DECEMBER 1988
ISSUE 23

commodore
TECHTOPICS
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ATTACHMENTS
1) SERVICE TELEPHONE DIRECTORY 1989   3) WARRANTY LABOR RATES - JANUARY 1989
2) SERVICE QUICK REFERENCE SHEET 1989 4) 1989 SERVICE TRAINING SCHEDULE
5) COMMODORE STOCKED PARTS - 1084S-P

1 | INFO

23/1-1.1   WARRANTY CLAIMS, NARDA FORMS.

THE NARDA, ALL INDUSTRY SERVICE FORM #502 MUST USED FOR
WARRANTY CLAIMS, AS STATED IN THE QUALIFIED SERVICE
CENTER AGREEMENT WHICH ALL SERVICE CENTERS MUST SIGN.

AN EXAMPLE OF HOW TO FILL OUT THE FORM IS INCLUDED
WITH YOUR SERVICE AGREEMENT. IT IS IMPORTANT THAT THESE

FORMS BE FILLED OUT PROPERLY IF YOU EXPECT TO RECIEVE
YOUR CREDIT WITHOUT DELAY.

NARDA FORMS ARE BEING REVIEWED AND WILL BE RETURNED
IF THEY ARE NOT FILLED OUT CORRECTLY, OR ARE ILLEGIBLE.

23/1-2.1   NO CREDIT FOR NON-REPAIRABLE UNITS.

AS DETAILED IN TECHTOPICS ISSUE 20 MARCH 88 (20/1-1.1)
NO CREDIT WILL BE ISSUED FOR PCB'S OR ASSEMBLIES RETURNED
WHICH ARE DETERMINED TO BE NON-REPAIRABLE. COMMODORE WILL
RETURN ALL PRINTED CIRCUIT BOARDS AND DRIVE ASSEMBLIES

CLASSIFIED AS NON-REPAIRABLE TO THE SERVICE CENTER.
REFER TO INFO SECTION OF MARCH 88, TECHTOPICS 22.

23/1-3.1   OVERCHARGES BY SERVICE CENTERS.

COMMODORE WILL NOT DETERMINE REPAIR RATES FOR
SERVICE, HOWEVER EXCESSIVE OVERCHARGING BASED
ON INDUSTRY STANDARDS, OR CUSTOMER COMPLAINTS
WILL INITIATE A REVIEW OF YOUR AUTHORIZATION
STATUS.

1 INFO

23/1-4.1   SERVICE TRAINING SCHEDULE FOR 1989, JAN THUR JUN.

COMMODORE SERVICE WILL BE CONDUCTING TRAINING CLASSES
THROUGHOUT 1989. A OUTLINE IS INCLUDED WITH THIS
ISSUE DETAILING THE COURSES.

THE 1989 TRAINING SCHEDULE, JANUARY THUR JUNE.

MONTH	DATE	TRAINING DAYS	PRODUCTS	STATUS
JAN	16-20	MON-FRI	AMIGA	OPEN
JAN	23-27	MON-FRI	MONITORS	OPEN
FEB	15-17	WED-FRI	PC	OPEN
FEB	20-24	MON-FRI	MONITORS	OPEN
MAR	6-10	MON-FRI	AMIGA	OPEN
MAR	13-17	MON-FRI	MONITORS	OPEN
APR	4-7	TUES-FRI	CBM	OPEN
APR	10-14	MON-FRI	MONITORS	OPEN
MAY	8-12	MON-FRI	AMIGA	OPEN
MAY	15-19	MON-FRI	MONITORS	OPEN
JUN	7-9	WED-FRI	PC	OPEN
JUN	12-16	MON-FRI	MONITORS	OPEN

23/1-5.1   TECHTOPICS SUBSCRIPTIONS FOR 1989.

TECHTOPICS SUBSCRIPTIONS WILL AUTOMATICALLY BE BILLED TO
YOUR ACCOUNT UNDER THE FOLLOWING PART NUMBERS AND RATES.

314885-89	AMIGA/CBM/PC TECHTOPICS	$129.95
314887-89	AMIGA TECHTOPICS	$ 89.95
314888-89	CBM TECHTOPICS	$ 29.95
314886-89	PC TECHTOPICS	$ 69.95

YOUR CURRENT STATUS CAN BE DETERMINED BY THE MAILING
LABEL ON YOUR ENVELOPE.

IF YOU WISH TO UPGRADE OR CHANGE YOUR CURRENT STATUS
PLEASE CONTACT: ALICE FEENEY (215) 431-9368.

YOUR REPAIR STATUS IS PRINTED IN THE COMMODORE AUTHORIZED
SERVICE CENTER BOOKLET, SHIPPED WITH EACH COMPUTER.

THE SUBSCRIPTION FEE ALSO COVERS FREE ACCESS TO C-TOC.

ISSUE 23 - DECEMBER 88   SECTION 1   INFO

23/1-6.1   WARRANTY LABOR RATE INCREASE EFFECTIVE JAN. 1989.

EFFECTIVE JANUARY 1, 1989 THE LABOR PAYMENTS MADE
TO AUTHORIZED SERVICE CENTERS FOR IN-WARRANTY
REPAIRS WILL BE INCREASED.

A NEW WARRANTY LABOR RATE SHEET WILL BE ENCLOSED
THE MAILING OF THIS TECHTOPICS, ISSUE 23.

END 23/1.

2 PARTS

23/2-0.0   INDEX - PARTS SECTION TECHTOPICS 23.

23/2-1.1   UPDATE FOR YELLOW PARTS PRICE BOOK.

23/2-1.1 UPDATE FOR YELLOW PARTS PRICE BOOK.

PLEASE MAKE THE FOLLOWING CHANGES AND ADDITIONS
TO THE YELLOW PARTS PRICE BOOK, RELEASED OCTOBER 1, 1989.

PART NUMBER	DESCRIPTION	UNIT	DB	CRRU	SR	CODE
252114-01	SHEILD, TOP E BRD	C64C	2.45		3.85	ADD
314891-01	KIT 1084S-P REPAIR	1084S-P	44.00			***
380111-01	DRIVE ASSY 5.25	PC	109.00			CHANGE
380752-01	DRIVE ASSY 3.5	A2000	130.00			CHANGE
312365-01	A2052 PCB ASSY	A2052	360.00	225.00		CHANGE
311979-01	A2090 PCB ASSY	A2090	260.00	145.00		CHANGE
380755-01	A2088 PCB ASSY	A2088	455.00	225.00		CHANGE
314881-01	A2058 TECH DATA	A2058	11.00		16.50	NEW
314880-01	A2090A TECH·DATA	A2090A	16.50		27.50	NEW

*** 1084S-P REPAIR KIT SEE CBM SECTION OF THIS ISSUE

FOR DETAILS.

END 23/2.

3 AMIGA

ISSUE 23 - DECEMBER 88   SECTION 3   AMIGA

23/3-1.1   OPERATIONS NOTES - 1.3 AMIGA WORK BENCH.

A) USING THE A2088 INSTALL DISK WITH 1.3 WORK BENCH
   RELEASE WILL CAUSE ERRORS WHEN OPENING SHELL IN CLI.

   THE INSTALL/WORK BENCH DISK YOU CREATE USES A DIFFERENT
   STARTUP SEQUENCE. YOU CAN CORRECT THE PROBLEM BY
   COPYING THE 1.3 STARTUP SEQUENCE FROM THE ORGINAL
   1.3 WORK BENCH TO YOUR NEWLY CREATED INSTALL/WB
   DISK.

B) UNDER 1.3 , THE FASTFILE SYSTEM OPTION IS NOT VALID
   IN AN AMIGA HARD DRIVE PARTITION ON THE PC SIDE.

END 23/3.

4   CBM

23/4-0.0   INDEX - CBM SECTION TECHTOPICS ISSUE 23.

23/4-1.1   1084S-P LINE OUTPUT TRANSFORMER (T402)

23/4-2.1   C64C MPU 8500 FOR TYPE E PCB ONLY.

23/4-1.1   1084S-P LINE OUTPUT TRANSFORMER (T402).

FAILURES OF RESISTOR R475 (15K) ON THE 1084S-P
PHILIPS TYPE MONITOR AND SUBSEQUENT DAMAGE TO
CAPACITOR C476 (.047uF, 250V) HAVE BEEN TRACED TO
THE "LOT", LINE OUTPUT TRANSFORMER, T402.

THE OEM VENDOR HAS MADE AN IN-LINE CHANGE TO THE
UNIT WITH A RE-DESIGNED TRANSFORMER. MONITORS

MANUFACTURED BETWEEN JUNE 1988 AND SEPTEMBER 1988
MAY REQUIRE A WARRANTY REPAIR. THE DATE OF MANUFACTURE
IS INDICATED ON THE BACK OF THE TOP COVER.

THE 1084S-P MONITOR REPAIR KIT PN# 314891-01
WILL BE AVAILABLE THROUGH THE PARTS DEPARTMENT
IN THE NEXT FEW WEEKS. THE DEALER BILLING IS $44.00,
FOR WHICH FULL CREDIT WILL BE ISSUED WHEN THE
DEFECTIVE T402 IS RETURNED TO THE PARTS DEPOT
WITH YOUR NARDA FORM.

23/4-2.1   C64C MPU 8500 FOR TYPE E PCB ONLY.

THE E PCB, PART NUMBER 250469-01, USES A 8500
MICROPROCESSOR, PART NUMBER 318012-01.

THIS IC IS FOR THE E BOARD ONLY, AND IS NOT
COMPATIBLE WITH THE 6510 MPU USED ON OTHER
C64 AND C64C PCBS.

                                                      END 23/4.

5   PC

ISSUE 23 - DECEMBER 88   SECTION 5   PC

23/5-1.1   PC DRIVE ADD-ON KITS AVAILABLE FROM PARTS.

THE PARTS DEPARTMENT WILL NOW ACCEPT ORDERS
FOR THE FOLLOWING DRIVE ADD-ON KITS.

PART NUMBER 910 - 5.25 FLOPPY DISK DRIVE $109.00

PART NUMBER 920 - 3.5 FLOPPY DISK DRIVE $109.00

PART NUMBER 992 - 20MB HARD DISK DRIVE $399.00

PLEASE NOTE: AS STATED ON THE WARRANTY LABOR RATE
SHEET, #6 - NO LABOR REIMBURSEMENTS WILL BE ISSUED
FOR INSTALLATION OR EXCHANGE OF NON-FACTORY INSTALLED
OPTION CARDS. ONLY CBM PARTS ARE COVERED.

NOTE: THIRD PARTY DRIVES, NOT APPROVED BY COMMODORE,
MAY REQUIRE MODIFICATIONS FOR CORRECT OPERATIONS.

COMMODORE SERVICE WILL NOT PROVIDE TECHNICAL SUPPORT
FOR ANY OEM PRODUCT NOT APPROVED BY COMMODORE.

END 23/5.

COMMODORE AMIGA
TELEPHONE DIRECTORY ™

FOR	CONTACT	AT
Director, Parts and Service	Anthony Zaborowski	(215) 431-9208
Parts Department Manager • Procurement • Shipping	Scott Kowalski	(215) 431-9315
Parts Orders		1-800-874-4799 in PA (215) 431-9144
Service Center Administrator • Agent Selection • Field Policy and Procedures • Data Base	Alice Feeney	(215) 431-9368
Technical Operations Manager • Heads up the Tech Hotline • Diagnostic Equipment Functions & Instructions • Training Co-ordinator	Bruce Mortenson	1-800-874-4811 in PA (215) 431-9185
Technical Documentation • Service Manuals • Tech Topics • C-TOC	Halsey Beach	(215) 431-9376 1-800-445-4843 (215) 431-9244
Technical Training	John DiMeo Tony Greco	(215) 431-9214 (215) 431-9215
Technical Service Specialist • Amiga Products • CBM Products • PC Products	Brenda Brice Ron Bardsley	1-800-874-4811 in PA (215) 431-9235
Customer Support Manager • Customer, Dealer and Distributor Hotline	Rick Dowdall	(215) 436-4200

COMMODORE
AMIGA ™
QUICK REFERENCE SHEET

INVOICE PAYMENTS TO: Commodore Business Machines
P.O. Box 7780-1646
Philadelphia, PA 19182-0322

**PARTS RETURN AND
LABOR CLAIMS TO:**   Commodore Business Machines
Parts Depot
1200 Wilson Drive
West Chester, PA 19380

**DEFECTIVE PARTS:
(D.O.A.)**   Same as Above (Parts Depot Address)
Part must be clearly identified as D.O.A.
on NARDA form

**BUSINESS EQUIPMENT
REPAIR:**   Call (215) 431-9235 for instructions
and repair prices

**MISSHIPMENTS AND
ORDER INQUIRIES:**   Call Parts Hotline for instructions
1-800-874-4799

NOTE
HOTLINES ARE FOR SERVICE CENTERS ONLY *NOT* CONSUMERS

DISPLAY THIS SHEET IN CONVENIENT LOCATION

CURRENT WARRANTY LABOR RATE
EFFECTIVE JANUARY 1, 1989

CPU WARRANTY REPAIR

	C64/C128	C128D	PC-XX	A500	A1000	A2XXX
PCB REPLACEMENT	$15.00	$20.00	$30.00	$22.00	$40.00	$40.00
COMPONENT REPAIR	$21.00	$25.00	$45.00	$28.00	$47.50	$56.00
KEYBOARD	$15.00	$ 7.00	$ 7.00	$11.00	$ 6.50	$ 7.00
P/S EXCHANGE	$ 7.00	$16.50	$27.50	$ 7.00	$40.00	$27.50
NO DEFECT/MINOR	$ 5.50	$11.00	$15.00	$11.00	$12.50	$15.00
CARD REPLACEMENT			$25.00[6]			$25.00[6]
CARD COMP REPAIR			$35.00[6]			$35.00[6]

DISK DRIVE — INTERNAL WARRANTY REPAIR

			PC-XX	A500	A1000	A2XXX
DRIVE REPLACEMENT		$16.50	$29.00	$22.00	$37.50	$25.00
DRIVE ALIGNMENT		$22.00	$39.00	$30.00	$47.50	$35.00

DISK DRIVE — EXTERNAL WARRANTY REPAIR

	1541/1571/1581	A1010/A1020
PCB REPLACEMENT	$19.00	$20.00
COMPONENT REPAIR	$25.00	$25.00
DRIVE REPLACEMENT	$21.00	$21.00
DRIVE ALIGNMENT	$22.00	$50.00
NO DEFECT/MINOR	$ 7.00	$ 7.00

RAM EXPANDERS — EXTERNAL WARRANTY REPAIR (ALL TYPES)

REPLACEMENT	$ 7.00
COMPONENT REPAIR	$11.00

MONITOR WARRANTY REPAIR (ALL TYPES)

ALL REPAIRS	$26.00
NO DEFECT/MINOR	$12.00

PRINTER WARRANTY REPAIR (ALL TYPES)

ALL REPAIRS	$26.00
NO DEFECT/MINOR	$12.00

1) CLAIMS FOR REPAIRS ON PRODUCTS NOT LISTED WILL BE REJECTED UNLESS PRIOR APPROVAL BY THE SERVICE DEPARTMENT HAS BEEN RECEIVED.

2) ALL RATES ARE FOR REPAIRS GUARANTEED BY THE REPAIR CENTER FOR 30 DAYS FROM REPAIR DATE.

3) IF MORE THAN ONE SERVICE IS PERFORMED ON THE SAME UNIT, ONLY THE HIGHER RATE WILL BE PAID.

4) PC-XX = PC10-1, PC10-2, PC10-III, PC COLT, PC20-III, PC40-III.

5) A2XXX = A2000, A2500, A2000HD.

6) NO LABOR REIMBURSEMENTS WILL BE ISSUED FOR INSTALLATION OR EXCHANGE OF NON-FACTORY INSTALLED OPTION CARDS. ONLY CBM PARTS ARE COVERED.

7) IMPROPER INSTALLATION OF ADD-ON OPTIONS VOIDS WARRANTY OF BOTH THE UNIT AND THE ADD-ON HARDWARE.

To All Service Centers:

Attached you will find a Course Outline and Training Schedule for the period of January 1989 thru June 1989. If you wish one or more of your technicians to attend one of these training sessions, please complete the attached Training Request Form and return it to the address below .

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          COMMODORE BUSINESS MACHINES
          1200 WILSON DRIVE
          WEST CHESTER, PA   19380
          ATTN: JOHN DIMEO
                TECHNICAL TRAINING
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Commodore Field Service will also be holding new product introduction courses during this period. The location of this training will be selected by the Regional Manager.

Technicians who have attended Commodore Service Training from June 1988 or are confirmed for training for the current schedule will receive first invitation to these seminars at a discounted rate. Remaining seats will be offered on a first come first serve basis.
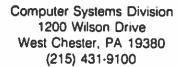
Please note that due to numerous requests ...

1) Training has been scheduled to allow more time
   to cover each product line.
2) Monitor training is now being offered.
3) Dates are scheduled with both Amiga or PC and Monitor
   training being held on back-to-back weeks allowing
   technicians the option of attending both.

The training will be either a Three, Four (CBM Only) or Five Day Session, (YOUR CHOICE), beginning at 9:00 A.M. and ending at 5:30 P.M. (EST), and will be held at Commodore Business Machines; 1200 Wilson Drive; West Chester, PA. 19380.

The fees for the Training are set at ...

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1) COMMODORE PC      ( 3 Days Total) $100.00 Per Day = $300.00
2) CBM ONLY          ( 4 Days Total) $100.00 Per Day = $400.00
3) COMMODORE AMIGA   ( 5 Days Total) $ 90.00 Per Day = $450.00
4) MONITOR ONLY      ( 5 Days Total) $ 90.00 Per Day = $450.00
5) PC + MONITOR      ( 8 Days Total) $ 75.00 Per Day = $600.00
6) AMIGA + MONITOR  (10 Days Total) $ 75.00 Per Day = $750.00
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Technicians who have attended either Amiga or PC Training
between June and December 1988 are eligible to sign up for
Monitor Only training at a 50% Discount ($225.00) based on
seating available.

Two or more technicians from the same company who attend the
same training session may attend any selected training at a
25% Discount per technician.

All technicians attending will receive a complete set of
Service Manuals on all products covered during the session.

Diagnostic Kits will be available for purchase at the
sessions. Please fill out the attached Diagnostic Order Form
and submit it along with a check for the total amount during
the first day of training.

This will insure your order will be ready at the end of the
session. This form is for Diagnostic Kits ONLY. No parts or
PCBs will be sold.

These Training Courses will familiarize your technician(s)
with the different PCBs and Components in Commodore's current
line of products, proper use of CPU and Peripheral Diagnostic
Devices, Disk Drive Alignment and Adjustment as well as
Hands-On Troubleshooting Techniques.

A drawing will be held at the end of each session. Attending
technicians will be eligible to win one of Two Prizes.

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GRAND   PRIZE -- AMIGA 500      - A500/A2000 ONLY
GRAND   PRIZE -- AMIGA 500      - A500/A2000 + MONITOR
GRAND   PRIZE -- PC COLT        - PC10/20/40 ONLY
GRAND   PRIZE -- A500/PC COLT - PC10/20/40 + MONITOR  * CHOICE
GRAND   PRIZE -- A500/PC COLT - MONITOR ONLY          * CHOICE
GRAND   PRIZE -- C64 COMPUTER - CBM ONLY
SECOND PRIZE -- AMIGA 1680 OR COMMODORE 1670 MODEM    * CHOICE
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All attendees will receive a Commodore Service T-Shirt.

1989 TRAINING COURSE SCHEDULE
COMMODORE SERVICE

MONTH	DATE	PRODUCTS	TRAINING DAYS
JANUARY	16-20	AMIGA ONLY	MONDAY-FRIDAY
JANUARY	23-27	MONITOR ONLY	MONDAY-FRIDAY
FEBRUARY	15-17	PC ONLY	WEDNESDAY-FRIDAY
FEBRUARY	20-24	MONITOR ONLY	MONDAY-FRIDAY
MARCH	6-10	AMIGA ONLY	MONDAY-FRIDAY
MARCH	13-17	MONITOR ONLY	MONDAY-FRIDAY
APRIL	4-7	CBM ONLY	TUESDAY-FRIDAY
APRIL	10-14	MONITOR ONLY	MONDAY-FRIDAY
MAY	8-12	AMIGA ONLY	MONDAY-FRIDAY
MAY	15-19	MONITOR ONLY	MONDAY-FRIDAY
JUNE	7-9	PC ONLY	WEDNESDAY-FRIDAY
JUNE	12-16	MONITOR ONLY	MONDAY-FRIDAY

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January      1989        February     1989        March        1989        April        1989
 S  M  T  W  T  F  S       S  M  T  W  T  F  S       S  M  T  W  T  F  S       S  M  T  W  T  F  S
 1  2  3  4  5  6  7                   1  2  3  4                   1  2  3  4                         1
 8  9 10 11 12 13 14       5  6  7  8  9 10 11       5  6  7  8  9 10 11       2  3  4  5  6  7  8
15 16 17 18 19 20 21      12 13 14 15 16 17 18      12 13 14 15 16 17 18       9 10 11 12 13 14 15
22 23 24 25 26 27 28      19 20 21 22 23 24 25      19 20 21 22 23 24 25      16 17 18 19 20 21 22
29 30 31                  26 27 28                  26 27 28 29 30 31         23 24 25 26 27 28 29
                                                                              30

May          1989        June         1989        July         1989        August       1989
 S  M  T  W  T  F  S       S  M  T  W  T  F  S       S  M  T  W  T  F  S       S  M  T  W  T  F  S
    1  2  3  4  5  6                   1  2  3                            1             1  2  3  4  5
 7  8  9 10 11 12 13       4  5  6  7  8  9 10       2  3  4  5  6  7  8       6  7  8  9 10 11 12
14 15 16 17 18 19 20      11 12 13 14 15 16 17       9 10 11 12 13 14 15      13 14 15 16 17 18 19
21 22 23 24 25 26 27      18 19 20 21 22 23 24      16 17 18 19 20 21 22      20 21 22 23 24 25 26
28 29 30 31               25 26 27 28 29 30         23 24 25 26 27 28 29      27 28 29 30 31
                                                    30 31

September    1989        October      1989        November     1989        December     1989
 S  M  T  W  T  F  S       S  M  T  W  T  F  S       S  M  T  W  T  F  S       S  M  T  W  T  F  S
                1  2       1  2  3  4  5  6  7                   1  2  3  4                      1  2
 3  4  5  6  7  8  9       8  9 10 11 12 13 14       5  6  7  8  9 10 11       3  4  5  6  7  8  9
10 11 12 13 14 15 16      15 16 17 18 19 20 21      12 13 14 15 16 17 18      10 11 12 13 14 15 16
17 18 19 20 21 22 23      22 23 24 25 26 27 28      19 20 21 22 23 24 25      17 18 19 20 21 22 23
24 25 26 27 28 29 30      29 30 31                  26 27 28 29 30            24 25 26 27 28 29 30
                                                                              31
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5 DAY COURSE OUTLINE
AMIGA SERVICE TRAINING

DAY ONE

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 9:00 - 10:30 - A500 OPERATION THEORY
10:30 - 10:45 - MORNING BREAK
10:45 - 12:30 - A500 HANDS-ON TROUBLESHOOTING
12:30 -  1:30 - LUNCH BREAK
 1:30 -  2:30 - A500 HANDS-ON TROUBLESHOOTING
 2:30 -  2:45 - AFTERNOON BREAK
 2:45 -  5:00 - DRIVE DIAGNOSTIC OPERATION
 5:00 -  5:30 - CLEANUP AND EQUIPMENT CHECK
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DAY TWO

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 9:00 - 11:00 - A2000/A200HD OPERATION THEORY
11:00 - 11:15 - MORNING BREAK
11:15 - 12:30 - A2000/A2000HD DIAGNOSTIC OPERATION
12:30 -  1:30 - LUNCH BREAK
 1:30 -  3:00 - A2000/A2000HD HANDS-ON TROUBLESHOOTING
 3:00 -  3:15 - AFTERNOON BREAK
 3:15 -  5:00 - DRIVE DIAGNOSTIC OPERATION
 5:00 -  5:30 - CLEANUP AND EQUIPMENT CHECK
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DAY THREE

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 9:00 - 10:30 - A2088/A2286 THEORY
10:30 - 10:45 - MORNING BREAK
10:45 - 12:30 - A2088/A2286 INSTALLATION/CHECK
12:30 -  1:30 - LUNCH BREAK
 1:30 -  3:30 - A2088/A2286 HANDS-ON-TROUBLESHOOTING
 3:30 -  3:45 - AFTERNOON BREAK
 3:45 -  5:00 - PC DIAGNOSTICS AND DRIVE ALIGNMENT
 5:00 -  5:30 - CLEANUP AND EQUIPMENT CHECK
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DAY FOUR

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 9:00 - 11:00 - A2090/2090A OPERATION THEORY
11:00 - 11:15 - MORNING BREAK
11:15 - 12:30 - A2090/2090A INSTALLATION
12:30 -  1:30 - LUNCH BREAK
 1:30 -  3:00 - HARD DRIVE SETUP
 3:00 -  3:15 - AFTERNOON BREAK
 3:15 -  5:00 - A2090/2090A HANDS-ON-TROUBLESHOOTING
 5:00 -  5:30 - CLEANUP AND EQUIPMENT CHECK
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DAY FIVE

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 9:00 - 10:30 - A1010/A1020 AMIGA AND PC SIDE
10:30 - 10:45 - MORNING BREAK
10:45 - 12:30 - VIRTUAL DRIVES
12:30 -  1:30 - LUNCH BREAK
 1:30 -  2:30 - HARD DRIVE PARTIONING
 2:30 -  3:30 - INTRODUCTION TO CTOC
 3:30 -  4:00 - AFTERNOON BREAK/DRAWING
 4:00 -  4:30 - QUESTIONS AND ANSWERS
 4:30 -  5:00 - CLEANUP AND EQUIPMENT CHECK
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3 DAY COURSE OUTLINE
PC SERVICE TRAINING

DAY ONE

```
 9:00 - 10:30 - PC10/PC20 OPERATION THEORY
10:30 - 10:45 - MORNING BREAK
10:45 - 12:30 - PC10/PC20 DIAGNOSTIC OPERATION
12:30 -  1:30 - LUNCH BREAK
 1:30 -  3:00 - PC10/PC20 OPTIONS INSTALLATION
 3:00 -  3:15 - AFTERNOON BREAK
 3:15 -  5:00 - PC10/PC20 HANDS-ON-TROUBLESHOOTING
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DAY TWO

```
 9:00 - 10:30 - PC10/PC20 DRIVE DIAGNOSTIC OPERATION
10:30 - 10:45 - MORNING BREAK
10:45 - 11:15 - CLEANUP AND EQUIPMENT CHECK
11:15 - 11:45 - CLEANUP AND EQUIPMENT CHECK
11:45 - 12:45 - LUNCH BREAK
12:45 -  2:45 - PC40 OPERATION THEORY
 2:45 -  3:00 - AFTERNOON BREAK
 3:00 -  5:00 - PC40 HANDS ON TROUBLESHOOTING
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DAY THREE

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 9:00 - 10:30 - PC40 HANDS ON TROUBLESHOOTING
10:30 - 10:45 - MORNING BREAK
10:45 - 12:30 - PC40 DRIVE DIAGNOSTIC OPERATION
12:30 -  1:30 - LUNCH BREAK
 1:30 -  2:00 - CLEANUP AND EQUIPMENT CHECK
 2:00 -  3:00 - INTRODUCTION TO CTOC
 3:00 -  3:30 - AFTERNOON BREAK/DRAWING
 3:30 -  5:00 - QUESTION AND ANSWER PERIOD
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4 DAY COURSE OUTLINE
CBM SERVICE TRAINING

DAY ONE

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 9:00 - 10:00 - C64 OPERATION THEORY
10:00 - 10:45 - C64 DIAGNOSTIC OPERATION
10:45 - 11:00 - MORNING BREAK
11:00 - 12:30 - C64 HANDS-ON TROUBLESHOOTING
12:30 -  1:30 - LUNCH BREAK
 1:30 -  2:30 - 1541 OPERATION THEORY
 2:30 -  3:00 - 1541 DIAGNOSTIC OPERATION
 3:00 -  3:15 - AFTERNOON BREAK
 3:15 -  5:00 - 1541 HANDS-ON TROUBLESHOOTING
 5:00 -  5:30 - CLEANUP AND EQUIPMENT CHECK
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DAY TWO

```
 9:00 -  9:30 - 1541-II OPERATION THEORY
 9:30 - 10:45 - 1541-II HANDS ON TROUBLESHOOTING
10:45 - 11:00 - MORNING BREAK
11:00 - 11:15 - CLEANUP AND EQUIPMENT CHECK
11:15 - 12:30 - C128 OPERATION THEORY
12:30 -  1:30 - LUNCH BREAK
 1:30 -  2:15 - C128 DIAGNOSTIC OPERATION
 2:15 -  3:15 - C128 HANDS-ON TROUBLESHOOTING
 3:15 -  3:30 - AFTERNOON BREAK
 3:30 -  5:00 - C128 HANDS ON TROUBLESHOOTING
 5:00 -  5:30 - CLEANUP AND EQUIPMENT CHECK
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DAY THREE

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 9:00 - 10:00 - 1571 OPERATION THEORY
10:00 - 10:15 - MORNING BREAK
10:15 - 10:45 - 1571 DIAGNOSTIC OPERATION
10:45 - 12:30 - 1571 HANDS-ON TROUBLESHOOTING
12:30 -  1:30 - LUNCH BREAK
 1:30 -  2:00 - CLEANUP AND EQUIPMENT CHECK
 2:00 -  3:30 - C128D OPERATION THEORY
 3:30 -  3:45 - AFTERNOON BREAK
 3:45 -  5:30 - C128D DIAGNOSTIC OPERATION
```

DAY FOUR

```
 9:00 - 10:15 - C128D HANDS ON TROUBLESHOOTING
10:15 - 10:30 - MORNING BREAK
10:30 - 11:00 - CLEANUP AND EQUIPMENT CHECK
11:00 - 11:45 - 1581 OPERATION THEORY
11:45 - 12:30 - 1581 DIAGNOSTIC OPERATION
12:30 -  1:30 - LUNCH BREAK
 1:30 -  3:00 - 1581 HANDS-ON TROUBLESHOOTING
 3:00 -  3:30 - AFTERNOON BREAK/DRAWING
 3:30 -  3:45 - CLEANUP AND EQUIPMENT CHECK
 3:45 -  4:45 - INTRODUCTION TO CTOC
 4:45 -  5:30 - QUESTION AND ANSWER PERIOD
```

5 DAY COURSE OUTLINE
MONITOR SERVICE TRAINING

DAY ONE

```
 9:00 - 11:00 - 1802 OPERATION THEORY
11:00 - 11:15 - MORNING BREAK
11:15 - 12:00 - 1802 OPERATION THEORY
12:00 - 12:30 - 1802 HANDS ON TROUBLESHOOTING
12:30 -  1:30 - LUNCH BREAK
 1:30 -  3:30 - 1802 HANDS ON TROUBLESHOOTING
 3:30 -  3:45 - AFTERNOON BREAK
 3:45 -  5:00 - CONVERGENCE/BLACK & WHITE SETUP
 5:00 -  5:30 - CLEANUP AND EQUIPMENT CHECK
```

DAY TWO

```
 9:00 - 11:00 - 1080/2002 OPERATION THEORY
11:00 - 11:15 - MORNING BREAK
11:15 - 12:30 - 1080/2002 HANDS ON TROUBLESHOOTING
12:30 -  1:30 - LUNCH BREAK
 1:30 -  3:30 - 1080/2002 HANDS ON TROUBLESHOOTING
 3:30 -  3:45 - AFTERNOON BREAK
 3:45 -  5:30 - 1080/2002 HANDS ON TROUBLESHOOTING
```

DAY THREE

```
 9:00 - 10:30 - 1080/2002 HANDS ON TROUBLESHOOTING
10:30 - 10:45 - MORNING BREAK
10:45 - 12:00 - CONVERGENCE/BLACK & WHITE TRACKING
12:00 - 12:30 - CLEANUP AND EQUIPMENT CHECK
12:30 -  1:30 - LUNCH BREAK
 1:30 -  3:30 - 1084/1084S OPERATION THEORY
 3:30 -  3:45 - AFTERNOON BREAK
 3:45 -  5:30 - 1084/1084S OPERATION THEORY
```

DAY FOUR

```
 9:00 - 11:00 - 1084/1084S HANDS ON TROUBLESHOOTING
11:00 - 11:15 - MORNING BREAK
11:15 - 12:30 - 1084/1084S HANDS ON TROUBLESHOOTING
12:30 -  1:30 - LUNCH BREAK
 1:30 -  3:00 - 1084/1084S HANDS ON TROUBLESHOOTING
 3:00 -  3:15 - AFTERNOON BREAK
 3:15 -  5:00 - CONVERGENCE/BLACK & WHITE SETUP
 5:00 -  5:30 - CLEANUP AND EQUIPMENT CHECK
```

DAY FIVE

```
 9:00 - 11:00 - HANDS ON TROUBLESHOOTING (YOUR CHOICE)
11:00 - 11:15 - MORNING BREAK
11:15 - 12:30 - HANDS ON TROUBLESHOOTING (YOUR CHOICE)
12:30 -  1:30 - LUNCH BREAK
 1:30 -  2:30 - HANDS ON TROUBLESHOOTING (YOUR CHOICE)
 2:30 -  3:00 - CLEANUP AND EQUIPMENT CHECK
 3:00 -  3:30 - AFTERNOON BREAK/DRAWING
 3:30 -  4:30 - INTRODUCTION TO CTOC
 4:30 -  5:30 - QUESTION AND ANSWER PERIOD
```

TRAINING REQUEST FORM
COMMODORE SERVICE

PLEASE COMPLETE ONE FORM PER ATTENDEE

RETURN COMPLETED FORM 30-60 DAYS PRIOR TO REQUESTED DATE

1) REQUESTED DATE _____

2) ALTERNATE DATE _____

3) COMPANY NAME _____

   TECHNICIAN _____

   ADDRESS _____

   _____

   TELEPHONE _____

4) BRIEFLY DESCRIBE SKILL LEVEL OF ATTENDING TECHNICIAN

_____

_____

_____

_____

_____

_____

_____

SIGNATURE OF SERVICE MANAGER

PLEASE RETURN COMPLETED FORM TO: COMMODORE BUSINESS MACHINES
1200 WILSON DRIVE
WEST CHESTER, PA   19380

ATTN: JOHN DIMEO
TECHNICAL TRAINING

COMMODORE STOCKED PARTS - 1084S-P

CBM PART NUMBER	DESCRIPTION	LOCATION	PHILIPS OEM NUMBER
314890-01	SERVICE MANUAL 1084S-P		
314851-01	CABLE 1084 (6 TO 23)		
602200-60	LINE CHOKE	S102	4822 157 52228
602200-25	COIL, DEGAUSSING	S104	4822 157 52274
602200-59	TRANSFORMER POWER	T101	4822 142 60379
602201-85	TRANSFORMER HORZ DRIVE	T401	4822 146 21263
602201-86**	TRANSFORMER OUTPUT	T402	4822 140 10349
602201-31	CAP .0082 uF, 1.5KV POLY FILM	C467	4822 121 43061
602201-32	CAP .022 uF, 400V POLYPROP	C468	4822 121 20237
602200-53	RES P.T.C. DUAL	R104	4822 116 40035
602200-95	POTM, 59M FOCUS CONTROL	R732	4822 101 20821
602200-28	SWITCH, POWER	SK1	4822 276 11501
602200-76	IC OPTIC COUPLER CNX62	IC101	4822 130 90121
602202-10	IC AUDIO AMP TDA 2611AQ	IC301	4822 209 80444
602202-11	IC VERT SIG TDA2653A	IC302	5322 209 82945
602202-14	IC HORZ SIG TDA2595/V4 16P	IC401	4822 209 72155
602202-22	IC VIDEO TDA 4570 28P	IC501	4822 209 71398
602202-23	IC VIDEO AMP TDA3505	IC502	4822 209 71971
602202-18	TRANSISTOR NPN BC639	TS461	4822 130 41053
602201-00	TRANSISTOR BF869	TS711	4822 130 41773
602200-64	DIODE GP15J	D107	4822 130 33887
602200-22	CRT	B100	4822 131 20149
602200-85	CRT SOCKET		4822 255 70217
602200-03	CABINET (CM8562)		4822 701 10567
602200-06	COVER CONTROL PANEL DOOR		4822 701 10568

** T402 USED IN UNITS MANUFACTURED PRIOR TO JUNE 1988.

T402 FOR UNITS MANUFACTURED AFTER JUNE 1988 USE OEM PART
NUMBER 3138 138 30100 (HAVE FOCUS CONTROL AND BRIGHTNESS MOUNTED)
ARE AVAILABLE IN 1084S-P REPAIR KIT, CBM PN# 314891-01.

314891-01	KIT, 1084S-P REPAIR		

INCLUDES:

314892-01	OUTPUT TRANSFORMER	T402	3138 138 30100
314893-01	RESISTOR 15K, 2W	R475	2120 105 90C63
314894-01	CAP .047 uF MYLAR	C476	2222 368 45473
314895-01	WIRE PVC ORG, 24 AWG	-	0722 183 00004
314896-01	CAP .0056 uF, 50V CERAMIC	C356	2020 552 90817
314897-01	CAP .022uF, 50V CERAMIC	C561	2020 550 90526
314898-01	INSTRUCTIONS		

NOTE: PARTS LISTED ABOVE AS PART OF KIT #314891-01 ARE ONLY
      AVAILABLE WITH THE KIT. THEY MAY NOT BE PURCHASED INDIVIDUALLY.