4066G NETWORK

DESCRIPTION

1. GENERAL

1.01 This section describes the 4066G network which is used in V4 applications as a precision balancing network for nonloaded cable.

1.02 This section is reissued to include prescription settings for 25-gauge nonloaded metropolitan area trunk (MAT) cable. Arrows normally used to indicate changes are not used due to extensive revision.

1.03 The 4066G network is designed for precision balancing definite lengths of nonloaded 2-wire cable. The 4066G network has two ports: one connects to the balance network terminals of 1-type terminating sets or other hybrid transformers and the other is for connecting an additional network for balancing the station equipment (telset, PBX, etc).

1.04 The 24V4C repeater shelf has mounting space for one or two 4066-type networks. When mounted in the 24V4C shelf, the network is connected to the proper location in the circuit by the shelf wiring. Other mounting shelves for V4 applications, J98615-( ), may be used in miscellaneous applications for the 4066-type networks. When miscellaneously mounted shelves are used, the 4066G network must be cross-connected to the appropriate transmission equipment.

2. EQUIPMENT AND CIRCUIT DESCRIPTION

2.01 The faceplate and circuit schematic of the 4066G network are shown in Fig. 1. Screw switches labeled A through F are used to adjust the series resistance of the circuit. Screw switches labeled G, H, J, K, L, and M are used to adjust the shunt capacitance of the network.

2.02 The resistors are usually adjusted to approximate the loop resistance of the cable pair being balanced. The resistors are added to the circuit by opening the screw switch. Turning the screw switch IN removes the resistor from the circuit. Table A gives the screw switch settings for cable loop resistance ranges or by length and gauge.

2.03 The capacitors are added to the circuit by turning the screw switches IN. Table B lists screw switch settings for cable capacitance up to 0.30 microfarads or by length and gauge ranges. This table may be used for cable pairs having uniform nominal capacitance throughout its length and without bridged taps.

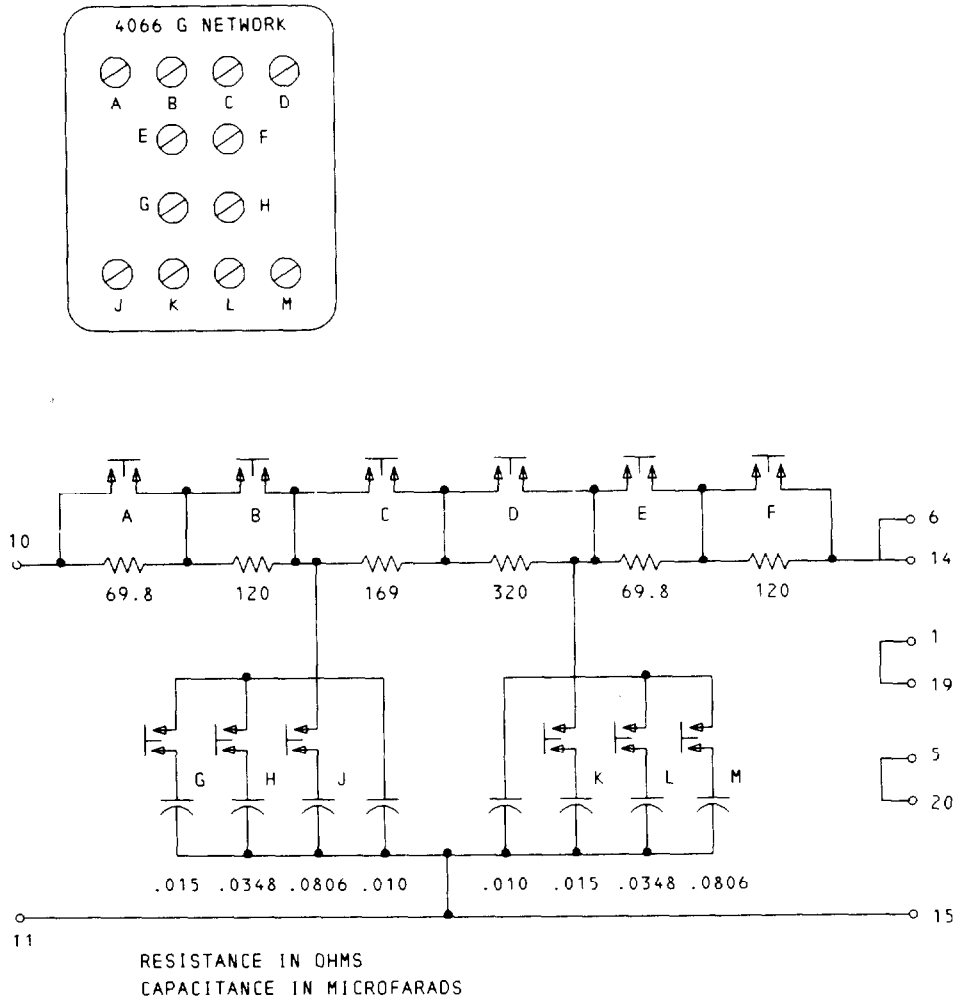

Fig. 1—Faceplate and Schematic Diagram of 4066G Network

TABLE A

RESISTANCE SETTINGS FOR 4066G NETWORK

RESISTANCE RANGE (OHMS)	SCREW SWITCH SETTINGS						LENGTH BOUNDARIES IN KILOFEET BY GAUGE				
	A	B	C	D	E	F	26	25	24	22	19
0							0	0	0	0	0
35	I	I	I	I	I	I	.4	.5	.7	1.1	2.2
95	O	I	I	I	I	I	1.1	1.5	1.8	2.9	5.9
130	I	O	I	I	I	I	1.5	2.0	2.4	3.8	7.8
165	O	I	I	I	O	I	2.0	2.5	3.2	5.0	10.2
215	O	I	I	I	I	O	2.6	3.3	4.1	6.6	13.4
250	I	O	I	I	I	O	3.0	3.8	4.8	7.6	15.6
285	O	I	I	I	O	O	3.4	4.4	5.5	8.7	17.7
345	I	O	I	I	O	O	4.1	5.3	6.6	10.5	21.5
395	O	O	I	I	O	O	4.7	6.0	7.6	12.0	24.5
420	I	O	O	I	I	O	5.0	6.4	8.1	12.8	26.1
445	O	I	O	I	O	O	5.3	6.8	8.6	13.6	27.6
470	O	I	I	O	O	I	5.6	7.2	9.1	14.3	29.2
495	I	O	O	I	O	O	5.9	7.6	9.5	15.1	30.8
530	O	I	I	O	I	O	6.4	8.1	10.2	16.2	33.0
555	O	O	O	I	O	O	6.7	8.5	10.7	16.9	34.5
570	I	O	I	O	I	O	6.8	8.7	11.0	17.4	35.4
605	O	I	I	O	O	O	7.3	9.2	11.6	18.4	37.6
655	I	O	I	O	O	O	7.9	10.0	12.6	20.0	40.8
690	I	O	O	O	O	I	8.2	10.5	13.2	20.9	42.5
715	O	O	I	O	O	O	8.6	10.9	13.8	21.8	44.5
740	I	O	O	O	I	O	8.9	11.3	14.2	22.5	46.0
775	O	I	O	O	O	O	9.3	11.8	14.9	23.5	48.1
835	I	O	O	O	O	O	10.0	12.7	16.1	25.5	52.0
900	O	O	O	O	O	O	10.8	13.7	17.3	27.4	56.0

I = screw IN — resistance value shorted
O = screw OUT — resistance value in circuit

If resistance or length required is on boundary, use the smaller resistance setting.

TABLE B

CAPACITANCE SETTINGS FOR 4066G NETWORKS

CAPACITANCE RANGE (μF)	SCREW SWITCH SETTINGS						LENGTH BOUNDARIES IN KILOFEET BY GAUGE AND CAPACITANCE PER MILE				
	G	H	J	K	L	M	ANY .083	26 .069	25 .064	24 .072	19 .066
0.0000							0	0	0	0	0
.0275	O	O	O	O	O	O	1.7	2.1	2.3	2.0	2.2
.0425	O	O	O	I	O	O	2.7	3.2	3.5	3.1	3.4
.0524	I	O	O	I	O	O	3.3	4.0	4.3	3.9	4.2
.0623	O	O	O	O	I	O	4.0	4.8	5.1	4.6	5.0
.0773	I	O	O	O	I	O	4.9	5.9	6.4	5.7	6.2
.0872	I	O	O	I	I	O	5.6	6.7	7.2	6.4	7.0
.0971	O	I	O	O	I	O	6.2	7.4	8.0	7.1	7.8
.1121	O	I	O	I	I	O	7.1	8.6	9.3	8.2	9.0
.1275	I	I	O	I	I	O	8.1	9.8	10.5	9.4	10.2
.1429	O	I	O	O	O	I	9.1	10.9	11.8	10.5	11.4
.1579	I	I	O	O	O	I	10.0	12.1	13.0	11.6	12.6
.1733	I	I	O	I	O	I	11.0	13.2	14.3	12.7	13.8
.1875	O	O	I	O	O	I	11.9	14.3	15.5	13.8	15.0
.2025	O	O	I	I	O	I	12.9	15.5	16.7	14.9	16.2
.2136	I	O	I	I	O	I	13.6	16.4	17.6	15.7	17.0
.2235	O	O	I	O	I	I	14.2	17.1	18.4	16.4	17.8
.2385	I	O	I	O	I	I	15.2	18.2	19.7	17.5	19.0
.2484	I	O	I	I	I	I	15.8	19.0	20.5	18.2	19.8
.2583	O	I	I	O	I	I	16.4	19.8	21.3	19.0	20.6
.2733	O	I	I	I	I	I	17.4	21.0	22.6	20.1	21.8
.3000	I	I	I	I	I	I	19.0	23.0	24.8	22.0	24.0

I = screw IN — capacitance value in
O = screw OUT — capacitance value out

If the capacitance value required is a boundary value, use the smaller capacitance setting.