

C672-416L-SU



AIR TRAINING COMMAND

COMPUTER AND CONTROL SYSTEMS DEPARTMENT

PLUGGABLE UNIT (PU) LOGIC EXPLANATION

STUDENT STUDY GUIDE SUPPLEMENT

Course AT330571-34
AT330551A-4
AT330551B-3
AT330551C-7
OTS3061-2

KEESLER AFB, MISS

FOR INSTRUCTIONAL PURPOSES ONLY

C&CS Department
KTTC, Mississippi

Student Study Guide Supplement
August 1962

STUDENT STUDY GUIDE SUPPLEMENT

This Study Guide Supplement provides student study material in support of Course Syllabuses AT30551A-4, AT30551B-3, AT30551C-7, AT30571-34, and OT3061-2. This material has been reproduced intact from materials printed by IBM Corporation, Kingston, New York.

I- -----DESCRIPTION OF PLUGGABLE UNIT BLOCK SCHEMATICS

Observing the example block schematic of a 3087020 pluggable unit:

A. The print number is 3177020.

Corresponds to last four
digits of PU part number.

B. Above print number, 3177020, is engineering level of this drawing
47920-B.

1. EC chart, upper right hand corner, shows EC 47920-B was:

(a) Released 8-21-58

(b) Caused part number of card #13 to be changed to 3075693
from 3074159.

(c) PU was stamped with control letter D.

(1) D designates that EC 47920-B was accomplished.

C. Block schematic of circuitry contained in PU type 3087020.

1. Everything associated with one circuit is enclosed with dotted
lines.

(a) Use the aFF as an example.

(1) Comprised of tubes V2 and V3.

(2) Circuitry contained on PU cards 8, 13, and 18.

(3) Receives -150 volts as a service voltage on a line
that can be excursionsed by the MC system. This -150v
enters on PU pin D7 and goes to card 13, terminal PA.

(4) The set side output leaves the circuit on card 18,
terminal SL. It enters the BCF⁴ at terminal SN of
card 25.

D. The "Service Voltage" chart lists all of the DC service voltages
necessary for this PU.

(1) Lists point that voltage enters PU.

(a) Example + 250 enters on PU pin M4.

TITLE: P.U. LOGIC EXPLANATION

0890-ABCS0

PAGE 1 OF 4

(2) Lists next destination of voltage.

(a) Example +250v feeds card 31, terminal C3. The voltage is then jumpered from one card to another throughout the PU.

(3) Lists the color code of the wire used.

(a) Example +250v is orange wire.

E. The "Tube Position" chart gives all the pertinent data about each tube position, V1 through V9, in the PU.

F. The "Card Assembly" chart lists the part number of all the printed circuit cards.

(1) Example card number 3 has a part number of 3074435.

G. The "Circuit Schematic" chart lists the drawing number for each circuit in the PU.

(1) Example the aGT has a detailed schematic on drawing number 3076007.

(a) If a fault were found with the aGT, reference should be made to the detailed circuit schematic, 3076007.

II ----- DESCRIPTION OF THE CIRCUIT SCHEMATIC DIAGRAM

A. Circuit schematic of the aGT (3076007)

(1) Receives 3 service voltage

(a) -15v on card terminal PE.

(b) +90v on card terminal PA.

(c) +250v on card terminal PK.

(2) Inputs to the circuit arrive on card terminals SN, PB, C4 and C2.

(3) Outputs leave the circuit on card terminals C5 and SK.

B. The "Resistor" chart lists all pertinent data about resistors contained in the circuit.

(1) Example R103

(a) 10K OHMS, $\frac{1}{2}$ watt, 5% tolerance

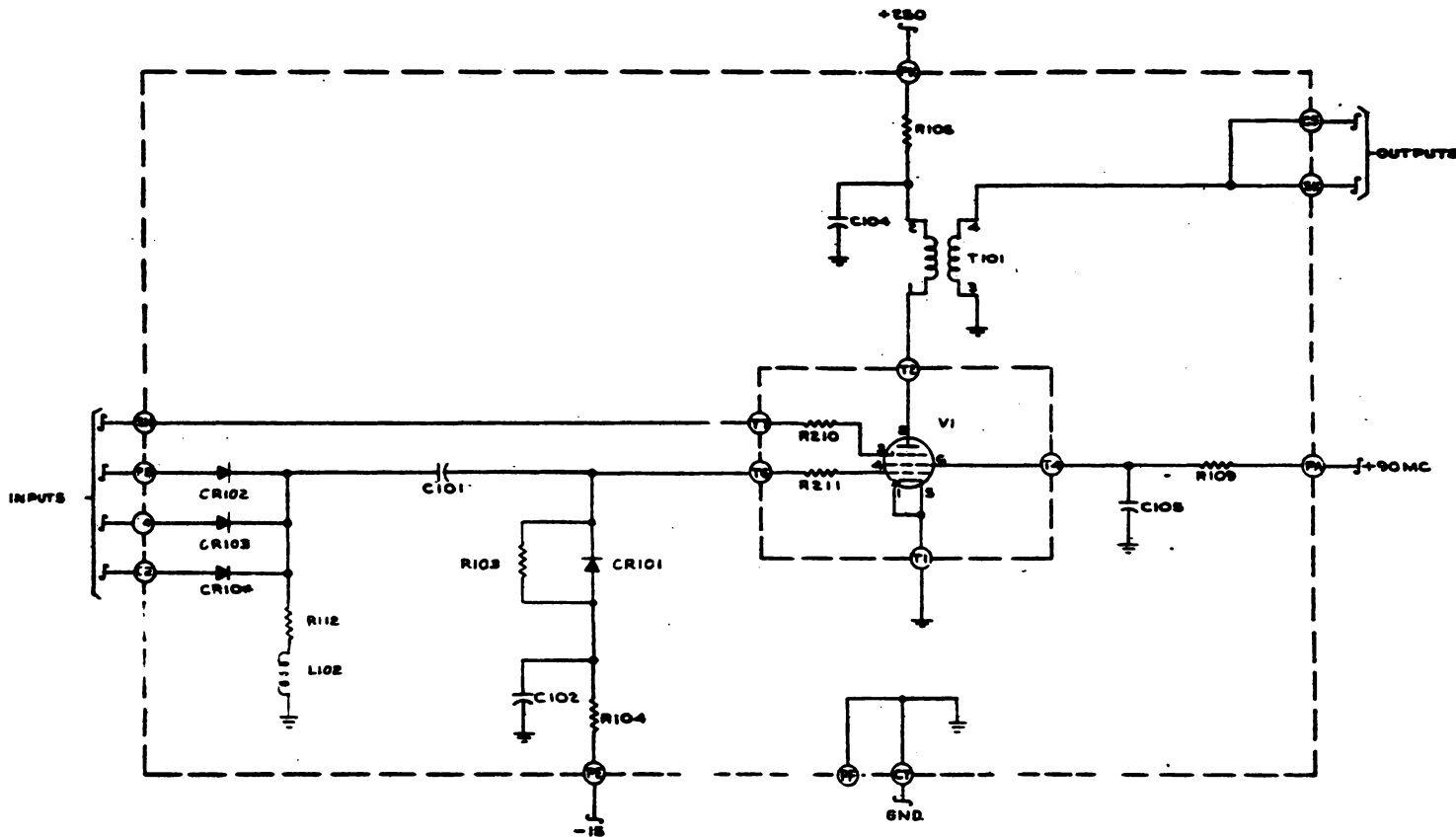
(b) Connected between card terminals 114 and 514

(c) Part number is 3000091.

C. The "Diodes", "Capacitors", "Inductors", "Transformers", and "Tubes" charts all follow the same format as the example "Resistors" chart.

TITLE: P.U. LOGIC EXPLANATION

III GATE TUBE CIRCUIT, MODEL A



CARD 1
DETAIL 3073799

ASSEMBLY	TYPE	SLOTS REQD	CKT REV	REL
3075670	53	6	CONT.	X
			L.T.R.	

DIODES

SYMBOL	TYPE	LOCATION	PART NO.
		CATHODE PLATE	
CR101	W	113 513	3002698
CR102	W	518 118	3002698
CR103	W	520 120	3002698
CR104	W	521 121	3002698

TUBES

SYMBOL	PART NO.
V1	3002420

RESISTORS

SYMBOL	VALUE	LOCATION	PART NO.
		TOL. TYP. REF.	
R103	10K	112 514	3000091
R104	220V/2W5%	516 116	3000027
R106	220Ω	107 507	30000203
R109	220V/2W5%	117 517	3000051
R112	100Ω	522 122	3000043
R210	100V/2W5%		3000019
R211	100V/2W5%		3000019

CAPACITORS

SYMBOL	VALUE	LOCATION	PART NO.
		TOL. TYP. REF.	
C101	200μF200V	515 115	3004313
C102	20μF200V	911 011	3001780
C104	200μF600V	509 109	3001717
C108	200μF200V	119 519	3004313

INDUCTORS

SYMBOL	VALUE	LOCATION	PART NO.
		TOL. TYP. REF.	
L102	+7.4H	028 924	3004630

TRANSFORMER

SYMBOL	VALUE	LOCATION	PART NO.
		1 2 3 4	
T101	4:1 LOOSE	101 028 101	3000008

EC 73674
3076007

EC 41920-B
317020
PV #5

SERVICE VOLTAGE

VOLTS	INPUTS	FIRST CARD	COLOR CODE
+ 250	E4	31-C3	ORANGE
+ 180	E3	31-C4	RED
+ 10	E1	31-C5	WH/BLACK TR
GND	A4, D4, B4	3-PF, 31-SA	BLACK
		46-PF	
- 15	D3	31-C6	WHITE
- 20	D2	31-C7	BLUE
- 150	D1	31-C8	GREEN
+50MC	G6, G7	41-PA, 43-PA	WH/GRAY TR
+150MC	D5	23-C3	WH/RED TR
-150MC	B7, D7	3-C2, 13-PA	WH/GREEN TR

TUBE POSITION

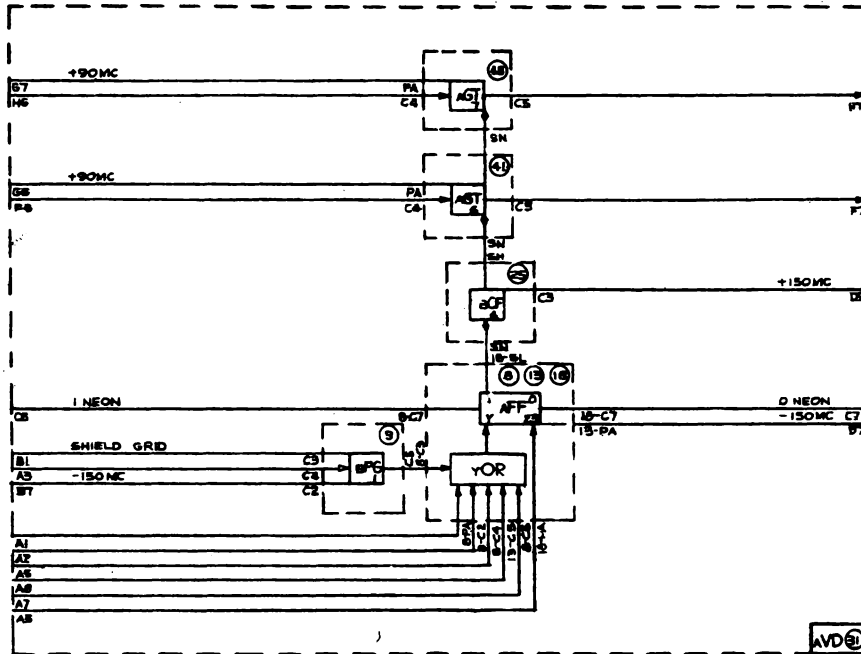
POS	PART NO.	SOCKET	ORIFICE	FL CONN	BIAS
V1	3002400	3001691	3005361	C8, C4	- 70
V2	3000528	3001693	3005242	C8, C4	- 70
V3	3000528	3001693	3005242	C8, C4	- 70
V4	3000528	3001693	3005242	F8, F4	- 70
V5			3090102		
V6	3002420	3001756	3005241	F8, F4	- 70
V7	3002420	3001756	3005241	U8, U4	- 70
V8			3090102		
V9					

CARD ASSY

CARD LOC	CARD NO.
3	3074435
6	3074008
13	3075493
16	3074086
25	3074007
31	3074010
41	3074000
48	3074000

CIRCUIT SCHEM

CIRCUIT	DWG NO.
BPE	3076020
AFF	3076004
BCF	3076188
A6T	3076007
AVD	3076138



CONT LTR	EC NO.	DATE	DESCRIPTION
X	3002-B	10-12-54	RELEASED
A	31198	2-3-55	CHG WIRE, COMPLETE REWORK
B	31401	4-14-55	ADD TEST SPEC.
C	31649	6-9-55	CHG. WIRING, COMPLETE REWORK
D	41920-B	6-21-56	3075493 WAS 3074159

IV Pluggable Unit

II REFER TO 9 TUBE PLUGGABLE UNIT MECH ASSY NO. 3090009
 I MUST MEET REQUIREMENTS OF SPEC NO. 300000
 NOTES: