them before they've gone and killed you. The other thing is that the game just sort of drops you in the middle of a world and sets you free to explore in any direction that you like. Now, a lot of people would consider that a good thing, especially in 1986-87, but the problem is that the game doesn't ramp up the difficulty very well. That is to say, it doesn't ramp up at all. It's like you start in the most difficult section of the game right away because the entire game is fairly difficult. Those who have been brave enough to spelunk through the cavernous regions of Super Pitfall are usually rewarded with a variety of settings and, of course, plenty of treasure to collect, but you have to be fairly dedicated (and patient) to sit through the entire experience and uncover everything that Super Pitfall has to offer.

Banana released by Victor Interactive Software on September 8th, 1986.
This game can be summed up rather quickly: Boulder Dash with stricter gravity. In this game, gravity doesn't just affect the boulder, it affects you too. Once you dig down, you can't simply walk back up.

Instead, you need to make use of a ladder in order to ascend. So it's a little trickier and requires more thought. The game is much more of a puzzle game than an action game. For the premise, you're a mole who much collect every... well, I assume they are potatoes, but they look like cigars. In addition, you must also collect Mrs. Mole and bring her back to the house once you've collected every potatoe. Of course there are the boulders to watch out for, but they pose more as obstacles then as threats, since they won't crush you or the misses if you are standing directly beneath them. At certain points in the game, you can collect tools that you can utilize by pressing the Select button, in order to complete the solution for a given stage. All in all, it's a slower variety of game than the ones that made the NES famous.
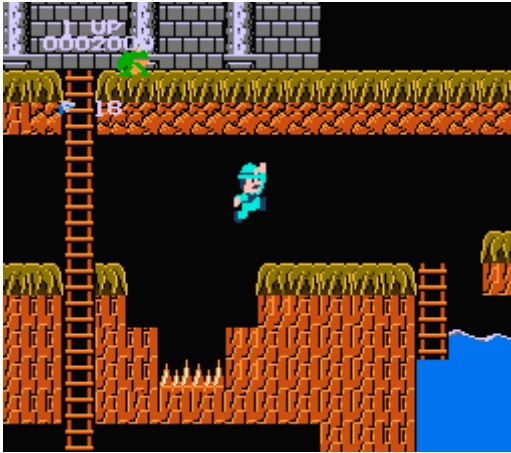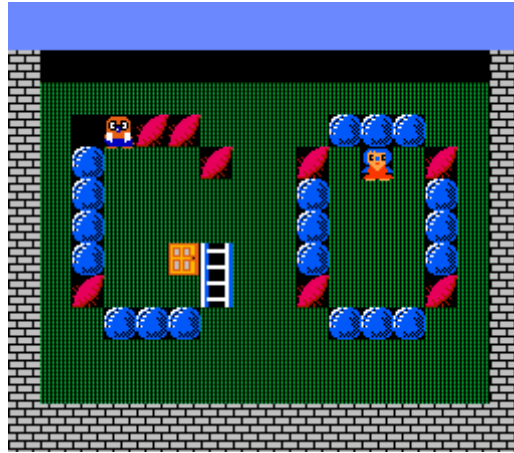
Super Pitfall   Banana

Takahashi Meijin no Bouken Jima released by Hudson on September 12nd, 1986. Released in the United States as **Adventure Island** in September 1988
After playing Super Pitfall, you may need to find a good action game to rinse the taste of Super Pitfall away, and out of all the games in this month's line up, Adventure Island is probably the best of the bunch. Adventure Island takes a lok of cues from Super Mario Bros., down to the fact that it features eight worlds composed of 4 stages each, with a final boss at the end of the fourth stage. Likewise, you can walk or you can run, and the run button happens to double as the attack button. The other button jumps. But Adventure Island also disnguishes itself in a few ways. For one, there's a timer that ticks down as you play, and naturally, you will lose a life if it ever reaches zero. Fortunately, the timer can be replenished simply by collecting the various fruits that appear as you approach them. So the game forces you to take note of where and when these fruit appear instead of treating them as mere bonus items. Your attack can be upgraded from a simple stone throwing hammer to fire, which inexplicably does a better job at destroying rocks that get in your way than the hammer does. Also quite hip is the fact that you can find and use skateboards. While they really increase your pass through the stages, you can never fully stop on them, so you have to be a bit more careful about oncoming dangers. The most useful items are usually hidden in secret eggs which you must jump in just the right place to make them appear. A variety of enemies and a very colorful palette round out a fun, but difficult action game. This game actually started out as Wonder Boy, a Sega arcade game. If you compare them, you'll notice quite a lot of similarities.

King's Knight released by Squaresoft on September 18th, 1986. Released in the United States in September 1989
That's right, this is a Squaresoft game. And from the company that would one day make the greatest RPGs comes... a shooter. And an odd one at that. King's Knight is a vertically scrolling shooter involving four heroes who must battle against a dragon. You don't choose which hero to control, you control all of them. One at a time in thr first four stages, and then all together in the last stage.   The next odd thing about this game is that you will probably spend more time shooting at the terraint than at enemies, as all of the powerups that strengthen your character are hidden in the ground that you shoot away. Each character has a life bar, and can take a certain amount of hits before dying. Life

can be replenished by collecting the up arrow icons (and likewise, taken away if you touch the down arrows.) Shots and speed can also be upgraded. As you walk along, holes will form in the ground. If you fall in, you must be sure to jump out of them as they immobilize you. Staircases appear from time to time to take you down into treasure laden undergound paths. Definitely not a game that was indicative of what was to come from Squaresoft, but an interesting one none the less. It was the first game that Squaresoft ever personally published in the United States.
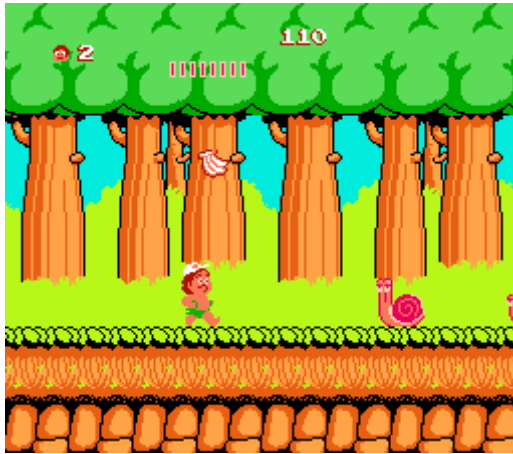
Adventure Island

King's Knight

Koneko Monogatari - The Adventures of Chatran released by Pony Canyon on September 19th, 1986.
This is a Famicom Disk System game that was, frankly, not very good. It was definitely one of those games that contributed to the idea that Japanese games were just too weird (and too cute) for their own good sometimes. It's not every day that you encounter a game about a cat that can be killed by smaller mice that wear overalls, and whose only means of attacking is by dropping eggs straight down on the enemies. And how does this cat get the eggs in the first place? He jumps up into tree branches naturally, and they pop out. But if they fall too far, they crack. Jumping down on a branch will produce apple which apparently turn rotten in about 5 seconds. Jumping up into the branch won't always produce an egg, sometimes it produces a beetle. Or if it does produce an egg, sometimes the egg will have one of the four letters in "HELP" on it. If you collect all four letter, a dog comes running on to the screen from left to right. Presumably, this dog is here to help you, and it does in fact clobber any enemy it runs into, but it can also kill you if you touch it... not much help. Ultimately, it just another overly cute side scrolling game that's a little on the slow side. Nice animation on the tree branches though.

Super Xevious: Ganpu no Nazo released by Namco on September 19th, 1986.
Finally, we end with a rarely seen sequel to the grandfather of vertically scrolling shooters, Xevious. The title translates to the Riddle of Gamp, a mysterious super computer which is in control of the invading force. You're back in the pilot seat of the Xevious attack ship, with the ability to shoot air-to-air guns and drop air-to-ground bombs. Unlike the original Xevious, this game's stages are more divided and don't necessarily flow in to one another. Instead, you must access the next stage by finding the position in the current level that leads to the next. If you miss it, the level will scroll on and continue from the beginning of that stage in repetition until you find the exit. Aside from that aspect, Super Xevious really provides more of the same; fleets of attacking ships that spill onto the screen, with occassional ground targets scattered around for good measure. This version of Xevious is a little more challenging, as many new types of enemies and behaviors are introduced, but it does provide you with a greater sense of progress since you can actually see the backgrounds change, and there is a definitive ending to this game, if you can last long enough to make it all the way to tne end.

Koneko Monogatari

Super Xevious

How I modded my TI-99/4a to output beautiful RGB video.

by Tim Lindquist of *Hardcore Gamer Magazine*

When I was thirteen, I lived with my cousin, who had a TI-99/4a home computer. I spent a lot of time tinkering with it and did silly things like write terrible programs in BASIC which plotted graphics to the screen pixel-by-pixel. I planned out the pictures on graph paper before-hand. It took forever and the results were horrible. To make it worse, we had it connected to the family television through an RF modulator. The image was awful. It was fuzzy, had dot crawl, and the colors bled. I still had fun with the system playing the few games we had but I eventually got an Apple][+ and didn't look back.

Now that I'm almost 40, I am finally looking back at all the old video game systems and computers from my childhood with fondness and have begun collecting them to play my favorite old games on them and find out about the games I missed the first time around. One thing I can't bring myself to relive is the awful video quality of these old beasts. I've been modding all of my systems to output higher quality video than they were originally designed to do. I've been getting at least s-video, sometimes component video, but always aiming for RGB video if it's possible. RGB is my favorite. I've got tons of RGB monitors and the quality is fantastic.

When I recently picked up a TI-99/4a, I googled around for video mods and came up empty. It seemed that the general consensus was that the TI-99/4a outputted composite video directly from its video chip and that was that. End of story. I eBay'd a composite video cable and moved on to my next system - a ColecoVision. I found that mods were available for the ColecoVision to go to component, composite or s-video, so I started looking into the best options. During my search, I happened to be browsing random threads on AtariAge.com and read a discussion about how the TI-99/4a used the same video chip as the ColecoVision. Wait. What?! I wondered why, then, can you only get composite video from a TI but component video from a ColecoVision? I asked around and it turns out that the TI uses a TMS9918a and the Coleco uses a TMS9928a and the only difference is that one outputs composite and the other component, but they are otherwise compatible with each other. Well, imagine that!

I'm pretty handy with a soldering iron, so I decided I'd get ahold of a TMS9928A, swap it into my TI and see what I could make happen. My ultimate secret desire was to get RGB out of the bugger, but I would have been happy with s-video or component. Component video is nice, but old school systems generally look worse on the kinds of TVs that have component inputs - flat screen LCD and plasma televisions (which is basically all I have). I much prefer to use 4:3 CRTs for my classics, so I figured I'd be going for s-video. I googled around for a data sheet and looked for people selling TMS9928A chips so I wouldn't have to kill a ColecoVision and I found ArcadeChips.com. They had 'em in stock for $10/ea. Perfect! I browsed the rest of their inventory and saw they sold lots of interesting chips,

including some amps.

The data sheet for the 9928 said it output R-Y, B-Y, and Y signals. I figured one of the things I'd probably need to do was amplify the signals so I looked a little closer at ArcadeChips.com's inventory. One of the chips (a TBA530) was listed as a video pre-amp as used in a Gorf arcade machine. I was curious about whether I would be able to use a single chip to amplify all three signals instead of using three separate transistors as I had done in the past (for an N64 RGB mod) so I googled the schematics for Gorf, found them, and had a look at the video section which used the TBA530. Whoa! Low and behold, Gorf's video chip outputs R-Y, B-Y and composite video and converts it to RGB to display on the standard arcade monitor inside. Not only that, but it did it on a separate board called an "RGB Interface Board" which was nice and small! Neat! I figured that it might be easy to just find one of those and hook it up to the TI after I swapped in a 9928 instead of figuring out how to convert it's output to s-video.

I posted a WTB message on rec.games.video.arcade.collecting and within an hour had someone willing to sell me an RGB interface board from Gorf for $40 shipped. A little on the high side, but I was feeling giddy and went for it. I had it in my hot little hands three days later and wasted no time trying it out. I hooked it up to an old Sony CPD-1302 RGB multi-sync monitor which I had handy and could see an image but it wouldn't sync up (stabilize). I figured that problem must be that the 9928 was outputting R-Y, B-Y, Y while the circuit was designed for R-Y, B-Y, composite. So I jumpered Y directly to the green input on the monitor knowing sync-on-green was one of the modes this monitor supported. Voila! Pretty nice picture! The colors were a little washed out, though. I fiddled around a bit but didn't get them to be any richer, which was slightly disappointing. I figured I'd need to modify the circuit to deal with Y instead of composite, but that was pretty over my head.
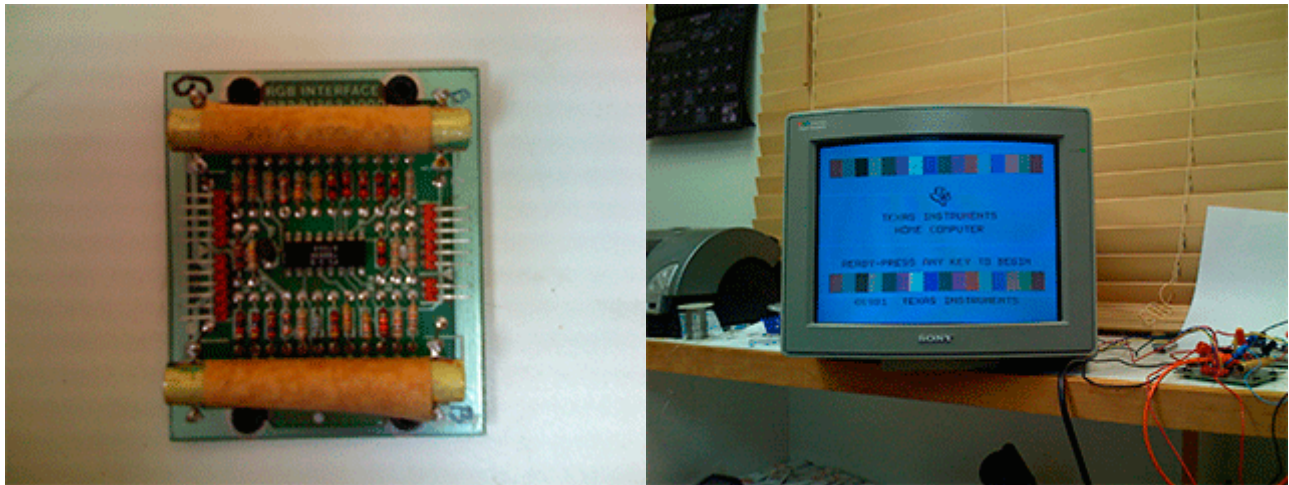
Instead, I googled s'more. I looked for other arcade games that used a TMS9928. I didn't find many. I found that the arcade version of the Sega Master System used one, but there were only three games on that hardware and schematics weren't around for any of them. I kept looking. I found that Cliff Hanger, a laserdisc arcade game, used one. I found schematics for one of the boards in the set, but not the one with the 9928 on it. I kept looking for other games. Finally, I found that Baby Pac-Man, a videogame/pinball hybrid, used a 9928, and there were schematics available! I checked them out and, sure enough, the board it used, called the "Vidiot," converted the R-Y, B-Y, Y output of the 9928 to the RGB+sync I was looking for! Oh joy. The schematics showed the circuit was pretty simple, too. I checked eBay and there was a broken-for parts only Vidiot listed there, with only one bidder with a day to go. I put in a snipe and won it the next day for $12! Woot!

It took about 10 days for the Vidiot to arrive, but when it finally did, I immediately wired it up with test clips, but got nothing. I checked the voltages with the volt meter and they were all wrong. It turned out the voltage filter section of the board was bad, so I just bypassed it and fed +12vdc into the circuit right before it got converted to +8.2vdc by a big resistor (according to the schematics). That gave me

an image, but it was not synced. There were pots (knobs - variable resistors) on the board which were labeled Red, Green, Blue and Sync. I fiddled with the sync pot and got a stable picture! The color was horrible and bleeding badly. I fiddled with the color pots and got decent colors but still with terrible bleeding. I measured the voltage where it should have been +8.2vdc but it was only +7.6vdc. I checked the schematics and they showed the resistor which brought the voltage down to +8.2vdc was only 52 ohms. I grabbed a 1k ohm pot I had laying around and replaced the resistor with that. Then I adjusted it until the voltage read +8.2vdc exactly. I looked up at the monitor and was greeted with a nice crisp image! I fiddled with the color pots a little more and got a perfect, beautiful picture. I was in bliss.

I excitedly shared my results with the folks in the AtariAge.com thread where I first read about the 9928 and then set about trying to fit the Vidiot inside the TI's case. Unfortunately, the Vidiot is huge. Bigger than the TI's case, in fact. I checked out the RGB section of the Vidiot and found it was perfectly isolated from the rest of the board's circuitry. So I grabbed my dremel and hacked it away from the rest of the board. It came out to just the right size to fit neatly inside the TI!

Here are the step-by-step details describing how I did the RGB mod.

1) After opening the TI's case and exposing the motherboard, I replaced the TMS9918A with the TMS9928A which I had purchased. I bent pins 35 (B-Y), 36 (Y) and 38 (R-Y) out of their sockets and added a bit of solder to them. I then soldered a wire to each pin and added a molex connector to the end for convenience.
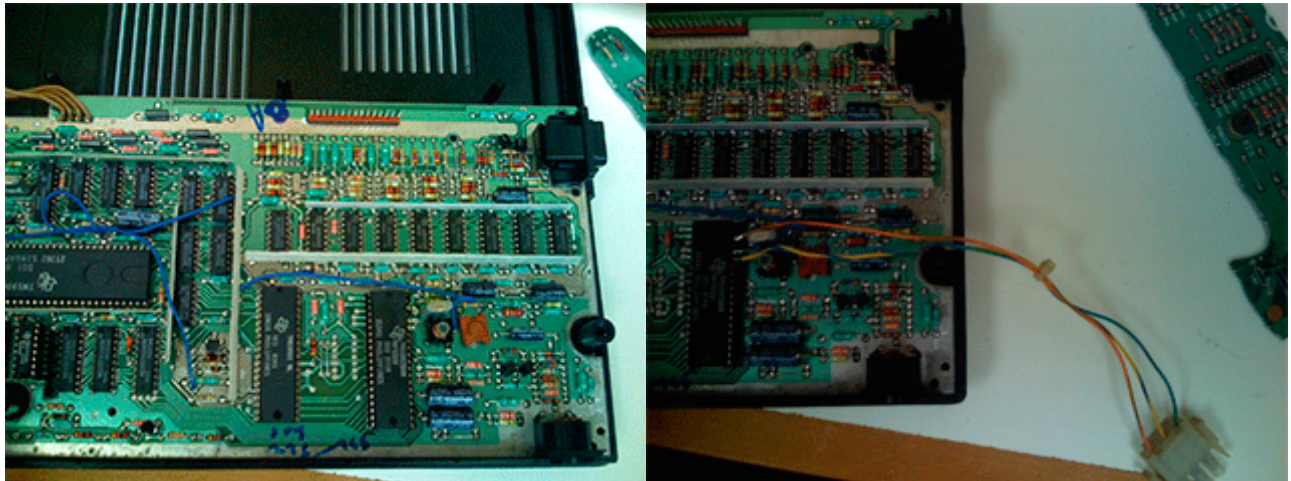
2) I replaced the RF shielding around the main board and ran the new cable out of one of the holes. I then soldered wires to the inputs on the circuit which I had previously cut out of the Vidiot with a dremel. I soldered the wires to the left side of R82 (R-Y), R83 (B-Y) and R84 (Y) as shown in the picture below and added the mate to the molex connector from step 1.
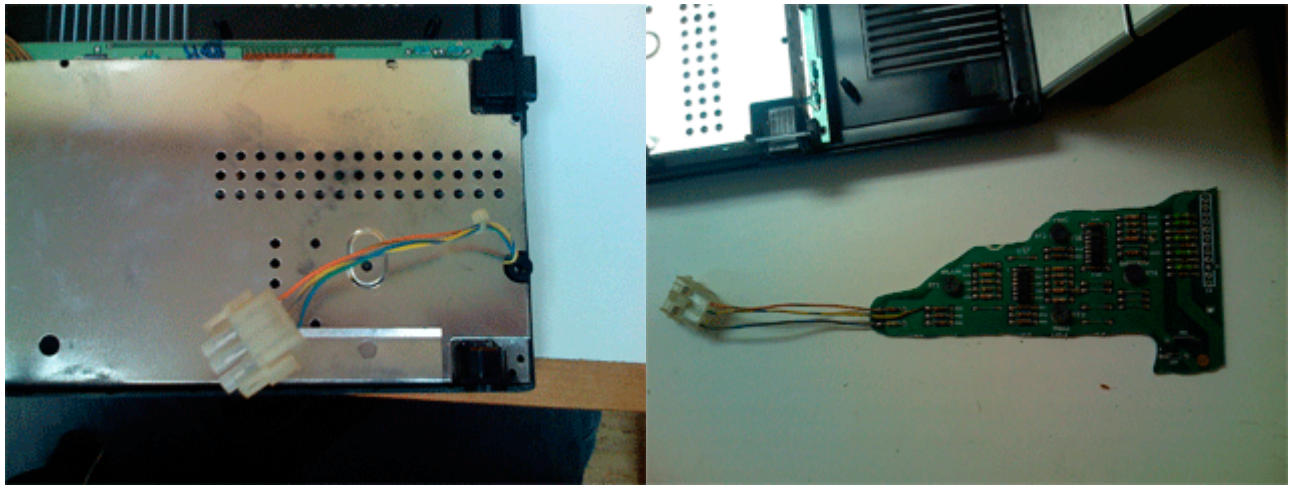
3) Next I soldered wires to the outputs of the Vidiot circuit. I had previously removed the pins from the connector for space reasons. I soldered wires to pins 2 (Ground), 3 (Sync), 5 (Green), 7 (Blue) and 11 (Red). Then I added a molex connector to the end of the wires for convenience. Then, I flipped the whole motherboard over and soldered wires to the +12vdc and ground pins of the motherboard power connector. Lastly, I flipped it back again and laid masking tape down over the RF shield and set the Vidiot circuit on top of that.
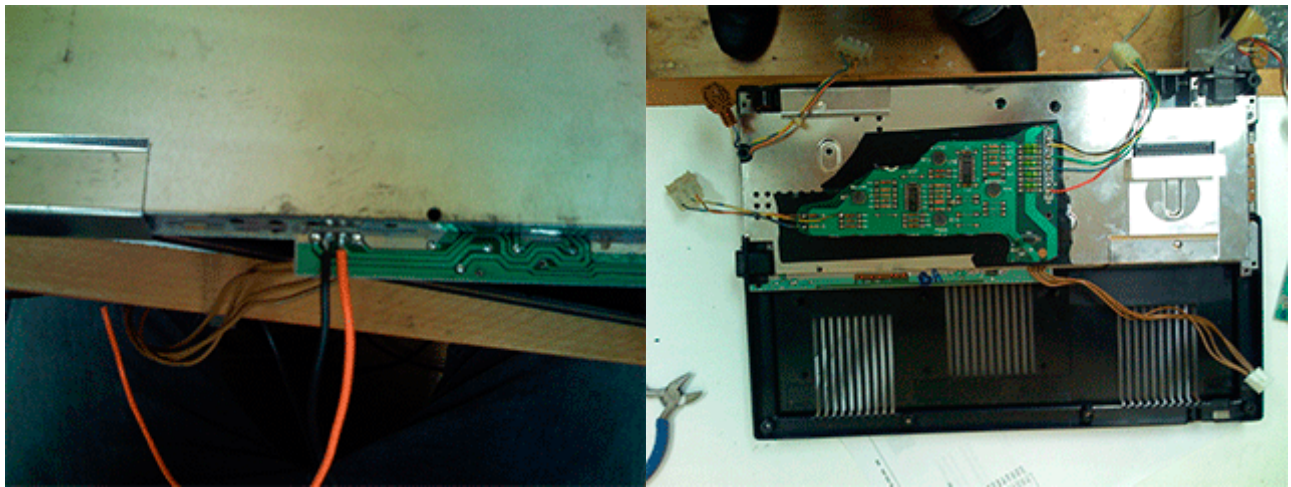

4) Next I cut holes in the top rear of the case and added a 15 pin d-sub (VGA style) connector and a RCA jack for audio. I connected the wires for audio to the underside of the original A/V connector to pin 3 and ground (also using a molex connector). I soldered wires to the VGA connector and added the mate to the molex connector from the Vidiot's video output wires. Next I had to add a 1k pot to the power input of the Vidiot circuit and adjusted the voltage from +12vdc to the required +8.2vdc.
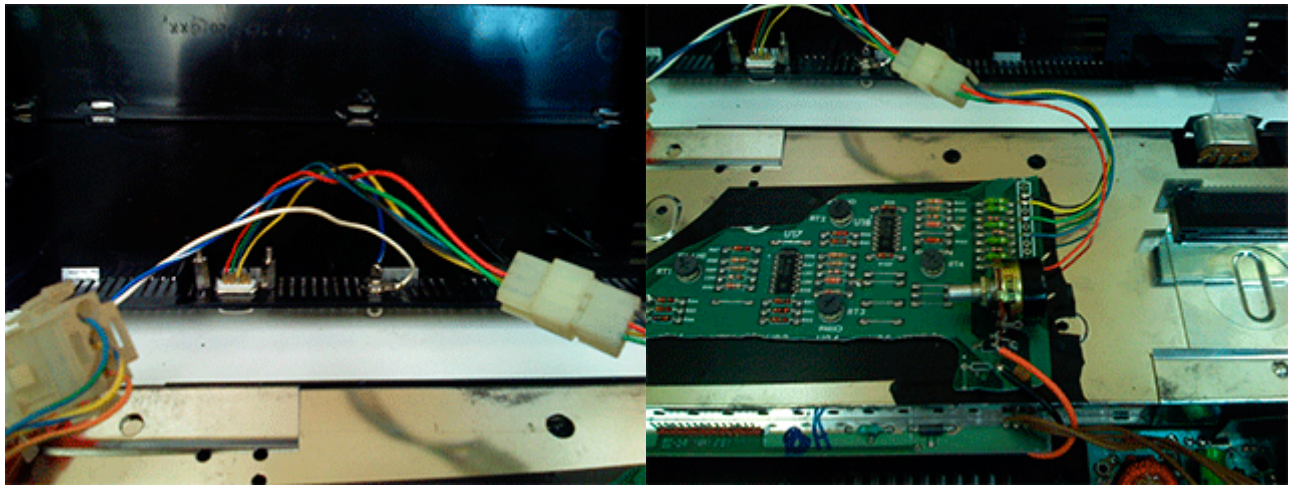
5) Finally, I taped the Vidiot securely down, connected all the molex connectors to each other and put the case back together.
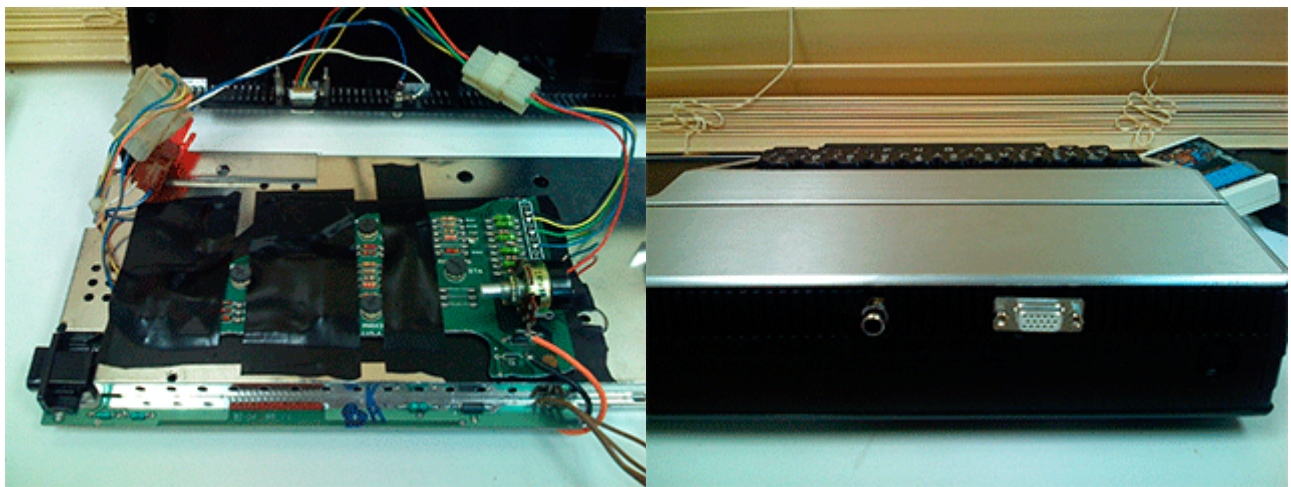
The results? Amazing! Beautiful, crisp RGB video from a TI-99/4a. Yay!!

I also tried this mod on a ColecoVision and it works just as well.

	Mastering Sega - F-16 Fighting Falcon
	by Craig Morris

F16 Fighting Falcon was released in 1985 by the Nexa corporation as one the very few Sega Card titles. The game was designed and programmed by Gilman Louie, the same individual who designed and developed the F-16 flight simulator 'Falcon' for Spectrum Holobyte (later became MicroProse), one of the pre-eminent PC simulator developers of the 1990's.

The sega card titles received a bit of a bad wrap; they had limited memory (32k) compared to their cartridge-based counterparts and were subsequently panned for 'lack of depth' or 'poor graphics'. While I always liked the sega card format (compact and priced less than the cartridges) it didn't really make sense on a console platform where the media size really wasn't an issue. The Game Gear would have been a much more suitable platform for the Sega card.


If your looking for flashy explosions and terrain screaming by at breakneck speeds this is not the game for you. Afterburner it is not. The game itself is fairly complex and one of the few 'simulators' of the 8-bit era. Although a single player game, two controllers are required. Controller 1 handles directional controls, weapons selection and firing. Controller 2 manages air speed, electronic countermeasures, and radar locking. To be honest, unless you have the right joystick (e.g. Quickshot with hat triggers and suction cup base) you cannot truly enjoy this game. Using a gamepad to control flight requires both hands. Constantly using you other hand to run countermeasures and control accelleration is frustrating. Often you will want to perform several tasks at one (e.g. accellerate while turning) which is virtually impossible using gamepads exclusively. They really should've bundled a joystick with this one.


Due to the complexities of fighter similuation and the corresponding limits of 8-bit hardware (and Sega Card memory) the game was stripped down to the essentials. Graphically, approximately 1/3 of the

display is taken up by instruments and the HUD (Head Up Display). All your bases are covered: fuel, radar, altitude, direction, air speed, intercept angle, etc... The ground is simply a rolling grid and the enemy aircraft are rather crudely rendered but do increase in detail as you close. Weapons are basic. You get a single 20mm machine gun with 500 rounds and generic 'missiles'. The number of available missles increases with each level while MG rounds are fixed at 500.
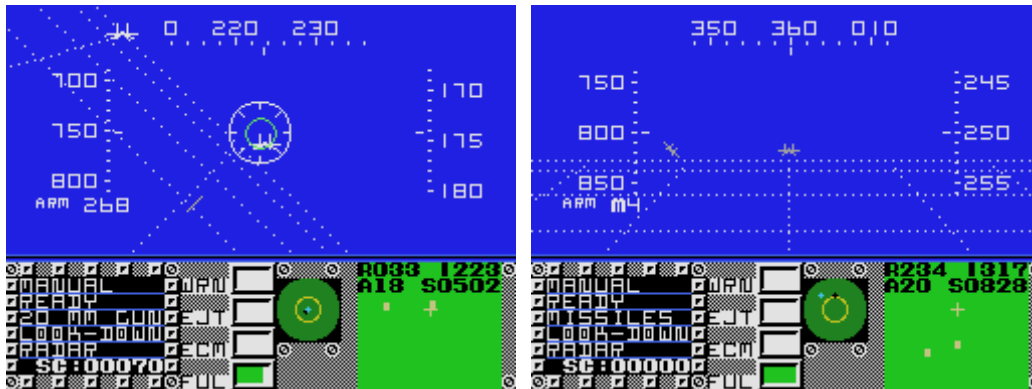
Each of the 10 levels is virtually identical, the only differentiating factor is the difficulty and the number of enemy planes (MIG's only)you encounter. Level 1 begins with 2 planes, level 3 begins with 3 planes...you get the idea.
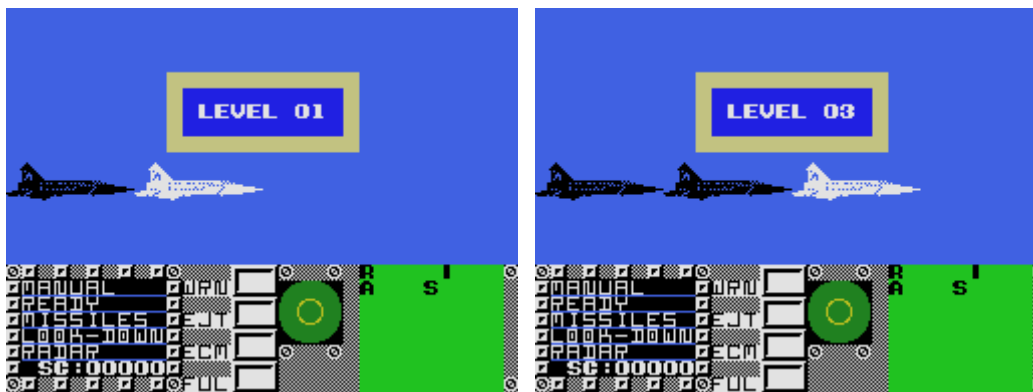
As you progress through the levels the gameplay becomes extremely challenging. Subsequent levels increase the number of enemy planes but the few additional missiles gained helps little. Making each missile count is essential to success. Each missile is timed to explode and the timer starts on launch. The longer a missle takes to reach its target the more likely it is an enemy MIG will escape. Maintining radar lock (reticle turns red) is key and only possible when the MIG is in range and viewable in the HUD. No fire and forget here kids. Once the missles run out its down to the MG (did I mention you should have a joystick?!). When an enemy plane is in range of the MG and centered in the target reticle the reticle turns red. Keep a close eye on the ammo count, 500 rounds dissappear in the blink of an eye when facing multiple opponents. If you run out of missiles and MG rounds before you've eliminated your designated targets its game over. You either run of fuel, crash, or get shot down.
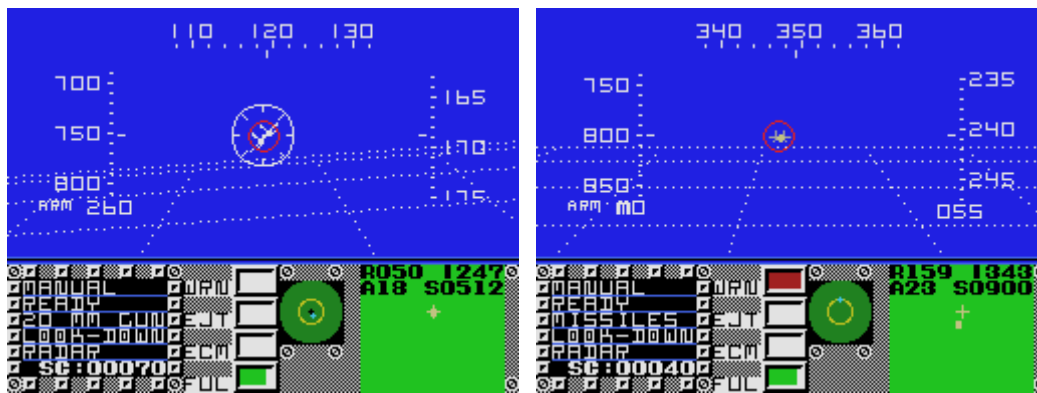
Perhaps just as important as a good attack strategy is a defensive one. When taking enemy missile fire ECM's (Electronic Counter Measures) are essential. ECM's in addition to the afterburner can go a long way to breaking an incoming missile lock. Be careful with the afterburner, it consumes fuel at an insane rate. If you're hit by enemy MG fire you'll hear a 'pinging' sound on the side of your plane. You can only take so many hits before you're destroyed. If you're hit and the damage is severe the screen will turn red and and the eject warning will light at which point you'll only have a few seconds to eject.

At its core, F16 Fighting Falcon is meant for the combat simulator connoiseur. While lackluster graphics and sound may dissuade some the real meat of this game is the simulation. Twitch gamer skills won't save you; smart tactics and judicious use of ammunition and counter-measures will save the day.

Oh yeah, don't forget a joystick!

Game Over

Special thanks to Tim Lindquist for the account of his TI-99/4a mod. Please check out Hardcore Gamer Magazine, one of the best video game publications on the racks these days. See you in a month!