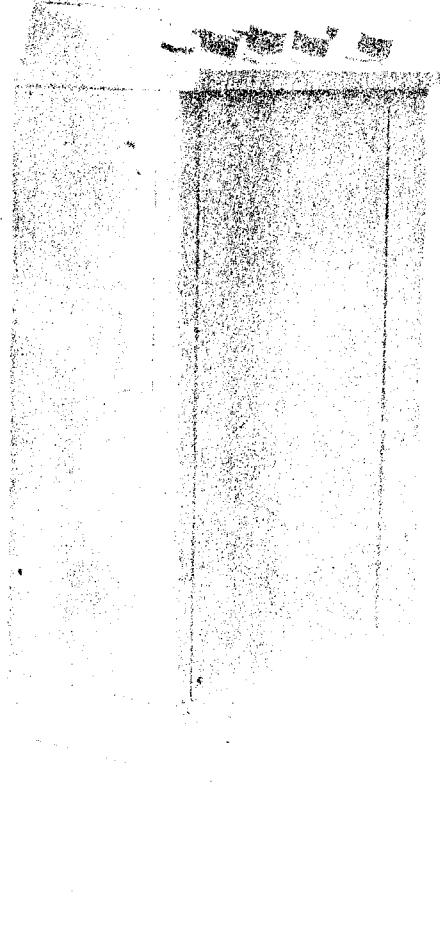


TECHNICAL MANUAL

DXG 325R

**RADIOGRAPHIC
GENERATOR**



THIS MANUAL CONTAINS INSTALLATION,
MAINTENANCE OPERATOR AND SERVICE
INFORMATION.

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DXG325R RADIOGRAPHIC GENERATOR MANUAL

Introduction

This manual contains technical and installation information for the DXG325R Radiographic X-ray Generator.

The location of the control console and high tension transformer allows a wide choice of equipment locations; The control console requires a minimum of valuable space in the diagnostic room area.

A double station AEC (Automatic Exposure Control) is available as an option on table Bucky or wall Bucky stand by using I.I Chamber.

Description

This generator is comprised of two units:

- * Single-Tube High Tension Transformer and
- * Control Console.

High Tension Transformer

The oil-filled rectangular steel HT Transformer assembly is in two sections. The lower section contains the 300mA capacity HT Transformer. A compact shell type unit with a cut core and multiple primary coil design. The upper section of this transformer assembly contains four silicon diodes rated at 125kVp which provide full-wave rectification for the X-ray tube, two cut core filament transformers.

The additional terminal strips provide Rad. Tube rotor supply and the primary of the filament transformer, and collimator power supply, and Federal Standard High Voltage Terminals are on the top of the transformer. Connection of the upper and lower section is made by flat spring contacts at the top of the high voltage secondary coils.

Control Console

The Free-Standing Control Console contains; the high voltage primary power supply, exposure timer, mA load compensator, filament power supply, stator power supply, kV compensator, line voltage compensator, mode selection switches, overload protection and over-current protection.

The primary power supply includes a power line over-current protection that controls incoming line power and primary overload. A signal rotary switch provides for incoming line compensation, and two rotary type switchea for kV major and minor control. The filament power includes solid state convertor provides individual adjustments for each mA stations on large and small radiographic stations and space charge adjustment. The stator supply includes a solid state relay controlled by a rotor boost time delay, a phase shifting capacitor, and current sensing Transistors in auxiliary and main winding in the X-ray tube. The Rotor time delay is adjustable at installation to accommodate different anode weights. The radiographic timer features solid state impulse timing from 1/120 ,0.01 to 6seconds. An electronic "memory"circuit determines the poper polarity of the srarting pulse for an exposure based on the polarity of the previously terminated exposure. SCR contacting is employed for applying primary power to the high tension transformer provide transient-free switching.

All operator controls and indicators are located on the top of the control console. Variable controls are provided for the operator selection of mA, time and mode selection. Also mAs meter indicates actual X-ray does during the exposure time. Over-current protection is provide by current sensing on incoming line, disconnects two legs of line input contactor.

EQUIPMENT SUPPLIED

- * Control Console
- * Single Tube High Tension Transformer
- * Pre-Terminared Interconnecting Cable (10m Approx. 33ft)
(between control console and high tension transformer)

SPECIFICATION

Output rating:	300mA at 100kVp 200mA at 125kVp
Tecniquestselection:	40 to 150 in 2 kV steps, with rotary switches for major and minor.
mA select	50S, 100S, 150L, AND 300L 5 station push-button type switch.
Timer select	1/120, 0.01 to 6.0 second, 23 steps by rotary.
Tachinique display:	
LV	digital display or analog display
kVp	Pre-reading digital display
mA	Pre-reading digital display
mAs	Pre-reading digital display.
Line voltage compensation:	4V AC per step, with rotary type tap switch.
LED indications:	
Main (Green)	Indicates control console power on and off.
Ready (Green)	Indicates end of the rotor time delay, on radiographic. The delay time is adjustable from 0.4 to 1.5 seconds.
X-ray (Yellow)	Illuminates actual length of the exposure, on radiographic.
Overload (Red)	Illuminates more than 90% of the tube rating of any kV, mA and time combination. Lower than 40 kVp or higher than 125kVp select, and primary over current.
Small (Green)	Indicates selecting of small focal spot.
Large (Red)	Indicates selecting of large focal spot.
Back-up (Rad)	Indicates short of SCR unit.
Mode selection:	Bucky 1 (CHAMBER 1), Bucky 2 (CHAMBER 2) and AEC (Automatic Exposure Control) is an option, with 3 push-button type switch.

Ready switch:	Controls the rotor preparation and filament temperature, with single push-button type switch, or outside hand switch.
Exposure switch:	Controls the radiographic exposure, with single push-button switch, or outside hand S/W.
Field selection switch: (Option)	Any combination of 3 fields on chest and Bucky chambers are selectable.
Density control switch: (Option)	N; Normal density setting. -25, -50; Reduction of density (lighter) by approximately 25% or 50% of the mAs exposure at "N". +25, +50; Increase of density (darker) by approximately 25% or 50% of the mAs exposure at "N".
Reset switch: (Option)	Required to permit another radiographic only if an exposure has not been properly terminated and indicated on the AEC control panel ("AEC"). * If an exposure has been terminated by the backup generator setting ("GEN"), or if the maximum allowable exposure has been sensed ("mAs"), the reset control must be manually operated to allow additional exposures.
Exposure indication:	Audible and LED Indication.
Stator supply:	
Frequency	60 Hz
Starting voltage	220V AC
Running voltage	45 to 60V AC
Delay time	0.4 to 1.5 seconds.(Adjustable for tube type)
Input power requirements: (for 300mA at 100kVp)	
Voltage	200, 220, 230 and 240V AC
Frequency	60 Hz
Current, peak at 220V AC	150A rms
Regulation	5% or better
Maximum nominal input power:	Approx. 30 kVA inst.
Max. allowable line impedance:	0.05 ohms.
High Tension Transformer:	
Primary to secondary ratio	1:354
Dimensions	Refer to outline data.

Weight:

Control console	Approx. 48 Kg (106 Lbs)
H.T Transformer	Approx. 138 Kg (304 Lbs)

Color:

Control console	Light gray with black lettering.
H.T Transformer	Light gray.

Max. operating environment:

Temperature	38°C (100°F)
Relative humidity	95%

Statement of accuracy:

Maximum deviation of peak tube potential	6 kVp
---	-------

Maximum deviation of tube current from mA selected	Range	Deviation
--	-------	-----------

40 - 49 kVp	± 10%
50 - 89 kVp	± 8%
90 - 125 kVp	± 8%

Accuracy of exposure

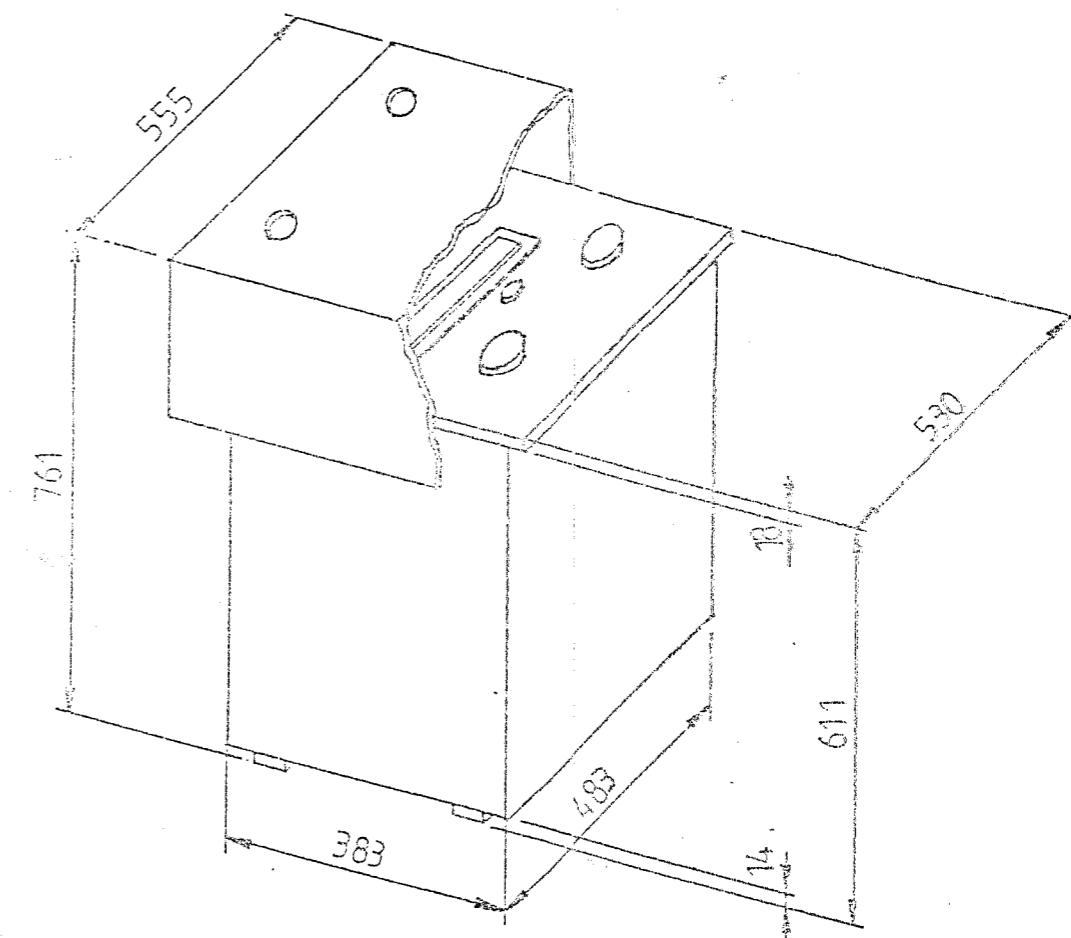
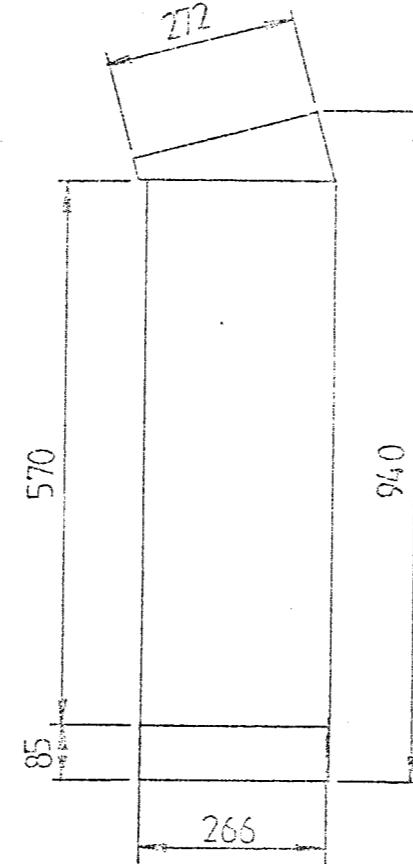
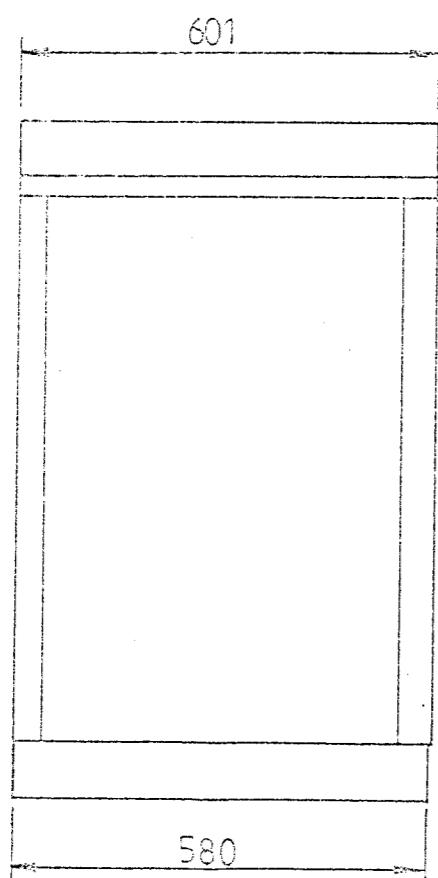
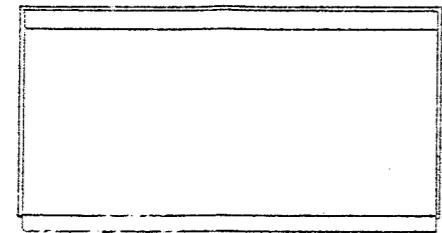
time selected:

Range	Accuracy
1/120 [0.01] to 1/10 [0.1] SEC.	Nearest 1/2 cycle
ABOVE 1/10[0.1] SEC.	±7%

RADIOGRAPHIC TIME STATION

TIME STATION NUMBER	(Sec)		(Ohm)	
	60Hz	50Hz	RESISTOR	VALUE
1	1/120	0.01	NONE	NONE
2	1/60	0.02	720	864
3	1/40	0.03	720	864
4	1/30	0.04	720	864
5	1/24	0.06	720	1.73K
6	1/20	0.08	720	1.73K
7	1/15	0.1	1.44K	1.73K
8	1/10	0.12	2.88K	1.73K
9	1/8	0.14	2.16K	1.73K
10	3/20	0.16	2.16K	1.73K
11	2/10	0.13	4.32K	1.73K
12	1/4	0.2	4.32K	1.73K
13	3/10	0.25	4.32K	4.32K
14	4/10	0.3	8.64K	4.32K
15	6/10	0.4	1.73K	8.64K
16	8/10	0.6	1.73K	17.3K
17	1.0	0.8	1.73K	17.3K
18	1.5	1.0	43.2K	17.3K
19	2.0	1.5	43.2K	43.2K
20	3.0	2.0	86.4K	43.2K
21	4.0	3.0	86.4K	86.4K
22	5.0	5.0	86.4K	173.0K
23	6.0	6.0	86.4K	86.0K

THE SELECTED TIME STATION INDICATION VERSUS ACCURACY OF EXPOSURE TIME IS 1/120, 0.01 SECOND TO 1/10, 0.1 SECOND ARE NEAREST 1/2 CYCLE, AND ABOVE 1/10, 0.1 SECOND ARE $\pm 7\%$.



OUTLINE DATA (UNIT:mm)

Compatibility information

Certain X-ray tubes have construction features which result in non-linear filament emission characteristics below approximately 50 kVp.

This non-linearity may present difficulties in calibration on certain mA stations.

This generator is not recommended for use with the following tube types:

- 1) Tube with a small focus size of 0.3 mm or smaller,
or
- 2) Tube with large focus size of 0.6 mm or smaller.

If it is desired to operate such a tube with this generator, consult the Dong-A X-ray Co. Engineering Department.

The following X-ray tubes are compatible with this generator.

Eureka X-ray tubes;

Diamond or Emerald tube housing with RAD 8 or RAD 68 insert.

Machlett X-ray tubes;

DX52R-40, DX52R-43.

TOSHIBA X-ray tubes;

E7239X, E7090X AND E7252X

FOCAL SPOT SIZES OF 0.6mm, 1.0mm, 1.2mm AND 2.0mm.

→ 2.0 / 1.0 mm

RADIATION WARNING

X-ray and Gamma-rays are dangerous to both patient and operator unless established safe exposure procedures are strictly observed.

The useful beam can produce serious or fatal bodily injuries to any persons in the surrounding area if used by an unskilled operator.

Adequate precautions must always be taken to avoid exposure to the useful beam, as well as to leakage radiation from within the source housing or to scattered radiation resulting from the passage through matter.

the authorized to operate, participate in or supervise the operation of the equipment must be thoroughly familiar and comply completely with the currently established safe exposure factors and procedures described in the National Council on Radiation Protection and Measurement (NCRP) "Medical X-ray and Gamma-ray protection for Energies up to 10 Mev-Equipment Design and Use" NCRP Report-33 as revised or replaced in the future.

Those responsible for the planning of X-ray and Gamma-ray equipment installation must be thoroughly familiar and comply completely with the structural shielding requirement outlined in NCRP-34 as revised or replaced in the future.

Failure to observe these warning may cause serious or fatal bodily injuries to the operator, patient or those in attendance.

YOU HAVE LEGAL OBLIGATIONS THAT FAILURE TO FOLLOW THE MANUFACTURER'S INSTRUCTIONS OR MODIFICATION OF ANY COMPONENT BY USER OR INSTALLER WHICH WILL AFFECT RADIATION SAFETY, CAUSES THE USER OR INSTALLER TO ASSUME FULL RESPONSIBILITY FOR THAT PRODUCT.

THE MANUFACTURER IS REQUIRED TO PRESCRIBE MAINTENANCE INFORMATION AND A SCHEDULE OF PERFORMANCE TO ENSURE EQUIPMENT COMPLIES WITH SPECIFIED PERAMETERS.

AFTER INSTALLATION THE INSTALLER MUST SUPPLY MANUFACTURER'S DATA INCLUDING THIS MANUAL TO THE EQUIPMENT PURCHASER OR USER.

THE EQUIPMENT PURCHASER OR USER MUST FOLLOW MAINTENANCE INSTRUCTIONS.

MAIN: Illuminates control console power ON & OFF.
 READY: Illuminates end of preparation.
 X-RAY: Illuminates actual length of the exposure.
 SMALL: Illuminates selecting of small focal spot.
 LARGE: Illuminates selecting of large focal spot.
 OVERLOAD: Illuminates more than 90% of the tube rating factors, lower than 40kV or higher than 125kVp and overcurrent.
 BACK-UP: Illuminates short of SCR.

LINE VOLTAGE METER:
 Incoming line indicate.

MODE SELECTION SWITCH:
 Selection mode from right Bucky 1(CHAMBER 1), Bucky 2(CHAMBER 2) and AEC.
 (AEC. is used for option)

MAIN POWER: OFF switch

MAIN: ON switch and main power ON indicate lamp.

LINE COMPENSATION SWITCH:
 Adjust this tap switch until 220 display [Digital] or Needle Indicate
 The Mark [Analog] LV Meter.

TIME SWITCH:
 Selecting radiographic exposure time.

mA SELECTION SWITCH:
 Selecting mA station from right 50S, 100S, 150L, 200L and 300L.

kV METER: Indicates pre-reading kV selection.

mA METER: Indicates pre-reading tube current.

mAs METER: Indicates pre-reading mAs value

FIELD SELECTION SWITCH:
 Any combination of 3 fields on chest and Bucky chambers are selectable.

DENSITY: (ONLY AEC.)
 Film density adjust.
 -50, -25, N, +25 and +50%

RESET SWITCH: (ONLY AEC.)

MINOR SWITCH:
 Selecting kV for radiographic each step selects 2kV.

X-RAY SWITCH: Controls radiographic exposure.

READY SWITCH: Controls the rotor preparation and filament temperation.

OPERATOR INSTRUCTION AND CAUTIONS

- 1) A COLD X-RAY TUBE SHOULD NOT BE USED FOR MAXIMUM kV_p EXPOSURES.
- 2) CONTROL CONSOLE EXPOSURE TECHNIQUE FACTORS SUCH AS mA, kV_p MAJOR OR MINOR AND TIMER SELECTIONS SHOULD NOT BE CHANGED DURING PREP OR EXPOSURE.
- 3) PREP(PREPARATION) CYCLE SHOULD NOT BE REPEATED, UNLESS ABSOLUTELY NECESSARY.
- 4) IF AN OVERLOAD OCCURS DURING AN EXPOSURE, DIRECT THE X-RAY TUBE AWAY FROM PATIENT AND CLOSE COLLIMATOR, SET EXPOSURE TECHNIQUE FACTOR LOWEST LARGE FOCUS mA, 70kV_p AT 1/10 [0..1]SEC, MAKE AN EXPOSURE.
IF THE GENERATOR FUNCTIONS NORMALLY, CONTINUE THE EXAMINATION.
IF OVERLOAD CONDITION PERSISTS, SYSTEM REQUIRES TECHNICAL ATTENTION.

Test equipments and accuracy of instruments

The generator is calibrated at the plant with the following equipment with stated accuracies.

* DVM

Model HC-601 Digital Multimeter

Manufactured by Hung Chang, Korea

DC volts: $\pm 0.2\%$ of reading, $\pm 0.2\%$ of range
AC volts: $\pm 0.5\%$ of reading, $\pm 0.5\%$ of range
or equivalent.

* Digital X-ray tube peak voltage meter

Model KV-201D

Manufactured by Tokyo electric Co., Ltd. Tokyo, Japan

Range of measurement: Approx. 10 kVp -199.9 kVp
Withstand voltage: 150 kVp
(10 minutes continuous power application)
250 kVp
(transcient voltage pulse, on condition that high voltage cable receptacle is filled with insulating oil)

Accuracy of measurement: $\pm 0.5\% \pm 1$ dgt (three months)
 $\pm 1.5\% \pm 1$ dgt (one year)

Delay time: 0 - 10 pulse
(synchronized with power supply)

Time of measurement: 10 m sec./20 m sec.

Holding time: Approx. 5 sec.

monitor terminal: Tube voltage waveform, measurement time waveform

Dividing system of voltage divider: Parallel CR type

Impedance of voltage divider: Resistance 400 M ohms,
parallel capacity 50 PF

Frequency characteristic of voltage divider: Flat up to 100 kHz

Voltage divider ratio: 1 : 20000

* X-ray tube current meter

Model MA-1201

Manufactured by Tokyo electric Co., Ltd. Tokyo, Japan

Measurable range: 120 mA range 15 mA - 120 mA

 600 mA range 75 mA - 600 mA

 1200 mA range 150 mA - 1200 mA

Accuracy: Within $\pm 2\%$ (of full scale)

Measurement time: 50 Hz

 5 ms, 10 ms(1 pulse), 20 ms(2 pulses)

 60 Hz

 5 ms, 8.3 ms(1 pulse), 16.6 ms(2 pulses)

Delay time: Approx. 10 ms - 110 ms

 (continuously variable)

Holding time: Approx. 7 sec.

Input impedance: 120 mA range approx. 100 ohms

 600 mA range approx. 20 ohms

 1200 mA range approx. 10 ohms

kVp AND mA MEASUREMENT CAN BE MADE BY DYNALYZER III OR EQUIVALENT.

* Oscilloscope

Model TS-1063M Synchroscope

Manufactured by Tokyo electric industry Co., Ltd. Tokyo, Japan

Vertical deflection: $\pm 5\%$

or equivalent.

mAs MEASUREMENT CAN BE MADE BY 8000A(Fluke).

Model 8000A Digital Multimeter.

DXG325R PCB LIST [A1-73605-009]

PART NUMBER	DESCRIPTION	SYSTEM FUNCTION
A2- 73616-114	PCB - 1	POWER, OLP(Overload Protection)
A2-73616-112	PCB - 2	ROTOR, TIMER.
A2-73616-116	PCB - 3	kVp METER, mA ADJUSTMENT.
A1-73616-118	PCB - 4	mA UNIT.
A2-73616-124	PCB - 5	CONTROL UNIT.
A2-73605-102	PCB - 6	CONNECTION UNIT.
A3-73616-126	PCB - 7	LV METER. [For only digital type]
A1-73616-122	PCB - 8	DISPLAY UNIT.
A3-73604-047	PCB - 9	mA SELECTOR.
A3-73604-045	PCB - 10	MODE SELECTOR.
A1-73604-043	PCB - 11	LED UNIT.
A1-73618-021	PCB - 12	RELAY UNIT.
A3-73616-130	PCB - 13	mA CONTROL.
A4-73616-024	PCB - 14	OLP RESISTOR.
A4-73604-022	PCB - 15	TIME RESISTOR.
A3-73618-016	PCB - 16	FIELD SELECTOR.
A3-73604-049	PCB - 17	EXTENTION.
A3-73605-069	PCB - 18	INTERFACE PCB.

INSTALLATION

1. Pre-installation determinations.

The following factors should be considered.

- 1.1 Floor loading of major components,
- 1.2 Power line capacity,
- 1.3 Location of incoming power source,
- 1.4 Space and location of generator components,
- 1.5 Heat dissipation,
- 1.6 Regulations and codes regarding radiation shielding requirements,
- 1.7 Location of auxiliary components(Table, Tubestand, Wall Bucky stand, Cassette holders, etc.).
- 1.8 Conduits and wiring for specific system configuration, including accessories,
- 1.9 Adequate space for serviceability.

2. Power requirements.

The power line capacity should be adequate for maximum technique factor (kVp, mA and time) to be applies to the X-ray tube.

The maximum capacity of the generator could be limited due to the X-ray tube rating.

THE SYSTEM MUST BE CALIBRATED AT THE TIME OF INSTALLATION.

The power line regulation requirement.

300mA 100kVp - 5% regulation at maximum load.

200mA 125kVp - 5% regulation at maximum load.

3. Wiring information. (Refer to system cabling data #1 - #6)

3.1 Incoming line power.

The wires from disconnect box to the control console should be sufficient size for the length of the run, use stranded wires.

For the maximum load of the generator, the switch and fuses should be the appropriate rating.

Refer to the following information.

Parameter:	300 mA at 100 kVp
	Maximum mA and kVp
Power line current at 220V AC:	150 A
Suggested rating of distribution transformer:	30 kVA
Wire size from distribution transformer to disconnect box:	AWG
50 ft.	# 2
100 ft.	# 00
200 ft.	# 250 MCM
Wire size from disconnect box:	
to control console:	# 6
(Approx. 15 ft.)	
Ground wire size:	# 8
Disconnect box switch rating:	100 A
Fuse or circuit breaker rating:	70 A

3.2 High tension transformer.

The cable from H.T Transformer to tube stand and table include the stator (stator/thermostat) cables are should be draped properly to protected from mechanical abuse.

3.3 Interconnecting cable between control console to High Tension Transformer and table are supplied.

4. Unpacking

All components should be inspected for any damages. Any damages should be referred to the agency that delivered the equipment.

5. Equipment handling.

Control Console:

Handle by base or crosswide with two-wheel hand truck.

High Tension Transformer:

Do not lift from center of bottom.

Do not tip over.

Support from outer top edges.

IF ANY EVIDENCE THE OIL LEAKS, DO NOT PUT UNIT INTO OPERATION WITHOUT CHECKING THE OIL LEVEL AT LEAST 2.5 cm (1 inch) FROM TOP.

6. CONDITION OF OIL LEVEL IN HIGH VOLTAGE TRANSFORMER

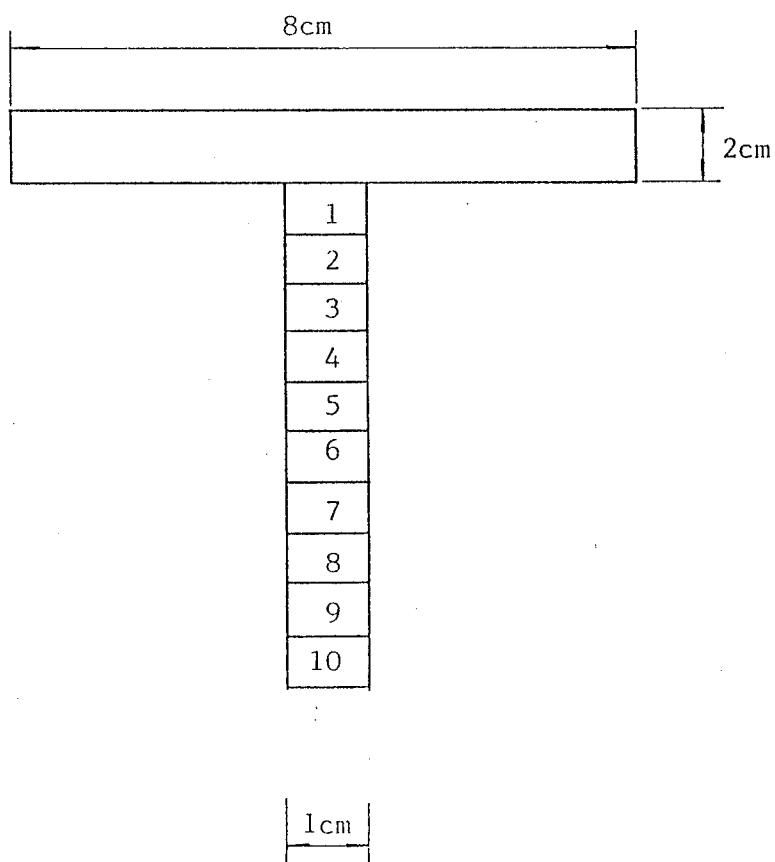
The oil level should be changed in according to variation of oil temperature in high voltage transformer.

Distance is from the oil surface to the top cover.

Refer to following table and figure.

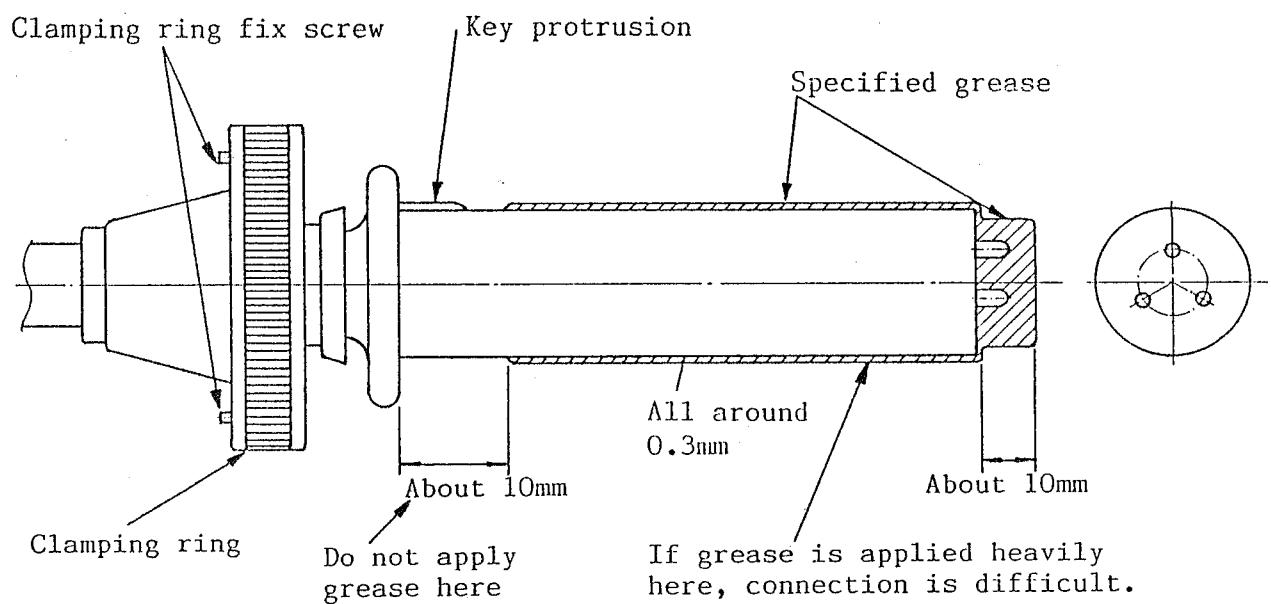
Oil temperature	Distance (cm)
0°	12
10°	9
20°	6
30°	3
40°	0

OIL LEVEL CHECKER

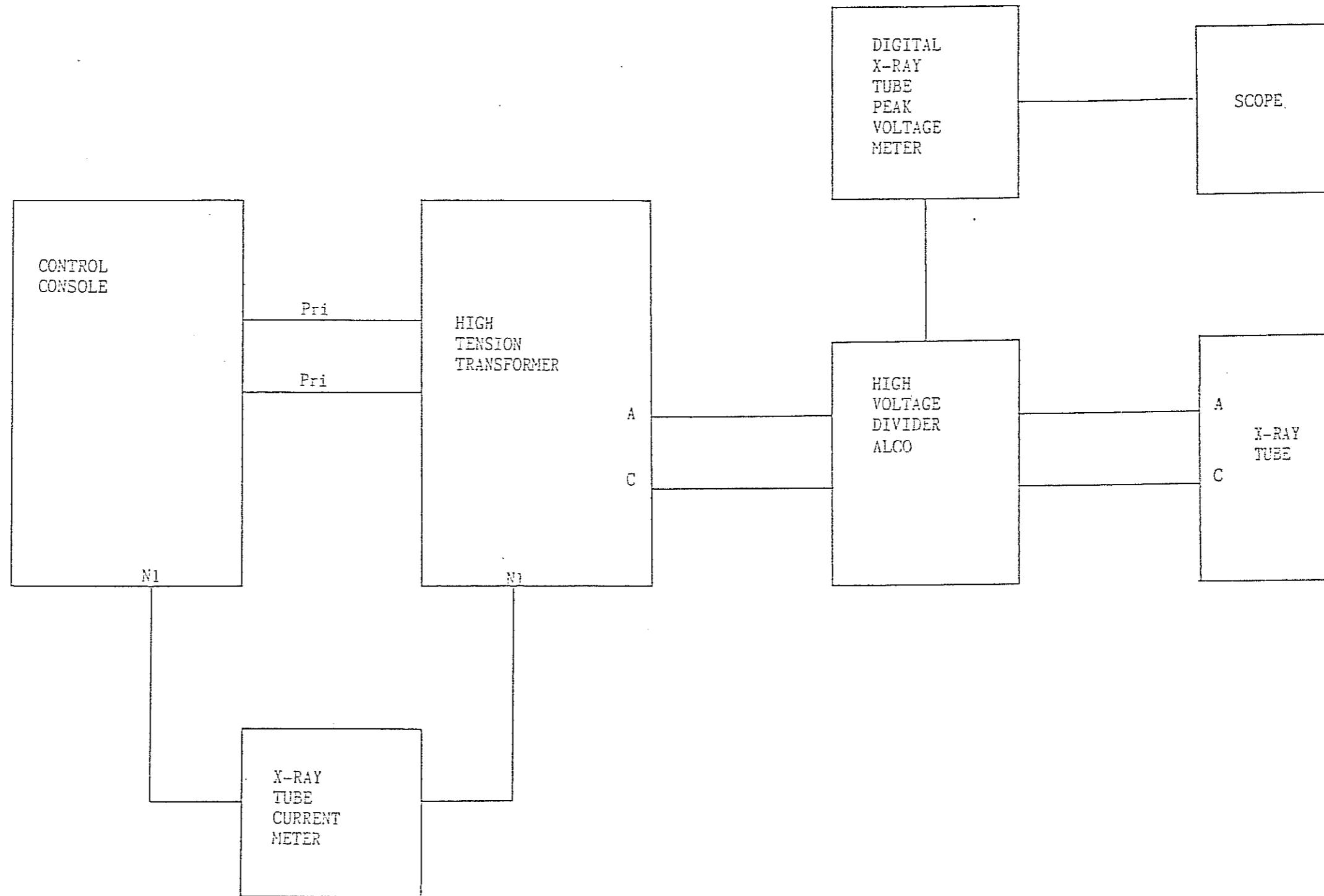


7. CONNECTION OF HIGH VOLTAGE CABLE

- 1) Remove the silicone grease still existing at the cable head and socket. Wipe it off with a dry cloth. Do not use organic solvent such as alcohol.
- 2) Remove the clamping ring fix screw.
- 3) Apply the specified grease to the cable head as the figure below shows;



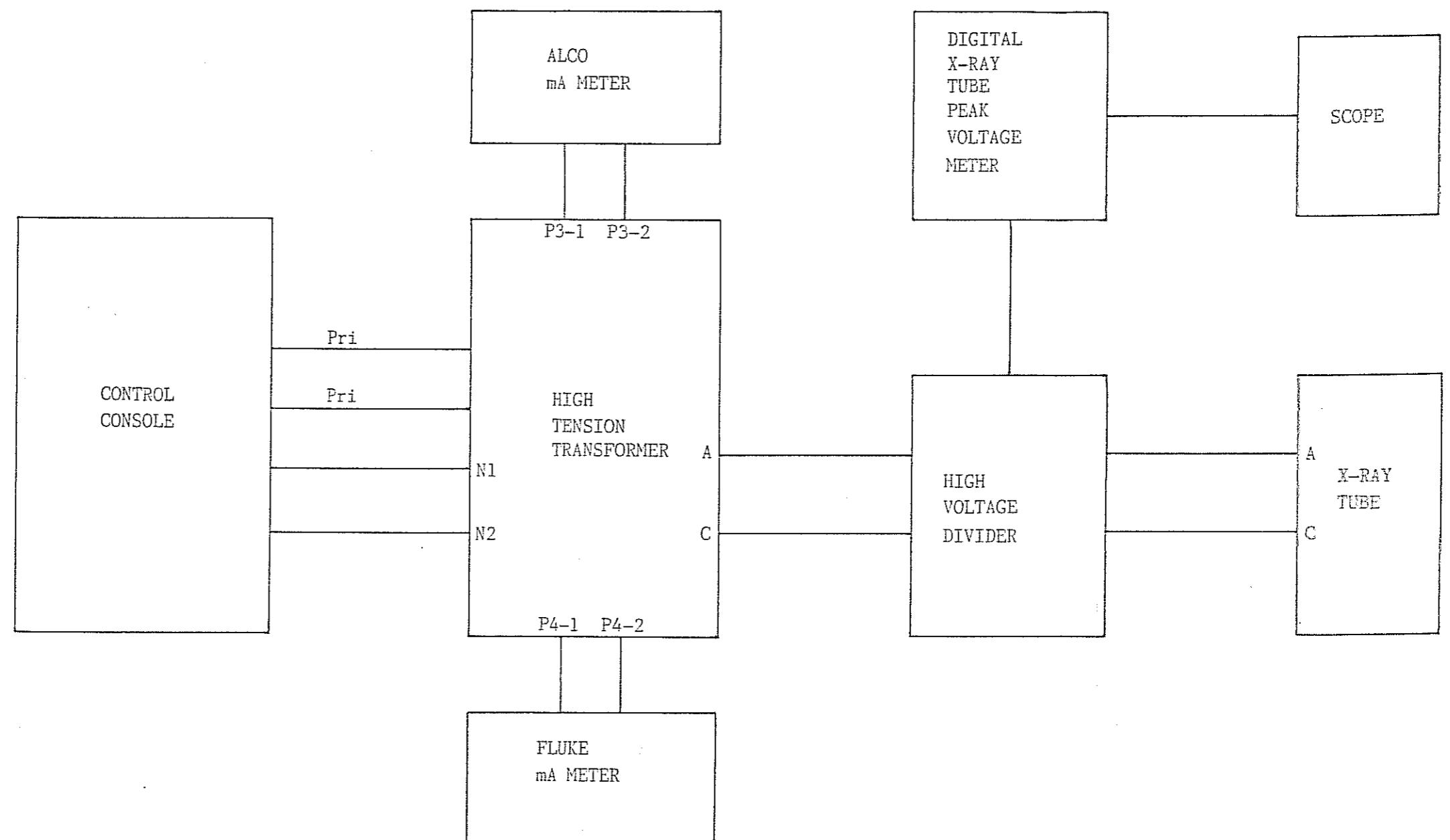
- 4) Insert the cable head straight in agreement with key slot of socket.
- 5) Tighten the cable head completely. When tightening becomes heavy, wait for grease to flow, and repeat retiting every 10 to 15 seconds.
- 6) Finally, check the tightening state of cable connection, and tighten the clamping ring fix screw by using L-wrench or screw driver.



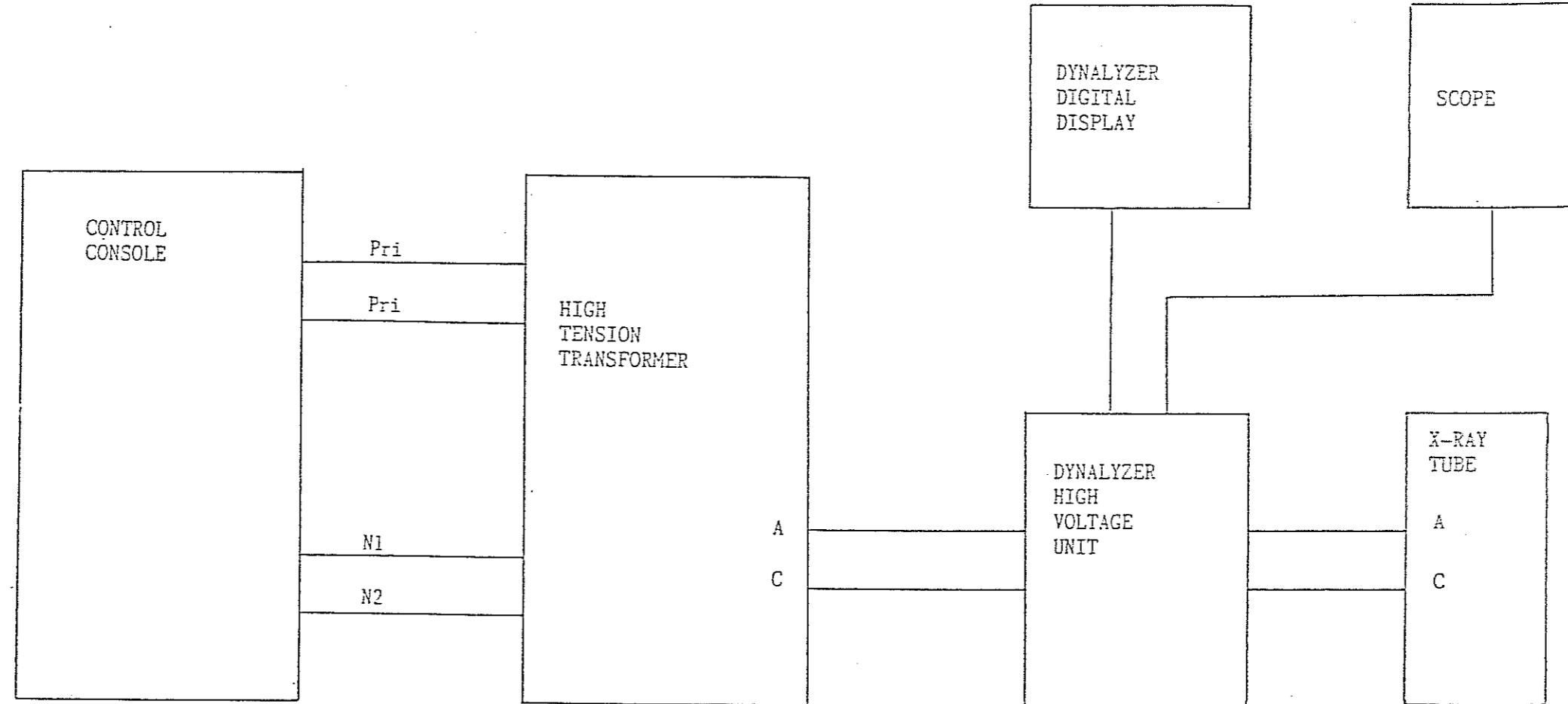
MODEL: MA 1201

MANUFACTURED BY TOKYO ELECTRIC Co.,Ltd.TOKYO,JAPAN

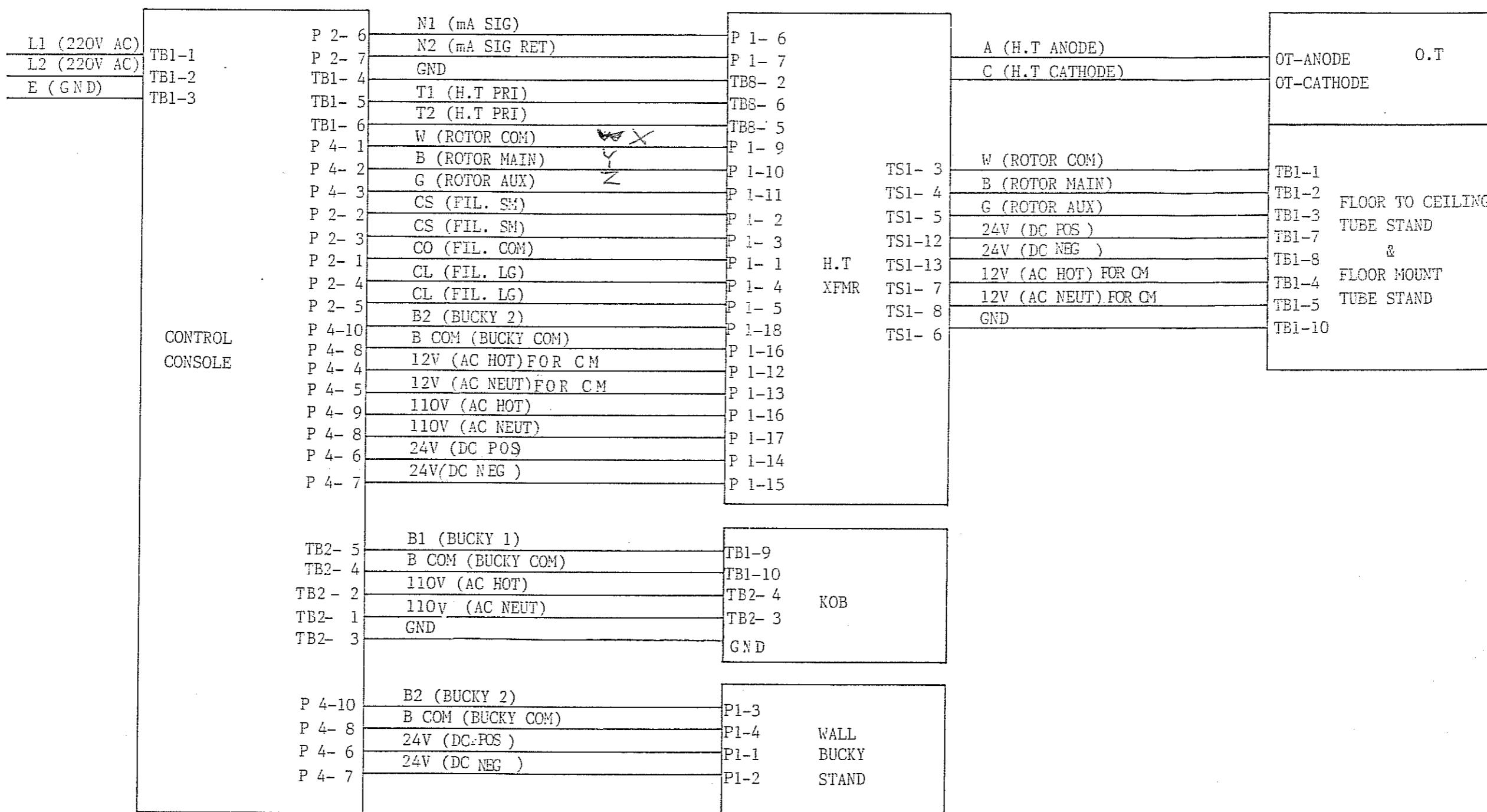
SYSTEM CALIBRATION #1



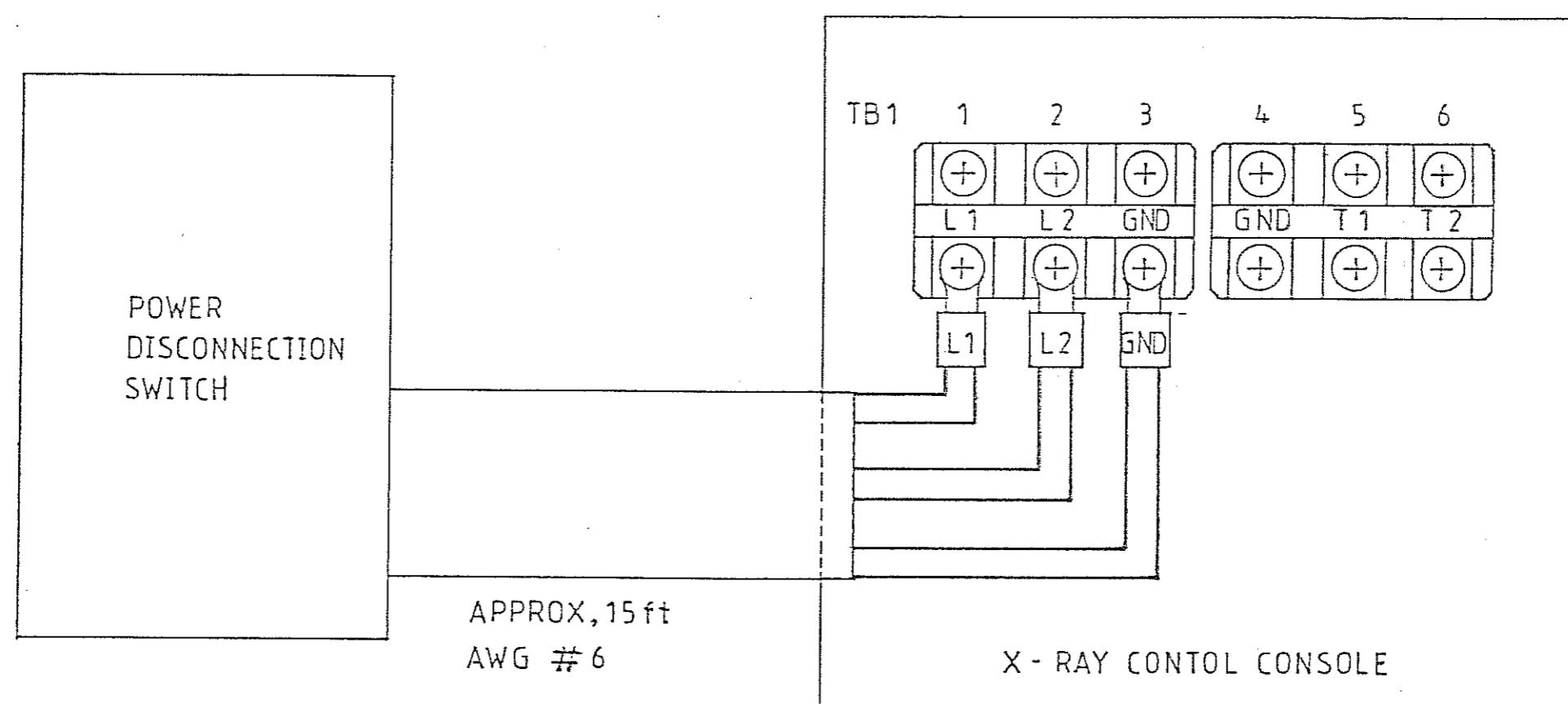
SYSTEM CALIBRATION #2



SYSTEM CALIBRATION #3



SYSTEM CABLING DATA #1



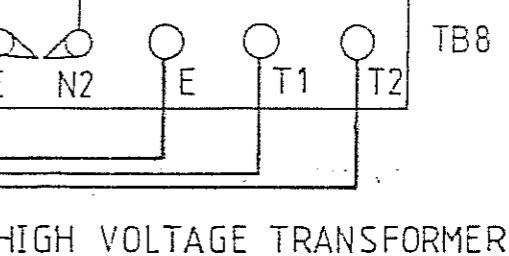
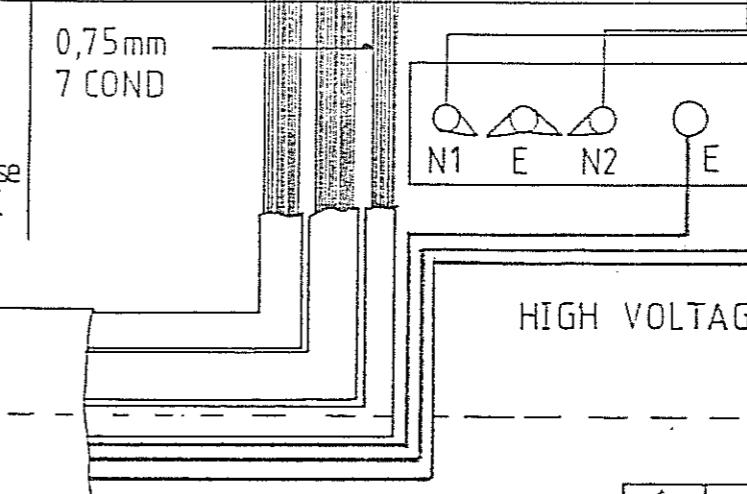
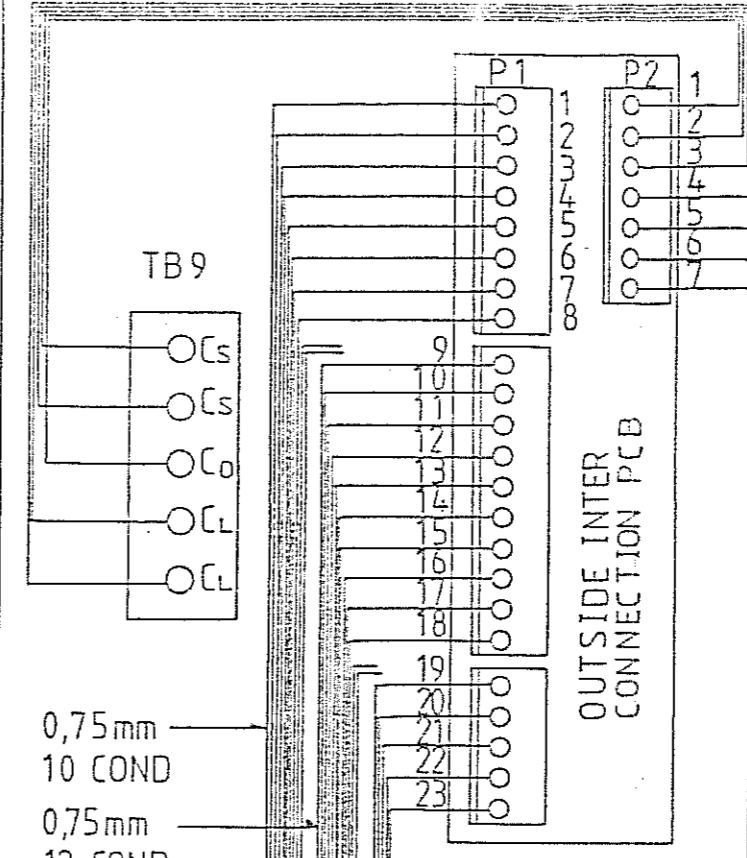
SYSTEM CABLING DATA # 2

BILL OF MATERIAL

ITEM | PART NO. | DESCRIPTION | FREQ

P1 COLOR

1	WHT	Cs
2	RED	Cs
3	RED (BLK)	Cs
4	YEL	Cs
5	YEL (BLK)	Cs
6	BLU	N1
7	BLU	N2
8	GRN	GND
spare	WHT(BLK)	
	GRN(")	
9	WHT	W
10	BLK	B
11	GRN	G
12	YEL	CM
13	YEL (BLK)	CM
14	RED	DC+
15	BLU	DC-
16	RED	AC0V
17	WHT	AC110V
18	BLU	B2
19	BLK(WHT)	
20	BLU	bucky
21	GRY	sense
22	YEL	cm sense
23	GRN	thermal
		sense
spare	WHT	
	BLK	



INTERFACE PCB

A3 - 73605 - 069

0.75mm

12 COND

0.75mm

7 COND

0.75mm

10 COND

TB1

⊕	⊕	⊕	⊕	⊕	⊕
L1	L2	GND	GND	T1	T2
⊕	⊕	⊕	⊕	⊕	⊕

CONTROL CONSOLE

P4 COLOR

1	WHT	W
2	BLK	B
3	GRN	G
4	YEL	CM
5	YEL	CM
	(BLK)	
spare	WHT(BLK)	
	GRN(")	

P6 COLOR

1	BLU	bucky
2	GRY	sense
3	YEL	cm
4	GRN	sense
5	RED	thermal
	(BLK)	
10	BLU	B2
	(BLK)	

spare	WHT	
	BLK	
spare	BLK(WHT)	
	GRN(WHT)	

SYSTEM CABLING DATA #3

TOLERANCES UNLESS OTHERWISE MARKED

ANGULAR 1° DIMENSIONS ABOVE LINE ARE IN MILLIMETERS

± 1/2 DIMENSIONS BELOW LINE ARE IN INCHES

SURFACE FINISH NO DEC. PLACE ± .06 IN ± 1.5MM

FINISH 1 PLACE DEC. ± .03 ± 0.8

SCALE 2 PLACE DEC. ± .015 ± 0.38

NAME 3 PLACE DEC. ± .005 ± 0.13

ASA B46.1 CONFIDENTIAL PROPERTY OF

DONG-A X-RAY CO., LTD.

MATERIAL

FINISH

SCALE

NAME

PART NO.

DR. BY

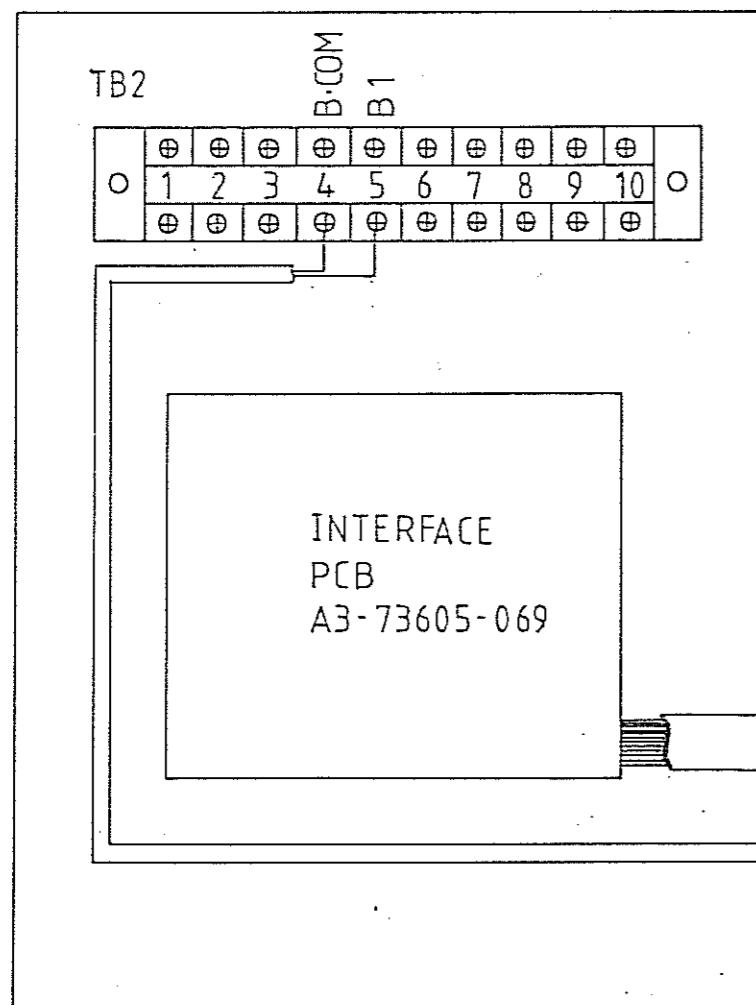
CHK. BY

APPROV.

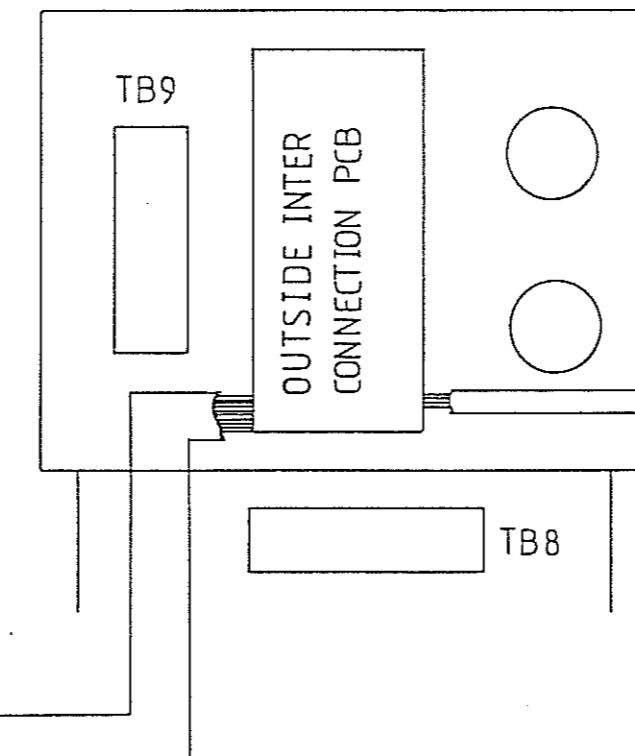
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ITEM	PART NO.	DESCRIPTION	REQ
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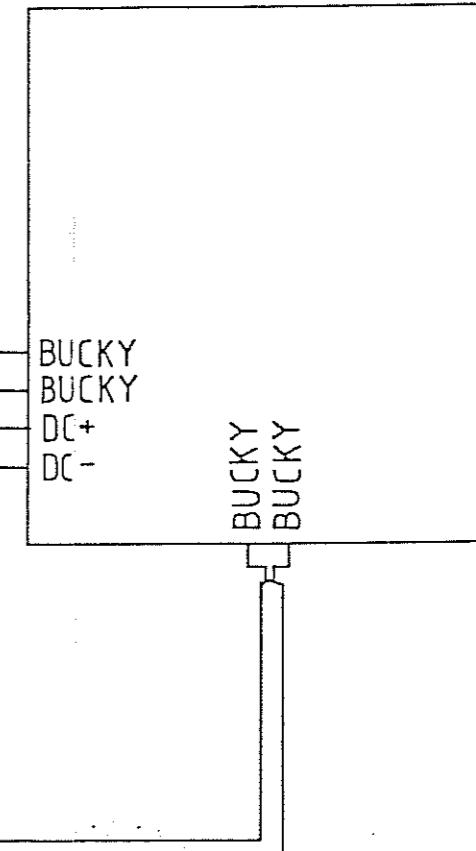
CONTROL CONSOLE



HIGH VOLTAGE TRANSFORMER



BUCKY DEVICE



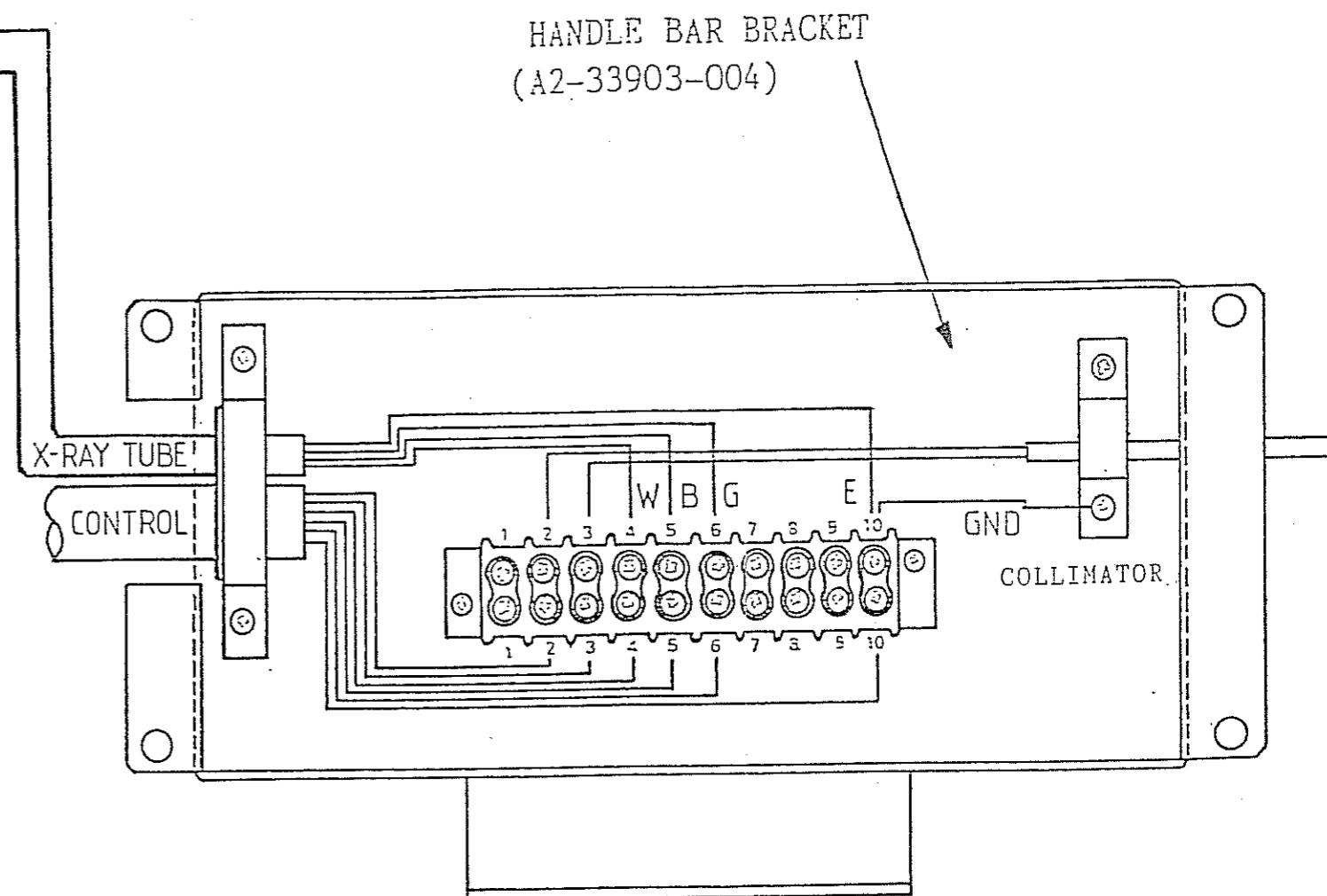
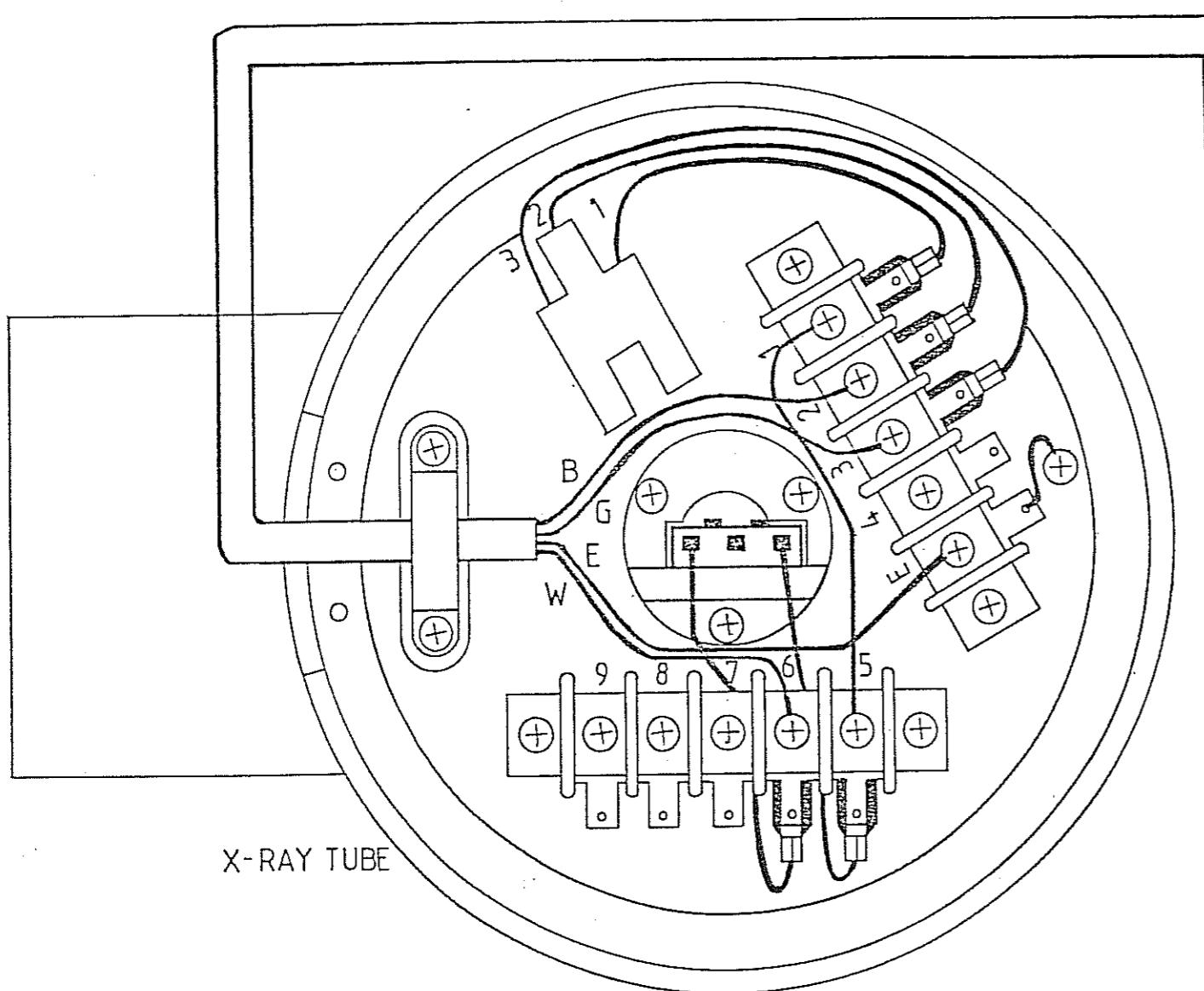
SYSTEM CABLING DATA #4

- * YOU CAN SELECT "A" OR "B" WIRE FOR VERTICAL BUCKY STAND IN ACCORDING TO YOUR ROOM CONDITION.
- "A" MEANS VIA HIGH VOLTAGE TRANSFORMER.
- "B" MEANS DIRECT CONNECTION CONTROL TO BUCKY.

TOLERANCES UNLESS OTHERWISE MARKED		
ANGULAR $\frac{1}{2}^{\circ}$	DIMENSIONS ABOVE LINE ARE IN MILLIMETERS	METERS
	DIMENSIONS BELOW LINE ARE IN INCHES	
SURFACE FINISH	NO DEC. PLACE	$\pm .06$ IN ± 1.5 MM
	1 PLACE DEC.	$\pm .03$ ± 0.8
$\sqrt{= 125}$	2 PLACE DEC.	$\pm .015$ ± 0.38
ASA B46.1	3 PLACE DEC.	$\pm .005$ ± 0.13

CONFIDENTIAL PROPERTY OF			PART NO.
DONG-A X-RAY CO., LTD.			
DR. BY <i>8093k</i>	CHK. BY	APPROV.	
DATE 6-1-87	DATE	DATE	
A3			
SHEET 3 OF			

ITEM	PART NO.	DESCRIPTION	REQ
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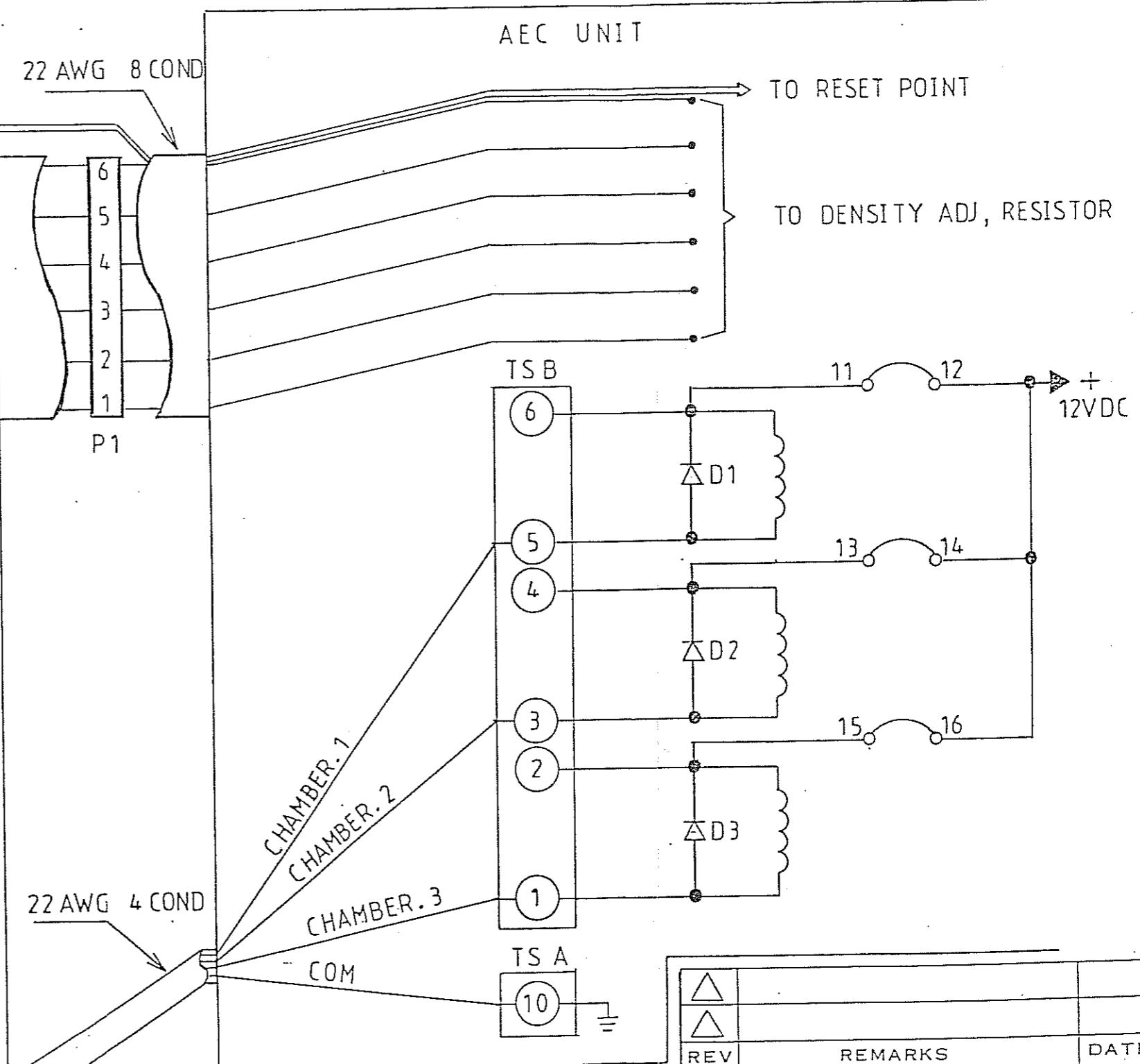
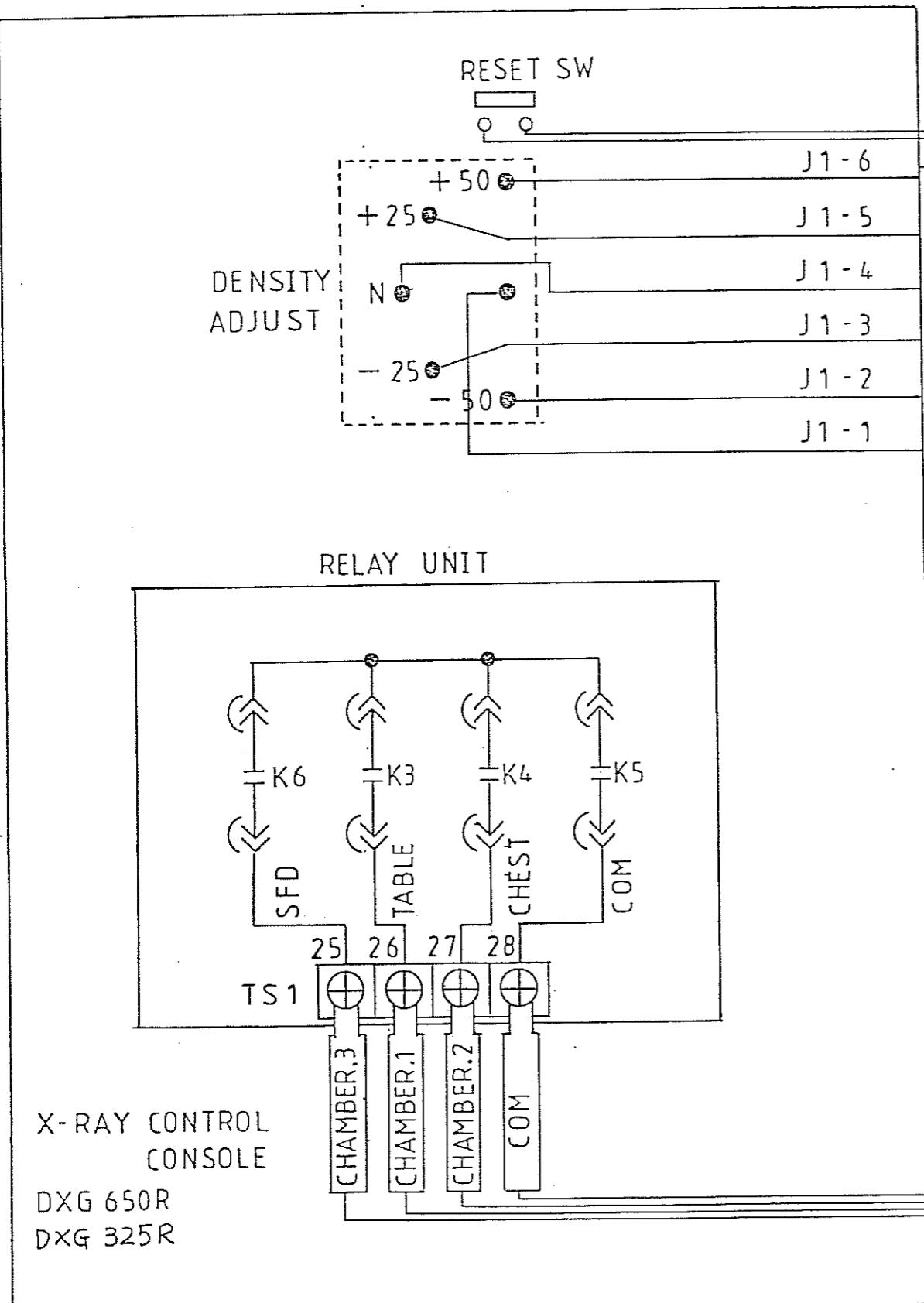
SYSTEM CABLING DATA #5

USED ON	REQ'D	ASSY. NO.

TOLERANCES UNLESS OTHERWISE MARKED		DIMENSIONS ABOVE LINE ARE IN MILLIMETERS		MATERIAL
ANGULAR	$\pm 1^\circ$ $\pm \frac{1}{2}$	DIMENSIONS BELOW LINE ARE IN INCHES		
SURFACE FINISH	NO DEC. PLACE	$\pm .06$ IN	± 1.5 MM	
	1 PLACE DEC.	$\pm .03$	± 0.8	
$\sqrt{=} 125$	2 PLACE DEC.	$\pm .015$	± 0.33	SCALE
ASA B46.1	3 PLACE DEC.	$\pm .005$	± 0.13	RELEASE DATE

CONFIDENTIAL PROPERTY OF
DONG-A X-RAY CO., LTD.DR. BY CHK. BY APPROV.
DATE DATE DATE

PART NO.	A 3	SHEET OF



TOLERANCES UNLESS OTHERWISE MARKED

ANGULAR	DIMENSIONS ABOVE LINE ARE IN MILLIMETERS		METERS
$\pm \frac{1}{2}^{\circ}$	DIMENSIONS BELOW LINE ARE IN INCHES		
SURFACE FINISH	NO DEC. PLACE	$\pm .06$ IN	± 1.5 MM
	1 PLACE DEC.	$\pm .03$	± 0.8
$\sqrt{125}$	2 PLACE DEC.	$\pm .015$	± 0.38
ASA B46.1	3 PLACE DEC.	$\pm .005$	± 0.13

CONFIDENTIAL PROPERTY OF
DONG-A X-RAY CO., LTD.DR.BY CHK.BY APPROV.
DATE DATE DATE

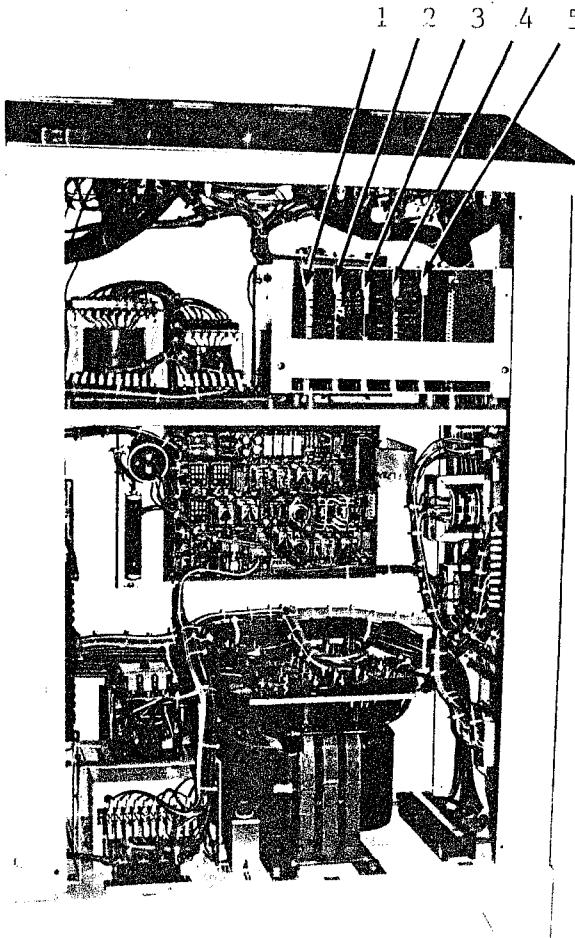
USED ON REQ'D ASSY.NO.

DATE DATE DATE

PART NO.
A 3

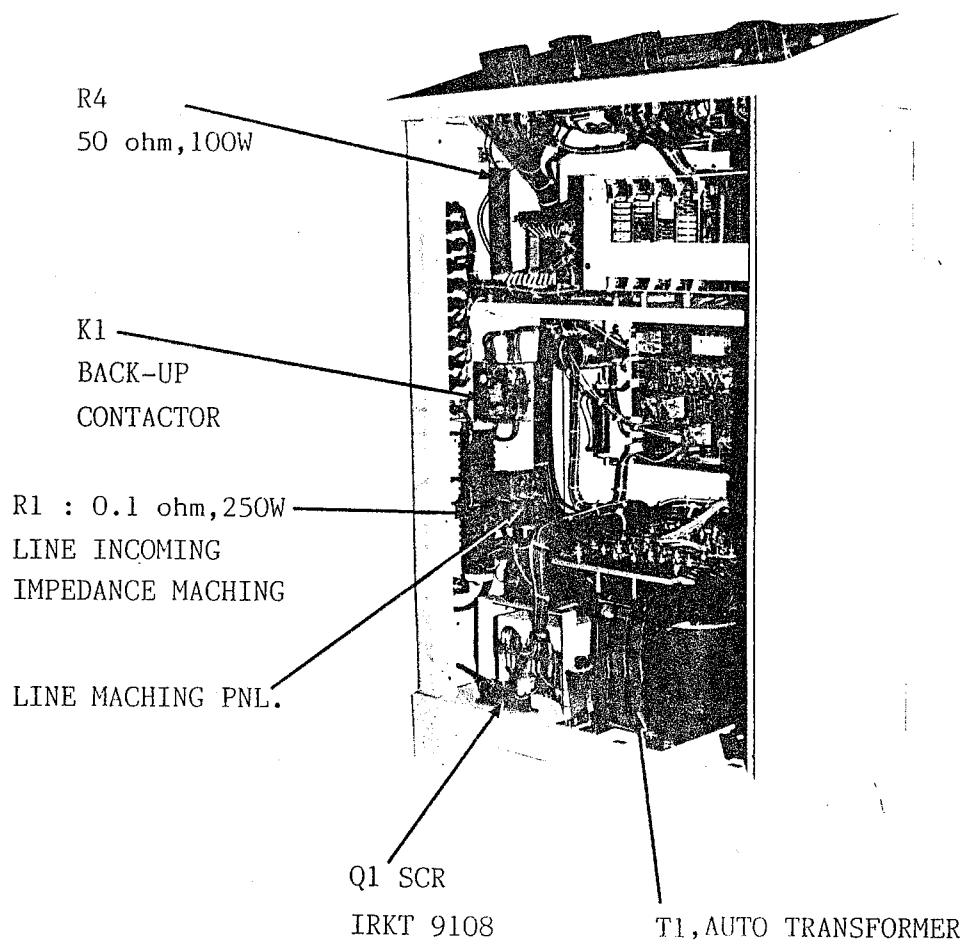
SHEET OF

28 1

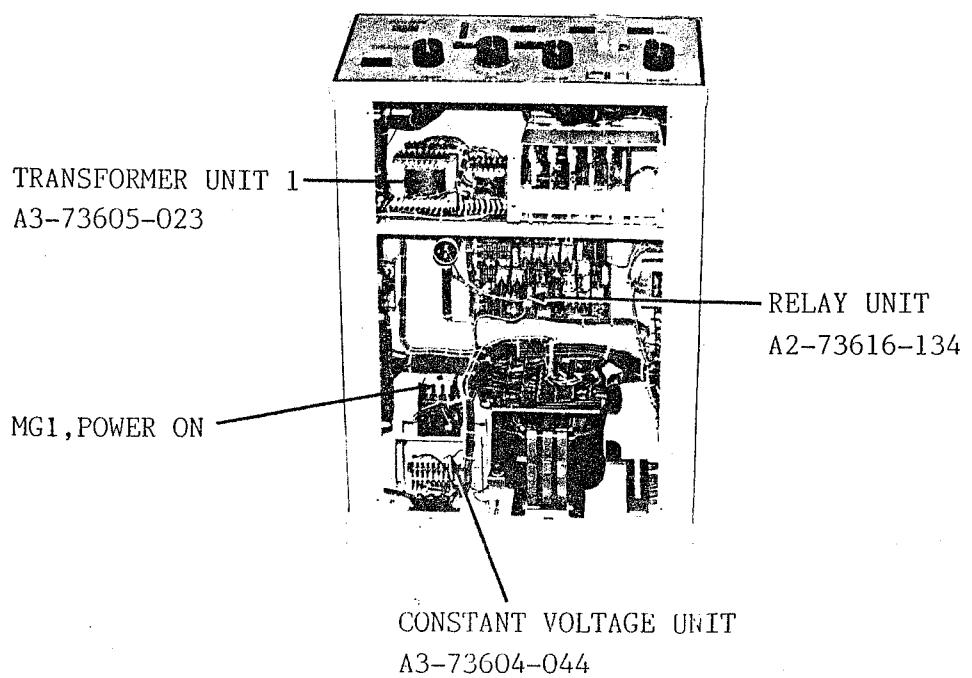


- 1 PCB 1 (POWER & OLP : A2-73616-114)
- 2 PCB 2 (ROTOR & TIMER : A2-73616-112)
- 3 PCB 3 (KVp METER & mA ADJUST : A2-73616-116)
- 4 PCB 4 (mA UNIT : A1-73616-118)
- 5 PCB 5 (CONTROL UNIT : A2-73616-124)

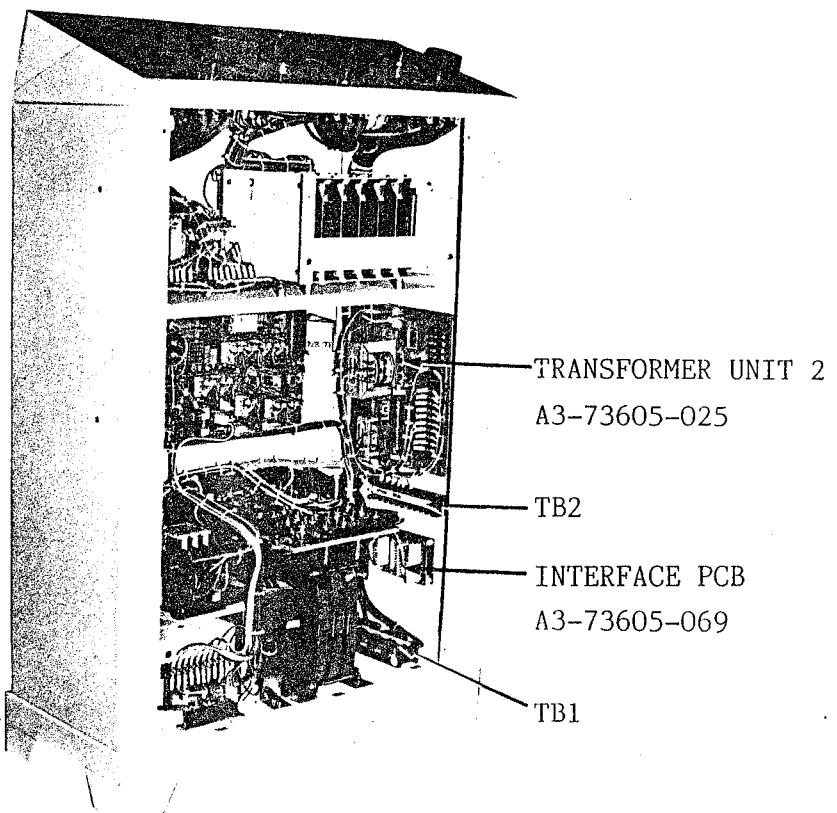
COMPONENT LAYOUT #1



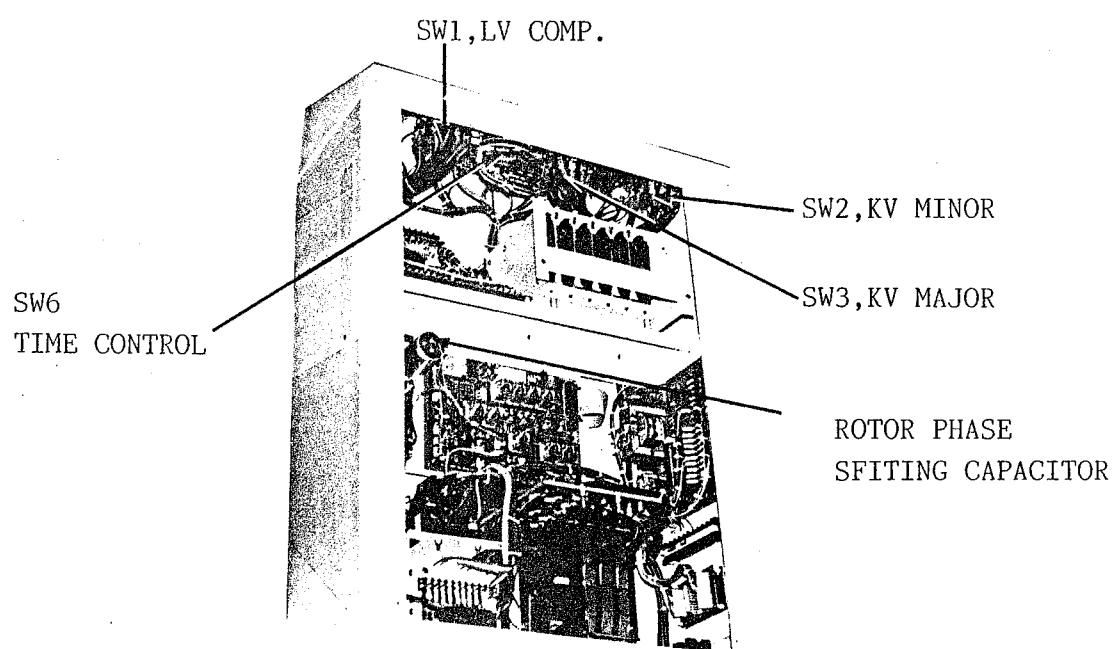
COMPONENT LAYOUT #2



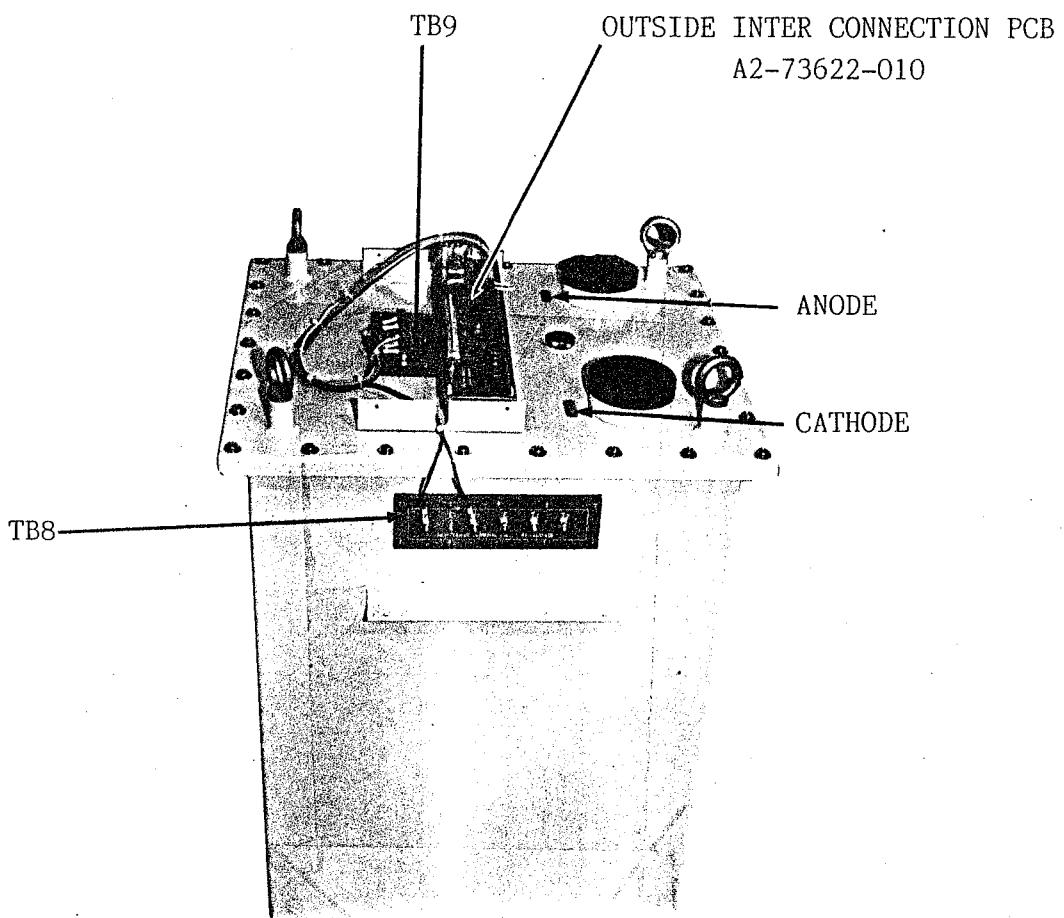
COMPONENT LAYOUT #3



COMPONENT LAYOUT #4



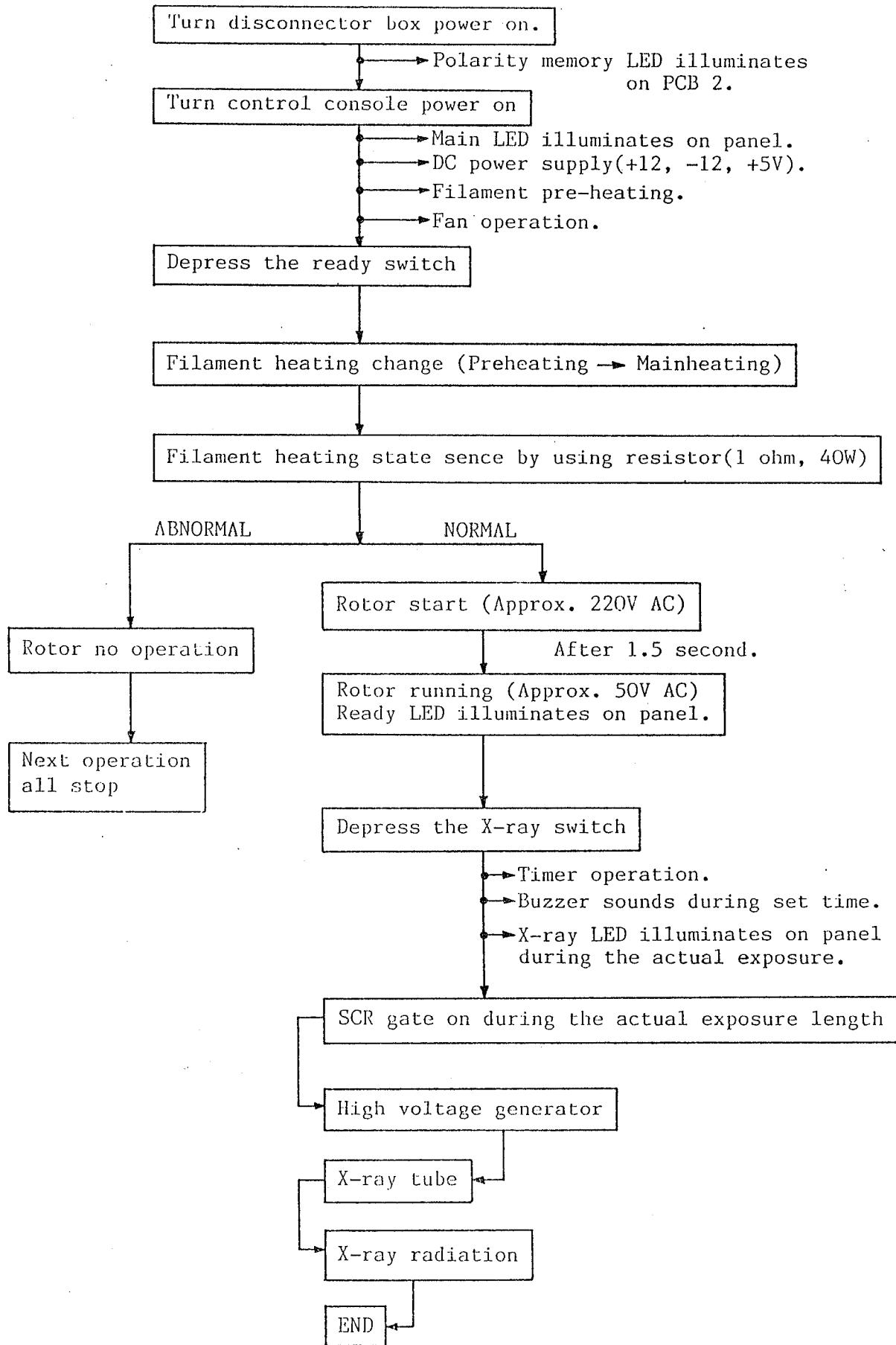
COMPONENT LAYOUT #5



NEVER LEAVE N1 CIRCUIT OPEN ON
HIGH TENSION TRANSFORMER OR
CONTROL CONSOLE.

COMPONENT LAYOUT #6

OPERATION SEQUENCY



SYSTEM CALIBRATION

It is very important to fully understand all informations and instructions, before install and calibrating any equipments.

Check all connections between each components, refer to system calibration #1, #2 or #3, and system wiring information for kVp, mA, space charge compensation and timer calibration.

1. Ensure primary leads T1 and T2 are not connected at the high tension transformer.
2. Check grounding.
 - 2.1 Verify all ground connections.
 - 2.2 Neutral to TB1-3 should be less than 0.05 ohms.
3. Turn the line compensator switch, kVp major and minor switches all the way to counter-clock wise.
4. Verify that main power on and off switch is off position.
5. Turn disconnect box power on and measure the voltage at the TB1-1 and TB1-2. Record the voltage measured.

Incoming line power _____ V AC RMS

6. Turn disconnect box power off, and connect the lead "LC" to the proper terminal on the panel #1. (Panel #1 is line matching panel)

Incoming line voltage	Incoming line matching terminal No.
170 - 210	1
211 - 225	2
226 - 235	3
236 - 250	4

If circumstances require operation outside these limits, the system may, in many instances, function satisfactorily; however, it is the installer's responsibility to ensure that such operation does not result in full capability of the system.

- FIRST OF ALL, DISCONNECT THE TB3-5 ON CONSTANT VOLTAGE.
7. Connect the DVM between terminal #1 and #18 on the auto-transformer, and turn disconnect box power on.
 8. Turn control console power on and adjust the line compensation switch until 242V AC on the DVM.
 9. Check for "ON" switch lamp lights.
 10. Check kVp major and minor switch functions.
Select 50mA station and the kVp major selector controls 40 to 125kVp in 10 kVp per a step and minor selector should be 0 to 18 kVp in 2 kVp per a step.
 11. Rotor circuit . (CONNECT THE TB3-5 ON CONSTANT VOLTAGE)
Rotor time delay is set for 1.0 second.
To verify this adjustment proceed as follows.
 - 11.1 Connect isolated oscilloscope between P13-3 and P13-4 or P13-5. (MAX.AC 230V)
 - 11.2 Depress the ready switch on the control console.
 - 11.3 Verify the rotor time delay and after the delay time the "READY" LED should be illuminated.
 - 11.4 Rotor boost and run voltage can be checked and re-adjusted at this point.
The rotor boost voltage should be approximately 230V AC, and the running should be between 40 to 50V AC.

THIS SETTING ACCOMMODATES MOST X-RAY TUBES.

- 11.5 If necessary to re-adjust the rotor time delay, adjust R4 on PCB-2.

12. Filament boost.

Ensure that primary leads (T1,T2) are not connected at the high tension transformer.

12.1 Connect DVM between TP G on PCB5 and P1-1 on Interface PCB.

12.2 Select 200 mA,1/10 [0.1] sec. and 70kVp.

12.3 Turn the generator power on.

12.4 Depress the ready switch and observe the filament through the X-ray tube port.

12.5 Depress the ready switch and record the voltage measured.

Primary filament _____ V DC

13. Timer calibration.

13.1 Select an exposure time of 1.0 second on the control console.

13.2 Depress Ready S/W and wait for rotor time delay "READY" LED indication.

13.3 Make an exposure and verify yellow "X-ray" LED is illuminated and audible indication for 1.0 second.

Yellow "X-ray" LED exposure light and audible indication may not be observable on short time selections.

13.4 Check all time selection position in this manner.

13.5 If necessary adjust R46 for 1/120 second starting pulse and R50 for master on PCB2 controls all time station.

14. mA calibration.

Ensure that incoming power from disconnect box is off.

NEVER LEAVE N1 CIRCUIT OPEN ON HIGH TENSION TRANSFORMER OR CONTROL CONSOLE.

14.1 Connect high tension transformer primary leads T1 and T2.

14.2 Refer to system calibration #1, #2 or #3.

14.3 The following safety precautions are observed.

- * X-ray tube port should be blocked.
- * Exposure technique factors are should be well within tube ratings.
- * Exposure intervals are long enough to prevent tube heating.

The incoming power line should be no worse 5% regulation. If regulation exceed 5%, the generator must be derated to a level such that a full load exposure causes no more than a 5% drop on the power line.

- 14.4 Turn disconnect box power on.
- 14.5 Turn the generator on, select 200 mA, 70 kVp and 1/10[0.1] second.
- 14.6 Make an exposure and measure the X-ray tube current.

All mA stations are calibrated with 6m[8m for export] long high tension cables at the factory, due to general radiographic system the cable length should be Approx. 12m for ceiling suspended tube support so that calibration may be necessary.

- 14.7 Adjust all mA stations follows.

PCB - 3

mA station	Adjustment pot.
50 S	R 43
100 S	R 42
150 L	R 41
200 L	R 40
300 L	R 39

15. Space charge compensation should be checked as follows.
- 15.1 Select 200mA, 1/10[0.1] sec. Make an exposure at 50, 70 and 100kVp and record the mA during each exposure.

50 kVp _____ mA

70 kVp _____ mA

100 kVp _____ mA

15.2 Space charge compensation can be adjusted all mA stations as follow.

PCB - 4

mA station	Adjustment pot.
50 S	R57
100 S	R58
150 L	R59
200 L	R60
300 L	R61

15.3 Record the actual mA and kVp during each exposure on the space charge compensation record sheet.

Space charge compensation record sheet.

mA station selected	kVp selected	Actual mA reading	Actual kVp reading
50 S	50 kVp	_____ mA	_____ kVp
50 S	70 kVp	_____ mA	_____ kVp
50 S	100 kVp	_____ mA	_____ kVp
100 S	50 kVp	_____ mA	_____ kVp
100 S	70 kVp	_____ mA	_____ kVp
100 S	100 kVp	_____ mA	_____ kVp
150 L	50 kVp	_____ mA	_____ kVp
150 L	70 kVp	_____ mA	_____ kVp
150 L	100 kVp	_____ mA	_____ kVp
200 L	50 kVp	_____ mA	_____ kVp
200 L	70 kVp	_____ mA	_____ kVp
200 L	100 kVp	_____ mA	_____ kVp
300 L	50 kVp	_____ mA	_____ kVp
300 L	70 kVp	_____ mA	_____ kVp
300 L	100 kVp	_____ mA	_____ kVp

BLANK FOR USER

16. Generator to power line matching.
- 16.1 Select 50 mA, 70 kVp and 1.0 second, make an exposure and measure the tube voltage during exposure.
- 16.2 Select 300 mA 70 kVp and 1.0 second exposure.
If tube rating permit, and measure the tube voltage during the exposure.
- 16.3 If kVp at 300 mA is same as kVp at 50 mA the R1 incoming line matching resistor is set properly.
- 16.4 If kVp at 300 mA is higher than kVp at 50 mA, resistance to line matching resistor R1.
- 16.5 Repeat exposure as necessary to adjust R1.

17. kVp calibration.

Connect test equipment as shown system calibration #1, #2 or #3.

- 17.1 Select 200 mA, 70 kVp and 1/10 second.
- 17.2 Make an exposure and measure the actual tube voltage.
- 17.3 Adjust all mA stations follows.

PCB ~ 3

mA station	Adjustment pot.
50 S	R 29
100 S	R 28
150 L	R 27
200 L	R 26
300 L	R 25

17.4 kVp meter vertical compensation

- 17.4.1 Select 200 mA, 1/10 sec. Make an exposure at 50, 70 and 100 kVp and record the during each exposure.

kVp selected	Actual kVp reading	Actual mA reading
50 kVp	_____ kVp	_____ mA
70 kVp	_____ kVp	_____ mA
100 kVp	_____ kVp	_____ mA

17.4.2 kVp meter vertical compensation can be adjusted all mA station as follows.

PCB - 3

mA station	Adjustment pot.
50 S	R 8
100 S	R 7
150 L	R 6
200 L	R 5
300 L	R 4

17.4.3 Refer to the space charge compensation record sheet.

17.5 Re-check all mA station for mA and kVp indication versus actual read-out on test equipment.

18. Bucky circuit test.

Select Bucky #1 and verify that the Bucky operates during prep and exposure cycle.

If two Buckys are installed, verify Bucky #2 circuit is operational.

19. Over current protection test.

This generator provides primary over current protection.

19.1 Set the generator 300 mA, 80KVP at 1/10[0.1]sec. Make exposure and adjust R 3 until the primary over current protection circuit is functioning than back slightly R 3 on PCB 1.
(primary over current protection)

19.2 Verify "OVERLOAD" LED on the control console illuminates.

19.3 The general should be cleared once by using "OFF" switch after over current protection is detected.

20. Tube protection circuit.

The "OVERLOAD" LED illuminates any combination of mA, kVp and time, exceeding 90 % of the tube rating.

20.1 If overload occurs, no preparation.

21. Automatic exposure control. (Optional)

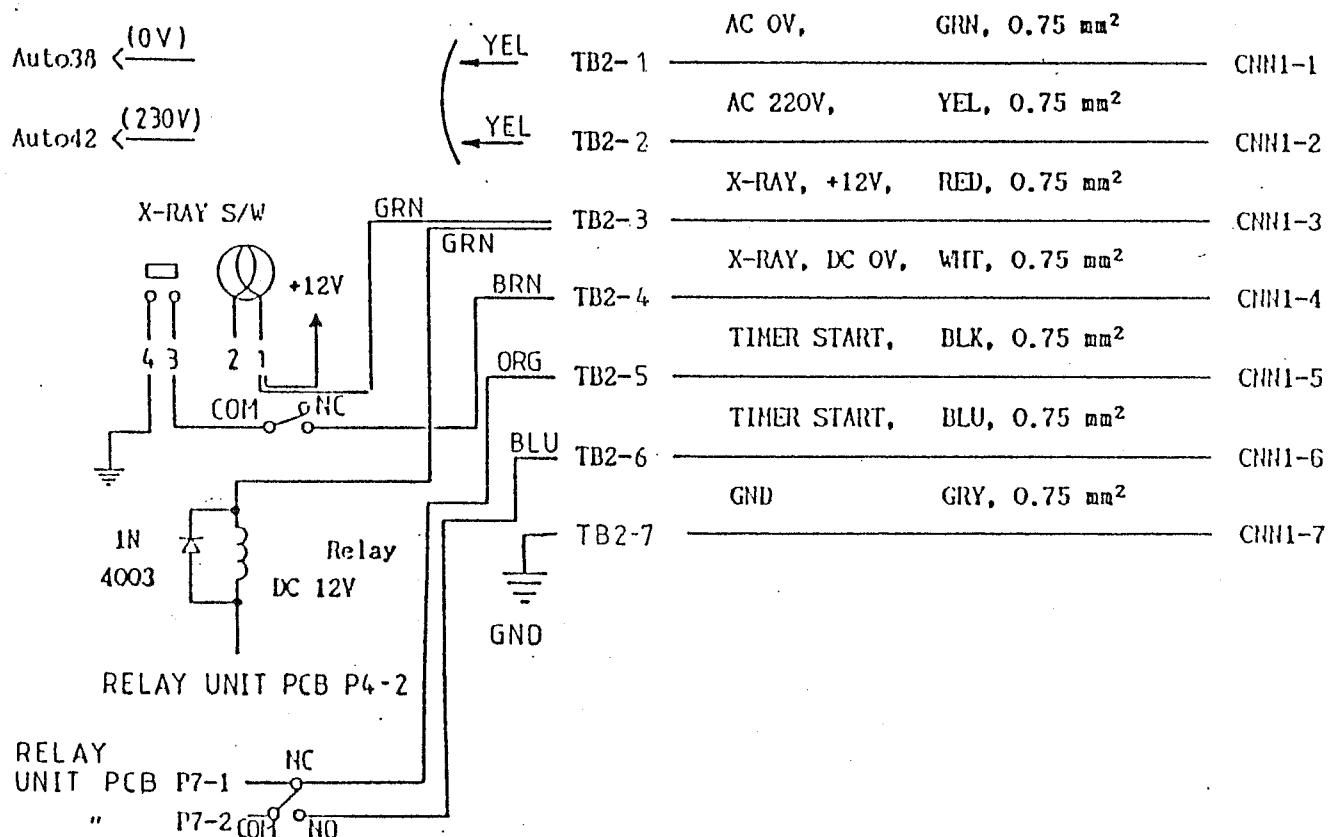
The double station automatic exposure control is as an optional device, it is factory installed and tested.

The double detection is made by I.I chamber for this generator.
(Refer to system cabling data)

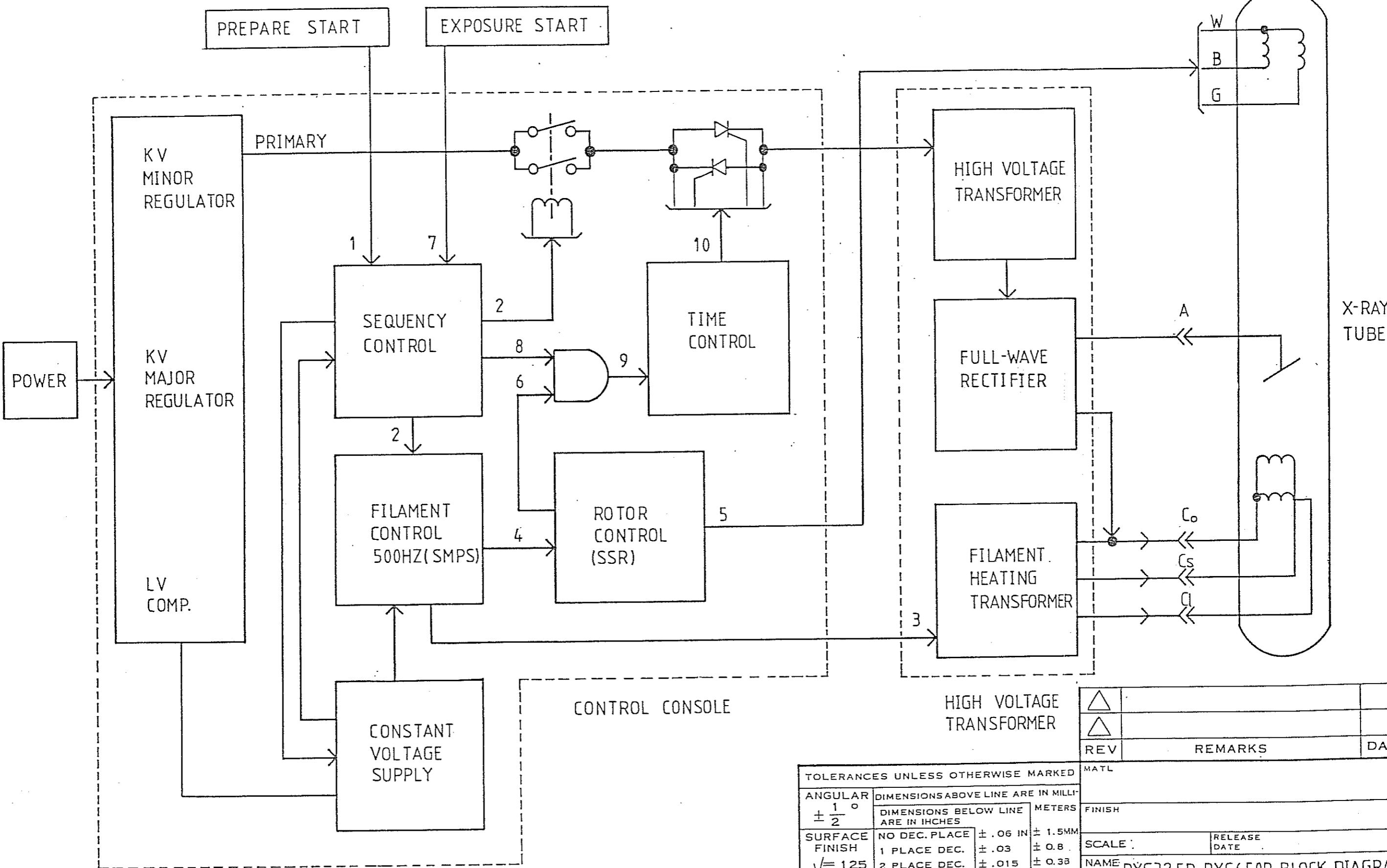
X-RAY CONTROL DEVICE KOB1 ELECTRIC WIRE LINK

**X-RAY control device
DXG 325R**

**table
KOB1**



ITEM	PART NO.	DESCRIPTION	REQ
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TOLERANCES UNLESS OTHERWISE MARKED	
ANGULAR $\pm \frac{1}{2}^{\circ}$	DIMENSIONS ABOVE LINE ARE IN MILLIMETERS
SURFACE FINISH $\sqrt{125}$	DIMENSIONS BELOW LINE ARE IN INCHES
ASA B46.1	METERS
NO DEC. PLACE	$\pm .06$ IN $\pm 1.5\text{MM}$
1 PLACE DEC.	$\pm .03$ ± 0.8
2 PLACE DEC.	$\pm .015$ ± 0.38
3 PLACE DEC.	$\pm .005$ ± 0.13

REV	REMARKS	DATE

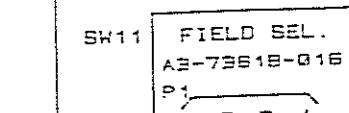
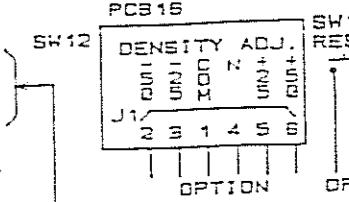
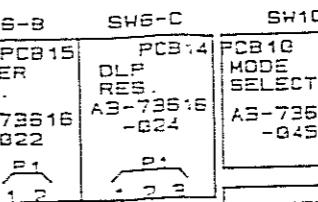
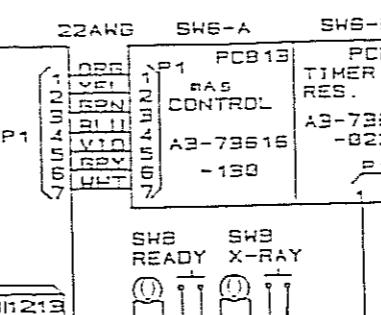
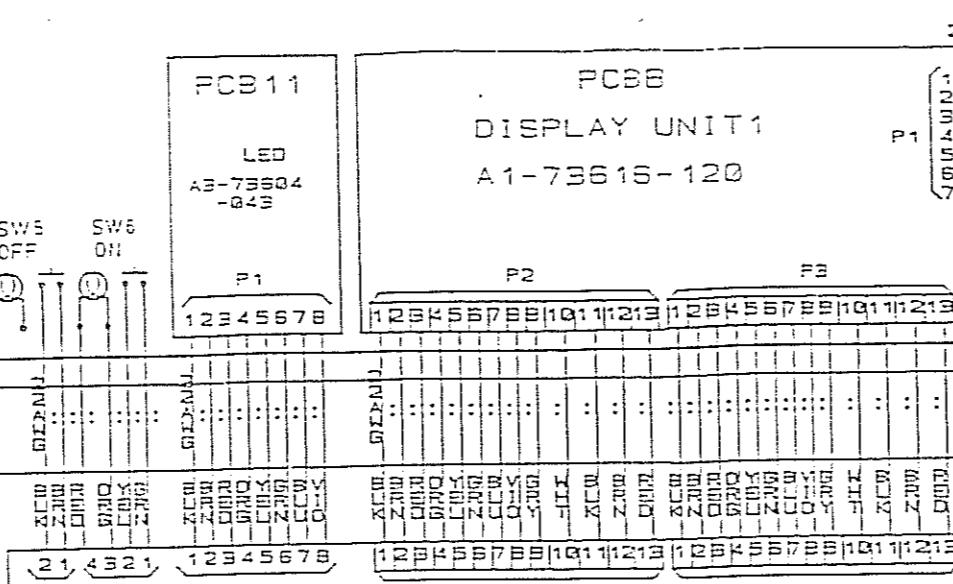
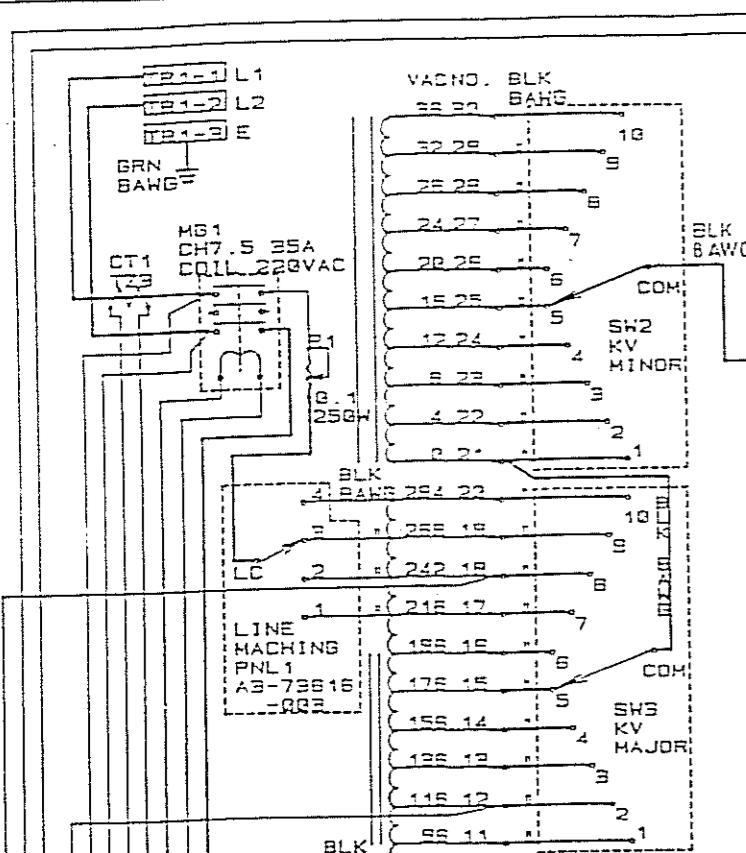
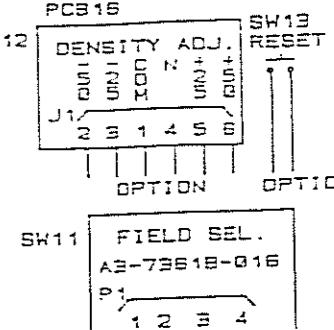
CONFIDENTIAL PROPERTY OF		PART NO.
DONG-A X-RAY CO., LTD.		A3
DR. BY	CHK. BY	APPROV.
DATE 01.05.5	DATE	DATE

USED ON	REQ'D	ASSY. NO.	ITEM	PART NO.	DESCRIPTION	REQ

PART NO. SHEET OR
A1-73605-103

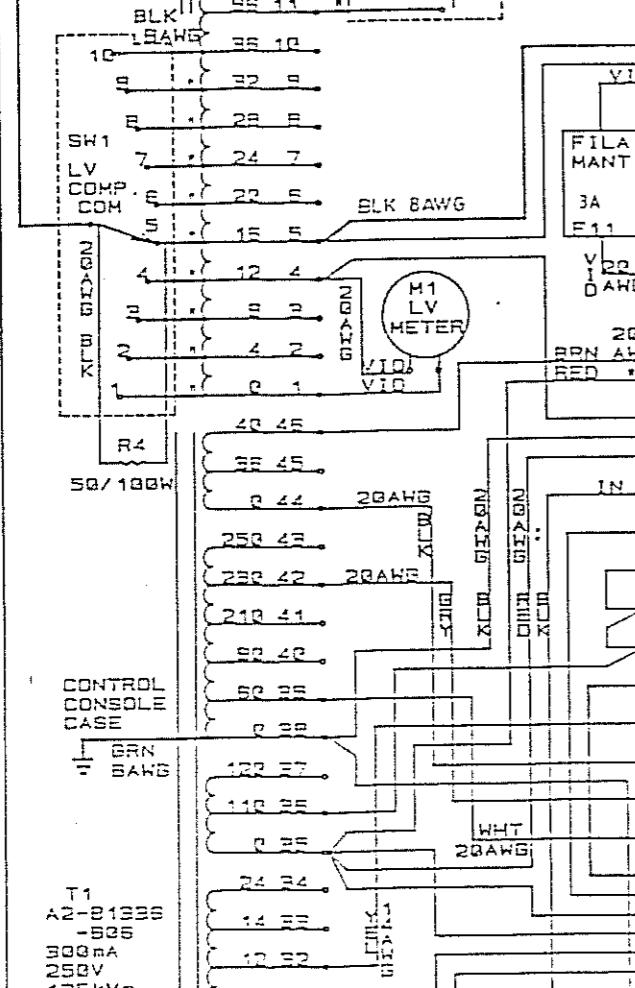
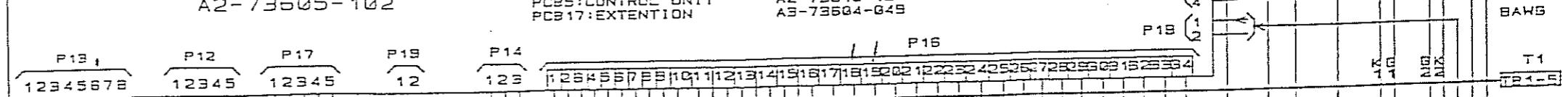
BILL OF MATERIAL

ITEM	PART NO.	DESCRIPTION	WHT	REC
PCB15				
SH12	DENSITY ADJ.	N		
	J1	2 3 1 4 5 6		



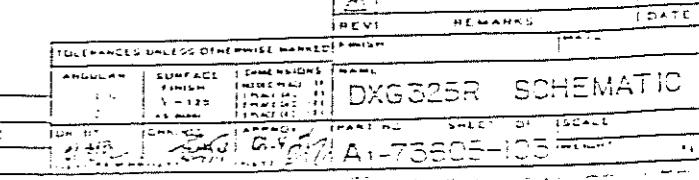
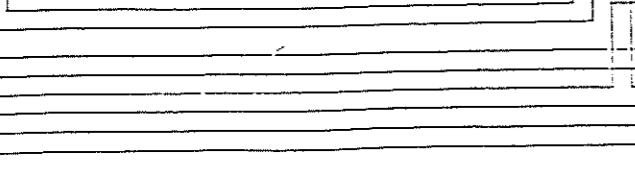
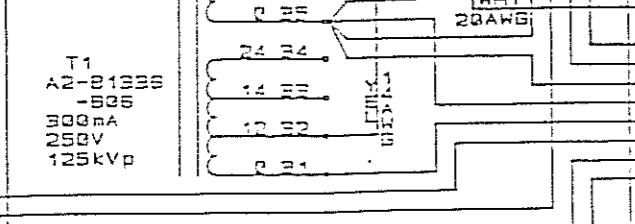
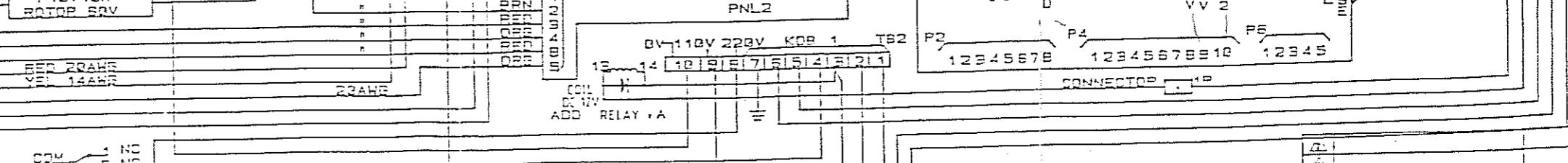
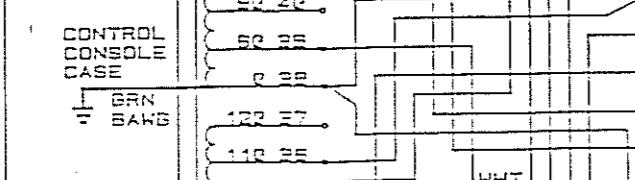
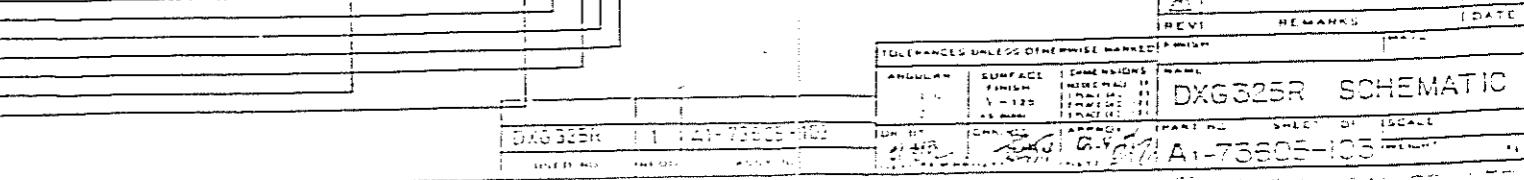
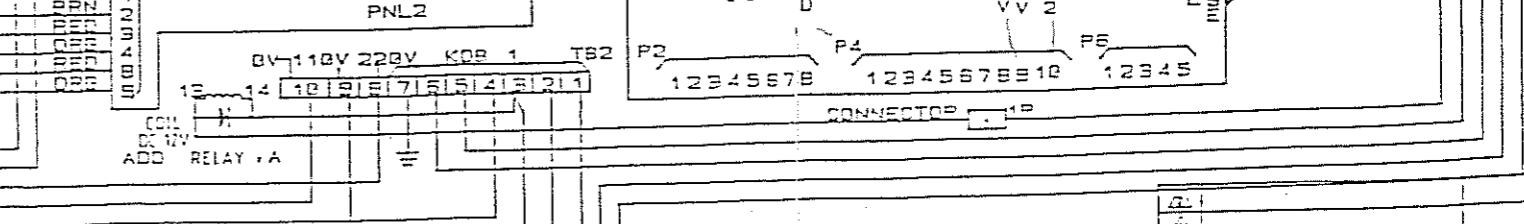
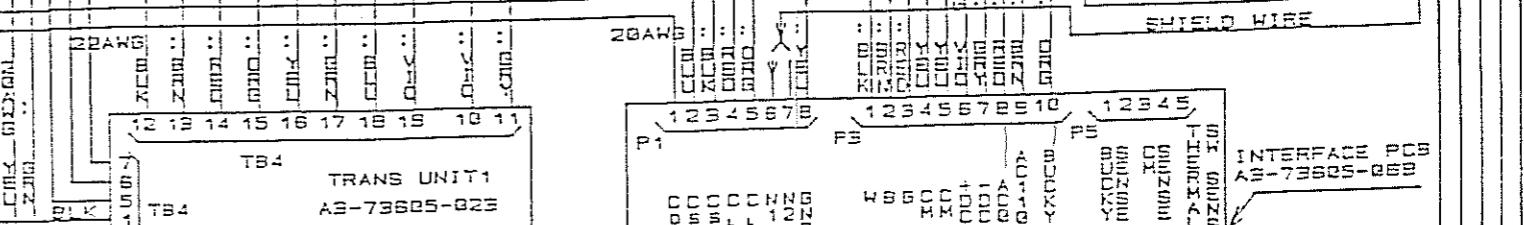
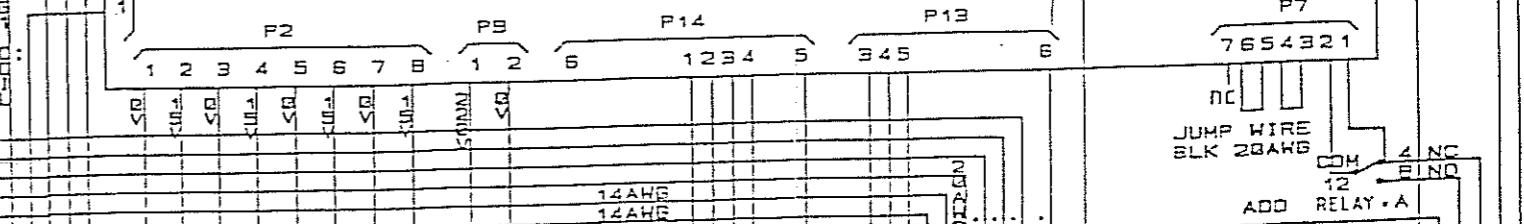
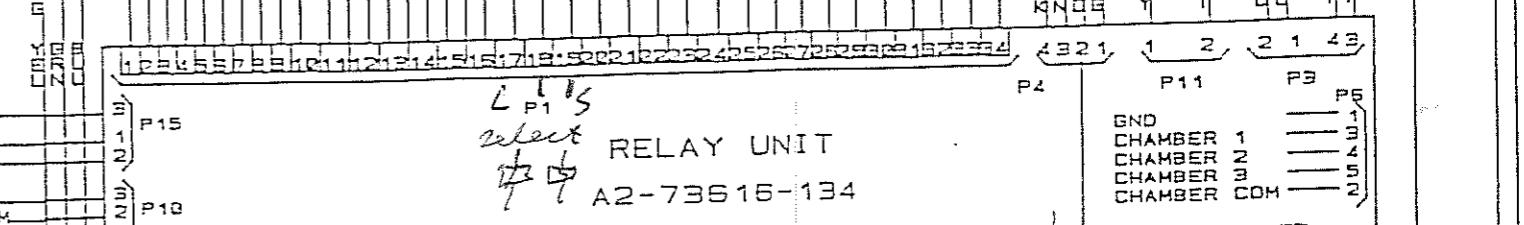
PCB1: POWER, OLP
 PCB2: ROTOR, TIMER
 PCB3: KVP METER, RA ADJ
 PCB4: RA UNIT
 PCB5: CONTROL UNIT
 PCB17: EXTENTION

PCB6
CONNECTOR UNIT
A2-73605-102



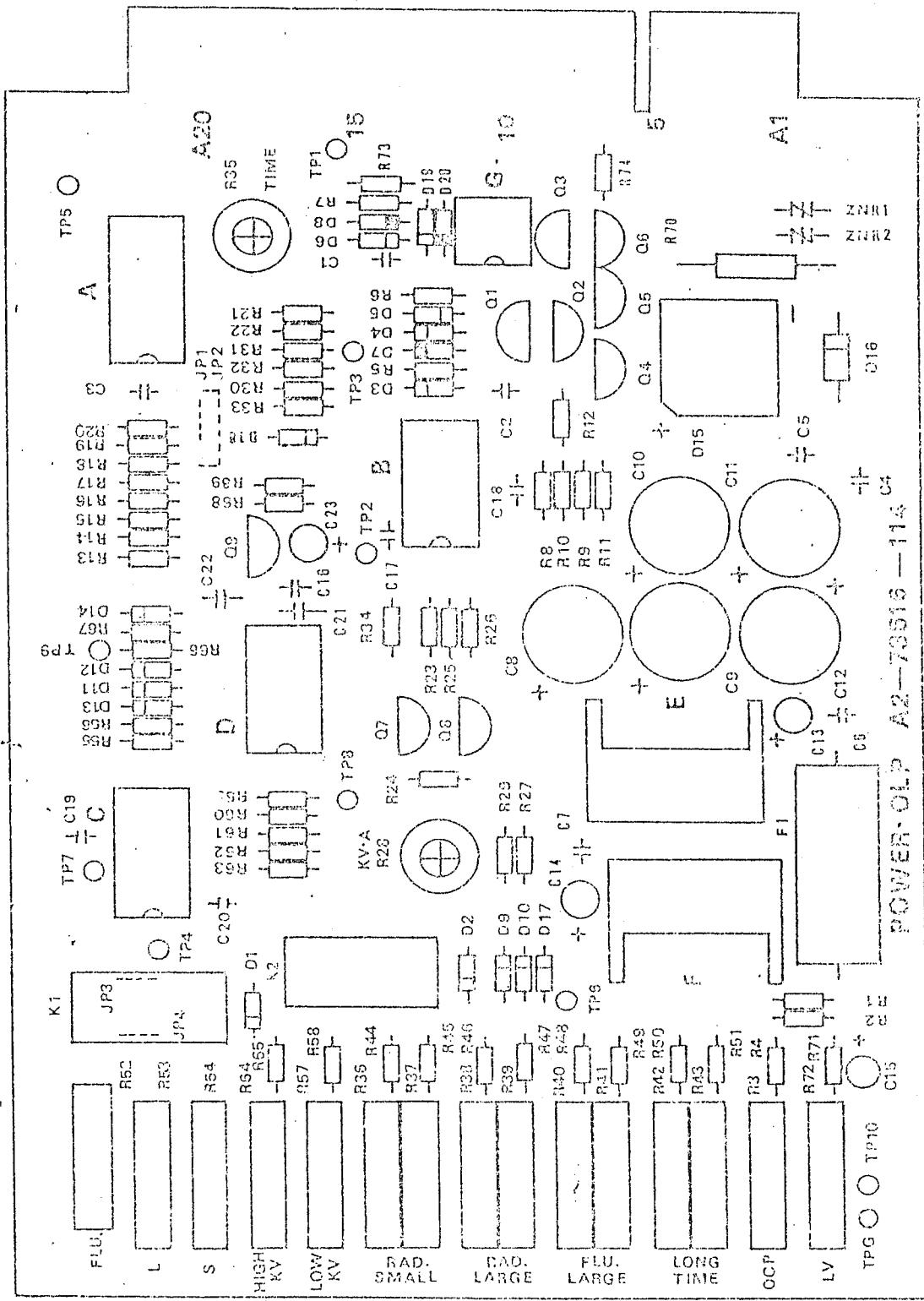
L P1
select
P16

RELAY UNIT
A2-73615-134



DXG325R SCHEMATIC

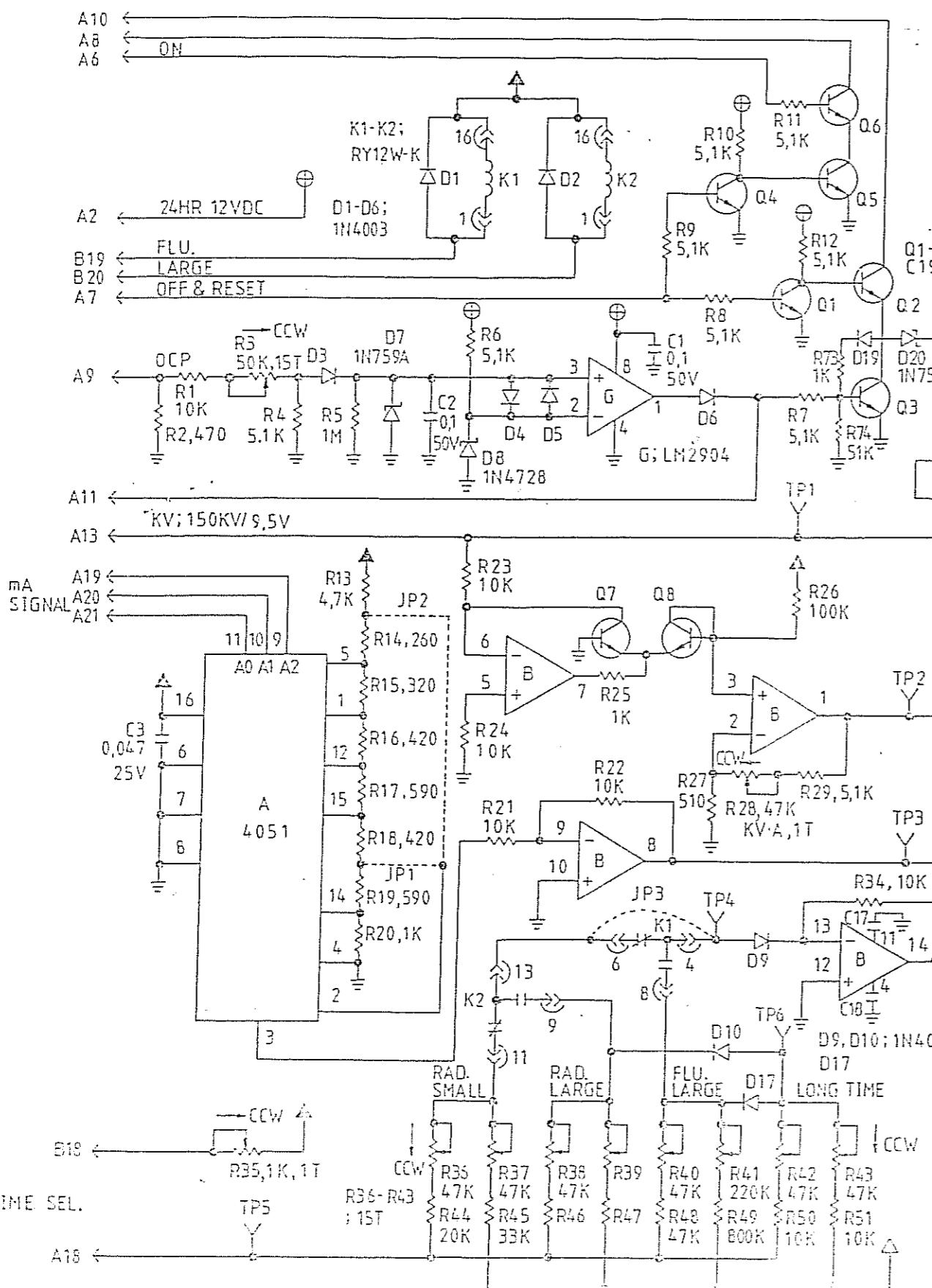
A1-73605-103

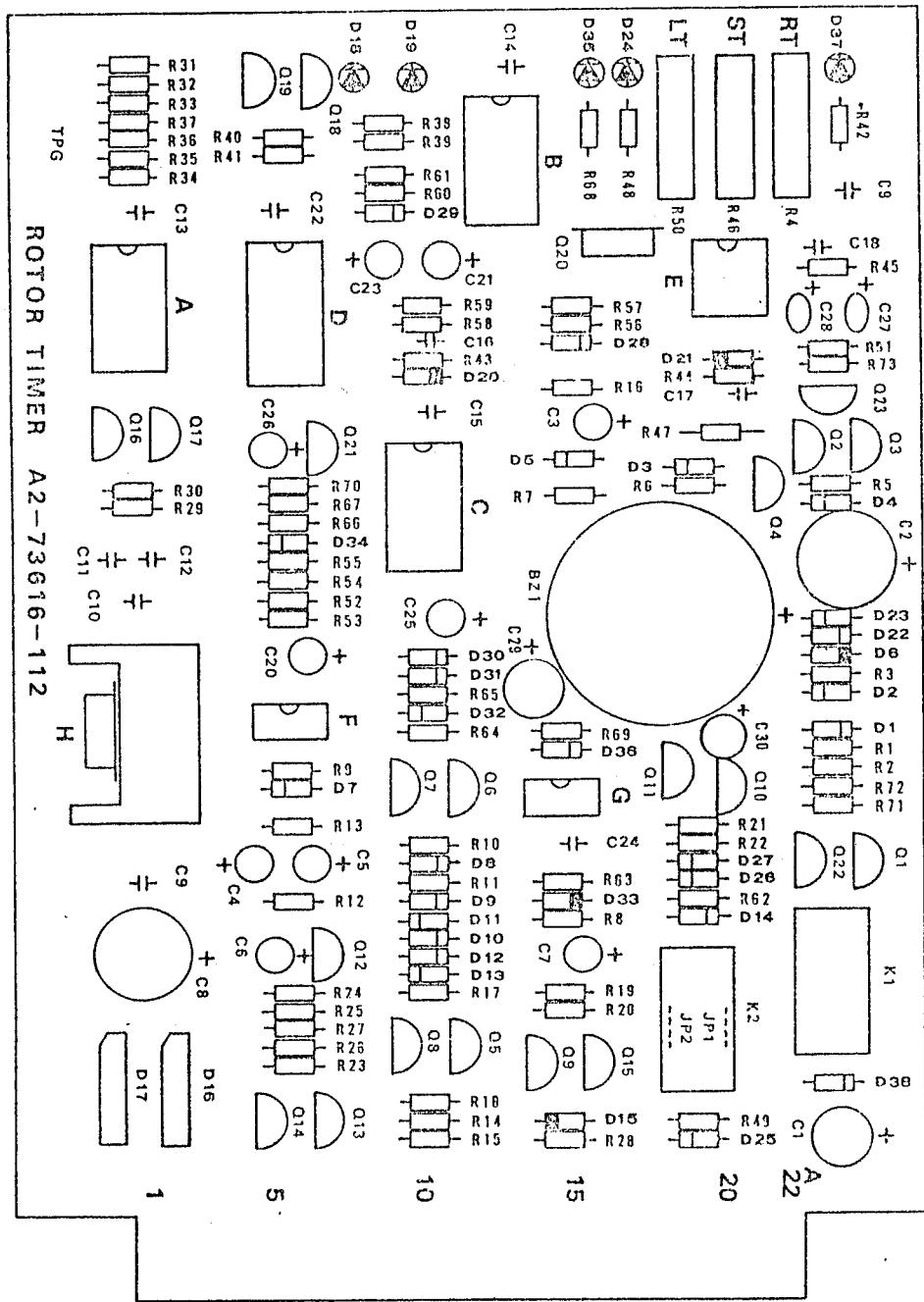


11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1

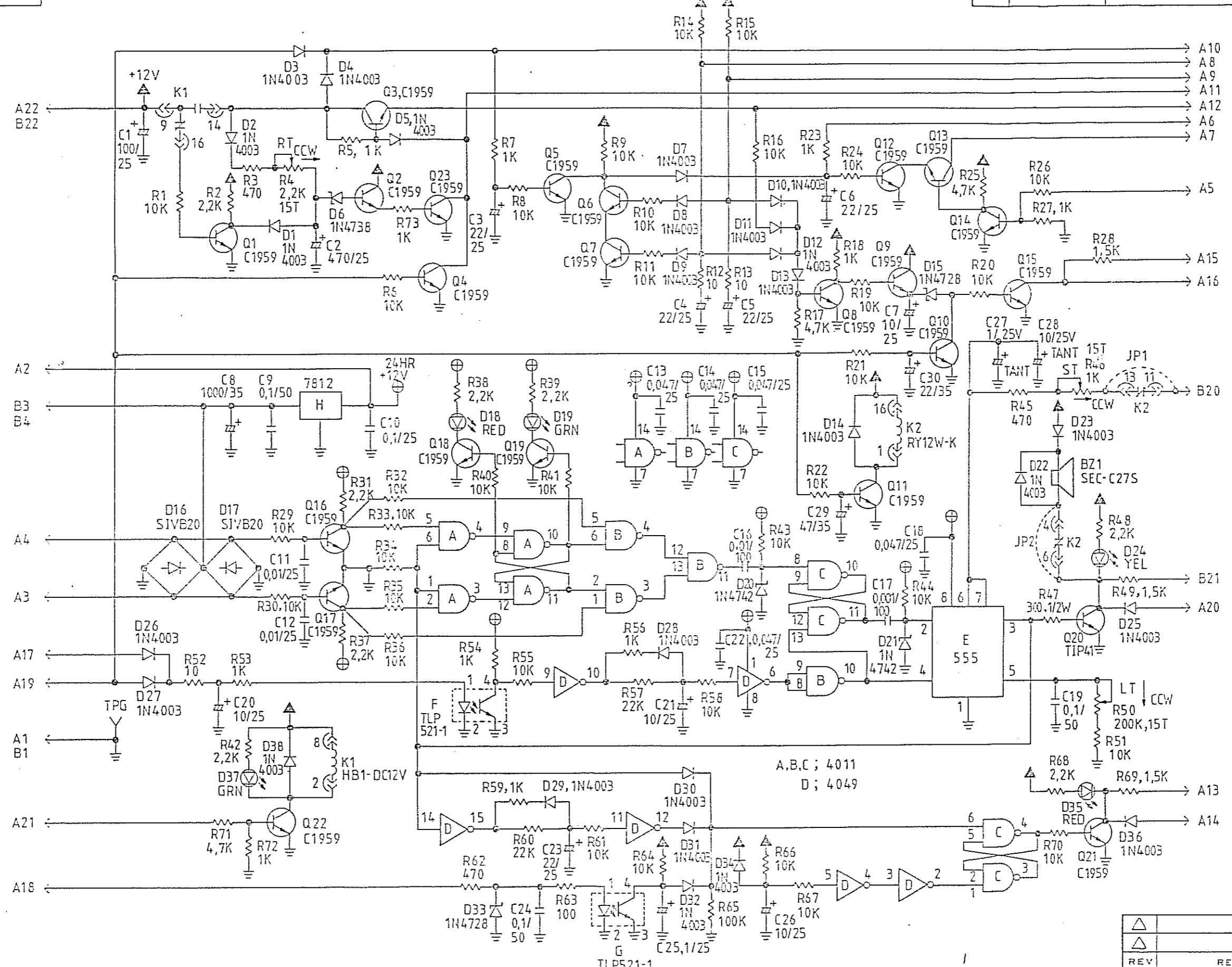
BILL OF MATERIAL

ITEM	PART NO.	DESCRIPTION	REQ
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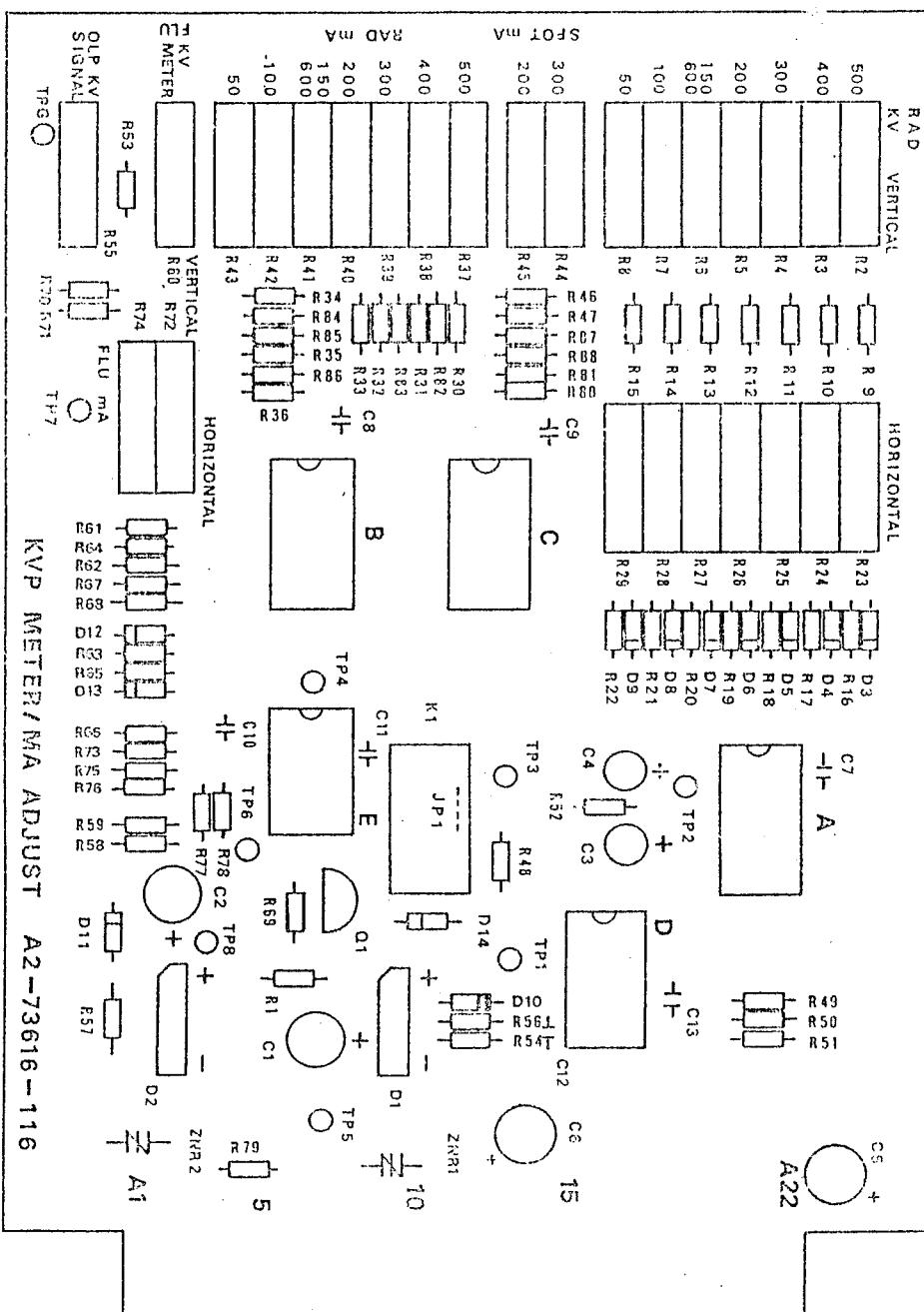




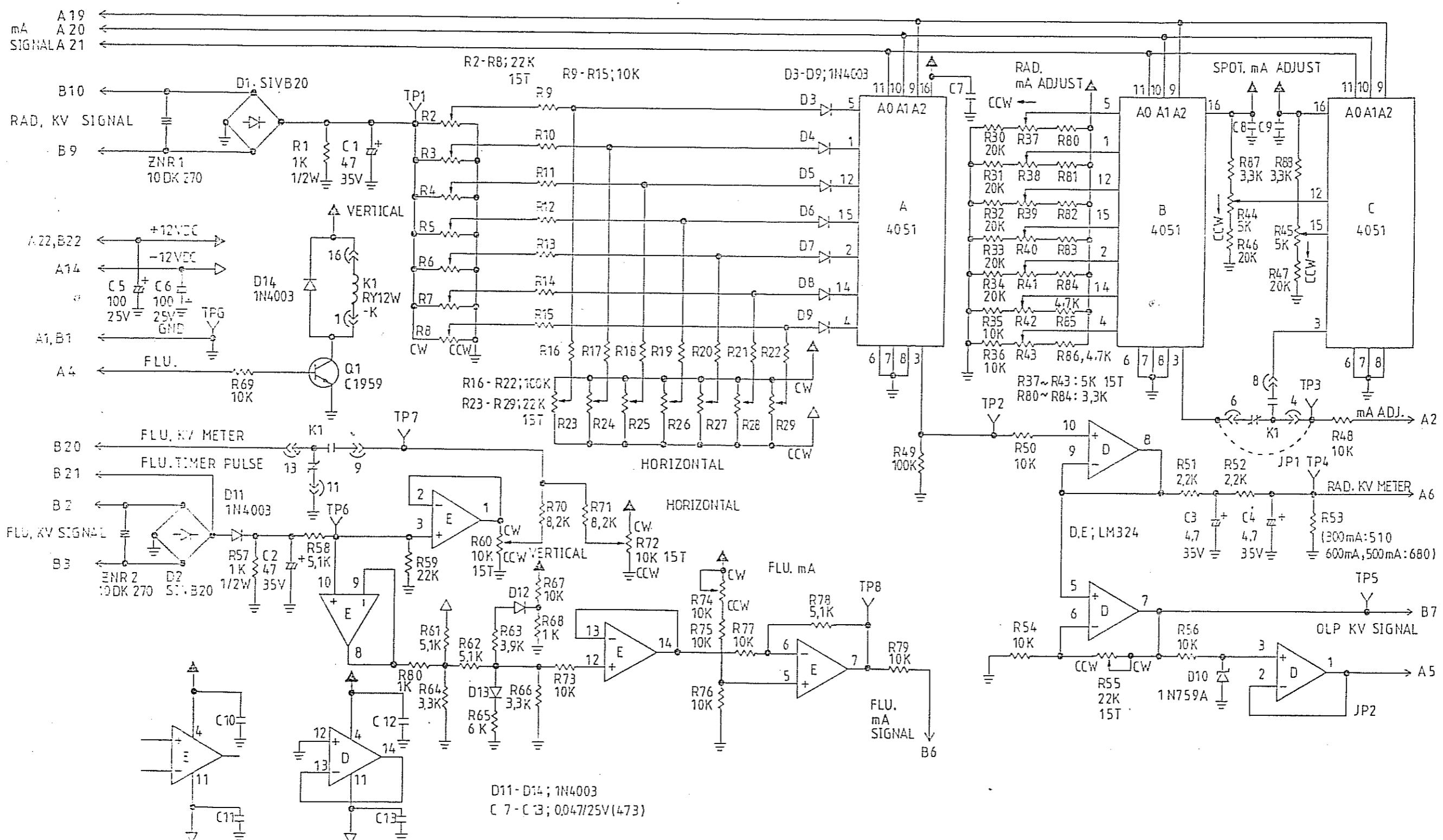
ITEM	PART NO.	DESCRIPTION	WHT	REQ
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TOLERANCES UNLESS OTHERWISE MARKED		MATL	FINISH
ANGULAR	SURFACE FINISH	DIMENSIONS	
1°	N/C PINS	TOP PLATE - 10 12 PLATE INC - 10 12 PLATE DEC - 10 12 PLATE TOL - 10	
		NAME	ROTOR TIMER SCHEMATIC
DR. BY	CHK. BY	APPROV.	PART NO. SHEET 1 OF 1
DATE 02/28/98	DATE	REV	SCALE NONE
USED NO.	REQD	ASSY NO.	A2 - 73616-112
DATE FEB/28/98	DATE	WHT	KP



ITEM	PART NO	DESCRIPTION	WHT	REQ
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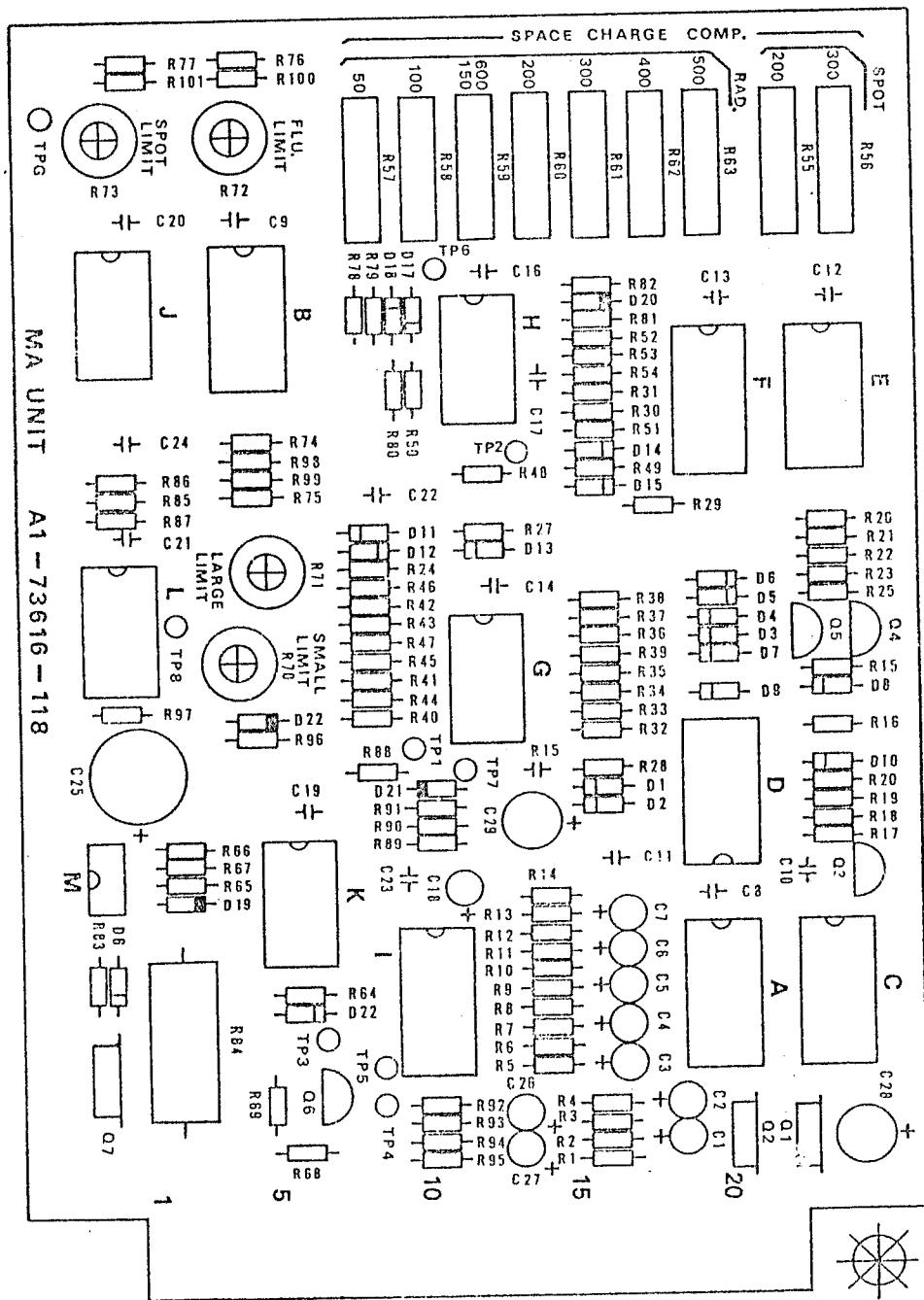
DXG525	1	A1-73680-001
DXG550	1	A1-73616-001
DXG650RF	1	A1-73629-001
DXG650R	1	A1-73619-001
DXG325R	1	A1-73605-009
USED NO.	RECD	ASST. NO.

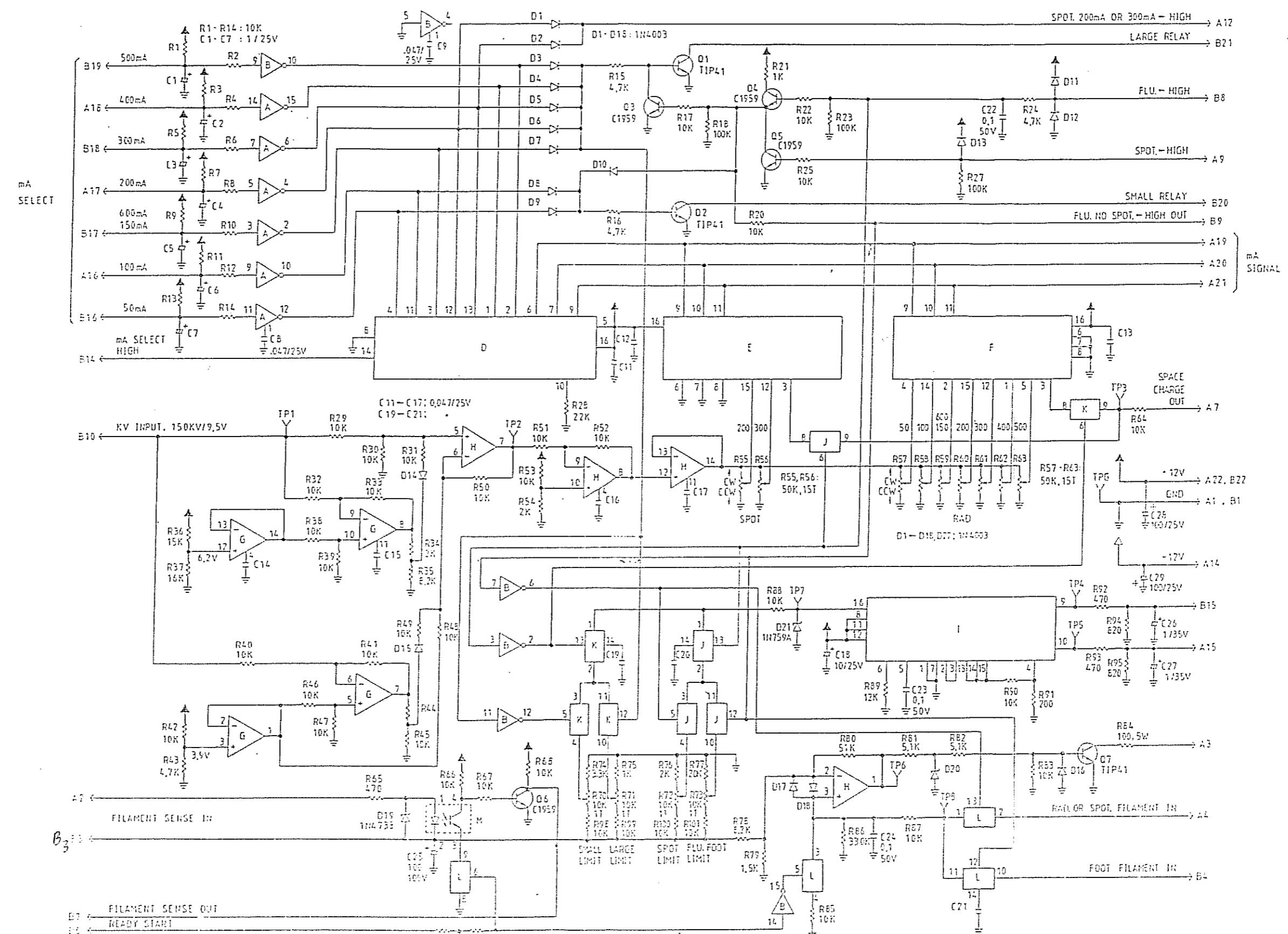
KV_P METER /mA ADJUST SCHEMATIC

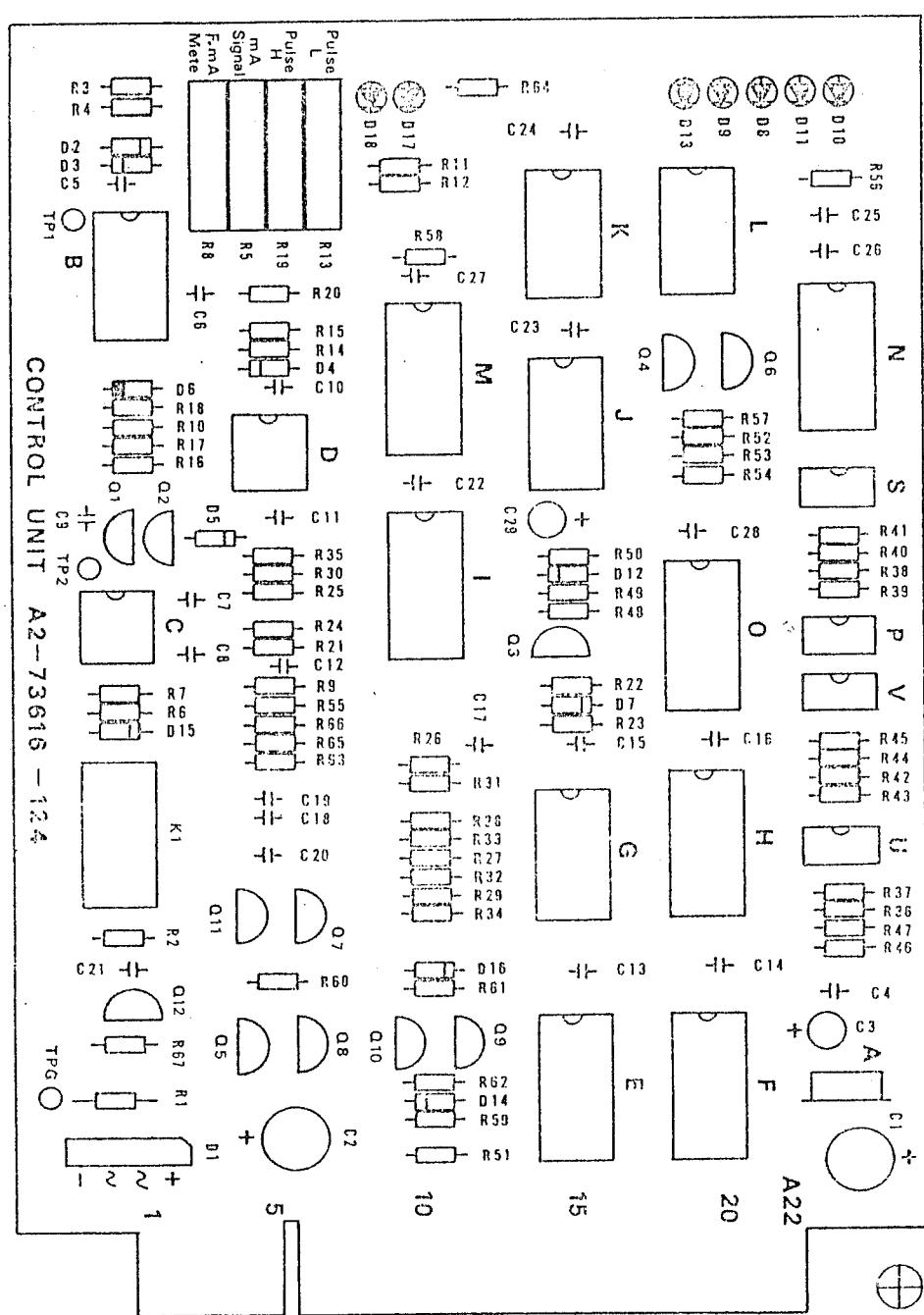
Digitized by srujanika@gmail.com

PART NO.	SHEET	OF	REV	SCALE
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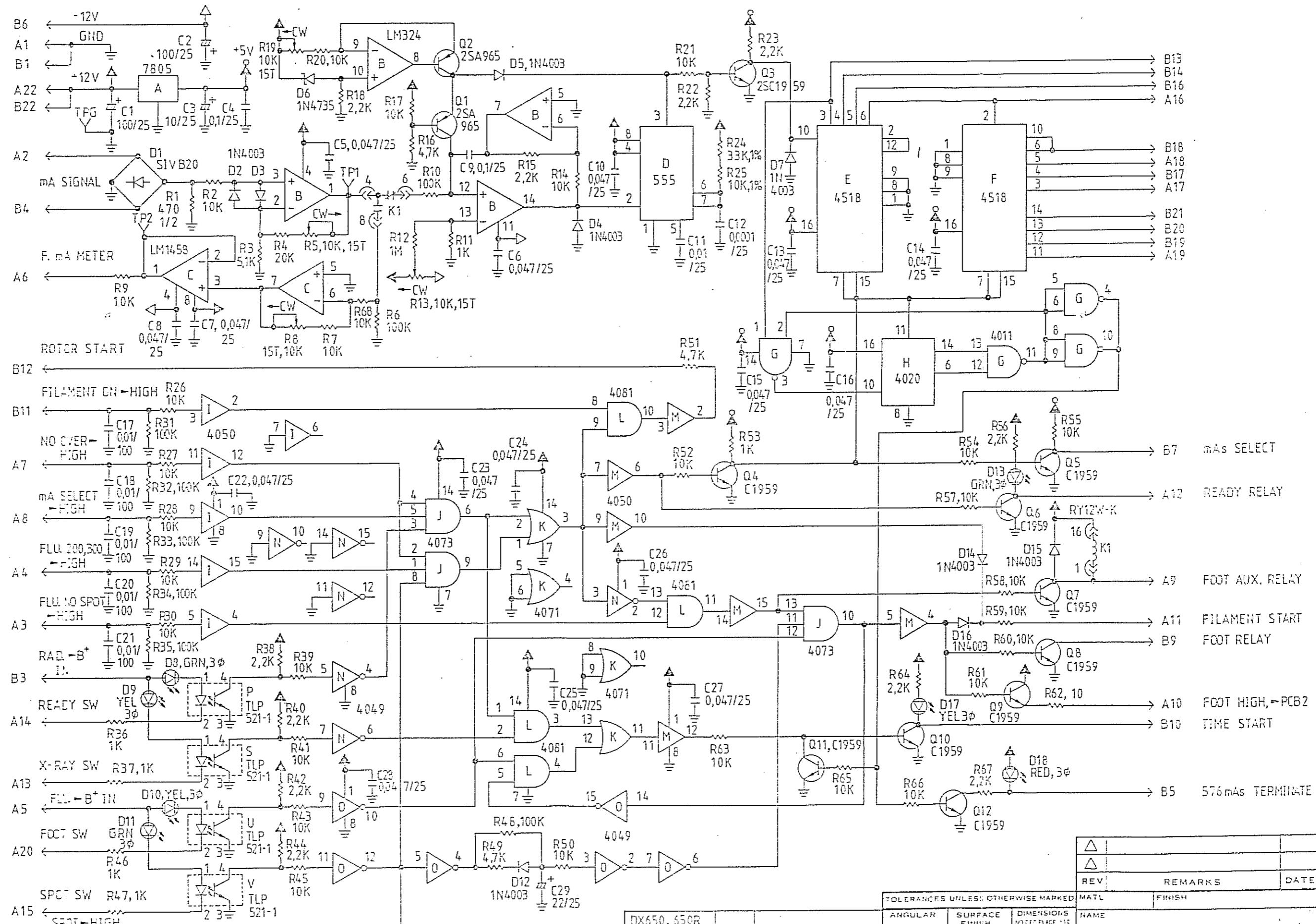
A2 = 73516 - 116 | WHT KF



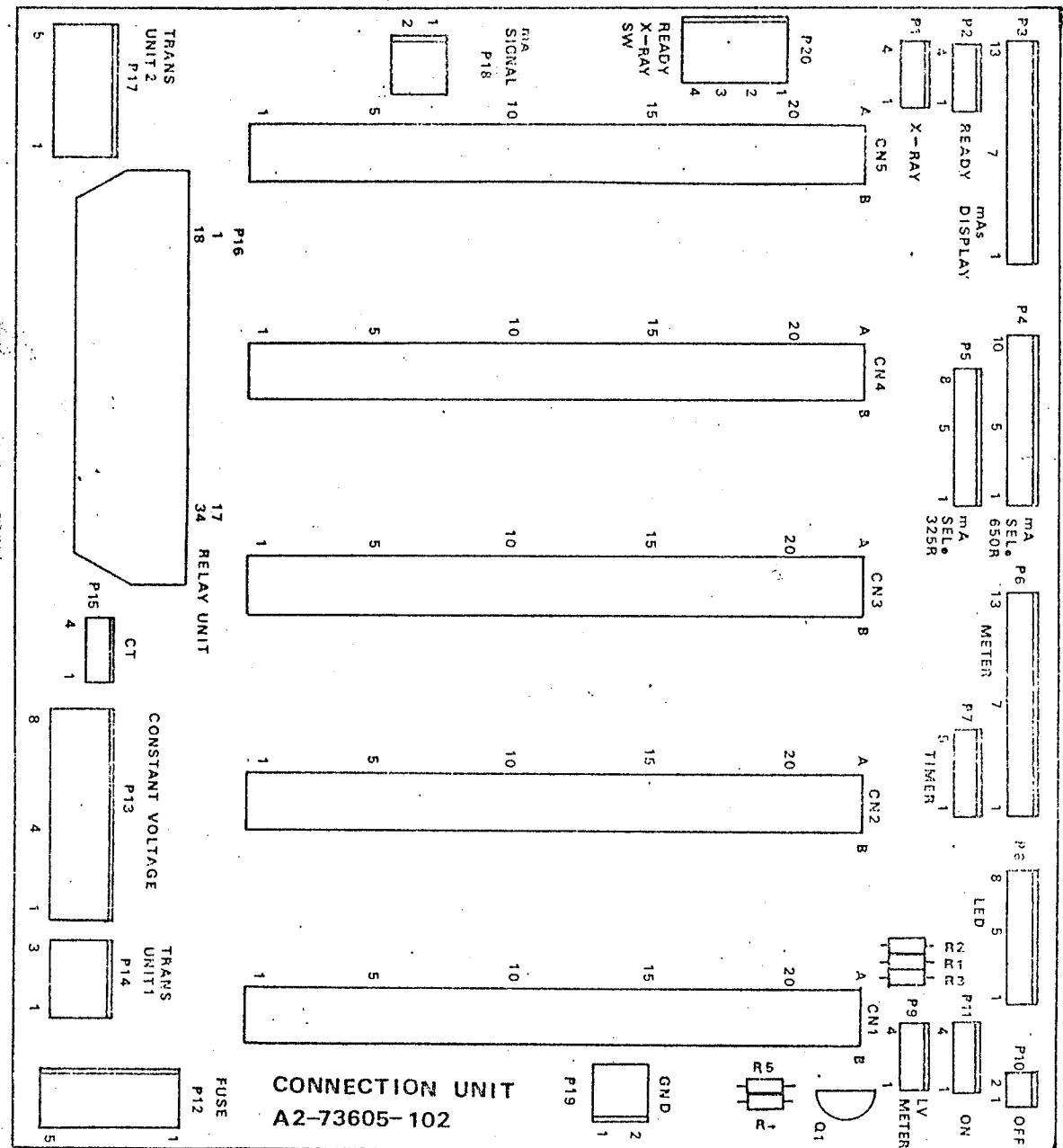


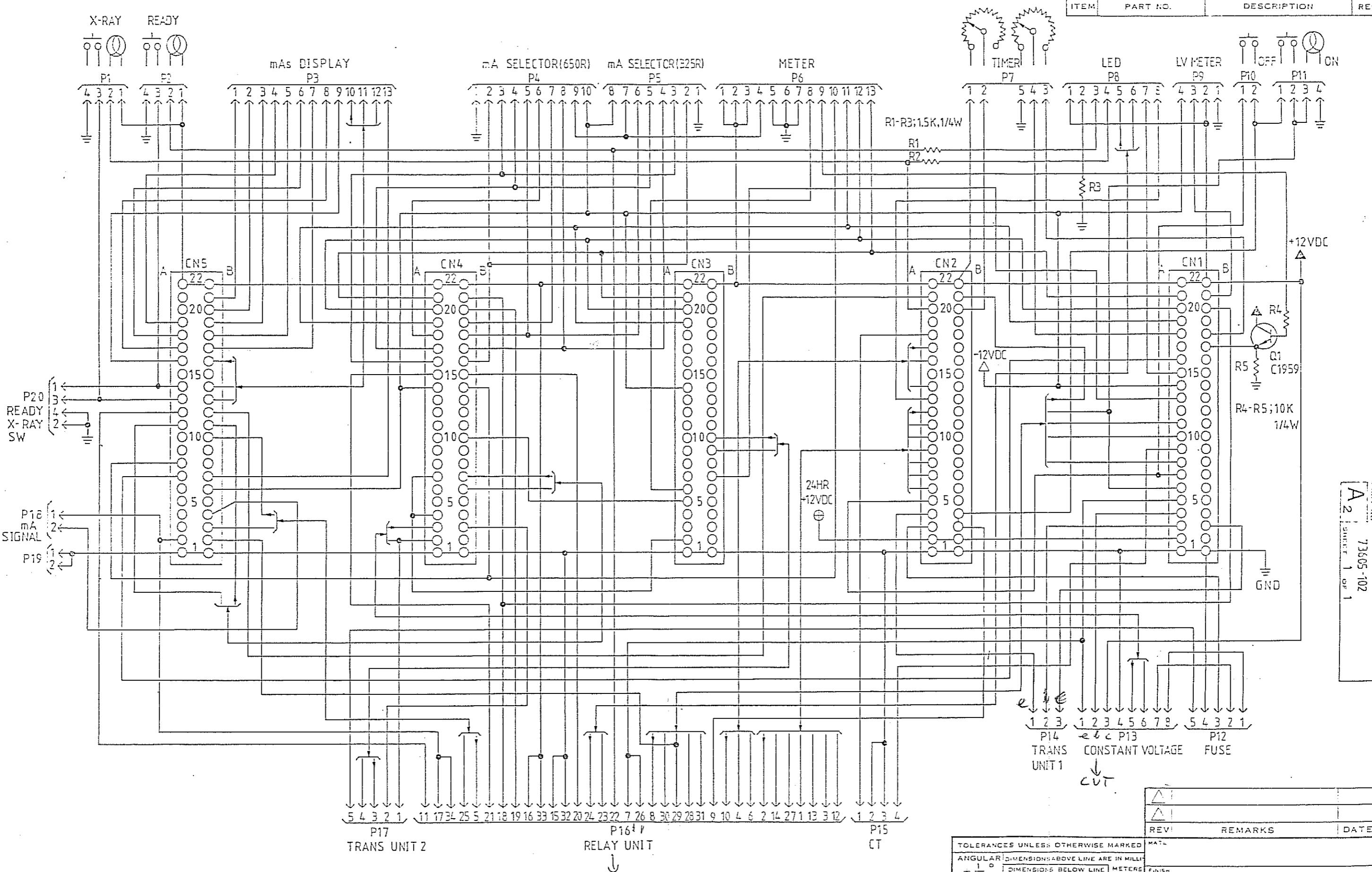


ITEM	PART NO.	DESCRIPTION	WHT	REQ
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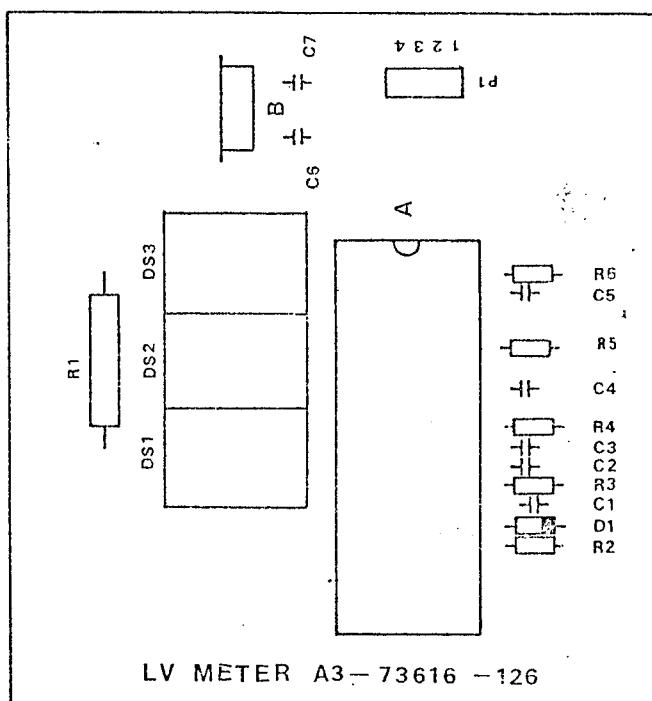


TOLERANCES UNLESS OTHERWISE MARKED		MATL	FINISH
ANGULAR	1°	SURFACE FINISH	DIMENSIONS
.10	V - 125	NOTE: PLACE 1/2 INCH FROM EDGE	NOTES: PLACE 1/2 INCH FROM EDGE
.004	1/8 INCH	1/8 INCH	1/8 INCH
C200748	DATE: 02/07/08	CHG. BY APPROV.	PART NO. SHEET OF REV. SCALE
	DATE: 02/07/08	DATE: 02/07/08	A2 - 73616-124
			REV. IVH/T





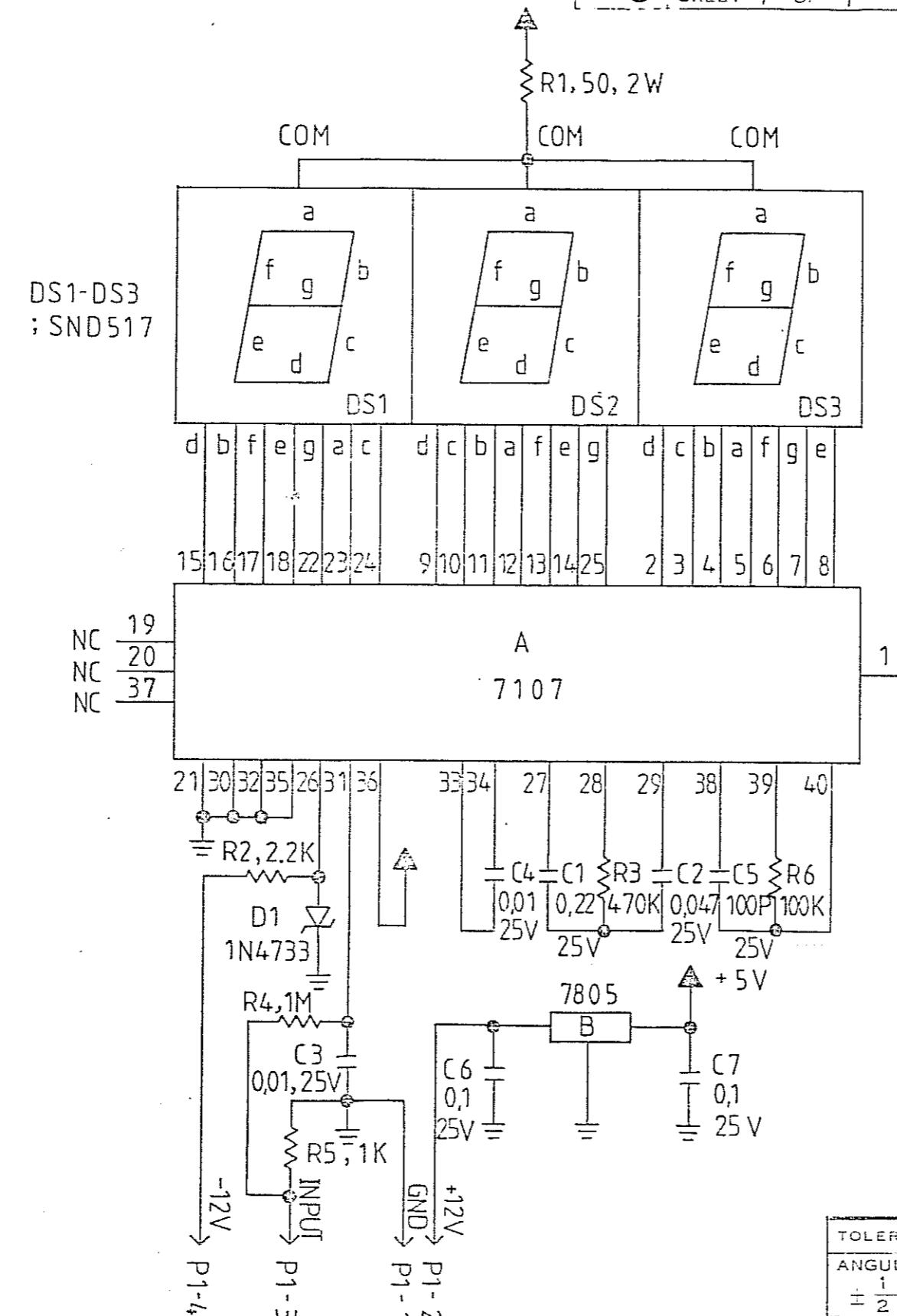
TOLERANCES UNLESS OTHERWISE MARKED			MATERIAL
ANGULAR DIMENSIONS ABOVE LINE ARE IN MILLIMETERS $\pm 1^\circ$ $\pm 2^\circ$ DIMENSIONS BELOW LINE ARE IN INCHES			FINISH
SURFACE FINISH	NO DEC. PLACE	$\pm .06$ INCH	1.5MM
	1 PLACE DEC.	$\pm .03$	± 0.8
$\sqrt{ } = 125$	2 PLACE DEC.	$\pm .015$	± 0.38
ASA B4.1	3 PLACE DEC.	$\pm .005$	± 0.13
			SCALE
			NAME
CONFIDENTIAL PROPERTY OF			
DON-G-A X-RAY CO., LTD.			PART NO.:
DR. BY	CHR. BY	APPROV.	A ₂
DATE	DATE	DATE	73605-102
SHEET 1 OF 1			



PART NO:
A-3
SHEET 1 OF 1

BILL OF MATERIAL

ITEM	PART NO.	DESCRIPTION	REQ
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DXG550	1	A1-73616-001
DXG650RF	1	A1-73629-001
DXG325R	1	A1-73605-009
DXG650R	1	A1-73619-001
USED ON	REQ'D	ASSY. NO.

TOLERANCES UNLESS OTHERWISE MARKED			
ANGULAR + 1° - 2	DIMENSIONS ABOVE LINE ARE IN MILLIMETERS		
	DIMENSIONS BELOW LINE ARE IN INCHES		METERS
SURFACE FINISH Ra = 125	NO DEC. PLACE 1 PLACE DEC. 2 PLACE DEC. ASA B46.1	± .06 IN ± .03 ± .015 ± .005	± 1.5MM ± 0.8 ± 0.38 ± 0.13

CONFIDENTIAL PROPERTY OF

DONG-A X-RAY CO., LTD.

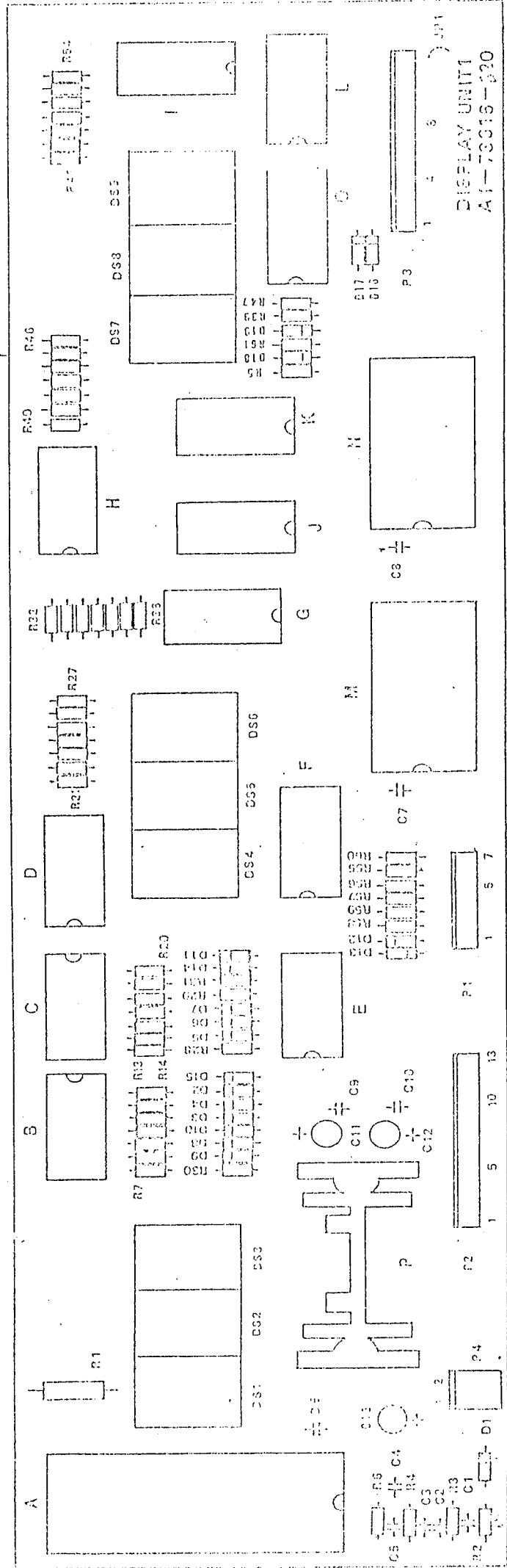
DR. BY *15/6* CHK. BY APPROVAL

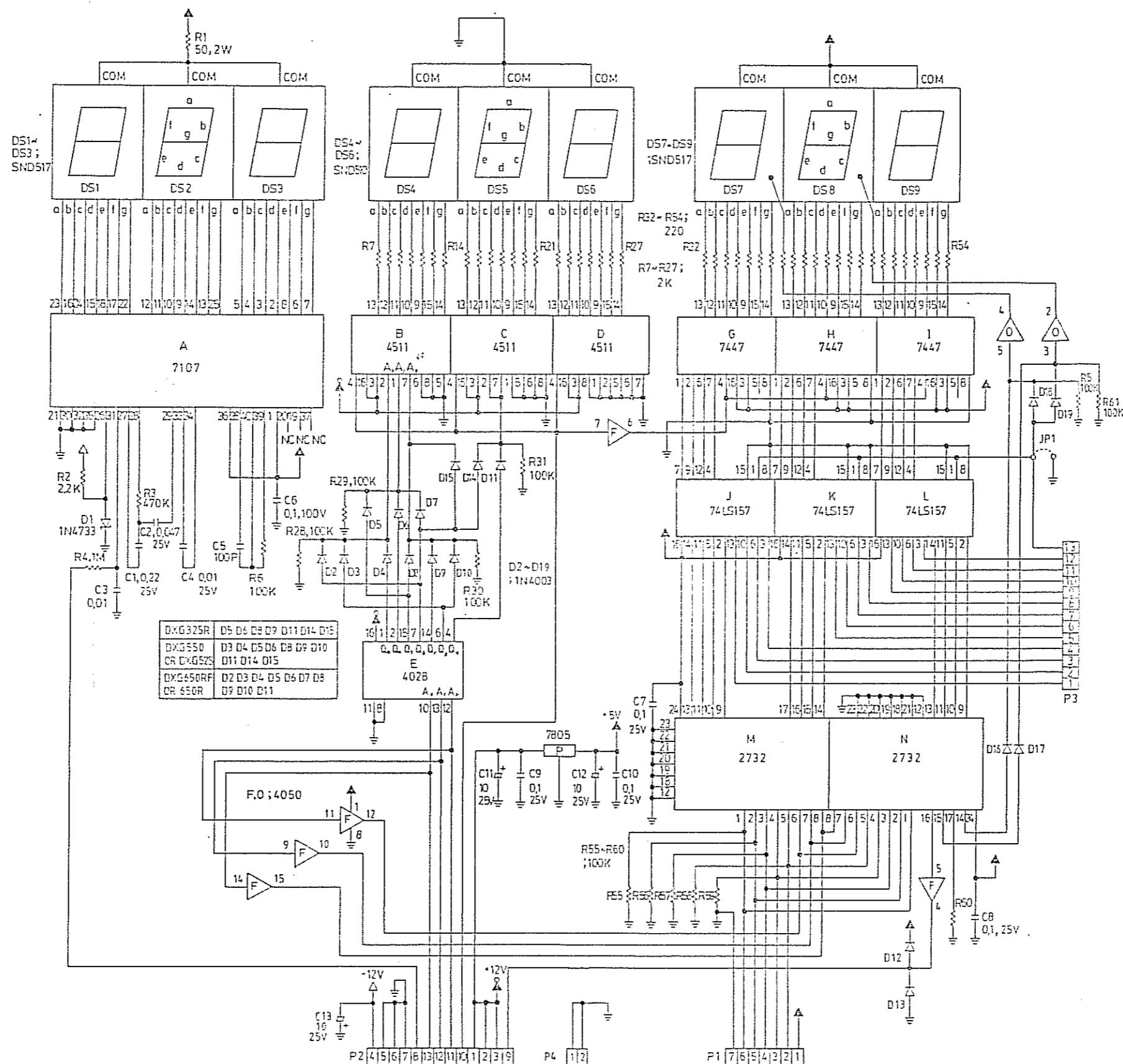
6/20/70

DATE /¹9² P.I.D DATE DATE

73616-126

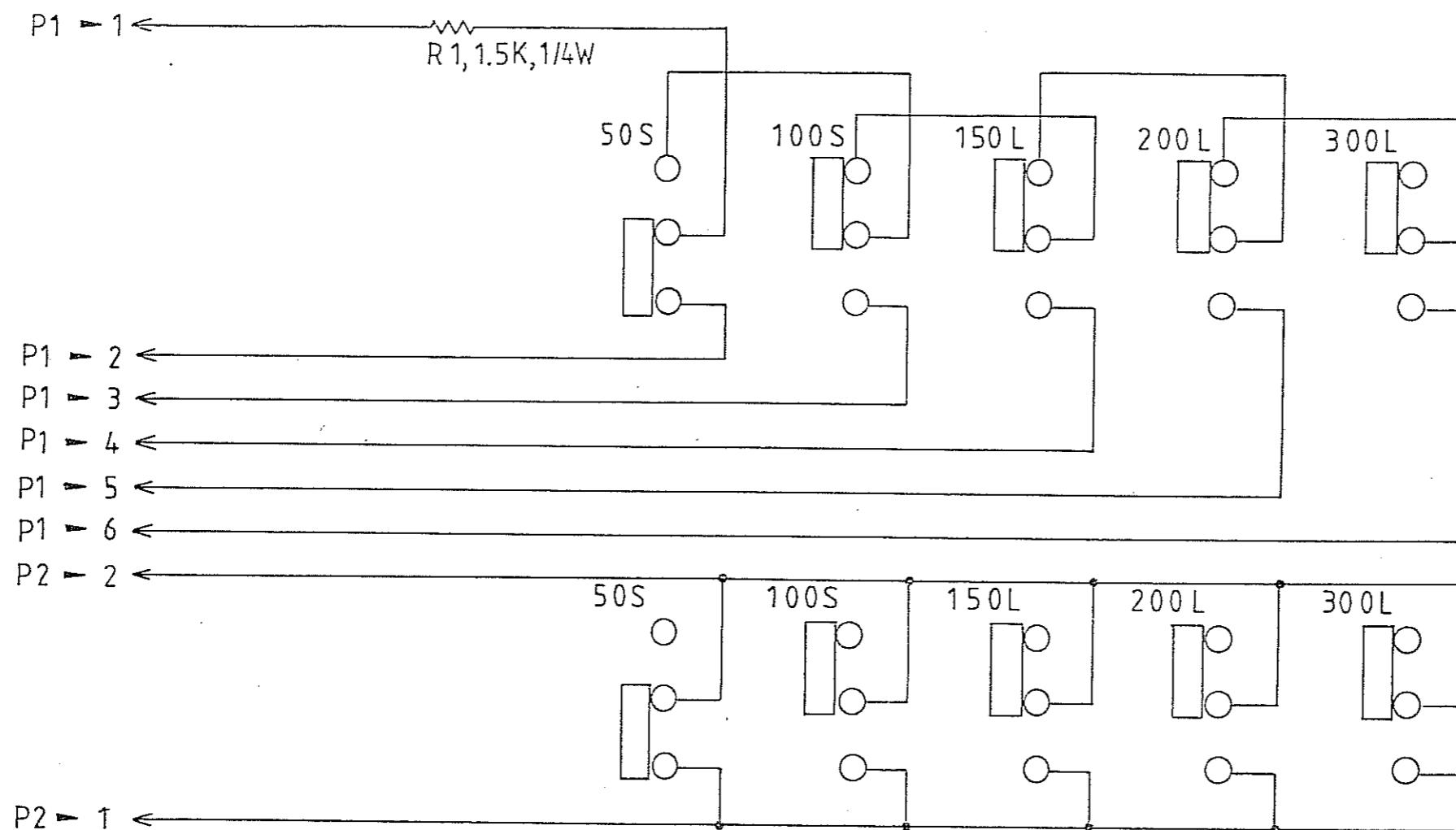
SHEET 1 OF 1





DXG525	1	A1-73680-031
DXG550	1	A1-73616-031
DXG550RF	1	A1-73629-031
DXG325R	1	A1-73605-039
DXG550R	1	A1-73619-031
STD NO.	WHT	ASST. NO. 1

ITEM	PART NO.	DESCRIPTION	REQ
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<input type="checkbox"/>		
<input type="checkbox"/>		
REV	REMARKS	DATE
TOLERANCES UNLESS OTHERWISE MARKED		
ANGULAR $\pm \frac{1}{2}^\circ$	DIMENSIONS ABOVE LINE ARE IN MILLIMETERS	
SURFACE FINISH $\sqrt{125}$ ASA B46.1	DIMENSIONS BELOW LINE ARE IN INCHES	METERS
NO DEC. PLACE		$\pm .06$ IN $\pm 1.5\text{MM}$
1 PLACE DEC.		$\pm .03$ ± 0.8
2 PLACE DEC.		$\pm .015$ ± 0.38
3 PLACE DEC.		$\pm .005$ ± 0.13
MATL		
FINISH		
SCALE NONE		RELEASE DATE
NAME mA SELECTOR SCHEMATIC		

DXG325R	1	A1-73605-009
DXG325R	1	A1-73605-008
USED ON	REQ'D	ASSY. NO.

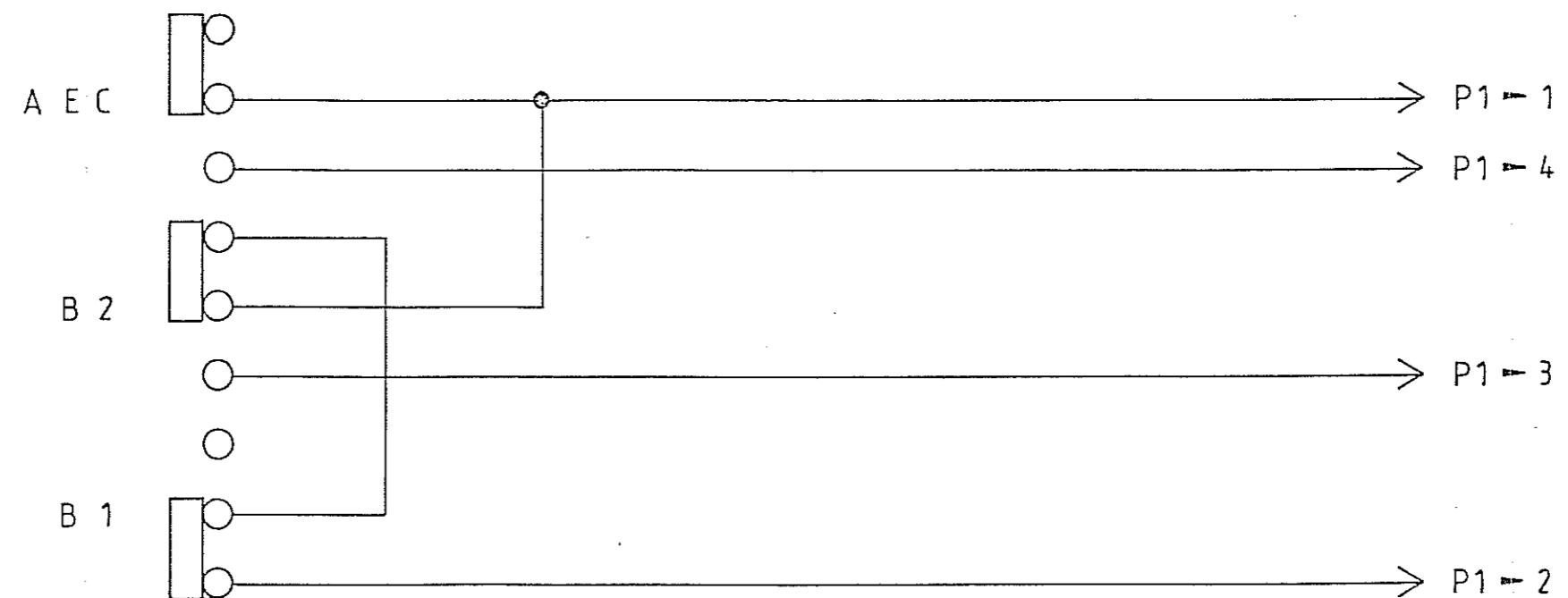
CONFIDENTIAL PROPERTY OF
DCNG-A X-RAY CO., LTD.
DR. BY 김재근 CHK. BY
DATE 89. / / APPROV.
A 3 73604-047
SHEET OF

PART NO.
A
3

73604-045
SHEET OF

BILL OF MATERIAL

ITEM	PART NO.	DESCRIPTION	REQ
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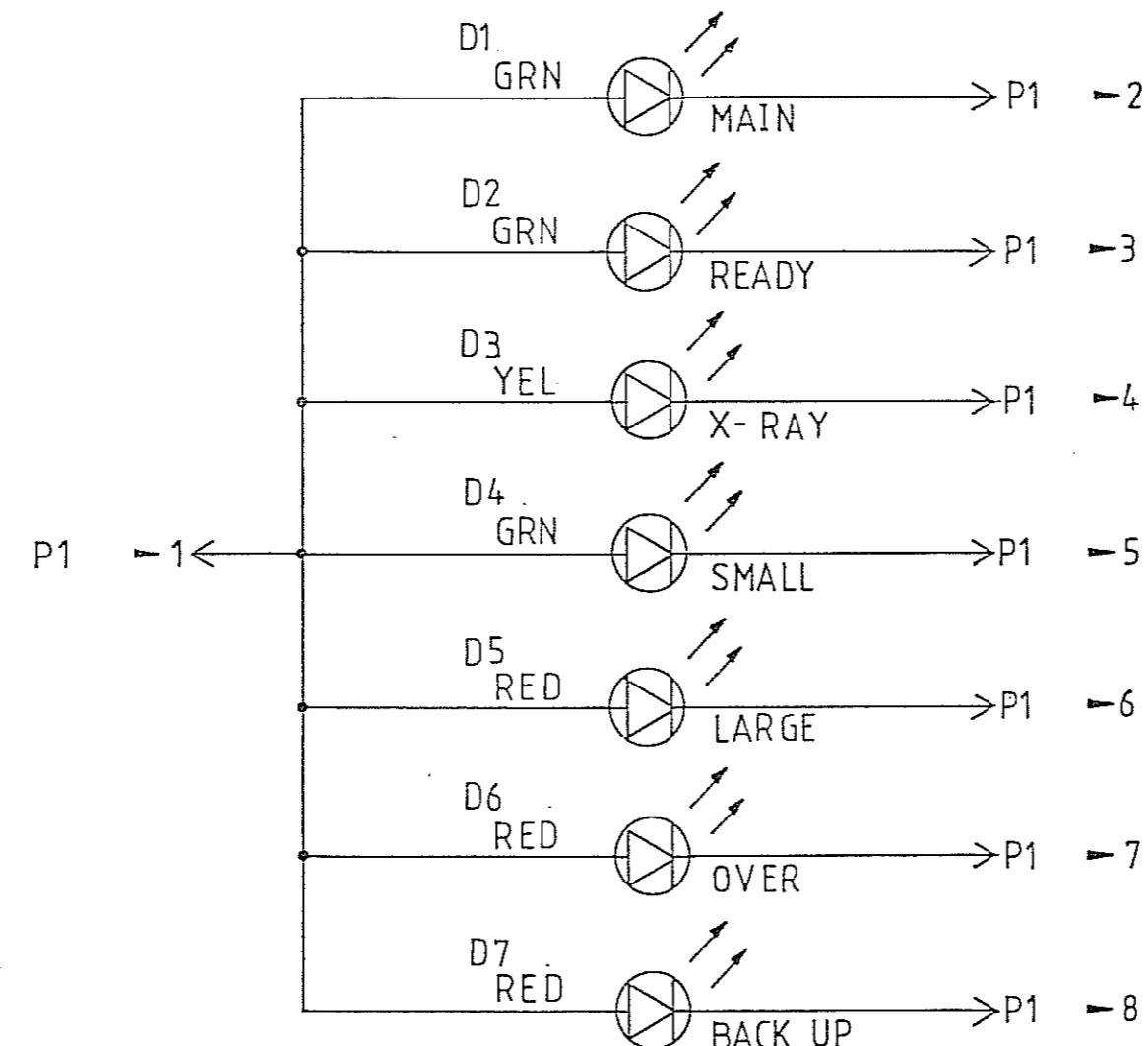


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REV	REMARKS	DATE

TOLERANCES UNLESS OTHERWISE MARKED		MATERIAL	
ANGULAR $\pm \frac{1}{2}^{\circ}$	DIMENSIONS ABOVE LINE ARE IN MILLIMETERS	METERS	
SURFACE FINISH $\sqrt{=125}$	DIMENSIONS BELOW LINE ARE IN INCHES	INCHES	
ASA B46.1	NO DEC. PLACE	$\pm .06$ IN	$\pm 1.5MM$
	1 PLACE DEC.	$\pm .03$	± 0.8
	2 PLACE DEC.	$\pm .015$	± 0.38
	3 PLACE DEC.	$\pm .005$	± 0.13
SCALE NONE		RELEASE DATE	
NAME MODE SELECTOR SCHEMATIC			

DXG 650R	1	A1-73616-001
DXG 325R	1	A1-73605-009
USED ON	REQ'D	ASSY. NO.

CONFIDENTIAL PROPERTY OF DONG-A X-RAY CO., LTD.			PART NO.
DR. BY	CHK. BY	APPROV.	A 3 73604-045
DATE 89.8.21	DATE	DATE	SHEET OF



<input type="triangle"/>		
<input type="triangle"/>		
REV	REMARKS	DATE

TOLERANCES UNLESS OTHERWISE MARKED		MATERIAL
ANGULAR $\pm \frac{1}{2}^{\circ}$	DIMENSIONS ABOVE LINE ARE IN MILLIMETERS	
SURFACE FINISH $\sqrt{= 125}$	DIMENSIONS BELOW LINE ARE IN INCHES	
ASA B46.1	NO DEC. PLACE	$\pm .06$ IN ± 1.5 MM
	1 PLACE DEC.	$\pm .03$ $\pm .08$
	2 PLACE DEC.	$\pm .015$ $\pm .038$
	3 PLACE DEC.	$\pm .005$ $\pm .013$

SCALE	NONE	RELEASE DATE
NAME		LED SCHEMATIC

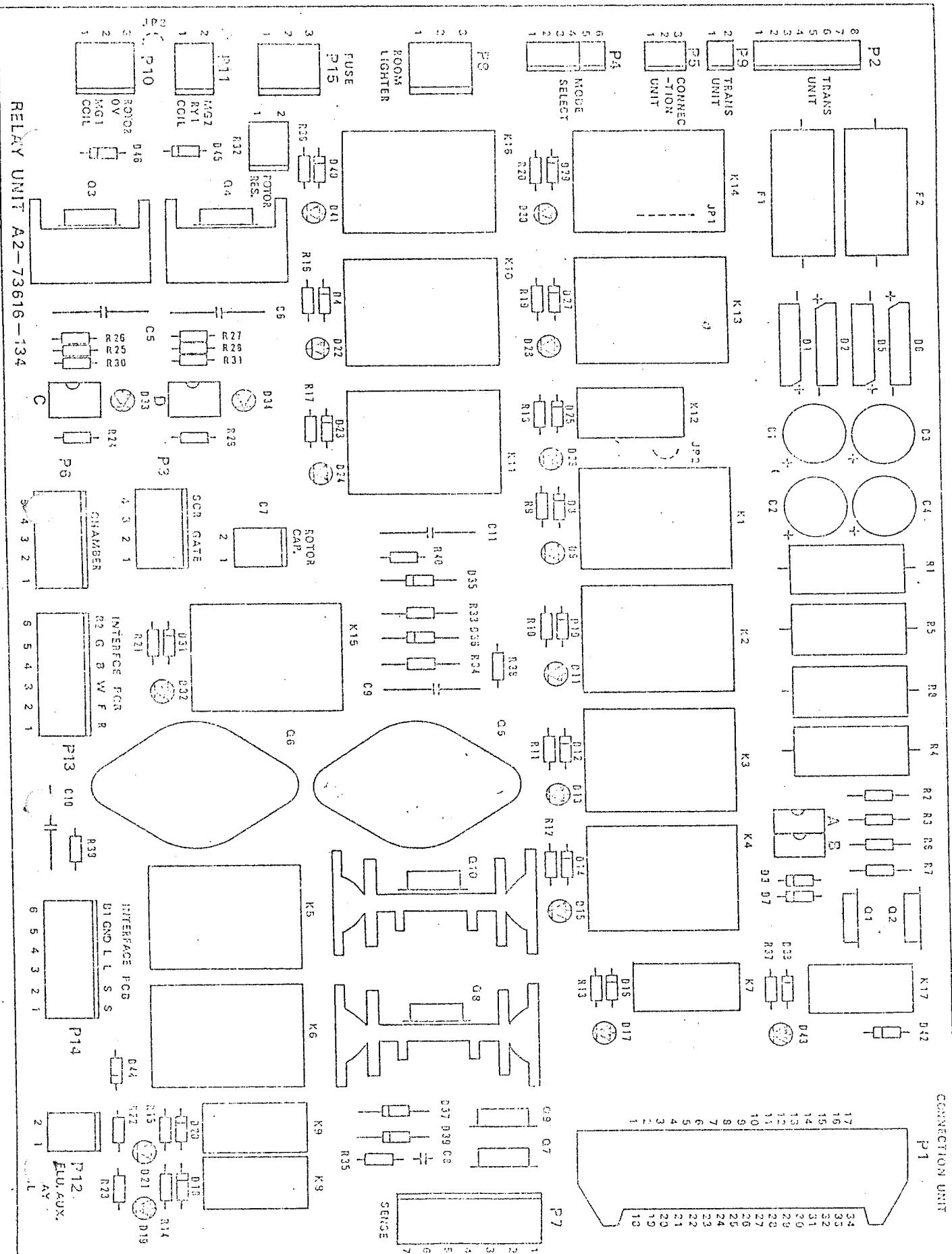
DXG650R	1	A1-73616-001
DXG325R	1	A1-73605-009
USED ON	REQ'D	ASSY. NO.

CONFIDENTIAL PROPERTY OF DONG-A X-RAY CO., LTD.	PART NO.
DR.BY 김재곤	CHK.BY
DATE 89/1	APPROV.

A
3

73604-043

SHEET 1 OF 1

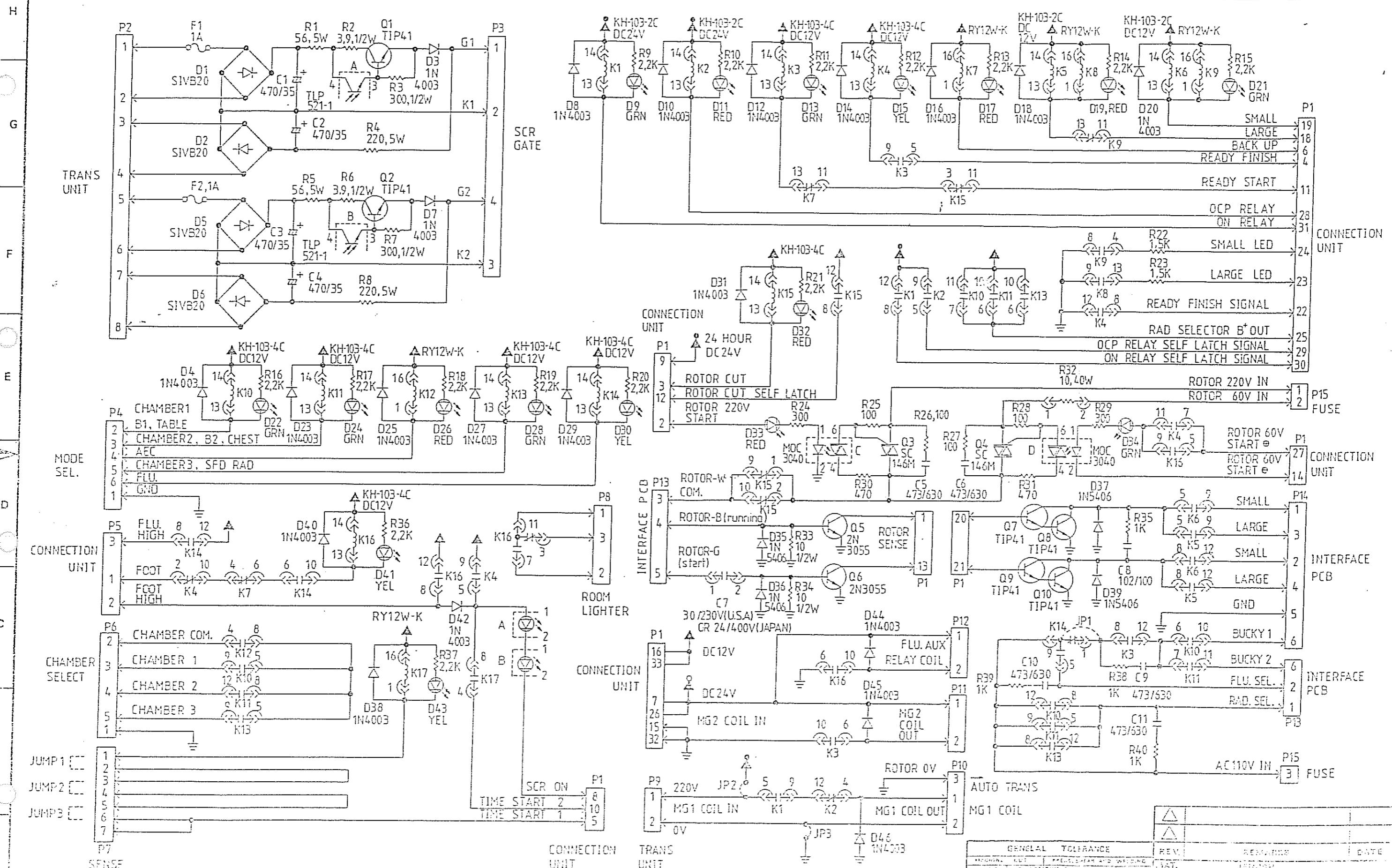


PCB 8 PART LOCATION

PART NO. SHEET OF
A2-

BILL OF MATERIAL

ITEM	PART NO.	DESCRIPTION	WHT.	REQ.
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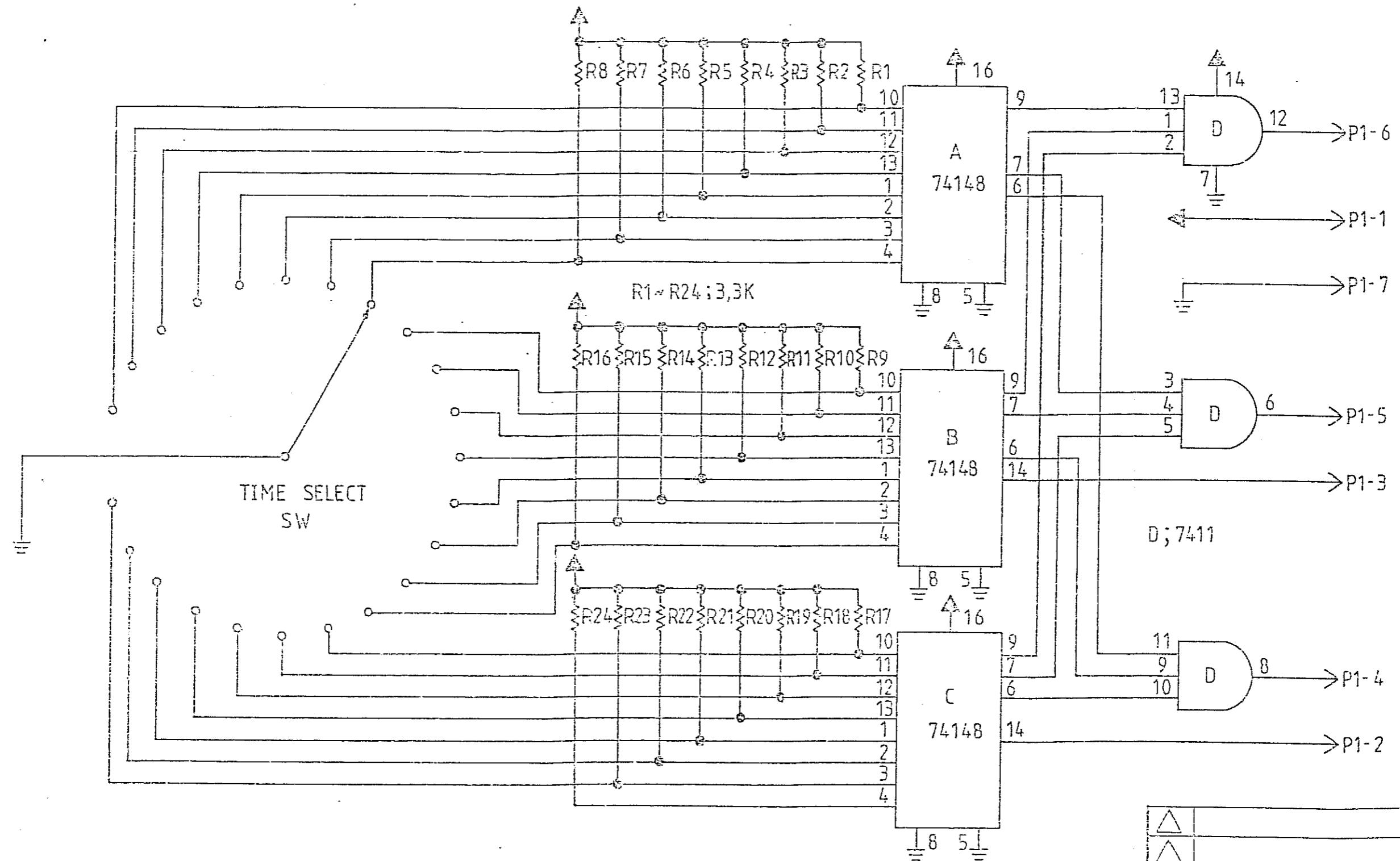
ITEM	UNIT	DESCRIPTION	REMARKS	DATE
DXC6500RF	1	GENERAL TOLERANCE	REV. A	1/10/94
DXC6500, 525		MAX. LENGTH OF LEAD FROM CENTER LINE TO CENTER LINE	1.5	1/10/94
DXC6500R		MIN. LENGTH OF LEAD FROM CENTER LINE TO CENTER LINE	1.5	1/10/94

RELAY UNIT SCHEMATIC

PART NO.
A 3 73616-130
SHEET 1 OF 1

BILL OF MATERIAL

ITEM	PART NO.	DESCRIPTION	REQ
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REV	REMARKS	DATE

TOLERANCES UNLESS OTHERWISE MARKED

ANGULAR DIMENSIONS ARE IN MILLIMETERS

DIMENSIONS BELOW LINE ARE IN INCHES

METERS FINISH

SURFACE FINISH

NO DEC. PLACE ± .06 IN ± 1.5MM

1 PLACE DEC. ± .03 ± 0.8

2 PLACE DEC. ± .015 ± 0.35

ASA B46.1 3 PLACE DEC. ± .005 ± 0.13

SCALE

NAME

RELEASE DATE

CONFIDENTIAL PROPERTY OF DONG-A X-RAY CO., LTD.

PART NO. 73616-130

A 3 SHEET 1 OF 1

USED ON REC'D ASSEMBLIES APPROV. DATE

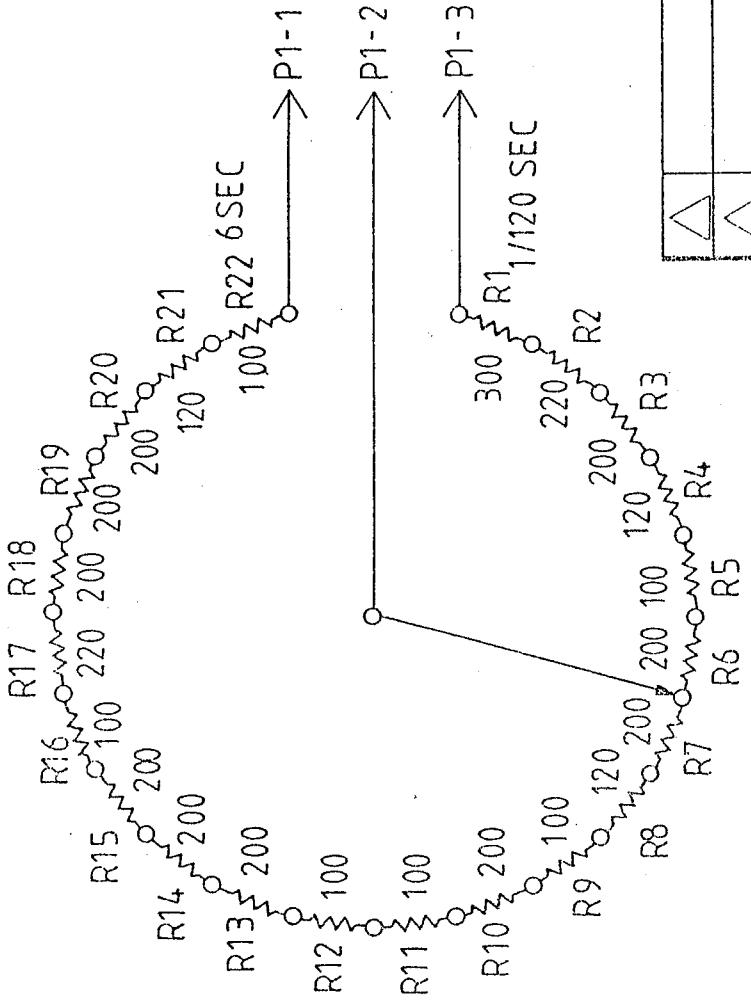
DR. BY CHK. BY APPROV. DATE

DATE

69 1

PART NO	73616-024		
A 4	SHEET 1 OF 1		

BILL OF MATERIAL			
ITEM	PART NO.	DESCRIPTION	REQ



MATERIAL

TOLERANCES UNLESS OTHERWISE MARKED

ANGULAR DIMENSIONS ABOVE LINE ARE IN MILLIMETERS
DIMENSIONS BELOW LINE ARE IN INCHES

1	2	NO DEC.	PLACE	± .06 IN	± 1.5MM	RELEASE DATE
			1 PLACE DEC.	± .03	± 0.8	
			2 PLACE DEC.	± .015	± 0.38	
			3 PLACE DEC.	± .005	± 0.13	

PART NO.	DONG-A X-RAY CO., LTD.	APPROV.	DATE
DXG650	1	A1-73629-001	
DXG650R	1	A1-73616-001	
DXG325R	1	A1-73605-009	

USED ON REC'D ASSY. NO. DATE

SHEET 1 OF 1

PART NO.

DATE

CONFIDENTIAL PROPERTY OF

73616-024

DONG-A X-RAY CO., LTD.

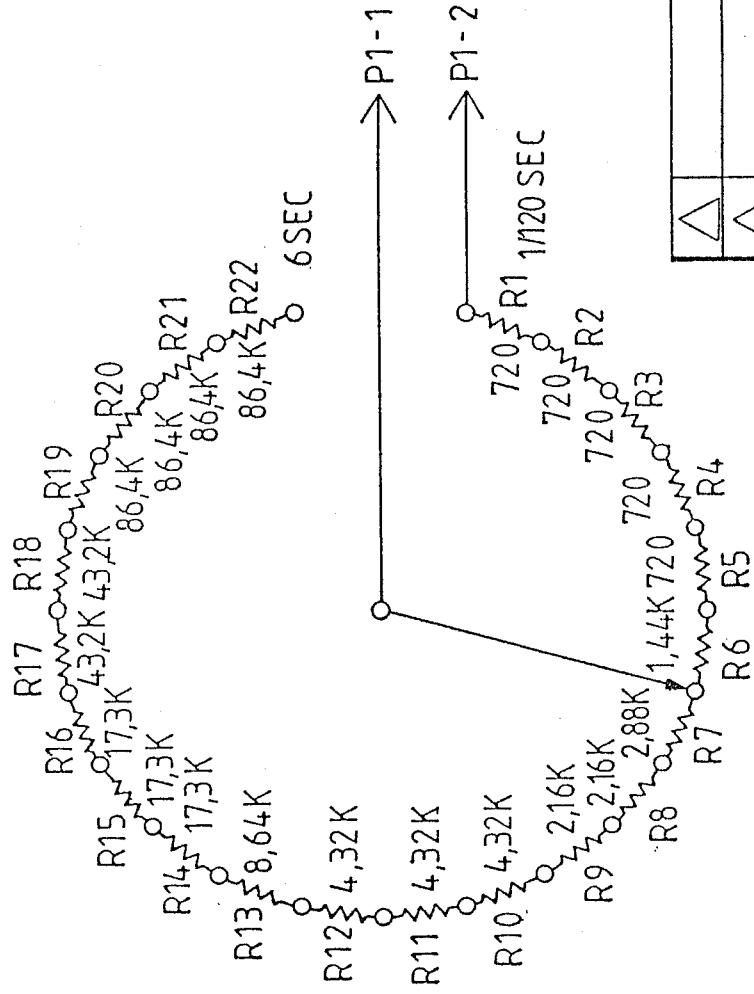
A 4

73616-024

PART NO A 4 SHEET OF 1

BILL OF MATERIAL

ITEM	PART NO.	DESCRIP.	JN	REQ.
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REV	REMARKS	DATE
TOLERANCES UNLESS OTHERWISE MARKED		
ANGULAR DIMENSIONS ABOVE LINE ARE IN MILLIMETERS DIMENSIONS BELOW LINE ARE IN INCHES		
$\frac{1}{2}$	NO DEC. PLACE	$\pm .06$ IN ± 1.5 MM
SURFACE FINISH ASA B46.1	1 PLACE DEC. $\sqrt{= 1.25}$	$\pm .03$ ± 0.8
	2 PLACE DEC. $\sqrt{= 0.38}$	$\pm .015$ ± 0.38
	3 PLACE DEC. $\sqrt{= 0.13}$	$\pm .005$ ± 0.13
CONFIDENTIAL PROPERTY OF DONG-A X-RAY CO., LTD.		
DR. BY	CHK. BY	PART NO.
6V	✓	73616 - 022
DATE	DATE	DATE
USED ON	REQ'D	ASSY. NO.

ITEM	PART NO.	DESCRIP.	JN	REQ.
DXG650R	1	A1 - 73616 - 001		
DXG5150	1	A1 - 73605 - 009		
DXG325R	1	A1 - 73605 - 009		

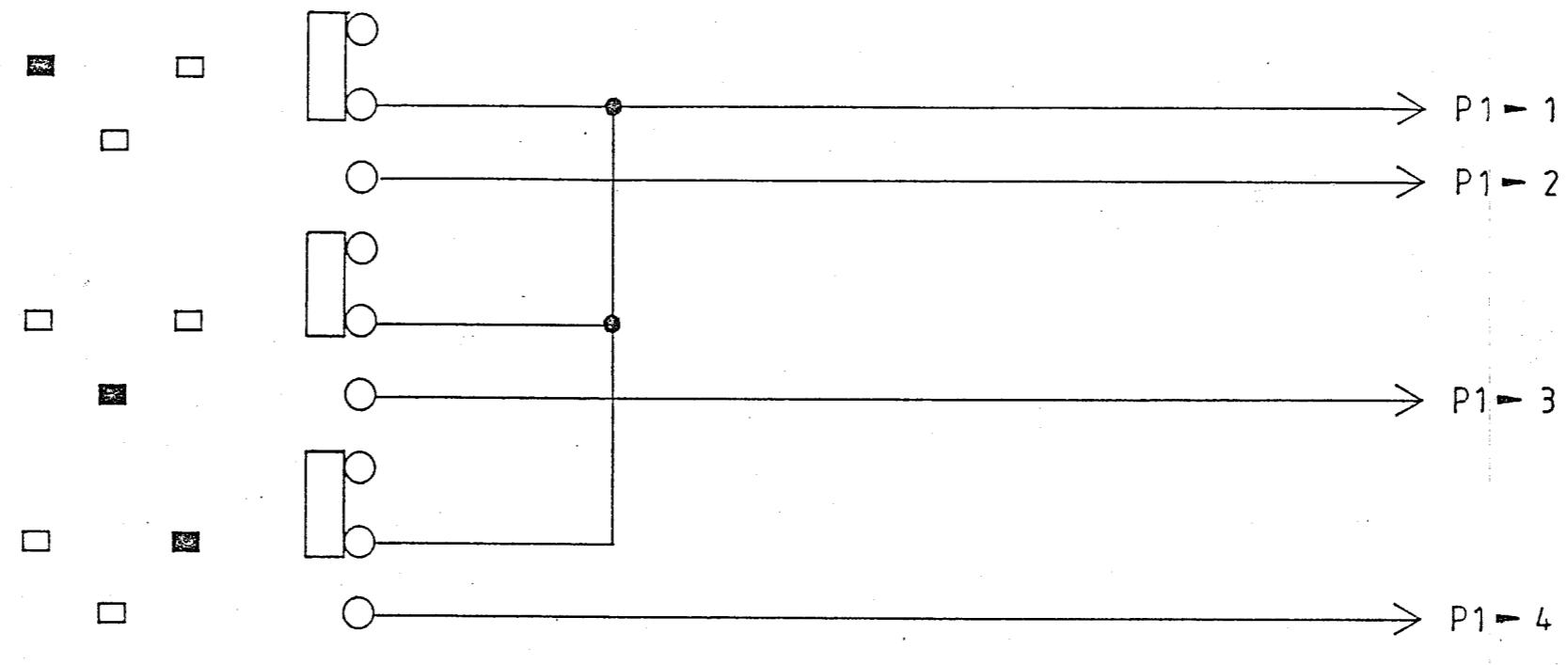
PART NO

A 3

73618-016
SHEET OF

BILL OF MATERIAL

ITEM	PART NO.	DESCRIPTION	REQ
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<input type="triangle"/>		
<input type="triangle"/>		
REV	REMARKS	DATE

TOLERANCES UNLESS OTHERWISE MARKED		MATL	
ANGULAR $\pm \frac{1}{2}^\circ$	DIMENSIONS ABOVE LINE ARE IN MILLIMETERS	DIMENSIONS BELOW LINE ARE IN INCHES	
SURFACE FINISH $\sqrt{=125}$	NO DEC. PLACE	$\pm .06$ IN	± 1.5 MM
ASA B46.1	1 PLACE DEC.	$\pm .03$	± 0.8
	2 PLACE DEC.	$\pm .015$	± 0.38
	3 PLACE DEC.	$\pm .005$	± 0.13
FINISH			
SCALE NONE RELEASE DATE			
NAME FILLER SELECTOR SCHEMATIC			
CONFIDENTIAL PROPERTY OF DONG-A X-RAY CO., LTD.		PART NO.	73618-016
DR. BY <i>[Signature]</i>	CHK. BY	APPROV.	A 3
DATE 89.8.21	DATE	DATE	SHEET OF

DXG-650R	1	A1-73616-001
DXG-325R	1	A1-73605-009
USED ON	REQ'D	ASSY. NO.

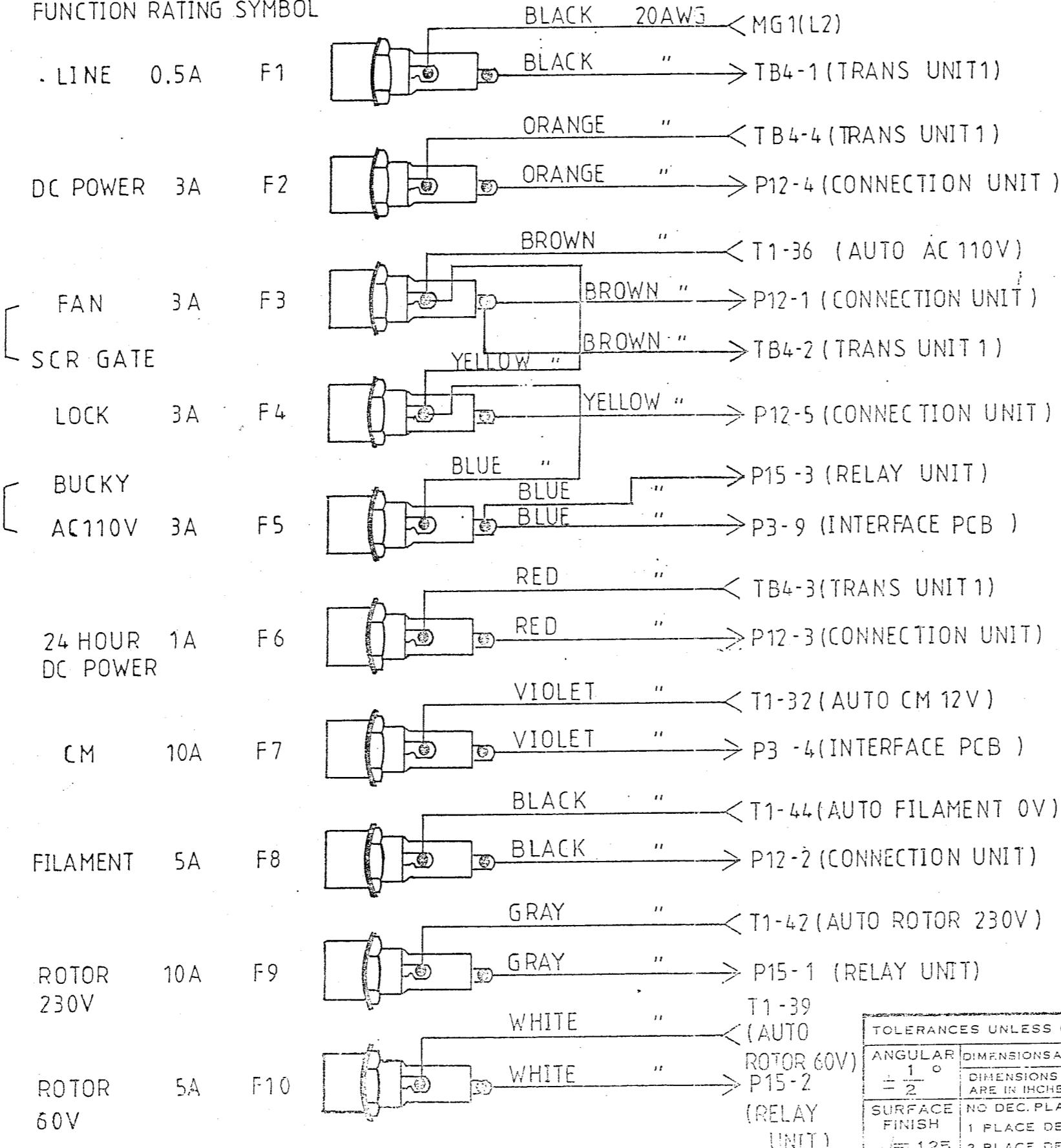
73619-013

SHEET 2 OF 3

BILL OF MATERIAL

ITEM	PART NO.	DESCRIPTION	REQ.
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FUNCTION RATING SYMBOL



NOTES :

1. ALL FUSES ARE SLOW BLOW TYPE.

TOLERANCES UNLESS OTHERWISE MARKED				
ANGULAR	DIMENSIONS ABOVE LINE ARE IN MILLIMETERS DIMENSIONS BELOW LINE ARE IN INCHES			
				METERS
$\pm 1^\circ$				
$\pm 2^\circ$				
SURFACE FINISH	NO DEC. PLACE	$\pm .06$	IN	$\pm 1.5\text{MM}$
	1 PLACE DEC.	$\pm .03$		$\pm 0.8\text{MM}$
± 125	2 PLACE DEC.	$\pm .015$		$\pm 0.38\text{MM}$
ASA 240.1	3 PLACE DEC.	$\pm .005$		$\pm 0.13\text{MM}$

DXG650RF	1	A1-73629-001
DXG650R	1	A1-73619-001
DXG325R	1	A1-73605-009

CONFIDENTIAL PROPERTY OF
DONG-A MURRAY CO., LTD.

100 BY A G.I.K. BY APPROV.

REV	REMARKS	DATE
MATE		
FINISH		
SCALE	RELEASE DATE	
NAME: ERIC D. HAMILTON		

FUSE PNL LAYOUT

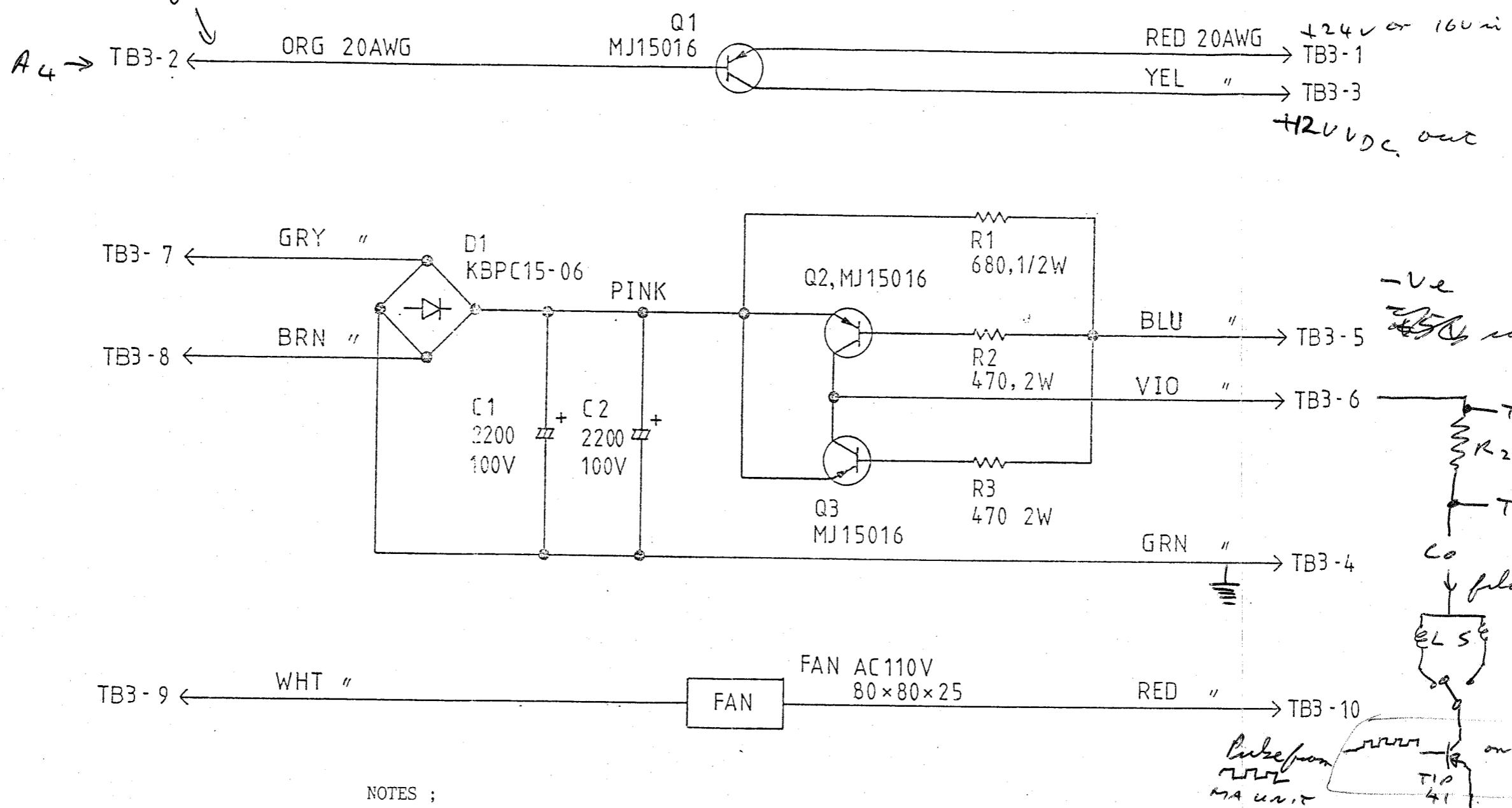
73619-012

PART NO. 73605-044
A 3 SHEET OF

BILL OF MATERIAL

ITEM	PART NO.	DESCRIPTION	REQ
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from Power OLP PCB



NOTES :

- 1, C1 AND C2 USE FOR DXG525, DXG550, DXG650R, DXG650RF.
- 2, C1 ONLY USE AND DO NOT C2 FOR DXG325R.

DXG550

DXG525

DXG650R

DXG325R

DXG650RF

USED ON

REQ'D

ASSY. NO.

TOLERANCES UNLESS OTHERWISE MARKED		
ANGULAR	DIMENSIONS ABOVE LINE ARE IN MILLIMETERS	
$\pm \frac{1}{2}^{\circ}$	DIMENSIONS BELOW LINE ARE IN INCHES	
SURFACE FINISH	NO DEC. PLACE	$\pm .06$ IN
	1 PLACE DEC.	$\pm .03$
$\sqrt{=} 125$	2 PLACE DEC.	$\pm .015$
ASA B46.1	3 PLACE DEC.	$\pm .005$
		$\pm 1.5MM$
		± 0.8
		± 0.38
		± 0.13

CONFIDENTIAL PROPERTY OF

DONG-A X-RAY CO., LTD.

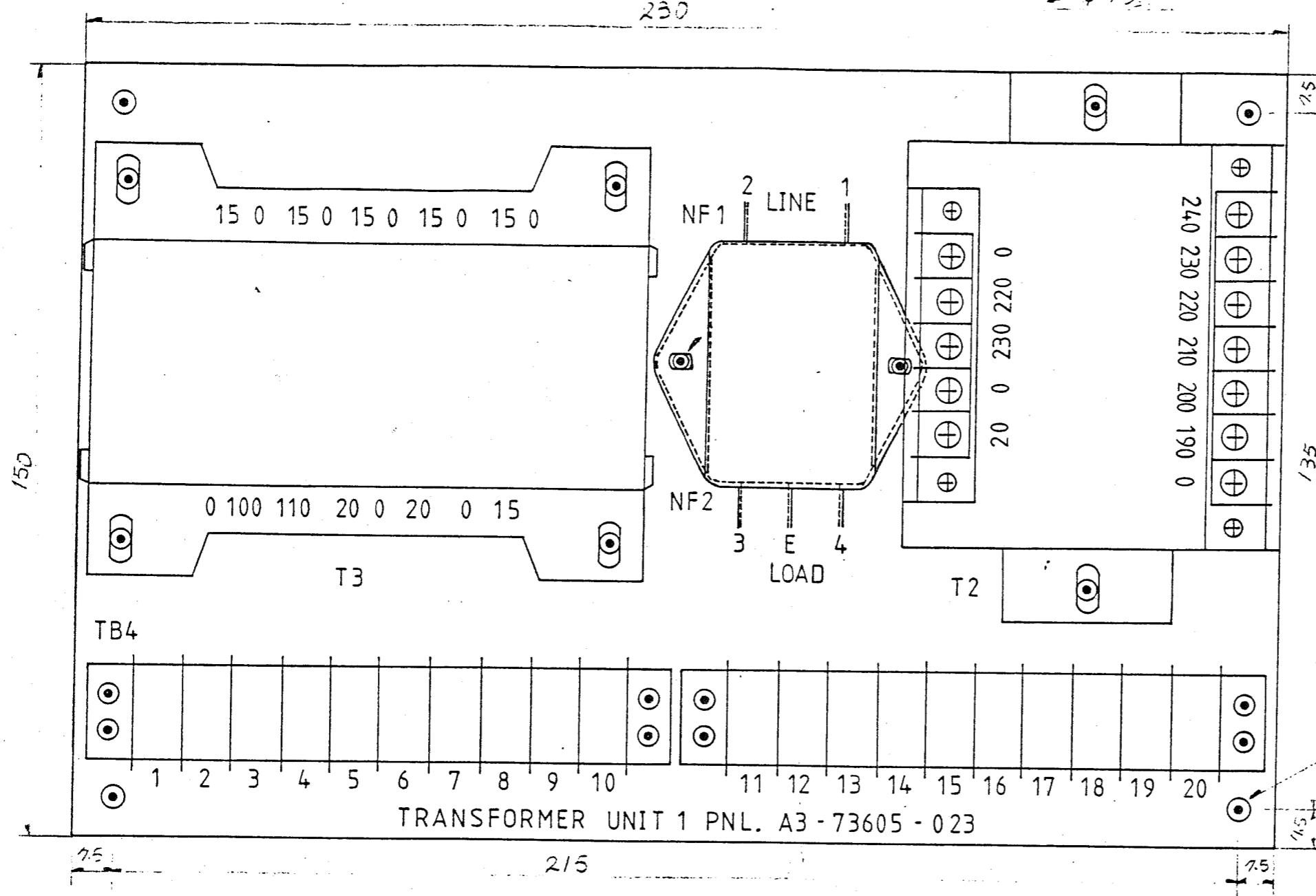
DR. BY	CHK. BY	APPROV.
<i>6/29/36</i>		
DATE	DATE	DATE

73605-044

A 3

SHEET OF

ITEM	PART NO.	DESCRIPTION	WHT.	REQ.
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GENERAL TOLERANCE			
MACHINE CUT	PRESS. SHEAR AND WELDING		
DIMENSION	TOLERANCE	DIMENSION	TOLERANCE
— 6	± 0.03	— 100	± 0.25
6 — 30	± 0.05	100 — 250	± 0.5
30 — 80	± 0.07	250 — 500	± 0.6
80 — 180	± 0.1	500 — 1250	± 1.0
180 — 500	± 0.15	1250 — 2500	± 1.5
500 —	± 0.2	2500 —	± 2.0

△	
△	
REV.	REMARKS
DATE	
MAT. B-lite(5t)	
FINISH	
NAME	
TRANSFORMER UNIT1 PNL	

DR. BY *as per* CHK. BY *as per* APPROV. *as per*

USED ON. REQ'D ASSY. NO. DATE 91.2.7 DATE 91.2.7 DATE 91.2.7

PART NO. SHEET OF A3 - 73605 - 023 REV. SCALE 1/1

WHT. kg

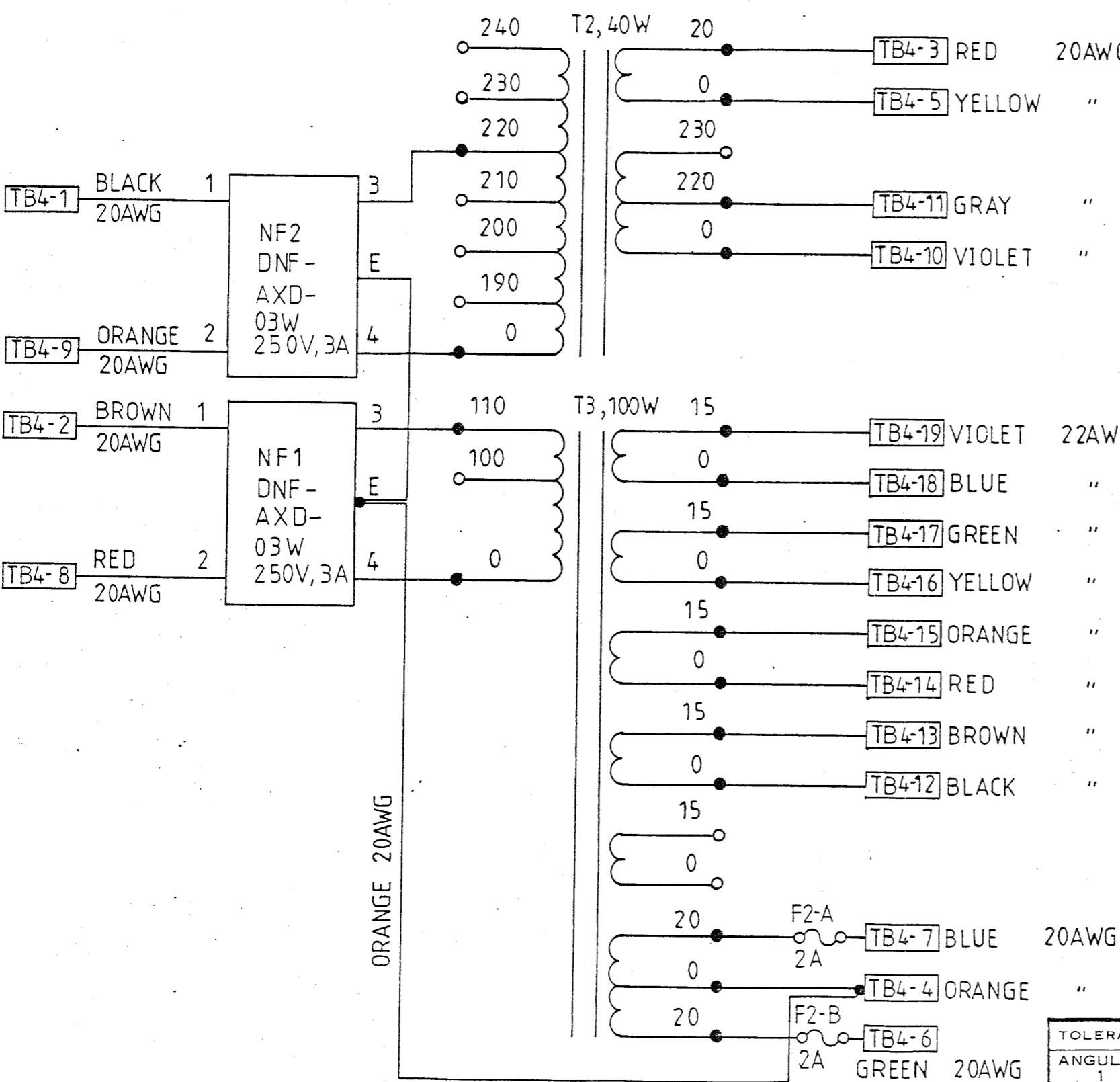
PART NO.

A 3

73605-023
SHEET 1 OF 2

BILL OF MATERIAL

ITEM	PART NO.	DESCRIPTION	REQ
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TOLERANCES UNLESS OTHERWISE MARKED

ANGULAR DIMENSIONS ABOVE LINE ARE IN MILLIMETERS

DIMENSIONS BELOW LINE ARE IN INCHES

SURFACE FINISH	NO DEC. PLACE	$\pm .06$ IN	± 1.5 MM
	1 PLACE DEC.	$\pm .03$	± 0.8
$\sqrt{= 125}$	2 PLACE DEC.	$\pm .015$	± 0.38
ASA B46.1	3 PLACE DEC.	$\pm .005$	± 0.13

NAME TRANSFORMER UNIT 1 SCHEMATIC

CONFIDENTIAL PROPERTY OF

DONG-A X-RAY CO., LTD.

PART NO.

A 3

73605 - 023

SHEET 1 OF 2

DXG650R 1 A1-73616-001

DXG325R 1 A1-73605-009

USED ON REQ'D ASSY. NO.

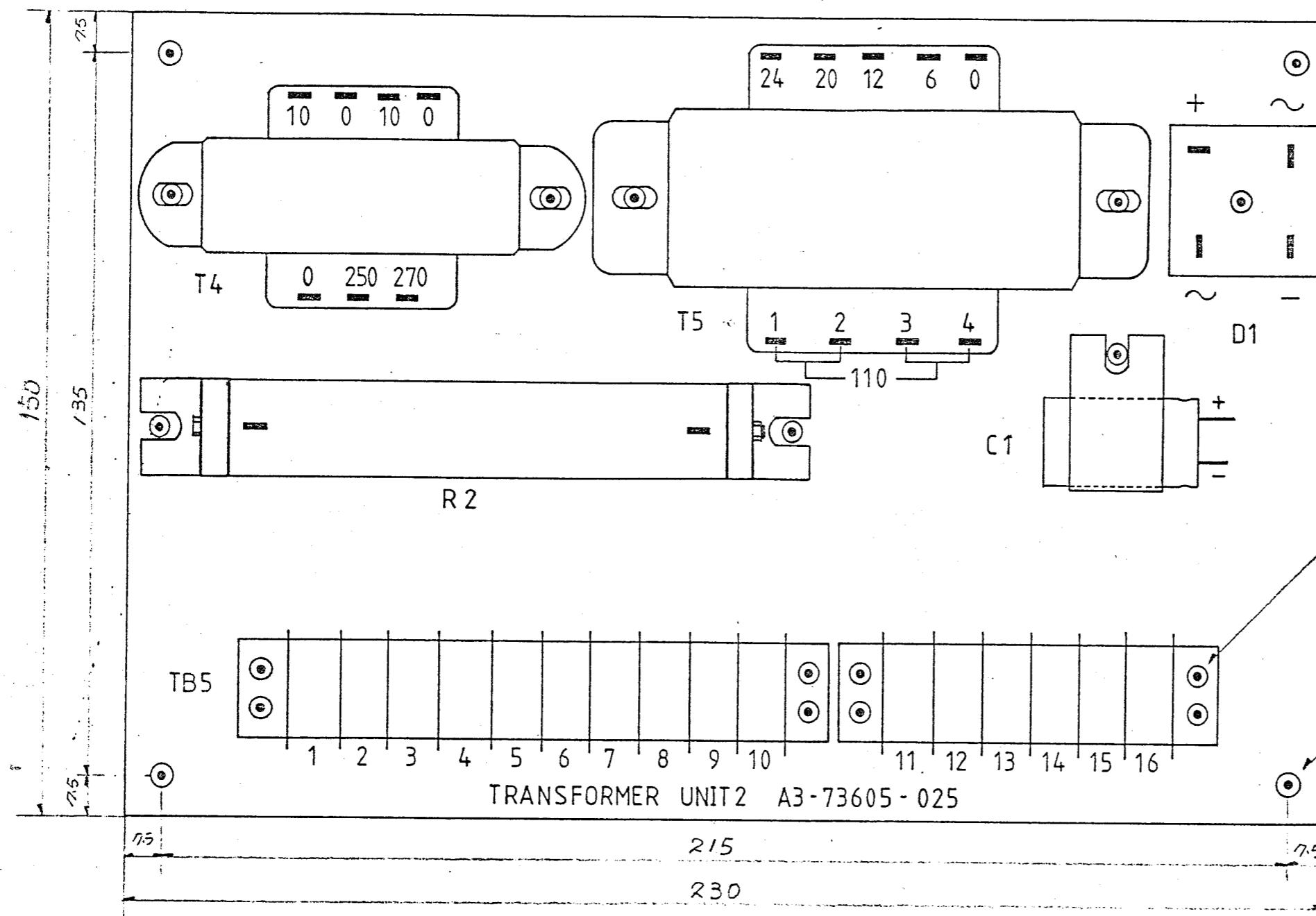
DR. BY

CHK. BY APPROV.

DATE DATE DATE

77

ITEM	PART NO.	DESCRIPTION	WHT.	REQ.
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DXG650R	1	
DXG325R	1	
USED ON.	REQD	ASSY. NO.

GENELAL TOLERANCE			
MACHINE CUT	PRESS, SHEAR AND WELDING	REV.	REMARKS
DIMENSION	TOLERANCE	DIMENSION	TOLERANCE
6 - 30	± 0.03	100 - 100	± 0.25
30 - 80	± 0.05	250 - 250	± 0.5
80 - 180	± 0.07	500 - 500	± 0.6
180 - 500	± 0.1	500 - 1250	± 1.0
500 -	± 0.15	1250 - 2500	± 1.5
	± 0.2	2500 -	± 2.0

DR. BY *as* CHK. BY APPROV.
DATE 9.2.9. DATE DATE

NAME		TRANSFOMER UNIT 2 PNL
MAT. B-Lite G ⁺)		FINISH
PART NO. SHEET OF		REV. SCALE 1/1
A3- 73605-025		WHT. kg

8 / 0 5 4 5 4

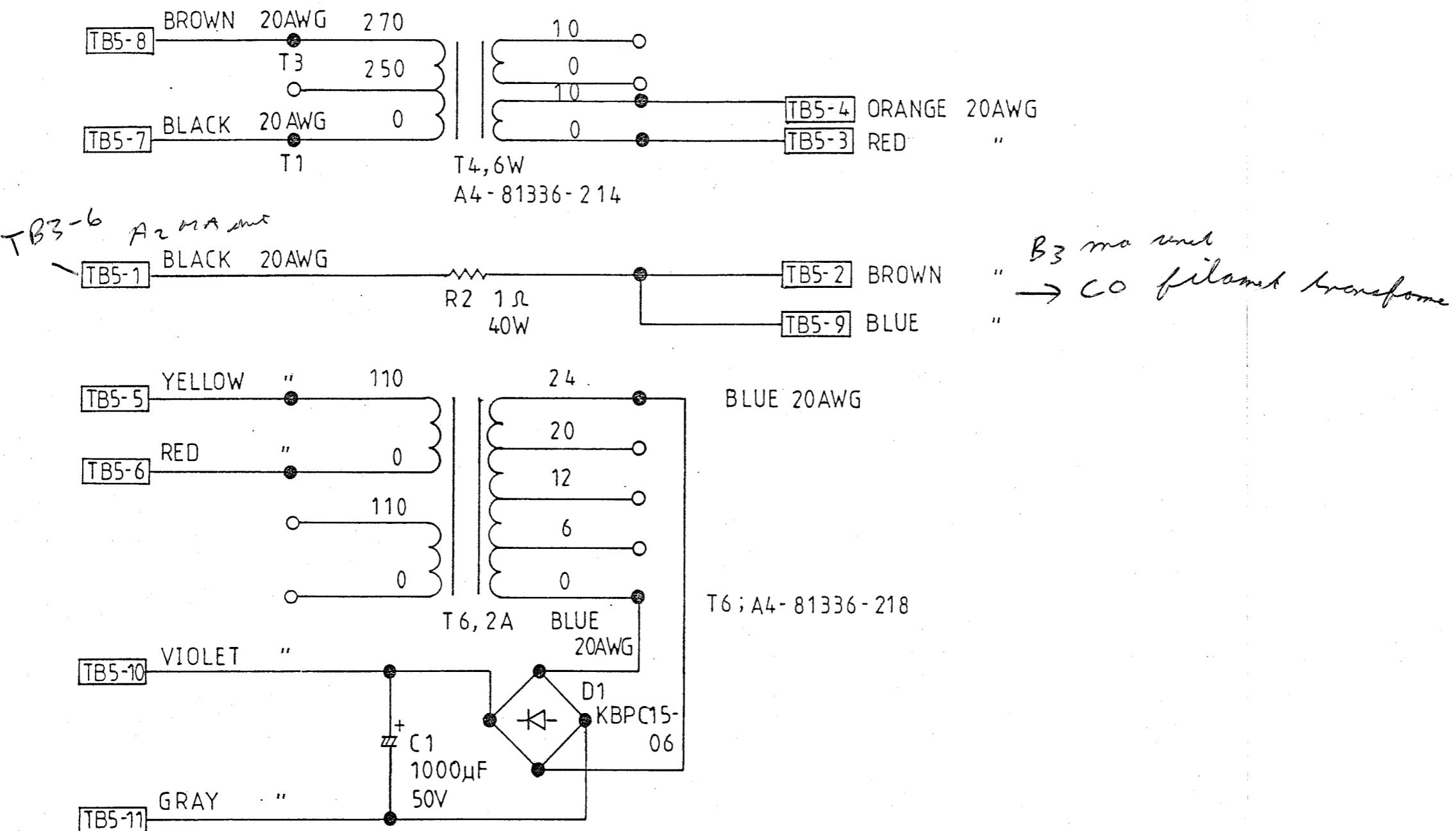
PART NO.

A 3

73605 - 025
SHEET 1 OF 2

BILL OF MATERIAL

ITEM	PART NO.	DESCRIPTION	REQ
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TOLERANCES UNLESS OTHERWISE MARKED	
ANGULAR	DIMENSIONS ABOVE LINE ARE IN MILLIMETERS
$\pm \frac{1}{2}^\circ$	DIMENSIONS BELOW LINE ARE IN INCHES
SURFACE FINISH	NO DEC. PLACE $\pm .06$ IN ± 1.5 MM
$\sqrt{= 125}$	1 PLACE DEC. $\pm .03$ ± 0.8
ASA B46.1	2 PLACE DEC. $\pm .015$ ± 0.38
	3 PLACE DEC. $\pm .005$ ± 0.13

CONFIDENTIAL PROPERTY OF

DONG-A X-RAY CO., LTD.

PART NO.

73605 - 025

REV

REMARKS

DATE

MATERIAL

FINISH

SCALE

RELEASE DATE

NAME

TRANSFORMER UNIT 2 SCHEMATIC

DXG 650R	1	A1-73616-001
DXG 325R	1	A1-73605-009
USED ON	REQ'D	ASSY. NO.

DR. BY

CHK. BY

APPROV.

DATE 89.8.28

DATE

DATE

A 3

SHEET 1 OF 2

PART NO.
A 73605 - 069
A 3 SHEET OF

BILL OF MATERIAL

ITEM	PART NO.	DESCRIPTION	REQ
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P1 Co.Filament Common

- 1 Cs.Filament Small
- 2 Cs.Filament Small
- 3 Cs.Filament Small
- 4 Cr.Filament Large
- 5 Cr.Filament Large
- 6 N1
- 7 N2
- 8 GND

Co.Filament Common

- 1 Cs.Filament Small
- 2 Cs.Filament Small
- 3 Cs.Filament Small
- 4 Cr.Filament Large
- 5 Cr.Filament Large
- 6 N1
- 7 N2
- 8 GND

P2

TO INTERFACE
PCB

P3 ROTOR COM.(W)

- 1 ROTOR MAIN.(B)
- 2 ROTOR AUX.(G)
- 3 CM
- 4 CM
- 5 DC+ For electro magnetic Lock
- 6 DC- "
- 7 0 VAC
- 8 110 VAC
- 9 BUCKY, 2
- 10

ROTOR COM.(W)

- 1 ROTOR MAIN.(B)
- 2 ROTOR AUX.(G)
- 3 CM
- 4 CM
- 5 DC+ For electro magnetic Lock
- 6 DC- "
- 7 0 VAC
- 8 110 VAC
- 9 BUCKY. 2
- 10

P4

P5 BUCKY SENSE

- 1 BUCKY SENSE
- 2 CM SENSE
- 3 CM SENSE
- 4 CM SENSE
- 5 THERMAL SW. SENSE

BUCKY SENSE

- 1 BUCKY SENSE
- 2 CM SENSE
- 3 CM SENSE
- 4 CM SENSE
- 5 THERMAL SW. SENSE

P6

\triangle		
\triangle		
REV	REMARKS	DATE

TOLERANCES UNLESS OTHERWISE MARKED

ANGULAR $\pm \frac{1}{2}^{\circ}$	DIMENSIONS ABOVE LINE ARE IN MILLIMETERS	METERS
	DIMENSIONS BELOW LINE ARE IN INCHES	
SURFACE FINISH $\sqrt{=} 125$ ASA B46.1	NO DEC. PLACE 1 PLACE DEC. 2 PLACE DEC. 3 PLACE DEC.	$\pm .06$ IN $\pm .03$ $\pm .015$ $\pm .005$
		$\pm 1.5\text{MM}$ ± 0.8 ± 0.38 ± 0.13

NAME INTERFACE PCB SCHEMATIC

DXG 650 R	1	
DXG 325 R	1	
DXG 300 R	1	
USED ON	REQ'D	ASSY. NO.

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DONG-A X-RAY CO., LTD.

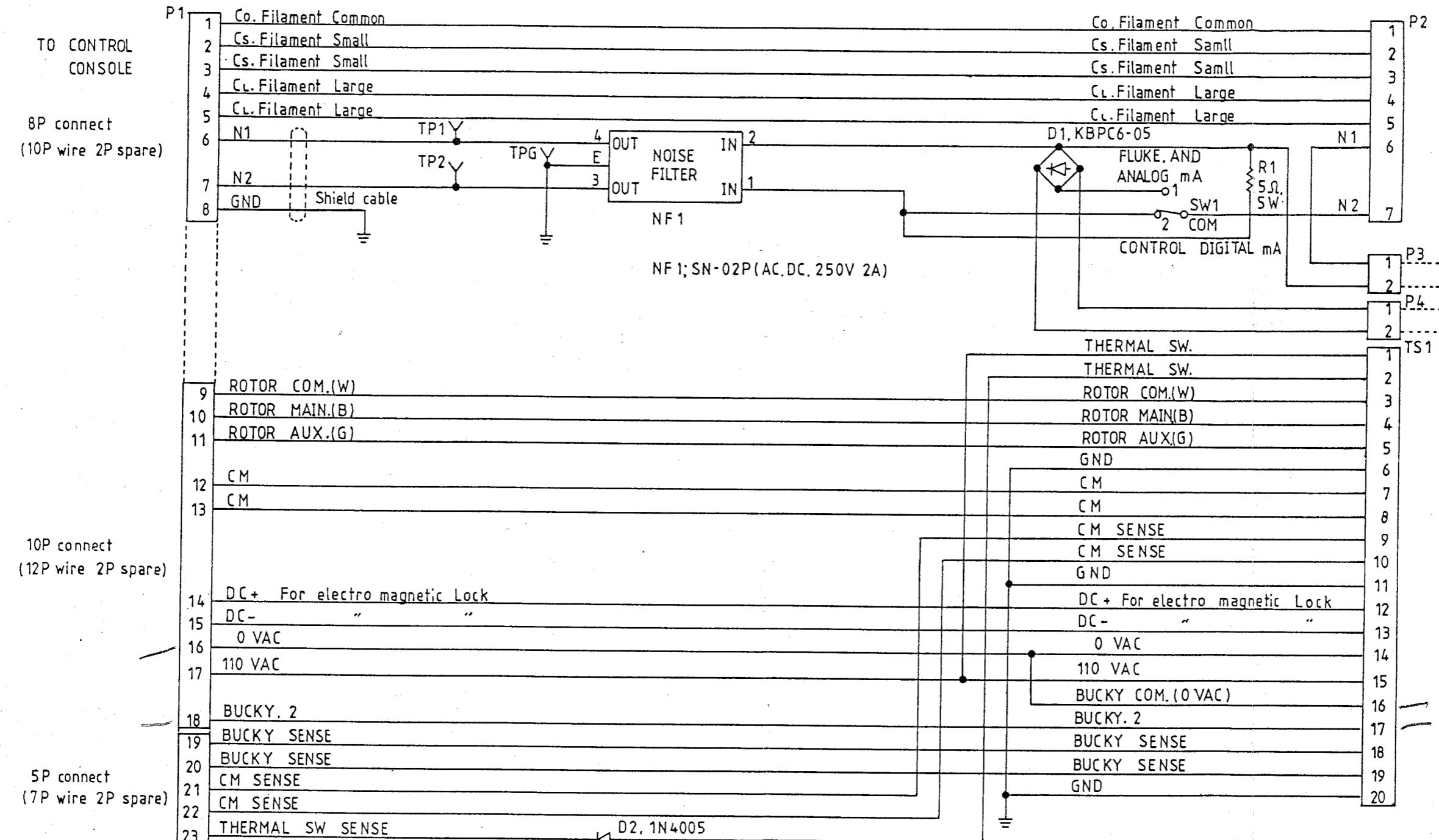
DR. BY	CHK. BY	APPROV.
<i>[Signature]</i>		
DATE 90.6.7	DATE	DATE

A
3

73605 - 069

SHEET OF

ITEM	PART NO.	DESCRIPTION	WHT	REQ
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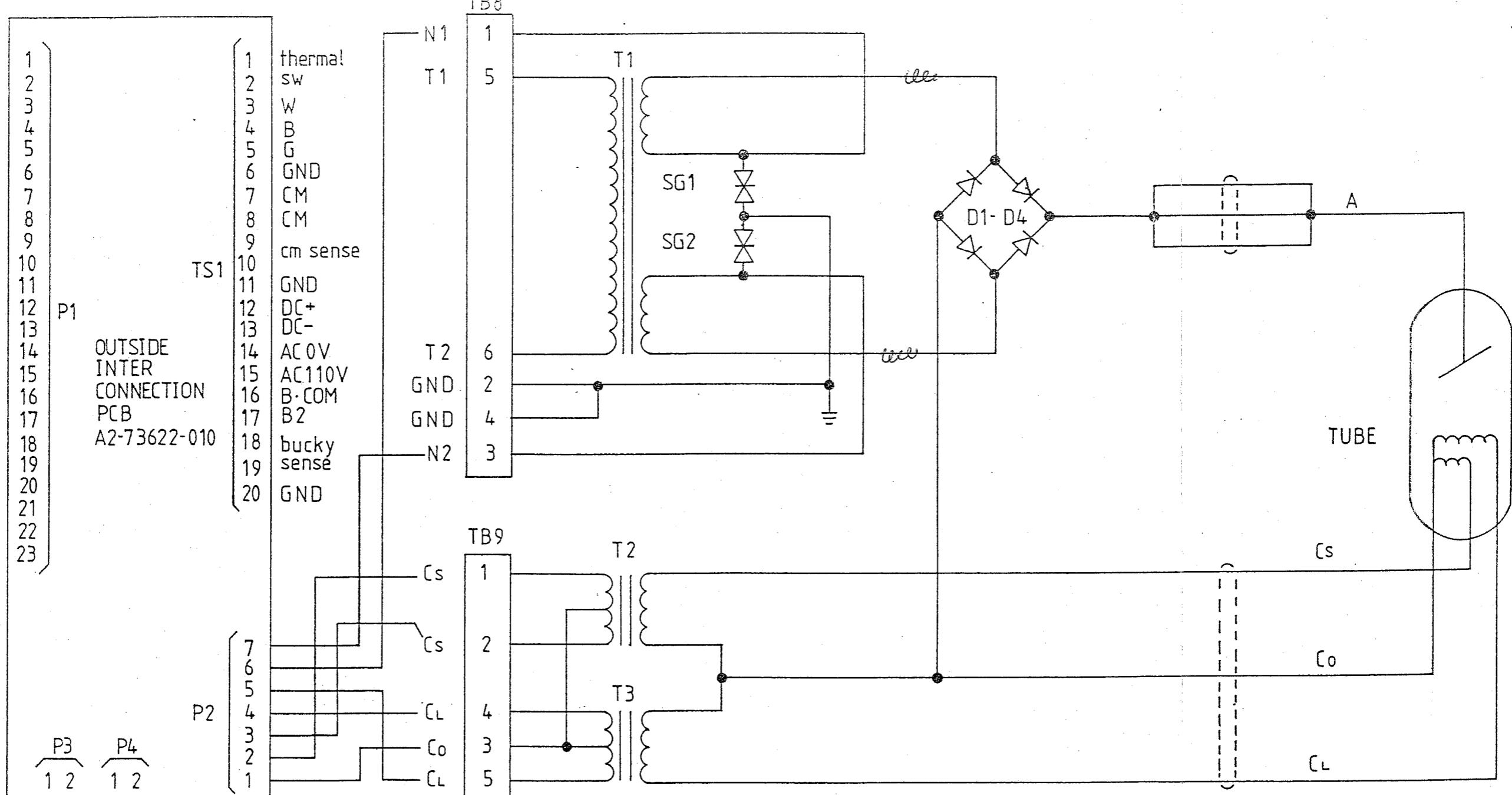


DM 325	1		TOLERANCES UNLESS OTHERWISE MARKED			MATL	FINISH
DXG 650 R	1		ANGULAR	SURFACE FINISH	DIMENSIONS	NAME	
DXG 325 R	1		$\pm \frac{1}{2}^\circ$	V ~ 125 KS B061	1 PLACE DEC. ± 10 2 PLACE DEC. ± 03 3 PLACE DEC. ± 01	OUTSIDE INTER CONNECTION PCB SCHE	
DXG 300 R	1		DR. BY	CHK. BY	APPROV.	PART NO. SHEET OF	REV
USED NO.	REQD	ASSY. NO.	JAHAN			A2-73622-010	SCALE
			DATE 90.6.1	DATE	DATE	WHT	Kg

PART NO.
73619-011
SHEET OF

BILL OF MATERIAL

ITEM	PART NO.	DESCRIPTION	REQ
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TOLERANCES UNLESS OTHERWISE MARKED		MATERIAL
ANGULAR	$\pm \frac{1}{2}^{\circ}$	DIMENSIONS ABOVE LINE ARE IN MILLIMETERS
SURFACE FINISH	$\sqrt{= 125}$	DIMENSIONS BELOW LINE ARE IN INCHES
	ASA B46.1	NO DEC. PLACE $\pm .06$ IN ± 1.5 MM
		1 PLACE DEC. $\pm .03$ ± 0.8
		2 PLACE DEC. $\pm .015$ ± 0.38
		3 PLACE DEC. $\pm .005$ ± 0.13

CONFIDENTIAL PROPERTY OF
DONG-A X-RAY CO., LTD.

DR. BY *OSB* CHK. BY APPROV.
DATE 90.1.20 DATE DATE

REV	REMARKS	DATE

HIGH TENSION XFMR SCHEMATIC
PART NO. 73619-011
A3 SHEET OF

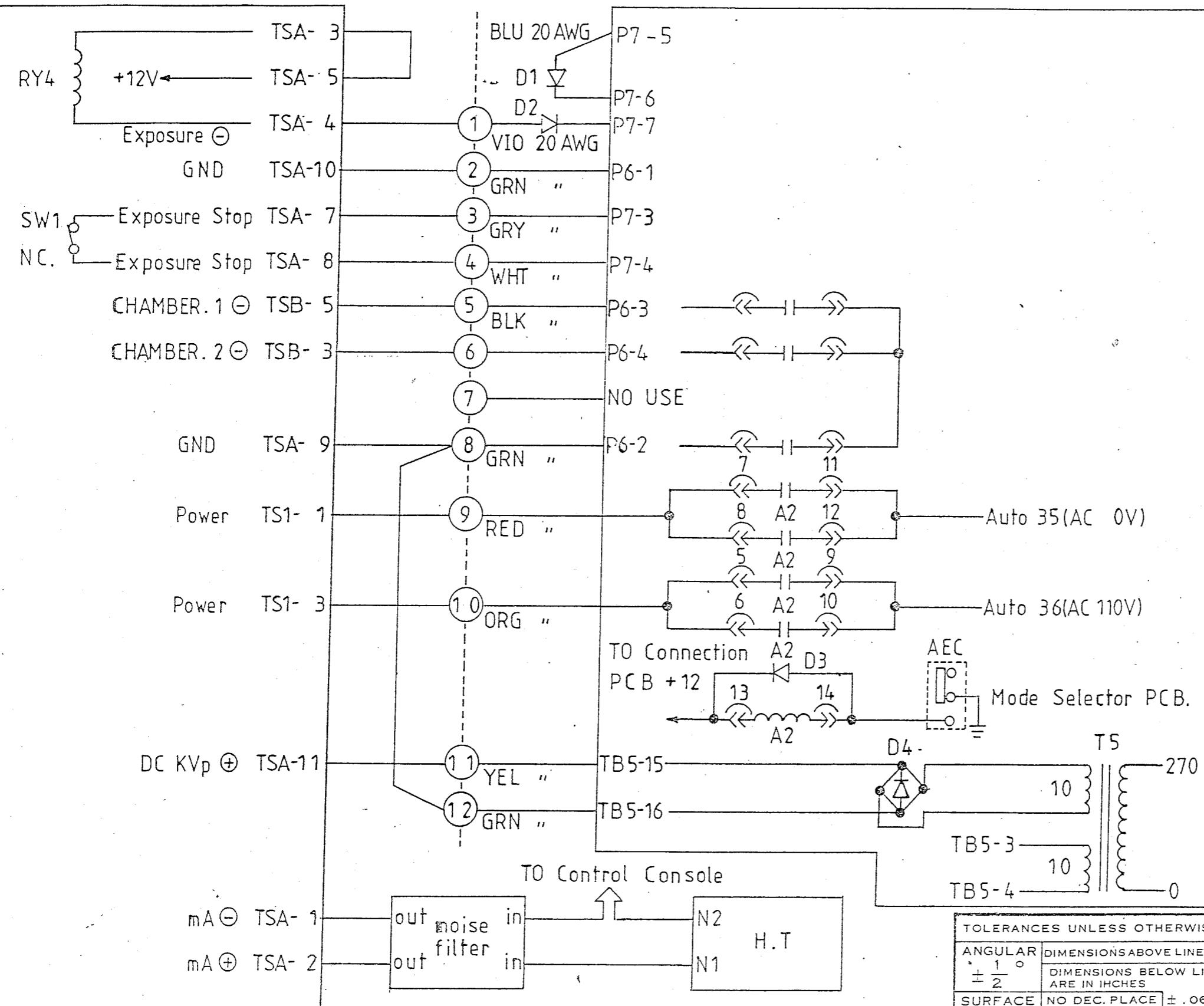
USED ON	REQ'D	ASSY. NO.
DM 325	1	
DXG650R	1	
DXG325R	1	

ITEM	PART NO.	DESCRIPTION	REQ
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AEC

TB6(For AEC)

X - RAY GENERATOR SIDE



TYPICAL INTERFACE TO X-RAY
GENERATOR
(AEC → DXG325R, DXG650R)

D1,2,3;1N4003,(1A 200V).Diode.
D4;RB153,(15A 200V).Bridge Diode.
A2;KH-103-4C,(DC 12V 4PDT).Relay.
TB6;Terminal Block 12P,(250V 20A).

△		
△		

REV REMARKS DATE

MATL

FINISH

SCALE RELEASE DATE

NAME

TYPICAL INTERFACE SCHEMATIC

TOLERANCES UNLESS OTHERWISE MARKED	
ANGULAR	DIMENSIONS ABOVE LINE ARE IN MILLIMETERS
$\pm 1^\circ$ $\pm \frac{1}{2}$	DIMENSIONS BELOW LINE ARE IN INCHES
SURFACE FINISH	NO DEC. PLACE $\pm .06$ IN ± 1.5 MM
	1 PLACE DEC. $\pm .03$ ± 0.8
	2 PLACE DEC. $\pm .015$ ± 0.38
	3 PLACE DEC. $\pm .005$ ± 0.13

CONFIDENTIAL PROPERTY OF

DONG-A X-RAY CO., LTD.

DR. BY / CHK. BY / APPROV. /

DATE 90. 2. 26 / DATE / DATE /

A 3
73605-047

80-3

PART NO

A 3

78104-303
SHEET OF

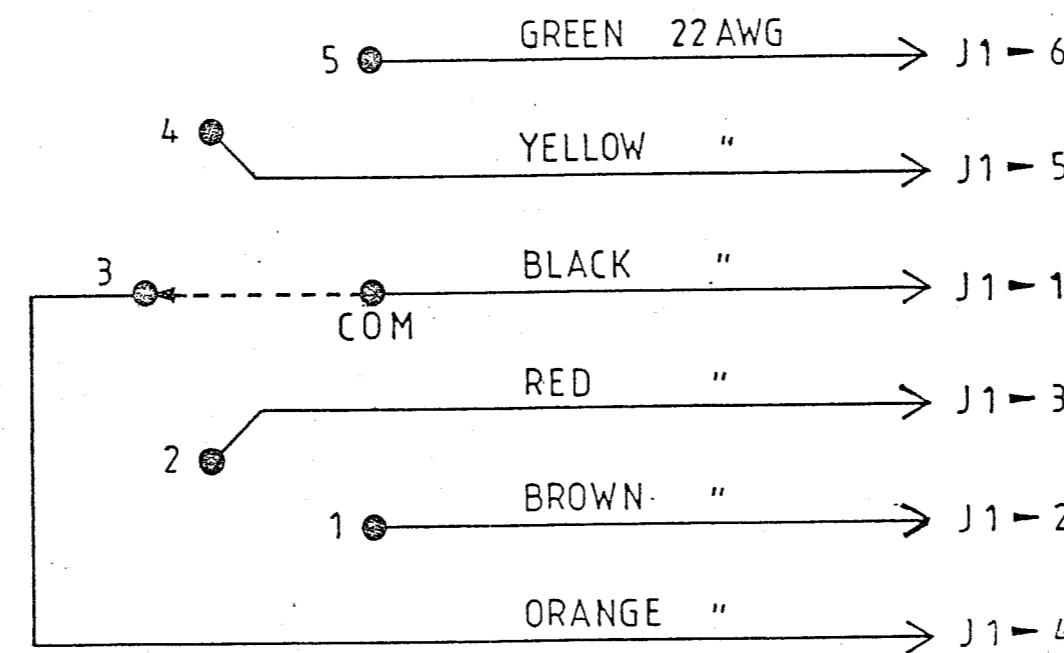
BILL OF MATERIAL

ITEM

PART NO.

DESCRIPTION

REQ



SW 12

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REV	REMARKS	DATE

TOLERANCES UNLESS OTHERWISE MARKED		DIMENSIONS ABOVE LINE ARE IN MILLIMETERS		DIMENSIONS BELOW LINE ARE IN INCHES		MATERIAL
ANGULAR	$\pm 1^\circ$					
	$\pm \frac{1}{2}$					
SURFACE FINISH	NO DEC. PLACE	$\pm .06$ IN	± 1.5 MM			
	1 PLACE DEC.	$\pm .03$	± 0.8			
	$\sqrt{=125}$	$\pm .015$	± 0.38			
	ASA B46.1	$\pm .005$	± 0.13			
	3 PLACE DEC.					

CONFIDENTIAL PROPERTY OF
DONG-A X-RAY CO., LTD.
DR. BY *MAN* CHK. BY *MAN* APPROV.
DATE 89.8.28 DATE DATE
PART NO. A 3 SHEET OF 2 81 1

DXG 650R	1	A1-73616-001
DXG 325R	1	A1-73605-009
USED ON	REQ'D	ASSY. NO.

MAINTENANCE

All power in the system should be turned off, remove the front cover from the Control console.

Perform the following maintenance checks;

- * Verify free action of pushbutton, and all pushbuttons are interlocked.
- * Check PREP and EXPOSURE switches are working smooth.
- * Check Line Compensation, Major and Minor kVp selection switches are working properly.
- * Verify all connections are tight, including high tension cables.
- * Verify the High Tension Transformer chassis shows no signs of damage or any oil leakage.
- * Check any signs of defective meters.

Turn system and control console power on.

- * Verify "MAIN" LED illuminated.
- * Depress "READY" switch and check "READY" LED illuminates end of the prep cycle is completed.
- * Close the collimator shutters and make an exposure.
[50 mA, 70 kVp, 1/10[0.1] sec.]
Check "READY" LED, and
"X-RAY" LED and audible signal indication should be on during the length of the exposure time.
- * Confirm that power line is adequate, timer, mA calibration, and safety circuit is functioning properly.
(Timer, mA calibration refer to system calibration section of this manual)
- * Verify that the exposure should be terminates when the X-Ray switch is released.

The filament emission characteristics of X-ray tube go through a change which is related to the total watt-hour of filament on time, and the peak temperatures used.

The initial evaporation rate is generally high, making the filament change rapidly during the first hour of use.

The normal change is in the direction of an increase in emission characteristic. After several thousand prep cycle the rate of change levels off, requiring filament correction at less frequent intervals.

MAINTENANCE SCHEDULES AND MAINTENANCE DATA LOG

This maintenance data sheet is provided to record that this maintenance has been accomplished. To maintain this system in condition under the specifications and it's parameter, the maintenance schedule described in the Generator Technical Manual must be maintained.

This sheet should be used to record that this maintenance has been accomplished.

Control Console serial number: _____

High Tension Transformer serial number: _____

Date of manufactured: _____

Date of installation: _____

First Calibration

(30 days after installation or after first 2500 exposure)

Calibrated by _____ Date _____

Second Calibration

(90 days after installation or after first 7500 exposure)

Calibrated by _____ Date _____

Subsequent Calibration

(every 180 days)

Calibrated by _____ Date _____

DXG325R PART LIST

CONTROL CONSOLE ASSY.(A1-73605-009)

ITEM REF.	PART NO.	DESCRIPTION	REQ
REF.	A1-73605-009	DXG325 SCHEMATIC	1
PNL1	A3-73616-003	LINE MACHING PNL ASSY.	1
PNL2	A3-73605-023	TRANSFORMER UNIT 1 PNL ASSY.	1
PNL3	A3-73605-025	TRANSFORMER UNIT 2 PNL ASSY.	1
PNL4	A3-73629-044	RELAY UNIT PNL ASSY.	1
PNL5	A3-73605-046	INTERFACE PCB PNL ASSY.	1
Q1	A4-78201-903	SCR IRKT-9108	1
R1	A4-76616-229	RES. 0.1,250W	1
R4	A4-76615-411	RES. 50,100W	1
CV UNIT	A3-73605-044	CONSTANT VOLTAGE UNIT ASSY.	1
SW1-SW3	A4-78104-020	ROTARY TAP SW,60A,11 POSITION,P32 (LINE,MAJOR,MINOR SW)	3
SW4,5	A4-78101-121	PUSH BOTTON SW,KH-516-B11,LAMP DC24V (ON/OFF SW)	2
SW6	A4-78104-554	ROTARY TAP SW,23 POSITION (TIME SELECTOR)	1
SW8	A4-78101-264	PUSH BUTTON SW,GREEN,MUM-1,LAMP DC12V (READY SW)	1
SW9	A4-78101-263	PUSH BUTTON SW,YELLOW,MUM-1,LAMP DC12V (X-RAY SW)	1
SW12	A4-78104-303	ROTARY TAP SW,5 POSITION(DENSITY SW)	1
SW13	A4-78101-111	PUSH BUTTON SW,2 CIRCUIT(RESET SW)	1
T1	A2-81336-806	AUTO-TRANSFORMER,300mA:250V:125KVP	1
TB1	A4-81330-132	TERMINAL BLOCK 3 POSITION 50A,250V KHT-6060-3P	2

DXG325R PART LIST

CONTROL CONSOLE(A1-73605-009)

ITEM	PART NO.	DESCRIPTION	REQ
CT1,2	A4-81336-908	CURRENT SENCE TRANSFORMER TZ3	2
MC1	A4-76801-775	CONTACTOR CH7.5N,35A,COIL,AC220V	1
RY1	A4-76801-701	REALY, KH-101-2A,COIL DC24V	1
F1	A4-59101-503	FUSE 0.5A , SLOW BLOW TYPE	1
F2-5,11	A4059101-057	FUSE 3A , SLOW BLOW TYPE	5
F6	A4-59101-054	FUSE 1A , SLOW BLOW TYPE	1
F7,9	A4-59101-060	FUSE 10A , SLOW BLOW TYPE	2
F8,10	A4-59101-058	FUSE 5A , SLOW BLOW TYPE	2
F11	A4-59110-150	FUSE HOLDER 250VAC 10A	1
PCB1	A2-73616-114	POWER,OIL PCB ASSY.	1
PCB2	A2-73616-112	ROTOR TIMER PCB ASSY.	1
PCB3	A2-73616-116	KVP METER/MA ADJUST PCB ASSY.	1
PCB4	A1-73616-118	mA UNIT PCB ASSY.	1
PCB5	A2-73616-124	CONTROL UNIT PCB ASSY.	1
PCB6	A2-73605-102	CONNECTION UNIT PCB ASSY.	1
M1	A4-73102-003	LV METER,FS:AC24V	1
PCB7	A1-73616-120	DISPLAY UNIT 1 PCB ASSY.	1
PCB8	A3-73604-047	mA SELECTOR PCB ASSY.	1
PCB9	A3-73604-045	MODE SELECTOR PCB ASSY.	1
PCB10	A3-73604-043	LED UNIT PCB ASSY.	1

DXG325 PART LIST

CONTROL CONSOLE(A1-73605-009)

ITEM	PART NO.	DESCRIPTION	REQ
PCB11	A4-73616-024	OLP RESISTOR PCB ASSY.	1
PCB12	A4-73616-022	TIMER RESISTOR PCB ASSY.	1
PCB13	A3-73616-130	mAs CONTROL PCB ASSY.	1
PCB14	A3-73618-016	FIELD SELECTOR	1
PCB15	A2-73616-134	RELAY UNIT PCB ASSY.	1
PCB16	A2-73629-008	INTERFACE PCB ASSY.	1
PCB17	A3-73604-049	EXTENTION PCB ASSY.	1

DXG325R PART LIST

POWER,OLP PCB1(A2-73616-114)

ITEM	PART NO.	DESCRIPTION	REQ.
REF.	A2-73616-114	POWER,OLP ASSY.	1
REF.	A2-73616-114	POWER,OLP SCHEMATIC	1
REF.	A3-73616-113	POWER,OLP PCB	1
A	A4-64411-223	IC 4051	1
B,C,D	A4-64412-301	IC LM324	3
E	A4-64404-003	IC 7812	1
F	A4-64404-043	IC 7912	1
G	A4-64412-304	IC LM2904	1
NF1-3		NOISE FILTER,CFI 06B 1H223M	3
Q1-9	A4-80801-001	TR. 2SC1959,NPN,35V,500mA	9
D2-6,10-14 9,17-19	A4-56133-103	DIODE, 1N4003,200V,1A	14
D7,20	A4-56131-100	ZENER DIODE,1N759A,12V,20mA	2
D8	A4-56131-001	ZENER DIODE,1N4728,3.3V,76mA	1
D15	A4-56120-205	BRIDGE DIODE,KBPC6-04,400V,8A	1
D16	A4-56133-201	DIODE,1N5406,600V,3A	1
R1,21-24,34,58 59,61,62,65-68 50,51,71	A4-76603-101	RES. 10K,1/4W,5%	17
R2	A4-76603-066	RES. 470,1/4W,5%	1
R4,6-12,29	A4-76603-094	RES. 5.1K,1/4W,5%	9
R5,56	A4-76603-153	RES. 1M,1/4W,5%	2
R13	A4-76603-093	RES. 4.7K,1/4W,5%	1
R14	A4-76603-189	RES. 260,1/4W,5%	1
R15	A4-76603-190	RES. 320,1/4W,5%	1

DXG325R PART LIST

POWER,OLP PCB1(A2-73616-114)

ITEM	PART NO.	DESCRIPTION	REQ.
R16,18	A4-76603-191	RES. 420,1/4W,5%	2
R17,19	A4-76603-192	RES. 590,1/4W,5%	2
R20,25,73	A4-76603-077	RES. 1K,1/4W,5%	3
R26,30-33	A4-76603-125	RES. 100K,1/4W,5%	5
R27	A4-76603-067	RES. 510,1/4W,5%	1
R44,46,48	A4-76603-108	RES. 20K,1/4W,5%	2
R45	A4-76603-113	RES. 33K,1/4W,5%	1
R47	A4-76603-121	RES. 220K,1/4W,5%	1
R49	A4-76603-150	RES. 800K,1/4W,5%	1
R55	A4-76603-099	RES. 8.2K,1/4W,5%	1
R60	A4-76603-137	RES. 220K,1/4W,5%	1
R63	A4-76603-129	RES. 127K,1/4W,5%	1
R69	A4-76603-081	RES. 1.5K,1/4W,5%	1
R70	A4-76611-348	RES. 51,2W,5%	1
R3,72	A4-76660-218	POT. 50K,15 TURNS	2
R74	A4-76603-118	RES. 51K,1/4W,5%	1
R53,54,57,64	A4-76660-215	POT. 10K,15 TURNS	4
R36-40,42,43	A4-76660-218	POT. 47K,15 TURNS	7
R41	A4-76660-221	POT. 220K,15 TURNS	1
R28	A4-76665-017	POT. 47K,1 TURN	1
R35	A4-76665-007	POT. 1K,1 TURN	1
C1,2,4-7,16	A4-53110-013	CAP. 0.1uF,50V,FILM	7
C3,17-22	A4-53112-047	CAP. 0.047uF,25V,CERAMIC	7

DXG325R PART LIST

POWER,OLP PCB1(A2-73616-114)

ITEM	PART NO.	DESCRIPTION	REQ.
C8-12	A4-53101-109	CAP. 1000uF,35V,CHEMICAL	5
C13-15	A4-53101-101	CAP. 10uF,35V,CHEMICAL	3
C23	A4-53101-100	CAP. 4.7uF,35V,CHEMICAL	1
C24	A4-53101-080	CAP. 100uF,25V,CHEMICAL	1
K2	A4-76801-065	RELAY,RY12W-K DC12V	1
A	A4-64414-023	IC SOCKET,16P	1
B,C,D	A4-64414-022	IC SOCKET,14P	3
G	A4-64414-021	IC SOCKET,8P	1
F1	A4-59101-003	FUSE 0.5A,SLOW BLOW TYPE	1
F1	A4-59110-001	FUSE HOLDER SOCKET PCB TYPE	1
E,F	A4-62801-001	HEAT SINK,BLACK FACING,23*17*25	2
TP1-10 ,TPG	A4-81339-001	TEST POINTER	11
PCB1		PCB EJECT	2
JP1 ,3 ,4		JUMP WIRE GREEN	3

DXG325R PART LIST

ROTOR TIMER PCB2(A2-73616-112)

ITEM REF.	PART NO. A2-73616-112	DESCRIPTION ROTOR TIMER ASSY.	REQ. 1
REF.	A2-73616-112	ROTOR TIMER SCHEMATIC	1
REF.	A3-73616-111	ROTOR TIMER PCB	1
A,B,C	A4-64411-011	IC 4011	3
D	A4-64411-221	IC 4049	1
E	A4-64412-107	IC MC1455	1
F,G	A4-64421-062	IC TLP521-1	2
H	A4-64404-003	IC 7812	1
Q1-3,5-9 12-14,16-19 21-23	A4-80801-001	TR. 2SC1959,NPN,35V,500mA	18
Q15,20	A4-80801-101	TR. TIP41,NPN,100V,6A	2
D1,2,4,5,7-13 22,23,25,26 28-32,34,36 38,39	A4-56133-103	DIODE, 1N4003,200V,1A	24
D6	A4-56131-013	ZENER DIODE,1N4738,8.2V,31mA	1
D15,33	A4-56131-001	ZENER DIODE,1N4728,3.3V,76mA	2
D20,21	A4-56131-012	ZENER DIODE,1N4742,12V,21mA	2
D16,17	A4-56120-710	BRIDGE DIODE,S1VB20,200V,600mA	2
D18,35	A4-56132-201	LED. RED,3mm STANDARD	2
D19,37	A4-56132-202	LED. GREEN,3mm STANDARD	2
D24	A4-56132-203	LED. YELLOW,3mm STANDARD	1

DXG325R PART LIST

ROTOR TIMER PCB2(A2-73616-112)

ITEM	PART NO.	DESCRIPTION	REQ.
R1,8-11,14-16 19,24,29,30 32-36,40,41,43 44,51,55,58,61 66,67,70,74	A4-76603-101	RES. 10K,1/4W,5%	29
R4	A4-76660-211	POT. 2.2K,15 TURNS	1
R2,31,37-39 42,48,64,68	A4-76603-085	RES. 2.2K,1/4W,5%	9
R3,45,52,53,64	A4-76603-066	RES. 470,1/4W,5%	5
R5,7,18,23,27 54,56,59,72,73	A4-76603-077	RES. 1K,1/4W,5%	10
R12,13	A4-76603-025	RES. 10,1/4W,5%	2
R17,21,25,26 71	A4-76603-093	RES. 4.7K,1/4W,5%	5
R49,69	A4-76603-081	RES. 1.5K,1/4W,5%	2
R46	A4-76660-210	POT. 1K,15 TURNS	1
R47	A4-76606-060	RES. 300,1/2W,5%	1
R50	A4-76660-221	POT. 200K,15 TURNS	1
R57,60	A4-76603-109	RES. 22K,1/4W,5%	2
R63	A4-76603-049	RES. 100,1/4W,5%	1
R65	A4-76603-125	RES. 100K,1/4W,5%	1
C1	A4-53101-080	CAP. 100uF,25V,CHEMICAL	1
C2	A4-53101-083	CAP. 470uF,25V,CHEMICAL	1
C3-6,23,30	A4-53101-077	CAP. 22uF,25V,CHEMICAL	6
C7,20,21,26	A4-53101-076	CAP. 10uF,25V,CHEMICAL	4

DXG325R PART LIS

ROTOR TIMER PCB2(A2-73616-112)

ITEM	PART NO.	DESCRIPTION	REQ.
C8	A4-53101-109	CAP. 1000uF, 35V, CHEMICAL	1
C9, 19, 24	A4-53110-043	CAP. 0.1uF, 50V, FILM	3
C10	A4-53112-048	CAP. 0.1uF, 25V, CERAMIC	1
C11, 12, 31, 32	A4-53112-045	CAP. 0.01uF, 25V, CERAMIC	4
C16	A4-53110-037	CAP. 0.01uF, 100V, CERAMIC	1
C13-15, 18, 22	A4-53112-047	CAP. 0.047uF, 25V, CERAMIC	5
C17	A4-53110-031	CAP. 0.001uF, 100V, FILM	1
C25	A4-53101-091	CAP. 1uF, 25V, CHEMICAL	1
C28	A4-53113-055	CAP. 10uF, 25V, TANTAL	1
C27	A4-53113-059	CAP. 1uF, 25V, TANTAL	1
C29	A4-53101-104	CAP. 47uF, 35V, CHEMICAL	1
BZ1	A4-51101-020	BUZZER, SEC-C27S	1
K1	A4-76801-003	RELAY, HB1-DC12V	1
H	A4-62801-001	HEAT SINK, BLACK FACING, 23*17*25	1
A, B, C	A4-64414-022	IC SOCKET, 14P	3
D	A4-64414-023	IC SOCKET, 16P	1
E	A4-64414-021	IC SOCKET, 8P	1
PCB2		PCB EJECT	2
TPG	A4-81339-001	TEST POINTER	1
JP1, JP2		JUMP WIRE GREEN	2
NF1, 2		NOISE FILTER CFI 06B 1H 223H	2

DXG325R PART LIST

KVP METER/mA ADJUST PCB3(A2-73616-116)

ITEM	PART NO.	DESCRIPTION	REQ.
REF.	A2-73616-116	KVP METER/mA ADJUST ASSY.	1 . 0
REF.	A2-73616-116	KVP METER/mA ADJUST SCHEMATIC	1 . 0
REF.	A3-73616-115	KVP METER/mA ADJUST PCB.	1 . 0
A,B	A4-64411-223	IC 4051	2 . 0
D	A4-64412-301	IC LM324	1 . 0
D1	A4-56120-710	BRIDGE DIODE, S1VB20, 200V, 600mA	1 . 0
D5-9	A4-56133-103	DIODE, 1N4003, 200V, 1A	5 . 0
D10	A4-56131-100	ZENER DIODE, 1N759A, 12V, 20mA	1 . 0
R11-14,50,54,56	A4-76603-101	RES. 10K, 1/4W, 5%	7 . 0
R1	A4-76606-077	RES. 1K, 1/2W, 5%	1 . 0
R4-8,23-29 39-43,55,90	A4-76660-216	POT. 20K, 15 TURNS	19 . 0
R16-22,49	A4-76603-125	RES. 100K, 1/4W, 5%	8 . 0
R51,52	A4-76603-085	RES. 2.2K, 1/4W, 5%	2 . 0
R53	A4-76603-071	RES. 680, 1/4W, 5%	1 . 0
R32-34	A4-76603-089	RES. 3.3K, 1/4W, 5%	3 . 0
R35,36,69	A4-76603-093	RES. 4.7K, 1/4W, 5%	3 . 0
R30-34,46,47	A4-76603-108	RES. 10K, 1/4W, 5%	7 . 0
C1	A4-53101-104	CAP. 47uF, 35V, CHEMICAL	1 . 0
C3,4	A4-53101-075	CAP. 4.7uF, 35V, CHEMICAL	2 . 0
C5,6	A4-53101-080	CAP. 100uF, 25V, CHEMICAL	2 . 0
C7,8	A4-53312-047	CAP. 0.047uF, 25V, CERAMIC	2 . 0

DXG325R PART LIST

KVP METER/mA ADJUST PCB3(A2-73616-116)

ZNR1	A4-84601-003	VARISTOR, 10DK270	1 . 0
A,B	A4-64414-023	IC SOCKET, 16P	2 . 0
D	A4-64414-022	IC SOCKET, 14P	1 . 0
TP1-5, TR G	A4-81399-001	TEST POINTER	6 . 0
PCB3		PCB EJECT	2 . 0
NF1 , 2		NOISE FILTER CF1 06B 1H 223H	2 . 0
JP1 , 2		JUMP WIRE	2 . 0

DXG325R PART LIST

mA UNIT PCB4(A1-73616-118)

ITEM	PART NO.	DESCRIPTION	REQ.
REF.	A1-73616-118	mA UNIT ASSY.	1
REF.	A1-73616-118	mA UNIT SCHEMATIC	1
REF.	A3-73616-117	mA UNIT PCB	1
A,B	A4-64411-221	IC 4049	2
D	A4-64411-241	IC 4532	1
F	A4-64411-223	IC 4051	1
G,H	A4-64412-301	IC LM324	2
I	A4-64411-501	IC TL494	1
K,I	A4-64411-015	IC 4066	2
M	A4-64421-062	IC TLP521-1	1
Q1,2,7	A4-80801-101	TR. TIP41,NPN,100V,6A	3
Q6	A4-80801-001	TR. 2SC1959,NPN,35V,500mA	1
D6-9,14-18	A4-56133-103	DIODE, 1N4003,200V,1A	9
D19	A4-56131-055	ZENER DIODE,1N4733,5.1V,49mA	1
D21	A4-56131-100	ZENER DIODE,1N759A,12V,20mA	1
R1-14,20,29,30 31-33,38-42,64 45-53,66-68,83 85,87,88,90,96 97-99	A4-76603-101	RES. 10K,1/4W,5%	47
R15,16,43	A4-76603-093	RES. 4.7K,1/4W,5%	3
R18,23,102	A4-76603-125	RES. 100K,1/4W,5%	3
R28	A4-76603-109	RES. 22K,1/4W,5%	1

DXG325R PART LIST

mA UNIT PCB4(A1-73616-118)

ITEM	PART NO.	DESCRIPTION	REQ.
R34, 54	A4-76603-084	RES. 2K, 1/4W, 5%	2
R35, 78	A4-76603-099	RES. 8.2K, 1/4W, 5%	2
R36	A4-76603-105	RES. 15K, 1/4W, 5%	1
R37	A4-76603-106	RES. 16K, 1/4W, 5%	1
R57-61	A4-76660-218	POT. 50K, 15 TURNS	5
R79	A4-76603-081	RES. 1.5K, 1/4W, 5%	1
R81, 82	A4-76603-094	RES. 5.1K, 1/4W, 5%	2
R84	A4-76613-355	RES. 100, 5W, 5%	1
R86	A4-76603-137	RES. 300K, 1/4W, 5%	1
R89	A4-76603-103	RES. 12K, 1/4W, 5%	1
R91	A4-76603-056	RES. 200, 1/4W, 5%	1
R65, 92, 93	A4-76603-066	RES. 470, 1/4W, 5%	3
R94, 95	A4-76603-075	RES. 820, 1/4W, 5%	2
R74	A4-76603-089	RES. 3.3K, 1/4W, 5%	1
R80	A4-76603-118	RES. 51K, 1/4W, 5%	1
R75	A4-76603-077	RES. 1K, 1/4W, 5%	1
R70, 71	A4-76665-013	POT. 10K, 1 TURN	2
R44		RES. 100, JUMP WIRE	1
C3-7, 26, 27	A4-53101-091	CAP. 1uF, 25V, CHEMICAL	9
C8, 9, 11, 13-17 19, 21	A4-53112-047	CAP. 0.047uF, 25V, CERAMIC	10
C18	A4-53101-076	CAP. 10uF, 25V, CHEMICAL	1
C23, 24	A4-53110-013	CAP. 0.1uF, 50V, FILM	2
C25	A4-53101-209	CAP. 100uF, 100V, CHEMICAL	1

DXG325R PART LIST

MA UNIT PCB4(A1-73616-118)

ITEM	PART NO.	DESCRIPTION	REQ.
C28,29	A4-53101-084	CAP. 100uF, 25V, CHEMICAL	2
A,B,D,F,I	A4-64416-023	IC SOCKET 16P	5
G,H,K,L	A4-64414-022	IC SOCKET 14P	4
TP1-8,TPG	A4-81399-001	TEST POINTER	8
PCB4		PCB EJECT	2
NF1,2		NOISE FILTER CFI Ø6B 1H 223H	2

DXG325R PART LIST

CONTROL UNIT PCB5(A2-73616-138)

ITEM	PART NO.	DESCRIPTION	REQ.
REF.	A2-73616-138	CONTROL UNIT ASSY.	1.0
REF.	A2-73616-138	CONTROL UNIT SCHEMATIC	1.0
REF.	A3-73616-123	CONTROL UNIT PCB	1.0
A	A4-64404-001	IC. 7805	1.0
B,C	A4-64412-301	IC. LM324	1.0
D	A4-64412-105	IC. LM555	1.0
E,F	A4-64411-232	IC. 4518	1.0
G,M	A4-64411-222	IC. 4050	2.0
H	A4-64411-021	IC. 4073	1.0
L	A4-64411-019	IC. 4071	1.0
K	A4-64411-025	IC. 4081	1.0
I,J	A4-64411-221	IC. 4049	2.0
O,P	A4-64421-062	IC. TLP521-1	2.0
Q1,2	A4-80801-005	TR. 2SA965,PNP, 120V, 800mA	1.0
Q3-5,7-9	A4-80801-001	TR. 2SC1959,NPN, 35V, 500mA	6.0
D1,2,4-6,12,15 16	A4-56133-103	DIODE. 1N4003, 200V, 1A	8.0
D3	A4-56131-014	ZENER DIODE. 1N4735, 6.2V, 41mA	1.0
D8,17	A4-56132-202	LED. GREEN,3mm STANDARD	2.0
D9,13	A4-56132-203	LED. YELLOW,3mm STANDARD	2.0
R1	A4-76615-005	RES. 5,5W	1.0
R2,3,6,17,31 36,38,40,42 44,59	A4-76603-125	RES. 100K,1/4W,5%	11.0

DXG325R PART LIST

CONTROL UNIT PCB5(A2-73616-138)

ITEM	PART NO.	DESCRIPTION	REQ.
R4-9,14,15,23 25,26,29,30,35 37,39,41,43,51 53,55,57,60,61 64,66-69	A4-76603-101	RES. 10K, 1/4W, 5%	27.0
R20,46,47	A4-76603-007	RES. 1K, 1/4W, 5%	3.0
R10	A4-76604-876	RES. 4990, 1/2W, 1%	1.0
R19	A4-76603-153	RES. 1M, 1/4W, 5%	1.0
R24	A4-76603-113	RES. 33K, 1/4W, 5%	1.0
R18,22,27,28 50,52,54,56,62 66	A4-76603-085	RES. 2.2K, 1/4W, 5%	10.0
R11,16,45,58	A4-76603-093	RES. 4.7K, 1/4W, 5%	4.0
R12	A4-76660-216	POT. 20K, 15T	1.0
R13,21	A4-76660-215	POT. 10K, 15T	2.0
C1,4	A4-53101-084	CAP. 100uF, 25V, CHEMICAL	2.0
C2	A4-53101-076	CAP. 10uF, 25V, CHEMICAL	1.0
C3,9,12	A4-53112,048	CAP. 0.1uF, 25V, FILM	3.0
C11	A4-53112-009	CAP. 0.0001uF, 25V, FILM	1.0
C5-8,10,13,14 21-27	A4-53112-047	CAP. 0.047uF, 25V, CERAMIC	14.0
C15-17	A4-53101-037	CAP. 0.01uF, 100V, FILM	3.0
C20	A4-53101-077	CAP. 22uF, 25V, CHEMICAL	1.0

DXG325R PART LIST

CONTROL UNIT PCB5(A2-73616-138)

ITEM	PART NO.	DESCRIPTION	REQ.
E,F,G,M,I,J	A4-64414-023	IC SOCKET, 16P	6.0
B,C,H,K,L	A4-64414-022	IC SOCKET, 14P	5.0
D	A4-64414-021	IC SOCKET, 8P	1.0
TP1,TPG	A4-81399-001	TEST POINTER	2.0
PCB5		PCB EJECT	2.0
NF1,2		NOISE FILTER CF1 06B 1H 223H	2.0
JP1,2		JUMP WIRE	2.0

DXG325 PART LIST

CONNECTION UNIT PCB6(A2-73605-102)

ITEM	PART NO.	DESCRIPTION	REQ
REF.	A2-73605-102	CONNECTION UNIT ASSY.	1
REF.	A2-73605-102	CONNECTION UNIT SCHEMATIC	1
REF.	A3-73605-101	CONNECTION UNIT PCB	1
Q1	A4-80801-001	TR. ZSC1959,NPN	1
R1-3	A4-76603-081	RES. 1.5K,1/4W,5%	3
R4,5	A4-76603-101	RES. 10K,1/4W,5%	2
CN1-5	A4-53201-609	CONNECTOR PGC 7-44DG-4DS	5
P10	A4-53201-292	CONNECTOR 5051-02 HOUSING 5045-02A WAFER	1 1
P1,2,11,15	A4-53201-294	CONNECTOR 5051-04 HOUSING 5045-04A WAFER	4 4
P3,6	A4-53201-233	CONNECTOR 5051-13 HOUSING 5045-13A WAFER	2 2
P7	A4-53201-295	CONNECTOR 5051-05 HOUSING 5045-05A WAFER	1 1
P5,8	A4-53201-298	CONNECTOR 5051-08 HOUSING 5045-08A WAFER	2 2
P13	A4-53201-017	CONNECTOR 5239-08 HOUSING 5273-08A WAFER	1 1
P12,17	A4-53201-014	CONNECTOR 5239-05 HOUSING 5273-05A WAFER	2 2
P14	A4-53201-707	CONNECTOR 5239-03 HOUSING 5273-03A WAFER	1 1
P16	A4-53201-707	CONNECTOR HIF3BA-34PA-2.54DS HEADER	1
P18,19	A4-53201-011	CONNECTOR 5239-02 HOUSING 5273-02A WAFER	2 2
P20	A4-53201-013	CONNECTOR 5239-04 HOUSING 5273-04A WAFER	1 1

DXG325 PART LIST

DISPLAY UNIT 1 PCB7(A1-73616-120)

ITEM	PART NO.	DESCRIPTION	REQ.
REF.	A1-73616-120	DISPLAY UNIT 1 ASSY.	1
REF.	A1-73616-120	DISPLAY UNIT 1 SCHEMATIC	1
REF.	A2-73616-119	DISPLAY UNIT 1 PCB	1
A	A4-64403-002	IC 7107	1
B,C,D	A4-64411-229	IC 4511	2
E	A4-64411-211	IC 4028	1
F,O	A4-64411-222	IC 4050	2
G,H,I	A4-64401-188	IC 7447	3
J,K,L	A4-64401-164	IC 74 LS157	3
N,M	A4-64403-055	IC 2732	2
P	A4-64403-055	IC 7805	1
DS1-3,7-9	A4-56130-002	DISPLAY LED(C,A) SND517	6
DS4-6	A4-56130-001	DISPLAY LED(C,C) SND510	3
D1	A4-56131-005	ZENER DIODE, IN4733	1
D5-6,8,9,11-19	A4-56133-103	DIODE IN4003	13
R1	A4-76611-348	RES. 51,2W,5%	1
R2	A4-76603-085	RES. 2.2K,1/4W,5%	1
R3	A4-76603-066	RES. 470K,1/4W,5%	1
R4	A4-76603-153	RES. 1M,1/4W,5%	1
R5,6,28-31 55-61	A4-76603-125	RES. 100K,1/4W,5%	13
R7-27	A4-76603-084	RES. 2K,1/4W,5%	21
R32-54	A4-76603-057	RES. 220,1/4W,5%	23

DXG325 PART LIST

DISPLAY UNIT 1 PCB7(A1-73616-120)

ITEM	PART NO.	DESCRIPTION	REQ
C1	A4-53112-049	CAP. 0.22uF,25V,CERAMIC	1
C2	A4-53112-047	CAP. 0.047uF,25V,CERAMIC	1
C3,4	A4-53112-045	CAP. 0.01uF,25V,CERAMIC	2
C6-10	A4-53112-048	CAP. 0.1uF,25V,CERAMIC	5
C5	A4-53112-009	CAP. 100PF,25V,CERAMIC	1
C11-13	A4-53101-076	CAP. 10uF,25V,CHEMICAL	3
A,DS1-9	A4-64414-029	IC SOCKET,40P	4
M,N	A4-64414-027	IC SOCKET,24P	2
B,C,D,E,F,G H,I,J,K,L,O	A4-64414-023	IC SOCKET,16P	12
P1	A4-53201-297	CONNECTOR 5051-07 HOUSING 5045-07A WAFER	1
P2,3	A4-53201-233	CONNECTOR 5051-13 HOUSING 5045-13A WAFER	2
P	A4-62801-020	HEAT SINK	1
P4	A4-53201-011	CONNECTOR 5239-02 HOUSING 5273-02A WAFER	1
JP1		JUMP WIRE, GREEN	1

DXG325 PART LIST

mA SELECTOR PCB8(A3-73604-047)

ITEM	PART NO.	DESCRIPTION	REQ.
REF.	A3-73604-047	mA SELECTOR ASSY.	1
REF.	A3-73604-047	mA SELECTOR SCHEMATIC	1
REF.	A3-78604-046	mA SELECTOR PCB	1
SW7	A3-78103-031	PUSH BUTTON SW 2CIRCUIT	5
P1	A4-53201-292	CONNECTOR 5051-07 HOUSING 5045-07A WAFER	1
P2	A4-53201-297	CONNECTOR 5051-02 HOUSING 5045-02A WAFER	1

DXG325 PART LIST

MODE SELECTOR PCB9(A3-73604-045)

ITEM REF.	PART NO. A3-73604-045	DESCRIPTION MODE SELECTOR ASSY.	REQ. 1
REF.	A3-73604-045	MODE SELECTOR SCHEMATIC	1
REF.	A3-73604-044	MODE SELECTOR PCB	1
SW10	A4-78103-031	PUSH BUTTON SW 2CIRCUIT	3
P1	A4-53201-295	CONNECTOR 5051-07 HOUSING 5045-07A WAFER	1 1

DXG325 PART LIST

LED UNIT PCB10(A3-73604-043)

ITEM REF.	PART NO. A3-73604-043	DESCRIPTION LED UNIT ASSY.	REQ. 1
REF.	A3-73604-043	LED UNIT SCHEMATIC	1
REF.	A3-73604-042	LED UNIT PCB	1
D1,2,4	A4-56132-102	LED, GREEN, 5mm STANDARD	3
D3	A4-56132-104	LED, YELLOW, 5mm STANDARD	1
D5-7	A4-56132-101	LED, RED, 5mm STANDARD	3
P1	A4-53201-299	CONNECTOR 5051-09 HOUSING 5045-09A WAFER	1

DXG325 PART LIST

RELAY UNIT PCB11(A2-73616-134)

ITEM	PART NO.	DESCRIPTION	REQ.
REF.	A2-73616-134	RELAY UNIT ASSY.	1
REF.	A2-73616-134	RELAY UNIT SCHEMATIC	1
REF.	A2-73616-133	RELAY UNIT PCB	1
A,B	A4-64421-062	IC TLP 521-1	2
C,D	A4-64421-023	IC MOC3040	2
Q1,2,7-10	A4-80801-101	TR.TIP41,NPN	6
Q3,4	A4-80804-001	TRIAC SC146M	2
Q5,6	A4-80801-630	TR. 2N3055,NPN	2
Q5,6		MICAPLATE	2
D1,2,5,6	A4-56120-710	BRIDGE DIODE,SIVB20	4
D3,4,7,8,10 12,14,16,18,20 23,25,31,38,45	A4-56133-103	DIODE 1N4003	15
D9,13,21 22,24,34	A4-56132-202	LED, GREEN, 3mm STANDARD	6
D11,17,19 26,32,33	A4-56132-201	LED, RED, 3mm STANDARD	6
D15,43	A4-56132-203	LED, YELLOW, 3mm STANDARD	2
D35-37,39	A4-56133-201	DIODE, IN5406	4
R1,5	A4-76611-049	RES. .56,5W,5%	2
R2,6	A4-76606-015	RES. .3.9,1/2W,5%	2
R3,7	A4-76606-060	RES. .300,1/2W,5%	2
R4,8	A4-76613-363	RES. .220,5W,5%	2
R9-18,21,37	A4-76603-085	RES. .2.2K,1/4W,5%	12

DXG325R PART LIST

RELAY UNIT PCB11(A2-73616-134)

ITEM	PART NO.	DESCRIPTION	REQ.
R22,23	A4-76603-081	RES. 1.5K,1/4W,5%	2
R24,29	A4-76603-060	RES. 300,1/4W,5%	2
R25-28	A4-76603-049	RES. 100,1/4W,5%	4
R30,31	A4-76603-066	RES. 470,1/4W,5%	2
R32	A4-76615-256	RES. 10,40W,5%	1
R33,34	A4-76606-025	RES. 10,1/2W,5%	2
R35,38	A4-76603-077	RES. 1K,1/4W,5%	2
C1-4	A4-53101-108	CAP. 470,35V,CHEMICAL	4
C5,6,9	A4-53110-131	CAP. 0.047uF,630V,FILM	3
C7	A4-53101-819	CAP. FILLED 30uF/230V(U.S.A) OR 24uF/400V(JAPAN),OIL FILLED	1
C8	A4-53110-031	CAP. 0.001uF,100V,FILM	1
K1,2	A4-76801-046	RELAY, KH-103-2C DC24V DPDT	2
K3,4,10,11,15	A4-78305-077	RELAY,KH-103-4C DC12V DPDT	5
K5,6	A4-76801-045	RELAY,KH-103-2C DC12V DPDT	2
K7-9,12,17	A4-76801-065	RELAY,RY12W-K DC12V DPDT	5
K1,2,5,6	A4-78305-010	RELAY SOCKET,2PDT PCB SOLDERING	4
K3,4,10,11,15	A4-78305-012	RELAY SOCKET,4PDT PCB SOLDERING	5
F1,2	A4-59101-004	FUSE 1A(PCB TYPE)	2
F1,2	A4-59110-001	FUSE HOLDER(PCB TYPE)	2
Q3,4	A4-62801-001	HEAT SINK(SMALL)	2
Q8,10	A4-62804-020	HEAT SINK(GARPE)	2
P1	A4-53201-707	CONNECTOR,HIF3BA-34PA-2.54DS HEADER HIF3BA-34D-2.54R SOCKET FLAT CABLE 280 mm	

DXG325R PART LIST

RELAY UNIT PCB11(AZ-73616-134)

ITEM	PART NO.	DESCRIPTION	REQ.
P2	A4-53201-717	CONNECTOR 5051-08 HOUSING 5045-08A WAFER	1 1
P3,13	A4-53201-013	CONNECTOR 5239-04 HOUSING 5273-04A WAFER	2 2
P4	A4-53201-294	CONNECTOR 5051-04 HOUSING 5045-04A WAFER	1 1
P6	A4-53201-014	CONNECTOR 5239-05 HOUSING 5273-05A WAFER	1 1
P7	A4-53201-016	CONNECTOR 5239-07 HOUSING 5273-07A WAFER	1 1
P9	A4-53201-292	CONNECTOR 5051-02 HOUSING 5045-02A WAFER	1 1
P10,15	A4-53201-012	CONNECTOR 5239-07 HOUSING 5273-07A WAFER	2 2
P11,C7,R32	A4-53201-011	CONNECTOR 5239-02 HOUSING 5273-02A WAFER	3 3
P14	A4-53201-015	CONNECTOR 5239-06 HOUSING 5273-06A WAFER	1 1
JP1		JUMP WIRE GREEN	1

DXG235R PART LIST

mAs CONTROL PCB12(A3-73616-130)

ITEM REF.	PART NO. A3-73616-130	DESCRIPTION mAs CONTROL ASSY.	REQ. 1
REF.	A3-73616-130	mAs CONTROL SCHEMATIC	1
REF.	A4-73616-129	mAs CONTROL PCB	1
P1	A4-53201-298	CONNECTOR 5051-07 HOUSING 5045-07A WAFER	1 1
A,B,C	A4-64401-160	IC HD74LS148P	3
D	A4-64401-010	IC HD74LS11	1
R1-24	A4-76603-089	RES. 3.3K, 1/4W, 5%	24
A,B,C	A4-64414-023	IC SOCKET, 16P	2
D	A4-64414-022	IC SOCKET, 14P	1
S6-A	A4-78104-554	ROTARY TAP SW, 24 POSITION	1

DXG325 PART LIST

OLP RESISTOR PCB13(A4-73616-024)

ITEM	PART NO.	DESCRIPTION	REQ
REF.	A4-73616-024	OLP RESISTOR ASSY.	1
REF.	A4-73616-024	OLP RESISTOR SCHEMATIC	1
REF.	A4-73616-023	OLP RESISTOR PCB	1
P1	A4-53201-288	CONNECTOR 5051-04 HOUSING 5045-04A WAFER	1
SW6-C	A4-78104-554	ROTARY TAP SW, 24 POSITION	1
R1	A4-76603-060	RES. 300, 1/4W, 5%	1
R2,17	A4-76603-057	RES. 220, 1/4W, 5%	2
R3,6,7,10,13 14,15,18-20	A4-76603-056	RES. 200, 1/4W, 5%	10
R4,8,21	A4-76603-051	RES. 120, 1/4W, 5%	3
R5,9,11,12 16,22	A4-76603-049	RES. 100, 1/4W, 5%	6

DXG325R PART LIST

TIMER RESISTOR PCB14(A4-73616-022)

ITEM	PART NO.	DESCRIPTION	REQ.
REF.	A3-73616-022	TIMER RESISTOR ASSY.	1
REF.	A3-73616-022	TIMER RESISTOR SCHEMATIC	1
REF.	A3-73616-021	TIMER RESISTOR PCB	1
P1	A4-53201-292	CONNECTOR 5051-02 HOUSING 5045-02A WAFER	1 1
SW6-B	A4-78104-554	ROTARY TAP SW,24 POSITION	1
R1-5	A4-76601-700	RES. 720,1/4W,1%	5
R6	A4-76601-762	RES. 1.44K,1/4W,1%	1
R7	A4-76601-824	RES. 2.88K,1/4W,1%	1
R8,9	A4-76601-798	RES. 2.16K,1/4W,1%	2
R10-12	A4-76601-864	RES. 4.32K,1/4W,1%	3
R13	A4-76601-930	RES. 8.64K,1/4W,1%	1
R14-16	A4-76601-992	RES. 17.3K,1/4W,5%	3
R17,18	A4-76601-080	RES. 43.2K,1/4W,1%	2
R19-22	A4-76601-147	RES. 86.4K,1/4W,1%	4

DXG325R PART LIST

FIELD SELECTOR PCB15(A3-73618-016)

ITEM	PART NO.	DESCRIPTION	REQ.
REF.	A3-73618-016	FIELD SELECTOR ASSY.	1
REF.	A3-73618-016	FIELD SELECTOR SCHEMATIC	1
REF.	A4-73618-015	FIELD SELECTOR PCB	1
P1	A4-53201-295	CONNECTOR 5051-05 HOUSING 5045-05A WAFER	1
SW11	A4-78107-031	PUSH-BUTTON SW, GREEN, 2 CIRCUIT	3

DXG325R PART LIST

EXTENTION PCB16(A3-73604-049)

ITEM	PART NO.	DESCRIPTION	REQ.
REF.	A3-73604-049	EXTENTION PCB ASSY.	1
REF.	A3-73604-049	EXTENTION PCB SCHEMATIC	1
REF.	A3-73604-048	EXTENTION PCB	1
CN1,CN2	A4-53201-609	CONNECTOR, PCC7-44DG-4DS	2
BRACKET	A4-12401-010	PCB BRACKET	2

DXG325R PART LIST

TRANSFORMER UNIT 1 PAL. (A3-73605-023)

ITEM	PART NO	DESCRIPTION	REQ.
REF.	A3-73605-023	TRANSFORMER UNIT 1 PNL.ASSY.	1
REF.	A3-73605-023	TRANSFORMER UNIT 1 PNL.SCHEMATIC	1
REF.	A3-73605-022	TRANSFORMER UNIT 1 PNL.230*150*5	1
T2	A4-81336-002	TRANSFORMER,40W(240,230,220,210,200,190,0 -20,0,230,220,0)	1
T3	A4-81336-004	TRANSFORMER,100W(110,100,0-15,0*5,20,0,20)	1
TB4	A4-81300-008	TERMINAL BLOCK,10P	2
NF1,2	A4-59123-003	NOISE FILTER (AC,DC,250V,2A) SN-02P 250V,2A	2

DXG325R PART LIST

TRANSFORMER UNIT 2 PNL.(A3-73605-025)

ITEM	PART NO.	DESCRIPTION	REQ.
REF.	A3-73605-025	TRANSFORMER UNIT 2 PNL.ASSY.	1
REF.	A3-73605-025	TRANSFORMER UNIT 2 PNL.SCHEMATIC	1
REF.	A4-73605-024	TRANSFORMER UNIT 2 PNL.230*150*5	1
C1	A4-53101-138	CAP. 1000uF,50V	1
D1	A4-56120-206	BRIDGE DIODE,KBPG15-06	1
R1	A4-76616-256	RES. 1,40W	1
T4	A4-81336-214	TRANSFORMER,6W(270,250,0-10,0*2)	1
T6	A4-81336-218	TRANSFORMER,50W(110,0*2-24,20,12,6,0)	1
TB5	A4-81300-008	TERMINAL BLOCK,10P	1
TB5	A4-81300-004	TERMINAL BLOCK,6P	1

DXC325R PART LIST

CONSTANT VOLTAGE SUPPLY(A3-73605-044)

ITEM REF.	PART NO. A3-73605-044	DESCRIPTION CONSTANT UNIT ASSY.	REQ. 1
REF.	A3-73605-044	CONSTANT UNIT SCHEMATIC	1
TB1	A4-81300-008	TERMINAL BLOCK, 10P	1
Q1,2,3	A4-80801-701	TR. MJ15016	3
FAN1	A4-59120-001	FAN, 110V AC, 80*80*25	1
C1	A4-53101-214	CAP. 2200uF, 100V, CHEMICAL	1
R1	A4-76606-071	RES. 680, 1/2W, 5%	1
R2,3	A4-76611-372	RES. 470, 2W, 5%	2
D1	A4-56120-206	BRIDGE DIODE, KBPC15-06	1
Q1,2,3		MICAPLATE	3
Q1,2,3		INSULATOR	6
Q1,2,3	A4-62801-025	HEAT SINK (LARGE)	1
1-10		MARKING TUBE	10
		CASE	1

DXG325R PART LIST

INTERFACE PCB17(A3-73605-069)

ITEM	PART NO.	DESCRIPTION	REQ.
REF.	A3-73605-069	INTERFACE ASSY.	1
REF.	A3-73605-069	INTERFACE SCHEMATIC	1
REF.	A3-73605-068	INTERFACE PCB	1
P1,2	A4-53201-017	CONNECTOR 5239-08 HOUSING 5273-08A WAFER	2
P3,4	A4-53201-019	CONNECTOR 5239-10 HOUSING 5273-10A WAFER	2
P5,6	A4-53201-014	CONNECTOR 5239-05 HOUSING 5273-05A WAFER	2

DXG325R PART LIST

OUTSIDE INTER CONNECTION(A2-73622-010)

ITEM REF.	PART NO. A2-73622-010	DESCRIPTION OUTSIDE INTER CONNECTION ASSY.	REQ. 1
REF.	A2-73622-010	OUTSIDE INTER CONNECTION SCHMATIC	1
REF.	A2-73622-009	OUTSIDE INTER CONNECTION PCB	1
SW1	A4-78105-053	TOGGLE SW,7101(2A 250VAC)	1
D1	A4-56120-250	BRIDGE DIODE,KBPC6-05	1
D2	A4-56133-105	DIODE,IN4005	1
TS1	A4-81300-187	TERMINAL STRIP,A-1-S TYPE,5A,20 POLES	1
P1	A4-53201-017	CONNECTOR,5239-08 HOUSING 5273-08A WAFER	1 1
P1	A4-53201-019	CONNECTOR,5239-10 HOUSING 5273-10A WAFER	1 1
P1	A4-53201-014	CONNECTOR,5239-05 HOUSING 5273-05A WAFER	1 1
P2		CONNECTOR,5239-07 HOUSING 5273-07A WAFER	
P3,4	A4-53201-011	CONNECTOR,5239-02 HOUSING 5273-02A WAFER	2 2
TP1,TP2,TPG	A4-81339-001	TESTER POINTER	3
		BOLT SUPPORTS,DABS-4N	6

DXG325R PART LIST

HIGH TENSION TRANSFORMER(A3-73622-003)

ITEM REF.	PART NO.	DESCRIPTION	REQ
	A2-73622-009	OUTSIDE INTER CONNECTION ASSY.	1
T1	A3-81336-833	HIGH VOLTAGE TRANSFORMER	1
T2,T3	A3-81336-854	FILAMENT HEATING TRANSFORMER	2
SG1,SG2		SPARK GAP	2
TB8	A3-73617-022	TERMINAL STRIPS,6P	1
TB9	A3-73617-020	TERMINAL STRIPS,5P	1
D1-4	A4-73621-510	HIGH VOLTAGE RECTIFIER 125KVP,300mA	4