



# D3 Series CMTS

## Management Software

### JH-NMS v3.0

DOCSIS3.0



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## 1. Summary

JH-NMS v3.0 is used for configuration/monitoring/maintain and safety management for CMTS, CM and CPE.

Manage CMTS based on OAM, manage for CM and CPE based on SNMP, it works with Windows operation system. It is simple to use. There is no need for any professional training. It can not only be installed in machine room server but also can be managed remotely. Users can check real time running status and transmission quality via internet.

The NMS offers single management interface for each CMTS, it can manage all CMTS in the same interface centrally to improve the system management efficiency.

## 2. Feature

- Concentrate and regional management
- Support CMTS offline configuration
- Display real time operation and running status
- Abundant CM management
- Efficient network configuration
- Controllable RF management
- Network flow and online CM number statistics
- Operation log filtering for assigned equipment and date
- Complete operation log
- Formal equipment management
- CPU & RAM use ratio detection
- Optional interface appearance style

## 3. Function

### 1) CMTS Operation

- CMTS centralized management
- CMTS regional management
- CMTS add and remove
- CMTS configuration info checking/amendment
- Display CPU& RAM running status

### 2) CM Management

- Get all online CM list
- Get one or all CM real time status
- CM access authority control
- CM add/delete management
- CM info browsing/checking/sequencing
- CM remote reboot

- CM US/DS channel parameters display
- CM signal quality display
- CM register status display
- CPE IP info display
- CM user billing management

The screenshot displays the 'CM Management' software interface. The main window shows a list of CMs (Customer Modules) with columns for Status, MAC Address, IP Address, Access Rights, Up Channel, Down Channel, and Return Power. Below this, the 'CM Parameters' section is visible, showing detailed parameters for a selected CM, including Down Channel, Up Channel, and CM Status. The interface also includes a left sidebar for device management and a bottom status bar.

状态	MAC地址	IP地址	接入权限	上行通道	下行通道	回传功率
CMTS:1>...						
TFTP	00:13:71:d8:bf:fc	192.168.0.8	允许	1,	16,	43.9
TFTP	00:18:c0:28:e8:c0	192.168.0.15	允许	1,	7,	39.7
TFTP	00:18:c0:2a:e4:3e	192.168.0.24	允许	1,	14,	39.9
TFTP	00:13:71:dc:3d:9e	192.168.0.25	允许	1,	11,	41.4
TFTP	00:13:71:e1:1c:50	192.168.0.7	允许	1,	6,	40.7
TFTP	00:13:71:de:e6:86	192.168.0.10	允许	1,	1,	41.2
TFTP	00:14:e8:9f:a0:84	192.168.0.9	允许	2,	15,	42.2
TFTP	00:14:e8:ac:0c:62	192.168.0.3	允许	2,	4,	42.7

**CM参数**

CM: [00:18:c0:2b:9b:3a]

下行参数		上行参数		CM 状态	
通道:	3	通道:	3	型号:	S85101E
频率 (MHz):	456.0	频率 (MHz):	40.0	在线时间:	0小时2分钟
带宽 (MHz):	8.0	带宽 (MHz):	3.2		
信噪比 (dB):	42.3	信噪比 (dB):	22.6		
功率 (dBmV):	-1.3	功率 (dBmV):	38.4		
调制方式:	64QAM	调制方式:	ATDMA		

**CPE[1]**

00:22:19:fa:0c:cc 192.168.0.176

CM 总数: 24 | 在线 CM: 23 | 过期 CM: 0

### 3) Network parameter

- Get real time network configuration
- Edit configuration in advance, connect equipment and then load all configuration (off-line configuration)
- CMTS port IP address configuration
- CMTS routing table configuration
- CMTS built-in DHCP server configuration
- CMTS built-in DHCP server action scope configuration
- CMTS network mode (lay 2 switch or layer 3 router) configuration
- CMTS DHCP safety configuration

The screenshot displays the WMS (Web Management System) interface for a CMTS device. The main window is titled "1>192.168.18.200-QCT1 - WMS". The left sidebar shows a tree view of the network configuration, including "所有区域" (All Areas), "0>所有设备" (All Devices), "AAA", and "未划分" (Unassigned). The main content area shows the "网络参数管理" (Network Parameter Management) tab, which displays a table of network parameters for the selected device.

CMTS:1>192.168.18.200-QCT1				
IP接口参数:				
IP地址	掩码	所属接口		
192.168.18.200	255.255.255.0	WAN		
静态路由参数:				
目的网络	掩码	网关		
0.0.0.0	0.0.0.0	192.168.18.1		
内置DHCP作用域:				
开始地址	结束地址	掩码	网关	DNS1
192.168.18.2	192.168.18.254	255.255.255.0	192.168.18.200	0.0.0.0
DHCP 服务器:				
所属接口	IP 地址			
默认	192.168.18.200			
网络模式:				
CM	2层			
CPE	2层			
DHCP安全认证	关闭			

At the bottom left, there is a "运行状态" (Running Status) section showing:

- CPU 使用: 0%
- 内存使用: 87%
- 运行时间: 0小时27分钟

At the bottom right, there is a status bar showing: CM 总数: 25 | 在线 CM: 25 | 过期 CM: 0

#### 4) RF Parameter

- Get real time US/DS channel configuration
- Edit US/DS channel configuration in advance, connect equipment and then load all configuration (off-line RF configuration)
- DS channel frequency point configuration
- DS channel modulation mode & output power setting
- US channel frequency point configuration
- US channel type (ATDMA or SCDMA) setting
- US channel modulation mode and bandwidth setting
- US channel DOCSIS3.0 compatible modes setting

CMC管理 1>192.168.18.200-QCT1

设备管理(N) 外观(V) 帮助(H)

所有区域

- 0>所有设备
  - AAA
    - 1>192.168.18.200
    - 2>192.168.18.230
  - 未划分
    - 3>10.0.0.1-QTC3
    - 4>10.0.1.1-QTC4

运行状态

CPU 使用: 1%

内存使用: 86%

运行时间: 0小时26分钟

下行通道参数:

通道号	状态	频率 (MHz)	调制方式	标准	交织深度	输出功率 (dBmV)
1	开启	440.0	64QAM	欧洲标准	I128-4	45
2	开启	448.0	64QAM	欧洲标准	I128-4	45
3	开启	456.0	64QAM	欧洲标准	I128-4	45
4	开启	464.0	64QAM	欧洲标准	I128-4	45
5	开启	472.0	64QAM	欧洲标准	I128-4	45
6	开启	480.0	64QAM	欧洲标准	I128-4	45
7	开启	488.0	64QAM	欧洲标准	I128-4	45
8	开启	496.0	64QAM	欧洲标准	I128-4	45
9	开启	504.0	64QAM	欧洲标准	I128-4	45
10	开启	512.0	64QAM	欧洲标准	I128-4	45
11	开启	520.0	64QAM	欧洲标准	I128-4	45
12	开启	528.0	64QAM	欧洲标准	I128-4	45
13	开启	536.0	64QAM	欧洲标准	I128-4	45
14	开启	544.0	64QAM	欧洲标准	I128-4	45
15	开启	552.0	64QAM	欧洲标准	I128-4	45
16	开启	560.0	64QAM	欧洲标准	I128-4	45

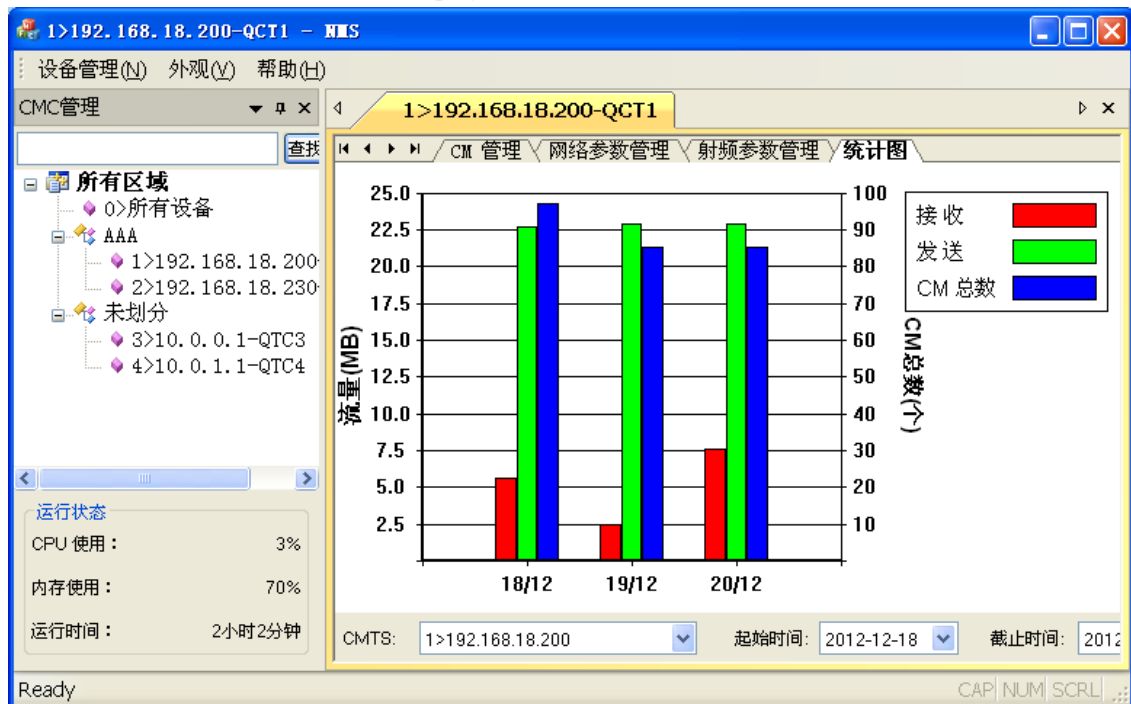
上行通道参数:

通道号	状态	频率 (MHz)	带宽 (MHz)	配置文件	3.0兼容模式	类型
1	开启	30.0	6.4	11	禁用	ATDMA
2	开启	35.0	3.2	11	禁用	ATDMA
3	开启	40.0	3.2	11	禁用	ATDMA
4	开启	50.0	3.2	11	禁用	ATDMA

CM 总数: 25 | 在线 CM: 25 | 过期 CM: 0

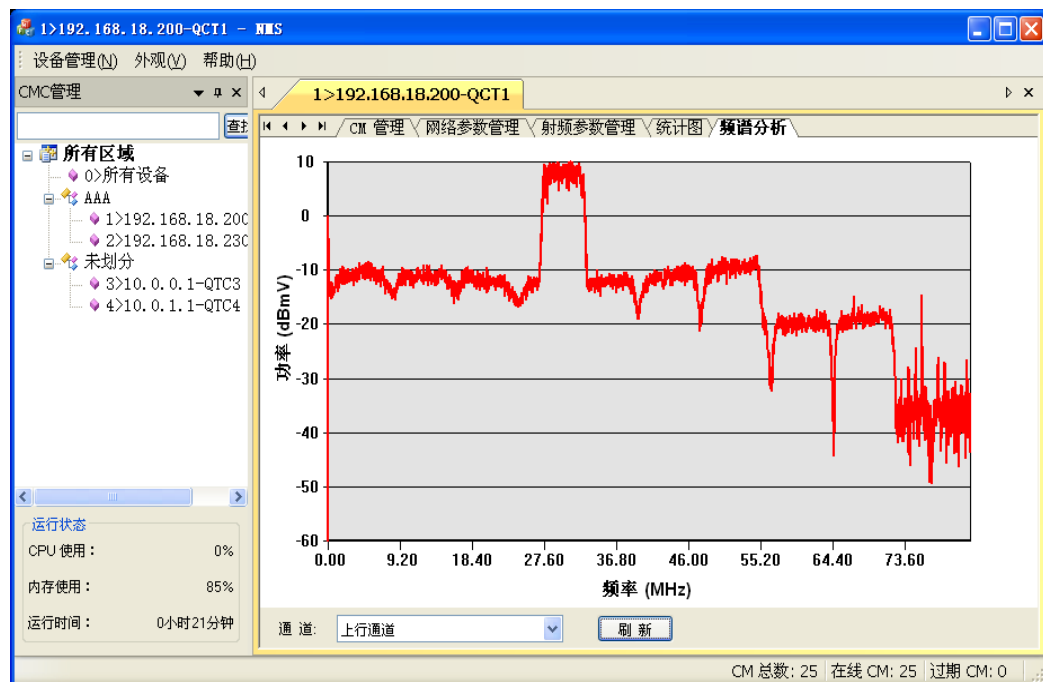
## 5) Statistics

- DS RF interface flow monitoring (sending)
- US RF interface flow monitoring (receiving)
- Online CM quantity monitoring
- Historical data statistics display



## 6) Spectral Analysis

- Get real time US channel frequency spectrum



## 7) Operation log

- List operation log
- Operation log filtering
- Operation log saving

The screenshot shows the NMS interface with the following components:

- Menu Bar:** 设备管理(N) 外观(V) 帮助(H)
- Tree View (Left):**
  - 所有区域
    - 0>所有设备
      - 1>192.168.18.200-QCT1
      - 2>192.168.18.230-QCT2
      - 3>10.0.0.1-QTC3
      - 4>10.0.1.1-QTC4
    - 未划分
- Main Window:** 1>192.168.18.200-QCT1
- Information Output Window (Right):**

CMTS ID	时间	操作日志
4	2012-12-18...	编辑 CMTS ID:4 IP:10.0.1.1
3	2012-12-18...	编辑 CMTS ID:3 IP:10.0.0.1
4	2012-12-18...	编辑 CMTS ID:4 IP:10.0.1.1
1	2012-12-18...	添加 CM 90:E6:BA:02:CD:B3
1	2012-12-18...	添加IP WAN 192.168.0.1 255.255.255.0
1	2012-12-18...	添加IP CM 172.16.0.1 255.255.255.0
1	2012-12-18...	添加IP CPE 172.17.0.1 255.255.255.0
1	2012-12-18...	删除IP WAN 192.168.0.1 255.255.255.0
1	2012-12-18...	删除IP CM 172.16.0.1 255.255.255.0
1	2012-12-18...	删除IP CPE 172.17.0.1 255.255.255.0
1	2012-12-18...	编辑 CMTS ID:1 IP:192.168.18.200
1	2012-12-18...	连接 CMTS ID:1 IP:192.168.18.200 成功。
1	2012-12-18...	获取 CM 列表
1	2012-12-18...	获取 CM 列表
1	2012-12-18...	获取网络配置
1	2012-12-18...	获取下行通道配置
1	2012-12-18...	获取上行通道配置
1	2012-12-18...	获取 CM 列表
1	2012-12-18...	编辑IP CM 172.16.0.1 255.255.255.0
- Status Bar (Bottom):** Ready, CAP|NUM|SCRL|...