

July 30, 1979

Run  
Tom

Dear Bob,

I just received the stack of ARCADIAN newsletters and am pleased to say I'm very impressed. I've had my ARCADE for 5 months now and never dreamed so much information could be further developed.

Personally, I had plans for doing much of the ROM dumping and the like on my own. I have done so with the BASEBALL cartridge. But I'm pleased to see that other people are on the same bent and that the information is available.

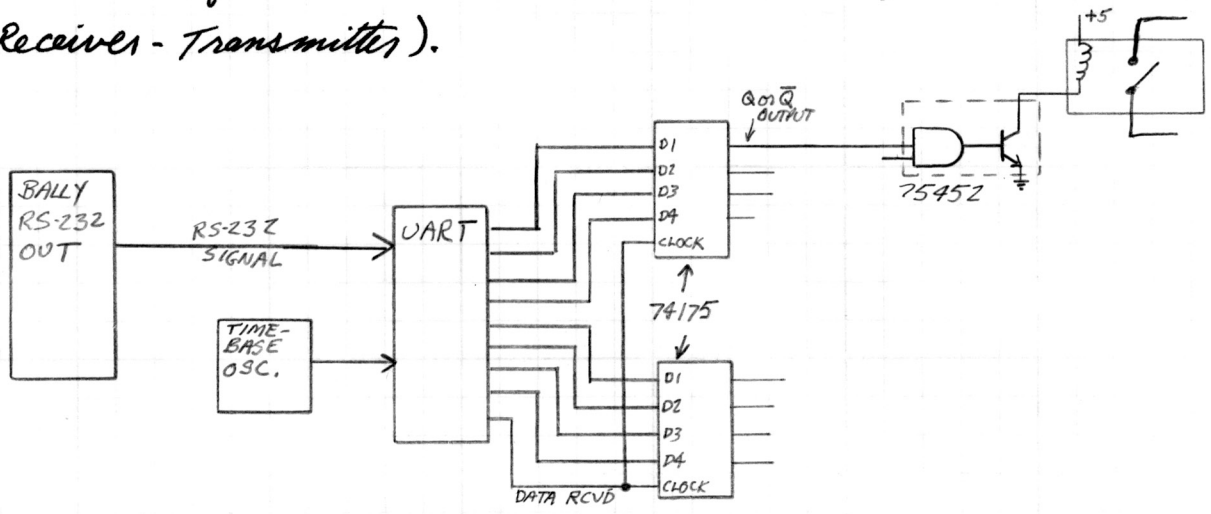
Informationally, this month's COMPUTER DESIGN has an announcement of a memory chip by HARRIS SEMICONDUCTOR. This is a RAM chip <sup>with</sup> 64K bits of storage. This is organized as 2 blocks of  $8K \times 8$  and can be connected to yield an  $8K \times 8$  or  $16K \times 4$  array. Thus the ARCADE RAM can be expanded to 12K with a single I.C. The RAM is static rather than dynamic and should therefore present no design problems. It's also CMOS technology so that its low power (300mW MAX. during operation, 5mW on standby.) I'm awaiting a full spec. sheet from HARRIS together with small quantity pricing. I'll forward this to you as soon as I get it. Enclosed is a copy of the article.

Additional literature I would like to have are the HACKER'S MANUAL, SERVICE MANUAL PA-1, and EXECUTIVE SOFTWARE. Enclosed is a check for \$4 to cover costs.

Rec'd

I was thinking about your control problem and think I have a plausible solution. IF the RS-232 printer operation is now feasible, you could use that port to drive a number of control lines. The heart of this is a UART (Universal Asynchronous Receiver - Transmitter).

TOM



The UART RECEIVES the RS-232 ASCII word and converts it to binary. The DATA RECEIVED signal clocks the holding registers and stores the lines. You thus have 8 control lines at your disposal. In the diagram I have connected the first line to a 75452 peripheral driver. This drives a small relay which could in turn drive a 12V relay to connect the 110Vac.

The circuit could be either physically attached or connected remotely via the RS-232 line.

Likewise, a few of the bits could be used as a code (address) for a specific controller box and several boxes could be implemented. 74175's yield Q and  $\bar{Q}$  outputs for flexibility and the 75451, 2, 3 have 2-input and, or, nor, nand configurations also for flexibility. WESTERN DIGITAL ~~has~~ <sup>makes</sup> a couple of good UART'S, one is the TR-1602. If this is what you had in mind, I could give you a full implementation diagram.

I believe a clarification of the IF statement is in order. I ran across this in transcribing back to standard BASIC.

When the IF is followed by another statement separated by a semicolon such as:


```
10 IF A=1 G=3; B=5; RETURN
20 B=2; RETURN
```

The FALSE condition of A=1 causes a skip to the next NUMBERED statement and not the next actual statement (B=5). Thus if 10 was called with A=0, B returns with 2 instead of 5.

I'm sure someone could state this more clearly, but I think you get my drift.

← add to next issue

Changing the subject for the last time, the set I have is model BPA-1100 serial No. 5471 although the innards have been changed twice. And in answer to your questions:

1. Not really
  2. Probably yes
  3. Probably yes
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I hope you can use the information I've given. I sure got a lot out of the ARCADIAN.

Thanks a lot!

Andy Luevara

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