

OPERATING INSTRUCTIONS  
FOR  
PRECISION ADAPTER G-140

The Precision Model G-140 is a Multi-socket Adapter designed to enable you to check the NEW Compactron, Nuvistor (both 5 pin and 7 pin types), Novar, and Ten-pin Miniature Tubes with any Tube Tester.

### I. COMPACTRON TESTING

For the testing of Compactrons, Precision has developed its unique "Keying System" which eliminates the need for multiple sockets or complicated switching systems. Test Procedures are as follows:-

#### A. To test Compactrons with a Precision or Paco Tube Tester:

You will note that the panel of the G-140 includes a series of numbers (from "0" to "12") around the Compactron Socket. All that is required to test any Compactron is:

1. Insert the plug of the G-140 into the Nine-pin Miniature Tube Socket on the Tester,
2. Attach the grid cap to the stud on the top of the plug,
3. Set levers and switches as indicated,
4. Insert the tube into the Compactron Socket with the blank space or key, (see Fig. 1) at the number indicated in the Test Data, and:
5. Test!

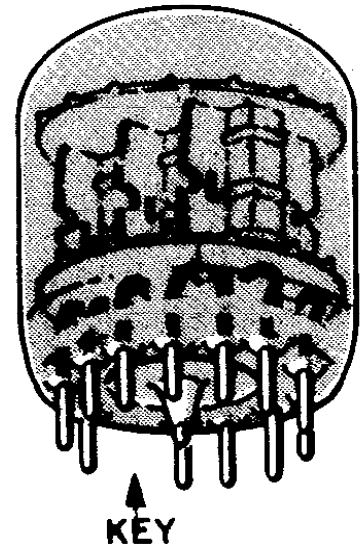


FIG 1

**PRECISION**  
TEST INSTRUMENTS BY



B. To test Compactrons with a Tube Tester other than Precision or Paco:

Use your Tube Tester Manufacturer's Data and the attached chart (page 4 ) which indicates which pins of the Compactron Tube terminate at the Adapter male-plug when the Compactron Tube is inserted in the Socket in each of the 13 possible ways. For Example:

1. Assume that, for a given section of a tube, you have determined that pins 5, 9, and 11 are "Anode" or "Meter Circuit" elements; pin 2 is the cathode; and pins 1 and 12 are the heaters (filaments).
2. First determine which positions of the tube in the socket will allow all of the above pins to be picked up. In our example, this occurs when the blank space is at "7".
3. With the blank space (key) at this position, we see from the chart on page 4 that Compactron pin "1" corresponds to pin "8" of the male plug. Compactron pin "2" to pin "9" of the male plug, Compactron pin "5" corresponds to pin "C", (Grid cap lead, usually number "0" or "10" on most Testers). "9" corresponds to "3", "11" corresponds to "5" and "12" corresponds to "6". Therefore, make the changes required to convert your Tester Manufacturer's Data to agree with the pin terminations as indicated above, and note that "Blank space (key) goes to 7".
4. Test information is now completed for this particular EXAMPLE.

## II. NOVARS, 10 PIN MINIATURE AND NUVISTOR TESTING

A. To test Novars, 10 Pin Miniatures and Nuvistors on Precision or Paco Testers:

All that is required for Nuvistors, Novars, and 10 pin Miniature types, is to set levers and switches as indicated in the data; plug the G-140 into your Tube Tester, and attach the grid cap; plug the tube to be tested into the appropriate socket of the G-140; and Test.

B. To test Novars, 10 Pin Miniatures and Nuvistors on Testers other than Precision or Paco:

For Nuvistors, first note the wiring of the Nuvistor Sockets in the wiring diagram (on page 5 ); make any changes necessary in your Tube Tester Manufacturer's Data, plug the G-140 into your Tester (and attach the grid cap), insert the Nuvistor into the proper socket, and Test.

For Novars and 10-pin Miniature Types, just plug in and Test.

NOTE: In the event that Tester Data is not available, data may be set up by first referring to the Tube Manufacturer's Data and then setting up your Tester in accordance with the attached pin location information. It is then possible to obtain temporary Test Data by setting controls as indicated by your Tester Manufacturer's Data for a similar tube (i.e: same characteristics, but different basing).

### SERVICE INFORMATION

When returning a Precision instrument for repair or service, always pack carefully in a rugged, oversized container, using a generous supply of padding such as excelsior, shredded paper, or crumpled newspaper. Attach a tag to the instrument giving your name, address, and trouble experienced. Never return an instrument unless it is accompanied by a full explanation of difficulties encountered. The more explicit the details, the more rapidly your instrument can be handled and processed.

Please address to:

PRECISION APPARATUS CO., INC.  
70-31 - - 84th STREET  
GLENDALE 27, L. I., N. Y.

ATT: SERVICE DIVISION

A FRAGILE label should appear on at least four sides of the carton.

Return shipment to you will be made via PARCEL POST COLLECT, including repair-service charges unless otherwise requested by previous correspondence.

Please take note that a Carrier cannot be held for damage in transit if, in HIS OPINION, packing is insufficient.

# COMPACTRON ROTATION CHART

WITH BLANK SPACE (KEY) AT ↓	———— COMPACTRON PINS ————												Corresponding Pin of Adapter Plug
	1	2	3	4	5	6	7	8	9	10	11	12	
0	1	2	3	4	5	6	7	8	9	-	-	C	
1	2	3	4	5	6	7	8	9	-	-	C	-	
2	3	4	5	6	7	8	9	-	-	C	-	1	
3	4	5	6	7	8	9	-	-	C	-	1	2	
4	5	6	7	8	9	-	-	C	-	1	2	3	
5	6	7	8	9	-	-	C	-	1	2	3	4	
6	7	8	9	-	-	C	-	1	2	3	4	5	
7	8	9	-	-	C	-	1	2	3	4	5	6	
8	9	-	-	C	-	1	2	3	4	5	6	7	
9	-	-	C	-	1	2	3	4	5	6	7	8	
10	-	C	-	1	2	3	4	5	6	7	8	9	
11	C	-	1	2	3	4	5	6	7	8	9	-	
12	-	1	2	3	4	5	6	7	8	9	-	-	

### NOTE:

C = CAP STUD

- = no connection

## INTER-WIRING CHART

ADAPTER PLUG	CABLE	SOCKETS				
		10 PIN MIN	NOVAR	NUVISTOR		COMPACTRON
				5 PIN	7 PIN	
1	brown	1	1	2	1	1
2	red	2	2	4	3	2
3	orange	3	3	8	5	3
4	yellow	4	4	10	10	4
5	green	5	5	12	12	5
6	blue	6	6		6	6
7	violet	7	7		7	7
8	orange-wht	8	8			8
9	yellow-wht	9	9			9
Grid Cap	white	10				12

G-140 TEST DATA
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Precision 600 Series Testers (Models 612, 614, 620, 654)

NOTE: Connect RED grid cap to G-140 plug

<u>TUBE</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	<u>Fc</u>
2CW4	3	3	28	4	-	1-2	5
	(2CW4 - use "Diodes Special" scale)						
6AX3	Insert tube in socket with key at <u>5</u>						
"	2	7	24	6	2	9	4
	(6AX3 - must show short on 2-9)						
	(6AX3 - plate short test - throw 2-9 together)						
6C10	Insert tube in socket with key at <u>0</u>						
"	2	7	26	1	-	5-7	10
"	Insert tube in socket with key at <u>5</u>						
"	2	7	26	6	-	1-2	-
"	2	7	26	6	-	3-7	-
6CW4	3	7	28	4	-	1-2	5
	(6CW4 - use "Diodes Special" scale)						
6D10	Insert tube in socket with key at <u>0</u>						
"	2	7	22	1	-	5-7	10
"	Insert tube in socket with key at <u>5</u>						
"	2	7	22	6	-	1-2	-
"	2	7	22	6	-	3-7	-
6FJ7	Insert tube in socket with key at <u>6</u>						
"	1	7	11	7	-	3-4	5
"	Insert tube in socket with key at <u>0</u>						
"	1	7	5	1	-	3-5	-
6K11	Insert tube in socket with key at <u>0</u>						
"	1	7	8	1	-	5-7	10
"	Insert tube in socket with key at <u>5</u>						
"	1	7	8	6	-	1-2	-
"	1	7	8	6	-	3-7	-
7586	2	7	21	4	-	1-2	5

Precision Model 10-40 Testers

NOTE: Connect RED grid cap to G-140 plug

<u>TUBE</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>Fc</u>	<u>W</u>	<u>X</u>	<u>Y</u>	<u>Z</u>	<u>F</u>	<u>↓</u>
2CW4	5	4	9	12	3	4-5	-	-	1	2	3	3
6AX3	Insert tube in socket with key at <u>5</u>											
"	1	4	0	4	9	4-6	2	-	9	-	-	-
	(6AX3 - must show short on 2-9)											
	(6AX3 - plate short test - depress 2-9 together)											
6C10	Insert tube in socket with key at <u>0</u>											
"	1	1	31	11	9	1-12	-	-	5	7	3	6
"	Insert tube in socket with key at <u>5</u>											
"	1	6	31	11	9		-	-	2	1	3	9
"	1	6	31	11	9		-	-	7	3	3	8
6CW4	5	4	9	12	9	4-5	-	-	1	2	3	3
6D10	Insert tube in socket with key at <u>0</u>											
"	1	1	29	11	9	1-12	-	-	5	7	3	6
"	Insert tube in socket with key at <u>5</u>											
"	1	6	29	11	9		-	-	2	1	3	9
"	1	6	29	11	9		-	-	7	3	3	8
6FJ7	Insert tube in socket with key at <u>6</u>											
"	1	5	25	11	9	5-7	-	-	4	3	3	2
"	Insert tube in socket with key at <u>0</u>											
"	1	1	5	11	9		-	-	5	3	2	7
6K11	Insert tube in socket with key at <u>0</u>											
"	1	1	32	11	9	1-12	-	-	5	7	3	6
"	Insert tube in socket with key at <u>5</u>											
"	1	6	26	11	9		-	-	2	1	3	9
"	1	6	32	11	9		-	-	7	3	3	8
7586	2	4	14	12	9	4-5	-	-	1	2	3	3

Precision 10-00 Series Testers (Models 10-12, 10-15, 10-20, 10-22, 10-54)NOTE: Connect RED grid cap to G-140 plug

<u>TUBE</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>W</u>	<u>X</u>	<u>Y</u>	<u>Z</u>	<u>Fc</u>
2CW4	5	4	9	10	3	-	-	1	2	4-5
6AX3	Insert tube in socket with key at <u>5</u>									
"	1	4	0	4	7	2	-	9	-	4-6
	(6AX3 - must show short on 2-9)									
	(6AX3 - plate short test - depress 2-9 together)									
6C10	Insert tube in socket with key at <u>0</u>									
"	1	1	32	10	7	-	-	5	7	1-12
"	Insert tube in socket with key at <u>5</u>									
"	1	6	32	10	7	-	-	2	1	
"	1	6	32	10	7	-	-	7	3	
6CW4	5	4	9	10	7	-	-	1	2	4-5
6D10	Insert tube in socket with key at <u>0</u>									
"	1	1	30	10	7	-	-	5	7	1-12
"	Insert tube in socket with key at <u>5</u>									
"	1	6	30	10	7	-	-	2	1	
"	1	6	30	10	7	-	-	7	3	
6FJ7	Insert tube in socket with key at <u>6</u>									
"	1	5	26	10	7	-	-	4	3	5-7
"	Insert tube in socket with key at <u>0</u>									
"	1	1	5	10	7	-	-	5	3	
6K11	Insert tube in socket with key at <u>0</u>									
"	1	1	33	10	7	-	-	5	7	1-12
"	Insert tube in socket with key at <u>5</u>									
"	1	6	27	10	7	-	-	2	1	
"	1	6	33	10	7	-	-	7	3	
7586	2	4	18	10	7	-	-	1	2	4-5



Precision Models 640 and 660 Tube Testers

<u>TUBE</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>Cath</u>	<u>Cont</u>	<u>Test</u>
2CW4	4	3	17	3	3	-	12
6AX3	Insert tube in socket with key at <u>5</u>						
"	6	9	24	2	0	29	•29
	•(6AX3 - ignore glow on 2)						
6C10	Insert tube in socket with key at <u>0</u>						
"	1	9	26	2	6	-	57
"	Insert tube in socket with key at <u>5</u>						
"	6	9	26	2	9	-	12
"	6	9	26	2	8	-	37
6CW4	4	9	17	3	3	-	12
6D10	Insert tube in socket with key at <u>0</u>						
"	1	9	22	2	6	-	57
"	Insert tube in socket with key at <u>5</u>						
"	6	9	22	2	9	-	12
"	6	9	22	2	8	-	37
6FJ7	Insert tube in socket with key at <u>6</u>						
"	7	9	28	2	2	-	34
"	Insert tube in socket with key at <u>0</u>						
"	1	9	24	2	7	-	35
6K11	Insert tube in socket with key at <u>0</u>						
"	1	9	7	1	6	-	57
"	Insert tube in socket with key at <u>5</u>						
"	6	9	7	1	9	-	12
"	6	9	7	1	8	-	37
7586	4	9	21	2	3	-	12

Precision Model 10-60 Testers

NOTE: Connect RED grid cap to G-140 plug

<u>TUBE</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>Fc</u>	<u>W</u>	<u>X</u>	<u>Y</u>	<u>Z</u>	<u>F</u>	<u>G</u>
2CW4	5	4	13	10	3	4-5	-	-	1	2	5	5
6AX3	Insert tube in socket with key at <u>5</u>											
"	1	4	0	4	9	4-6	2	-	9	-	-	-
	(6AX3 - must show short on 2-9)											
	(6AX3 - plate short test - depress 2-9 together)											
6C10	Insert tube in socket with key at <u>0</u>											
"	1	1	34	10	9	1-12	-	-	5	7	6	6
"	Insert tube in socket with key at <u>5</u>											
"	1	6	34	10	9		-	-	2	1	6	6
"	1	6	34	10	9		-	-	7	3	6	6
6CW4	5	4	13	10	9	4-5	-	-	1	2	5	5
6D10	Insert tube in socket with key at <u>0</u>											
"	1	1	33	10	9	1-12	-	-	5	7	6	7
"	Insert tube in socket with key at <u>5</u>											
"	1	6	33	10	9		-	-	2	1	6	7
"	1	6	33	10	9		-	-	7	3	6	7
6FJ7	Insert tube in socket with key at <u>6</u>											
"	1	5	27	10	9	5-7	-	-	4	3	26	11
"	Insert tube in socket with key at <u>0</u>											
"	1	1	8	10	9		-	-	5	3	26	11
6K11	Insert tube in socket with key at <u>0</u>											
"	1	1	34	10	9	1-12	-	-	5	7	8	11
"	Insert tube in socket with key at <u>5</u>											
"	1	6	30	10	9		-	-	2	1	8	11
"	1	6	34	10	9		-	-	7	3	8	11
7586	2	4	20	10	9	4-5	-	-	1	2	5	5

PACO Model T-60 Tube Testers

<u>TUBE</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>Cath</u>	<u>Test</u>
2CW4	3	3	4	17	3	12
6AX3	Insert tube in socket with key at <u>5</u>					
"	2	8	6	22	0	29
	•(6AX3 - ignore glow on 2)					
	(6AX3 - Cont. test - 29)					
6C10	Insert tube in socket with key at <u>0</u>					
"	2	8	1	25	6	57
"	Insert tube in socket with key at <u>5</u>					
"	2	8	6	25	9	12
"	2	8	6	25	8	37
6CW4	3	8	4	17	3	12
6D10	Insert tube in socket with key at <u>0</u>					
"	2	8	1	21	6	57
"	Insert tube in socket with key at <u>5</u>					
"	2	8	6	21	9	12
"	2	8	6	21	8	37
6FJ7	Insert tube in socket with key at <u>6</u>					
"	2	8	7	26	2	34
"	Insert tube in socket with key at <u>0</u>					
"	2	8	1	22	7	35
6K11	Insert tube in socket with key at <u>0</u>					
"	1	8	1	7	6	57
"	Insert tube in socket with key at <u>5</u>					
"	1	8	6	7	9	12
"	1	8	6	7	8	37
7586	2	8	4	20	3	12