

-MSG M#= 37074 FR=MCD3 TO=JDR SENT=06/29/82 01:27 PM
R#=042 ST=C DIV=003 CC=0910 BY=MCD3 AT=06/29/82 01:27 PM
TO: RON JOHNS PCD DON BYNUM SAIL
ALAN LAWSON PCD MIKE BUNYARD PCD
GRANVILLE OTT PCD

CC: JERRY ROGERS JDR KEVIN MCDONOUGH DESN
KEN DAVIS CADD RON NORRIS MCPE
ROBERTO FANTECHI EMOS

FM: KARL GUTTAG CADD (778-6365)

RE: MEETING BETWEEN PPD AND PCD ON JULY 1

THE REQUIREMENTS FOR 4416 (16K BY 4) COMPATIBILITY NECESSITATE THAT SEVERAL OTHER DECISIONS BE MADE REGARDING THE 9918A/28A/29A (VDP)SPEC. THIS MEMO EXPLAINS SOME OF THE CURRENTLY PLANNED CHANGES AND ISSUES. IT IS HOPED THAT BY INFORMING PCD OF THE ISSUES BEFORE WE COME, WILL GIVE YOU A CHANCE TO PREPARE RESPONSES.

- PINOUT OPTIONS

THE 4416'S REQUIRE THE ADDITIONAL SIGNAL OE (OUTPUT ENABLE), WHICH IN TURN REQUIRES ADDING THIS SIGNAL THE VDP. THE PLAN CURRENTLY IS FOR:

A. 9918A ; REPLACE THE CPU-CLOCK OUTPUT WITH OE
B. 9928A/9929; REPLACE CRYSTAL 2 (CRYSTAL OUT) WITH OE
THE REASON FOR CHOOSING TWO DIFFERENT PINS FOR A. AND B. ABOVE GOES AS FOLLOWS. THE CPU CLOCK IS NOT BEING USED BY ANY OF THE MAJOR CUSTOMERS TO OUR KNOWLEDGE, SO IT IS THE LOGICAL CHOICE FOR THE 9918A. THE 9928/29 DON'T HAVE CPU-CLOCK, SO ANOTHER PIN HAS TO BE IDENTIFIED; THE ONLY REASONABLE CHOICES SEEM TO BE CRYSTAL 2 (MEANING THE 9928/29 WOULD HAVE TO BE DRIVE IN RATHER THAN CRYSTAL OSC.) OR THE GROM-CLOCK OUTPUT. SINCE THE EUROPEAN HOME COMPUTER USES THE 9929'S GROM-CLOCK OUTPUT AND SINCE IT WOULD REQUIRE MORE LOGIC TO GENERATE GROM-CLOCK THAN THE CLOCK INPUT EXTERNAL TO THE 9928, USING THE CRYSTAL 2 PIN SEEM TO US THE BEST CHOICE. (WE WOULD LIKE PCD'S RESPONSE TO THIS SET OF CHOICES).

- 4K/16K COMMAND REGISTER BIT

THERE IS A COMMAND BIT IN THE VDP TO INDICATE WHETHER THERE ARE 4116'S OR 4027'S IN THE SYSTEMS. IT IS PROPOSED THAT WHEN IN THE 4K "MODE" THE ADDRESS COUNTER REGISTER WILL "ROLL OVER" THE LS BITS AT 4K AND WILL ROLL OVER AT 16K IN THE 16K MODE (WHICH IS WHAT THE PART CURRENTLY DOES IN THE RESPECTIVE MODES). SINCE THE NEW VDP WILL BE DESIGNED TO WORK ONLY WITH 4416'S, THE VDP WILL MUX OUT THE ADDRESSES FOR THE 4416 REGARDLESS OF THE 4K/16K COMMAND BIT. THIS APPEARS TO BE THE "MOST COMPATIBLE" WAY TO TREAT THIS BIT.

- RAINBOWLESS 9918

PETE RICKERT SENT SAMPLES OF THE "RAINBOWLESS" 9918 (WHERE THE HORIZONTAL LINE COUNT IS CHANGED FROM 342 TO 340 DOTS). WE ARE INTERESTED IN PCD'S REACTION TO THE SCREEN EFFECT, AND PARTICULARLY WANT TO KNOW IF THE CURRENT 9918 SHOULD BE PHASED OUT WITH THIS NEW VERSION PHASED IN. THERE ARE SEVERAL KNOWN PROBLEMS WITH CURRENT "RAINBOWLESS" 9918.

- TEXT MODE DOES NOT WORK. THIS IS A FIXABLE PROBLEM BUT WILL REQUIRE SOME LAYOUT EFFORT

RECEIVED
JUL 29 1982
JERRY ROGERS
To: Karl Gutttag
good memo

- THERE IS A SLIGHT ROLLING OR CRAWLING EFFECT ALONG THE TRANSITION BETWEEN TWO COLORS (IS THIS EFFECT BETTER OR WORSE THAN THE RAINBOW EFFECT)

- THE VERTICAL LINE FREQUENCY (AND THE VERTICAL INTERRUPT TIMING) ARE SLIGHTLY DIFFERENT (BY A RATIO OF 340/342). THIS MIGHT HAVE AN EFFECT ON REAL TIME OPERATIONS

- THE 9928 AND 9929 ARE STILL AT 342 DOTS PER LINE. (IS THIS A COMPATIBILITY PROBLEM?)

- ARE THERE ANY OTHER PROBLEMS THAT PCD MIGHT KNOW ABOUT?

THE BOTTOM LINE QUESTION IS WHETHER THE RAINBOWLESS 9918 CAUSES MORE PROBLEMS THAN IS SOLVES.

- WHAT ARE THE CHANGES THAT PCD WANTS TO MAKE TO EXTERNAL VIDEO.

- THESE WILL PROBABLY HAVE AN ADVERSE EFFECT ON SCHEDULES

- THE GRAPHICS 2 MODE DOES NOT ALLOW FOR COLOR TABLES OF LESS THAN 2K BYTES. (DUE TO A LOGIC ERROR, THE COLOR TABLE CANNOT BE REDUCED TO ONLY 64 BYTES WITHOUT ADVERSE EFFECTS TO THE PATTERN ADDRESSING)

- DOES PCD WANT THIS CHANGED ?

REGARDS,
KARL GUTTAG