BELL SYSTEM PRACTICES
Outside Plant Construction
and Maintenance

SECTION G59.605.3
Issue 2, March, 1951
AT&T Co Standard

COILS AND CASES

STUB CABLES — CARRIER LOADING CASES

Contents **Page**

1. GENERAL

1.01 This section describes the stubs of loading cases containing carrier frequency loading coils and units. Issue 1 is replaced.

1.02 The 130 and 131-type cases are intended for loading aerial cables, the 230 and 231-type cases for loading underground cables and the 280 and 281-type cases for loading jute and tape armored cables.

1.03 **Reason for Reissue:** The section has been revised to cover changes made in the design of the stub cables.

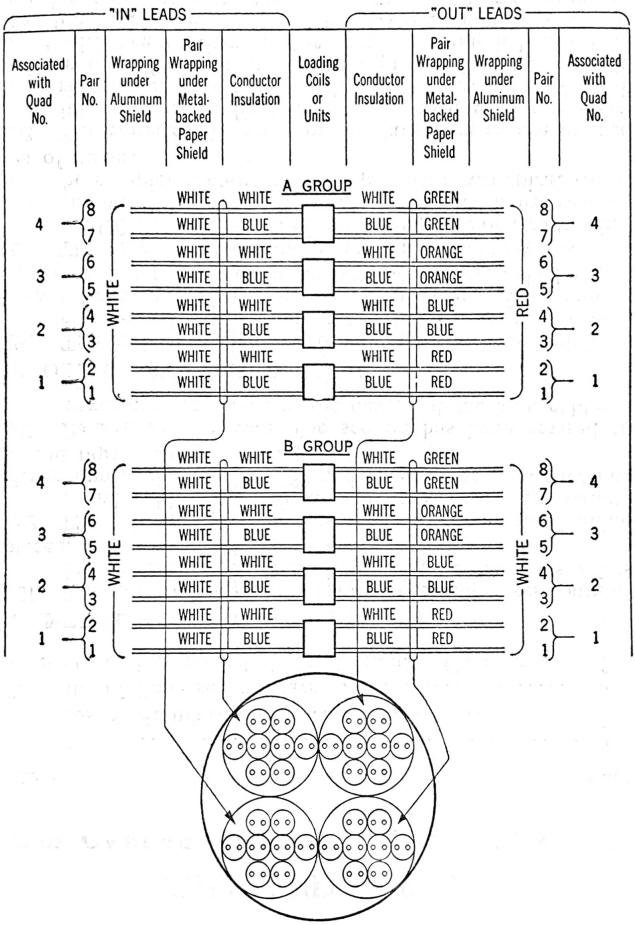
2. STUBS OF STANDARD CASES

2.01 The stubs are made of 19-gauge pairs. The individual conductors have double insulation consisting of pulp followed by a spiral wrapping of strip paper. Each pair is wrapped with a paper ribbon followed by metal-backed paper.

2.02 The cores of the stubs in the three smallest cases of the 130, 230 and 280 series, containing one or two loading coils or one unit, consist of two and four shielded pairs, respectively. The completed cores are wrapped with two spiral wrappings of paper.

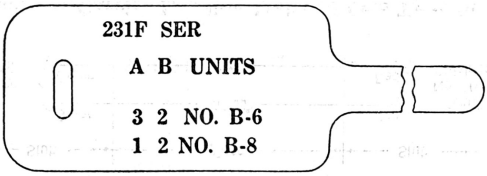
2.03 The cores of the stubs on the larger cases are divided into four units. Each unit is wrapped with two overlapped ribbons of paper, over which is a covering of 3-mil aluminum tape. The aluminum shields on the four units are in contact with one another but they are not grounded. The core of the four-unit cables is wrapped with two ribbons of paper. The color code and make-up of an 8-quad or 16-pair stub are illustrated in the following figure.

COLOR SCHEDULE FOR STUB CABLES



2.04 Loading cases may contain two types of coils or units. The distribution of the loading units or coils between the "A" and "B" groups is indicated on the name-plate of the case. The name-plate of a 231F case is illustrated below. The

loading units or coils having the lower code number are terminated on the lower numbered pairs in the "A" and "B" groups.



3. STUBS OF SUPERSEDED CASES

3.01 **Nos. 70, 71, 77, 79, 80 and 81-type Cases:** The stubs of these cases are similar to current standard stubs except that the conductors are 16-gauge, the pairs are shielded with copper tape or tinsel and the units are shielded with brass tapes. The color code and make-up of the superseded 8-quad or 16-pair stub are illustrated below.

GENERAL COLOR SCHEME
FOR STUB CABLES OF
CARRIER LOADING COIL CASES

"IN" LEADS OR CABLE ENDS					"OUT" LEADS OR OPEN WIRE ENDS		
QUAD NO.	WRAPPING UNDER BRASS SHIELD	PAIR WRAPPING UNDER TINSEL PAIR SHIELD	CONDUCTOR INSULATION	LOADING COILS OR UNITS	CONDUCTOR INSULATION	PAIR WRAPPING UNDER TINSEL PAIR SHIELD	WRAPPING UNDER BRASS SHIELD	QUAD NO.
				A GROUP				
4	WHITE	WHITE	WHITE		WHITE	GREEN	RED	4
	WHITE	BLUE	BLUE		BLUE	GREEN		
3	WHITE	WHITE	WHITE		WHITE	ORANGE		3
	WHITE	BLUE	BLUE		BLUE	ORANGE		
2	WHITE	WHITE	WHITE		WHITE	BLUE		2
	WHITE	BLUE	BLUE		BLUE	BLUE		
1	WHITE	WHITE	WHITE		WHITE	RED		1
	WHITE	BLUE	BLUE		BLUE	RED		
				B GROUP				
4	WHITE	WHITE	WHITE		WHITE	GREEN	WHITE	4
	WHITE	BLUE	BLUE		BLUE	GREEN		
3	WHITE	WHITE	WHITE		WHITE	ORANGE		3
	WHITE	BLUE	BLUE		BLUE	ORANGE		
2	WHITE	WHITE	WHITE		WHITE	BLUE		2
	WHITE	BLUE	BLUE		BLUE	BLUE		
1	WHITE	WHITE	WHITE		WHITE	RED		1
	WHITE	BLUE	BLUE		BLUE	RED		

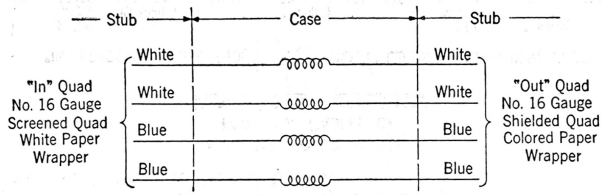
3.02 **Stubs of Earlier Cases:** The stubs on cases which were superseded by the cases listed in Paragraph 3.01 are described in the following paragraphs.

For Loading Cables at Intermediate Load Points

3.03 The stubs of these cases are composed of pairs individually paper wrapped and shielded with tinsel braid. The "IN" and "OUT" leads for the coils can be distinguished by the color of the paper wrapper under the tinsel braid. The "IN" quads have a White wrapper and the "OUT" quads have a Red, Blue, Green or White wrapper with a Black line. In cases containing coils of only one type, the color code of the wrapper on the "OUT" quads has no special significance but when two types of coils are potted in a case, the colored wrappers are used to distinguish the coils as follows:

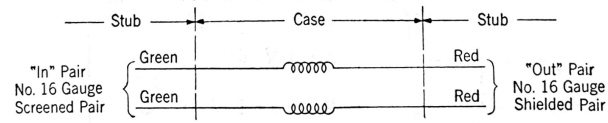
(a) **Carrier Coils of One Type in a Case:** In cases containing an even number of carrier loading coils, the color code of the stub is as shown below.

CASES CONTAINING CARRIER LOADING COILS
QUAD GROUPS



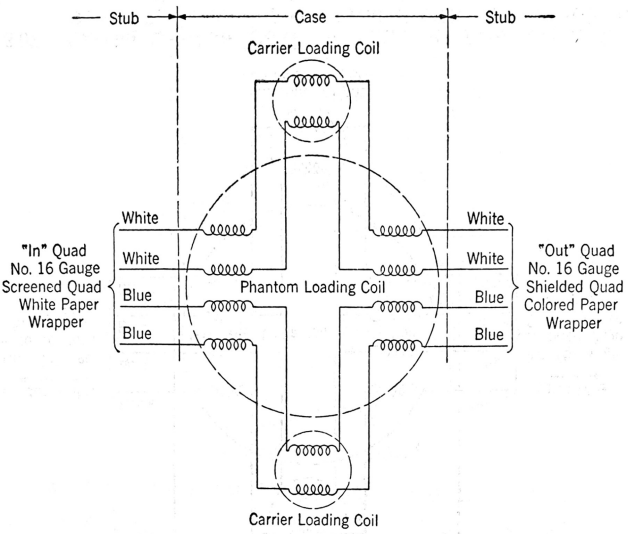
(b) If the case contains an uneven number of carrier coils, the color code of the pairs is as described above except for the pairs terminating the odd coil which is as shown below.

ODD COIL



(c) **Phantom-Carrier Loading Units of One Type in a Case:** The color code of the stub for a case containing phantom-loading units is shown in the following sketch.

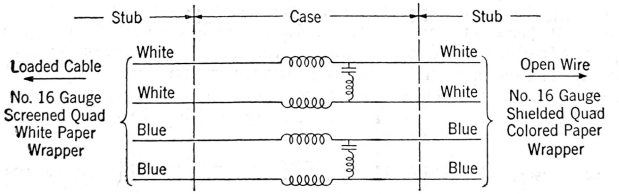
CASES CONTAINING PHANTOM-CARRIER LOADING UNITS



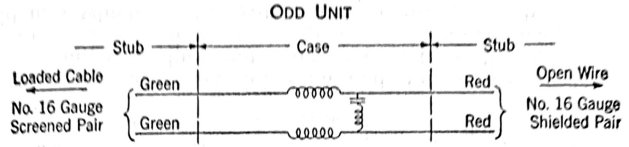
For Loading Cables at the Junction with Open Wire

3.04 **Carrier-Terminal Loading Units of One Type in a Case:** The color code of the code for cases containing an even number of carrier loading units is illustrated in the sketch below.

CASES CONTAINING CARRIER TERMINAL LOADING UNITS
QUAD UNITS

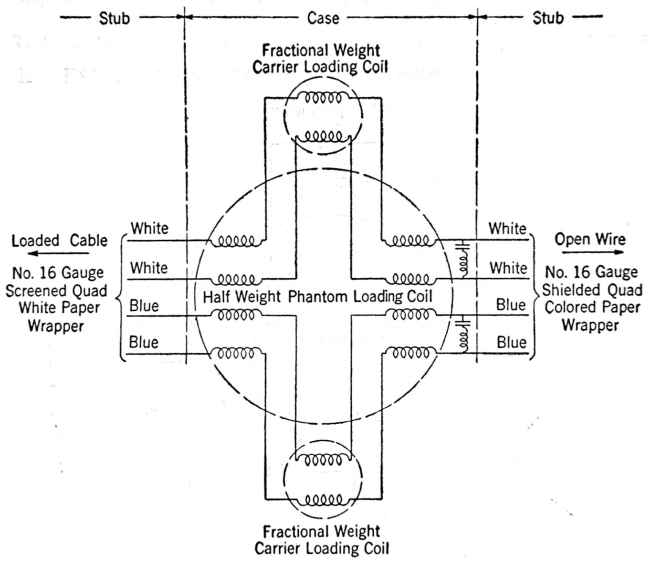


3.05 For cases containing an odd number of carrier terminal loading units, the color code of the pairs in the stub is as described above, except for the pairs connected to the odd unit which is as shown in the following sketch.



3.06 **Phantom-Carrier Terminal Loading Units of One Type in a Case:** The color code of the stub for cases containing phantom-carrier terminal loading units is shown in the following sketch. Before this color code was employed, the "OUT" quad was designated by means of a Red cotton tracer wrapped around the conductors under the tinsel braid. The odd coil or unit in a case had the same color code as that shown in Paragraph 3.04.

CASES CONTAINING PHANTOM-CARRIER TERMINAL LOADING UNITS



3.07 **Carrier-Loading Coils or Units of Two Types in a Case:** The color of the insulation on the conductors of the quads is the same as for other cases containing carrier

loading coils or units. The individual quads are distinguishable by the colored paper wrapper under the tinsel braid, as indicated in the following table. Only five quads are shown as this is the maximum number of units in any one case. The stub of such a case contains only the number of quads necessary to terminate the loading coils or units in the case. The loading coils or units are connected in ascending order according to the code number, the coil of smallest code number being connected to quads numbered 1, etc.

Cable End ("In" Quads)		Open Wire End ("Out" Quads)	
Quad Number	Color of Marker	Quad Number	Color of Marker
1	White	1	Red
2	"	2	Blue
3	"	3	Orange
4	"	4	Green
5	"	5	White with Black Line

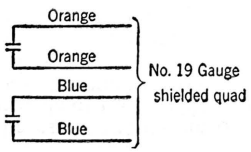
4. STUBS OF SUPERSEDED CASES CONTAINING CONDENSERS

4.01 In cases containing one type of building-out condenser in addition to carrier-loading units or coils, the color code of the quads used to terminate the condensers when an even number of condensers are in the case is as shown in the sketch.

CASES CONTAINING CONDENSERS
In Addition To Loading Coils
Or Loading Units

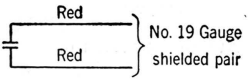
Condensers of like capacity

Quad Groups



4.02 When the case contains an odd number of condensers, the color code of the shielded pairs is as described above except for the pair terminating the odd condenser which is as indicated below.

"Odd" Condenser



4.03 In cases containing two types of building-out condensers, the color code of the quads is the same as described above except that the quads terminating the condensers having the larger capacitance have a Green tracer under the shield.