



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 the low voltage domain in the table below.

Carrier Number	Low Voltage Center Frequency (MHz)
1	4.4922
2	4.6875
3	4.8828
4	5.0781
5	5.2734
6	5.4688
7	5.6641
8	5.8594
9	6.0547
10	6.2500
11	6.4453
12	6.6406
13	6.8359
14	7.0313
15	7.2266
16	7.4219
17	7.6172
18	7.8125
19	8.0078
20	8.2031
21	8.3984
22	8.5938
23	8.7891
24	8.9844
25	9.1797
26	9.3750
27	9.5703
28	9.7656
29	9.9609
30	10.1563
31	10.3516
32	10.5469
33	10.7422
34	10.9375
35	11.1381
36	11.3281
37	11.5234
38	11.7188
39	11.9141
40	12.1094
41	12.3047
42	12.5000

Continued →

Carrier Number	Low Voltage Center Frequency (MHz)
43	12.6953
44	12.8906
45	13.0859
46	13.2813
47	13.4766
48	13.6719
49	13.8672
50	14.0625
51	14.2578
52	14.4531
53	14.6844
54	14.8438
55	15.0391
56	15.2344
57	15.4297
58	15.6250
59	15.8203
60	16.0156
61	16.2109
62	16.4063
63	16.6016
64	16.7969
65	16.9922
66	17.1875
67	17.3828
68	17.5781
69	17.7734
70	17.9688
71	18.1641
72	18.3594
73	18.5547
74	18.7500
75	18.9453
76	19.1406
77	19.3359
78	19.5313
79	19.7266
80	19.9219
81	20.1172
82	20.3125
83	20.5078
84	20.7031

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
```