

**BELL SYSTEM PRACTICES**  
**Station Installation and Maintenance**

**SECTION C31.301**  
**Issue 7, April, 1953**  
**AT&T Co Standard**

**CONDENSERS**  
**DESCRIPTION AND USE**

**1. GENERAL**

1.01 This section gives general information pertaining to the principal condensers used in connection with station apparatus. It is reissued to include additional condensers and delete others from the list.

**2. DESCRIPTION**

2.01 The following Table 1 lists the principal condensers used in connection with station apparatus, shows their rated capacity in microfarads and indicates the code numbers of condensers that are equivalent and can generally be used interchangeably in station apparatus. Where it is necessary to know between which condenser terminals the capacities of multiple condensers are obtained, reference is made to the figures in the last column of the Table.

**TABLE 1**

Condenser Code No.	Marked Capacitance in M.F.	Equivalent* Condensers	Refer to First Column	←
129A	.006	—	—	
129E	.006	—	—	
129F	.006	—	—	
147A	2.00	447A		↖
147B	{ 1.00	1147B or 447B	Fig. 1 (A)	
	{ 1.00		(B)	
147D	{ 1.00	1147D	Fig. 2 (A)	
	{ .50		(B)	
147E	{ 2.00	447G	Fig. 1 (A)	
	{ .032		(B)	
147AB	2.00	447A		
149A	1.00	1149A & 449A		↙
149B	.50	1149B & 449B		
149C	.10	—	—	←
149D	.65	449D	—	←
149E	1.00	—	—	
149F	.65	449F		↖
149G	.032	449J		
152A	.085	61A Filter		
194A	{ 1.00	194C	Fig. 3 (A)	
	{ 2.00		(B)	
194B	{ .50	—	Fig. 3 (A)	
	{ 2.00		(B)	
194C	{ 1.00	—	Fig. 5 (A)	
	{ 2.00		(B)	
194AB	{ 1.00	—	Fig. 3 (A)	
	{ 2.00		(B)	
194BB	{ .50	—	Fig. 3 (A)	
	{ 2.00		(B)	
194DB	{ .50	—	Fig. 5 (A)	
	{ 2.00		(B)	
195A	{ 2.00	—	Fig. 6 (A)	
	{ .50		(B)	
195B	{ 2.00	—	Fig. 6 (A)	
	{ .50		(B)	
			(C)	↙
195C	2.00	452C		
198A	.50	—	—	
198B	.50	—		
199A or B	{ .65	—	Fig. 7 (A)	←
	{ 2.00		(B)	

**TABLE 1—Cont.**

Condenser Code No.	Marked Capacitance in M.F.	Equivalent* Condensers	Refer to First Column
312A	.10	—	—
312B	.06	—	—
387A	{ .50 2.00 .50	—	Fig. 10 (A) (B) (C)
1147B	{ 1.00 1.00	—	Fig. 8 (A) (B)
1147D	{ 1.00 .50	—	Fig. 9 (A) (B)
1149A	1.00	449G	—
1149B	.50	449H	—
447A	2.00	—	—
447B	{ 1.00 1.00	—	Fig. 4 (A) & (B) (C) & (D)
447G	{ .04 2.00	—	Fig. 4 (A) & (B) (C) & (D)
449A	1.00	—	—
449B	.50	—	—
449C	.10	—	—
449D	.65	—	—
449E	1.00	—	—
449F	.65	—	—
449G	1.00	—	—
449H	.50	—	—
449J	.04	—	—
452B	4.00	—	—
452C	2.00	—	—

\* If a 147, 1147 or 447-type condenser must fill the same space as the older 21-type condenser and adapter P-431343 may be used. When a 149, 1149 or 449-type condenser is used to replace a 21-type, a P-431344 adapter may be required. When a 447 or 449-type condenser is used for replacement, as mentioned above, it may be necessary to cut off the mounting screws.

Note 1: Although the 21-type condenser is still used, information regarding description and use has been deleted as they are **not to be replaced in the field.**

Note 2: In the above figures some of the condenser mounting tabs are shown bent at an angle of 90 degrees so as to definitely identify the position of the condensers illustrated in the figures.

Note 3: In Fig. 6, lead (C) is only on 195B condenser and is connected to the condenser case. In order to prevent excessive crosstalk in key telephone sets when ringer is connected to one line and induction coil to another, this slate-red lead should be connected to the ring side of the line to which the ringer is connected. In four and six button key telephone sets obtain a 195B condenser having a slate-red lead 4-7/8 inches long if lead on existing 195B condenser is not long enough or connect slate-red lead to a vacant terminal and then bridge vacant terminal to ring side of proper line with a M1W cord.

### **3. USE**

3.01 The various sections in the C series that describe station apparatus mention the code numbers of the condensers used in new station apparatus. Reference should be made to these sections for information covering the use of new condensers.

3.02 Repaired condensers will be found in certain station apparatus. These condensers may not meet the requirements for new condensers but are satisfactory for use in certain station apparatus. In order that ringer connection limitations will not be exceeded, sets with repaired condensers shall be installed on the basis that the repaired condenser capacity is the same as the original capacity shown in Table 1, regardless of the stamping on the condenser or the cover of the set.



Fig. 1



Fig. 2



Fig. 3



Fig. 4

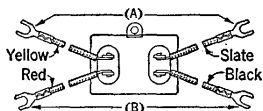


Fig. 5

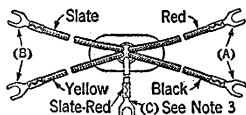


Fig. 6

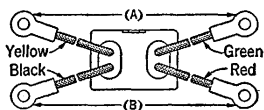


Fig. 7

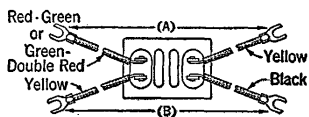


Fig. 8

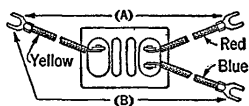


Fig. 9

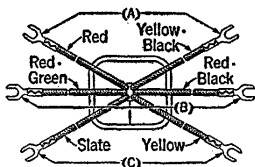


Fig. 10