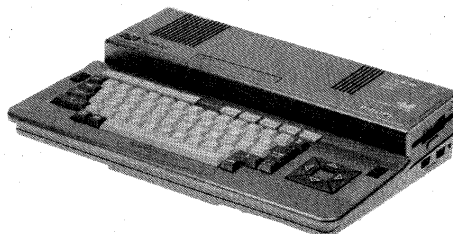


Service  
Service  
Service



38 571 A12

# Service Manual

## 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 /20/36 QWERTZ /22/29 AZERTY /39
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 /20/36 QWERTZ /22/29 AZERTY /39
Voedingsspanning	: 220V ± 10%, 50 Hz

## See also: VY0010/0011 supplement

## F CARACTERISTIQUES TECHNIQUES

Micro processeur	: Z80A
Mémoire	: 48k ROM 16k ROM à disque 128k RAM vidéo 128k RAM utilisateur
Processeur vidéo	: V9938
Controle MSX	: S-3527
Lecteur de disquette	: 3.5", 0.5 MB
Interfaces	: Sortie RF (Canal UHF E36) Sortie monitor SCART Magnétophone cassette 2 poignées Imprimante 2 "slots" cartouche Lecteur externe
Clavier	: QWERTY /20/36 QWERTZ /22/29 AZERTY /39
Tension d'alimentation	: 220V ± 10%, 50 Hz

## D TECHNISCHE DATEN

Mikroprocessor	: Z80A
Speicher	: 48k ROM 16k Disk-ROM 128k Video-RAM 128k Gebruikers-RAM
Videoprocessor	: 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 Kassettschlitze Externes Disk-Laufwerk
Tastatur	: QWERTY /20/36 QWERTZ /22/29 AZERTY /39
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
Interfacce	: Uscita RF (Canale UHF E36) Uscita monitor SCART Registratore a cassetta 2 leve manuali Stampa 2 connettore per cartuccia Connettore disk drive
Tastiera	: QWERTY /20/36 QWERTZ /22/29 AZERTY /39
Tensione d'aliment.	: 220V ± 10%, 50 Hz

Documentation Technique Service Dokumentation Documentazione di Servizio Huolto-Ohje Manual de Servicio Manual de Serviço



"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne".

Subject to modification

4822 727 15735

Printed in The Netherlands

© Copyright reserved

**PHILIPS**

Published by Service Consumer Electronics

```

5   REM ENCODER ADJUSTMENT
10  CLEAR 100, &H9FFF
20  FOR I=0 TO 36
30  AD=&HA000+I
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

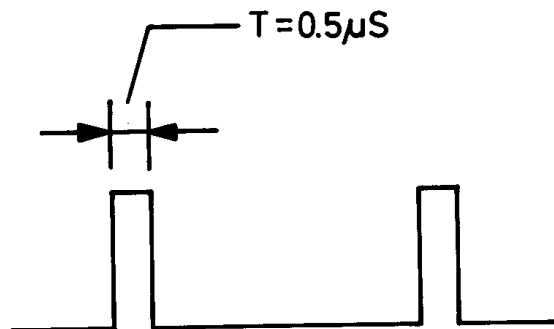
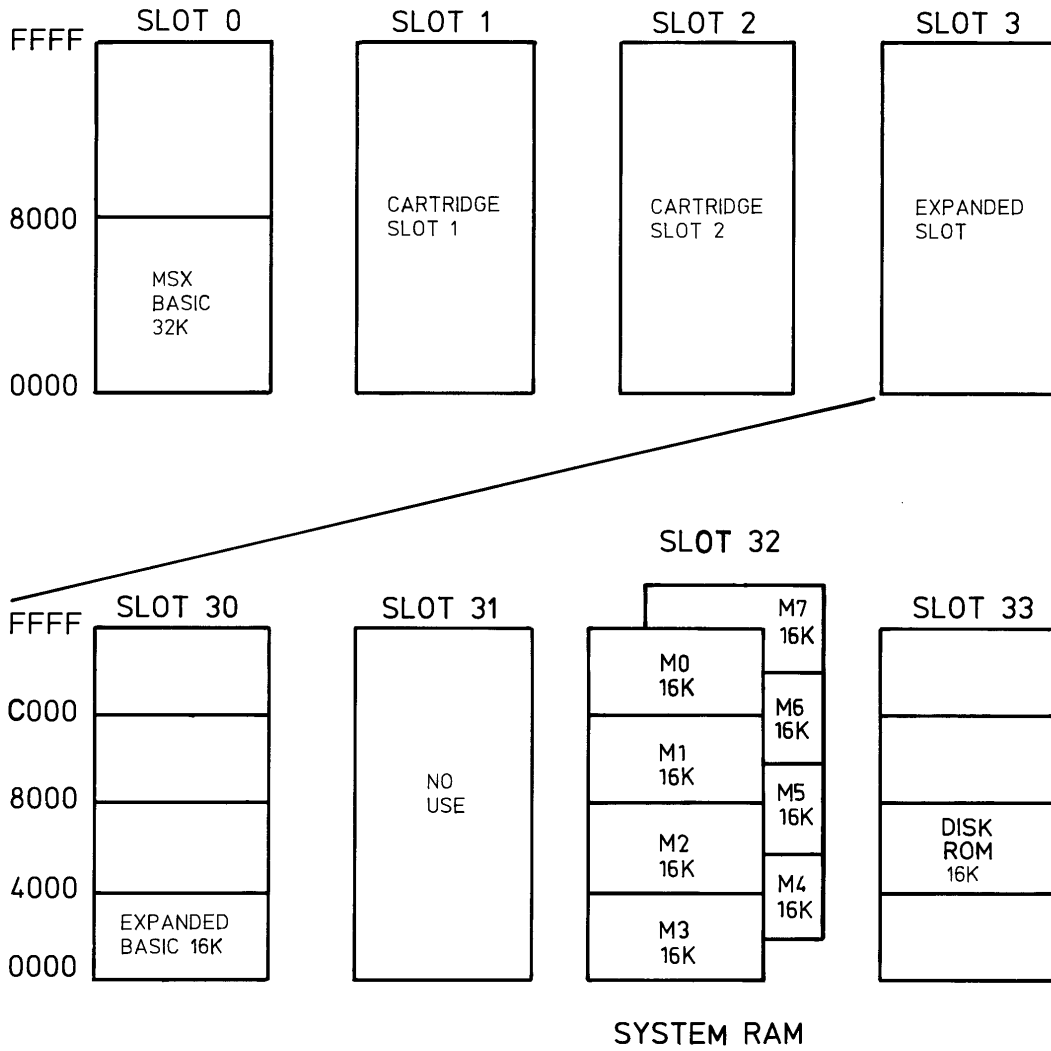
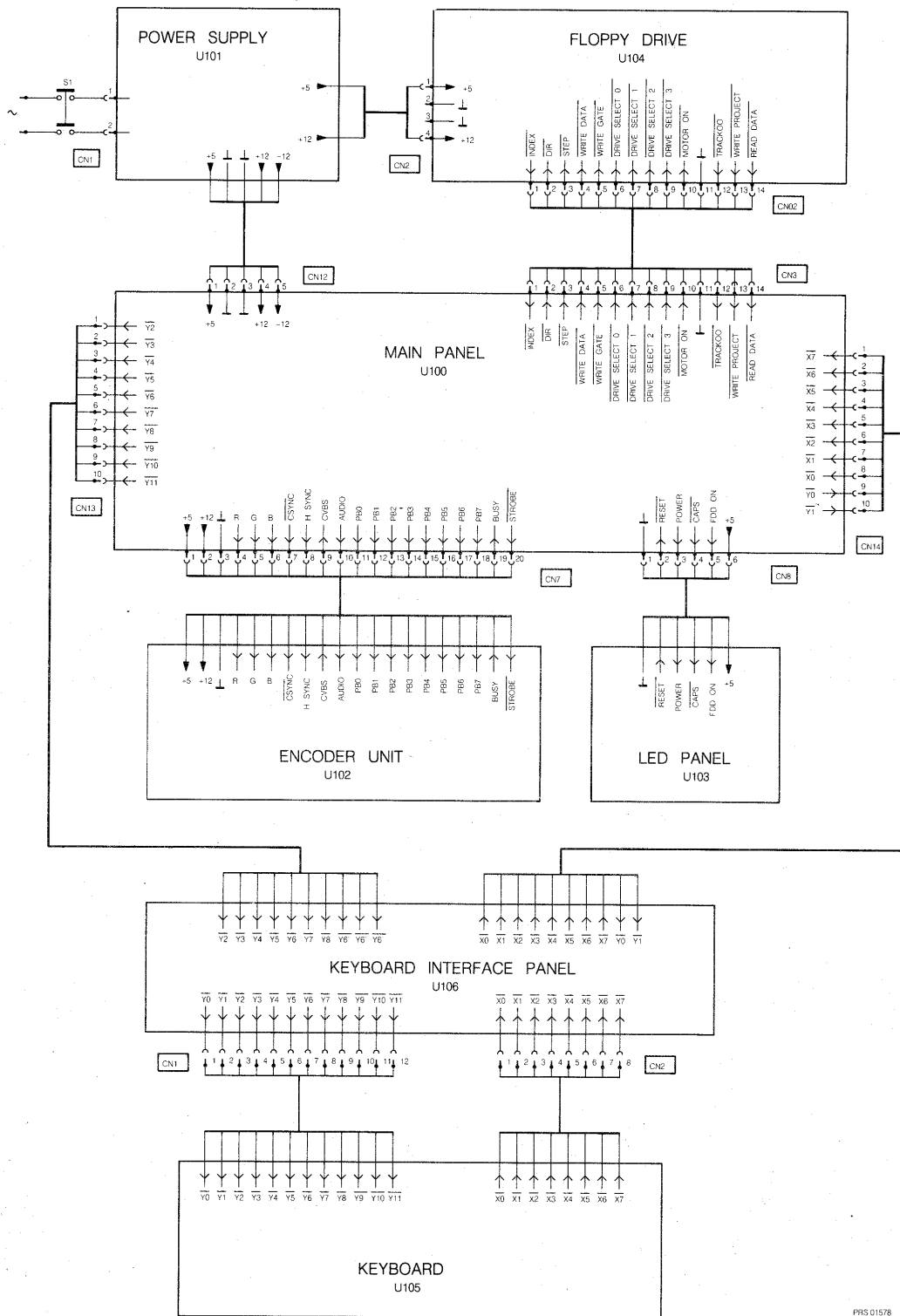


Fig. 1

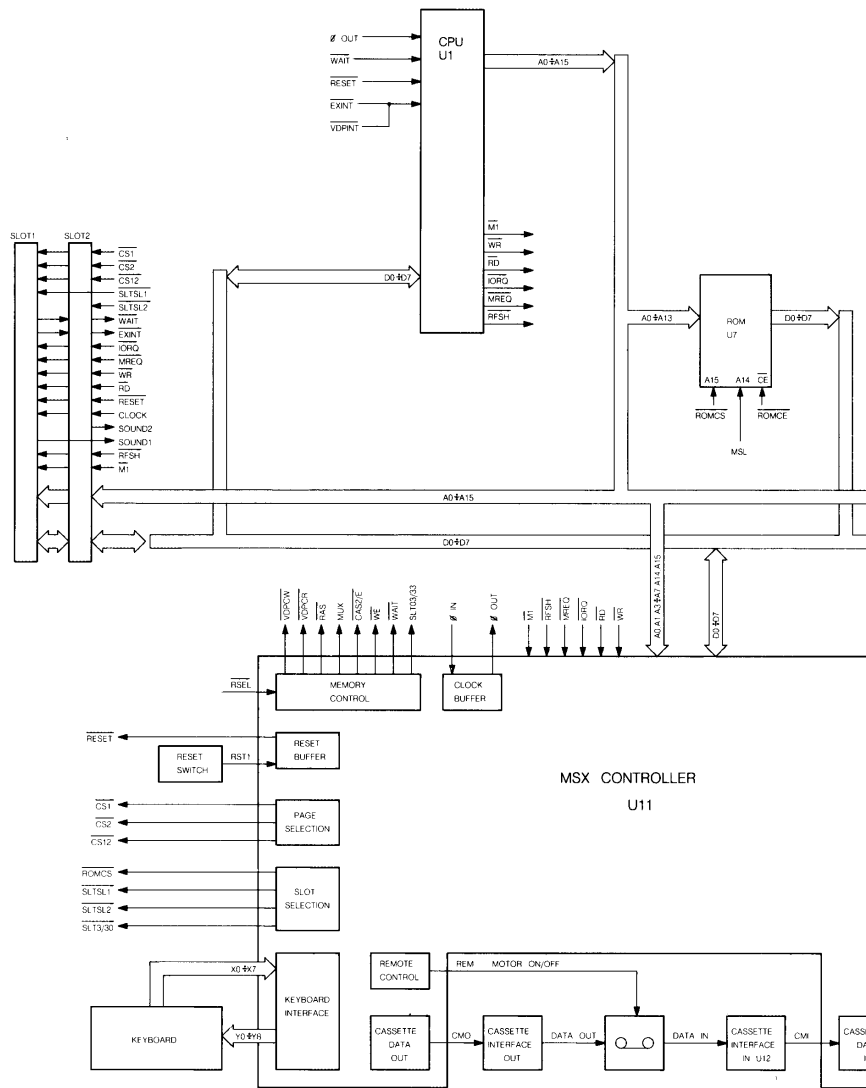
## MEMORY LAY-OUT

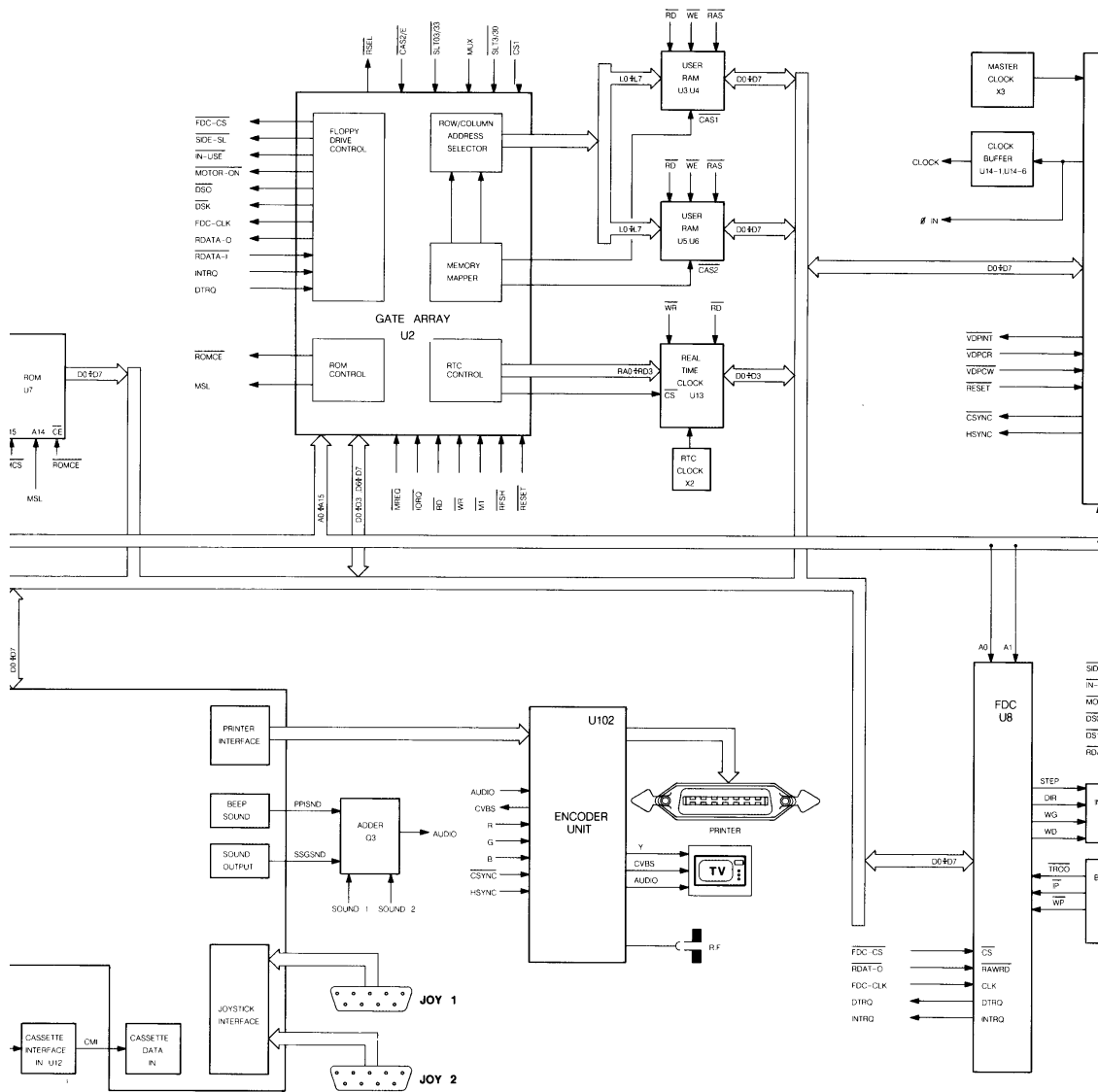


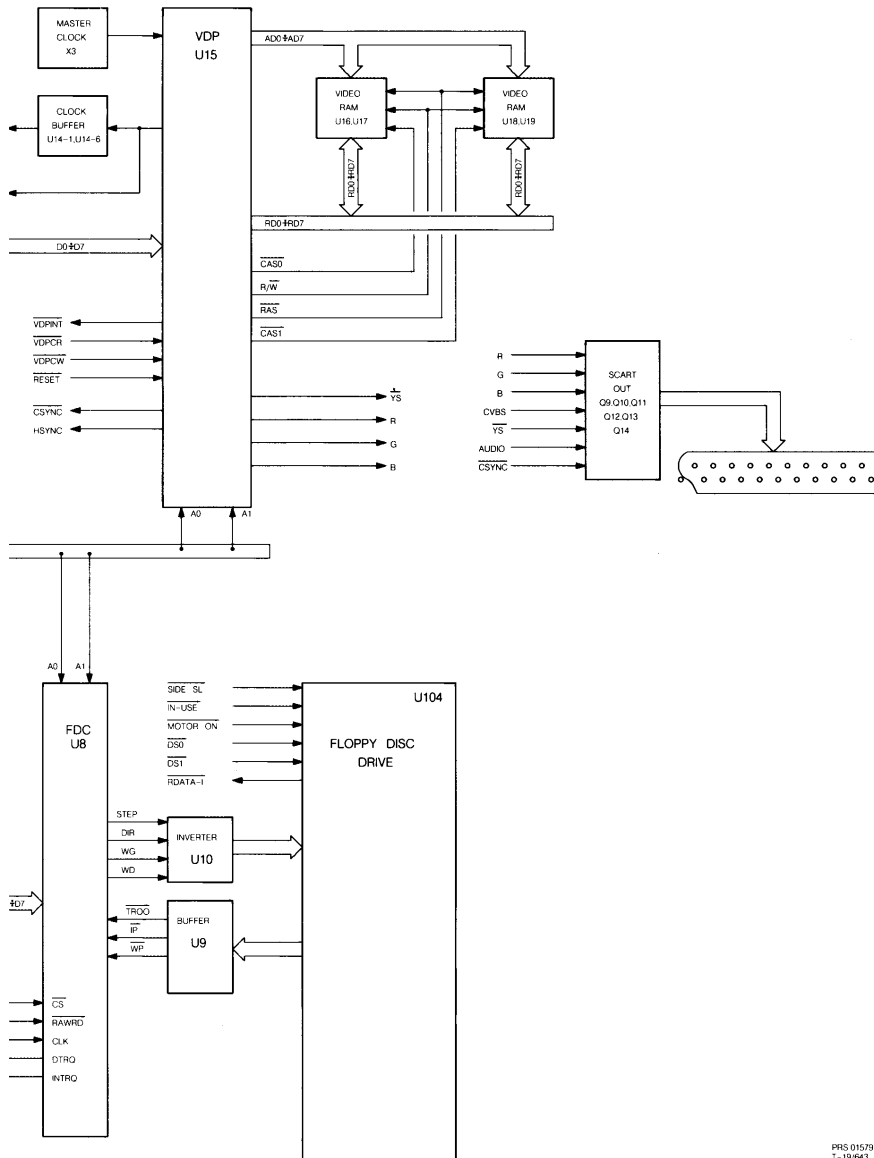


PRS 01578  
T19/634

**FUNCTIONAL DIAGRAM**







PRS 01579  
1-19/643

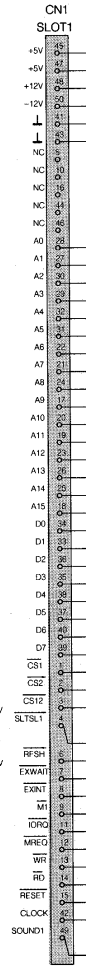
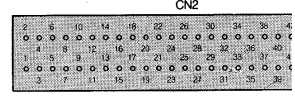
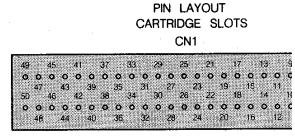
1 2 3 4 5 6 7 8 9 10 11 12

**LAY-OUT KEYBOARD MATRIX FOR FRENCH VERSION**

X0	X1	X2	X3	X4	X5	X6	X7	
0	1	2	3	4	5	6	7	Y0
8	9	0	-	>	DEAD KEY	*	M	Y1
%	^	*	/	+	Q	B		Y2
C	D	E	F	G	H	I	J	Y3
K	L	?	N	O	P	A	R	Y4
S	T	U	V	Z	X	Y	W	Y5
	CTRL	↑		F1	F2	F3		Y6
F4	F5	ESC	TAB	STOP	←	SE-LEFT	→	Y7
SPACE	HOME	INS	DEL	←	↑	↓	→	Y8
↑								Y9
								Y10
								Y11

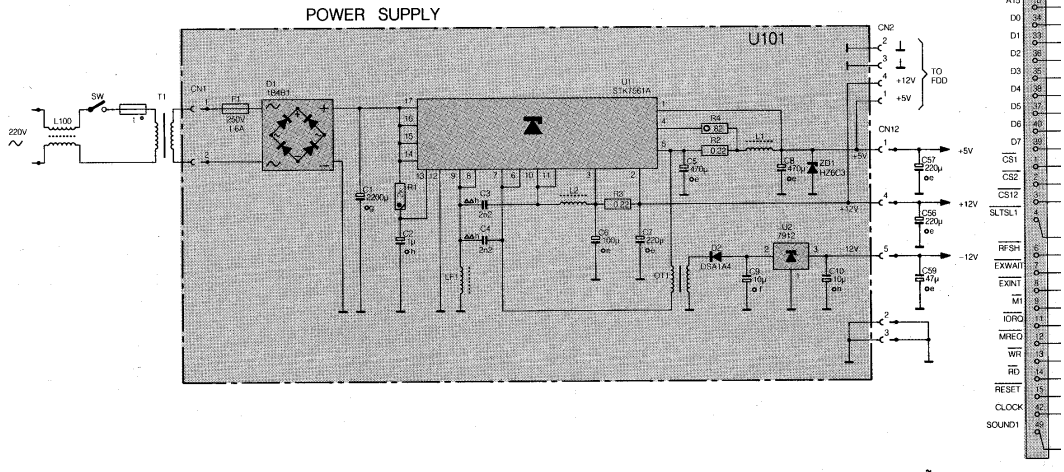
**LAY-OUT KEYBOARD MATRIX FOR GERMAN AND /29 VERSION**

X0	X1	X2	X3	X4	X5	X6	X7	
0	1	2	3	4	5	6	7	Y0
8	9	0	DEAD KEY	>	Ü	*	Ö	Y1
Ä	^	*	/	+	A	B		Y2
C	D	E	F	G	H	I	J	Y3
K	L	M	N	O	P	Q	R	Y4
S	T	U	V	W	X	Z	Y	Y5
	CTRL	↑		F1	F2	F3		Y6
F4	F5	ESC	TAB	STOP	←	SE-LEFT	→	Y7
SPACE	HOME	INS	DEL	←	↑	↓	→	Y8
↑								Y9
								Y10
								Y11



**TYPENUMBERS AND POWERSUPPLY-CONNECTIONS OF IC'S**

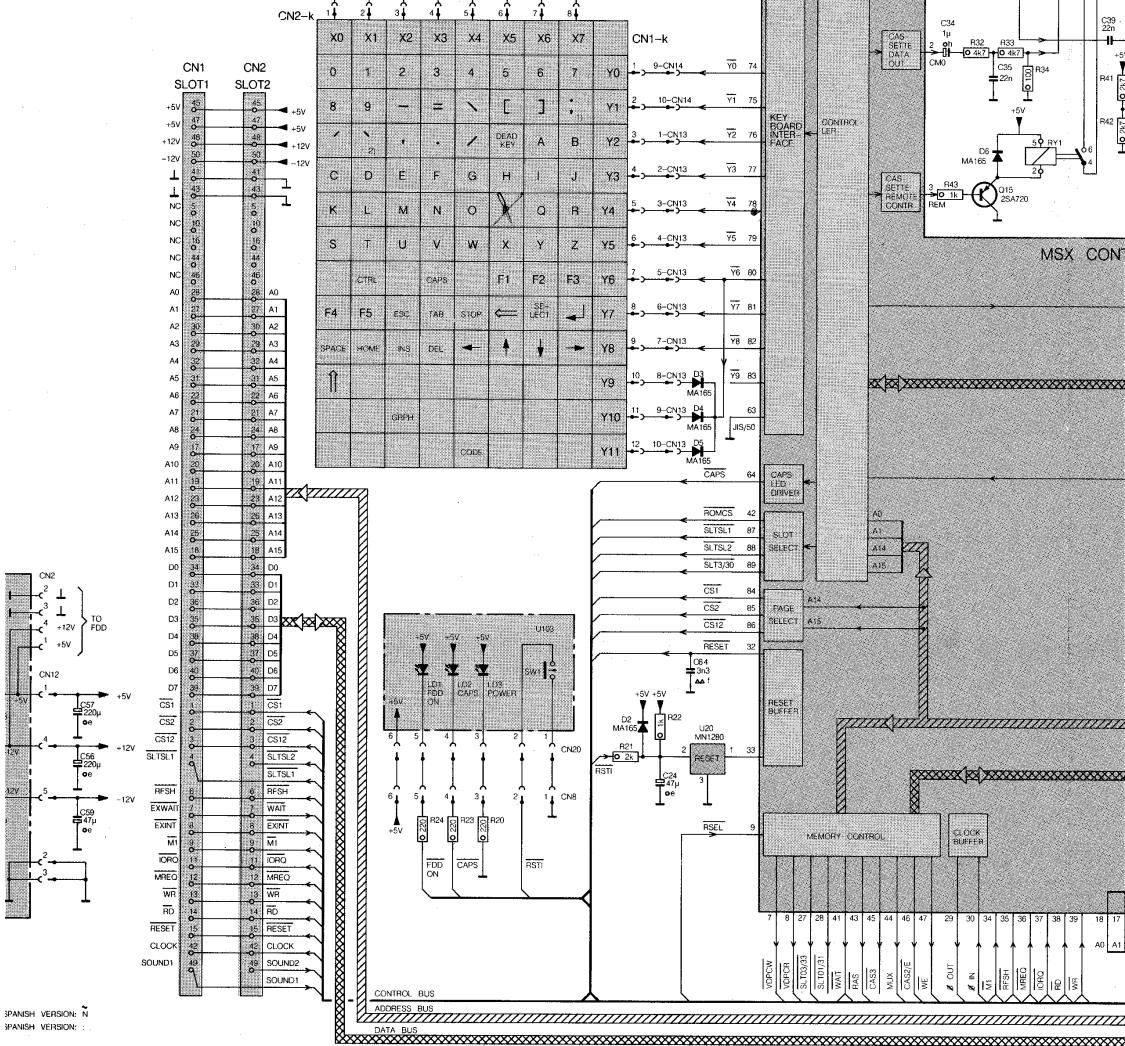
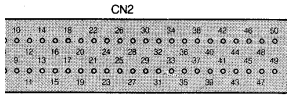
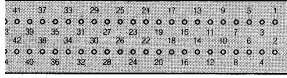
POS.NR.	TYPE	DESCRIPTION	+5V	↓
U9	74LS14	6 ST. INVERTERS	14	7
U10	7418	6 INVERTERS	14	7
U11	74LS14	6 INVERTERS	14	7



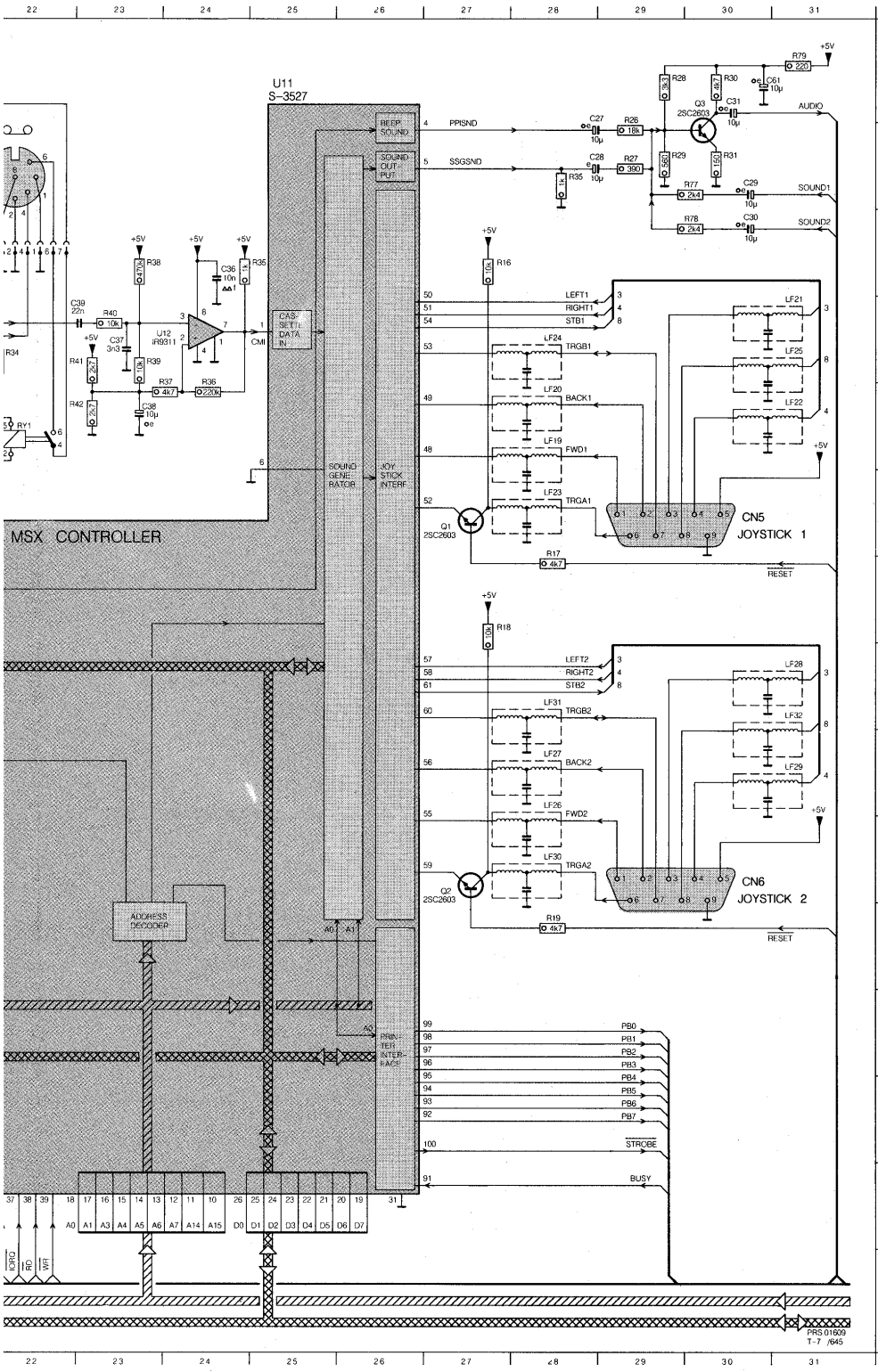
1) IN SPANISH VERSION: N  
2) IN SPANISH VERSION: .



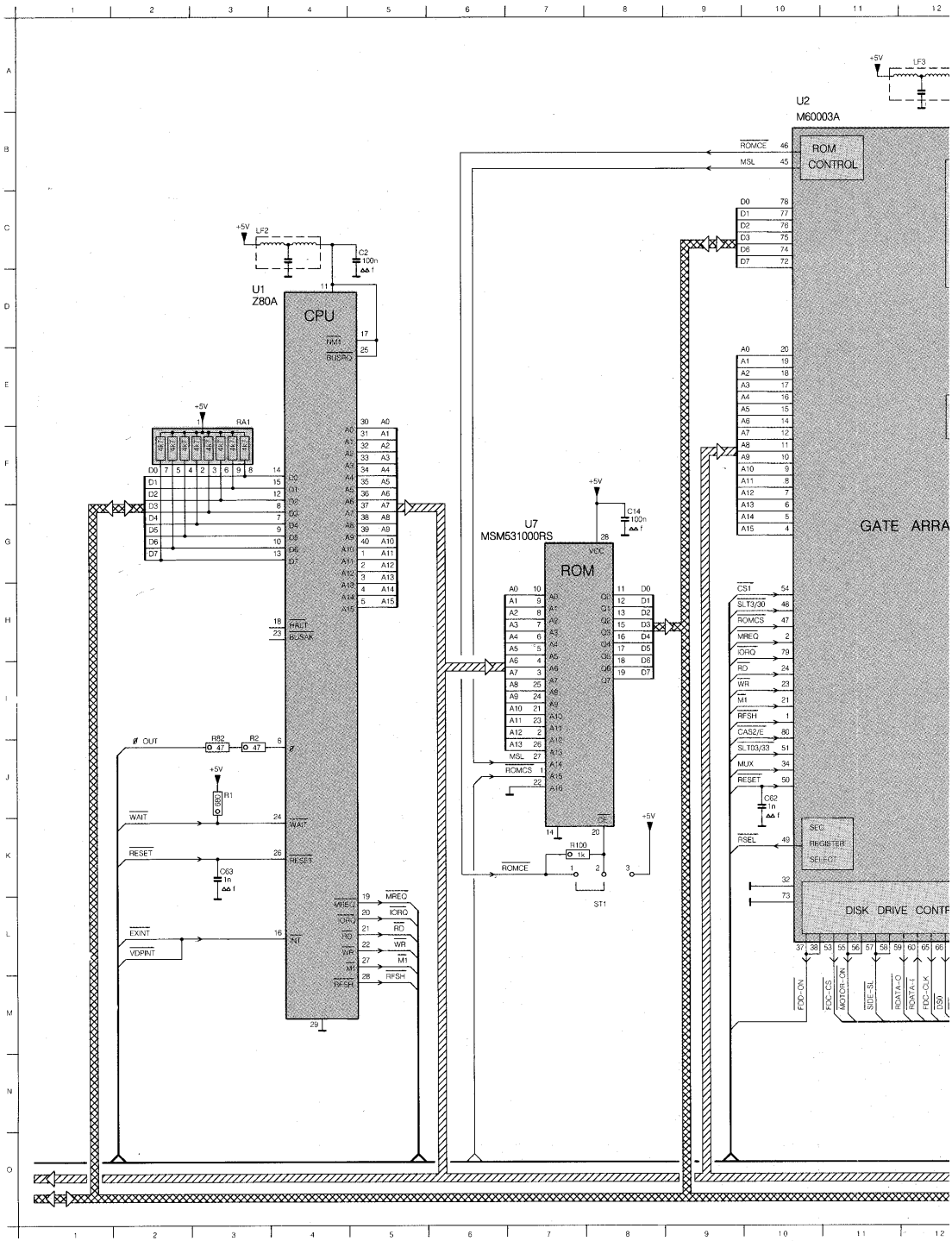
### PIN LAYOUT CARTRIDGE SLOTS



SPANISH VERSION: N  
SPANISH VERSION: . . .



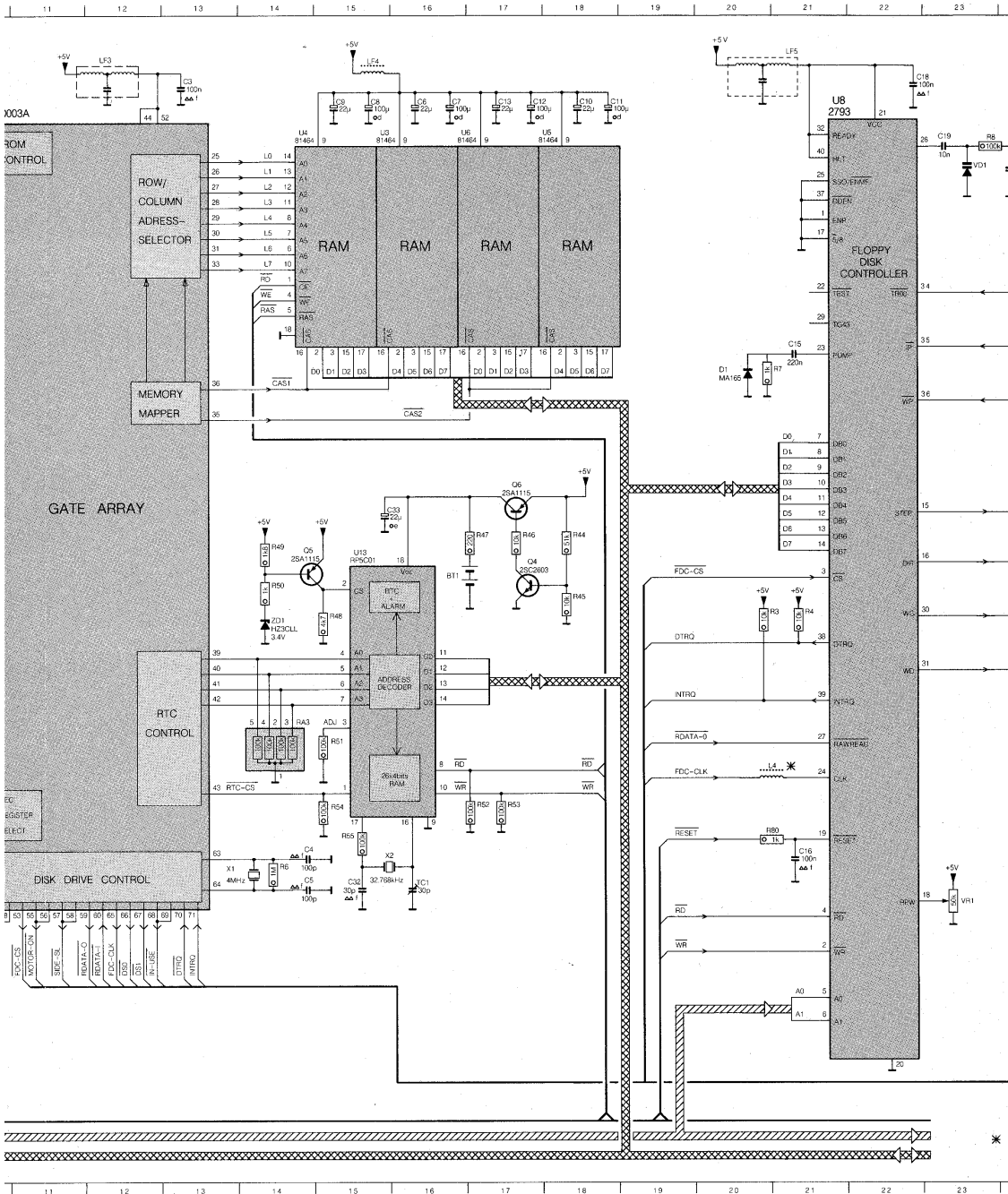
- C1 L 5
- C10 M10
- C2 L 5
- C24 L18
- C26 A21
- C27 A28
- A C28 B28
- C29 R30
- C3 L 6
- C30 C30
- C31 A30
- C34 D21
- C35 D21
- C36 C24
- C37 D23
- C38 E23
- C39 D23
- C4 L 6
- C5 L 8
- C56 L11
- C57 L11
- C59 M11
- C6 L 7
- C61 A31
- C62 K18
- C7 L 8
- C8 L 9
- C9 M 9
- CN1 D12
- CN1 A11
- CN1-k D17
- CN10 C21
- CN1 D13
- CN2 B11
- CN3 F30
- D CN5 J30
- D1 K 4
- D2 L 8
- D2 L17
- D3 H18
- D4 H18
- D5 H18
- D6 E21
- L1 K 9
- E L2 L 7
- LD1 K15
- LD2 K15
- LD3 K16
- LF1 M 5
- LF19 E28
- LF20 E28
- LF21 D31
- LF22 E31
- LF23 F28
- F LF24 D28
- LF25 D31
- LF26 L 28
- LF27 L 28
- LF28 H31
- LF29 L 31
- LF30 J28
- LF31 H28
- LF32 H31
- G LF33 A19
- Q1 M 8
- Q1 F27
- Q15 F21
- Q2 J27
- Q3 A30
- R1 L 5
- R16 C27
- R17 F28
- R18 C27
- H R19 K28
- R2 K 8
- R20 M16
- R21 L17
- R22 L18
- R23 M15
- R24 M15
- R26 A29
- R27 B29
- R28 A29
- R29 B29
- I R3 L 7
- R30 A30
- R31 R30
- R32 D21
- R33 D21
- R34 D22
- R35 C25
- R35 B28
- R36 D24
- J R37 D24
- R38 C23
- R38 D23
- R4 K 8
- R40 D23
- R41 D23
- R42 E23
- R43 E21
- R77 B30
- R78 C30
- K R79 A31
- RA2 A16
- R11 E22
- SW K 2
- SW K16
- T1 K 2
- U1 K 8
- LI03 K16
- L U11 A25
- LI U12 D24
- LI2 L 9
- LI20 L18
- ZD1 L10

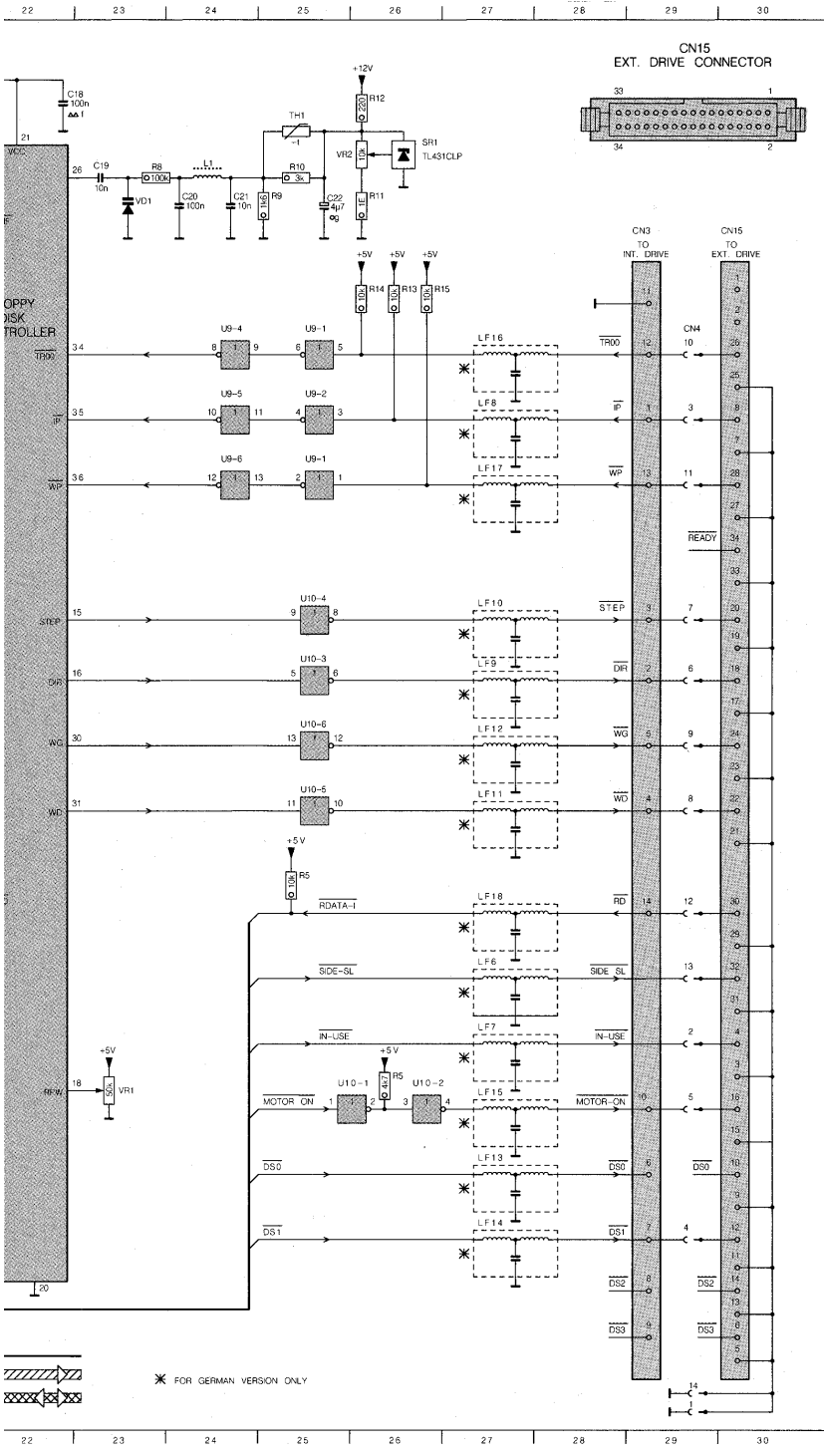


A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O

1 2 3 4 5 6 7 8 9 10 11 12

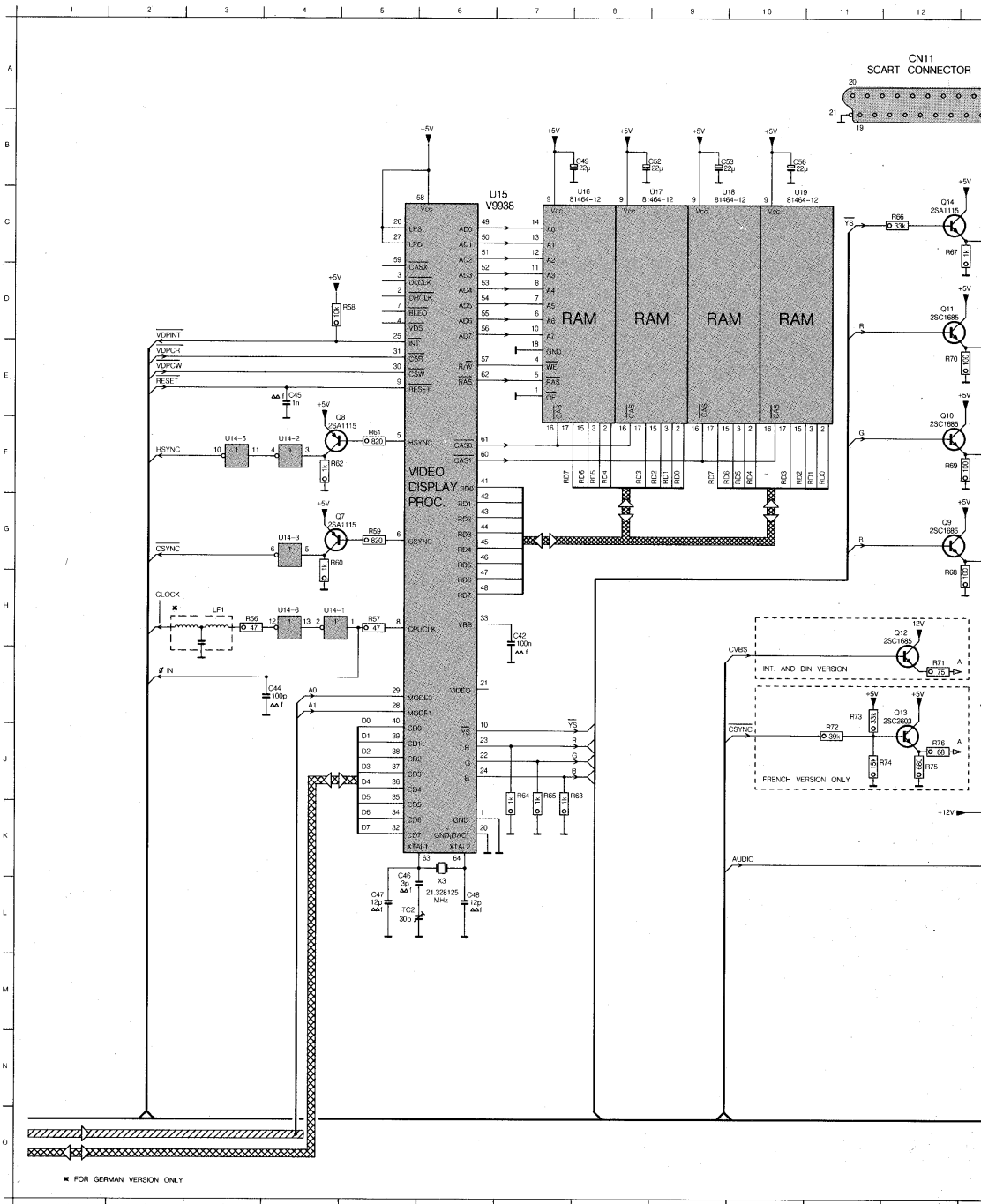
1 2 3 4 5 6 7 8 9 10 11 12

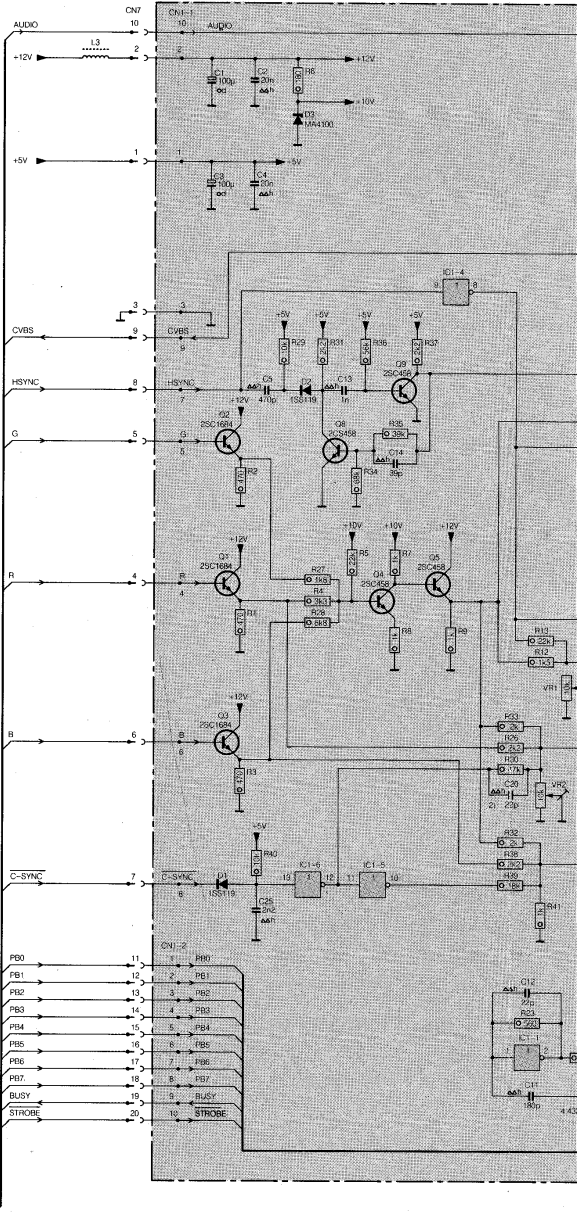
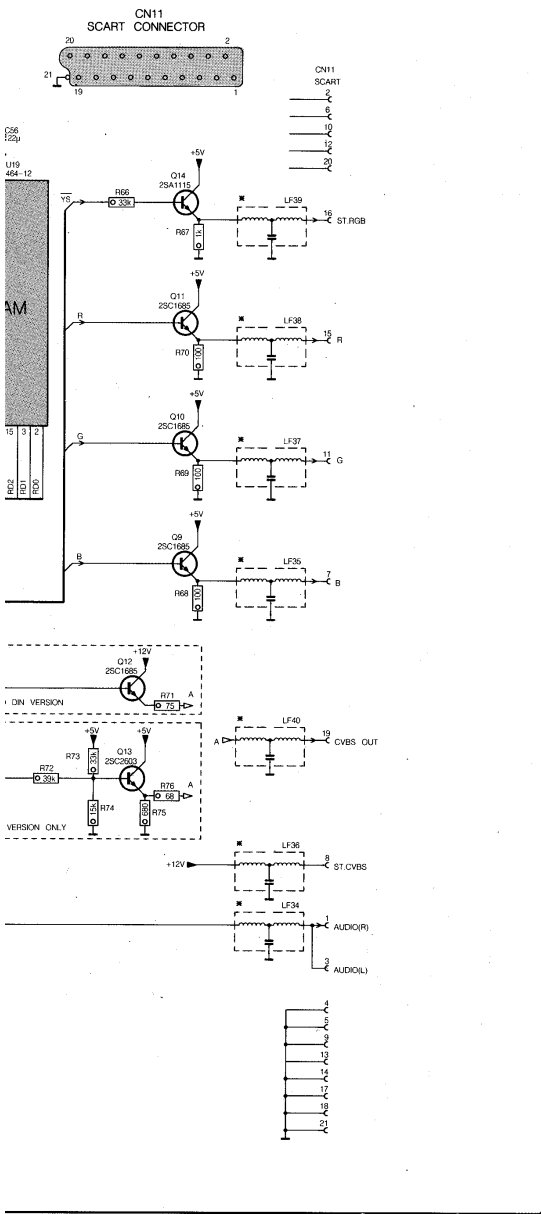




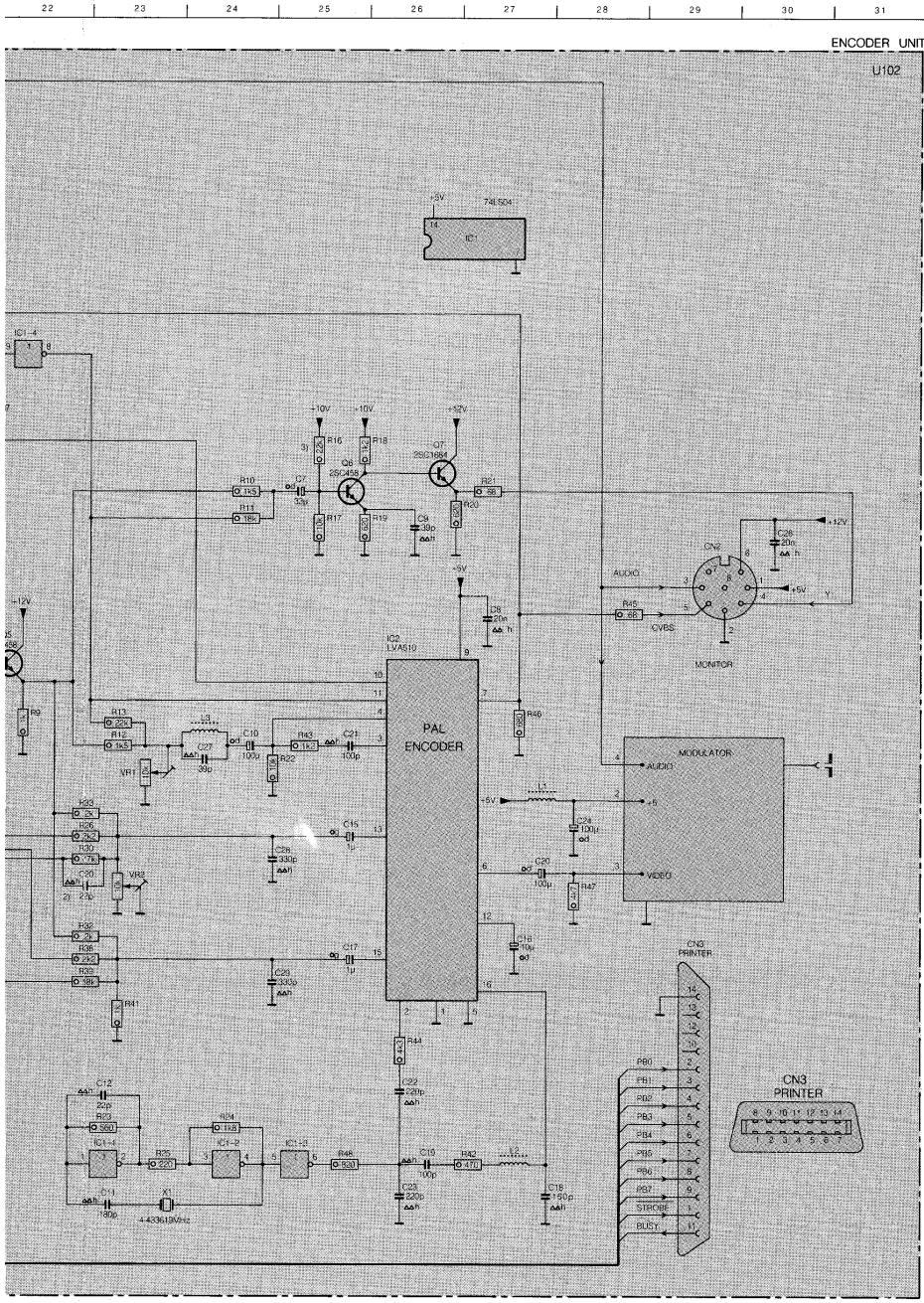
- BT1 H16
- C10 A17
- C11 A18
- C12 A19
- C13 A18
- C14 G 8
- C15 E21
- C16 K21
- C18 A23
- C19 B23
- C2 C 5
- C20 B24
- C21 B24
- C22 B25
- C3 A13
- C32 L15
- C33 G16
- C4 K14
- C5 L14
- C6 A15
- C8 K 3
- C82 J10
- C7 A15
- C8 A16
- C9 A16
- CN15 C30
- CN15 C29
- CN3 C29
- CN4 C29
- D1 E20
- L1 B24
- L4 J21
- LF10 G27
- LF11 I27
- LF12 H27
- LF13 M27
- LF14 M27
- LF15 L27
- LF16 D27
- LF17 E27
- LF18 J27
- LF3 A12
- LF4 A15
- LF5 A21
- LF6 K27
- LF7 K27
- LF8 D27
- LF9 G27
- Q4 H17
- Q5 G14
- Q6 F17
- R1 J 3
- R10 B25
- R11 B26
- R12 A26
- R13 C26
- R14 C26
- R15 C27
- R2 I 3
- R3 H21
- R4 H21
- R44 G18
- R45 H18
- R46 G17
- R47 G17
- R48 H15
- R49 G14
- R5 A15
- R50 H14
- R51 J15
- R52 K17
- R53 K17
- R54 K15
- R55 K15
- R6 L14
- R7 E21
- R8 B23
- R80 K21
- R81 L27
- R82 I 3
- R83 B25
- RA1 E 3
- RA3 J14
- SR1 B26
- TC1 L16
- TH1 A25
- U1 O 3
- U10-1 L26
- U10-2 L26
- U10-3 G25
- U10-4 G25
- U10-5 J25
- U10-6 H25
- U13 G15
- U2 A10
- U3 B14
- U4 B16
- U5 B17
- U6 B18
- U7 G 7
- U9-1 E25
- U9-2 D25
- U9-3 D25
- U9-4 D24
- U9-5 D24
- U9-6 E24
- VD1 B23
- VR1 L23
- VR2 G25
- X1 L13
- X2 K16
- ZD1 H 4

PRS 01626  
T-7 /643







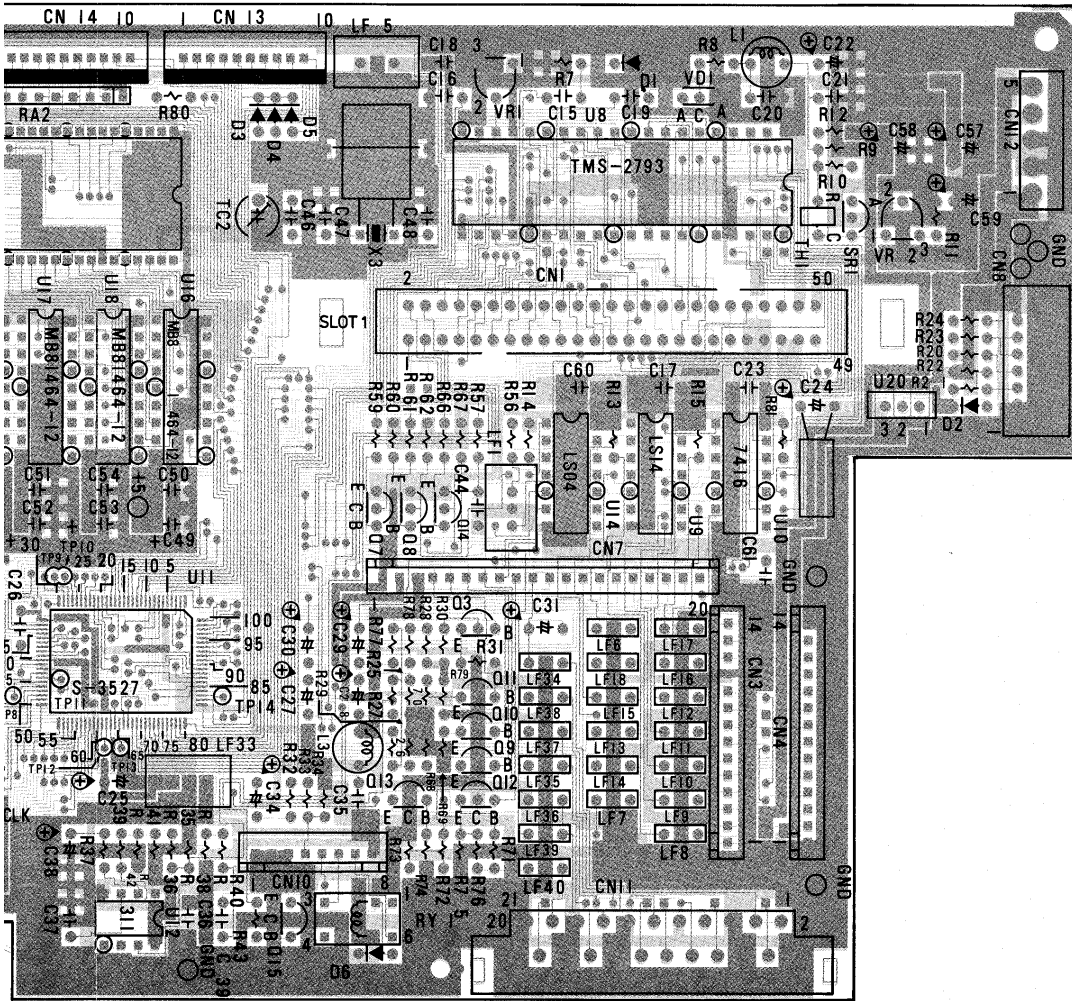


C1	A19	VR1	I 23
C10	H24	VR2	J 23
C11	M23	X1	M 3
C12	L23	X3	L 6
C13	E21		
C14	F 1		
C15	I 25		
C16	J 27		
C17	J 25		
C18	M 28		
C19	M 25		
C2	A 20		
C20	J 22		
C21	H 25		
C22	L 26		
C23	M 26		
C24	I 28		
C25	K 20		
C26	F 30		
C27	H 24		
C28	I 25		
C29	K 25		
C3	C 19		
C4	C 20		
C42	H 7		
C44	I 4		
C45	E 4		
C46	K 5		
C47	L 5		
C48	L 5		
C49	B 8		
C5	E 20		
C52	B 9		
C53	B 10		
C7	E 25		
C8	G 27		
C9	F 26		
D1	K 19		
D2	E 20		
D3	B 20		
L1	I 27		
L2	M 27		
L3	H 24		
L3	A 18		
LF 1	H 3		
LF 34	K 14		
LF 35	G 14		
LF 36	J 14		
LF 37	F 14		
LF 38	D 14		
LF 39	G 14		
LF 40	I 14		
Q1	G 19		
Q10	E 12		
Q11	D 12		
Q12	H 12		
Q13	I 12		
Q14	C 12		
Q15	E 19		
Q3	I 19		
Q4	E 12		
Q5	G 22		
Q6	E 25		
Q7	E 25		
Q8	F 5		
Q9	E 21		
Q9	G 12		
R1	H 20		
R10	F 24		
R11	F 24		
R12	H 23		
R13	H 23		
R16	E 25		
R17	F 25		
R18	E 26		
R19	F 26		
R20	F 27		
R21	F 27		
R22	H 25		
R23	L 23		
R24	L 24		
R25	M 23		
R26	I 22		
R27	G 20		
R28	H 20		
R29	E 20		
R3	J 20		
R30	I 22		
R31	E 20		
R32	J 22		
R33	L 22		
R34	F 21		
R35	E 21		
R36	E 21		
R37	E 22		
R38	J 22		
R39	K 22		
R4	G 20		
R40	J 20		
R41	K 23		
R42	M 27		
R43	H 25		
R44	K 28		
R45	G 28		
R46	H 27		
R47	J 28		
R48	M 25		
R5	G 21		
R56	H 3		
R57	H 5		
R59	G 5		
R6	A 20		
R60	C 5		
R61	F 5		
R62	F 5		
R63	A 8		
R64	J 7		
R65	J 7		
R66	C 12		
R67	C 12		
R68	B 12		
R69	F 12		
R7	G 21		
R70	E 12		
R71	I 12		
R72	I 11		
R73	I 11		
R74	J 12		
R75	J 12		
R76	J 12		
R8	H 21		
R9	H 22		
T 22	L 5		
U14-1	H 4		
U14-2	E 4		
U14-3	G 4		
U14-5	F 3		
U14-6	H 4		
U15	C 7		
U16	C 8		
U17	C 9		
U18	C 10		
U19	C 10		

PRS 01621  
1-7 R09

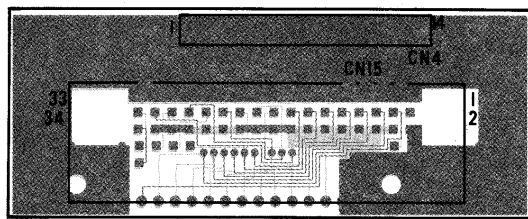






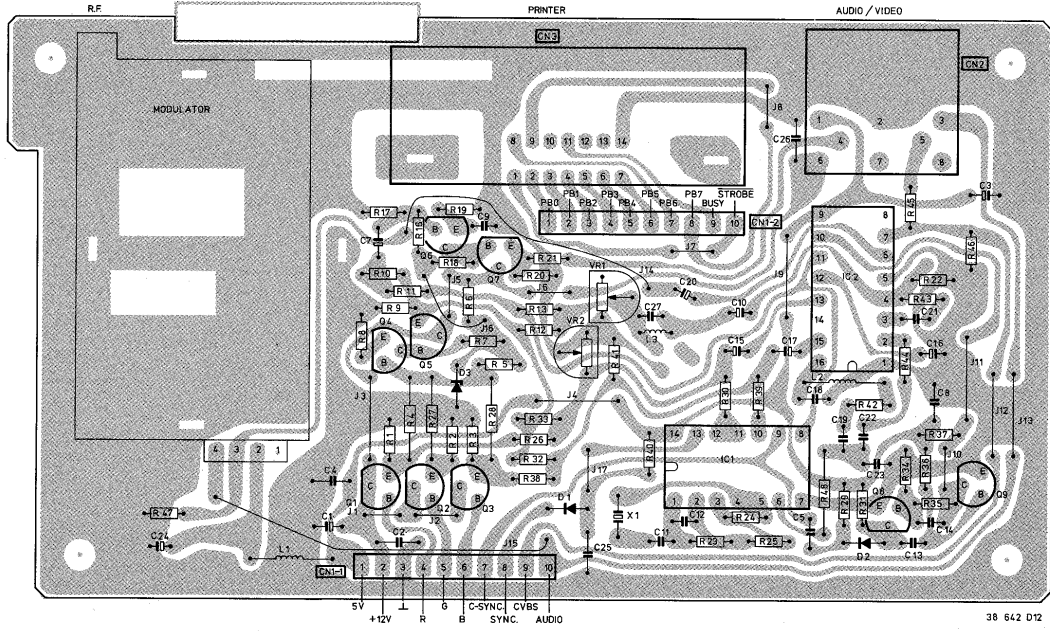
SCART

41 150 D12

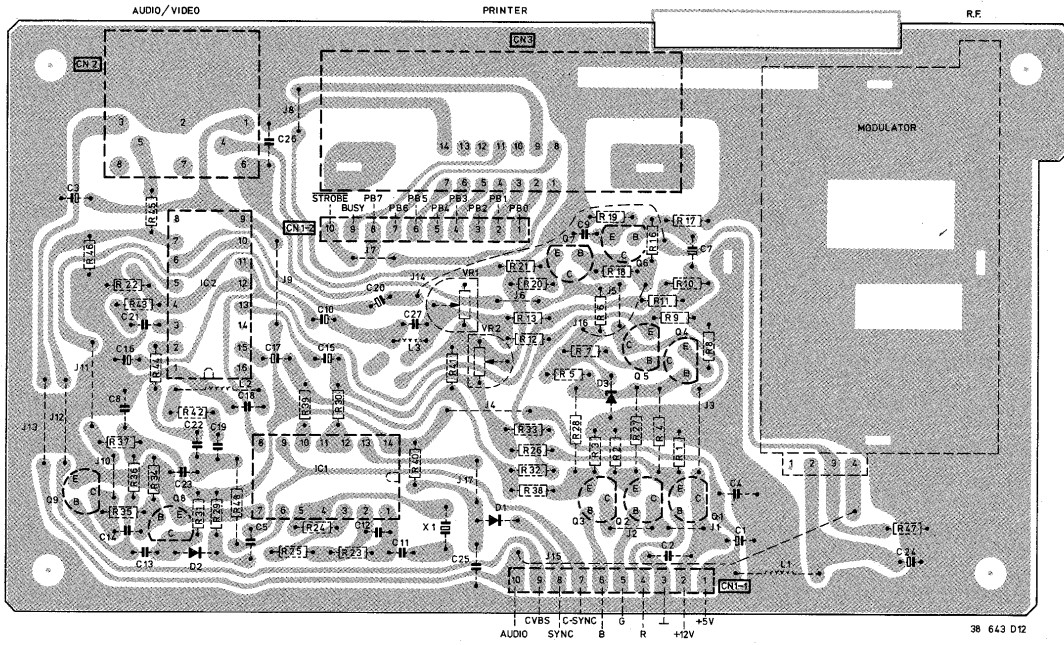


EXT. DRIVE

ENCODER UNIT



# ENCODER UNIT



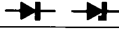


38 643 D12


**MAIN PRINTED BOARD**

U100	Main printed board /20 Main printed board /22 Main printed board /36 Main printed board /39	4822 212 22648 4822 212 22649 4822 212 22694 4822 212 22651	D1-D6 ZD1 SR1 VD1	MA165 HZ3CLL TL431C Vari. cap SVC203-M	4822 130 32362 4822 130 33009 4822 130 80124 4822 125 11009
U1	Z80A	4822 209 10569	C6,C9, C10,C13	Tantal 22 µF 16 V	4822 124 10527
U2	M60003A	4822 209 71325	C15	Mylar 220 nF 50 V	4822 121 42931
U3	81464-12	4822 209 83426	C19,C21	Mylar 10 nF 50 V	4822 121 90038
U4	81464-12	4822 209 83426	C35,C39	Mylar 22 nF 50 V	4822 121 42417
U5	81464-12	4822 209 83426	C37,C64	Mylar 3n3 50 V	4822 121 42784
U6	81464-12	4822 209 83426	C49,C52, C53,C56	Tantal 22 µF 16 V	4822 124 10527
U7	ROM /20 ROM /22/29 ROM /36 ROM /39	4822 209 51206 4822 209 51208 4822 209 51215 4822 209 51207	TC1,TC2	Trimmer 30 pF	4822 125 50299
U8	2793	4822 209 11146	<b>FILTER</b>		
U9	74LS14	4822 209 83427	LF1, LF6-LF18, LF34-LF40	Filter C = 100 pF	4822 157 52361
U10	7416	4822 209 71326	LF2-LF5, LF33	Filter C = 22 nF	4822 157 52666
U11	S-3527	4822 209 11097	LF19-LF32	Filter C = 270 pF	4822 157 52381
U12	UPC311	5322 209 85503	<b>VARIOUS</b>		
U13	RP5C01	4822 209 83431	X1	4 MHz	4822 242 71665
U14	74LS04	5322 209 81625	X2	32.768 kHz	4822 242 71345
U15	V9938	4822 209 83425	X3	21.328125 MHz	4822 242 71347
U16	81464-12	4822 209 83426	BT1	NI-CD accumulator	4822 138 10172
U17	81464-12	4822 209 83426	RY1	Relay	4822 280 20166
U18	81464-12	4822 209 83426	ST1,ST2	Service jumper	4822 276 11572
U19	81464-12	4822 209 83426	L1	Coil	4822 157 52381
U20	MN1280	4822 209 83414			
RA1,RA2	8x4k7	4822 116 90191			
RA3	4x100k	4822 111 91284			
VR1	50k Trimmer	4822 100 11106			
VR2	10k Trimmer	4822 100 11105			
TH1	N.T.C. SDT-100	4822 116 30295			
Q1-Q4	2SC2603	4822 130 42545			
Q5-Q8	2SA1115	4822 130 42759			
Q9-Q12	2SC1685	4822 130 42568			
Q13	2SC2603	4822 130 42545			
Q14	2SA1115	4822 130 42759			
Q15	2SA720A	4822 209 11045			




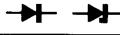

**POWER SUPPLY**

		
U101	Power supply board	4822 212 22652
		
U1	STK7561A	4822 209 71324
U2	7912A	5322 209 81856
		
D1	1B4B1	5322 130 50338
D2	DSA1A4	4822 130 80148
ZD1	HZ6C3	4822 130 80123
<b>VARIOUS</b>		
LF1	Coil	4822 152 10118
CN1	Connector	4822 267 30795
OT1	Transformer	4822 146 21223
R2,R3	0.22Ω 2 W	4822 113 31015


**LED PANEL**

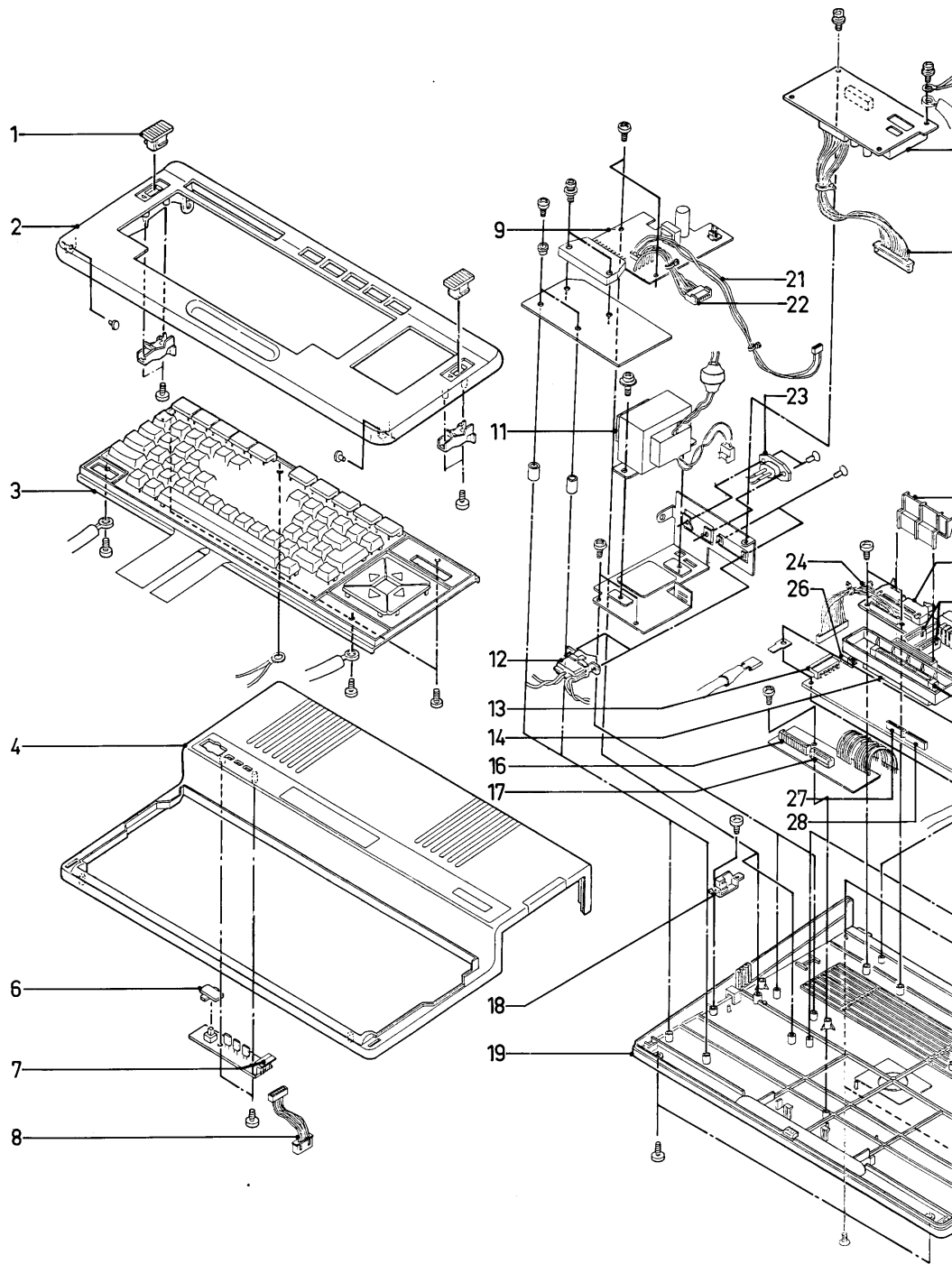
		
LD1	LED yellow	4822 130 32984
LD2	LED green	4822 130 32983
LD3	LED red	4822 130 32982
<b>VARIOUS</b>		
SW1	Reset switch	4822 277 10862
	Reset knob	4822 410 24402

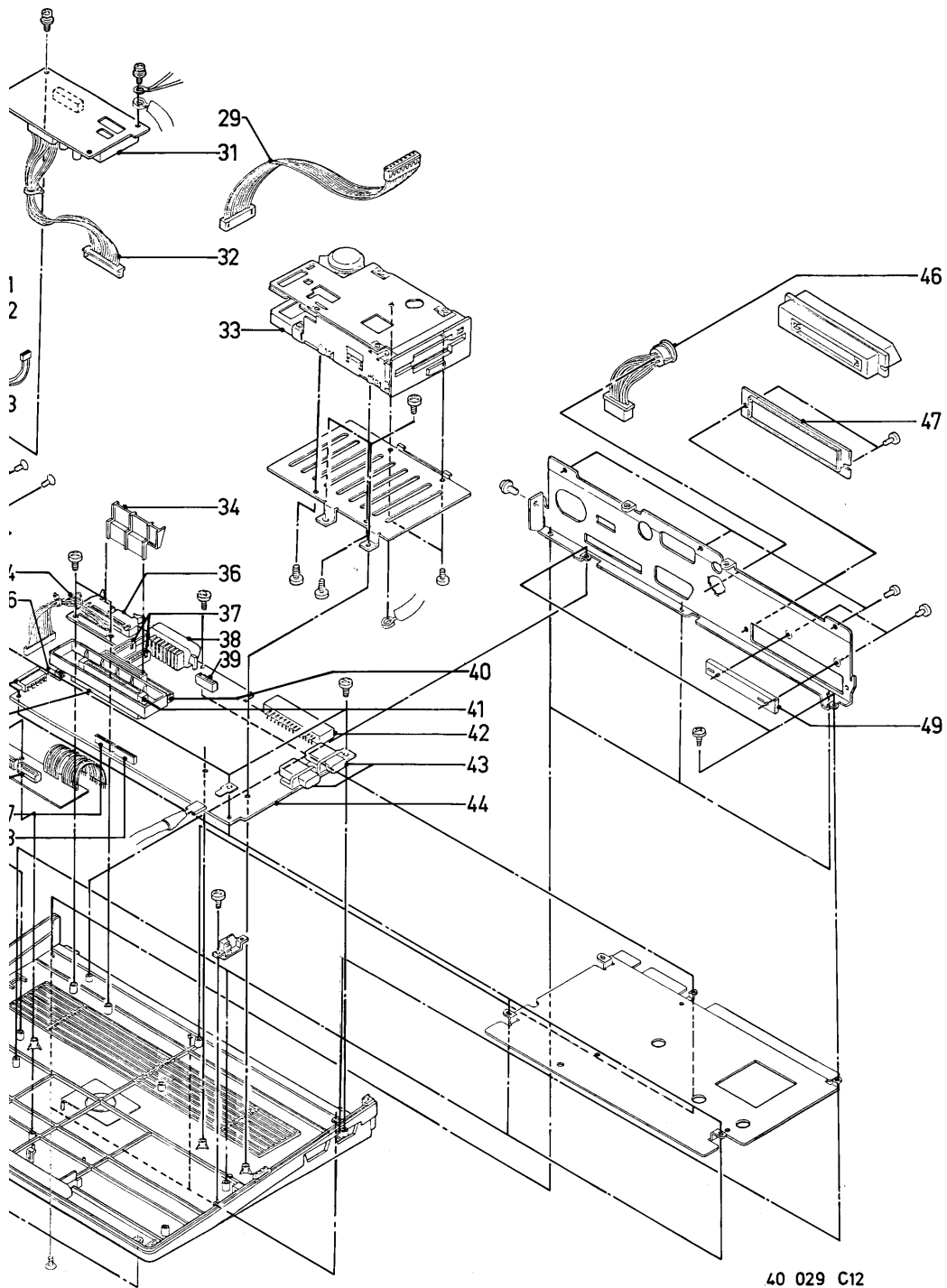
**ENCODER UNIT**

		
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
<b>VARIOUS</b>		
L1,L2	22 μH coil	4822 157 52419
L3	33 μH coil	4822 157 52421
X1	4.433619 MHz Modulator	4822 242 71393 4822 212 10215
CN2	Monitor connector	4822 267 50548
CN3	Printer connector	4822 267 50623

**FLOPPY DISK DRIVE**

		
U104	Floppy disk drive	4822 693 90446





40 029 C12



### MECHANICAL PARTS LIST

1	4822 417 50206	Lock knob
2	4822 219 80662	Keyboard case /20/36
	4822 219 80685	Keyboard case /22/29/39
3	4822 219 80686	Keyboard /20
	4822 219 80687	Keyboard /22/29
	4822 219 80955	Keyboard /36
	4822 219 80688	Keyboard /39
4	4822 432 10553	Cabinet top case
6	4822 410 24402	Reset knob
7	4822 267 40715	Connector
8	4822 321 10479	Connector assy
9	4822 212 22652	Power supply
11	4822 146 21224	Transformer
12	4822 276 11708	Mains switch
13	4822 267 40591	Connector DC power
14	4822 417 30148	Slot guide
16	4822 267 50603	Connector keyboard (12p)
17	4822 267 50602	Connector keyboard ( 8p)
18	4822 417 50207	Lock catch
19	4822 432 10585	Cabinet bottom case
21	4822 321 10476	Connector assy
22	4822 321 10477	Connector assy
23	4822 321 10375	AC inlet
24	4822 321 10475	Connector assy
26	4822 267 40709	Connector LED
27	4822 267 50708	Connector
28	4822 267 50708	Connector
29	4822 267 30685	Connector assy FDD
31	4822 212 22536	Encoder unit
32	4822 267 50622	Connector assy encoder unit
		Floppy drive unit
34	4822 404 60362	Support encoder unit
36	4822 267 50605	EXT. drive connector
37	4822 267 30687	Connector FDD
38	4822 267 50604	SCART connector
39	4822 267 40632	Connector ( 8p)
40	4822 267 60166	Connector (20p)
41	4822 267 60167	Connector 2x25 fold
42	4822 267 70168	Connector 2x25 fold
43	4822 267 50553	Connector joystick
44	4822 212 22648	Main panel /20
	4822 212 22649	Main panel /22
	4822 212 22694	Main panel /36
	4822 212 22651	Main panel /39
46	4822 267 30686	Connector assy
47	4822 432 91854	Slot rear cover
49	4822 404 60339	FDD support

SYMBOLS USED IN CIRCUIT DIAGRAMS

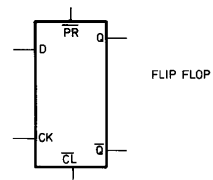
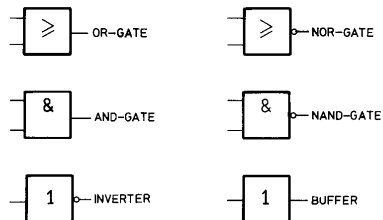
SYMBOL	TYPE	$t_{70^\circ}^P$ amb	TOLERANCE	SERIES
	SFR16T	0.5	1E - 3M 5%	E24
	SFR25H	0.5	1E - 10M 5%	E24
	MRS25	0.6	1E - 1M 1%	E24
	MR30	0.5	1E - 1M 1% (2%)	E24
	VR37	0.5	220K - 33M 5%	E24
	PR37	1.6	1E - 1M 5%	E24
	VR68	1	100K - 68M 5%	E24
	MRS 16T	0.4	10R - 100K	E24/E96

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		

39 301 A13



36 570A12

SYMBOLS USED IN CIRCUIT DIAGRAMS

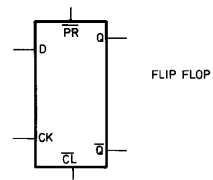
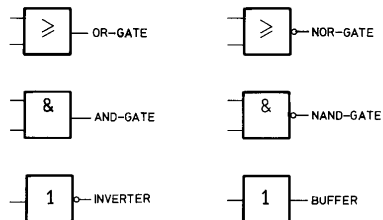
SYMBOL	TYPE	$t_{70^\circ}^P$ amb	TOLERANCE	SERIES
	SFR16T	0.5	1E - 3M 5%	E24
	SFR25H	0.5	1E - 10M 5%	E24
	MRS25	0.6	1E - 1M 1%	E24
	MR30	0.5	1E - 1M 1% (2%)	E24
	VR37	0.5	220K - 33M 5%	E24
	PR37	1.6	1E - 1M 5%	E24
	VR68	1	100K - 68M 5%	E24
	MRS 16T	0.4	10R - 100K	E24/E96

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		

39 301 A13



36 570A12