



# **Network Element Notching Instructions**

## 1. Notching Overview

In order to comply with FCC requirements on mitigation and avoidance measures it is necessary for the administrator to be able to track the notching on any CURRENT Group unit. Depending on the results, the administrator may need to modify the notching settings.

Notching scripts reside on the NEC server in the CURRENT Group BPL system. The administrator is able to access and run these scripts by logging in to the NEC server. The administrator then enters the appropriate command to run the pertinent script. The scripts are described in further detail below.

### 1.1 Get Notching Settings

The administrator logs into the NEC server and follows the steps listed below to obtain the notch settings for a particular CURRENT Group unit. The administrator will need the following parameters in order to run the script:

- s <sn> = serial number of the unit. This is used to calculate the SNMP pass phrase.
- i <ip> = IP address of the unit from which you want the current settings.

1. At the Unix command line enter: `get_notching -s <sn> -I <ip>`

The executed script will return the notching values currently set on the selected unit. The output is displayed as a list of 84 characters, and whether or not the carrier is currently enabled, where 1 = enabled, and 0 = disabled.

### 1.2 Set Notching Settings

The administrator logs into the NEC server and follows the steps listed below to set the notching settings for a particular CURRENT Group unit. The administrator will need the following parameters in order to run the script:

- s <sn> = serial number of the unit. This is used to calculate the SNMP pass phrase.
- i <ip> = IP address of the unit to be modified.
- C <notchedcarriers> = comma separated list of carriers. Carriers are listed as 1 through 84.

1. At the Unix command line enter:

```
set_notching -s <sn> -i <ip> -C <comma separated list of carriers  
to disable>
```

The executed script will set all carriers to be enabled except for the HAM band and any other carriers specified. If this script is run without specifying any carriers, then the notching is set to the default setting with only the HAM band set to be disabled.

### 1.3 Calculating The Carrier to Notch

The correspondence between carrier number and carrier frequency is shown for both the low voltage and medium voltage domains in the table below.

Carrier Number	Low Voltage Center Frequency (MHz)	Medium Voltage Center Frequency (MHz)
1	4.4922	47.7656
2	4.6875	47.5703
3	4.8828	47.3750
4	5.0781	47.1797
5	5.2734	46.9844
6	5.4688	46.7891
7	5.6641	46.5937
8	5.8594	46.3984
9	6.0547	46.2031
10	6.2500	46.0078
11	6.4453	45.8125
12	6.6406	45.6172
13	6.8359	45.4219
14	7.0313	45.2266
15	7.2266	45.0312
16	7.4219	44.8359
17	7.6172	44.6406
18	7.8125	44.4453
19	8.0078	44.2500
20	8.2031	44.0547
21	8.3984	43.8594
22	8.5938	43.6641
23	8.7891	43.4687
24	8.9844	43.2734
25	9.1797	43.0781
26	9.3750	42.8828
27	9.5703	42.6875
28	9.7656	42.4922
29	9.9609	42.2969
30	10.1563	42.1016
31	10.3516	41.9062
32	10.5469	41.7109
33	10.7422	41.5156
34	10.9375	41.3203
35	11.1381	41.1197
36	11.3281	40.9297
37	11.5234	40.7344
38	11.7188	40.5391
39	11.9141	40.3437
40	12.1094	40.1484
41	12.3047	39.9531
42	12.5000	39.7578

Continued →

<b>Carrier Number</b>	<b>Low Voltage Center Frequency (MHz)</b>	<b>Medium Voltage Center Frequency (MHz)</b>
43	12.6953	39.5625
44	12.8906	39.3672
45	13.0859	39.1719
46	13.2813	38.9766
47	13.4766	38.7812
48	13.6719	38.5859
49	13.8672	38.3906
50	14.0625	38.1953
51	14.2578	38.0000
52	14.4531	37.8047
53	14.6484	37.5734
54	14.8438	37.4141
55	15.0391	37.2187
56	15.2344	37.0234
57	15.4297	36.8281
58	15.6250	36.6328
59	15.8203	36.4375
60	16.0156	36.2422
61	16.2109	36.0469
62	16.4063	35.8516
63	16.6016	35.6562
64	16.7969	35.4609
65	16.9922	35.2656
66	17.1875	35.0703
67	17.3828	34.8750
68	17.5781	34.6797
69	17.7734	34.4844
70	17.9688	34.2891
71	18.1641	34.0937
72	18.3594	33.8984
73	18.5547	33.7031
74	18.7500	33.5078
75	18.9453	33.3125
76	19.1406	33.1172
77	19.3359	32.9219
78	19.5313	32.7266
79	19.7266	32.5312
80	19.9219	32.3359
81	20.1172	32.1406
82	20.3125	31.9453
83	20.5078	31.7500
84	20.7031	31.5547

#### 1.4 Calculating Notching Depth

To create the appropriate notching depth, it may be necessary to notch more than one carrier. To create a notch >10 dB deep, only a single carrier need be notched. To create a notch >20 dB deep, it is necessary to notch 6 additional carrier on either side of the center frequency of interest.

##### **Example:**

In order to create a notch of >20 dB at a frequency of 5.86 MHz, it is necessary to notch carriers 2-7 and 9-14 in addition to carrier 8. To achieve this, the following command would be entered at the NEC command line interface:

```
set_notching -s <sn> -i <ip> -C 2,3,4,5,6,7,8,9,10,11,12,13,14
```