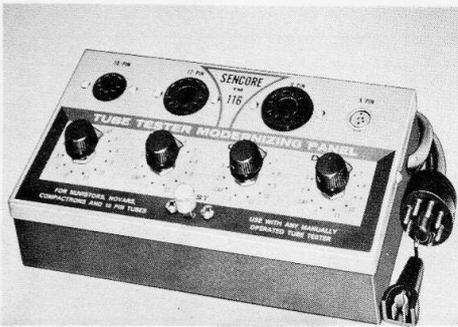


INSTRUCTION MANUAL FOR THE TM116 TUBE MODERNIZING PANEL



The Sencore TM116 tube modernizing panel will adapt any tube tester, except the cardomatic type, to check Sylvania 10 pin, GE 12 pin compactron and RCA 9 pin Novar and 5 pin Nuvistor tubes. These new tubes are being used in quantity in many of the latest electronic circuits including radio and television. One other stipulation for use is that you have a Filament Selector switch on your tester.

The TM116 will allow you to make the same checks on these new tubes that your present tester now makes on the tubes that it checks; if your checker now checks mutual conductance, you can check for mutual conductance on these tubes. If your present tester is a Sencore Mighty Mite, it will allow you to check for the same high grid leakage that it now does. (Other adaptors that are designed for these new tubes, merely reduce the test to an emission check and will not allow you to check for shorts.) You will be using the TM116 with your present tester to make the same tests that you now make on other tubes including checking for inter element shorts.

HOW THE TM116 WORKS

Firstly, the TM116 plugs into your present tester. It fits into an octal socket of one of three common tubes; a 6V6, a 6J5 or 35Z5 socket. The socket that it is to be plugged into is listed in the tube set up chart in this manual as 6V6, 6J5 or 35Z5. Naturally, you determine the socket to plug the adaptor into by referring to the set-up data for *your* tester.

The switches on your tube tester are set for the same tube. For example, if the chart says to use a 6V6 to set your tester to, set your tester switches for the 6V6 also.

Even though the tube that you are testing tests like a 6V6 mechanically speaking, you will need to readjust the filament, load control and bias control to get the most accurate checks. An equivalent tube is given in the set up chart that can be used to determine the "electrical" settings for your tester.

FAMILIARIZE YOURSELF WITH THE CHART

Let us familiarize ourselves with this chart before using the TM116. The columns in the chart are designed so that you can use them as a procedure to test tubes, using the TM116, by following from the left column to the right.

The first column is the tube type that you will be testing with the TM116. The second column lists the tube filament. Your tester Filament control will be set at this number. The third column lists the tube that is electrically like the tube that you will be testing. The fourth column is left open so that you can fill in the Load and/or Bias settings for the like tube in the third column. We strongly suggest that you fill these settings in from your tester set up information before using the TM116. Please note that some testers have only a Load control. In this case, you will fill in only the Load setting. Other testers have a Bias control and others have "English" controls, etc. Any control on your tester that affects the gain of the tube should be filled in this column using the settings listed in your tester set up chart for the tube listed in the third column.

The fifth column lists the tube equivalent for all other set-up controls. Some testers use a number of sockets and few switches. It may only be necessary to fill in the socket number in the following column (the 6th) if you own one of these testers. Other testers have a number of mechanical slide switches or lever switches. These should be listed in the 6th column.

Let us look at the first tube listed in the chart and follow it through so that we do not make an error in filling

out these charts. The first tube listed is a 6AX3. The filament control on your tester should be set to 6 according to the second column. Next, look up the Load, Bias or other electrical settings in your tube set up data on your tester for a 6AX4 tube. Fill in column four with this information. Next, look up the tube set up data on your tester for a 35Z5 tube and fill in the settings for all other set ups on your tester in the next open column. Do not fill in any of the electrical settings that you listed in the previous column. If you fill these settings in as suggested, you will only have to refer to this chart when testing these tubes.

TO OPERATE THE TM116

After listing the settings as suggested above, make the set ups on your tester according to this information. Plug the TM116 into the socket indicated. In the example above, this would be the 35Z5 socket. Set up the TM116 switches as indicated under "TM116 Settings" in the last column. Set your tester function switch to the test desired and push test switch on the TM116. The test switch provides protection to the tube being tested until you are ready to make the test.

SET UP CHART FOR THE TC109 MIGHTY MITE TESTERS

If you own a Sencore Mighty Mite tester Model TC109, the procedure for testing is easier as the settings have been filled out at the factory. These are in a separate chart headed "Mighty Mite Set-Up Chart Using the TM116 Adaptor."

HOW TO GET NEW SET-UP INFORMATION

Sencore will have set-up information on the compactron, Novar, 10 pin and Nuvistor tubes as the tubes are announced. If you desire the latest information, merely write to the factory. If the number of tubes remains small, you will receive this information free of charge. If the list becomes large it becomes necessary to invoice you at a nominal rate to cover costs. Write to the factory service division, 426 S. Westgate Drive, Addison, Illinois.

**SET-UP CHART USING YOUR TUBE TESTER
AND THE TM116 ADAPTOR**

TUBE TYPE	Set your tester Control to	Set your tester Fil to test a	Set your tester LOAD, BIAS or any other electrical controls		Fill in LOAD, BIAS or other electrical control settings here for future reference.	Set all other controls and select socket on your tester to test a	Fill in other Controls and socket number here for future reference	TM116 SETTINGS						
			LOAD	BIAS				SW (A)	SW (B)	SW (C)	SW (D)			
6AX3	6	6AX4				35Z5					4	7	0	0
6AY3	6	6AX4				35Z5					2	9	0	0
6B10	6	6AU7				6J5					3	2	4	0
	6	6AU7				6J5					5	7	6	0
	6	6CN7				35Z5					8	9	0	0
	6	6CN7				35Z5					10	9	0	0
6C9	6	6CY5				6V6					4	10	3	2
	6	6CY5				6V6					7	6	9	8
6C10	6	6AX7				6J5					7	6	5	0
	6	6AX7				6J5					9	4	10	0
	6	6AX7				6J5					11	3	2	0
6CW4	6	6FH5				6J5					4	8	2	0
6D10	6	12AT7				6J5					7	6	5	0
	6	12AT7				6J5					9	4	10	0
	6	12AT7				6J5					11	3	2	0
6FJ7	6	6J5				6J5					10	9	11	0
	6	6BL7				6J5					3	7	5	0
7868	6	6V6				6V6					2	3	9	4
								Disregard Grid Leakage						
12AY3	12	6AX4				35Z5					2	9	0	0
17AY3	17	6AX4				35Z5					2	9	0	0

**MIGHTY MITE SET - UP CHART
USING THE TM116 ADAPTOR**

	TC109 MIGHTY MITE SETTINGS					Skt	TM116 SET-UP			
	SW (A)	SW (B)	SW (C)	SW (D)	A		B	C	D	
6AX3	6	A	2	D	1	4	7	0	0	
6AY3	6	A	2	D	1	2	9	0	0	
6B10	6	D	5	D	1	3	2	4	0	
	6	D	5	D	1	5	7	6	0	
	6	F	2	D	1	8	9	0	0	
	6	F	2	D	1	10	9	0	0	
6C9	6	E	5	D	1	4	10	3	2	
	6	E	5	D	1	7	6	9	8	
6C10	6	F	5	D	1	7	6	5	0	
	6	F	5	D	1	9	4	10	0	
	6	F	5	D	1	11	3	2	0	
6CW4	6	E	5	D	1	4	8	2	0	
6D10	6	E	5	D	1	7	6	5	0	
	6	E	5	D	1	9	4	10	0	
	6	E	5	D	1	11	3	2	0	
6FJ7	6	E	5	D	1	10	9	11	0	
	6	C	5	D	1	3	7	5	0	
7868	6	C	5	D	1	2	3	9	4	
							Disregard Grid Leakage			
12AY3	12	A	2	D	1	2	9	0	0	
17AY3	17	A	2	D	1	2	9	0	0	

S E N C O R E

426 WESTGATE DRIVE
ADDISON, ILLINOIS

SET-UP CHART USING YOUR TUBE TESTER AND THE TM116 ADAPTOR

TUBE TYPE	Set your tester Fil Control to	Set your tester LOAD, BIAS or any other electrical controls to test a	Fill in LOAD, BIAS or other electrical control settings here for future reference.		Set all other controls and select socket on your tester to test a	Fill in other Controls and socket number here for future reference	TM116 SETTINGS			
			LOAD	BIAS			SW (A)	SW (B)	SW (C)	SW (D)
2CW4	2	6FH5			6J5		4	8	2	0
6AX3	6	6AX4			35Z5		4	7	0	0
6AY3	6	6AX4			35Z5		2	9	0	0
6B10	6	6AU7			6J5		3	2	4	0
	6	6AU7			6J5		5	7	6	0
	6	6CN7 (Diode)			35Z5		8	9	0	0
	6	6CN7 (Diode)			35Z5		10	9	0	0
6BH3	6	6DE4			35Z5		2	9	0	0
6C9	6	6CY5			6V6		4	10	3	2
	6	6CY5			6V6		7	6	9	8
6C10	6	6AX7			6J5		7	6	5	0
	6	6AX7			6J5		9	4	10	0
	6	6AX7			6J5		11	3	2	0
6CW4	6	6FH5			6J5		4	8	2	0
6D10	6	12AT7			6J5		7	6	5	0
	6	12AT7			6J5		9	4	10	0
	6	12AT7			6J5		11	3	2	0
6DS4	6	6CY5			6J5		4	8	2	0
6FJ7	6	6J5			6J5		10	9	11	0
	6	6BL7			6J5		3	7	5	0
6GT5	6	6DQ6			6V6		2	3	9	4
Disregard Grid Leakage										
6K11	6	6AU7			6J5		9	4	10	0
	6	6AX7			6J5		7	6	5	0
	6	6AX7			6J5		11	3	2	0
6Q11	6	6AU7			6J5		9	4	10	0
	6	6AX7			6J5		7	6	5	0
	6	6AX7			6J5		11	3	2	0
12AY3	12	6AX4			35Z5		2	9	0	0
12GT5	12	6DQ6			6V6		2	3	9	4
Disregard Grid Leakage										
17AY3	17	6AX4			35Z5		2	9	0	0
17BH3	17	6DE4			35Z5		2	9	0	0
17C9	17	6CY5			6V6		4	10	3	2
	17	6CY5			6V6		7	6	9	8
17GT5	17	6DQ6			6V6		2	3	9	4
Disregard Grid Leakage										
22BH3	22	6DE4			35Z5		2	9	0	0
7586	6	6CY5			6J5		4	8	2	0
7587	6	6CY5			6V6		4	8	CAP	2
7868	6	6V6			6V6		2	3	9	4
Disregard Grid Leakage										
7895	6	6CY5			6J5		4	8	2	0

SENCORE, INC.

426 So. Westgate Drive
Addison, Illinois

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MIGHTY MITE SET-UP CHART USING THE TM116 ADAPTOR

	TC109 MIGHTY MITE SETTINGS					TM116 SET-UP			
	SW	SW	SW	SW	Skt	A	B	C	D
	(A)	(B)	(C)	(D)					
2CW4	2	E	5	D	1	4	8	2	0
6AX3	6	A	2	D	1	4	7	0	0
6AY3	6	A	2	D	1	2	9	0	0
6B10	6	D	5	D	1	3	2	4	0
	6	D	5	D	1	5	7	6	0
	6	F	2	D	1	8	9	0	0
	6	F	2	D	1	10	9	0	0
6BH3	6	A	2	D	1	2	9	0	0
6C9	6	E	5	D	1	4	10	3	2
	6	E	5	D	1	7	6	9	8
6C10	6	F	5	D	1	7	6	5	0
	6	F	5	D	1	9	4	10	0
	6	F	5	D	1	11	3	2	0
6CW4	6	E	5	D	1	4	8	2	0
6D10	6	E	5	D	1	7	6	5	0
	6	E	5	D	1	9	4	10	0
	6	E	5	D	1	11	3	2	0
6DS4	6	E	5	D	1	4	8	2	0
6FJ7	6	E	5	D	1	10	9	11	0
	6	C	5	D	1	3	7	5	0
6GT5	6	A	5	D	1	2	3	9	4
						Disregard Grid Leakage			
6K11	6	D	5	D	1	9	4	10	0
	6	F	5	D	1	7	6	5	0
	6	F	5	D	1	11	3	2	0
6Q11	6	D	5	D	1	9	4	10	0
	6	F	5	D	1	7	6	5	0
	6	F	5	D	1	11	3	2	0
12AY3	12	A	2	D	1	2	9	0	0
12GT5	12	A	5	D	1	2	3	9	4
						Disregard Grid Leakage			
17AY3	17	A	2	D	1	2	9	0	0
17BH3	17	A	2	D	1	2	9	0	0
17C9	17	E	5	D	1	4	10	3	2
	17	E	5	D	1	7	6	9	8
17GT5	17	A	5	D	1	2	3	9	4
						Disregard Grid Leakage			
22BH3	22	A	2	D	1	2	9	0	0
7586	6	E	5	D	1	4	8	2	0
7587	6	E	5	D	1	4	8	CAP	2
7868	6	C	5	D	1	2	3	9	4
						Disregard Grid Leakage			
7895	6	E	5	D	1	4	8	2	0

NOTE: Two set-up charts are provided with your TM116; one for carrying with the TM116 and one for your tube tester. It is a good idea to mount one set-up chart on a cardboard if used with a non-portable type tester in the shop or lab.

SENCORE, INC.

426 So. Westgate Drive
Addison, Illinois

Printed Sept. 15, 1961
Form No. 170

SET UP CHART FOR TM116

Tube	TC109 SET UP		A	TM116 SET UP			Set your tester Fil Control to	Set your tester, LOAD, BIAS or any other electrical controls to test a †	Fill in LOAD, BIAS or other electrical control settings here for future reference. LOAD BIAS	Set all other controls and select socket on your tester to test a	Fill in other Controls and socket number here for future reference	TM116 SETTINGS			
	SW (A)	SW (B)		B	C	D						SW (A)	SW (B)	SW (C)	SW (D)
1AD2	1	J	CAP	0	0	0	1	1J3	35Z5	CAP	0	0	0		
1AJ2	1	H	CAP	0	0	0	1	1B3	35Z5	CAP	0	0	0		
2AH2	2	H	CAP	0	0	0	2	3A3	35Z5	CAP	0	0	0		
2AS2	2	H	CAP	0	0	0	2	3A3	35Z5	CAP	0	0	0		
2CW4	2	F	4	8	2	0	2	6GK5	6J5	4	8	2	0		
2DS4	2	G	4	8	2	0	2	6GK5	6J5	4	8	2	0		
3AT2	3	H	CAP	0	0	0	3	3A3	35Z5	CAP	0	0	0		
3AW3	3	H	CAP	0	0	0	3	3A3	35Z5	CAP	0	0	0		
4HA7	4	E	11	3	2	0	4	12AU7	6J5	11	3	2	0		
	4	F	9	4	10	0	4	12AX7	6J5	9	4	10	0		
5HA7	5	E	11	3	2	0	4	12AU7	6J5	11	3	2	0		
	5	F	9	4	10	0	4	12AX7	6J5	9	4	10	0		
6AC10	6	E	11	3	2	0	6	12AT7	6J5	11	3	2	0		
	6	E	7	6	5	0	6	12AT7	6J5	7	6	5	0		
	6	E	9	4	10	0	6	12AT7	6J5	9	4	10	0		
6AD10	6	E	3	2	7	6	6	6GX6	6V6	3	2	7	6		
	6	C	8	9	11	10	6	6AQ5	6V6	8	9	11	10		
6AF11	6	F	3	7	4	0	6	6CX8T	6J5	3	7	4	0		
	6	C	11	9	2	10	6	6CX8P	6V6	11	9	2	10		
	6	F	6	5	8	0	6	12AX7	6J5	6	5	8	0		
6AG10	6	D	11	4	2	9	6	6GH8	6V6	11	4	2	9		
	6	D	11	4	7	9	6	6GH8	6V6	11	4	7	9		
6AG11	6	E	8	9	7	0	6	12AT7	6J5	8	9	7	0		
	6	E	5	4	6	0	6	12AT7	6J5	5	4	6	0		
	6	F	3	2	0	0	6	6BW8D	35Z5	3	2	0	0		
	6	F	10	11	0	0	6	6BW8D	35Z5	10	11	0	0		
6AL11	6	E	3	2	6	7	6	6DT6	6V6	3	2	6	7		
	6	C	8	9	11	10	6	6AQ5	6V6	8	9	11	10		
6AR11	6	D	5	6	2	3	6	6GM6	6V6	5	6	2	3		
	6	D	10	11	8	9	6	6GM6	6V6	10	11	8	9		
6AS11	6	E	3	7	4	0	6	6CX8T	6J5	3	7	4	0		
	6	F	6	5	8	0	6	12AX7	6J5	6	5	8	0		
	6	D	11	9	2	10	6	6CX8P	6V6	11	9	2	10		
6AV11	6	E	11	3	2	0	6	12AU7	6J5	11	3	2	0		
	6	E	7	6	5	0	6	12AU7	6J5	7	6	5	0		
	6	E	9	4	10	0	6	12AU7	6J5	9	4	10	0		
6AX3	6	A	4	7	0	0	6	6AX4	35Z5	4	7	0	0		
6AY3	6	A	2	9	0	0	6	6AX4	35Z5	2	9	0	0		
6AY11	6	F	8	9	7	0	6	12AX7	6J5	8	9	7	0		
	6	F	5	4	6	0	6	12AX7	6J5	5	4	6	0		
	6	F	3	2	0	0	6	6BW8D	35Z5	3	2	0	0		
	6	F	10	11	0	0	6	6BW8D	35Z5	10	11	0	0		
6B10	6	D	3	2	4	0	6	12AU7	6J5	3	2	4	0		
	6	D	5	7	6	0	6	12AU7	6J5	5	7	6	0		
	6	F	8	9	0	0	6	6CN7D	35Z5	8	9	0	0		
	6	F	10	9	0	0	6	6CN7D	35Z5	10	9	0	0		
6BA3	6	A	2	9	0	0	6	6AX4	35Z5	2	9	0	0		
6BA11	6	D	4	8	2	3	6	6HS8	6V6	4	8	2	3		
	6	E	9	10	11	0	6	6C5	6J5	9	10	11	0		
6BD11	6	D	11	9	2	10	6	6GN8P	6V6	11	9	2	10		
	6	E	3	7	4	0	6	12AU7	6J5	3	7	4	0		
	6	F	6	5	8	0	6	12AX7	6J5	6	5	8	0		
6BE3	6	A	4	7	0	0	6	6DE4	35Z5	4	7	0	0		
6BF11	6	E	3	2	7	6	6	6DT6	6V6	3	2	7	6		
	6	C	8	9	11	10	6	6CU5	6V6	8	9	11	10		
6BH3	6	A	2	9	0	0	6	6DE4	35Z5	2	9	0	0		
6BH11	6	D	6	5	7	0	6	6GH8T	6J5	6	5	7	0		
	6	D	4	2	3	0	6	6GH8T	6J5	4	2	3	0		
	6	D	8	11	10	9	6	6GH8P	6V6	8	11	10	9		
6BJ3	6	A	4	7	0	0	6	6W4	35Z5	4	7	0	0		
6BN11	6	E	3	2	5	4	6	6EW6	6V6	3	2	5	4		
	6	E	7	8	11	9	6	6EW6	6V6	7	8	11	9		
6BS3	6	A	2	9	0	0	6	6DE4	35Z5	2	9	0	0		
6BW11	6	E	3	2	5	4	6	6EW6	6V6	3	2	5	4		
	6	E	11	10	8	9	6	6EW6	6V6	11	10	8	9		
6BZ3	6	A	4	7	0	0	6	6DE4	35Z5	4	7	0	0		
6C9	6	E	4	10	3	2	6	6CY5	6V6	4	10	3	2		
	6	F	7	6	9	8	6	6CY5	6V6	7	6	9	8		
6C10	6	F	7	6	5	0	6	12AX7	6J5	7	6	5	0		
	6	F	9	4	10	0	6	12AX7	6J5	9	4	10	0		
	6	F	11	3	2	0	6	12AX7	6J5	11	3	2	0		
6CG3	6	A	4	7	0	0	6	6DE4	35Z5	4	7	0	0		
6CW4	6	F	4	8	2	0	6	6GK5	6J5	4	8	2	0		
6D10	6	E	9	4	10	0	6	12AT7	6J5	9	4	10	0		
	6	E	11	3	2	0	6	12AT7	6J5	11	3	2	0		
	6	E	7	6	5	0	6	12AT7	6J5	7	6	5	0		

12B-3-32

† D INDICATES DIODE SECTION, T INDICATES TRIODE SECTION, AND P INDICATES PENTODE SECTION OF TUBE

Tube	TC109 SET UP		A	TM116 SET UP			Set your tester Fil Control to	Set your tester, LOAD, BIAS or any other electrical controls to test a †	Fill in LOAD, BIAS or other electrical control settings here for future reference. LOAD BIAS	Set all other controls and select socket on your tester to test a	Fill in other Controls and socket number here for future reference	TM116 SETTINGS			
	SW (A)	SW (B)		B	C	D						SW (A)	SW (B)	SW (C)	SW (D)
6DS4	6	G	4	8	2	0	6	6GK5	6J5	4	8	2	0		
6DW4	6	A	2	9	0	0	6	6AU4	35Z5	2	9	0	0		
*6EA4	6	G	6	5	CAP	0	6	6BK4	6J5	6	5	CAP	0		
6FJ7	6	E	10	9	11	0	6	6J5	6J5	10	9	11	0		
6	6	C	3	7	5	0	6	6BL7	6J5	3	7	5	0		
6FM7	6	F	10	9	11	0	6	6BN8T	6J5	10	9	11	0		
*	6	C	3	7	5	0	6	12B4	6J5	3	7	5	0		
6FY7	6	E	10	9	11	0	6	6SL7	6J5	10	9	11	0		
*	6	C	3	7	5	0	6	12B4	6J5	3	7	5	0		
6G11	6	D	3	2	6	7	6	6DT6	6V6	3	2	6	7		
*	6	C	8	9	11	10	6	6CU5	6V6	8	9	11	10		
6GA7	6	A	4	5	7	3	6	6DQ6	6V6	4	5	7	3		
6	6	A	11	8	0	0	6	6AU4	35Z5	11	8	0	0		
*6GB5	6	A	2	3	CAP	6	6	6CM5	6V6	2	3	CAP	6		
*6GC5	6	A	3	7	9	1	6	6CM5	6V6	3	7	9	1		
*6GE5	6	A	3	4	7	2	6	6DQ6	6V6	3	4	7	2		
*6GF5	6	A	3	4	7	2	6	6DQ6	6V6	3	4	7	2		
6GF7	6	C	2	3	6	0	6	12B4	6J5	2	3	6	0		
6	6	F	9	4	8	0	6	6SL7	6J5	9	4	8	0		
6GJ5	6	A	2	3	CAP	4	6	6DQ6	6V6	2	3	CAP	4		
6GM5	6	A	6	7	9	4	6	6L6	6V6	6	7	9	4		
*6GT5	6	A	2	3	9	4	6	6DQ6	6V6	2	3	9	4		
*6GV5	6	A	5	4	CAP	3	6	6DQ6	6V6	5	4	CAP	3		
6GV8	6	D	2	3	4	0	6	6J6	6J5	2	3	4	0		
6	6	D	9	8	6	7	8	6AU8P	6V6	9	8	6	7		
*6GY5	6	A	5	4	CAP	3	6	6DQ6	6V6	5	4	CAP	3		
*6HB5	6	A	3	4	7	2	6	6DQ6	6V6	3	4	7	2		
6HD5	6	A	3	4	7	5	6	6CB5	6V6	3	4	7	5		
*6HE5	6	C	2	4	6	3	6	6E25	6V6	2	4	6	3		
*6HJ5	6	A	3	4	7	5	6	6DQ6	6V6	3	4	7	5		
6J9	6	F	2	3	4	0	6	12AT7	6J5	2	3	4	0		
6	6	F	7	10	8	0	6	12AT7	6J5	7	10	8	0		
6	6	F	9	10	6	0	6	12AT7	6J5	9	10	6	0		
6J10	6	C	11	3	9	2	6	6AQ5	6V6	11	3	9	2		
6	6	H	7	8	4	6	6	6BN6	6V6	7	8	4	6		
6J11	6	D	5	6	3	2	6	6EW6	6V6	5	6	3	2		
6	6	D	11	8	9	7	6	6EW6	6V6	11	8	9	7		
*6JB6	6	A	2	3	CAP	7	6	6DQ6	6V6	2	3	CAP	7		
*6JE6	6	A	2	3	CAP	7	6	6DQ5	6V6	2	3	CAP	7		
6JG6	6	A	2	3	9	7	6	6DQ5	6V6	2	3	9	7		
6JM6	6	A	5	2	CAP	3	6	6DQ6	6V6	5	2	CAP	3		
6JN6	6	A	11	2	7	3	6	6DQ6	6V6	11	2	7	3		
6JS6	6	A	5	2	CAP	3	6	6DQ5	6V6	5	2	CAP	3		
6JT6	6	A	2	3	9	7	6	6DQ5	6V6	2	3	9	7		
6JZ6	6	A	5	2	CAP	3	6	6DQ6	6V6	5	2	CAP	3		
6JZ8	6	E	10	11	2	0	6	6SN7	6J5	10	11	2	0		
*	6	C	6	9	4	8	6	12R5	6V6	6	9	4	8		
6K11	6	E	5	4	6	0	6	12AU7	6J5	5	4	6	0		
6	6	E	8	9	7	0	6	12AX7	6J5	8	9	7	0		
6	6	D	11	3	2	0	6	12AX7	6J5	11	3	2	0		
*6KD6	6	A	5	2	CAP	3	6	6DQ6	6V6	5	2	CAP	3		
*6KM6	6	A	2	3	CAP	7	6	6DQ6	6V6	2	3	CAP	7		
6KU8	6	C	7	6	9	8	6	6GM6	6V6	7	6	9	8		
6	6	F	3	4	0	0	6	6AL5	35Z5	3	4	0	0		
6	6	F	2	4	0	0	6	6AL5	35Z5	2	4	0	0		
6KY8	6	G	9	4	8	0	6	6SL7	6J5	9	4	8	0		
6	6	B	2	3	6	7	6	6BF5	6V6	2	3	6	7		
6LB8	6	D	2	1	3	0	6	12AU7	6J5	2	1	3	0		
6	6	C	7	6	9	8	6	6GM6	6V6	7	6	9	8		
*6LU8	6	C	7	9	4	8	6	6E25	6V6	7	9	4	8		
6	6	F	10	11	2	0	6	12AX7	6J5	10	11	2	0		
6M11	6	E	5	4	6	0	6	12AT7	6J5	5	4	6	0		
6	6	E	8	9	7	0	6	12AT7	6J5	8	9	7	0		
6	6	D	2	10	11	3	6	6EW6	6V6	2	10	11	3		
6MD8	6	D	6	7	3	0	6	12AU7	6J5	6	7	3	0		
6	6	D	8	7	2	0	6	12AU7	6J5	8	7	2	0		
6	6	D	9	7	4	0	6	12AU7	6J5	9	7	4	0		
6Q11	6	D	9	4	10	0	6	12AU7	6J5	9	4	10	0		
6	6	F	7	6	5	0	6	12AX7	6J5	7	6	5	0		
6	6	F	11	3	2	0	6	12AX7	6J5	11	3	2	0		
6T9	6	C	8	9	11	10	6	6AQ5	6V6	8	9	11	10		
6	6	F	4	5	2	0	6	12AX7	6J5	4	5	2	0		
6T10	6	C	8	9	11	10	6	6AQ5	6V6	8	9	11	10		
6	6	E	3	2	7	6	6	6DT6	6V6	3	2	7	6		
6U10	6	D	9	4	10	0	6	12AU7	6J5	9	4	10	0		
6	6	D	11	3	2	0	6	12AU7	6J5	11	3	2	0		
6	6	F	7	6	5	0	6	12AX7	6J5	7	6	5	0		
6Z10	6	C	11	3	9	2	6	6AQ5	6V6	11	3	9	2		
6	6	H	7	8	4	6	6	6BN6	6V6	7	8	4	6		
8AR11	8	D	5	6	2	3	8	6GM6	6V6	5	6	2	3		
8	8	D	10	11	8	9	8	6GM6	6V6	10	11	8	9		

† D INDICATES DIODE SECTION, T INDICATES TRIODE SECTION, AND P INDICATES PENTODE SECTION OF TUBE

Tube	TC 109 SET UP		TM116 SET UP				Set your tester Fil Control to	Set your tester, LOAD, BIAS or any other electrical controls to test a †	Fill in LOAD, BIAS or other electrical control settings here for future reference. LOAD BIAS	Set all other controls and select socket on your tester to test a	Fill in other Controls and socket number here for future reference	TM116 SETTINGS			
	SW (A)	SW (B)	A	B	C	D						SW (A)	SW (B)	SW (C)	SW (D)
8B10	8	E	3	2	4	0	8	12AU7	6J5	3	2	4	0		
	8	E	5	7	6	0	8	12AU7	6J5	5	7	6	0		
	8	E	8	9	0	0	8	6BW8D	35Z5	8	9	0	0		
	8	E	10	9	0	0	8	6BW8D	35Z5	10	9	0	0		
8BM11	8	D	11	10	7	9	8	6BZ6	6V6	11	10	7	9		
	8	D	6	5	2	3	8	6DK6	6V6	6	5	2	3		
8BQ11	8	D	10	11	8	9	8	6GM6	6V6	10	11	8	9		
	8	D	5	6	2	3	8	6EW6	6V6	5	6	2	3		
8BU11	8	D	4	2	3	0	8	6GH8T	6J5	4	2	3	0		
	8	D	6	5	7	0	8	6GH8T	6J5	6	5	7	0		
	8	D	8	11	10	9	8	6GH8P	6V6	8	11	10	9		
9BJ11	9	F	11	10	7	9	9	6GK7	6V6	11	10	7	9		
	9	D	6	5	2	3	9	6DK6	6V6	6	5	2	3		
10AL11	10	C	8	9	11	10	10	6AQ5	6V6	8	9	11	10		
	10	E	3	2	6	7	10	6DT6	6V6	3	2	6	7		
10GF7	10	F	2	3	6	0	10	12B4	6J5	2	3	6	0		
	10	C	9	4	8	0	10	6SL7	6J5	9	4	8	0		
10KU8	10	C	7	6	9	8	10	6GM6	6V6	7	6	9	8		
	10	F	3	1	0	0	10	6AL5	35Z5	3	1	0	0		
	10	F	2	1	0	0	10	6AL5	35Z5	2	1	0	0		
11AR11	11	D	5	6	2	3	11	6GM6	6V6	5	6	2	3		
	11	D	10	11	8	9	11	6GM6	6V6	10	11	8	9		
11BQ11	11	D	10	11	8	9	11	6GM6	6V6	10	11	8	9		
	11	D	5	6	2	3	11	6EW6	6V6	5	6	2	3		
11BT11	11	C	11	8	2	10	11	6KR8P	6V6	11	8	2	10		
	11	D	5	6	7	0	11	6KR8T	6J5	5	6	7	0		
	11	D	3	4	9	0	11	6KR8T	6J5	3	4	9	0		
11FY7	11	E	10	9	11	0	11	6SL7	6J5	10	9	11	0		
* 12AE10	12	E	3	2	7	6	12	12B4	6J5	3	2	7	6		
	12	C	8	9	11	10	12	6DT6	6V6	8	9	11	10		
12AL11	12	E	3	2	6	7	12	6AQ5	6V6	3	2	6	7		
	12	C	8	9	11	10	12	6AQ5	6V6	8	9	11	10		
12AX3	12	A	4	7	0	0	12	6AX4	35Z5	4	7	0	0		
12AY3	12	A	2	9	0	0	12	6AX4	35Z5	2	9	0	0		
12BE3	12	A	4	7	0	0	12	6DE4	35Z5	4	7	0	0		
12BF11	12	E	3	2	7	6	12	6DT6	6V6	3	2	7	6		
	12	C	8	9	11	10	12	6CU5	6V6	8	9	11	10		
12BS3	12	A	2	9	0	0	12	6DE4	35Z5	2	9	0	0		
12BT3	12	A	4	7	0	0	12	6W4	35Z5	4	7	0	0		
12G11	12	D	3	2	6	7	12	6DT6	6V6	3	2	6	7		
* 12GE5	12	C	8	9	11	10	12	6AQ5	6V6	8	9	11	10		
12GT5	12	A	3	4	7	2	12	6DQ6	6V6	3	4	7	2		
* 12GV5	12	A	2	3	9	4	12	6DQ6	6V6	2	3	9	4		
12HE7	12	A	5	4	CAP	3	12	6DQ6	6V6	5	4	CAP	3		
* 12JB6	12	A	2	4	0	0	12	6AX4	35Z5	2	4	0	0		
	12	A	9	8	5	10	12	6DQ6	6V6	9	8	5	10		
12JN6	12	A	2	3	CAP	7	12	6DQ6	6V6	2	3	CAP	7		
12JT6	12	A	11	2	7	3	12	6DQ6	6V6	11	2	7	3		
12JZ8	12	A	2	3	9	7	12	6DQ6	6V6	2	3	9	7		
* 13CW4	13	C	6	9	4	8	12	65N7	6J5	10	11	2	0		
13G85	13	F	4	8	2	0	13	12R5	6V6	6	9	4	8		
13GF7	13	A	1	3	CAP	6	13	6GK5	6J5	4	8	2	0		
	13	C	2	3	6	0	13	6CM5	6V6	1	3	CAP	6		
	13	F	9	4	8	0	13	12B4	6J5	2	3	6	0		
13J10	13	H	7	8	4	6	13	6SL7	6J5	9	4	8	0		
	13	C	11	3	9	2	13	6BN6	6V6	7	8	4	6		
13V10	13	E	3	2	7	6	13	6AQ5	6V6	11	3	9	2		
	13	C	8	9	11	10	13	6DT6	6V6	3	2	7	6		
13Z10	13	C	11	3	9	2	13	6AQ5	6V6	8	9	11	10		
	13	H	7	8	4	6	13	6AQ5	6V6	11	3	9	2		
14BL11	14	C	11	8	2	10	14	6BN6	6V6	7	8	4	6		
	14	D	3	4	9	0	14	6KR8P	6V6	11	8	2	10		
	14	E	5	6	7	0	14	6KR8T	6J5	3	4	9	0		
14BR11	14	C	2	4	11	3	14	12AX7	6J5	5	6	7	0		
	14	E	10	7	9	0	14	6EW6	6V6	2	4	11	3		
	14	D	8	5	6	0	14	12AT7	6J5	10	7	9	0		
15AF11	15	F	3	7	4	0	15	12AU7	6J5	8	5	6	0		
	15	F	6	5	8	0	15	6CX8T	6J5	3	7	4	0		
	15	C	11	9	2	10	15	12AU7	6J5	6	5	8	0		
15BD11	15	D	11	9	2	10	15	6CX8P	6V6	11	9	2	10		
	15	E	3	7	4	0	15	6GN8P	6V6	11	9	2	10		
	15	F	6	5	8	0	15	12AT7	6J5	3	7	4	0		
15FM7	15	F	10	9	11	0	15	12AX7	6J5	6	5	8	0		
* 15FY7	15	C	3	7	5	0	15	6BN8T	6J5	10	9	11	0		
	15	E	10	9	11	0	15	12B4	6J5	3	7	5	0		
* 15KY8	15	G	9	4	8	0	15	6SL7	6J5	10	9	11	0		
	15	C	3	7	5	0	15	12B4	6J5	3	7	5	0		
	15	C	2	3	6	7	15	6SL7	6J5	9	4	8	0		
* 16GY5	16	A	5	4	CAP	3	16	6BF5	6V6	2	3	6	7		
								6DQ6	6V6	5	4	CAP	3		

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Tube	TC109 SET UP		A	TM116 SET UP				Set your tester Fil Control to	Set your tester, LOAD, BIAS or any other electrical controls to test a †	Fill in LOAD, BIAS or other electrical control settings here for future reference. LOAD BIAS	Set all other controls and select socket on your tester to test a	Fill in other Controls and socket number here for future reference			
	SW (A)	SW (B)		B	C	D	SW (A)					SW (B)	SW (C)	SW (D)	
16KA6	16	A	5	10	CAP	3	16	6DQ6		6V6	5	10	CAP	3	
17AB10	17	H	7	8	4	6	17	6DT6		6V6	7	8	4	6	
	17	C	11	3	9	2	17	6AQ5		6V6	11	3	9	2	
17AX3	17	A	4	7	0	0	17	6AX4		35Z5	4	7	0	0	
17AY3	17	A	2	9	0	0	17	6AX4		35Z5	2	9	0	0	
17BE3	17	A	4	7	0	0	17	6DE4		35Z5	4	7	0	0	
17BF11	17	E	3	2	7	6	17	6DT6		6V6	3	2	7	6	
	17	C	8	9	11	10	17	6CU5		6V6	8	9	11	10	
17BH3	17	A	2	9	0	0	17	6DE4		35Z5	2	9	0	0	
17BS3	17	A	2	9	0	0	17	6DE4		35Z5	2	9	0	0	
17BZ3	17	A	4	7	0	0	17	6DE4		35Z5	4	7	0	0	
17C9	17	E	7	6	9	8	17	6CY5		6V6	7	6	9	8	
	17	E	4	10	3	2	17	6CY5		6V6	4	10	3	2	
17FB11	17	C	8	9	11	10	17	6CU5		6V6	8	9	11	10	
	17	E	3	2	7	6	17	6DT6		6V6	3	2	7	6	
17GE5	17	A	3	4	7	2	17	6DQ6		6V6	3	4	7	2	
17GJ5	17	A	2	3	CAP	4	17	6DQ6		6V6	2	3	CAP	4	
*17GT5	17	A	2	3	9	4	17	6DQ6		6V6	2	3	9	4	
*17GV5	17	A	5	4	CAP	3	17	6DQ6		6V6	5	4	CAP	3	
17GV8	17	D	2	3	4	0	17	6J6		6J5	2	3	4	0	
	17	D	9	8	6	7	17	6AU8P		6V6	9	8	6	7	
*17JB6	17	A	2	3	CAP	7	17	6DQ6		6V6	2	3	CAP	7	
17JG6	17	A	2	3	9	7	17	6DQ5		6V6	2	3	9	7	
17JM6	17	A	5	2	CAP	3	17	6DQ6		6V6	5	2	CAP	3	
17JN6	17	A	11	2	7	3	17	6DQ6		6V6	11	2	7	3	
17JT6	17	A	2	3	9	7	17	6DQ5		6V6	2	3	9	7	
17JZ8	17	E	10	11	2	0	17	6SN7		6J5	10	11	2	0	
*	17	C	6	9	4	8	17	12R5		6V6	6	9	4	8	
*21GY5	21	A	5	4	CAP	3	21	6DQ6		6V6	5	4	CAP	3	
*21HB5	21	A	3	4	7	2	21	6DQ6		6V6	3	4	7	2	
21HD5	21	A	3	4	7	5	21	6CB5		6V6	3	4	7	5	
*21HJ5	21	A	3	4	7	5	21	6DQ5		6V6	3	4	7	5	
21JV6	21	A	11	2	7	3	21	6DQ6		6V6	11	2	7	3	
21JZ6	21	A	5	2	CAP	3	21	6DQ6		6V6	5	2	CAP	3	
21KA6	21	A	5	10	CAP	3	21	6DQ6		6V6	5	10	CAP	3	
*21LU8	21	C	7	9	4	8	21	6EZ5		6V6	7	9	4	8	
	21	F	10	11	2	0	21	12AX7		6J5	10	11	2	0	
22BH3	22	A	2	9	0	0	22	6DE4		35Z5	2	9	0	0	
22BW3	22	A	4	7	0	0	22	6DE4		35Z5	4	7	0	0	
*22JF6	22	A	6	3	CAP	7	22	6DQ6		6V6	6	3	CAP	7	
22JG6	22	A	2	3	9	4	22	6DQ6		6V6	2	3	9	4	
*22JU6	22	A	6	3	CAP	7	22	6DQ6		6V6	6	3	CAP	7	
23Z9	23	C	8	7	5	9	23	12R5		6V6	8	7	5	9	
	23	D	3	7	2	0	23	12AU7		6J5	3	7	2	0	
	23	E	10	7	11	0	23	12AX7		6J5	10	7	11	0	
24GA7	24	A	11	8	0	0	24	6AU4		35Z5	11	8	0	0	
	24	A	4	5	7	2	24	6DQ6		6V6	4	5	7	2	
25CG3	25	A	4	7	0	0	24	6DE4		35Z5	4	7	0	0	
*27GB5	27	A	2	3	CAP	6	27	6CM5		6V6	2	3	CAP	6	
28HD5	28	A	3	4	7	5	28	6CB5		6V6	3	4	7	5	
30AG11	30	E	8	9	7	0	30	12AT7		6J5	8	9	7	0	
	30	E	5	4	6	0	30	12AT7		6J5	5	4	6	0	
	30	F	3	2	0	0	30	6BW8D		35Z5	3	2	0	0	
	30	F	10	11	0	0	30	6BW8D		35Z5	10	11	0	0	
31JS6	31	A	5	2	CAP	3	31	6DQ5		6V6	5	2	CAP	3	
32GA7	32	A	11	8	0	0	32	6AU4		35Z5	11	8	0	0	
	32	A	4	5	7	2	32	6DQ6		6V6	4	5	7	2	
*33GT7	33	A	9	8	5	10	33	6DQ6		6V6	9	8	5	10	
	33	A	2	4	0	0	33	6AX4		35Z5	2	4	0	0	
33GY7	33	A	9	8	5	11	33	6DQ6		6V6	9	8	5	11	
	33	A	2	4	0	0	33	6AX4		35Z5	2	4	0	0	
33JV6	33	A	11	2	7	3	33	6DQ6		6V6	11	2	7	3	
38HE7	38	A	2	4	0	0	38	6DE4		35Z5	2	4	0	0	
*	38	A	9	8	5	10	38	6DQ6		6V6	9	8	5	10	
38HK7	38	A	2	4	0	0	38	6DE4		35Z5	2	4	0	0	
*	38	A	9	8	5	10	38	6DQ6		6V6	9	8	5	10	
*40KD6	40	A	5	2	CAP	3	40	6DQ6		6V6	5	2	CAP	3	
7586	6	F	4	8	2	0	6	6CY5		6J5	4	8	2	0	
7587	6	F	4	8	CAP	2	6	6CY5		6V6	4	8	CAP	2	
*7868	6	C	2	3	9	4	6	6V6		6V6	2	3	9	4	
7895	6	F	4	8	2	0	6	6CY5		6J5	4	8	2	0	
7984	13	C	10	2	3	7	13	6146		6V6	10	2	3	7	
8056	6	G	4	8	2	0	6	6CY5		6J5	4	8	2	0	
8058	6	G	CAP	8	0	0	6	6AL5		35Z5	CAP	8	0	0	
8156	13	A	10	2	3	7	13	6146		6V6	10	2	3	7	
8233	6	D	8	7	4	3	6	12GN7		6V6	8	7	4	3	
*8278	6	D	3	2	9	4	6	6EJ7		6V6	3	2	9	4	
*PL500	27	A	2	3	CAP	6	27	6CM5		6V6	2	3	CAP	6	

HOW TO DETERMINE TM116 CONTROL SETTINGS FOR NEW TUBES USING A TUBE MANUAL

The TM116 controls select the correct pins for testing each tube type. Switch A is used to pick up the plate for a diode or a rectifier and the control grid for a triode, tetrode or pentode. Switch B selects the cathode. Switch C picks up the plate in the triode, tetrode or pentode, and Switch D picks up the screen grid. Look up pin numbers in tube manual and set TM116 accordingly.

For novar and 10 pin sockets, position 4 of all switches picks up pin 1. This is the only exception when selecting pin numbers with the TM116 switches.

† D INDICATES DIODE SECTION, T INDICATES TRIODE SECTION, AND P INDICATES PENTODE SECTION OF TUBE

Form #326

SENCORE

426 SOUTH WESTGATE DRIVE, ADDISON, ILLINOIS 60101