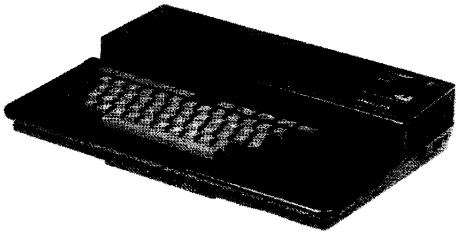
Service
Service
Service



38 571 A12

Service Manual

See also: VY0010/0011 supplement

(GB) SPECIFICATION

Microprocessor	:	Z80A
Memory	:	48k ROM 16k disk ROM 128k video RAM 128k user RAM
Video processor	:	V9938
MSX controller	:	S-3527
Floppy-disk drive	:	3.5", 0.5 MB
Interfaces	:	RF output (UHF channel E36) Monitor output SCART Cassette recorder 2 joysticks Printer 2 cartridge slots External disk drive
Keyboard	:	QWERTY /00 QWERTZ /02 AZERTY /19
Power supply voltage	:	220V ± 10%, 50 Hz

(NL) SPECIFICATIE

Microprocessor	:	Z80A
Geheugen	:	48k ROM 16k disk ROM 128k video RAM 128k gebruikers RAM
Videoprocessor	:	V9938
MSX controller	:	S-3527
Floppy-disk drive	:	3.5", 0.5 MB
Interfaces	:	RF uitgang (UHF kanaal E36) Monitor uitgang SCART Cassette recorder 2 handbedieningen Printer 2 cartridge sleuven Externe disk drive
Toetsenbord	:	QWERTY /00 QWERTZ /02 AZERTY /19
Voedingsspanning	:	220V ± 10%, 50 Hz

(F) CARACTERISTIQUES TECHNIQUES

Micro processeur	:	Z80A
Mémoire	:	48k ROM 16k ROM à disque 128k RAM vidéo 128k RAM utilisateur
Processeur vidéo	:	V9938
Contole MSX	:	S-3527
Lecteur de disquette	:	3.5", 0.5 MB
Interfaces	:	Sortie RF (Canal UHF E36) Sortie monitor SCART Magnétophne cassette 2 poignées Imprimante 2 "slots" cartouche Lecteur externe
Clavier	:	QWERTY /00 QWERTZ /02 AZERTY /19
Tension d'alimentation	:	220V ± 10%, 50 Hz

(D) TECHNISCHE DATEN

Mikroprozessor	:	Z80A
Speicher	:	48k ROM 16k Disk-ROM 128k Video-RAM 128k Gebrauchers-RAM
Videoprozessor	:	V9938
MSX-Steuereinheit	:	S-3527
Floppy Disk-Laufwerk	:	3.5", 0.5 MB
Schnittstellen	:	RF Ausgang (UHF Kanal E36) Monitorausgang SCART Cassettenrecorder 2 Handbedienungen Drucker 2 Kassettenschlitze Externes Disk-Laufwerk
Tastatur	:	QWERTY /00 QWERTZ /02 AZERTY /19
Versorgungsspannung	:	220V ± 10%, 50 Hz

(I) DATA TECNICI

Microprocessore	:	Z80A
Memoria	:	48k ROM 16k ROM a disco 128k RAM video 128k RAM utilizzatori
Processore video	:	V9938
MSX di controllo	:	S-3527
Lettore di dischetto	:	3.5", 0.5 MB
Interfaccie	:	Uscita RF (Canale UHF E36) Uscita monitore SCART Registratore a cassetta 2 leve manuali Stampa 2 connettore per cartuccia Connettore disk drive
Tastiera	:	QWERTY /00 QWERTZ /02 AZERTY /19
Tensione d'aliment.	:	220V ± 10%, 50 Hz

DocumentationTechnique Service Dokumentation Documentazione di Servizio Huolte-Ohje Manual de Servicio Manual de Serviço

Subject to modification
4822 727 15562
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PHILIPS Published by Service Consumer Electronics

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(GB)

CAUTION

1. The exchange of cartridges should take place with the set turned off.

2. ESD

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically.
When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance.
Keep components and tools also at this potential.

ADJUSTMENTS

VDP Clock frequency

- Connect a frequency meter to 8-U25 via a 10:1 probe.
- Adjust TC3 for a frequency of 3.554685 MHz on 8-U25.

FDC clock frequency

- Connnect a frequency meter to 24-U3 via a 10:1 probe.
- Adjust TC2 for a frequency of 1 MHz on 24-U3.

For the adjustments of the floppy disk drive, reference is made to the service manual VY0010/0011 supplement.

RTC clock frequency

- Connect a frequency meter to 17-U1 via a 10:1 probe.
- Adjust TC1 for a frequency of 32.768 KHz on 17-U1.

Encoder unit

- Connect a resistor (75 Ω $^1/_4$ W) between 5-CN2 and ground.
- Connect a voltmeter between 5-CN2 and ground.
- Enter the programme of table 1.
- Adjust the voltage on 5-CN2 for 1Vpp by means of VR1.

- Connect a resistor (75 Ω $^1/_4$ W) between 4-CN2 and ground.
- Connect a voltmeter between 4-CN2 and ground.
- Enter the programme of table 1.
- Adjust the voltage on 4-CN2 for 1 Vpp by means of VR2.

Supply voltage

- Connect a voltmeter between CN2-1 and ground on the supply voltage panel.
- Adjust VR1 for a voltage of -11,9V on CN2-1.
- Check the voltage between CN2-6 and ground (+5V).
- Check the voltage between CN2-8 and ground (+12V).

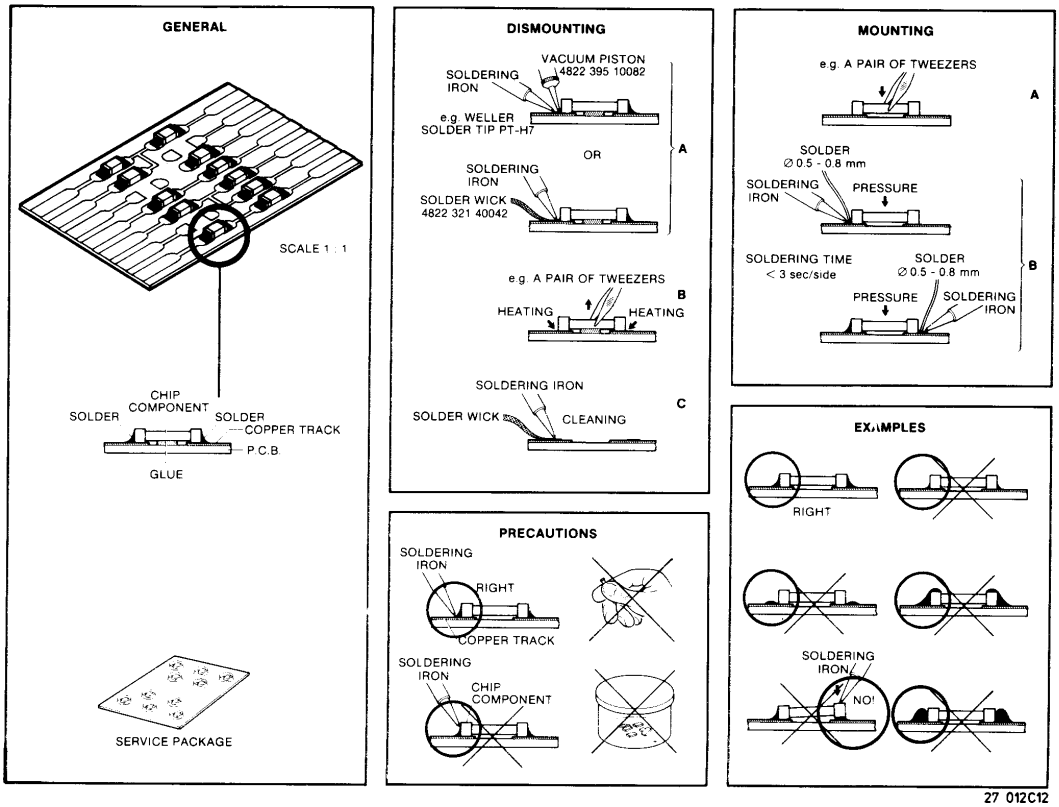
(NL)

WAARSCHUWING

```
  5   REM ENCODER ADJUSTMENT
 10   CLEAR 100, &H9FFF
 20   FOR I=0 TO 36
 30   AD=&HA000+1
 40   READ Z
 50   POKEAD, Z
 60   NEXT I
 70   DEF USR0=&HA000
 80   SCREEN2
 90   COLOR,,2
100   FOR I=1 TO 8
110   X=32* (I-1) : XX=X+31
120   LINE (X,0)-(XX,191), I, BF
130   NEXT I
140   Y=USR0 (0)
150   GOTO 150
160   DATA &HF3, &H3E, &H1, &HD3, &H99
170   DATA &H3E, &H90, &HD3, &H99, &HE
180   DATA &H9A, &H26, &HA0, &H2E, &H15
190   DATA &H6, &H10, &HED, &HB3, &HFB
200   DATA &HC9, &HFF, &HF, &HF0, &HF
210   DATA &HF, &HF, &H0, &HF, &HFF
220   DATA &H0, &HF0, &H0, &HF, &H0
230   DATA &H0, &H0
```

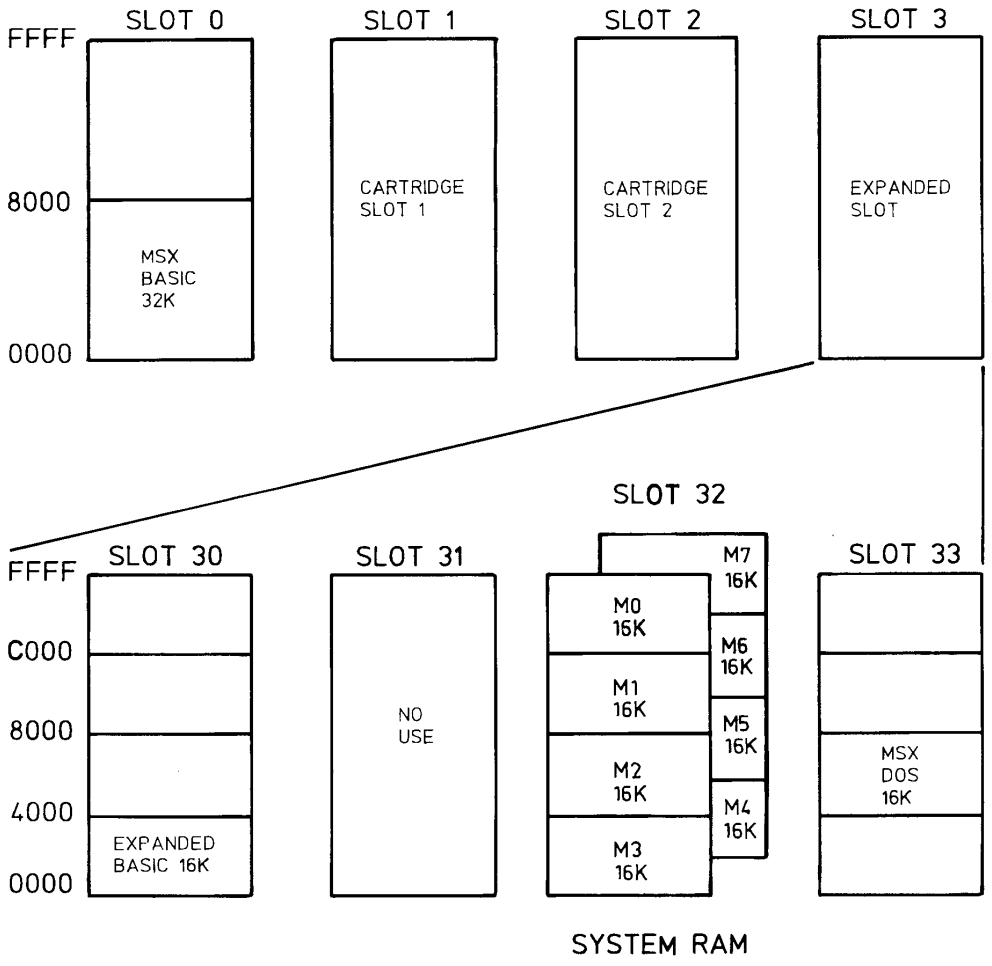
TABLE 1

HANDLING CHIP COMPONENTS

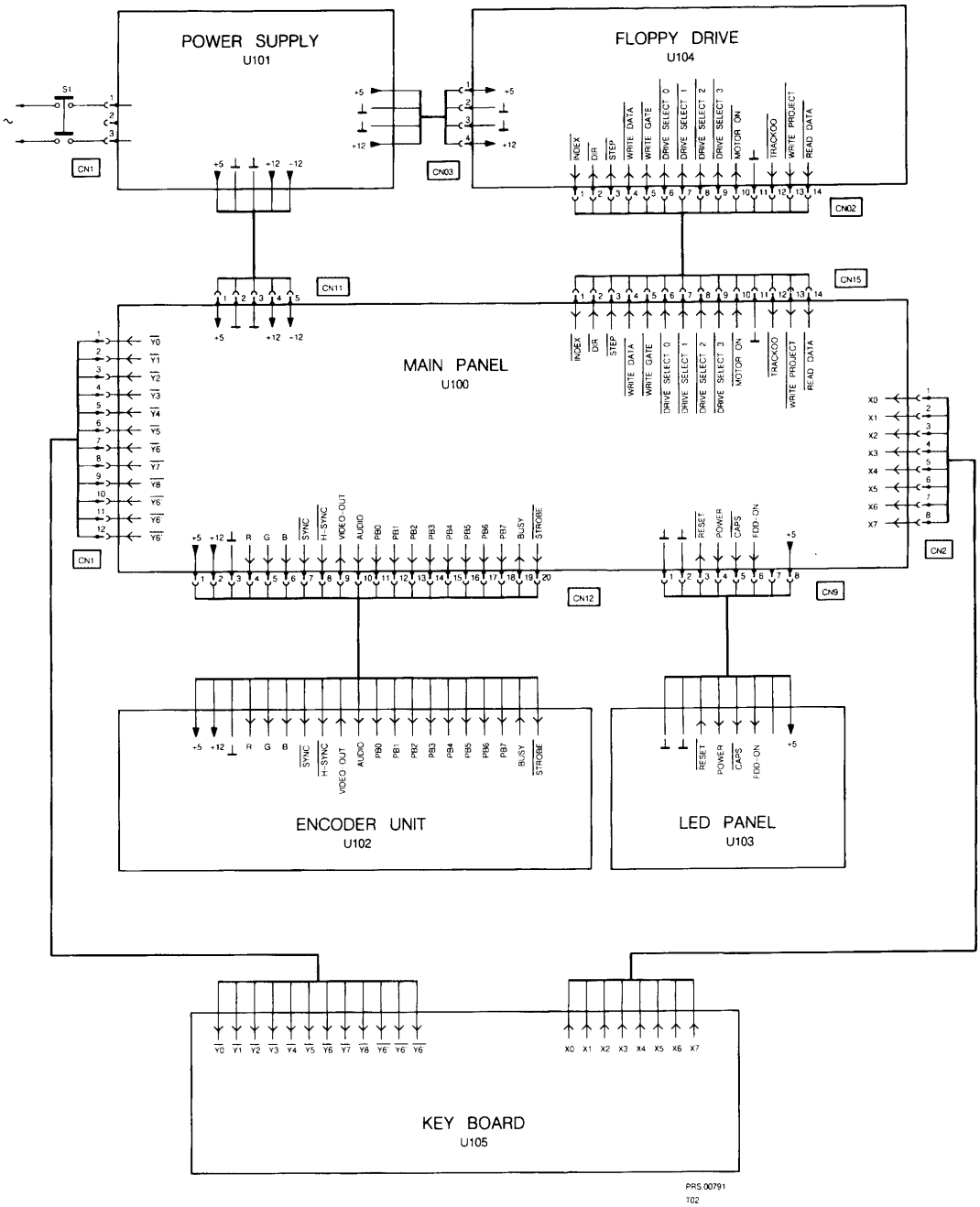


27 012C12

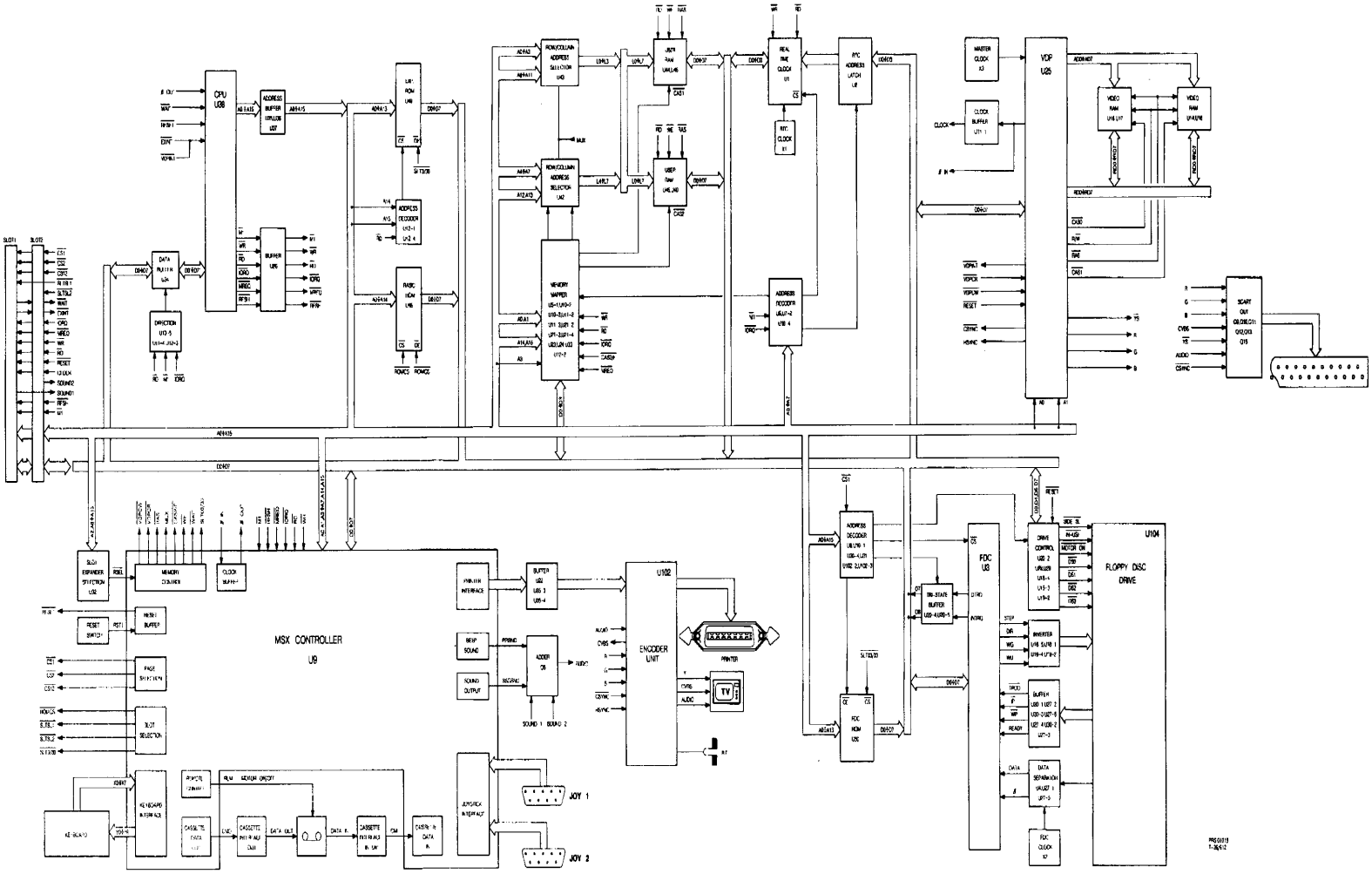
MEMORY LAY-OUT



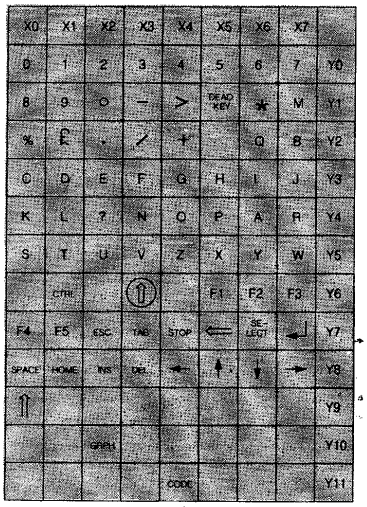
39 300 A13


POWER SUPPLY
U101
FLOPPY DRIVE
U104
MAIN PANEL
U100
ENCODER UNIT
U102
LED PANEL
U103
KEY BOARD
U105
CN1
CN03
CN02
CN11
CN15
CN12
CN9
CN2
S1
INDEX
DIR
STEP
WRITE DATA
WRITE GATE
DRIVE SELECT 0
DRIVE SELECT 1
DRIVE SELECT 2
DRIVE SELECT 3
MOTOR ON
TRACK00
WRITE PROJECT
READ DATA
SYNC
H-SYNC
VIDEO OUT
AUDIO
BUSY
STROBE
RESET
POWER
CAPS
FDD-ON
PRS.00791
T02

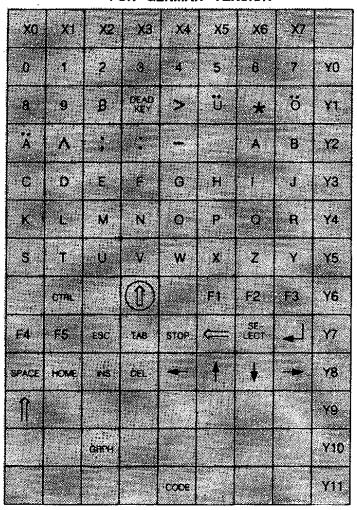
FUNCTIONAL DIAGRAM



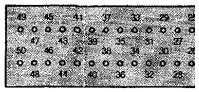
LAY-OUT KEYBOARD MATRIX FOR FRENCH VERSION



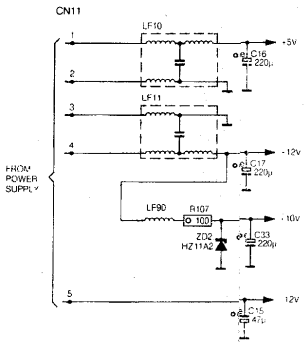
LAY-OUT KEYBOARD MATRIX FOR GERMAN VERSION

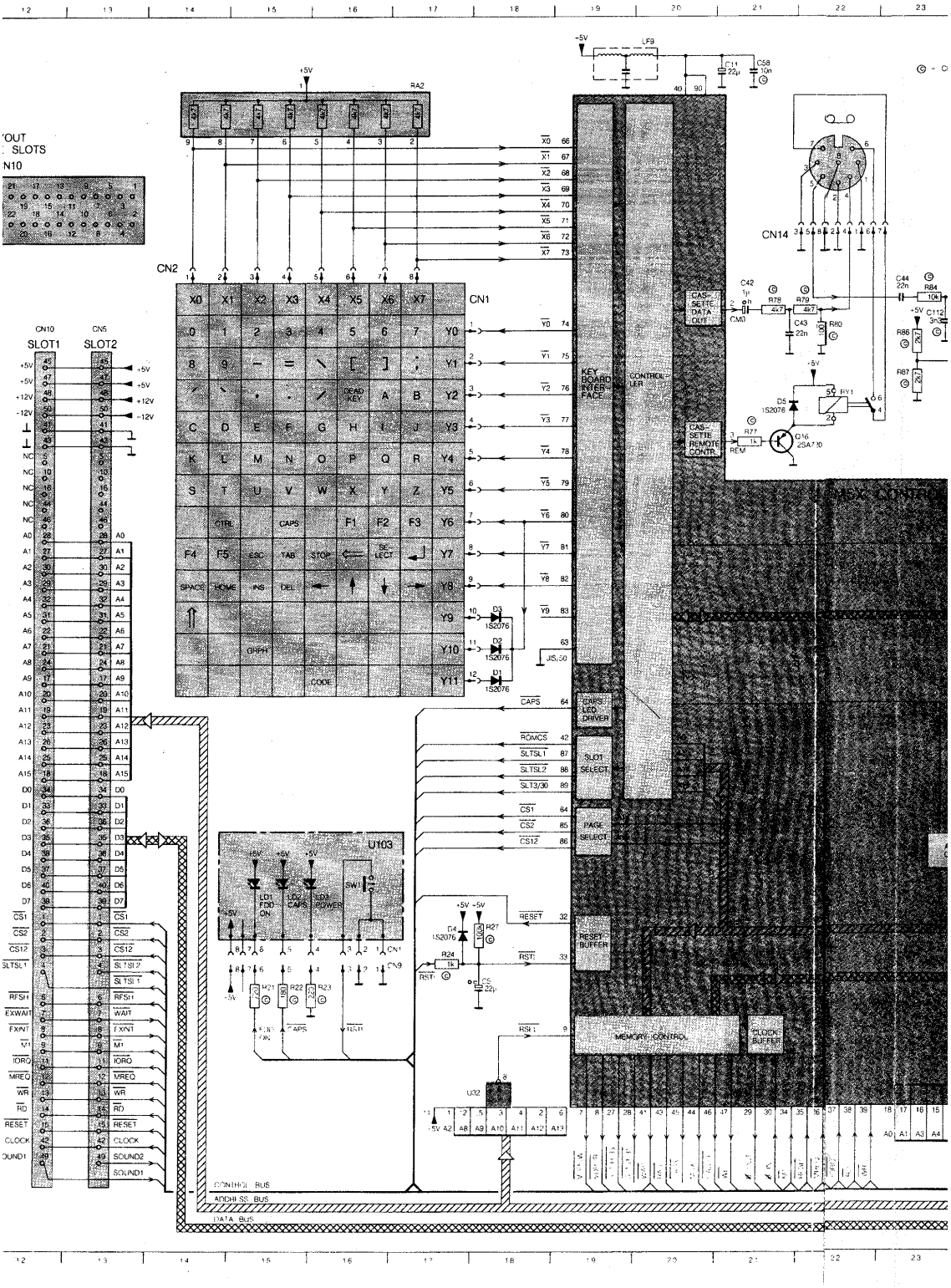


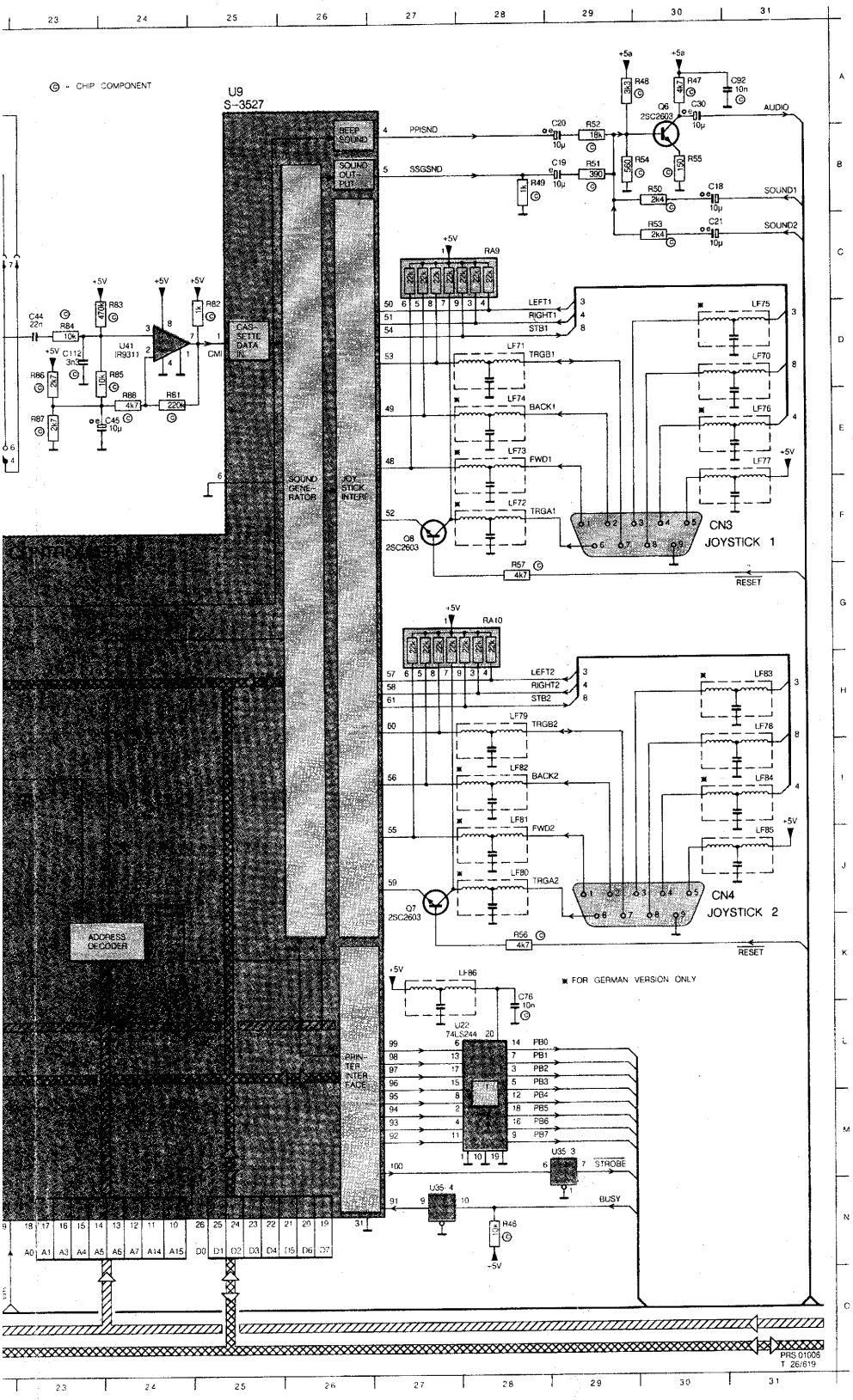
PIN L
CARTRID
CN5



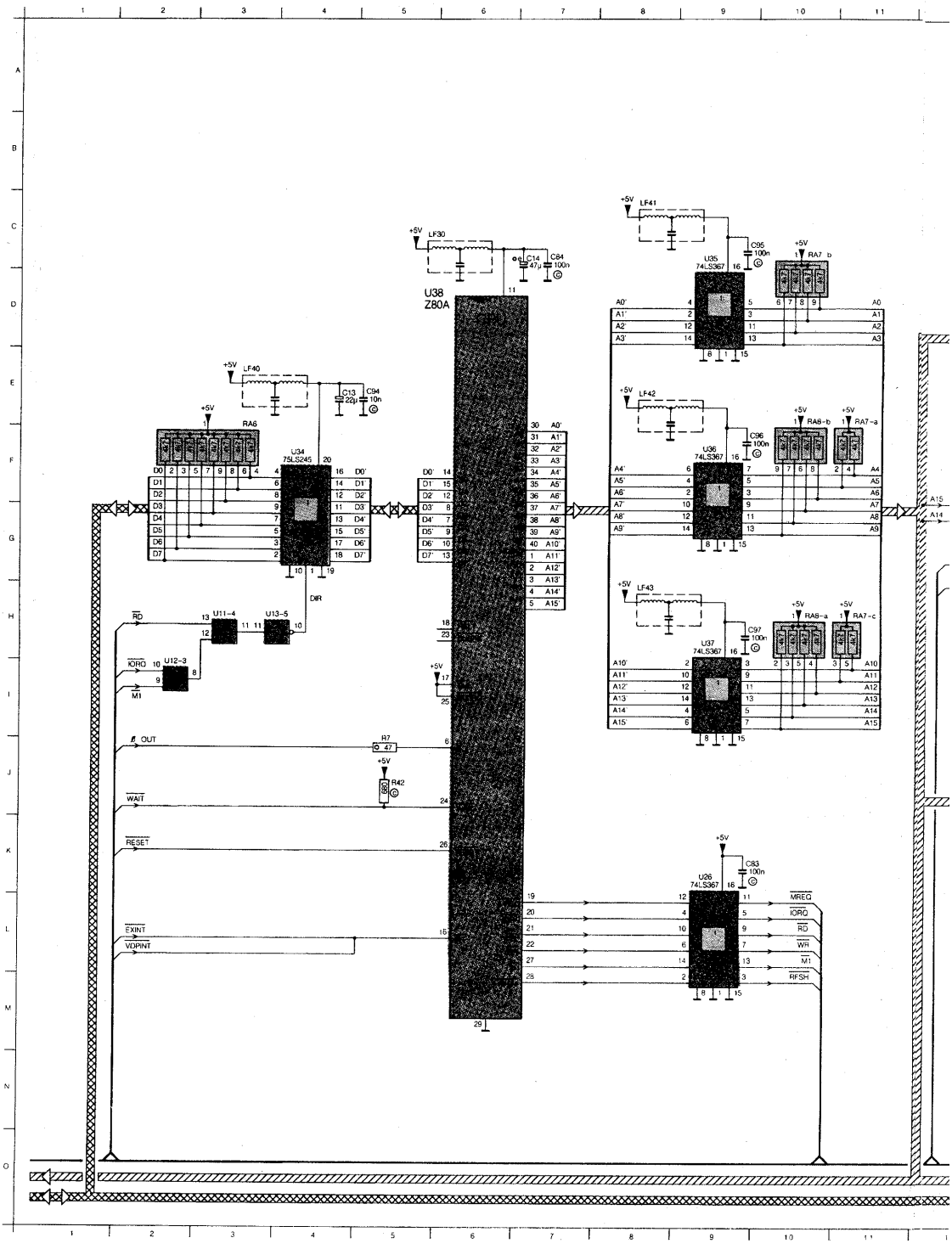
TYPENUMBERS AND POWERSUPPLY-CONNECTIONS OF IC'S						
POS.NR.	TYPE	DESCRIPTION	+5V	⊥	+ DECOUPLING CAPACITOR	+ Vcc C FILTER
U5	74LS368	6 3-STATE INV.	16	8	C54 - 10n	
U7	74LS20	2 4-INPUT NAND	14	7	C56 - 10n	
U10	74LS32	4 2-INPUT OR	14	7	C59 - 10n	LF4 - C=22n
U11	74LS08	4 2-INPUT AND	14	7	C60 - 10n	LF5 - C=22n
U12	74LS32	4 2-INPUT OR	14	7	C61 - 10n	
U13	74LS04	6 INVERTERS	14	7	C62 - 10n	LF7 - C=22n
U18	7438	4 2-INPUT NAND	14	7	C72 - 10n	
U19	7438	4 2-INPUT NAND	14	7	C73 - 10n	
U20	74LS74	2 FOLD D FLIP-FLOP	14	7	C74 - 10n	
U21	74LS125	4 3-STATE BUFFERS	14	7	C75 - 10n	
U27	74LS14	6 INVERTERS	14	7	C85 - 10n	LF31 C=22n
U30	74LS00	4 2-INPUT NAND	14	7	C88 - 10n	LF34 - C=22n
U31	74LS133	13-INPUT NAND	16	8	C89 - 10n	
U32	74LS30	8 INPUT NAND	14	7	C90 - 10n	LF36 - C=22n
U35	74LS367	6 BUFFERS	16	8	C95 - 100n	LF41 C=22n
U102	74LS86	4 2-INPUT EXOR	14	7	C102 - 10n	

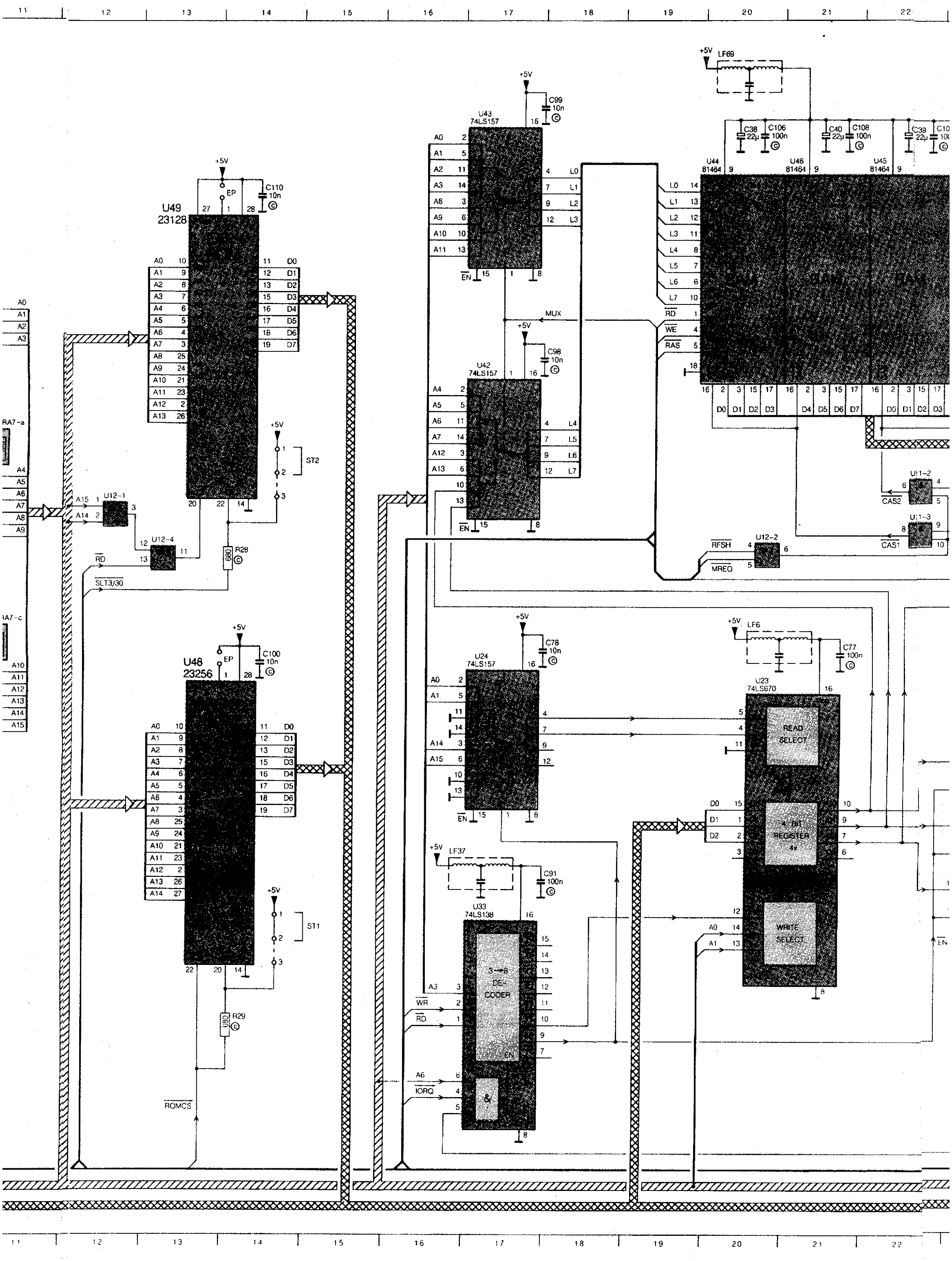


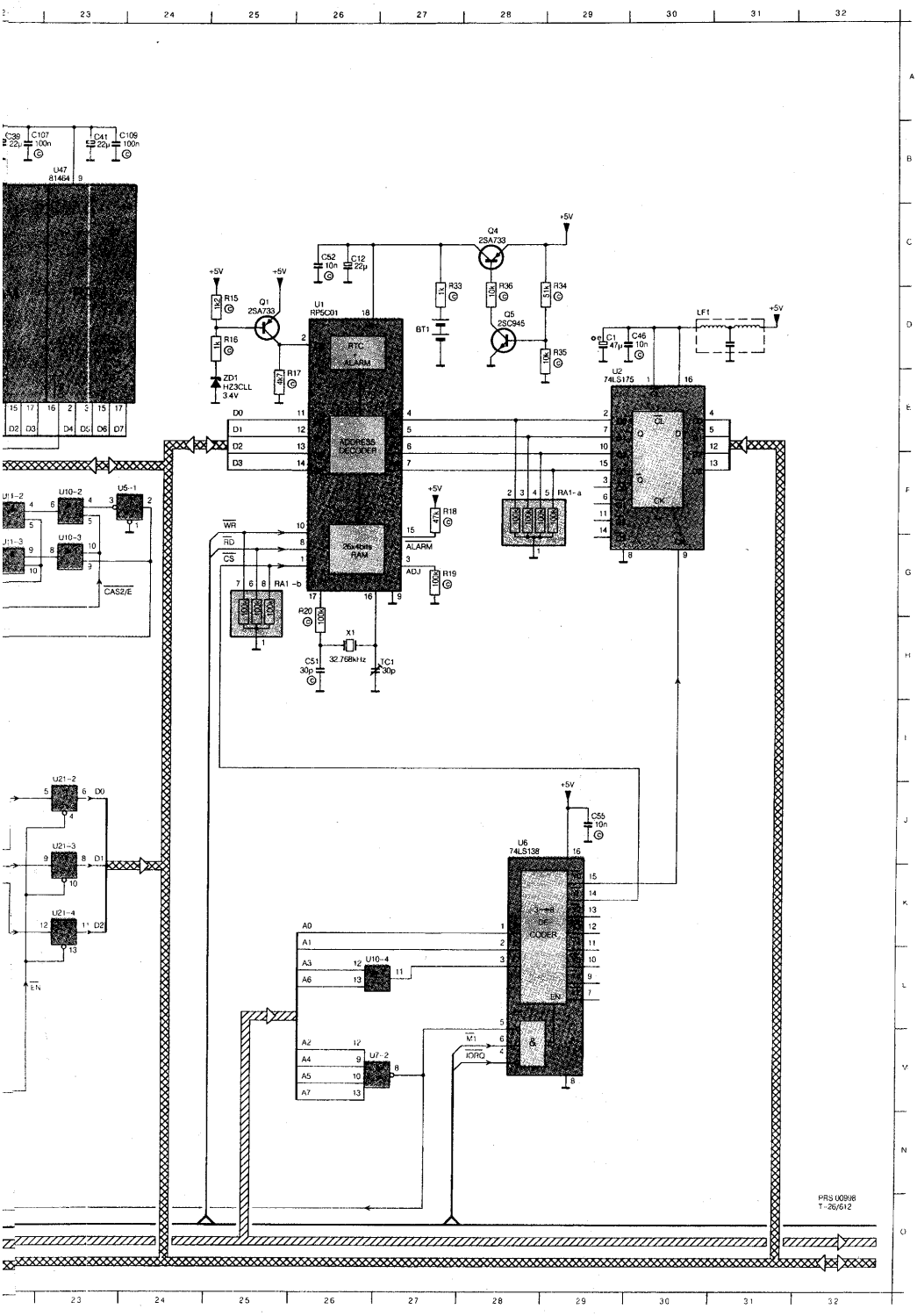

CN2
CN1
CN14
CN10
CN5
SLOT1
SLOT2
RA2
U103
KEY BOARD INTERFACE
CONTROLLER
CAS~ SETTE DATA OUT
CAS~ SETTE REMOTE CONTR.
CAPS LED DRIVER
SLOT SELECT
PAGE SELECT
RESET BUFFER
MEMORY CONTROL
CLOCK BUFFER
CONTROL BUS
ADDRESS BUS
DATA BUS
MSX CONTROL



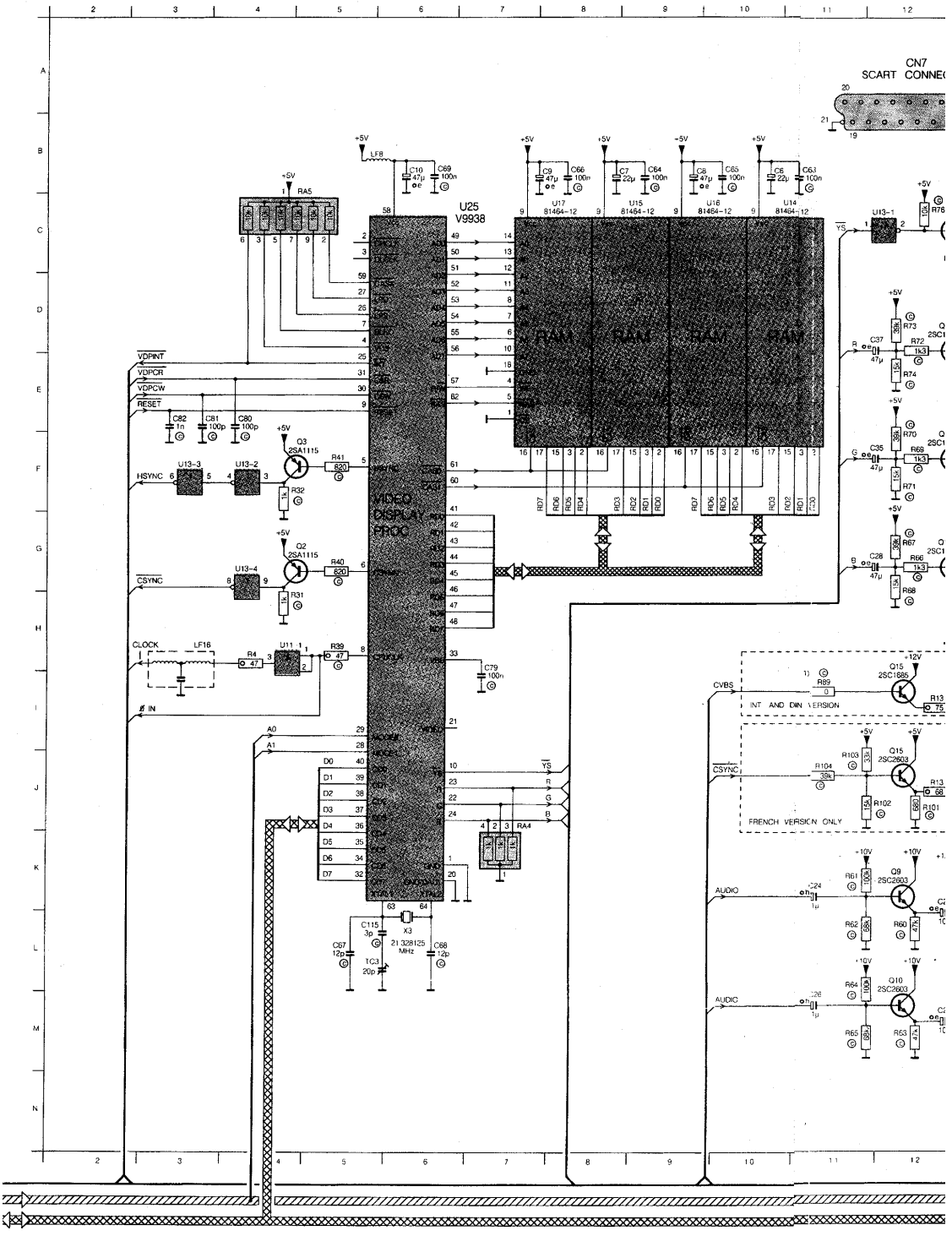
C11 A21
C112 D23
C15 O10
C16 L10
C17 M10
C18 B30
C19 B29
C20 A29
C21 C30
C30 A30
C33 N10
C42 D21
C43 D22
C44 D23
C45 E24
C5 L16
C58 A21
C76 K28
C92 A31
CN1 D18
CN10 D12
CN11 K 8
CN14 C21
CN2 C14
CN3 F31
CN4 J31
CN5 D13
D1 H18
D2 H16
D3 H18
D4 L17
D5 E21
LD1 K15
LD2 K15
LD3 K16
LF10 L 9
LF11 L 9
LF70 D31
LF71 D28
LF72 F28
LF73 E28
LF74 E28
LF75 D31
LF76 E31
LF77 E31
LF78 H31
LF79 H28
LF80 J28
LF81 I 28
LF82 I 28
LF83 H31
LF84 I 31
LF85 J31
LF86 K28
LF9 A20
LF90 N 9
Q16 F22
Q6 A30
Q7 J27
Q8 F27
R107 N10
R21 L15
R22 L15
R23 L16
R24 L17
R27 L18
R46 N28
R47 A30
R48 A30
R49 B28
R50 B30
R51 B29
R52 A29
R53 C30
R54 B30
R55 B30
R56 K28
R57 F28
R77 E21
R78 D21
R79 D22
R80 D22
R81 E24
R82 C25
R83 C24
R84 D23
R85 D24
R86 D23
R87 E23
R88 E24
RA10 G28
RA2 A17
RA9 C28
RY1 E22
SW1 K16
U103 K16
U22 L28
U32 N18
U35_3 M29
U35_4 N27
U41 D24
U9 A25
ZD2 N10

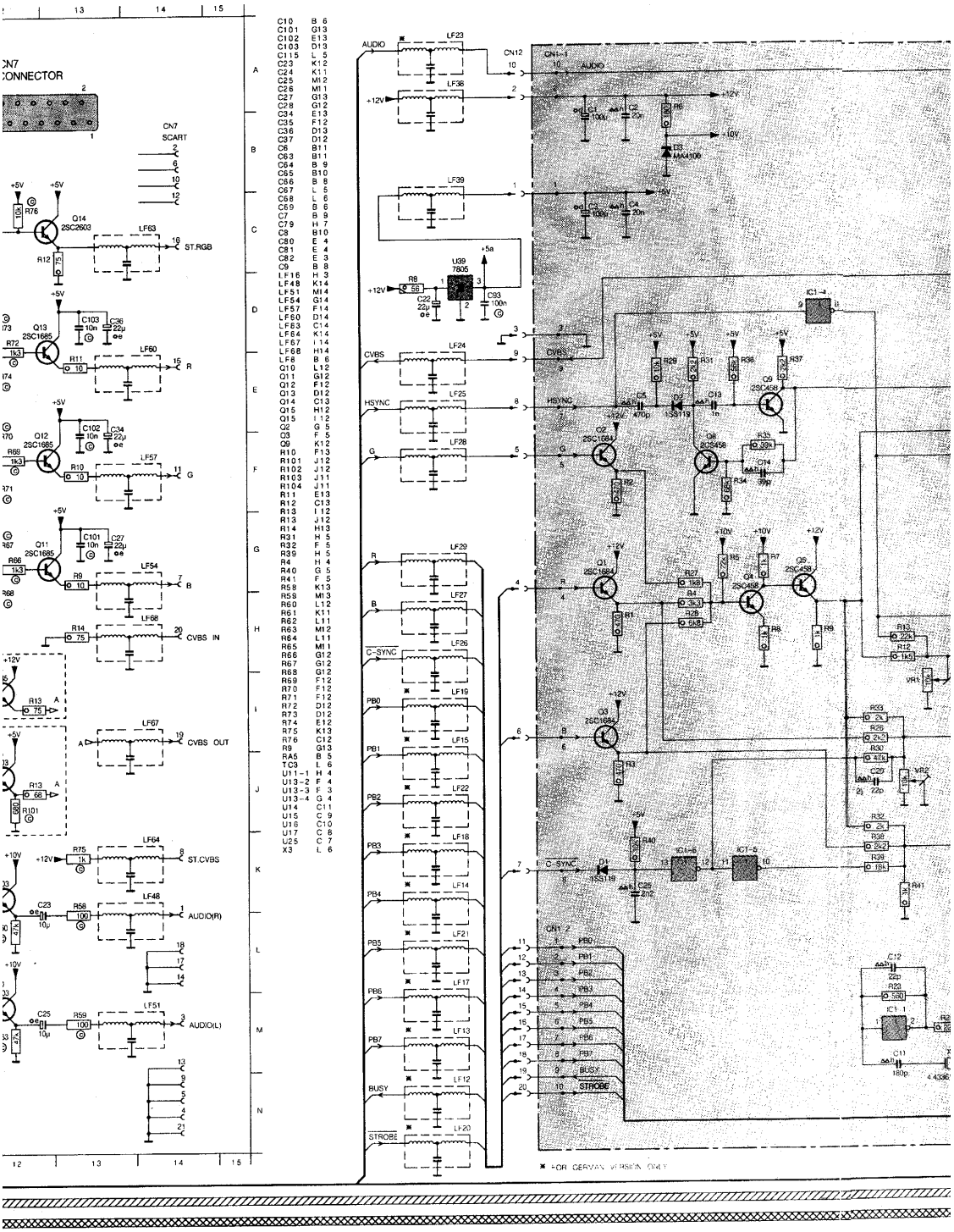

U38
Z80A
U34
75LS245
U35
74LS367
U36
74LS367
U37
74LS367
U26
74LS367
U11-4
U13-5
U12-3
LF30
LF40
LF41
LF42
LF43
RA6
RA7_b
RA8-b
RA7-a
RA8-a
RA7-c
C14
47µ
C84
100n
C13
22µ
C94
10n
C95
100n
C96
100n
C97
100n
C83
100n
R7
47
R42
DIR
OUT
WAIT
RESET
EXINT
VDPINT
MREQ
IORQ
RD
WR
M1
RFSH
A15
A14


U49
23128
U48
23256
U43
74LS157
U42
74LS157
U44
81464
U46
81464
U45
81464
U24
74LS157
U33
74LS138
3→8
DE-
CODER
U23
74LS670
READ
SELECT
4 BIT
REGISTER
4x
WRITE
SELECT
LF69
LF6
LF37
MUX
RFSH
MREQ
CAS1
CAS2
ROMCS
SLT3/30
ST1
ST2
R28
R29
IORQ



BT1 D27
C1 D29
C100 H14
C106 B20
C107 B23
C108 B21
C109 B24
C110 B14
C12 C26
C13 E 4
C14 C 7
C38 B20
C39 B22
C40 B21
C41 B23
C45 D30
C51 H26
C52 C26
C55 J29
C77 H21
C78 H18
C83 K10
C84 C 7
C91 K18
C94 E 5
C95 C10
C96 F10
C97 H10
C98 D18
C99 A18
LF1 D30
LF37 K16
LF6 H20
LF69 A20
Q1 D25
Q4 C28
Q5 D28
R15 D25
R16 D25
R17 E26
R18 F27
R19 G27
R20 G26
R28 G14
R29 M14
R33 C27
R34 C29
R35 D29
R36 C28
R42 J 5
R7 I 5
RA1 G25
RA6 E 3
RA7 H11
RA7 C10
RA7 E11
RA8 H10
RA8 E10
TC1 H27
U1 D26
U10-2 F23
U10-3 G23
U10-4 L27
U11-2 F22
U11-3 G22
U11-4 H 3
U12 1 F12
U12-3 I 2
U12-4 G13
U13 5 H 3
U2 E29
U21-2 I23
U21-3 J23
U21-4 K23
U23 I20
U24 H17
U26 K 9
U34 F 4
U35 C 9
U36 F 9
U37 H 9
U38 D 6
U33 L17
U42 E17
U43 A17
U44 B20
U45 B22
U46 B21
U47 B23
U48 H13
U49 C13
U5-1 F24
U6 J28
U7-2 M27
X1 H26
ZD1 E25
U12-2 G20

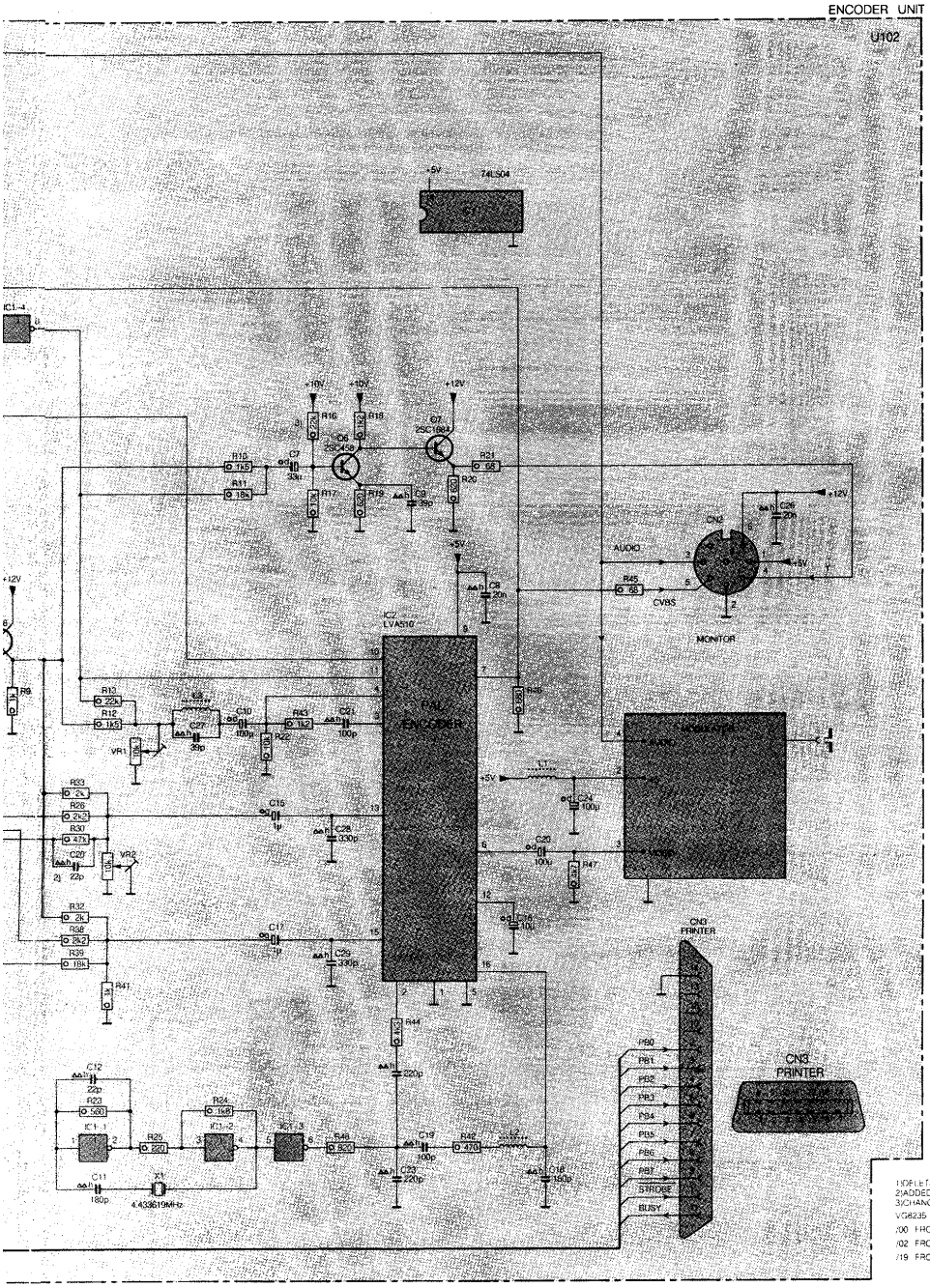

CN7
SCART CONNE
U25
V9938
VIDEO
DISPLAY
PROC
RAM
RAM
RAM
RAM
U17
81464-12
U15
81464-12
U16
81464-12
U14
81464-12
VDPINT
VDPCR
VDPCW
RESET
HSYNC
CSYNC
CLOCK
LF16
IN
A0
A1
D0
D1
D2
D3
D4
D5
D6
D7
Q3
2SA1115
Q2
2SA1115
X3
21.328125
MHz
CVBS
AUDIO
AUDIO
INT AND DIN VERSION
FRENCH VERSION ONLY
Q15
2SC1685
Q15
2SC2603
Q9
2SC2603
Q10
2SC2603



C10 B 6
C101 G13
C102 E13
C103 D13
C115 L 5
C23 K12
C24 K11
C25 M12
C26 M11
C27 G13
C28 G12
C34 E13
C35 F12
C36 D13
C37 D12
C6 B11
C63 B11
C64 B 9
C65 B10
C66 B 8
C67 L 5
C68 L 6
C69 B 6
C7 B 9
C79 H 7
C8 B10
C80 E 4
C81 E 4
C82 E 3
C9 B 8
LF16 H 3
LF48 K14
LF51 M14
LF54 G14
LF57 F14
LF60 D14
LF63 C14
LF64 K14
LF67 I 14
LF68 H14
LF8 B 6
Q10 L12
Q11 G12
Q12 F12
Q13 D12
Q14 C13
Q15 H12
Q15 I 12
Q2 G 5
Q3 F 5
Q9 K12
R10 F13
R101 J12
R102 J12
R103 J11
R104 J11
R11 E13
R12 C13
R13 J12
R14 H13
R31 H 5
R32 F 5
R39 H 5
R4 H 4
R40 G 5
R41 F 5
R58 K13
R59 M13
R60 L12
R61 K11
R62 L11
R63 M12
R64 L11
R65 M11
R66 G12
R67 G12
R68 G12
R69 F12
R70 F12
R71 F12
R72 D12
R73 D12
R74 E12
R75 K13
R76 C12
R8 G13
RA5 B 5
TC3 L 6
U11-1 H 4
U13-2 F 4
U13-3 F 3
U13-4 G 4
U14 C11
U15 C 9
U16 C10
U17 C 8
U25 C 7
X3 L 6

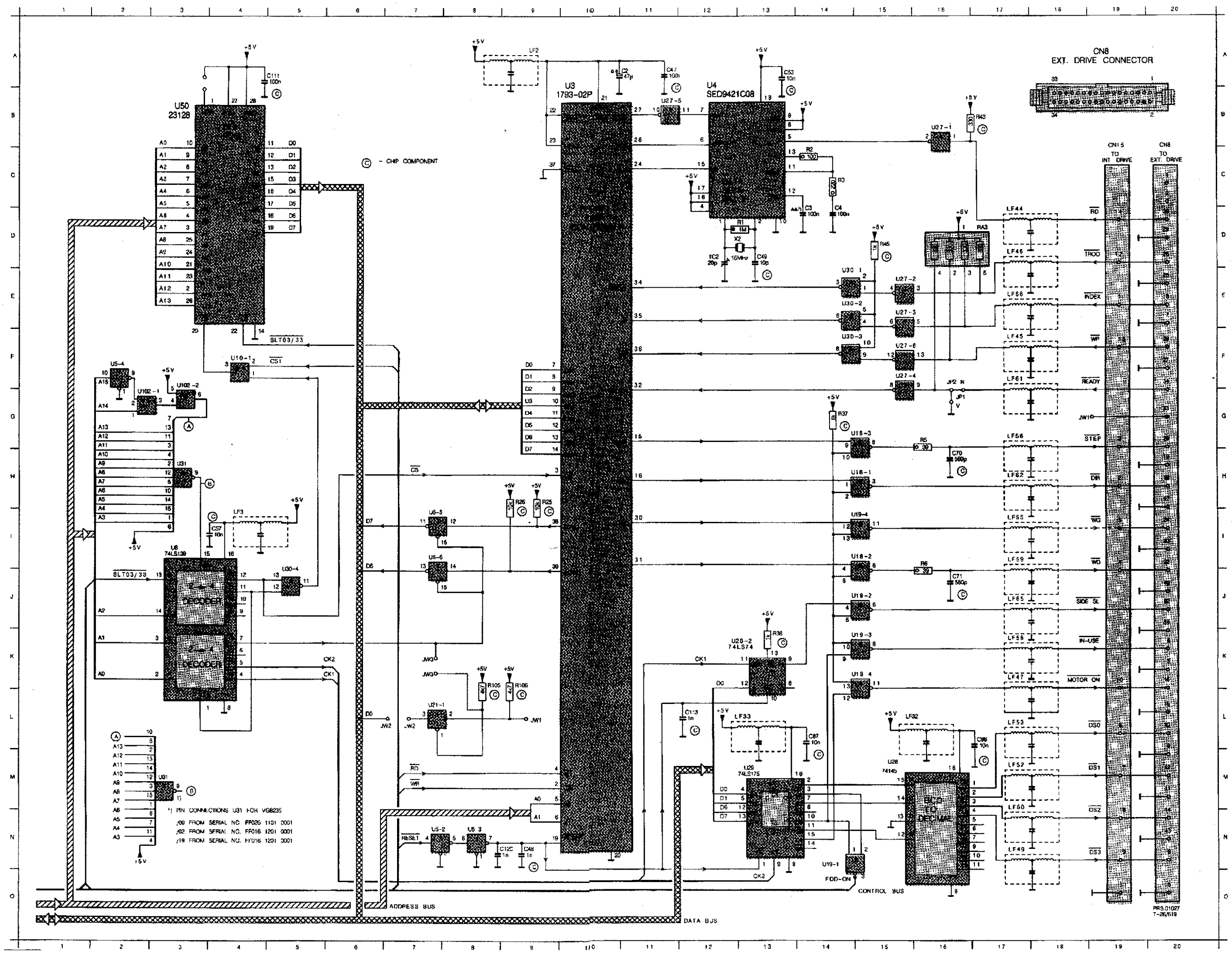
ENCODER UNIT

U102



1)DELETED IN:
2)ADDED IN:
3)CHANGED TO 18k IN:
VG6235

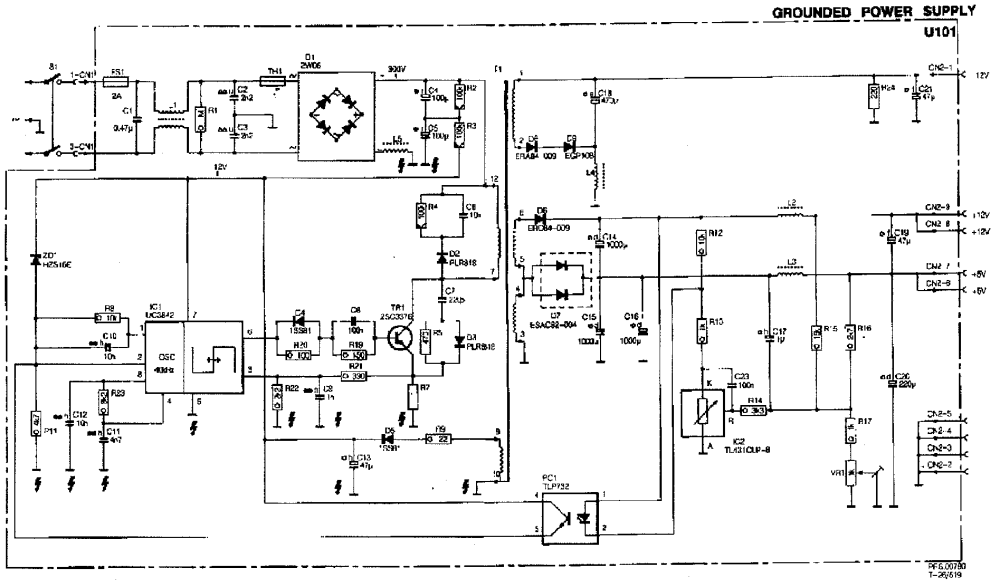
/00 FROM SERIAL NO FF026 1101 0001
/02 FROM SERIAL NO FF016 1201 0001
/19 FROM SERIAL NO FF016 1201 0001



C111	A 5
C113	L12
C120	N 9
C2	A11
C3	D14
C4	D14
C47	A11
C48	N 9
C49	D13
C53	A13
C57	I 4
C70	H16
C71	J16
C86	L17
C87	L14
CN15	B19
CN8	A19
CN8	B20
LF2	A 9
LF3	I 4
LF32	L16
LF33	L13
LF44	D17
LF45	F17
LF46	D17
LF47	K17
LF49	N17
LF50	M17
LF52	M17
LF53	L17
LF55	I 17
LF56	G17
LF59	I 17
LF61	F17
LF62	H17
LF65	J17
LF66	E17
R1	D13
R105	L 8
R106	L 9
R2	C14
R25	H 9
R26	H 9
R3	C14
R37	G14
R38	K13
R43	B17
R45	D15
R5	G16
R6	I 16
RA3	D17
TC2	D12
U10-1	F 4
U31	H 3
U102	F 3
U102	G 2
U18-2	I 15
U18-1	H15
U18 3	G15
U18-4	K15
U19-1	N14
U19-2	J15
U19-3	K15
U19-4	I 15
U20-2	K13
U21-1	L 7
U27-1	B18
U27-2	E15
U27-3	E15
U27-4	F15
U27-5	B11
U27-6	F15
U28	M15
U29	M13
U3	A10
U30-1	E14
U30-2	E14
U30-3	F14
U30-4	I 5
U4	A12
U5-2	N 7
U5-3	N 8
U5-4	F 2
U5-5	I 7
U5-6	I 7
U50	B 3
U6	I 3
X2	D13

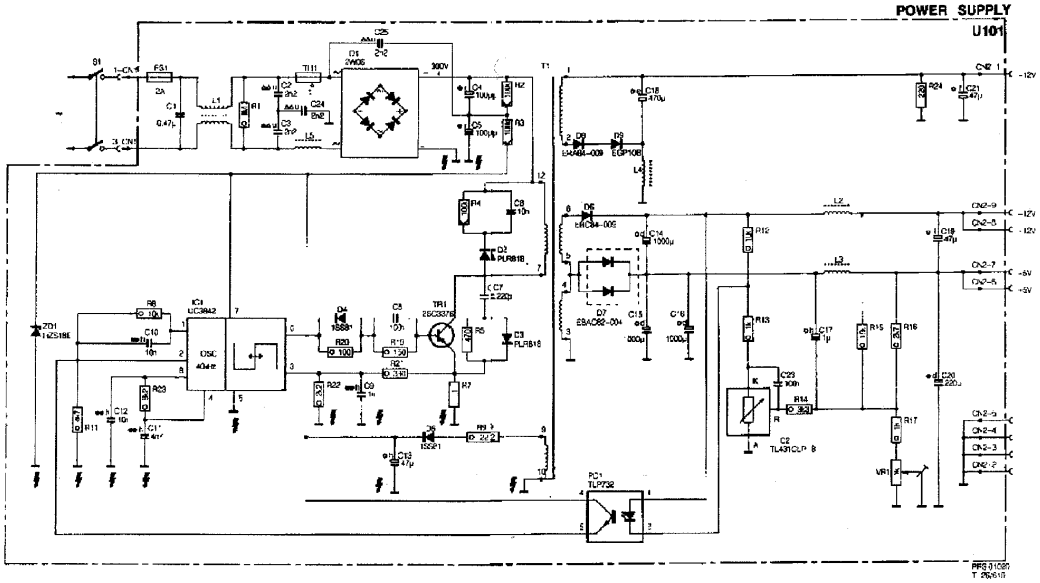
GROUNDED POWER SUPPLY

U101

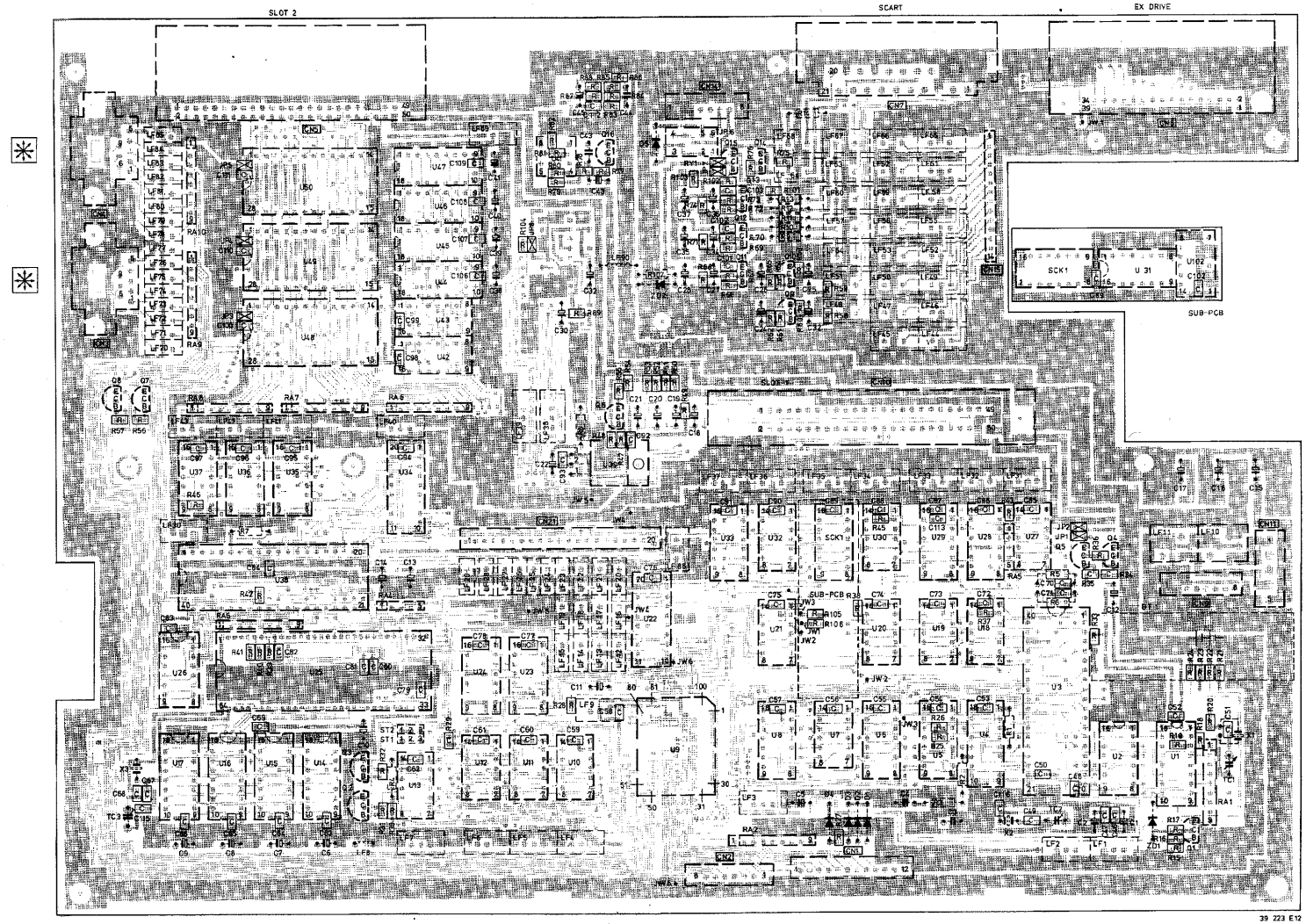


POWER SUPPLY

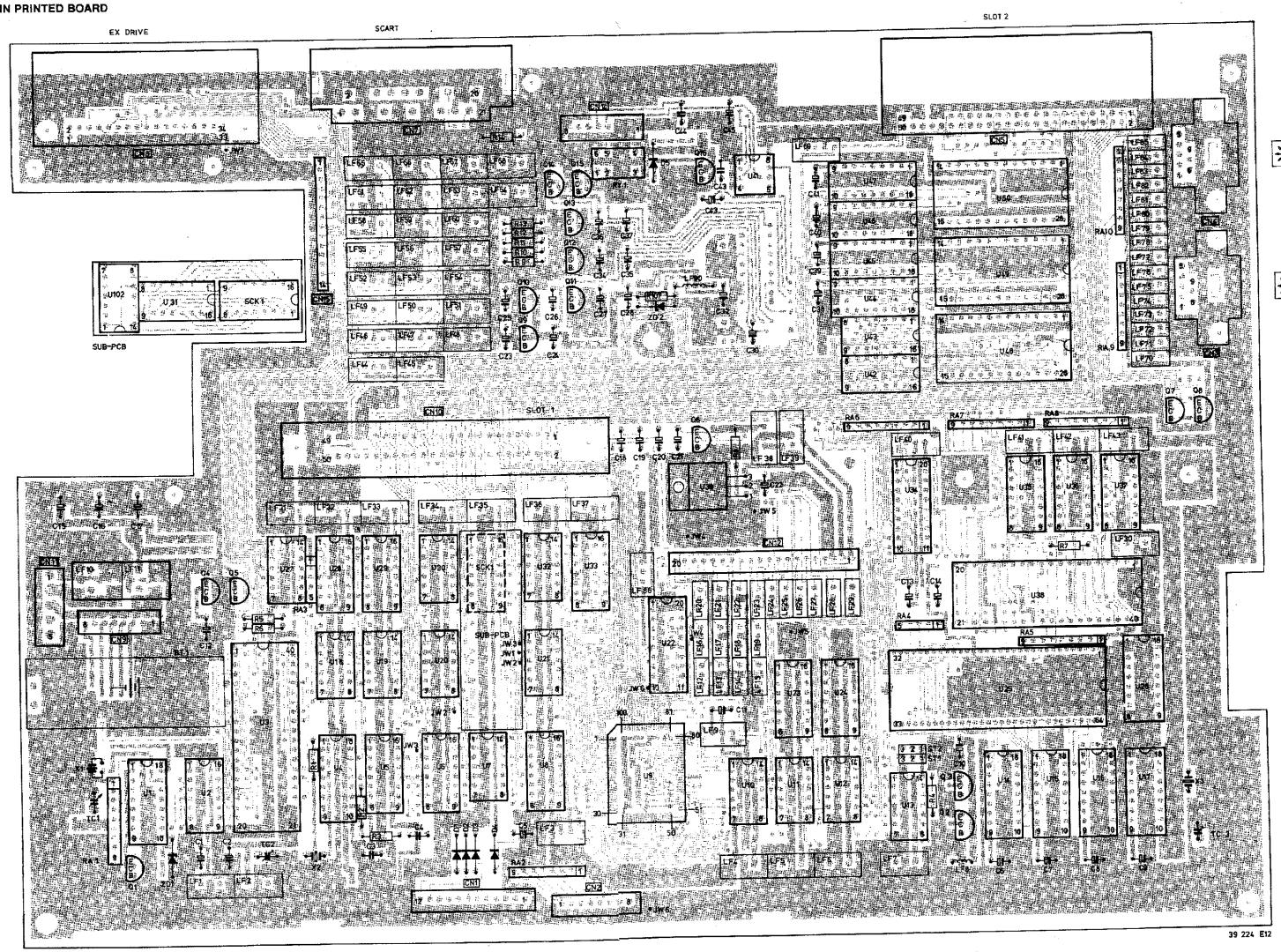
U101



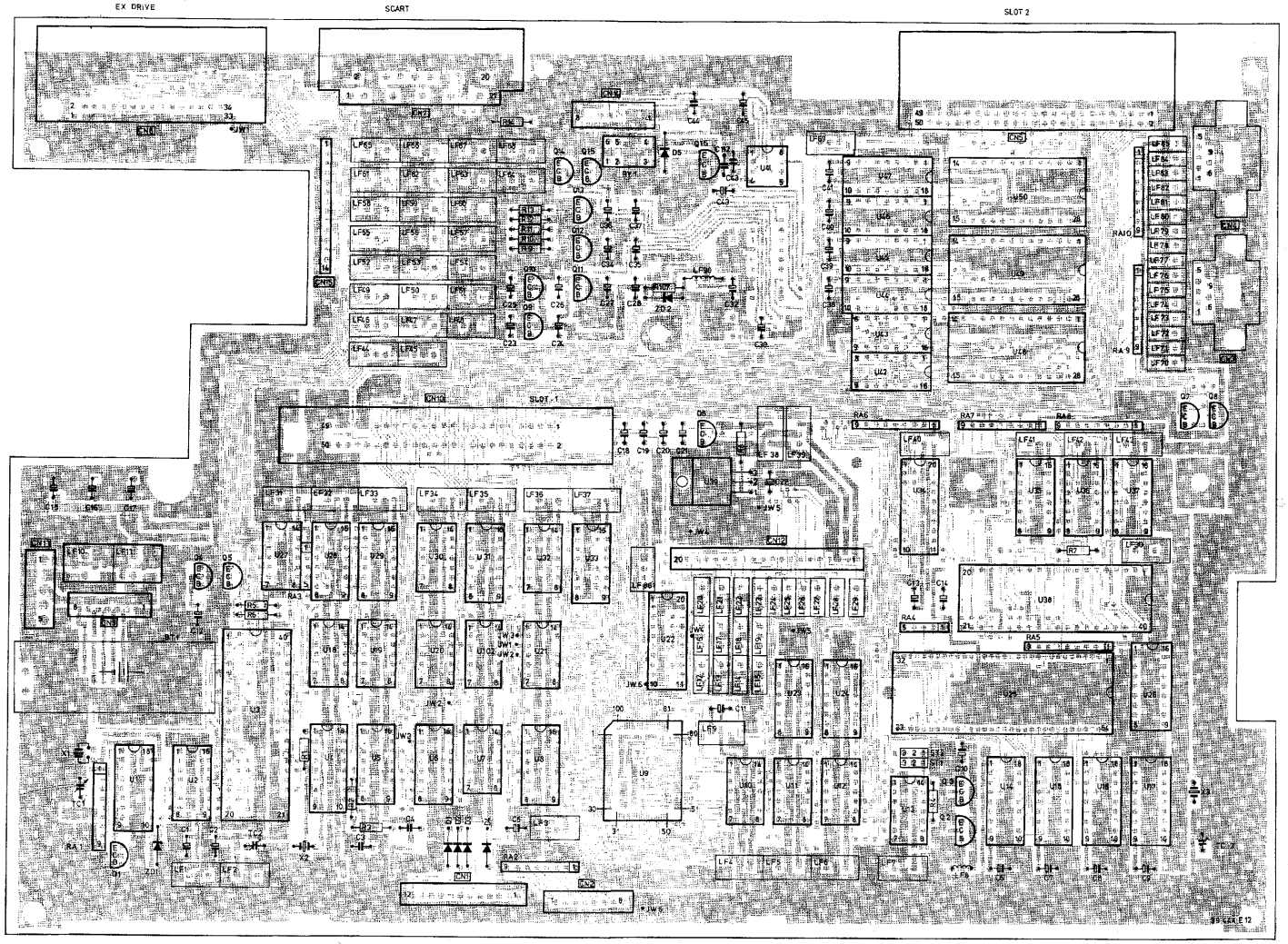
MAIN PRINTED BOARD



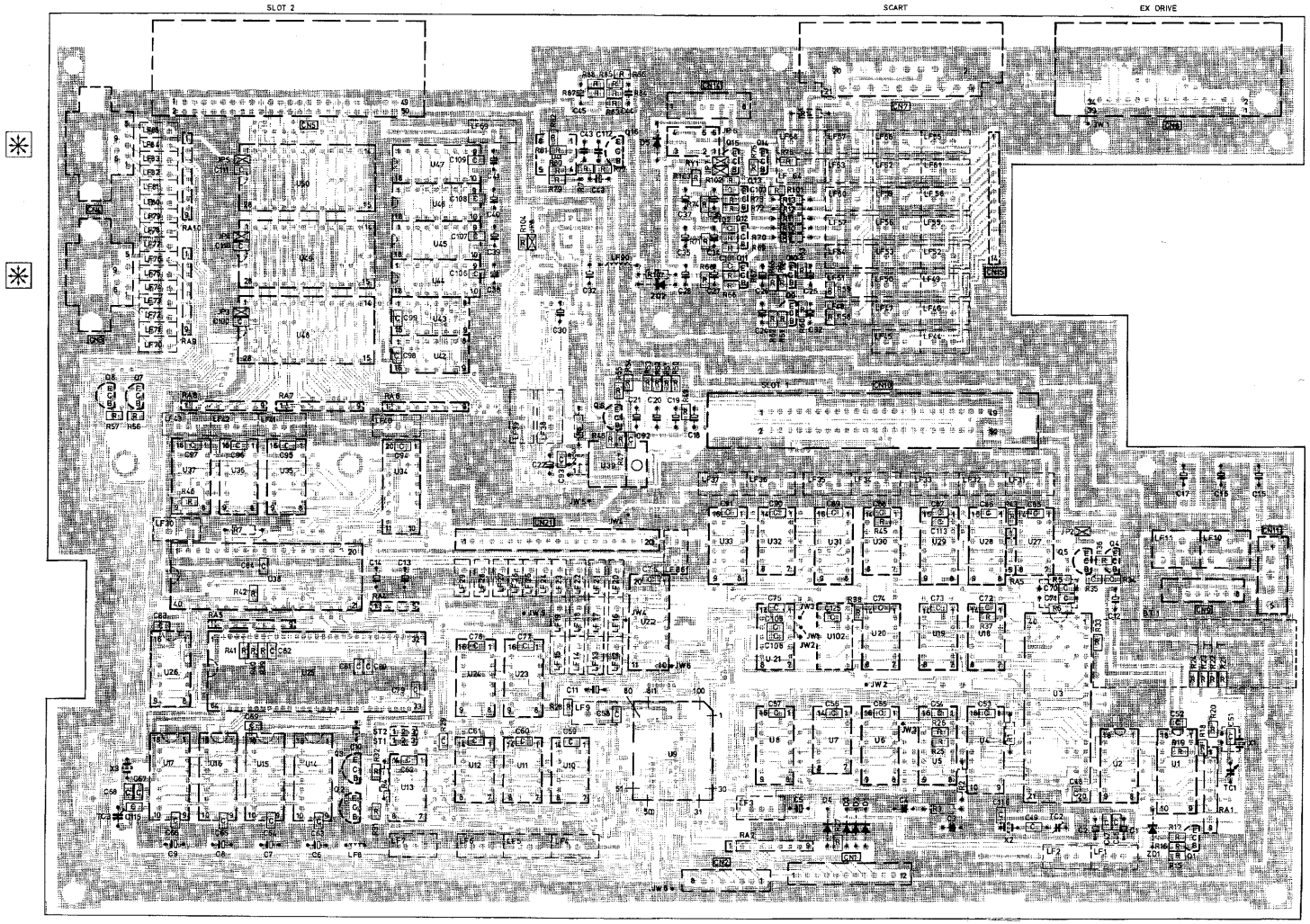
MAIN PRINTED BOARD



MAIN PRINTED BOARD FOR: VG8235 /00 from serial no. FF026 1101 0001 onwards
/02 from serial no. FF016 1201 0001 onwards
/19 from serial no. FF016 1201 0001 onwards

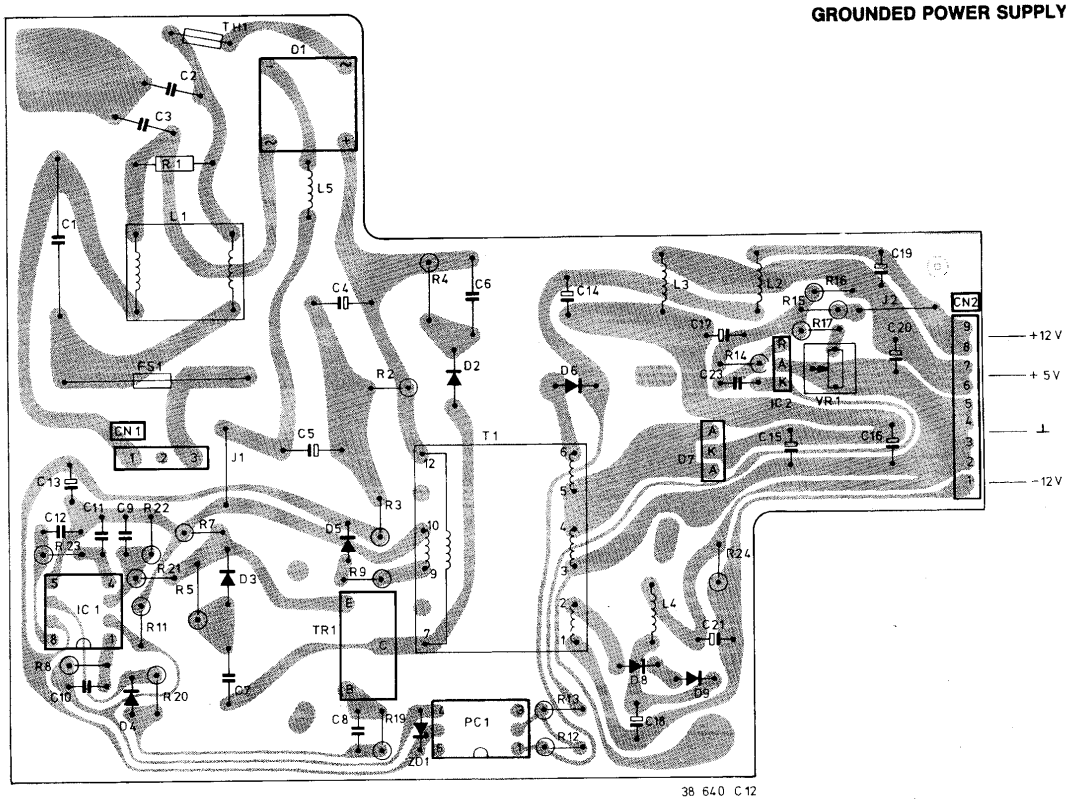


MAIN PRINTED BOARD FOR: VG8235 /00 from serial no. FF026 1101 0001 onwards
/02 from serial no. FF016 1201 0001 onwards
/19 from serial no. FF016 1201 0001 onwards



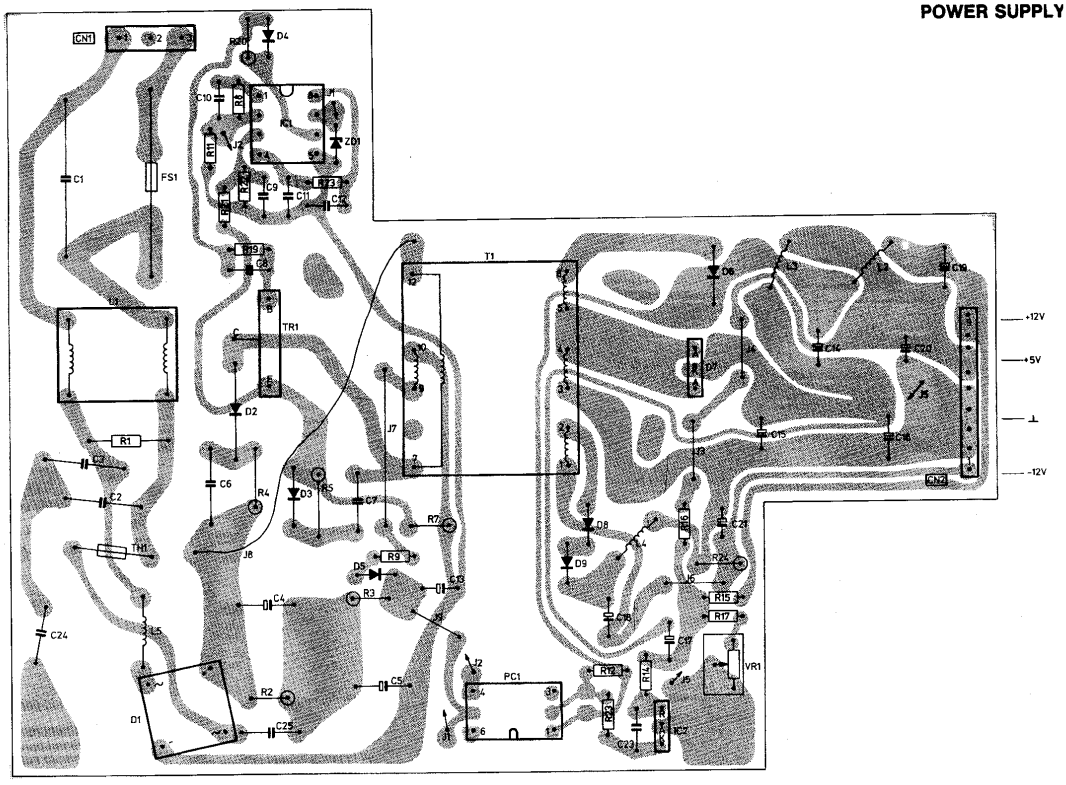
39 445 E12

GROUNDED POWER SUPPLY



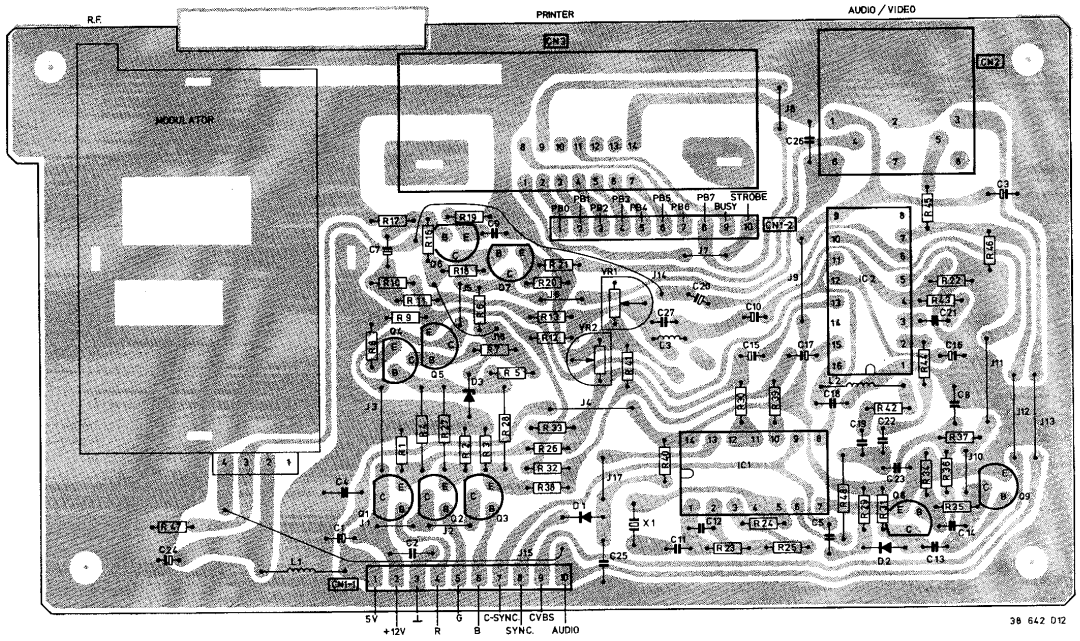
38 640 C 12

POWER SUPPLY

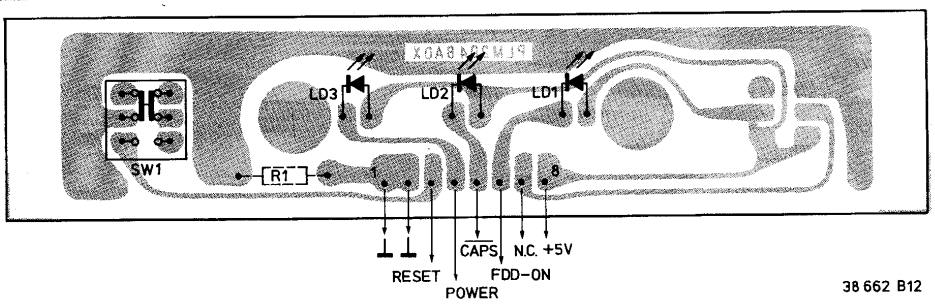


39 303 D13

ENCODER UNIT



LED PANEL



MAIN PRINTED BOARD

U100	Main printed board /00	4822 212 22515
U100	Main printed board /00 (from no. FF026 1101 0001)	4822 212 22545
U100	Main printed board /02	4822 212 22516
U100	Main printed board /02 (from no. FF016 1201 0001)	4822 212 22546
U100	Main printed board /19	4822 212 22517
U100	Main printed board /19 (from no. FF016 1201 0001)	4822 212 22547

U1	RP5C01	4822 209 83431
U2	74LS175	5322 209 84999
U3	1793-02P	4822 209 11193
U4	SED9421COB	4822 209 83441
U5	74LS368	5322 209 81433
U6	74LS138	5322 209 81629
U7	74LS20	5322 209 85569
U8	74LS139	5322 209 81631
U9	S-3527	4822 209 11097
U10	74LS32	5322 209 81634
U11	74LS08	5322 209 81626
U12	74LS32	5322 209 81634
U13	74LS04	5322 209 81625
U14-U17	81464-12	4822 209 83426
U18, U19	7438	5322 209 84285
U20	74LS74	5322 209 81647
U21	74LS125	5322 209 81569
U22	74LS244	5322 209 86017
U23	74LS670	5322 209 85938
U24	74LS157	5322 209 81521
U25	V9938	4822 209 83425
U26	74LS367	5322 209 85558
U27	74LS14	5322 209 83427
U28	74145	5322 209 80236
U29	74LS175	5322 209 84999
U30	74LS00	5322 209 81623
U31	74LS133	4822 209 83929
U32	74LS30	4822 209 83428
U33	74LS138	5322 209 81629
U34	74LS245	5322 209 82215
U35-U37	74LS367	5322 209 85558
U38	Z80A	4822 209 10569
U39	7805	5322 209 86518
U41	IR9311	5322 209 85503
U42,U43	74LS157	5322 209 81521
U44-U47	81464-12	4822 209 83426
U48	BASIC ROM /00	4822 209 50646
U48	BASIC ROM /02	4822 209 50647
U48	BASIC ROM /19	4822 209 50648
U49	EXP. ROM /00	4822 209 50649
U49	EXP. ROM /02	4822 209 50651
U49	EXP. ROM /19	4822 209 50652
U50	FDC ROM	4822 209 50653
U102	74LS86	5322 209 81636

RA1	100k x 8	4822 111 90936
RA2	4k7 x 8	4822 116 90191
RA3	330Ω x 4	4822 116 90234
RA4	1k x 4	4822 111 90934
RA5	10k x 8	4822 116 90189
RA6-RA8	4k7 x 8	4822 116 90191
RA9-RA10	22k x 8	4822 111 90935

Q1, Q4	2SA733	4822 130 42758
Q2, Q3	2SA1115	4822 130 42759
Q5	2SC945A	4822 130 42761
Q6-Q10, Q14	2SC2603	4822 130 42545
Q11-Q13, Q15	2SC1685	4822 130 42568
Q16	2SA720A	4822 209 11045

D1-D5	1S2076	4822 130 31304
ZD1	HZ3CLL	4822 130 33009
ZD2	HZ11A2	4822 130 33683

C4	Mylar 100 nF 50 V	4822 121 90044
C6,C7, C12,C13, C38-C41	Tantal 22 µF 16 V	4822 124 10527
C33	Tantal 10 µF 16 V	4822 124 10523
C43, C44	Mylar 22 nF 50 V	4822 121 42417
C46, C52-C62, C72-C78, C85-C90 C92,C94, C98-C103, C110	Cer. chip C 10 nF 50 V	4822 122 90029
C47, C63-C66 C69,C79, C83,C84, C91,C93, C95-C97, C104-C109, C125	Cer. chip C 100 nF 25 V	4822 122 90034
C48,C82, C112,C113	Cer. chip C 1 nF 50 V	4822 122 90028
C49	Cer. chip C 10 pF 50 V	4822 116 90228
C51	Cer. chip C 30 nF 50 V	4822 122 90032
C67,C68	Cer. chip C 12 pF 50 V	4822 122 90031
C70,C71	Cer. chip C 560 pF 50 V	4822 122 90033
C80,C81	Cer. chip C 100 pF 50 V	4822 122 32852
C115	Cer. chip C 3 pF 50 V	4822 122 32851
TC1	Trimmer 30pF	4822 125 50299
TC2,TC3	Trimmer 20pF	4822 125 50298

LF1-LF7, LF9, LF30-LF43, LF69,LF86	Filter C = 22 nF	4822 157 52666
LF8	Troidal coil	4822 158 10756
LF10,LF11	Line filter	4822 158 10755
LF12-LF15, LF17-LF29, LF70-LF76, LF78-LF84	Filter C = 270 pF	4822 157 52695
LF16, LF44-LF68	Filter C = 100pF	4822 157 52361
LF77, LF85	Filter C = 10nF	4822 157 52694
LF90	RF coil	4822 157 52702

VARIOUS

RY1	Relay	4822 280 20166
X1	32.768 KHz	4822 242 71347
X2	16 MHz	4822 242 71346
X3	21.32812 MHz	4822 242 71345
BT1	NI-CD accumulator	4822 138 10172
ST1,ST2	Service jumper	4822 276 11572

POWER SUPPLY

U...		
U101	Grounded power supply	4822 212 22406
U101	Power supply	4822 212 22533
IC1	UC3842	4822 209 83909
IC2	TLP431CLP-B	4822 209 83911
PC1	TLP 732	4822 209 70246
D1	2W06 1.8 A 600 V	4822 130 33259
D2,D3	PLR818 1 A 1000 V	4822 130 33266
D4,D5	1SS81 0.2 A 150 V	4822 130 33267
D6	ERC84-009 3 A 90 V	4822 130 33262
D7	ESA82-004 10 A 40 V	4822 130 33263
D8	ERA84-009 1 A 90 V	4822 130 33264
D9	EGP10B 1 A 100 V	4822 130 33265
ZD1	HSZ16E 0.4 W zener (grounded p/s)	4822 130 33261
ZD1	HSZ18E 0.4 W zener	4822 130 33682
R5	470 Ω 2 W	4822 113 60171
R7	1 Ω 2 W	4822 113 60168
R24	220 Ω 2 W	4822 113 60169
VR1	1k 0.5 W variable	4822 111 20382
C1	0.47 µF 250 V polyester	4822 121 42553
C6	0.01 µF 250 V polyester	4822 121 42554
C7	220 pF 2 kV ceramic	4822 122 50089
C8,C23	0.1 µF 63 V polyester	4822 121 42555
L1	18 mH 0.8 A	4822 157 52703
L1	10 mH 1 A (grounded p/s)	4822 157 52467
L2	47 mH 2.2 A	4822 157 52468
L3	8 mH 5 A (grounded p/s)	4822 157 52469
L3	15 mH 4.5 A	4822 157 52704
L4,L5	100 mH 1.5 A	4822 157 52471
VARIOUS		
TR1	2SC3376 transistor	4822 130 43505
TH1	16D-9 16 Ω thermistor	4822 138 30037
T1	Transformer	4822 146 21114

ENCODER UNIT

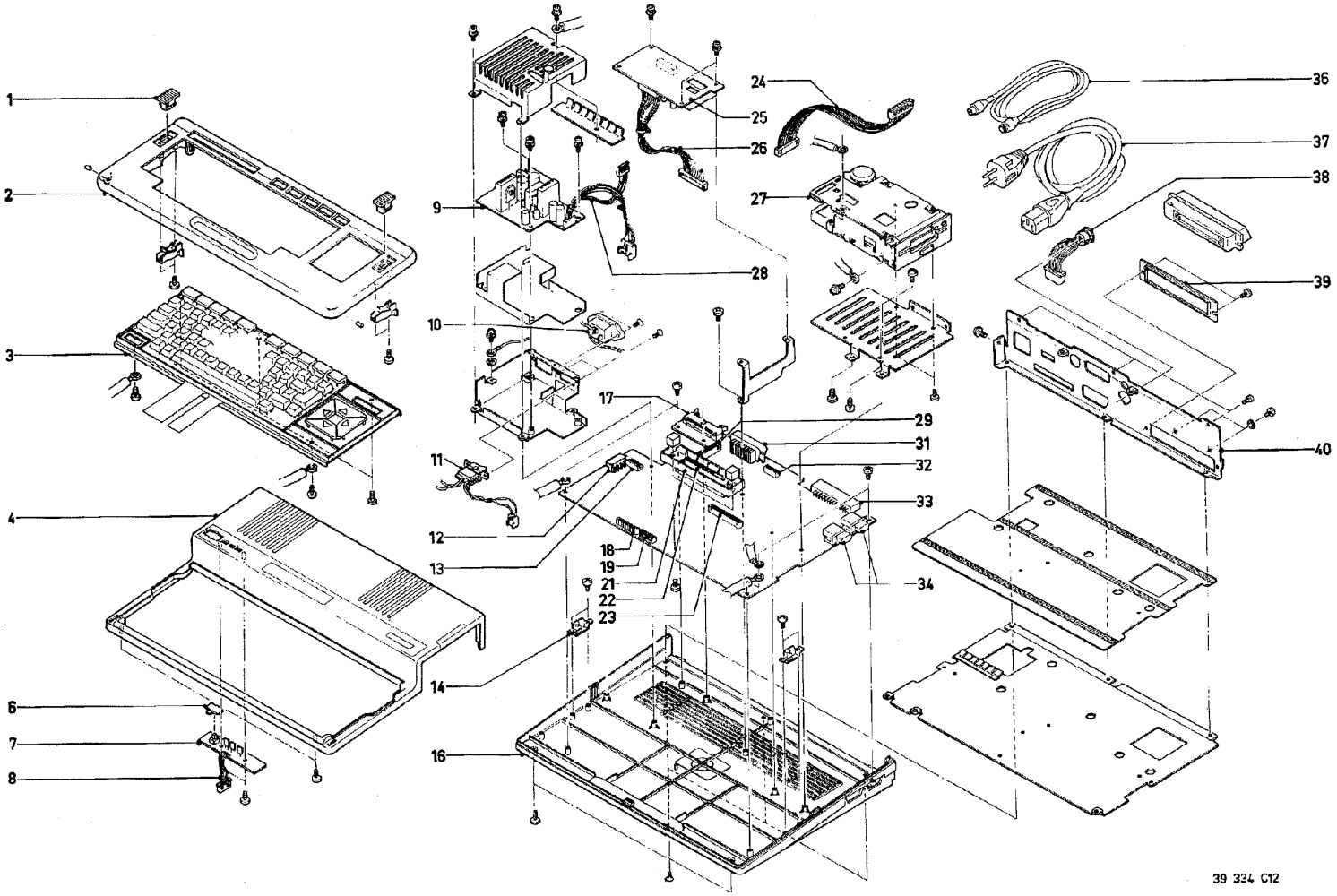
U...		
U102	Encoder unit	4822 212 22536
IC1	74LS04	5322 209 81625
IC2	LVA510	4822 209 83582
Q1-Q3	2SC1684	4822 130 42814
Q4-Q6	2SC458	4822 130 42815
Q7	2SC1684	4822 130 42814
Q8,Q9	2SC458	4822 130 42815
D1,D2	1SS119	4822 130 33038
D3	MA4100	4822 130 33039
VR1	Variable 2k	4822 116 21084
VR2	Variable 10k	4822 116 21085
VARIOUS		
L1,L2	22 µH coil	4822 157 52419
L3	33 µH coil	4822 157 52421
X1	4.433619 MHz	4822 242 71393
	Modulator	4822 218 20547

LED PANEL

U...		
U103	LED panel	4822 212 22535
LD1	LED yellow	4822 130 32984
LD2	LED green	4822 130 32983
LD3	LED red	4822 130 32982
VARIOUS		
SW1	Reset switch	4822 277 10862
	Reset knob	4822 410 24402

FLOPPY DISK DRIVE

U...		
U104	Floppy disk drive	4822 693 90446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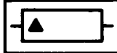
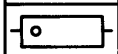
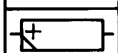
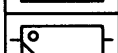
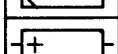
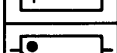
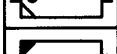
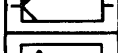
39 334 C12

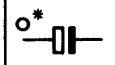
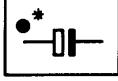
MECHANICAL PARTS LIST

1	4822 417 50206	Lock knob
2	4822 219 80662	Keyboard case /00
	4822 219 80685	Keyboard case /02/19
3	4822 219 80679	Keyboard assy /00
	4822 219 80686	Keyboard assy /00 [1]
	4822 219 80681	Keyboard assy /02
	4822 219 80687	Keyboard assy /02 [2]
	4822 219 80682	Keyboard assy /19
	4822 219 80688	keyboard assy /19 [2]
4	4822 432 10553	Cabinet top case
6	4822 410 24402	Reset knob
7	4822 212 22535	LED panel
8	4822 267 40633	Connector assy LED panel
9	4822 212 22406	Grounded power supply
	4822 212 22533	Power supply
10	4822 265 20274	AC inlet (grounded P/S)
	4822 265 20264	AC inlet
11	4822 276 11708	Mains switch
12	4822 267 40591	Connector DC power
13	4822 267 40632	Connector LED
14	4822 417 50207	Lock catch
16	4822 432 10547	Cabinet botton case
17	4822 267 50605	Connector external drive
18	4822 267 50603	Connector keyboard (12p)
19	4822 267 50602	Connector keyboard (8p)
21	4822 417 50203	Slot guide
22	4822 267 60167	Connector 2x25 fold
23	4822 267 60166	Connector (20p)
24	4822 267 30685	Connector assy FDD
25	4822 212 22536	Encoder unit
26	4822 267 50622	Connector assy tuner unit
27	4822 693 90446	Floppy drive unit
28	4822 321 21452	Connector assy power supply
29	4822 267 30687	Connector FDD
31	4822 267 50604	SCART Connector
32	4822 267 40632	Connector (8p)
33	4822 267 70168	Connector 2x25 fold
34	4822 267 50553	Connector joystick
36	4822 321 10394	R.F. cable
37	4822 321 10393	Mains cable (for grounded P/S)
	4822 321 10375	Mains cable
38	4822 267 30686	Connector assy
39	4822 432 91854	Slot rear cover
40	4822 432 91996	Rear panel (for grounded P/S)
	4822 432 91982	Rear panel

[1]) From serial no. FF026 1101 0001 onwards
[2]) From serial no. FF016 1201 0001 onwards

SYMBOLS USED IN CIRCUIT DIAGRAMS

SYMBOL	TYPE	t^{P}_{amb} 70°	TOLERANCE	SERIES
	SFR16T	0.5	1E - 3M 5%	E24
	SFR25H	0.5	1E - 10M 5%	E24
	MRS25	0.6	1E - 1M 1%	E24
	MR30	0.5	1E - 1M 1% (2%)	E24
	VR37	0.5	220K - 33M 5%	E24
	PR37	1.6	1E - 1M 5%	E24
	VR68	1	100K - 68M 5%	E24
	MRS 16T	0.4	10R – 100K	E24/E96

SYMBOL	TYPE	VOLTAGE DC	TOLERANCE
	POLYESTER FLATFOIL	SEE NOTE	10%
	PLATE CERAMIC	SEE NOTE	DEPENDING ON CAPACITY
	ELCO MINIATURE SINGLE	SEE NOTE	-10+50%
	ELCO SINGLE ENDED	SEE NOTE	±20%

NOTE:

*

	f = 25V	q = 200V	x = 1000V	E = 20V
	g = 40V	r = 250V	z = 1600V	F = 35V
a = 2.5V	h = 63V	s = 300V	A = 1.6V	G = 50V
b = 4V	j = 100V	t = 350V	B = 6V	H = 75V
c = 6,3V	l = 125V	u = 400V	C = 12V	I = 80V
d = 10V	m = 150V	v = 500V	D = 15V	
e = 16V	n = 160V	w = 630V		

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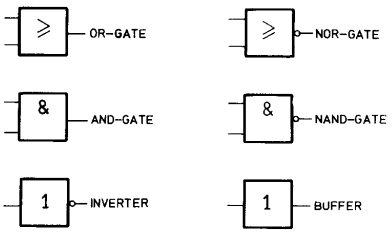

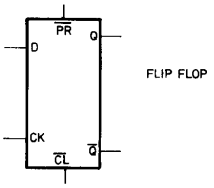

FLIP FLOP

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Service Information

1986-11-03

VG8235/00/02/19

HC86-8

Home computer

(GB)

The following service codenumbers in the service manual VG8235/00/02/19 are incorrect:

5322 209 81433 (U5-74LS368) has to be:
4822 209 81433.

5322 209 83427 (U27-74LS14) has to be:
4822 209 83427.

4822 209 83929 (U31-74LS133) has to be:
4822 209 83429.

(NL)

De volgende service codenummers in de service manual VG8235/00/02/19 zijn foutief:

5322 209 81433 (U5-74LS368) moet zijn:
4822 209 81433.

5322 209 83427 (U27-74LS14) moet zijn:
4822 209 83427.

4822 209 83929 (U31-74LS133) moet zijn:
4822 209 83429.

(F)

Les numéros de code service suivants dans la documentation de service VG8235/00/02/19 sont incorrects:

5322 209 81433 (U5-74LS368) change en:
4822 209 81433.

5322 209 83427 (U27-74LS14) change en:
4822 209 83427.

4822 209 83929 (U31-74LS133) change en:
4822 209 83429.

(D)

Die nachstehenden Service-Codenummern in der Service-Dokumentation VG8235/00/02/19 sind falsch:

5322 209 81433 (U5-74LS368) muss heissen:
4822 209 81433.

5322 209 83427 (U27-74LS14) muss heissen:
4822 209 83427.

4822 209 83929 (U31-74LS133) muss heissen:
4822 209 83429.

(I)

I codici di servizio sequenti della Documentazione di Servizio del VG8235/00/02/19 sono questi:

5322 209 81433 (U5-74LS368) cambia in:
4822 209 81433.

5322 209 83427 (U27-74LS14) cambia in:
4822 209 83427.

4822 209 83929 (U31-74LS133) cambia in:
4822 209 83429.

GB

The memory mapper of the VG8235/00/02/19 may give problems (second memory bank is not accessible).
Solution: Mount a capacitor of 1nF between pin 7-U23 and 8-U23 (GND).