tait
communications

Proven and reliable Analog trunked MPT-IP node for mission-critical networks.

The Tait TN8291 node controller is at the heart of Tait MPT-IP analog trunked solutions. Rich in features and interfaces, it follows MPT-IP Standards and is software upgradeable to DMR Tier 3.

Tait TN8291 trunked networks are proven systems specifically designed for utilities and any organizations providing mission-critical communications over wide geographic areas.

Tait TN8291 system inherits Tait previous MPT1327 expertise as well as providing modern IP interfaces.

KEY FEATURES

- Distributed architecture for efficient and cost-effective network design
- Flexible voting options to optimize radio movements between sites
- Improved workforce safety and efficiency with flexible voice and short data management
- Efficient scalability of system infrastructure based on IP network connectivity
- Robust design provides multiple levels of redundancy for reliable communications
- Standard-based functionalities for interoperability and increased capability
- Customization possible for fulfilling particular user needs
- Subscriber authentication provides secure communications
- Reports general statistics for visibility of system health
- Multiple interfaces and system-to-system connectivity via gateways can connect external partner's solution equipment or extend the network
- Easy to migrate from TaitNet MPT1327 to Tait DMR Trunked
- Multi-layer architecture for improved performance
- Remote management for greater operational efficiency

TN**8291**
SPECIFICATIONS

FEATURES AND BENEFITS

Tait MPT-IP node controller

- The TN8291 node controller's main function is to establish calls for the MPT network radio fleet

- Its innovative software architecture is composed of multiple functional layers: the Linux operating system, the Tait MPT-IP node controller application, and the Tait Admin application responsible for managing the hardware platform

- Other core network applications may be added in the future

Scalable and flexible for efficient and cost-effective network design

- Highly flexible and scalable, the Tait MPT-IP systems are tailored to market size requirements

- The Tait TN8291 server options are also available in 2 levels: Mid and High. These levels allow the hardware platform to match the system capacity desired

- The TN8291 node controller architecture is inherited from the MPT node and is similar to the TN9300 DMR node, thus allowing a smooth migration from MPT to DMR if required

- Proprietary enhancements facilitate radio movements between sites using advanced voting

The TN8291 ensures:

- Connection to legacy analog consoles using a Network Gateway

- Connection to other systems or networks, like Tait TeamPTT cellular solution

- Communication with PSTN connections

- Flexible network design with IP connectivity

- Different traffic load demands at each site are catered for

Secure communications

- Network and information security ensures private communications

- The TN8291 offers a range of access levels to protect against unauthorized network changes

- Network access logs provide a historical record of changes, should audit trailing be required

- Subscriber units are authenticated on the network before they are given access

Remote management for greater operational efficiency

The web-based user interface allows easy remote configuration and management of system elements, including:

- Channel management

- Control channel authorization

- Fleet management for greater control of resources

- Add/delete portable and mobile radios

- Create, modify and delete talk groups

- Software upgrades to ensure your network runs in an optimal manner

- System/network configuration changes

- IP address changes

- SNMP v2c

- Auditing capabilities, such as log files with selectable logging levels, and an audit trail to identify system changes

- Call records, system alarms, and event logs

Robust design provides multiple levels of redundancy for reliable communications

- A Tait MPT-IP network has multiple levels of redundancy to ensure operations continue in the event of server failure. This includes system node controller redundancy and isolated site operation

- High availability server clusters are constantly mirrored and change over within seconds if there is a hardware or software failure. Fall-back mode also ensures the network continues to operate even if a site is disconnected from the network

Data Services

- Short data messages for location, status, and text

Improved worker safety with both voice and data

- MPT-IP supports multiple call types:
    - group calls
    - all hands
    - emergency
    - unit-to-unit
    - supplementary services: short data services, radio inhibit/stun, authenticated registration ensuring that users can communicate when and how they need to

Future-proofed to protect your investment

- MPT-IP is an efficient communications solution and can migrate to a DMR digital network

Media Recording

- Tait TN8291 MPT-IP networks can be provided with the ability to record voice calls

- Media recorders can be connected to dispatch equipment (for recording calls involving the dispatcher) or to the Tait MPT-IP node (for recording all calls)

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INTERFACES

Dispatch console (AIS and DIP)
Telephone PSTN /PABX (SIP)
Voice Recorder (AIS and Tait proprietary VRP)
Inter-Network (AIS, INP)
Conventional line (4 or 6-wire E&M via TN8271 network gateway)
Location server (monitoring API)

FLEET AND SUBSCRIBER MANAGEMENT

Numbering schemes: MPT1327, MPT1343, ANN
Add/remove fleet
Add/remove subscribers
Customize call type permissions
Add/remove multiple groups
Add a system call group
Group location restrictions
Subscriber location restrictions

OVER THE AIR CALL TYPES

Group call
Unit-to-unit call initiate
Unit-to-unit call receive
Emergency group call
Inter-fleet call
All-ident call

PSTN CALL TYPES

Unit to PSTN call
PSTN to unit call
PSTN to group call
Emergency call

SERVICES

Data
Short data message
Supplementary services
Status message
Radio check
Radio inhibit/uninhibit
Diversion/call forward
Core features
Dual control channel option
Subscriber unit registration/deregistration
Subscriber unit (re-)affiliation with group
Subscriber authentication
Group call late entry
Call queuing
Console pre-emption
Priority talk group monitor & override
Roaming support

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GENERAL

Feature	Details
Mode of operation	MPT
Channel frequencies	Channel addressing supports the use of non-continuous frequency allocations
Supported servers	Kontron CG2300, Dell R230
System to system	Up to 9 MPT-IP system connections via a TN9500 inter-network gateway
Number of groups	2,000
Number of radios supported	500,000
Maximum radios registered at a site	10,000 radios
Tait base station supported	TB9300, TB7300
Redundancy	Node, site, geographic
Fault tolerance	Automatic change over to a redundant server in the event of a hardware, software or network failure
	Isolated site (network failure). Switch to single-site trunking at that site
	Backup control channel (base station failure). Control channel allocated to a different base station
Reports	Channel loading, busy hour statistics

PERFORMANCE/CAPACITY

SYSTEM TYPE:	Full	
PLATFORM:	**High Level**	**Mid Level**
Physical Sites per Network	250	100
Physical Channels per Network	1000	250
Physical Channels per Site	24	24
Nodes per Network	20	20
Concurrent Audio Connections per Node	100	100
Concurrent DIP/Telephony/AIS Connections per Network	300 peak only	150 peak only
High Availability supported	Yes	Yes

TAIT MPT-IP SOLUTION

Backed up by our proven radio network expertise, the TN8291 is part of our larger MPT-IP offering. The Tait MPT-IP solution consists of radio units, infrastructure, applications, services, and integration with third party interfaces. It ensures that your organization can reap all the benefits of the MPT1327 standard in a mission critical environment.

Tait has taken every care in compiling this specification sheet, but we're always innovating and therefore changes to our models, designs, technical specification, visuals and other information included in this specification sheet could occur. For the most up-to-date information and for a copy of our terms and conditions please visit our website www.taitradio.com.

Tait International Limited facilities are certified for ISO 9001:2015 (Quality Management System), ISO 14001:2015 (Environmental Management System) and BS OHSAS 18001:2007 (Occupational Health and Safety Management System) for aspects associated with the design, manufacture and distribution of radio communications and control equipment, systems and services. In addition, all our Regional Head Offices are certified to ISO 9001.

Authorized Partners

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