

830G NETWORK

INSTALLATION AND PRESCRIPTION SETTINGS

1. GENERAL

1.01 This section gives the installation and prescription settings for the 830G network, which is a near-end, line building-out (LBO) network used on 26-gauge, H88 loaded cable having E6 repeaters. Table B in Section 332-206-127 gives the cable length limitations.

1.02 This section is reissued to reference the fact that the 830G network is designed to be used with 26-gauge, H88 loaded cable. Step 1 of the prescription setting procedure is also changed to clarify the procedure for calculating end-section resistance.

2. INSTALLATION

2.01 The 830G network is mounted face-up on either side of the E6 repeater chassis and is secured by four screws on the chassis connector block. These screws also make the required electrical connections between the network and the repeater.

3. PRESCRIPTION SETTINGS

A. 26-Gauge Cable

3.01 Table A gives the prescription settings for the 830G network when using 26-gauge cable. The building-out capacitance (BOC), building-out resistance (BOR), and LATTICE settings in Table A pertain to the 16 screw switches on the face of the 830G network. There are no screw switches for gauge settings.

B. Mixed-Gauge Cable

3.02 Coarser gauge cable can be used on an end section adjacent to the 830G network as long as the facility is predominately 26-gauge cable. However, the prescription settings for other networks described in Section 851-300-101 for mixed gauges are not applicable to the 830G network.

3.03 The procedure to follow for prescription settings for the 830G network when mixed gauges are used on an end section is as follows:

STEP	PROCEDURE
1	Calculate the resistance of the 26-gauge cable and the coarser gauge cable in the end section which will be connected to the 830G network.
2	Add these resistance values. This is the actual end section resistance.
3	Locate this value in the column of Table A labeled RESISTANCE. <i>Note:</i> If the actual end section length (combined gauge length) is greater than 3000 feet (in which case the LATTICE OUT portion of Table A would normally be used) and if the actual end section resistance is such that the settings would be obtained from the LATTICE IN portion of Table A, the BOR settings found in Step 4 below should be disregarded. For this case, the maximum BOR setting of 231 ohms (screws 1, 2, and 3 up) should be used.
4	Read across the table to find the BOR setting unless the note above applies.
5	Find the BOC and LATTICE settings by using the <i>actual</i> end section length.

SECTION 332-206-227

STEP

PROCEDURE

Note: The LATTICE section, if used, can add too much capacitance to the end section. Therefore, when the actual end section dictates the LATTICE out and the actual end section resistance dictates the LATTICE in (see note above), the LATTICE remains out. Thus, no capacitance is added because of the LATTICE setting, and the BOR of 231 ohms is used to compensate for the 231-ohm resistance that the LATTICE would insert in the circuit.

TABLE A
830G PRESCRIPTION SETTINGS

END SECTION		BOC							BOR							LATTICE		TOTAL DCR (Ω)	LOSS (dB)	
LENGTH (FEET)	RESISTANCE (Ω*)	(μF)	SCREWS DOWN							(Ω)	SCREWS DOWN									X SCREWS
LATTICE IN																				
000	0-17	0.044	-	B	C	-	E	F	231	-	-	-	&	-	-	-			514	3.55
200	18-33	0.041	A	B	-	-	E	F	198	-	-	3	&	-	-	3			480	3.50
400	34-50	0.038	-	-	-	-	E	F	198	-	-	3	&	-	-	3			480	3.45
600	51-67	0.036	-	-	C	D	-	F	165	-	2	-	&	-	2	-			447	3.35
800	68-83	0.033	A	-	-	D	-	F	165	-	2	-	&	-	2	-			447	3.30
1000	84-100	0.030	A	-	C	-	-	F	132	-	2	3	&	-	2	3			414	3.25
1200	101-117	0.027	-	B	-	-	-	F	132	-	2	3	&	-	2	3			414	3.15
1400	118-133	0.024	-	-	C	D	E	-	99	1	-	-	&	1	-	-	DOWN	UP	381	3.10
1600	134-150	0.020	-	-	-	D	E	-	99	1	-	-	&	1	-	-			381	3.05
1800	151-167	0.017	-	-	C	-	E	-	66	1	-	3	&	1	-	3			347	3.00
2000	168-183	0.014	A	-	-	-	E	-	66	1	-	3	&	1	-	3			347	2.90
2200	184-200	0.011	-	-	C	D	-	-	66	1	-	3	&	1	-	3			347	2.85
2400	201-217	0.008	A	-	-	D	-	-	33	1	2	-	&	1	2	-			314	2.80
2600	218-233	0.006	-	B	C	-	-	-	33	1	2	-	&	1	2	-			314	2.75
2800	234-250	0.003	A	B	-	-	-	-	0	1	2	3	&	1	2	3			281	2.65
3000	251-267	0.000	-	-	-	-	-	-	0	1	2	3	&	1	2	3			281	2.60
LATTICE OUT																				
3200	268-283	0.037	A	-	C	D	-	F	231	-	-	-	&	-	-	-			262	2.55
3400	284-300	0.034	-	B	-	D	-	F	198	-	-	3	&	-	-	3			228	2.45
3600	301-317	0.032	-	-	-	D	-	F	198	-	-	3	&	-	-	3			228	2.40
3800	318-333	0.029	-	-	C	-	-	F	165	-	2	-	&	-	2	-			195	2.35
4000	334-350	0.027	-	B	-	-	-	F	165	-	2	-	&	-	2	-			195	2.30
4200	351-367	0.024	-	-	C	D	E	-	165	-	2	-	&	-	2	-			195	2.20
4400	368-383	0.021	A	-	-	D	E	-	132	-	2	3	&	-	2	3			162	2.15
4600	384-400	0.019	-	B	C	-	E	-	132	-	2	3	&	-	2	3	UP	DOWN	162	2.10
4800	401-417	0.016	A	B	-	-	E	-	99	1	-	-	&	1	-	-			129	2.05
5000	418-433	0.013	-	-	-	-	E	-	99	1	-	-	&	1	-	-			129	1.95
5200	434-450	0.010	A	B	-	D	-	-	66	1	-	3	&	1	-	3			95	1.90
5400	451-467	0.007	-	-	-	D	-	-	66	1	-	3	&	1	-	3			95	1.85
5600	468-483	0.004	-	-	C	-	-	-	33	1	2	-	&	1	2	-			62	1.75
5800	484-500	0.002	-	B	-	-	-	-	33	1	2	-	&	1	2	-			62	1.70
6000	>500	0.000	-	-	-	-	-	-	0	1	2	3	&	1	2	3			29	1.65

* The end section resistance assumes up to 17 ohms of office wiring resistance.