

GAMEROOM

Your Guide to the Ultimate Home Game Room

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Meet the MiniMAME

A redemption machine is
converted...and redeemed?



Pachinko Smart Cards
No more tokens, ever!

George Gomez
Before pinball, the vids...



CHAOS CENTRAL

Computers are cheap, powerful, and small enough to be used almost anywhere.

Spring has sprung, and with it everything is budding, sprouting, or blooming. Even my lawn is showing signs of life—not much, mind you, but I have hope. Our winter purgatory is over, and in this post-purgatory environment there is new life. It is in that spirit of renewal this month that we take a look at bringing new life to old games: while we cover plenty of restorations in the pages of GameRoom, sometimes the best use for a dead machine is a fresh start. Modern computers can emulate, replicate, or just plain replace old, worn out game electronics. In these wonderful times that we live in, computers are so cheap that you can retrofit a machine for a few hundred dollars, and thanks to their versatility, your new creation can be a combination video game/jukebox/video player/whatever—the limits are your imagination and the tools you have on hand.

Rob Craig takes a break from his *Tales of the Silverball* column this month to show off another one of his custom creations, the MiniMAME. A converted redemption machine, the MiniMAME is a pint-sized powerhouse of arcade gaming. Did I mention it's cute? Well, it is.

Our other columnists have been busy, too. Mitch Gerson shows us a Pachinko smart-card mod, and Kyle Snyder looks back at the somewhat obscure *Professor Pac-Man*. David Ellis also has a great look at the video side of George Gomez's career (What? You didn't realize he designed video games as well as pinball?).

We've also got a great GameRoom of the Month to show off: Chad Karaginides has a game room that is just jam-packed with awesome games. It's a sight to behold, and I have to believe that there must be a "patron saint of arcade games," and that saint loves Chad. I have to admit to a certain amount of envy over his pinball collection: I mean, a collection that includes all three PinBots, a Safe Cracker, and a Medieval Madness? I'm jealous.

And of course, there's more. There's always more. Turn the page, and enjoy!



Duke Nukem 3D? What sort of crazy arcade game is this? Turn to page 23 for details.

The Game is Never Over,

Kevin Steele, Editor

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ON THE COVER:

Rob Craig's MiniMAME game

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EMERGENCY! RED ALERT! ALL HANDS ON DECK! I am now almost out of GameRoom of the Month submissions. Come to think of it, it's been an awfully long time since I've had a Coin-Op Confession, too. If you've thought about submitting your game room or want to confess your coin-op habit, now is the time—send your high-resolution photos and story to info@gameroommagazine.com — you'll get a GameRoom T-shirt, your game room immortalized in print, and my eternal gratitude!

From Prize Zone to MiniMAME:

A Conversion by Rob Craig

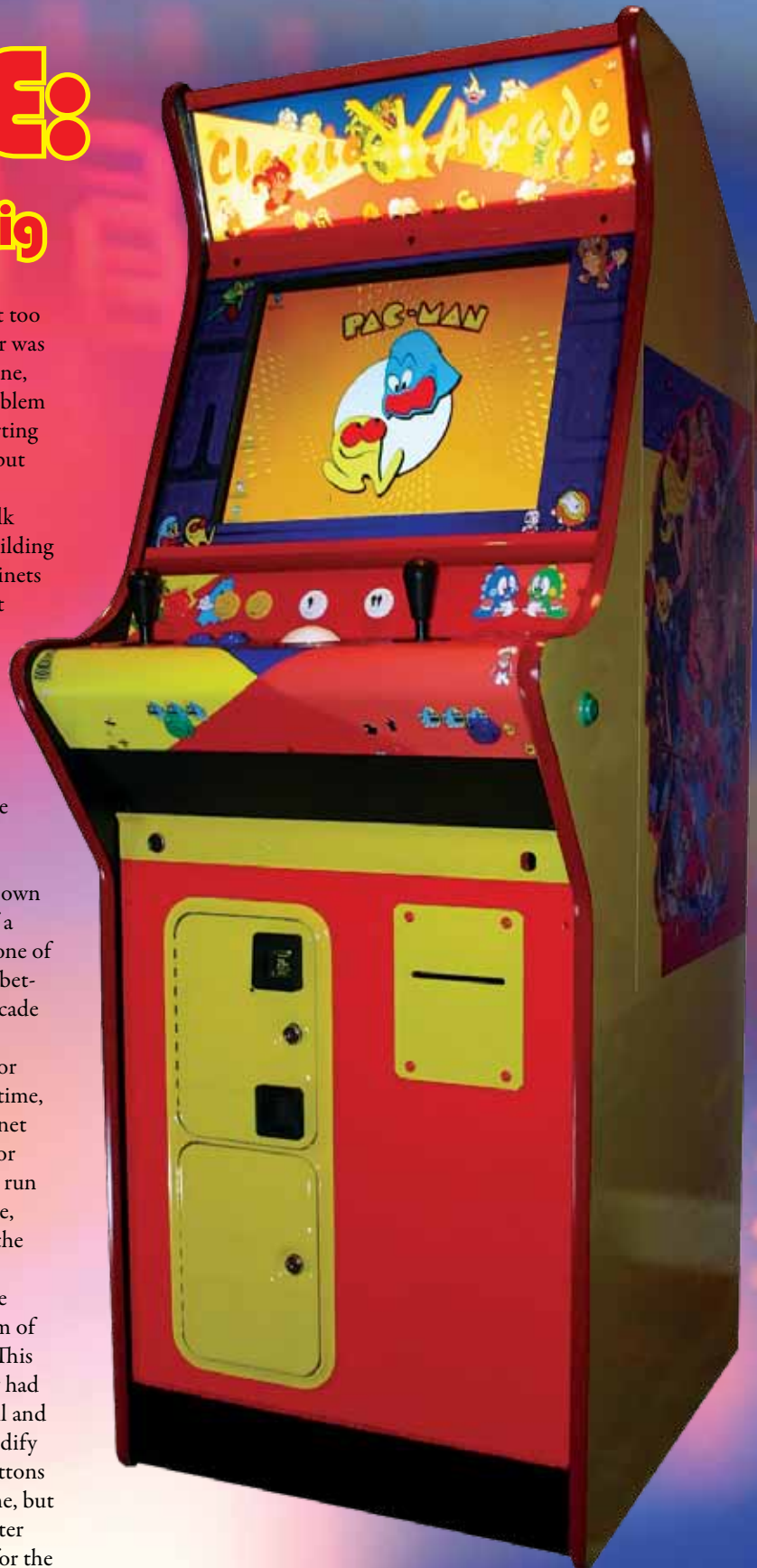
I'm a sucker for trying to repurpose "cute" little cabinets. It wasn't too many years ago that I had somehow convinced myself that bigger was better. Having an Atari "showcase" cabinet running MAME, Daphne, and a whole group of other emulators was cool. But there's this problem with arcade space in my game room, and the showcase cabinet sporting a 33" CRT is a monster. I needed to move that behemoth out and put together something a little more compact.

I've managed to get some coin-op arcade and pinball deals in bulk over the years. Sometimes I'm required to buy everything in the building to get the prices I want. It seems that these little multi-purpose cabinets housing 19" monitors keep showing up. After moving several Merit touchscreens over the years, I took an unpopular early touchscreen game and converted it into a Jukebox. The 19" CRT was dead, and suffered from horrible screen burn. I replaced it with a 19" 4:3 (non-widescreen) LCD monitor, and paired that with an old Pentium 3 class PC. Adding a clearance set of computer speakers (2 satellites + powered subwoofer), I ended up with a cabaret style cabinet with fantastic audio. It is a great hit in the summer when we entertain guests outside.

Still, I was itching to do more with this small cabaret cabinet. I desperately wanted a multi-emulator but I didn't want to build my own control panel. Most of these cheap smaller cabinets lived the life of a touchscreen game. I could construct a "bolt-on" control panel for one of them, but preferred to find something else that would fit the build better. I had a vision for the ideal machine, and set off to the closest arcade auction to find someone else's junk to re-purpose.

I usually scan the equipment at an auction like a hawk, looking for specific pinball machines that are diamonds in the rough. But this time, pinball took a back seat. I know the cost of building an arcade cabinet from fresh plywood at the hardware store. If I could get a cabinet for \$50 at this auction, I was going to save time and money in the long run and break the trend of spending a ton of cash. At this particular sale, there were three small cabinet candidates, but one stood out from the rest.

Beyond the stand-up touch screen cabinets stood a little machine covered in dirt at the bottom and completely encased in a thick film of mystery dust. It had been a bright mini-cabinet called *Prize Zone*. This one piqued my interest because, unlike the others, this one actually had a control panel. If you look at the flyer graphic, you'll see a trackball and 2 buttons. In my plan, I wanted the trackball to stay and would modify the control panel to accommodate the most important MAME buttons for 2 player classic arcade play. I attempted to power up the machine, but nothing responded. For this cause, the deader the machine, the better the chance I had at striking a bargain. I waited for at least 3 hours for the



The Prize Zone!
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Prize Zone is the first multi-game prize machine for street locations. Players can play a variety of exciting skill games and acquire prize credits based upon how well they play. Prize credits are then exchanged for prizes programmed into the game. A coupon is printed out by the machine to be redeemed with the attendant.

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auctioneer to work his way to the miscellaneous junk. When the hammer came down, I was at \$27.50 (after buyer's premium) for the machine. You can't buy a full sheet of cabinet grade plywood for that.

Out in the parking lot, I decided to lighten the load a bit. We parked near a dumpster and relieved the machine of its monitor, keyboard, and other dead parts. Later in the shop, I pulled out the little coupon printer, motherboard, most of the wiring, and trackball controller board. The game was filthy; looking like it was a bystander at a motocross event. Two nights were spent cleaning both the inside and outside of the cabinet. Being senselessly interested in even the most boring of coin-op history, I found that Prize Zone was a redemption product from Lazer-Tron. The game actually printed receipts that could be redeemed for things like a soda, pizza, or actual prizes. The multi-game Prize Zone

looked painfully boring, so I didn't feel too bad preparing this game for a much more active future.

While browsing the web, I had seen several creative MAME cabinets with innovative control panels and creative graphics packages. Inspired from my web search, I decided that Prize Zone would become a Pac-Man yellow cabinet with an obnoxious bright Dig-Dug orange in the mix. I hit the hardware store in search of various shades that would compliment themselves into a blinding collage of color. Rust-Oleum makes good paint, and their colors seemed to suit me. I also had some leftover red T-molding to replace the dingy gold T-molding on the Prize Zone cabinet. My first step was to disassemble the cabinet into various pieces and prep it for painting with a light sanding. I picked a rare warm day during the winter and painted everything outside. Leaving the cabinet pieces

along to cure, I shopped at MameMarquees.com for suitable sidart, a control panel overlay, a marquee, and a bezel. Once ordered, it was time to check out that control panel and get a keyboard interface working.

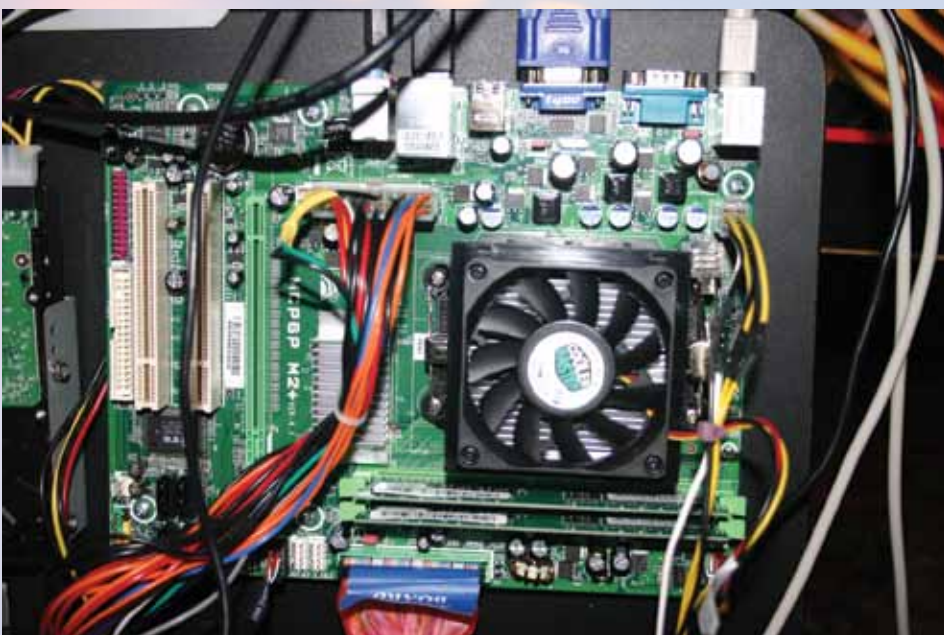
I'm a pack rat, and my shop is a true testimony to that. The place is loaded with various pinball parts, but even this pin-head has a few boxes of arcade controls lying around. I managed to find a couple of NOS joysticks that suited me, but nowhere near enough buttons to pull off a proper 2 player classic control panel. The trackball was also suffering from bad bearings and would require a rebuild of sorts to behave properly. I had to hit the internet again and get some parts to make this control panel look polished. GroovyGameGear.com had everything I needed. I ordered buttons and switches of all colors, and then found bearings, a new ball, and an interface PCB (Opti-Wiz) for



the trackball. I already had a gifted KeyWiz keyboard interface to use for the joysticks and buttons. While I was waiting for the new parts to arrive, I set down to plan my control panel. I knew that I wanted each player to have at least 3 buttons, and I would need other specific control buttons like Player 1 and 2 start and a coin-in button. I also wanted to make sure that I left room for the unforeseen stuff as I usually forget to add something important. With the basics on paper, I grabbed a drill and started putting together a first revision of the control panel. I populated this first run with old joysticks and recycled arcade buttons.



The next step was to get a good mapping of what buttons would connect to the specific inputs of the interface controller. I had used Ultimarc boards in the past, but never a Keywiz. I sketched up a mapping for each button to specific solder points on the Keywiz, and learned right away that I needed to drill out another button hole for the Shazaam button. Unlike the Ultimarc boards, the Keywiz board I had didn't offer the ability to assign a "shift" function to an existing button. It requires a dedicated button (Shazaam) for this purpose. The Keywiz does have a default MAME configuration, so mapping the buttons to the interface board was straightforward. With this preliminary work complete, I went to the workbench, added the Shazaam button, and then wired up my second revision control panel. Testing was simple enough. Just plug in the control panel to any PC (keyboard PS/2), fire up MAME, and test away. You could also accomplish this in Notepad by verifying keys are being passed for button presses and joystick movements.



I wanted to build a machine that would require almost no maintenance after it was complete. It seems that my experience mixing old PC's and arcade machines has not proven to be long lasting. Recycled motherboards and hard drives have given me a fit after a short life. Again, I went shopping for hardware. This time it was a quest to find the cheapest motherboard and processor combo with enough speed to run the classic core MAME games without issue. NewEgg has a Biostar motherboard with an AMD Sempron processor that includes good onboard audio and video for \$73. Having everything on board relieves me of dealing with various PCI cards that never want to stay put outside of the computer case. I also ordered a 19" standard 4:3 (non-widescreen) LCD monitor and 2 GB of RAM.

As parts arrived, I started finishing up each portion of the construction. The mother-



board, power supply, and hard drives were mounted on the Prize Zone's pull out printer slider. I mounted the LCD display by cutting a piece of plywood at the internal width of the cabinet, then drilling holes to match the threaded holes on the monitor that are normally used for wall mount brackets. I had a Harmon/Kardon 2.1 computer speaker system laying around from an old Dell computer. It still sounded great, and took little effort to mount to the cabinet. I removed the bases, drilled a mount hole (not all the way through) and then secured them with matching screws. I powered up the system in the cabinet and started the routine of installing Windows XP, MAME, PartyTime Jukebox (for MP3's), and other various games. The artwork was applied to the cabinet, the marquee installed, and the bezel applied to the

original glass that would cover my 19" LCD display. To make the LCD display look a bit more professional, I used foam weather sealing strips to surround the perimeter of the bezel, to act as a cushion between the LCD display and the glass. The end result is a more polished, professional look.

After testing a few games, I realized that there were a few more things I needed to add. For the trackball to behave as a mouse, I needed to add a left and right click. I also added a dedicated Pause button for MAME, and then 2 buttons on the side of the cabinet to act as flipper buttons for pinball simulators. The Sempron motherboard combo with integrated video will not run Future Pinball very well, but it will run Visual Pinball with no performance issues.

There's nothing like running through the

exhaustive MAME library to see what works best on your cabinet. I spent at least 2 weeks playing game after game, finding out which ones worked well, and which ones didn't. I was also itching to play other emulators in this cabinet. I thumbed through my software library and installed a Nintendo (NES), Super Nintendo, Nintendo 64, Colecovision, and various other emulators. Most all of them mapped over to this control panel without issue. The \$73 motherboard was performing well. Even better was the rich sound that was coming out of the old computer speakers. When not in use as a gaming machine, I can play the MP3 jukebox.

Configuring a system like this takes a lot of time. You have to get the operating system installed, load up necessary drivers, and then configure all the emulators. Then there's the task of finding all the ROM's for each emulator, and ripping your CD collection into MP3's. If you want a polished user interface, you can go after the various front ends like Mala, GameLauncher, Maximus Arcade, and HyperSpin just to name a few. All of these will require some tweaking as well, but in the end the amount of utility you gain from a cabinet like this makes all the hard work a bargain investment.

So, there you have it—a MiniMAME machine, plus a whole lot more. So what did all of this add up to? The cost doesn't include shipping, but is a close estimate.

- Party Zone Cabinet - \$27.50
- Motherboard - \$73
- RAM - \$24
- Power Supply - \$19
- Hard Drives – Free / Re-purposed
- Paint - \$20
- T-Molding – Free / leftover from an old project
- Keyboard, buttons, trackball controller, trackball bearings, white trackball - \$65
- 19" LCD Computer Monitor \$125
- Speakers & Subwoofer – Free / Re-purposed
- Partytime Jukebox License \$35
- Grapics: Bezel, Side Art, Control Panel Overlay, Marquee \$135

TOTAL – about \$525



Rob Craig normally writes monthly in *The Tales of the Silverball* column but somehow lost his mind playing all those video arcade classics and wrote this article instead. He'll be back in the pinball groove next month, if he can pry himself away from the MiniMAME. You can reach him at popbumper@gmail.com. GR