

## 1AT3 Modules of H3C Series Routers

### I. Preface

ATM (Asynchronous Transfer Mode) technology, a backbone network technology, is designed to transmit voice, video and data information. It is considered one of core technologies enabling bandwidth communication for its flexibility and support for multimedia service.

ATM transmission mode is an asynchronous transfer mode on the basis of cell. Asynchronous indicated that the information cell flow from any users needs not periodical. It is a special packet transmission technology, providing QOS guarantee and meeting the requirements of real-time services and non real time services.

ATM standard organization:

ITU-T: contribute to ATM standardization on public network. The representative standards include Q.2931/Q.2971, BISUP, I.610, I.363 (1,2,5).

ATM Forum: contribute to ATM standardization on private network and accelerate the popularization and use of ATM products. The representative standards include UNI3.1, UNI4.0, ILMI, PNNI, MPOA, VTOA, LANE, TM4.0.

IETF: contribute to the standardization of bearing IP services on ATM network and resolve the bottle neck problem of traditional routers. The representative standards include:RFC1483, RFC1577, IP Switch, MPLS.

### II. 1AT3 Module

#### 1.Introduction

1AT3 module is the short of 1-port 44.736Mbit/s ATM-T3 interface module, where ATM is the abbreviation of Asynchronous Transfer Mode.

The specified function characteristics of 1AT3 module in the system are as follows:

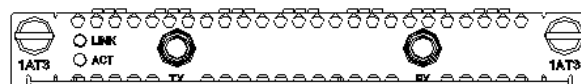
1. Support ADM and PLCP two ATM cell mapping methods;
2. Interference adding transmission is employed when sending data;
3. Support line clock (use when it functions as DTE interface) and internal clock (use when it functions as DCE interface) two kinds of clock methods;
4. Support four self-loop test ways: internal cell self-loop, internal self-loop, foreign load loopback and foreign line loopback.

& Note:

Although full configuration is supported, Huawei-3Com recommends that only one AT3 module is installed on various models of Quidway series routers; installing several AT3 modules will incur adverse effects on the performances of some mission-critical services.

#### 2.Module Appearance

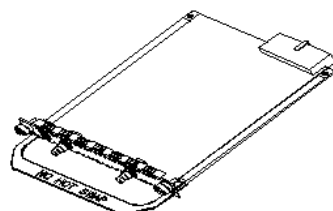
1AT3 module appearance is shown as follows:



1AT3 module appearance diagram

#### Module Interface Indicator

1AT3 module panel is shown as follows:



1AT3 module panel

The following table shows the implication of various indicators:

Implication of 1AT3 module indicator

LINK	Extinguished represents the link is not connected; lighting represents that the link is connected.
ACT	Extinguished represents no data has been received/sent; flashing represents some data has been received/sent.

### 3.Module Interface Attributes

1AT3 module interface attributes

Attributes	1AT3 module
Type of connector	SMB
Connector number	2
Interface standard	G.703, G.704, G.823
Interface rate	44.736Mbps
Type of interface cable	E3/T3 cable (75Ω coaxial cable)
Service	Support ATM Traffic CBR (Constant Bit Rate), rt_VBR (Variable Bit Rate-Real Time), nrt_VBR (Variable Bit Rate-Non Real Time), UBR (Unspecified Bit Rate)

### 4.Module Interface Cable

The foreign interface of 1AT3 module is two SMB sockets corresponding to Tx (transmitter) and Rx (receiver) respectively. With 75Ω unbalanced transmission mode, the interface is attached to the peer by a pair of 75Ω unbalanced coaxial cables. When it comes to cable length, user can select from external cable suite as required.

& Note:

- | 1AE3 module uses the same cable as 1AT3 module. Here it is called E3/T3 cable.
- | E3/T3 cable is optional. User needs to purchase in advance when purchasing 1AT3 module, or it is not available.

### 5.Connection of Module Interface Cable

Note:

1AT3 module takes some protection measures. To achieve better lightning protection effect, when E3/T3 cables are laid outside, it is recommended to add a special lightning arrester on the input side of a cable.

Step 1: connect the SMB connector of one side of an E3/T3 cable to the Tx port of 1AT3 module; another side to the Rx port of the peer;

Step 2: connect the SMB connector of one side of another E3/T3 cable to the Rx port of 1AT3 module, another side to the Tx port of the peer;

Step 3: After powered on, please examine the indicator of the corresponding slot on the front panel of a router. Lighting represents that self-test completed, and the module can work well. Extinguished represents that self-test did not pass, please contact agent.

Step 4: Examine the state of link indicator (LINK) on 1AE3 module panel. Extinguished represents the line failed and signals are not synchronous. Please examine the line.