

**APRIL - JUNE 1989
ISSUE 25**

**commodore
TECHTOPICS**

THE OFFICIAL COMMODORE BULLETIN MAGAZINE

ISSUE 25 - APR-MAY-JUN 89

SECTION 1

1 INFO

- 25/1-0.0 INDEX - INFO SECTION TECHTOPICS 25 (APR-MAY-JUNE).
- 25/1-1.1 SERVICE TRAINING SCHEDULE FOR 1989, APRIL THUR JUNE.
- 25/1-2.1 IMPORTANT CHANGE - MINIMUM PARTS ORDER OF \$50.00, ELIMINATED.
- 25/1-3.1 EXTENDED C-TOC SERVICES - PAST BULLETINS ACCESSIBLE BY MODEL.
- 25/1-4.1 SERVICE TRAINING SCHEDULE FOR 1989, JULY THUR DECEMBER.
- 25/1-5.1 POINTS FOR PARTS PROGRAM, STARTS JULY 1, 1989.
- 25/1-6.1 RETURN OF DEFECTIVE PARTS TO PARTS DEPOT.
- 25/1-7.1 WARRANTY EXTENSIONS FOR CUSTOMER UNITS - NEW PROCEDURES.
- 25/1-8.1 MCGRAW-HILL CBM PRODUCTS WARRANTY'S ARE VALID AND TO BE HONORED.
- 25/1-9.1 PAST DUE ACCOUNTS RESULTS IN CANCELLED PARTS ORDERS.

ISSUE 25 - APR-MAY-JUN 89

SECTION 2

2 PARTS

- 25/2-0.0 INDEX - PARTS SECTION TECHTOPICS 25 (APR-MAY-JUN)
- 25/2-1.1 UPDATE #4 FOR YELLOW PARTS PRICE BOOK.
- 25/2-2.1 PARTS LIST BY UNIT - NEW ON-LINE FEATURE IN PARTS SECTION.
- 25/2-3.1 NEW "FATTER" AGNUS 8372 - W/ 1MB CHIP RAM AVAILABLE SOON.
- 25/2-4.1 A2000 REVISION 6 PCB PART NUMBER.

ISSUE 25 - APR-MAY-JUN 89

SECTION 3

3 AMIGA

- 25/3-0.0 INDEX - AMIGA SECTION TECHTOPICS ISSUE 25 (APR-MAY-JUN).
- 25/3-1.1 A2000 PCB FIELD UPGRADE TO REVISION LEVEL 4.5.
- 25/3-2.1 INSTALLATION OF NEW "FATTER" AGNUS IN THE AMIGA 2000.
- 25/3-3.1 A2000 GURU MESSAGE ON POWER UP W/ REV 6 PCB.
- 25/3-4.1 A2286 REV 6.1 TO REV 8.1 BOARD EXCHANGE.

ISSUE 25 - APR-MAY-JUN

SECTION 4

4 CBM

- 25/4-0.0 INDEX - CBM SECTION TECHTOPICS ISSUE 25 (APR-MAY-JUN).
- 25/4-1.1 C64C - E TYPE PCB ASSEMBLIES VIDEO PROBLEMS.
- 25/4-2.1 1541B - RESISTOR CHANGE, ALPS OR NEWTRONICS TYPE DRIVE.
- 25/4-3.1 R/W HYBRID IC, PN# 251853 NOT INTERCHANGABLE FOR 1541B/1571.

ISSUE 25 - APR-MAY-JUN 89

SECTION 5

5 PC

- 25/5-0.0 INDEX - PC SECTION TECHTOPICS ISSUE 25 (APR-MAY-JUN).
- 25/5-1.1 PC40-III VIDEO REPAIR TIP: IC/SOCKET CONTACT PROBLEMS.

3

AMIGA

ISSUE 25 - APR-MAY-JUN 89

SECTION 3 - AMIGA

PAGE 1

-
- 25/3-0.0 INDEX - AMIGA SECTION TECHTOPICS ISSUE 25 (APR-MAY-JUN).
- 25/3-1.1 A2000 PCB FIELD UPGRADE TO REVISION LEVEL 4.5.
- 25/3-2.1 INSTALLATION OF NEW "PATTER" AGNUS IN THE AMIGA 2000.
- 25/3-3.1 A2000 GURU MESSAGE ON POWER UP W/ REV 6 PCB.
- 25/3-4.1 A2286 REV 6.1 TO REV 8.1 BOARD EXCHANGE.
-

- 25/3-1.1 A2000 PCB FIELD UPGRADE TO REVISION LEVEL 4.5.

THE FOLLOWING INSTRUCTIONS DETAIL THE CHANGES WHICH MUST BE IMPLEMENTED TO UPGRADE A U.S. MANUFACTURED A2000 PCB FROM REVISION 4.0 (OR HIGHER) TO REVISION 4.5. CURRENT PRODUCTION BOARDS ARE EITHER REV 4.5 W/O NEW AGNUS OR REV 6 WITH NEW AGNUS. ALSO NOTE, SOME REV 6 PCBs MAY HAVE DRAM TOWER AND STATIC COLUMN DRAMS, SOME MAY NOT. FIELD UPGRADES ARE NOT RECOMMENDED ON REV 3.X PCBs.

IT IS THE RESPONSIBILITY OF THE CUSTOMER
TO PAY FOR THESE ENHANCEMENTS.

THESE UPGRADES ARE NOT REQUIRED FOR PROPER HARDWARE OPERATION, AND IT IS SOLELY WITHIN THE CUSTOMERS DISCRETION TO HAVE THEM IMPLEMENTED. ANY PROBLEMS RESULTING FROM IMPROPER INSTALLATION OF THESE UPGRADES BY THE SERVICE CENTER WILL VOID THE CREDIT ISSUED FOR A RETURNED REPAIRABLE UNIT.

- 1) THE FOLLOWING COMPONENTS WILL EITHER NOT BE INSTALLED, OR WILL BE REMOVED IF INSTALLED.

R901, C917, C902	(SHOULD NOT BE INSTALLED, LOCATED LEFT OF CN601, LAST EXPANSION CONNECTOR ON AMIGA BUS, NEAR PIN 1.)
C910, C911	(FIX FOR HYTEK KEYBOARDS, LOCATED OFF KEYBOARD CONNECTOR, CN300.)
C905, C908	(C908 LOCATED ABOVE CRYSTAL X1, C905 LOCATED BELOW GARY PIN20.)
C230, C240	(LOCATED ABOVE U204, U303, THE TWO ICS BETWEEN THE 34 PIN DRIVE CONNECTOR AND THE 8520 U301.)

- 2) 1.2 KICKSTART ROM IS REPLACED WITH 1.3 KICKSTART ROM.
(1.3 ROM IS PN# 315093-02)

- 3) INSTALL RP904, RP905, RP906 ONLY IF U205 AND U206 ARE 74HC244 TYPE ICS. (RESISTOR PACK IS 4.7K OHM X 5, 6 PIN, PN# 902441-31). DO NOT INSTALL IF U205 AND U206 ARE HCT TYPE 244. RP905 IS LOCATED BETWEEN U205 AND U206, RP906 IS LOCATED BETWEEN PAULA AND DENISE, RP904 IS LOCATED TO THE RIGHT OF DENISE.

25/3-1.1 A2000 PCB FIELD UPGRADE TO REVISION LEVEL 4.5. (CONT)

- 4) ADD .01 uF CAP ON J300. ADD THIS CAP ON SOLDER SIDE OF PCB, FROM PIN 2 (MIDDLE PIN ON CONNECTOR) TO GROUND (USE EITHER OF THE GROUND PADS LOCATED, ON THE SOLDER SIDE, DOWN AND TO THE RIGHT, ABOVE PAULA BETWEEN PINS 46 AND 48).
- 5) ADD 3.3K OHM RESISTOR TO U605, FROM PIN 11 TO PIN 20.
- 6) ADD 470 OHM RESISTOR TO D800, CATHODE SIDE, TO THE SECOND PAD FROM THE LEFT, UNDER CN605. (D800 IS LOCATED TO THE LEFT OF THE REAL TIME CLOCK IC AT U801).
NOTE: ON REV 4.3 AND ABOVE THIS RESISTOR IS ON PCB AS R1000, LOCATED TO THE LEFT OF Q302.
- 7) IF R5719 IS PRESENT (LOCATED OFF PIN1 OF CN400, PWR CONN), ADD 470 OHM RESISTOR BETWEEN VCC AND CPU SIDE OF R106. (USE PAD LOCATED TO THE RIGHT OF U100, THE 68000, BETWEEN PINS 11 AND 12, AND THE PAD ON THE GROUND TRACE WHICH RUNS UNDER PIN 14 OF THE 68000.)
- 8) REPLACE GARY IC, THE 5719, AT U102, WITH A MOS MANUFACTURED TYPE, IF IT IS A TOSHIBA MANUFACTURED TYPE. PART NUMBER FOR GARY IS 318072-01, ONLY MOS TYPE ARE IN STOCK.

25/3-2.1 INSTALLATION OF NEW "FATTER" AGNUS IN THE AMIGA 2000.

THE NEW "FATTER" AGNUS 8372 IC (PN#318069-02) WHICH CAN ADDRESS 1 MEGABYTE OF CHIP RAM WILL REQUIRE THE FOLLOWING MODIFICATIONS TO THE A2000 PCB FOR PROPER OPERATIONS. WITHOUT THESE MODIFICATIONS THE IC WILL ADDRESS ONLY 512K OF CHIP RAM AND OPERATE ONLY IN NTSC MODE. NOTE: A2000 REV 6 PCB COMES JUMPERED FOR 1 MEG.

NOTE: USE CORRECT IC EXTRACTOR TOOL WHEN REMOVING F. AGNUS FROM THE SOCKET. THIS TOOL IS AVAILABLE FROM THE PARTS DEPT. PART NUMBER IS 314874-01, COST IS \$20.00.

- 1) LOCATE JUMPER J101 (TO THE LOWER RIGHT OF POWER CONNECTOR CN400). MOVE SHORTING BLOCK TO THE LEFT, SHORTING PINS 2 AND 3. NOTE: SEE PAGE 13 OF A2000 SYSTEM SCHEMATICS, THIS JUMPER WILL ENABLE ADDRESS LINE 19 FROM THE 68000 WHICH CONTROLS THE 1 MEG ADDRESS RANGE.
- 2) LOCATE JUMPER PAD J500 (TO THE LOWER LEFT OF THE 8520 AT U301). THIS IS A TWO (2) PAD JUMPER WITH A TRACE CONNECTING THE TWO PADS. WITH A SHARP EXACTO KNIFE CUT THE TRACE WHICH CONNECTS THE PADS. BE CAREFUL NOT TO ALLOW THE BLADE TO SLIP AND CUT ANOTHER TRACE. NOTE: SEE PAGE 9 OF A2000 SYSTEM SCHEMATICS, CUTTING THIS TRACE KEEPS THE EXRAM SIGNAL FROM BEING TIED TO GROUND. NOTE: ON SOME PCBs THIS MAY BE A PORT TYPE JUMPER, IN WHICH CASE YOU REMOVE THE SHORTING BLOCK.

ISSUE 25 - APR-MAY-JUN 89

SECTION 3 - AMIGA

PAGE 3

25/3-2.1 INSTALLATION OF NEW "FATTER" AGNUS IN THE AMIGA 2000. (CONT)

- 3) LOCATE JUMPER J102 (TO THE RIGHT OF J101, ABOVE X1 CRYSTAL)
CLOSED = NTSC, OPEN = PAL. CUT CONNECTING TRACE FOR PAL ONLY.

A DIAGRAM SHOWING THE LOCATIONS OF THESE JUMPERS WILL BE PACKED WITH EACH "FATTER" AGNUS (PN# 318069-02) SHIPPED.

25/3-3.1 A2000 GURU MESSAGE ON POWER UP W/ REV 6 PCB.

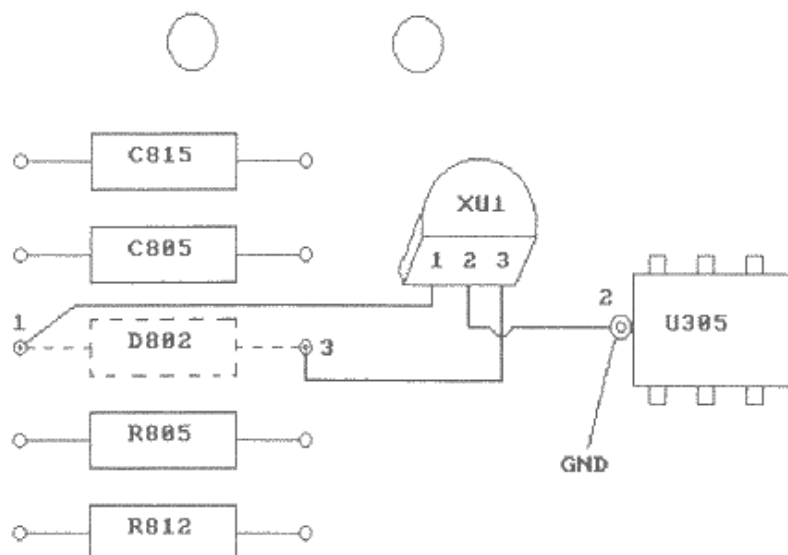
NEW DRAMS MAY RETAIN DATA FOR AS LONG AS FIVE (5) MINUTES AFTER POWER OFF. AN ADVISORY MESSAGE ON POWER UP MAY INDICATE THAT THE ERROR MESSAGE GENERATED BY POWER OFF HAS BEEN RETAINED. PRESSING THE LEFT MOUSE BUTTON WILL ALLOW THE SYSTEM TO RESUME A NORMAL START UP.

A MITSUMI PST518B, RESET IC (CBM PN# 328156-02) SHOULD BE INSTALLED AS FOLLOWS:

LOCATE U305 (TO THE LEFT OF CN303, 34 PIN DRIVE CABLE).
LOCATE D802 (DOWN, TO THE RIGHT OF U305).
INSTALL PST518B (DESIGNATED XU1) USING INSULATION TUBING AS REQUIRED TO PREVENT THE POSSIBILITY OF SHORTS.

SOLDER PIN 1 OF XU1 TO +5 VOLT SIDE OF DIODE D802.
SOLDER PIN 2 OF XU1 TO GND, USE PLATED HOLE AT THE BASE OF IC U305.
SOLDER PIN 3 OF XU1 TO THE ANODE SIDE OF DIODE D802.

DIAGRAM 25/3-3.2



ISSUE 25 - APR-MAY-JUN 89

SECTION 3 - AMIGA

PAGE 4

25/3-3.1 A2000 GURU MESSAGE ON POWER UP W/ REV 6 PCB. (CONT)

THIS FIX SHOULD BE DONE IF REQUESTED BY THE CUSTOMER,
AND WILL BE COVERED, AS A COMPONENT LEVEL REPAIR,
UNDER WARRANTY.

25/3-4.1 A2286 REV 6.1 TO REV 8.1 BOARD EXCHANGE.

SOME A2286 BRIDGEBOARDS WILL DISPLAY PARITY ERRORS.

THERE IS NO FIELD FIX ISSUED FOR THIS PROBLEM. PLEASE
REQUEST A "RETURN AUTHORIZATION" NUMBER FROM YOUR
SALES CONTACT, AND RETURN THE A2286 FOR EXCHANGE.

END 25/3.