



## Compact, High-Capacity, Hybrid Multi-Service Transport Platform

The iTN221, a 1.5U high Hybrid Multi-Service Transport Platform, is a powerful product aiming to assist packetization migrations. It has AC/DC power supplies, intelligent fan, and swappable service sub cards. It can service access voice services, serial data services and Ethernet data services. It can be used in SDH, MEF CE2.0, or MPLS-TP networks, thus meeting requirements for accessing and transmitting traditional transmission services in U&T industries, and playing a transitional role in accessing and transmitting future packet-switched services.

The iTN221 provides one main slot MCC module that includes : 2x STM-1/4 interfaces, 4x GE 10/100/1000 Base-T , 2x GE SFP and 8x E1's in addition three slots for sub cards : FXS/FXO/E&M, Magneto, TP, E1, GE, RS232/V24/RS485,V35/X21 and 64K Codir

The iTN221, orientated as an access end devices in the U&T verticals, provides various types of service interfaces, so it can form a comprehensive solution in cooperation with the iTN2100 or iTN8800. It can be managed locally or via Raisecom NView NNM system. It provides the user-side PoE interfaces and Dry contact interfaces. It can meet special requirements for SyncE and IEEE 1588 clock TC features, so it can support flexible schemes.



## iTN221

### Highlights >>

#### Diverse Physical Interface

Supply TDM and Packet interfaces access platform

1. E&M, 8MT, FXS/FXO , E1 interfaces (Balanced and Unbalanced)
2. V.35/24, X.21, RS232/422/485, C37.94, 64K interfaces
3. PWE3 encapsulation protocols include SAToP and CESoPSN
4. Up to 10 \* 1G Ethernet Interface, include PoE

#### Flexible Transmission Platform

Compact Packet and TDM

1. STM1/4 to 622M SDH transmission
2. MEF CE2.0 to 1G transmission
3. MPLS-TP to 1G transmission

#### High-Level Security

Secure and reliable device and schemes

1. IEEE 802.3ah Link OAM, IEEE 802.1ag end-to-end connectivity OAM and ITU-T Y.1731 end-to-end service

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and performance, SLA reporting

2. MPLS-TP compliant to G.8113.1, providing both scalability and service security
3. Carrier Ethernet ITU-T G.8031 line protection
4. Carrier Ethernet ITU-T G.8032 ring protection
5. SDH Protection ( SNCP and 1+1 APS)
6. Alarm input/output interface
7. Compliance IEC 61850-3

#### Nview & SLA Portal

Managed by the unified NMS and Portal platform

Device management and VPN service management in Nview platform

1. Intelligent monitoring the KPIs (FD, FDV, FLR)
2. MEF40 E2E service provisioning
3. ITU-T Y.1564 SAT technology

P/N	ITN-221
<b>Switching capacity</b>	16 Gbps
<b>STM-1/4</b>	2
<b>FE/GE</b>	10 ( 8x GE UTP and 2x GE SFP Network)
<b>GE - PoE</b>	2
<b>E1</b>	20
<b>FXS/FXO</b>	30
<b>E&amp;M</b>	12
<b>Magneto</b>	24
<b>V35/X21</b>	3
<b>TP (C37.94)</b>	6
<b>64K Codir</b>	12
<b>RS232</b>	24
<b>V24/RS485/RS422</b>	12

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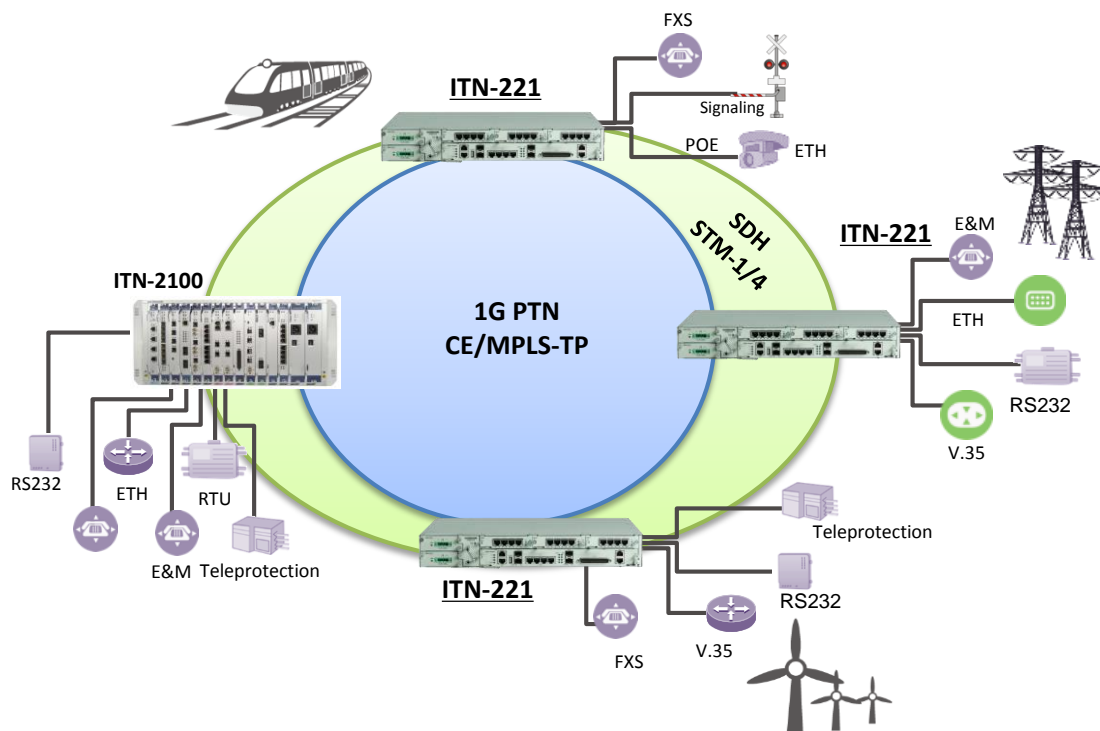
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Application >>



**ITN-221: "Hybrid" Multiservice Connectivity and Migration Platform for Mission Critical Networks**

**Service Access By Remote iTN221**

As compact access platform, iTN221 can provide whole solution with iTN2100 which streamlines end-to-end metro service delivery by combining carrier-grade service assurance, visibility and control with packet efficiency and unparalleled multiservice support. this includes native TDM, MEF CE2.0, and MPLS-TP:

- 1) Rich voice access forms
- 2) Rich data access forms
- 3) High reliability with dual power supplies
- 4) Real-time alarm processing on Alarm interface
- 5) Flexible interconnection and internetworking

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## Transmission Network

Based on packet/TDM transmission, E-TREE service SLA monitoring supply high-available performance for U&T production and management network. Management platform can control all the leaf and root devices together.

- 1) Traditional SDH transmission
- 1) PTN transmission in Ethernet mode or MPLS-TP mode to reduce CAPEX and OPEX
- 2) Ring protection and chain protection NView NNM system
- 3) SLA Portal features, KPIs(FD, FDV, FLR)

## Specifications >>

Capacity	16G Switching capacity
Physical Interface	Uplink: 2x1G SFP, 2xSTM1/4 Downlink: 4x1G RJ45, 8xE1 SNMP: 1 10/100Mbps SNMP RJ45 1 Console interface Alarm interface: 2 RJ45 Clock interface: 2M BITS RJ45
Power Specs	Full load: ≤150W
User Conditions	Operating temperature: -20~65°C ; Storage temperature: -25~70°C ; Humidity: 10~90% non-condensing
Dimensions	442 mm (W) x 266 mm (D) x 66 mm (H)
Weight	≤ 6Kg

## Compliances >>

Standards & protocols	IEEE 802.3af IEEE 802.3ah IEEE 802.3ag/ITU-T Y.1731 ITU-T G.8032 support ITU-T G.8131 RFC3031 3985 4385 4448 G.823 support G.825 support G.8261 support UL compliance CE compliance MEF CE2.0 compliance IEC 61850-3 compliance
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## Ordering Information >>

<b>iTN221-4GE (AC/D or DC/D)</b>	iTN221 MCC include 2 GE SFP interfaces and 2 STM1/4 SFP interfaces in the uplink, 4 GE RJ45 interfaces, which support 2xPoE, and an 8-way E1 interface. Two hot swappable AC or DC power supplies
<b>iTN221-SUB-4GE</b>	iTN221-SUB-4GE provides 4 GE SFP interfaces and supports 10/100/1000 Mbit/s rate
<b>iTN221-SUB-4E1</b>	iTN221-SUB-4E1 provides an unbalanced DB37 interface and supports accessing 4 ways of E1 services
<b>iTN221-SUB-4E&amp;M</b>	iTN221-SUB-4E&M provides 4 E&M physical interfaces and each interface supports 1 way of E&M voice services
<b>iTN221-SUB-8MT</b>	iTN221-SUB-8MT provides 2 physical interfaces with 8 ways of magneto telephone voice interfaces
<b>iTN221-SUB-C64K</b>	iTN221-SUB-C64K provides 2 RJ45 physical interfaces to support 4x64K Codir
<b>iTN221-SUB-10FXS</b>	iTN221-SUB-10FXS provides 3 physical interfaces with 10 ways of FXS services.
<b>iTN221-SUB-10FXO</b>	iTN221-SUB-10FXO provides 3 physical interfaces with 10 ways of FXO services
<b>iTN221-SUB-TP</b>	iTN221-SUB-TP accesses 2 ways of C37.94 optical services. As a downlink service sub card
<b>iTN221-SUB-V35</b>	iTN221-SUB-V35 provides a V.35/X.21 data interface in the DB26 interface form
<b>iTN221-SUB-RS24</b>	iTN221-SUB-RS24 provides 4 RJ45 physical interfaces. Each RJ45 interface can be separately configured to one of V.24, RS422, and RS485 mode, or two of RS232 ( 8x RS232 or 4x V24 or 4x RS485)

## Cables Ordering Information >>

<b>CBL-E1-DB37F/8RJ45-D</b>	E1 Splitter cable, The DB37 interface is connected to 8 pairs of RJ45 interfaces
<b>CBL-E1-DB37F/4RJ-45</b>	E1 Splitter cable, The DB37 interface is connected to 4 pairs of RJ45 interfaces
<b>CBL-E1-DB37F/16BNC</b>	E1 Splitter cable, The DB37 interface is connected to 8 pairs of BNC interfaces
<b>CBL-E1-DB37F/8BNC</b>	E1 Splitter cable, The DB37 interface is connected to 4 pairs of BNC interfaces
<b>CBL-V35-HDB26M/M34F</b>	DCE cable of the HDB26 male connector to 1 M34 interface
<b>CBL-X21-HDB26M/DB15F</b>	DCE cable of the HDB26M male connector to 1 DB15

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