

(ED125L CONNECTION DIAGRAM)

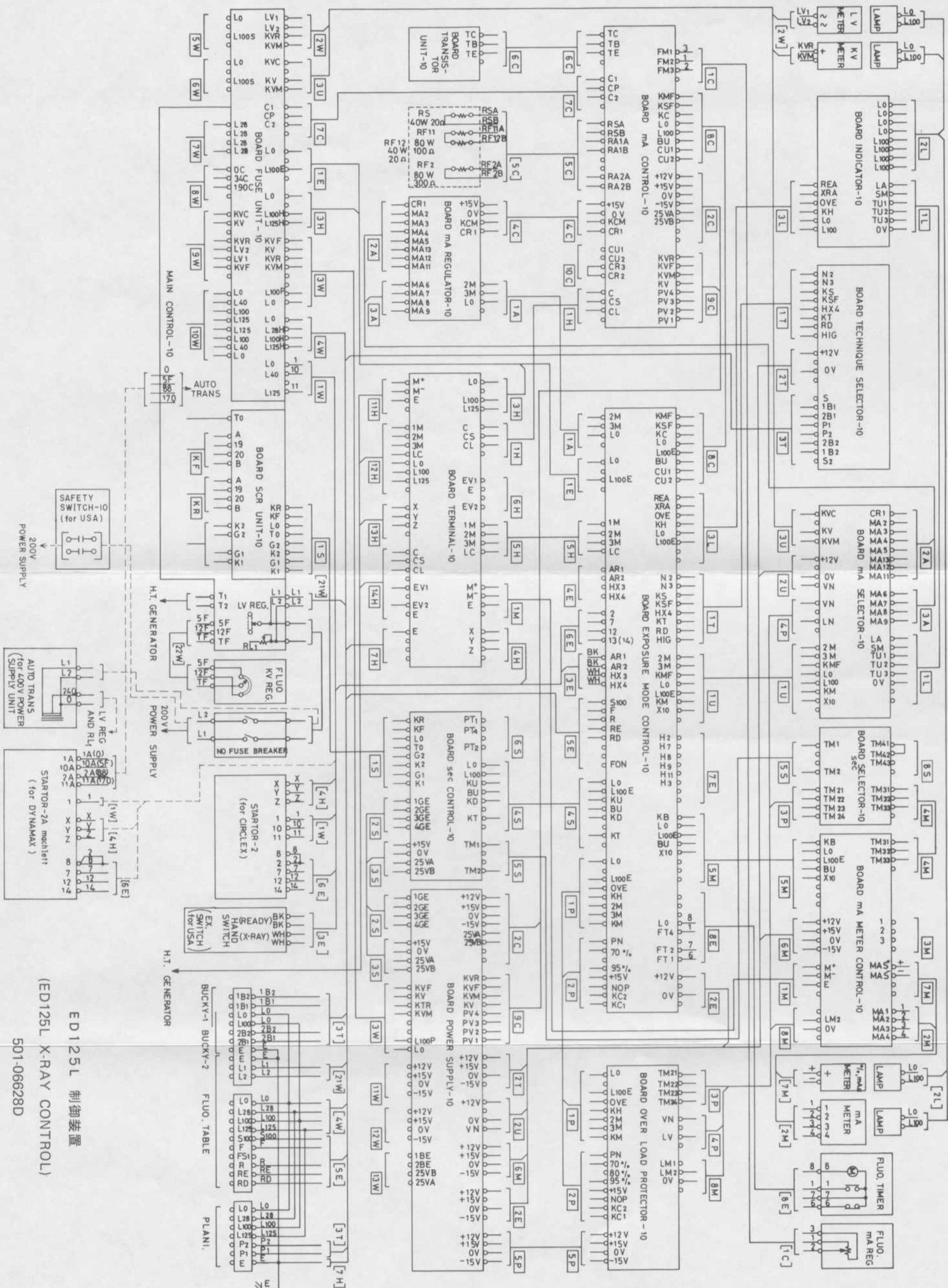
ED125L 接 続 図

(Contents)

目 次

1. ED125L (X-ray control)	ED125L 制御装置	501-06628D
2. (Technique selector-10)	テクニックセレクター 10	501-06654A
3. (mA selector-10)	mA セレクター 10	501-06655
4. (sec selector-10)	sec セレクター 10	501-06656
5. (sec control-10)	sec 制御器 10	501-06657
6. (SCR unit-10)	SCR ユニット 10	501-06658
7. (Indicator-10)	表示器 10	501-06659
8. (Main control-10)	主回路部 10	501-06660
9. (mA regulator-10)	mA 調整器 10	501-06661
10. (mA control-10)	mA 制御器 10	501-06662 1/2, 2/2
11. (Transistor unit-10)	トランジスタユニット 10	501-06663
12. (Ex. mode control-10)	操作回路 10	501-06664
13. (Over load protector-10)	過負荷防止回路 10	501-06665
14. (Power supply-10)	電源部 10	501-06666
15. (mA meter control-10)	電流計回路 10	501-06667
16. (Terminal unit-10)	端子ユニット 10	501-06668
17. (Starter-2)	スタータ 2 形	501-05247
18. (Starter-2A Machlett)	スタータ 2 A 形マーカレット	501-06896
19. (Safety switch-10)	安全スイッチ 10	501-06875
20. D125LE-11, 12, 13	(High tension generator)	
	高電圧発生装置	501-06504

} for USA

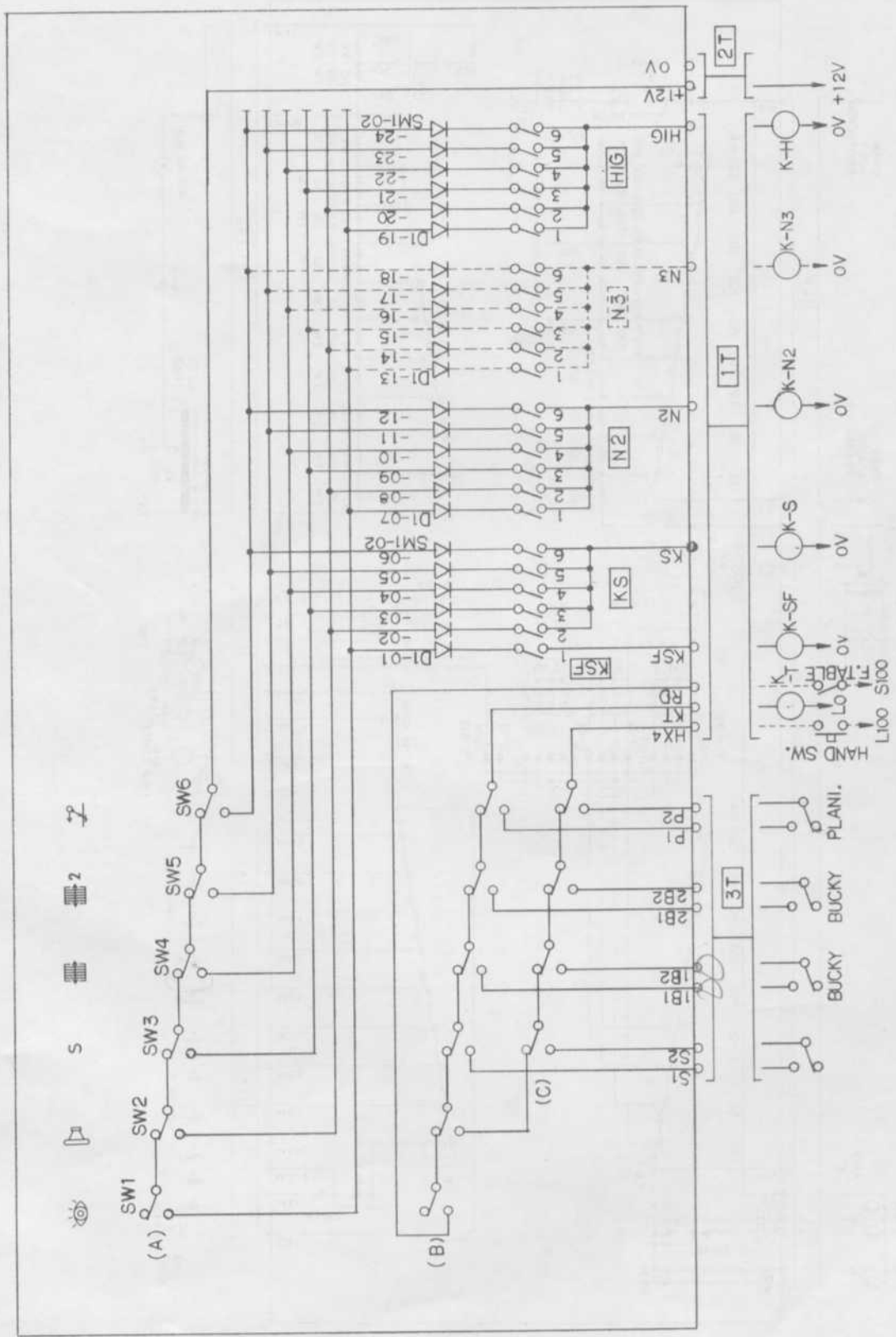


ED125L 制御装置
(ED125L X-RAY CONTROL)

501-06628D

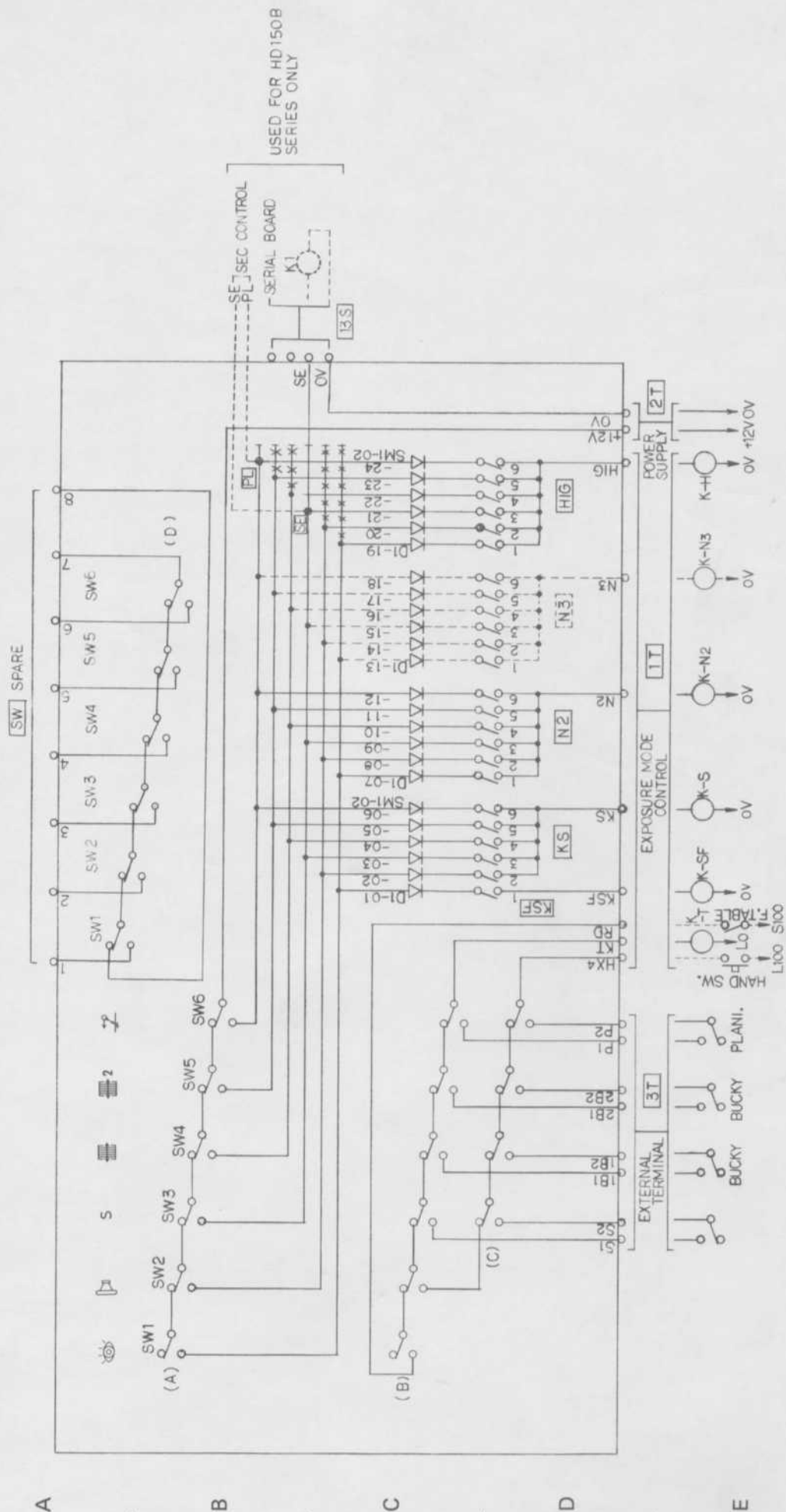
GENERAL EXPOSURE SEQUENCE for the X-RAY GENERATOR MODEL HD150B/B-10, XHD150B-10, ED125L, ED150L, XED150L/L-10, XED125L-10

Ser. No.	PB's Name	Signals Relays	Timing chart	Status to be enegized and function, etc.
1	E. M. C (1)	AR2		H. V. G. OK, $\overline{K2-SF}$ 高圧トランス確認 Energize K1-C K1-C 駆動 K2-S, $\overline{K1-V}$, $\overline{K1-U}$ K2-S ON, K1-V K1-U OFF Boost filament, Start rotor フィラメント加熱スタート Not to make over current when returned from R to F. 速写から透視へ復帰時の過電流保護
2	"	K1-C		
3	"	K2-D		
4	Sec Cont	K1-D1 (K1-D)		
5	Starter-3 (Starter-2)	K3 (R-1)		
6	E. M. C. (1)	K1-RE		Make "READY" lamp on. "READY" 点灯
7	Hand SW.	HX4		
8	Sec Cont	K1-T1		
9	"	K2-T2		
10	"	K3-V11, 12		Make main Thyristor turned on. U-V 間 ON (U-V phase on)
11	"	K3-V13		Make main Thyristor turned on. W 線 ON (W phase on)
12	"	TM-31		
13	"	D6-02		
14	"	D3-03		
15	"	K3-V2		
16	E. M. C. (1)	K1-U		
17	SPT-C10	RE-6		Select the photo-pick up. 受光部選択
18	"	RE-1		
19	"	RE-4		
20	"	RE-2		
21	"	K		Voltage photo current integrated 光信号積分
22	"	Q1-1		
23	"	RE-3		
24	"	Q2		---- If terminated by back up timer ---- バックアップタイマで撮影完了する場合
25	"	BZ		

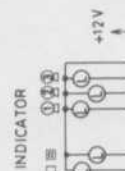


テクニクセレクター 10
 (TECHNIQUE SELECTOR-10)
 501-06654A

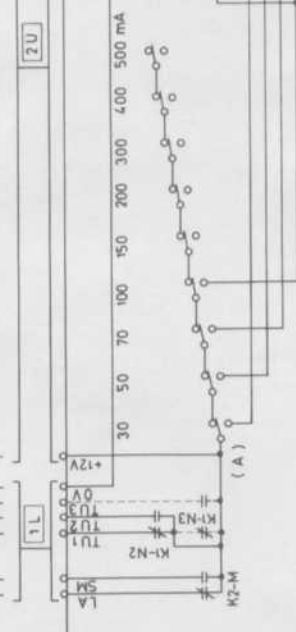
テクニクセクター-10
(TECHNIQUE SELECTOR-10)
501-06654 B



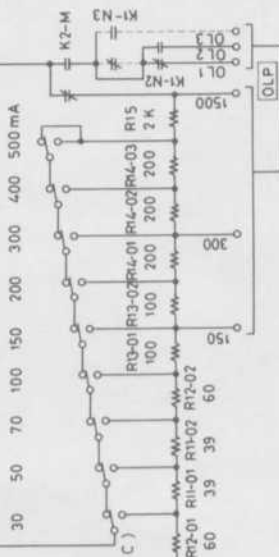
A



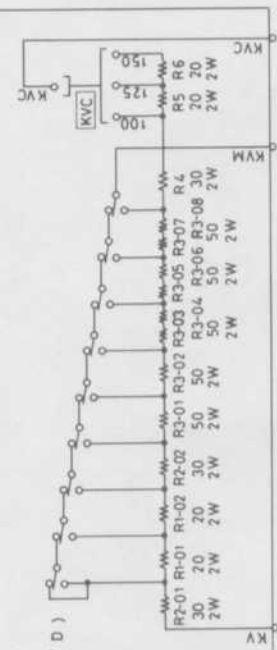
B



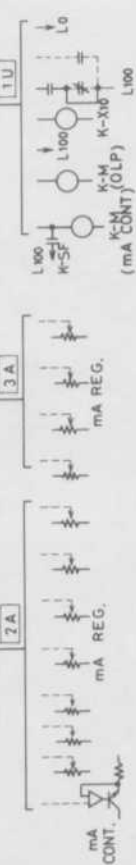
C



D



E

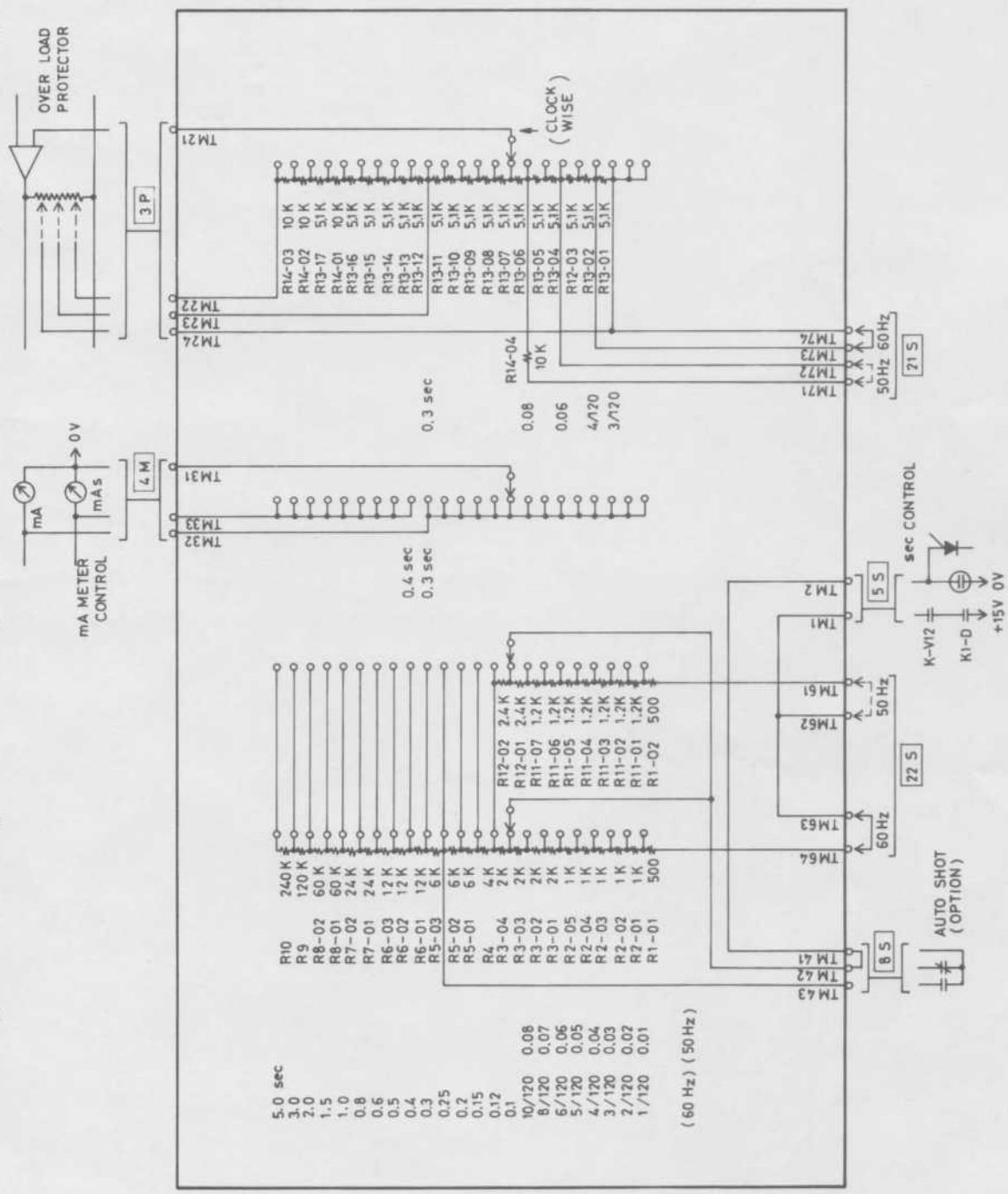


F

mA セレクター 10
(mA SELECTOR-10)
501-06655

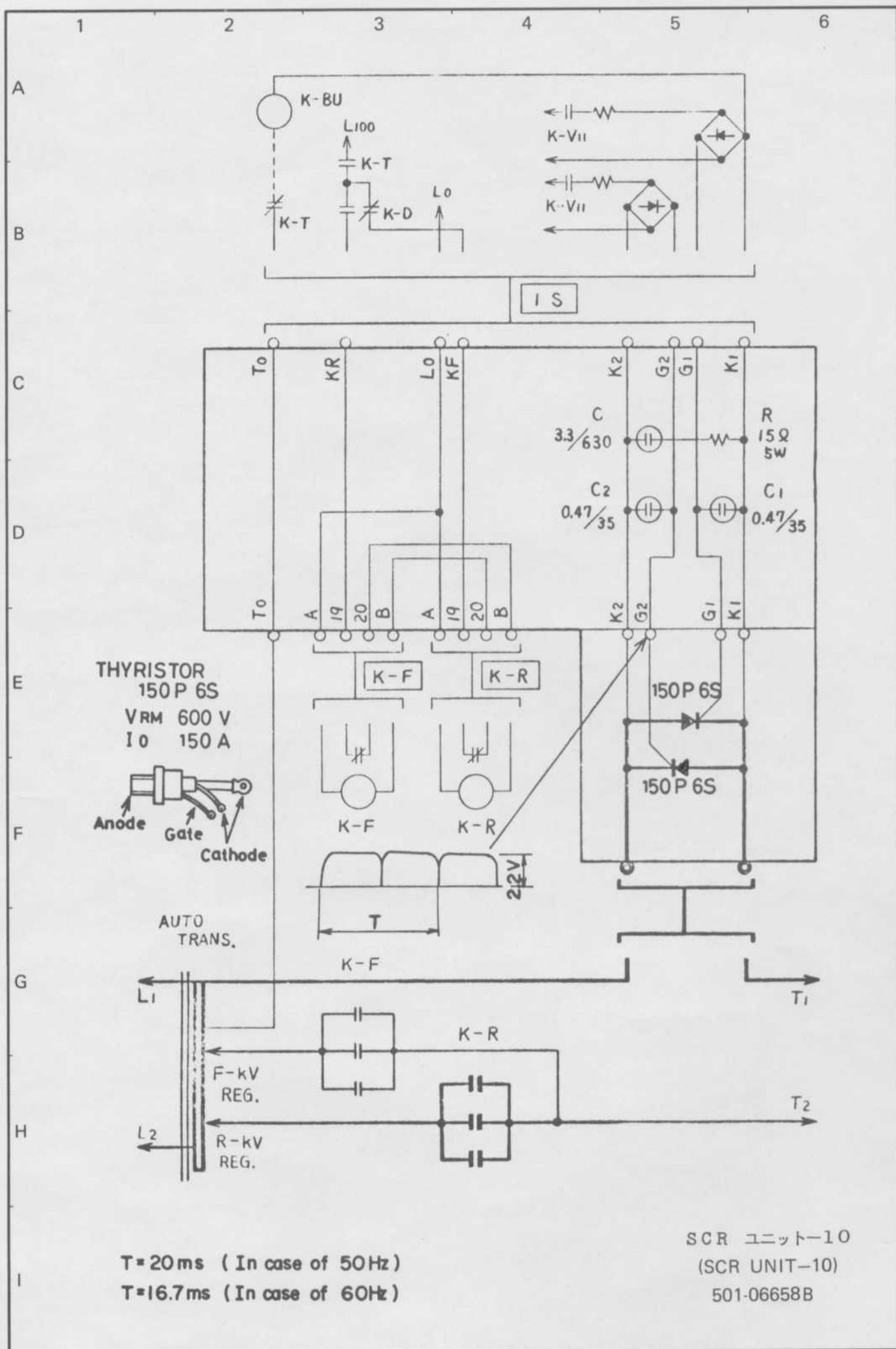


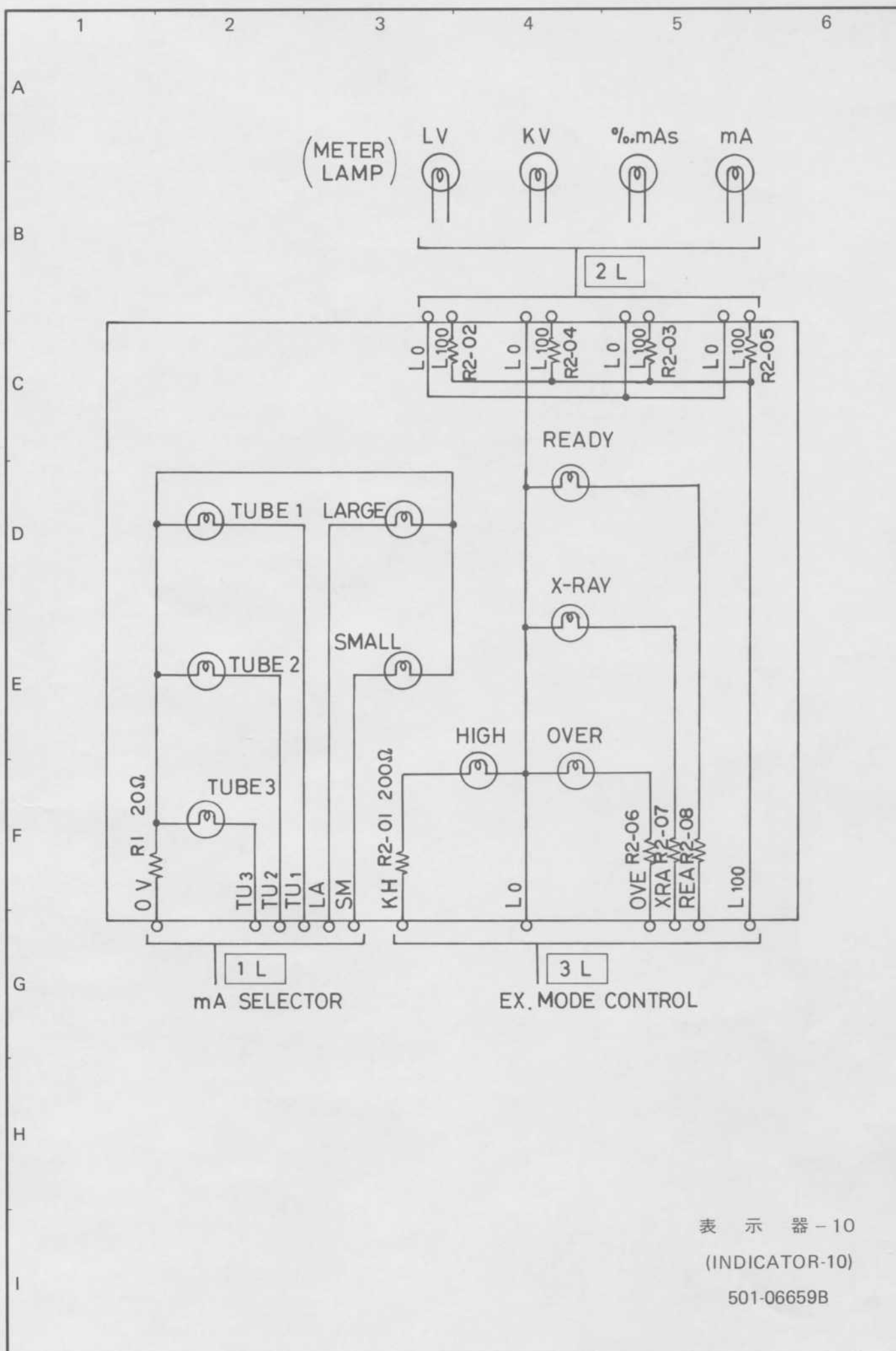
1 2 3 4 5 6 7 8 9

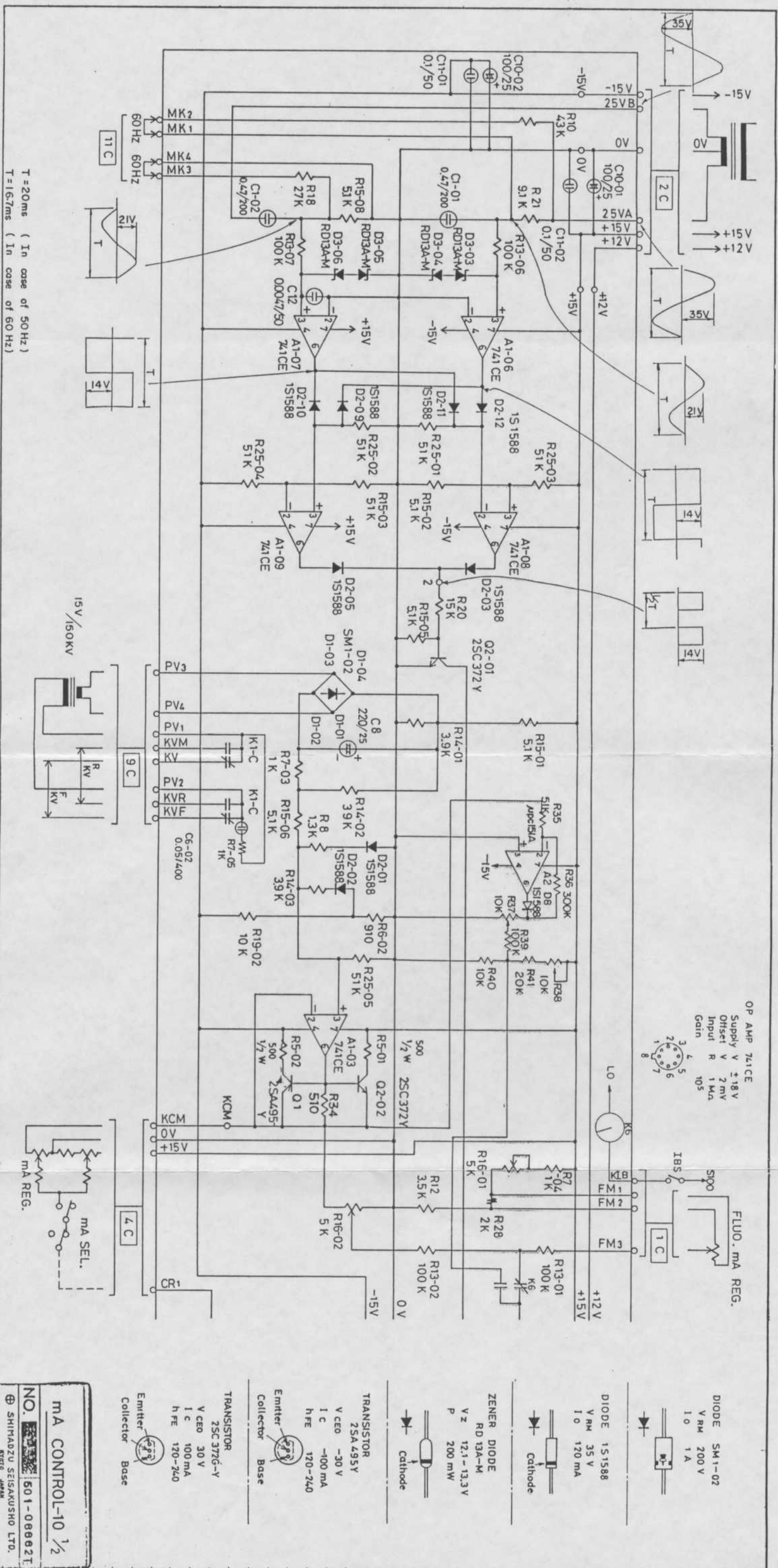


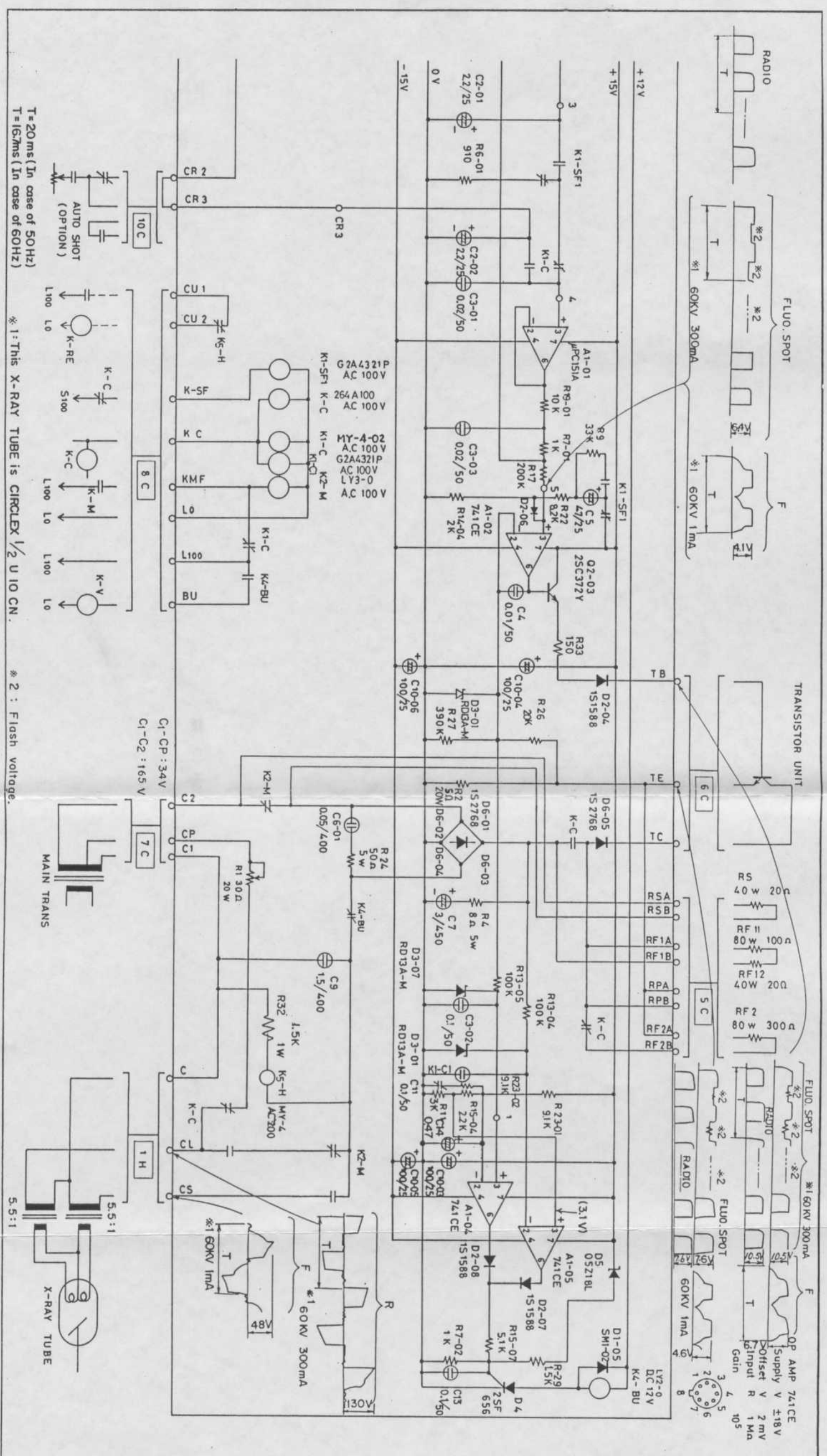
sec セレクター-10
(sec SELECTOR-10)
501-06656B

Note: A pin assembly 3P and a pin "TM33" of pin assembly 4M are not used for PD150L control.









DIODE 1S1588
V RM 35V
I O 120mA

ZENER DIODE
RD13A-M
V Z 12.1-13.3V
P 200mW

THYRISTOR
2SF 656
V DRM 50V
I T (AV) 200mA

Gate
Anode Cathode

05Z18L
169-18.2V
500mW

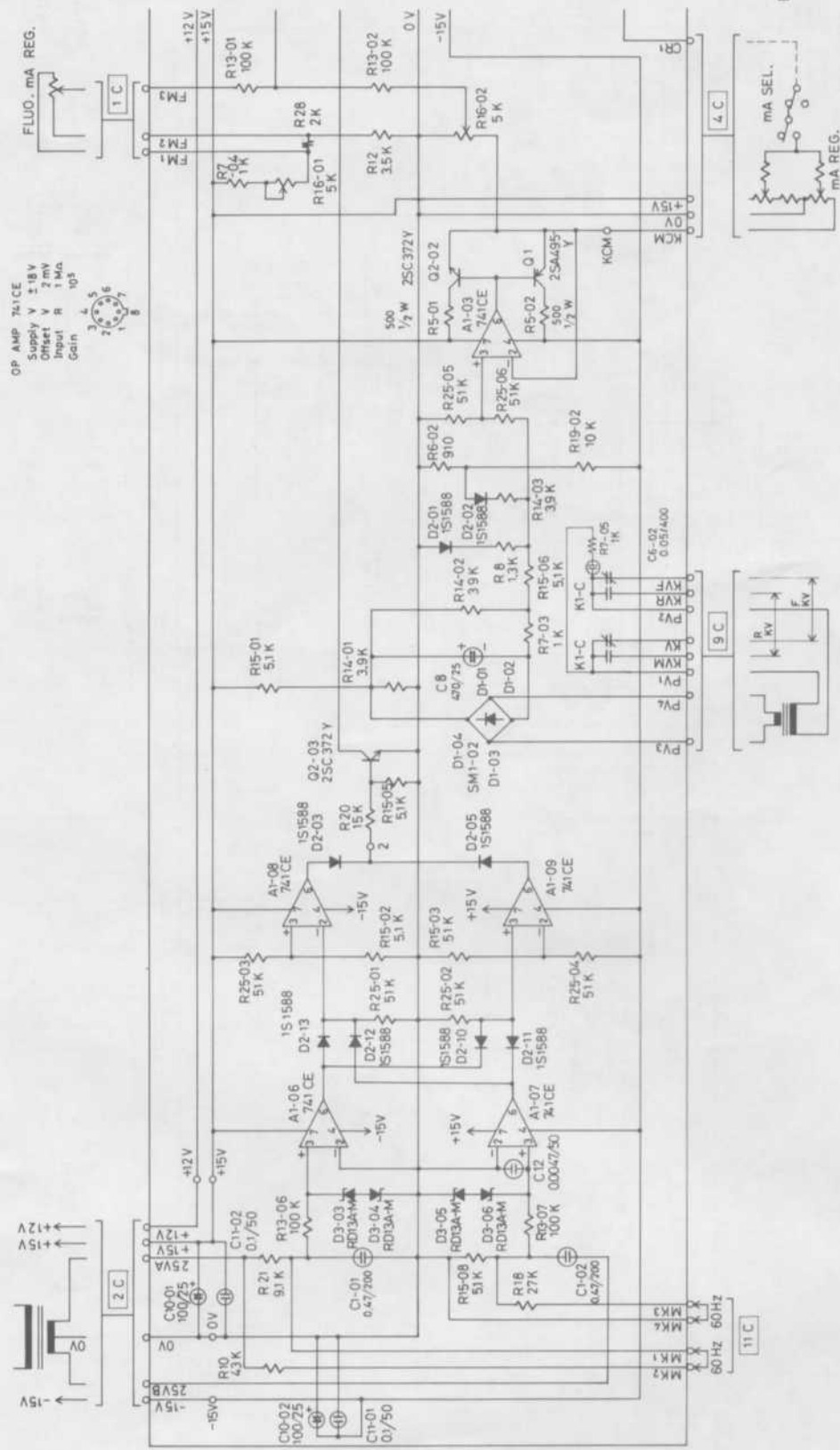
MA CONTROL-10 1/2

NO. 601-08682F

SHIMADZU SEISAKUSHO LTD.
KOTO JAPAN

DIODE 1S2768
V R 800V
I O 3A

Cathode



OP AMP 741CE
 Supply V $\pm 15V$
 Offset V 2 mV
 Input R 1 M Ω
 Gain 10^5

DIODE 5M1-02
 V_{RM} 200 V
 I₀ 1 A

DIODE 1S1588
 V_{RM} 35 V
 I₀ 170 mA

ZENER DIODE
 RD13A-M
 V_Z 12.1-13.3 V
 P 200 mW

TRANSISTOR
 2SA495Y
 V_{CEO} -30 V
 I_C -100 mA
 h_{FE} 120-240

TRANSISTOR
 2SC376-Y
 V_{CEO} 30 V
 I_C 100 mA
 h_{FE} 170-240

mA コントロール-10
 (mA CONTROL-10)
 501-06662F1/2

OP AMP 741CE
Supply V ±18V
Offset V 2 mV
Input R 1 MΩ
Gain 4 × 10⁵

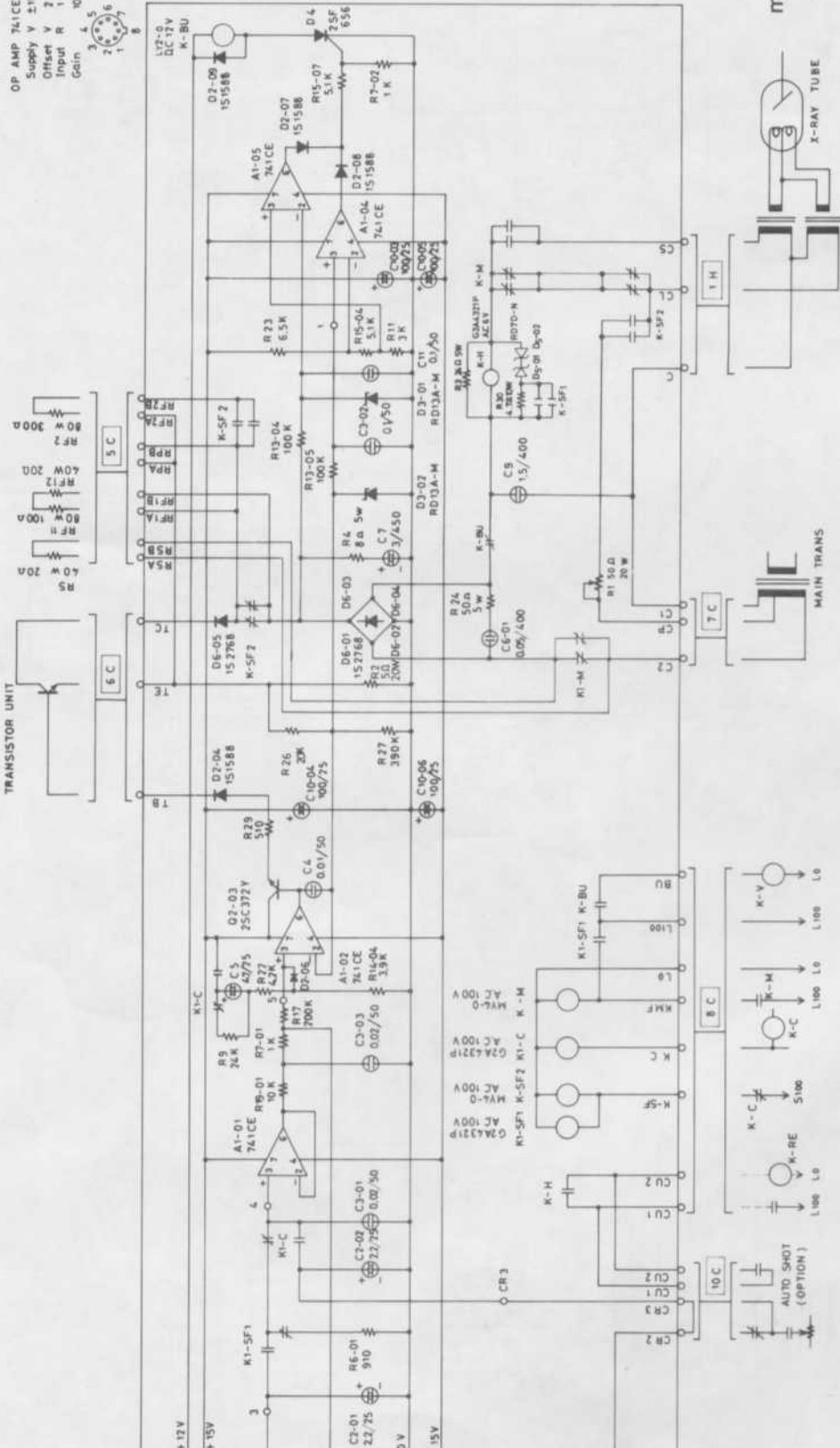
DIODE 1S1588
V_{RM} 35V
I_o 120 mA

ZENER DIODE
RD13A-M
V_Z 12.1-13.3V
P 200 mW

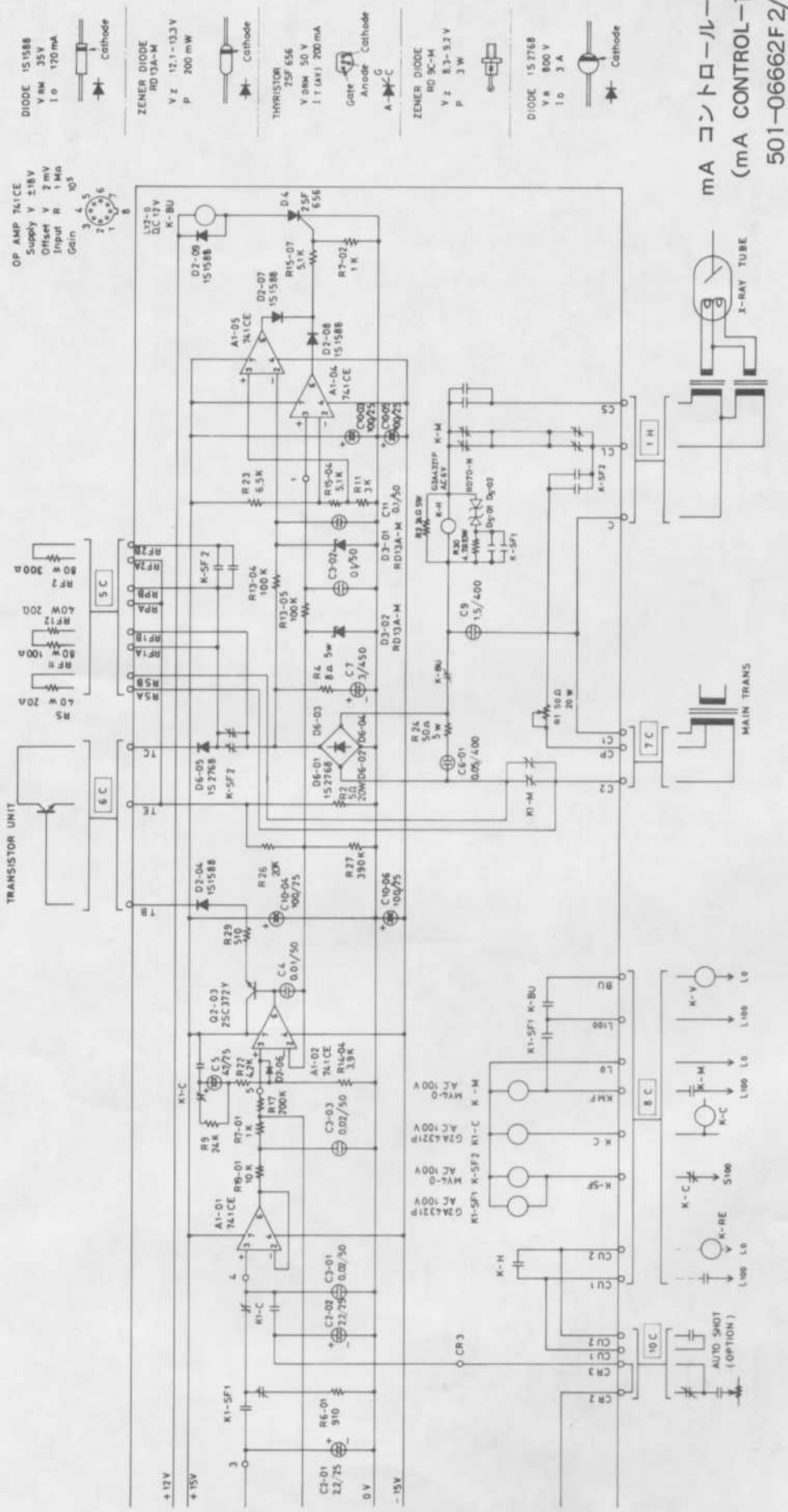
THRISTOR
2SF 656
V_{RM} 50V
I_{T(AV)} 200 mA

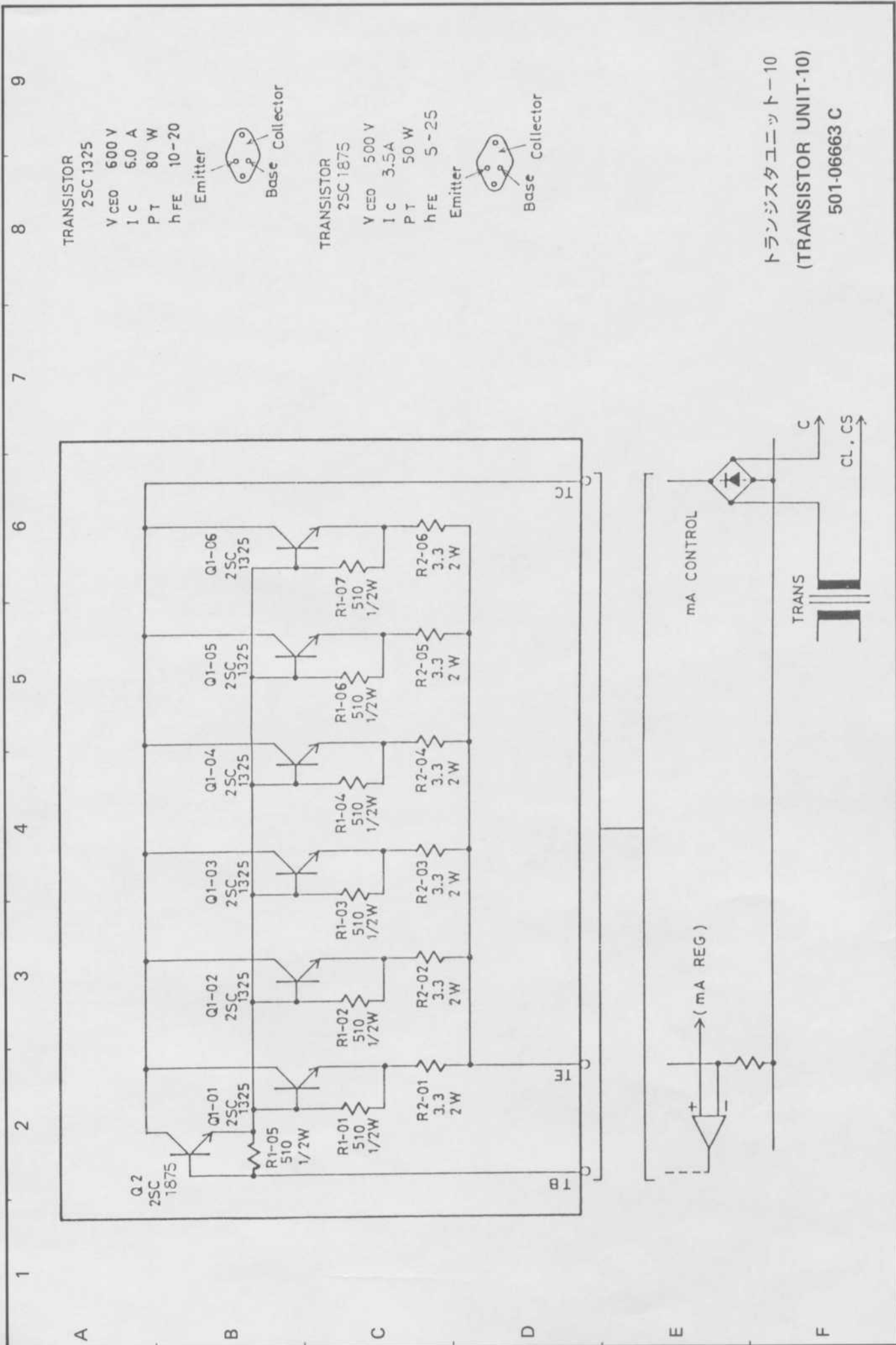
ZENER DIODE
RD13A-M
V_Z 8.3-9.3V
P 3W

DIODE 1S2768
V_{RM} 800V
I_o 3A



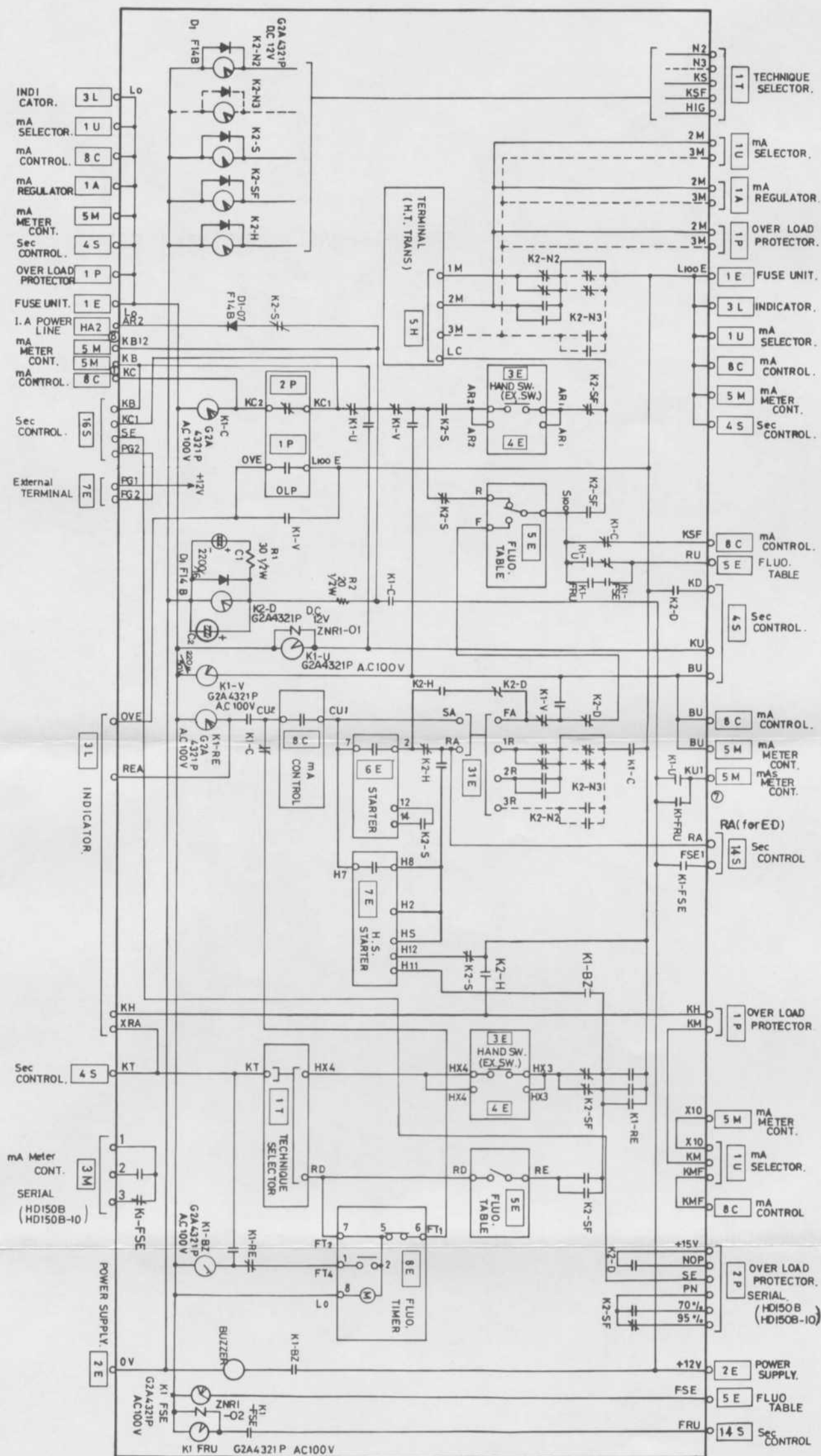
mA コントロール-10
(mA CONTROL-10)
501-06662F 2/2





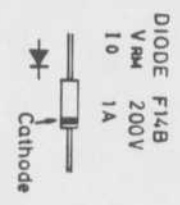
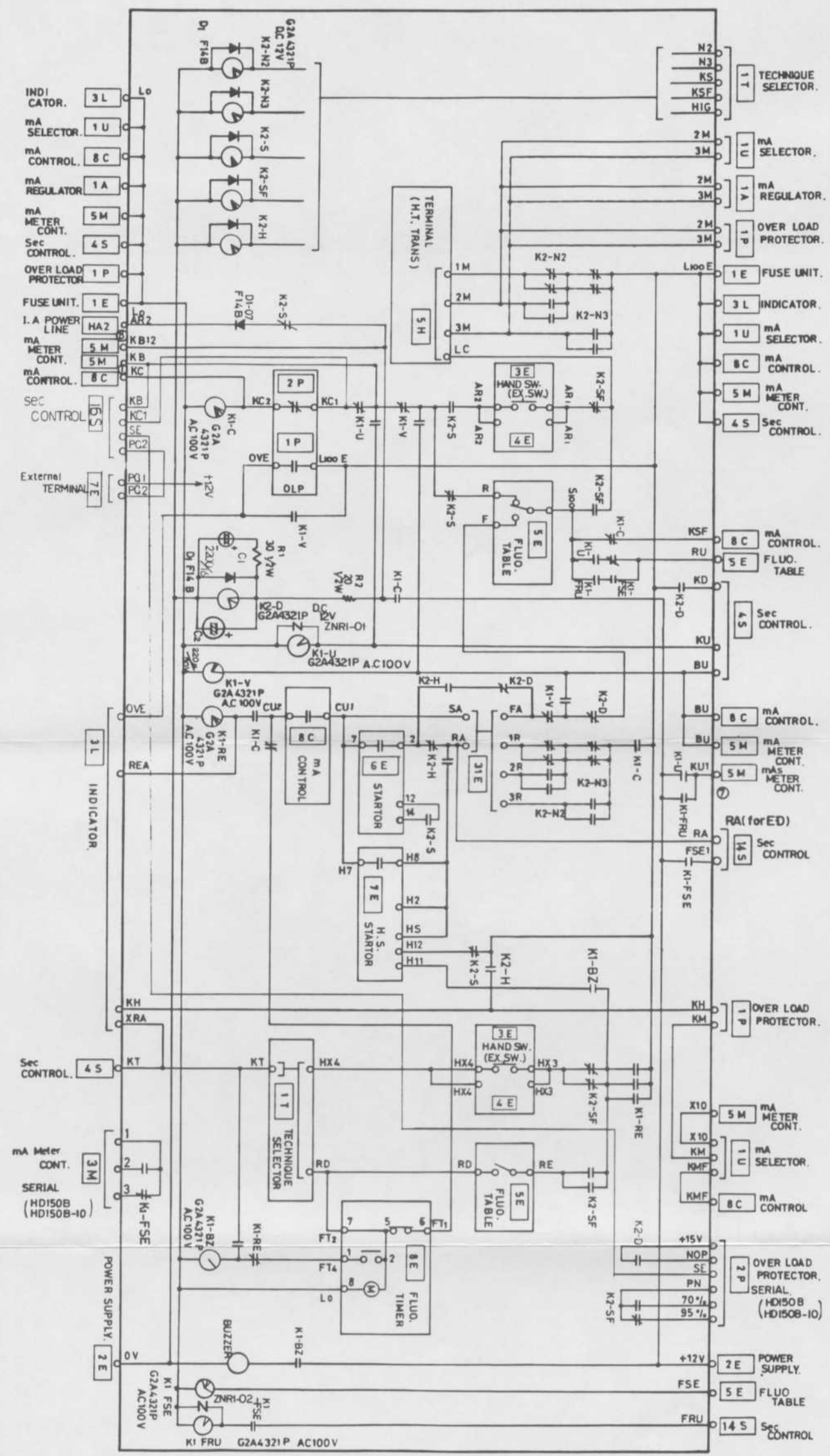
トランジスタユニット-10
 (TRANSISTOR UNIT-10)
 501-06663 C

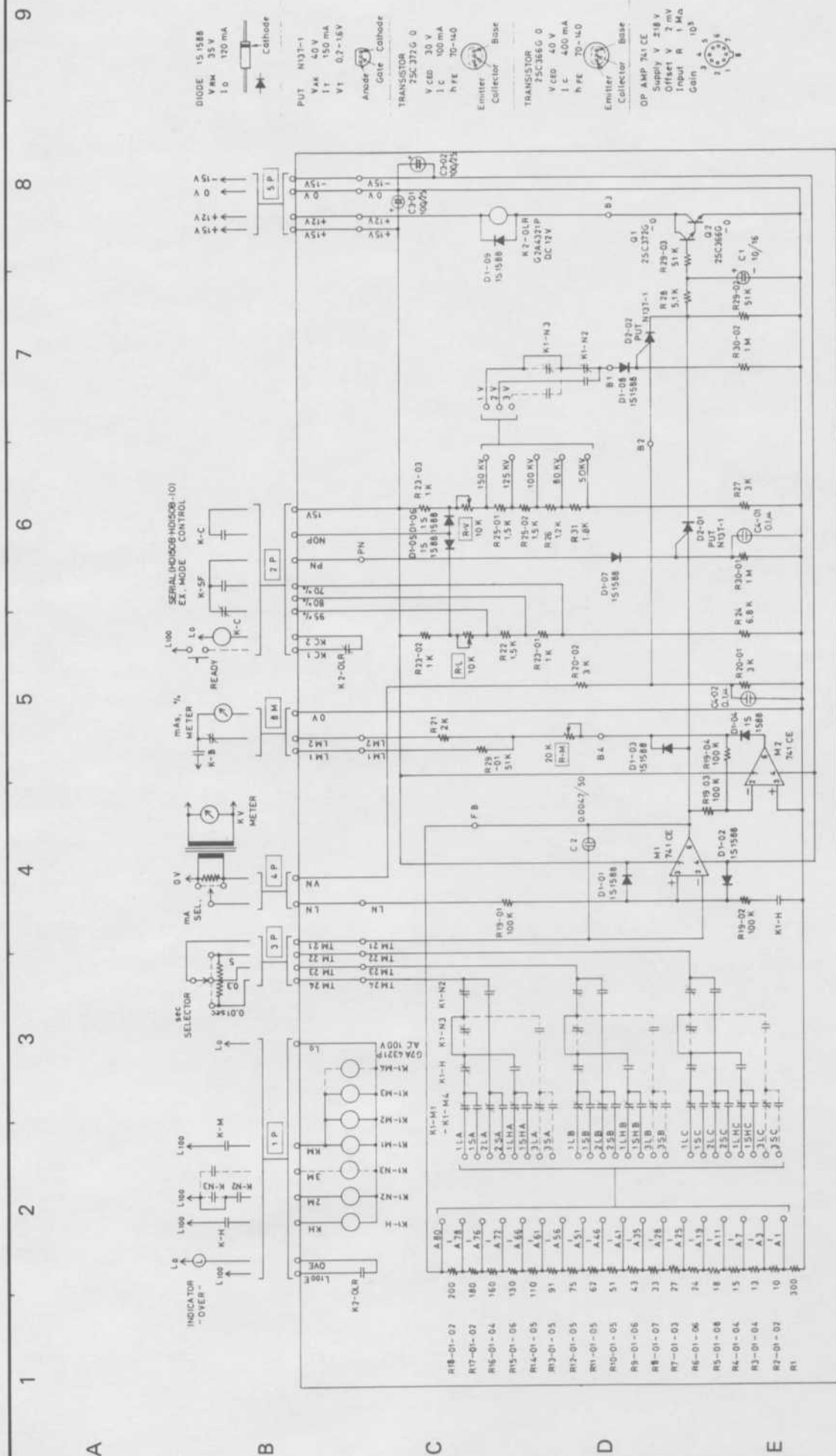
操作回路-10
(EX. MODE CONTROL-10)
501-06654 T



DIODE F14B
VRM 200V
10 1A
Cathode

エクスポージャモードコントロール-B
EX. MODE CONTROL-B
503-00318 A

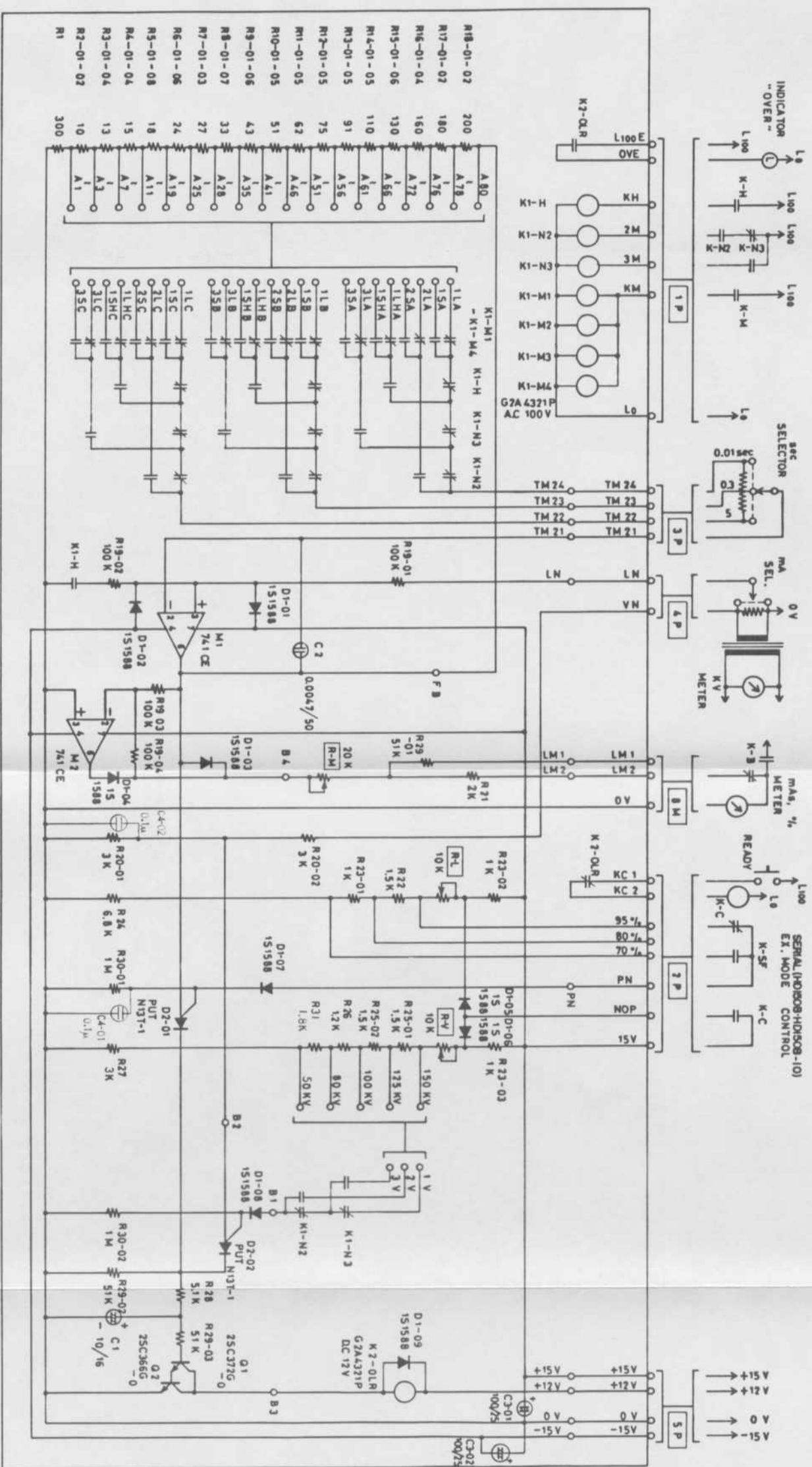




過負荷防止回路-10

(OVER LOAD PROTECTOR-10)

501-06665 D



DIODE 151588
VAM 35 V
I 10 120 mA

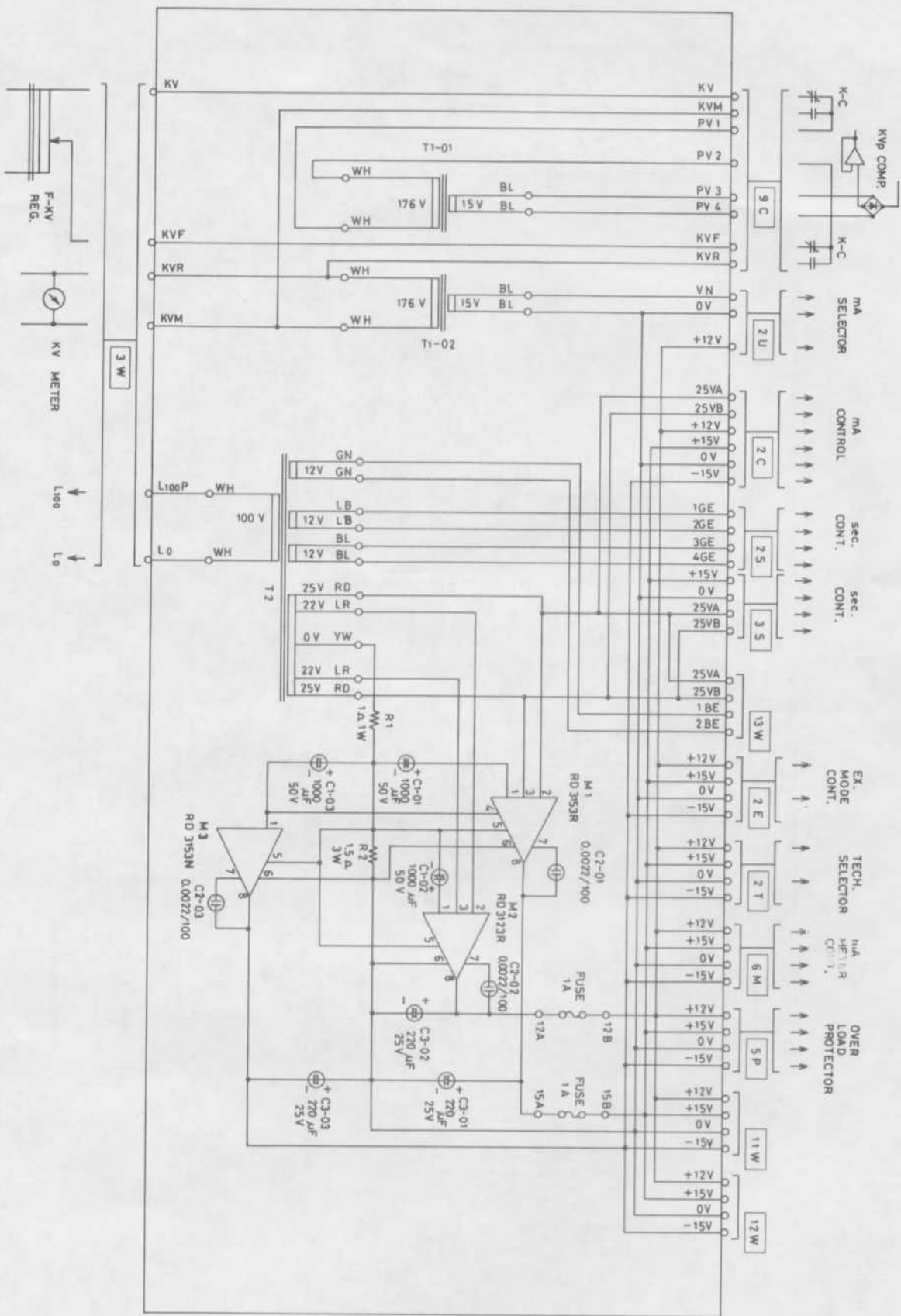
PUT N13T-1
VAK 40 V
IT 150 mA
V1 0.2-15 V

TRANSISTOR 2SC372G-0
V CBO 30 V
I C 100 mA
hFE 70-140

TRANSISTOR 2SC365G-0
V CBO 40 V
I C 400 mA
hFE 70-140

OP AMP 741CE
Supply V ±18 V
Offset V 2 mV
Input R 1 MΩ
Gain 10⁵

オーバーロードプロ-B
OVER LOAD PRO.B
503-00317

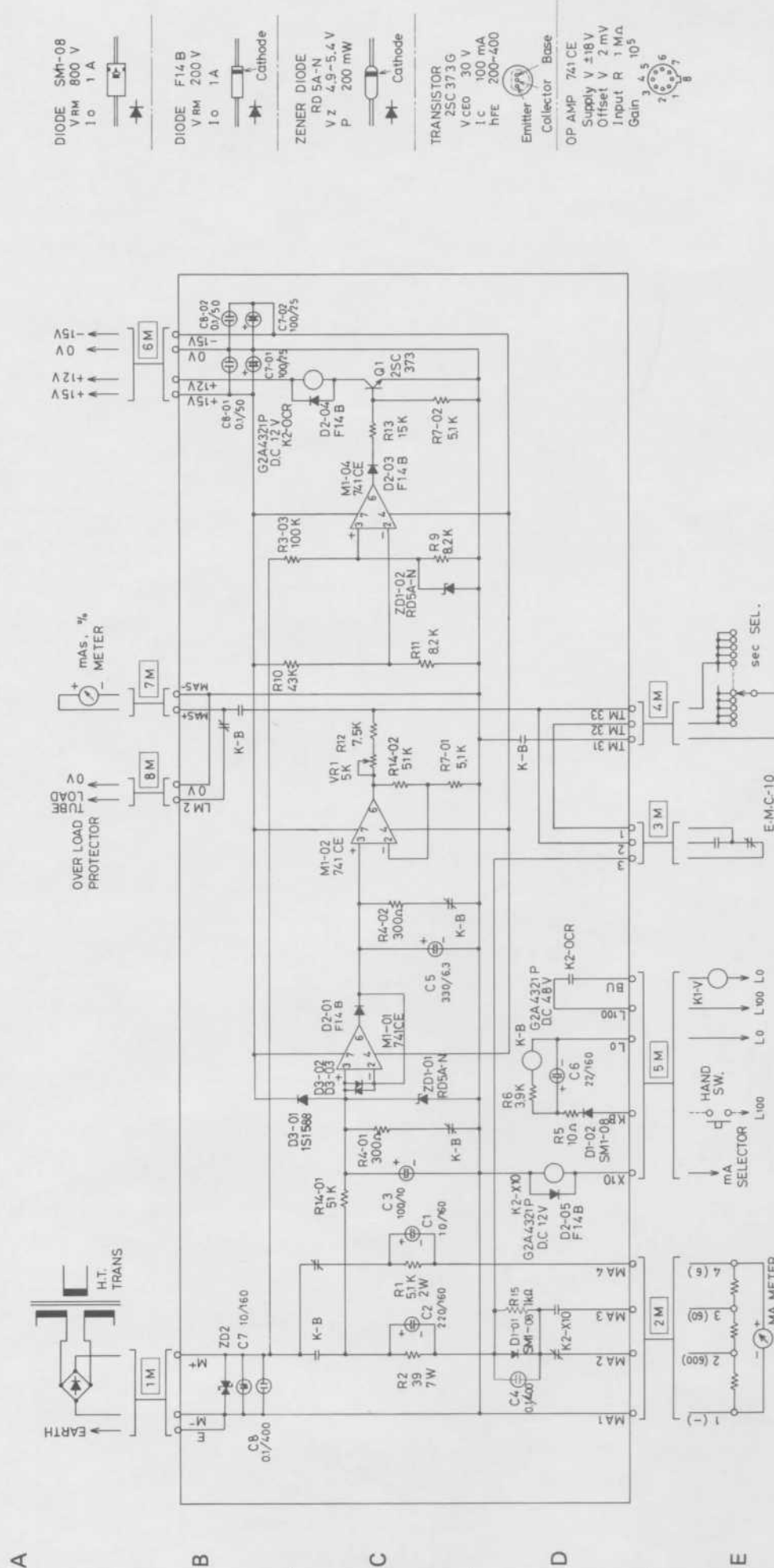


IC POWER REG.
 EHD-RD 3153R
 VOUT 15±0.2 VDC
 VIN 17.5~28 VAC
 I MAX 1A

IC POWER REG.
 EHD-RD 3123R
 VOUT 12±0.2 VDC
 VIN 15~25 VAC
 I MAX 1A

IC POWER REG.
 EHD-RD 3153N
 VOUT -15±0.2 VDC
 VIN -18~-40VDC
 I MAX 1A

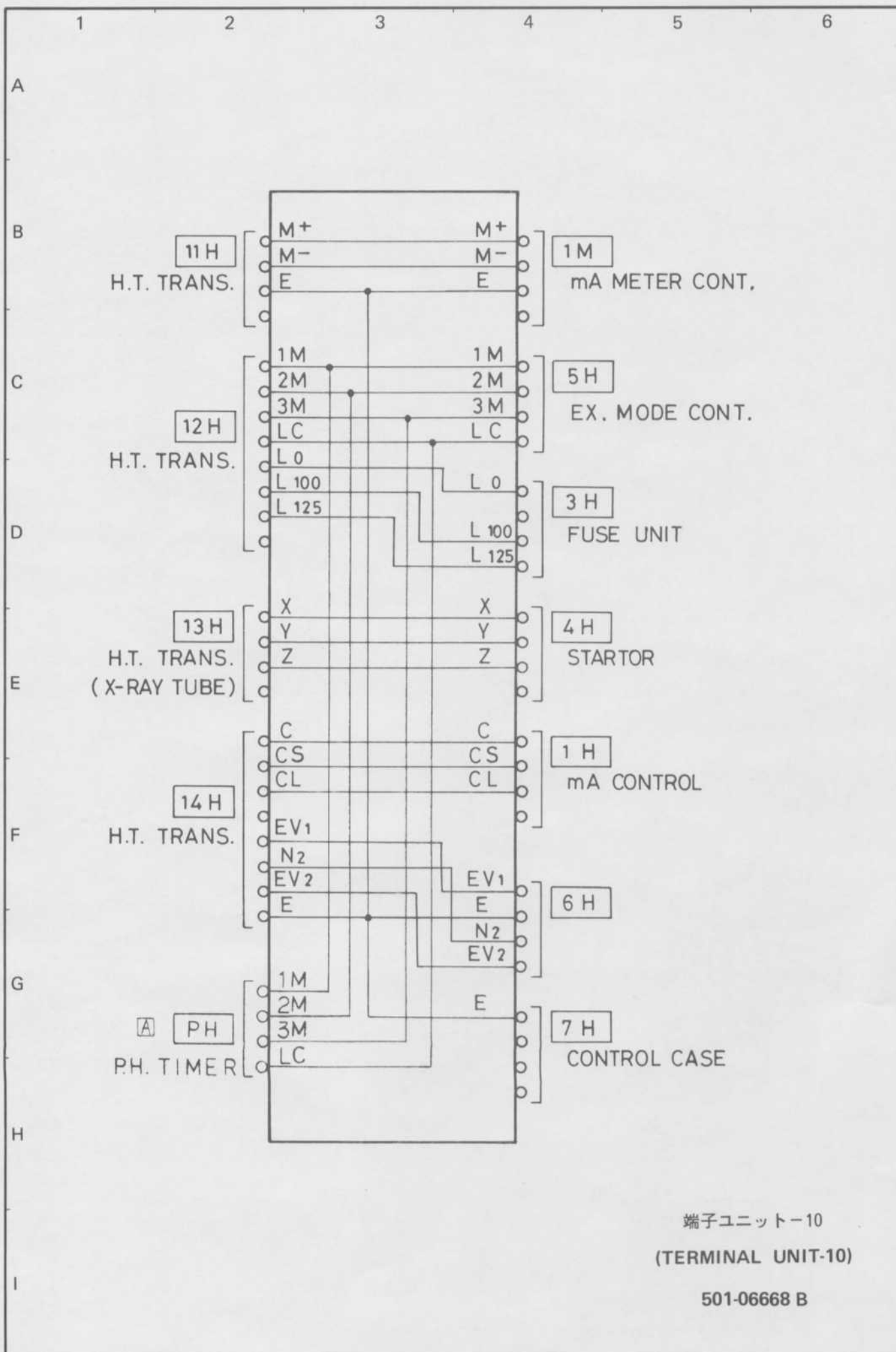
電源部-10
 (POWER SUPPLY-10)
 501-06666



電流計回路-10

(mA METER CONTROL-10)

501-06667 H



端子ユニット-10
(TERMINAL UNIT-10)

501-06668 B

1. 端子 "1A" は、オートトランス "Lo" 端子へ、"10A" は "40V" 端子へ、"11A" は "125V" 端子へ接続シマス。

Connect the terminals "1A", "10A" to "Lo", "40Volts" tap of the auto transformer respectively and "11A" is connected "125Volts" tap.

2. スポット撮影時
起動時間ハ "VR" [D.ADJ] ヲ調整シテ 0.8秒 (U.M形), 1.2秒 (P形, コノ時ハ端子 "12" と "13" ヲ短絡スル) ニシマス。
一般撮影時 (U, M, P形共)
端子 "12" と "14" ヲ短絡スルハ起動時間ハ約 1.6秒 ニナリマス。

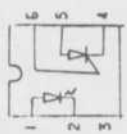
For spot radiography
Set the starting time to 0.8sec (U, M type circles) or 1.2 sec (P type circle, in this case, put the jumper between terminal "12" & "13", with the variable resistor [D.ADJ]
For general radiography
Put the jumper between the terminal "12" & "14", and the time is set about 1.6sec. This time is common to U, M & P type circle and not adjustable.

3. 起動時間ノ測定ハ 端子 "2" "8" ヲ接続シ サイクルカウンタ - ヲ端子 "1" "3" 間ニ接続シテ行ナイマス。

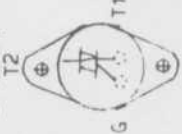
Put the jumper between the terminal "2" & "8" and the starting time can be measured with the cycle counter connected between the terminal "1" & "3".

TOP VIEW

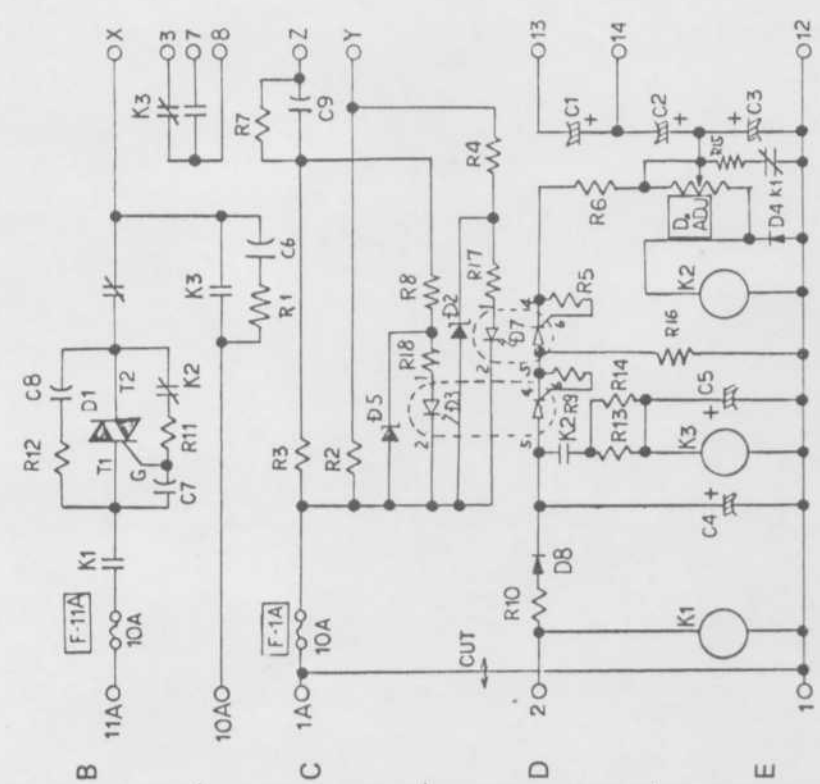
TLP505D



SM6G14

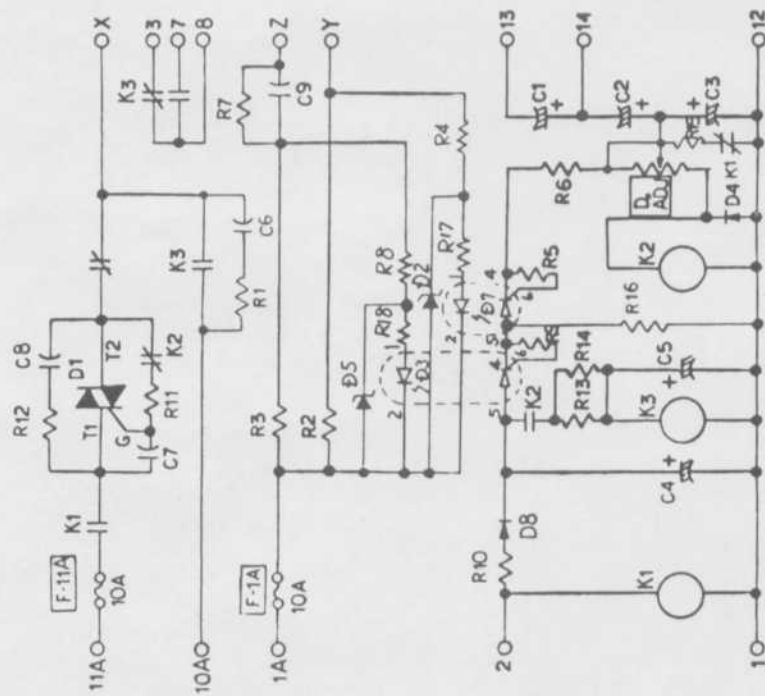


R1	20Ω	1/2 W	K1	LY-2	AC100V
R2	1	20	K2	NK-2	DC 35
R3	1	20	K3	LY-2	DC 24
R4	100	1/2			
R5	27k	1/2			
R6	7.5k	2			
R7	51k	2			
R8	10	1/2	F-1A	10A	
R9	27k	1/2	F-11A	10A	
R10	100	2			
R11	360	1/2			
R12	20	1/2			
R13	3.9k	2	R15	360	1/2 W
R14	3.9k	2	R16	10k	2 W
			R17	51	1/2
D.ADJ	10k	1	R18	39	1/2
C1	220μ	50V	D1	SM6G14	
C2	220	50	D2	UZ-3.0B	
C3	220	50	D3	TLP541G	
C4	22	160	D4	SM1-02	
C5	100	50	D5	UZ-3.0B	
C6	0.1	250			
C7	0.1	50	D7	TLP505D	
C8	0.1	250	D8	SM1-06	
C9	25	300			



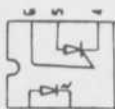
スターター 3形
(STARTER-3)
501-07349 D

A

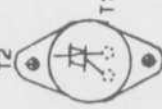


TOP VIEW

TLP505D



SM6G14



1. 端子 "1A" ハ オートランス "Lo" 端子へ, "10A" ハ "50V" 端子へ, "11A" ハ "200V" 端子へ接続シマス。

Connect the terminals "1A", "10A" to "Lo", "50 volts" tap of the auto transformer respectively and "11A" is connected "200 volts" tap.

2. スポット撮影時

起動時間ハ "VR" [D, ADJ] ヲ調整シテ 0.8 秒 (U, M 形), 1.2 秒 (P 形, コノ時ハ端子 "12" と "13" ヲ短絡スル) ニシマス。

一般撮影時 (U, M, P 形共)

端子 "12" と "14" ヲ短絡スレバ起動時間ハ約 1.6 秒ニナリマス。

For spot radiography

Set starting time to 0.8 sec (U, M type Circlex) or 1.2 sec (P type circlex, in this case, put the jumper between terminal "12" & "13"), with the variable resistor [D, ADJ]

For general radiography

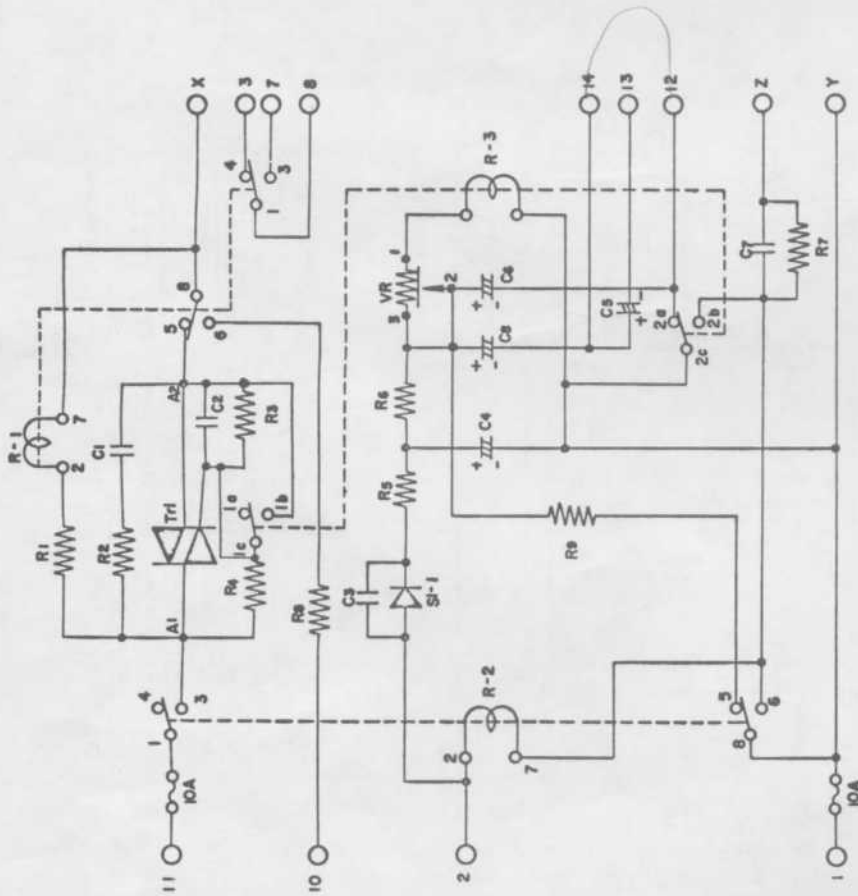
Put the jumper between the terminal "12" & "14", and the time is set about 1.6 sec. This time is common to U, M & P type circlex and not adjustable.

3. 起動時間ノ測定ハ 端子 "2" "8" ヲ接続シ サイクルカウンタ-ヲ端子 "1" "3" 間ニ接続シテ行ナイマス。

Put the jumper between the terminal "2" & "8" and the starting time can be measured with the cycle counter connected between the terminal "1" & "3".

スターター 3 形 マーカレット
(STARTER-3 MACHLETT)

501-07564E



R1	RS2W	680Ω	C1	0.1μF	250V	R-1	AW5123	A.C.48V
R2	RS1/2W	100Ω	C2	0.047μF	250V	R-2	AW5124	A.C.100V
R3	RS1/2W	10KΩ	C3	0.022μF	400V	R-3	NK-2	D.C.35V
R4	RS1/2W	300Ω	C4	22μF	350WV	VR	1W	3KΩ
R5	RS1/2W	300Ω	C5	220μF	50WV			
R6	RS1W	75KΩ	C6	220μF	50WV	Tri	SM5D11	
R7	RS2W	10KΩ	C7	25μF	250V			
R8	QHZ40W	5Ω	C8	220μF	50WV	SI-1	F14F	600V 1A
R9	RS1/2W	2KΩ						

1 端子"1"ハオトランス"Lo"端子ハ"10"ハ40V端子ハ"11"ハ125V端子ハ接続シマス。

Connect the terminals "1", "10" to "Lo", 40Volts tap of the auto-transformer respectively and "11" is connected "125Volts" tap.

2 Xボット撮影時

起動8時間ハ"VR"ヲ調整シテ、0.8秒(UM形サークレックス)マダハ1.2秒(P形サークレックス)ヨリ8時ハ端子"12"ハ"13"ヲ短絡セリニシマス。

一般撮影時(UMP共)

端子"12"ハ"14"ヲ短絡スレバ、起動時間ハ1.6秒ニナリマス。

For spot radiography

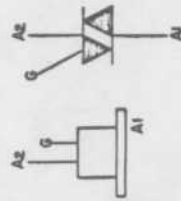
Set the starting time to 0.8 sec. (UM type circlex) or 1.2 sec. (P type circlex). In this case, put the jumper between terminal "12" & "13" with the variable resistor "VR".

For general radiography

Put the jumper between the terminal "12" & "14", and this time is set about 1.6 sec. This time is common to U, M and P type circlex and not adjustable.

3 起動時間、測定ハ、端子"2"ハ"8"ヲ接続シ、サイクルカウンタマダ端子"1"ハ"3"内ニ接続シテ行ナヒマス。

Put the jumper between the terminal "2" & "8", and the starting time can be measured with the cycle counter connected between the terminal "1" & "3".



スタータ 2形
(STARTER-2)
501-05247 D

1. 端子"1A"はオートトランス"0V"端子へ"10A"は"50V"端子へ"11A"は"200V"端子へ接続します。
Connect the terminals "1A", "10A" to "0V", "50V" tap of the autotransformer respectively and "11A" is connected "200V" tap.

2. (スポット撮影時)

起動時間は"VR"を調整して、0.8秒にします。

(一般撮影時)

端子"12"と"14"を短絡すれば、起動時間は1.6秒になります。

For spot radiography

Set the starting time to 0.8 sec with the variable resistor "VR".

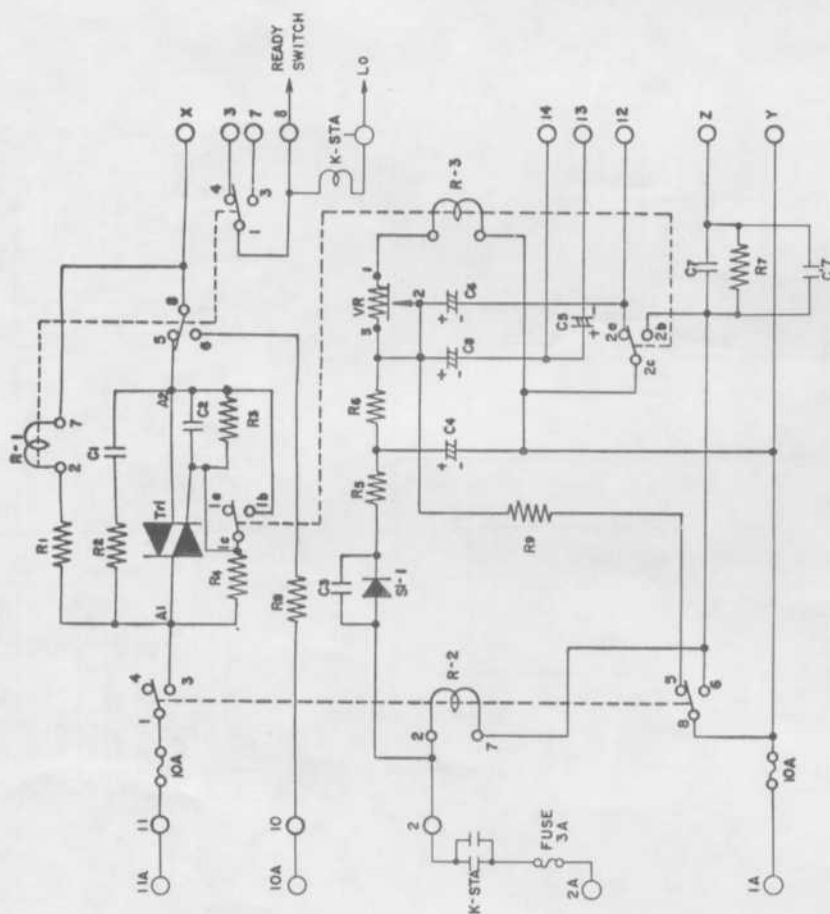
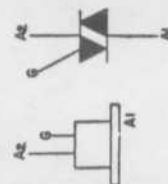
For general radiography

Put the jumper between the Terminal "12" & "14", and the time is set about 1.6 sec.

3. 起動時間の測定は、サイクルカウンターを端子"1", "3"間に接続して行ないます。

The starting time can be measured with the cycle counter connected between the Terminal "1" & "3".

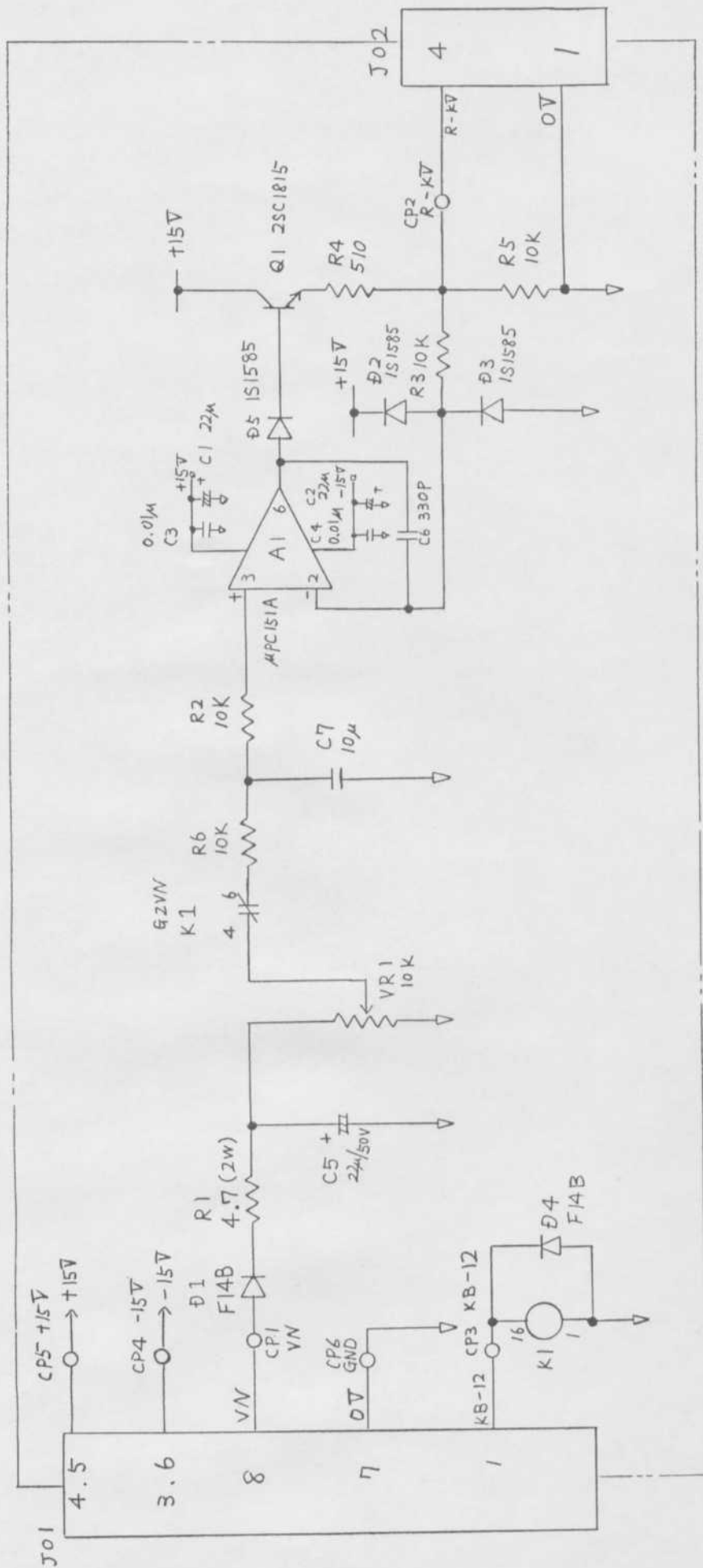
スターター-2A (マーカレット)
(STARTER-2A MACHLETT)
501-06896A



R1	RS 2W	1.8 K Ω	C1	0.1 μ F	250V	R-1	AW5124	A.C.100V
R2	RS 1/2W	100 Ω	C2	0.047 μ F	250V	R-2	AW5124	A.C.100V
R3	RS 1/2W	10 K Ω	C3	0.022 μ F	400V	R-3	NK-2	D.C.35V
R4	RS 1/2W	300 Ω	C4	22 μ F	350WV	K-STA	MY-4	A.C.100V
R5	RS 1/2W	300 Ω	C5	220 μ F	50WV	VR	1W	3K Ω
R6	RS 1W	75 K Ω	C6	220 μ F	50WV			
R7	RS 2W	10 K Ω	C7	25 μ F	250V	Tri	SM 6G14	
R8	QI-240W	5 Ω	C8	220 μ F	50WV			
R9	RS 1/2W	2 K Ω	C7'	5 μ F	250V	SI-1	F14F	600V 1A

1 2 3 4 5 6 7 8 9

A B C D E F



R-KV 回路 (OPTION)

R-KV CIRCUIT

503-00919

