THALES COMMUNICATIONS

Tactical Switch TAS350

- the small field exchange with full scale qualities

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TAS350

A small drop-in replacement yet a full scaleservice provider

TAS350 is a fully featured digital switch which is small and cost effective enough to replace conventional field exchanges and TDM multiplexers. Small command posts can be given the full range of switching functions, with or without network access. The TAS350 provides the same features as its larger relative TAS300 in terms of availability, quality of service and robustness. The two products complements each other seamlessly if used in the same network.

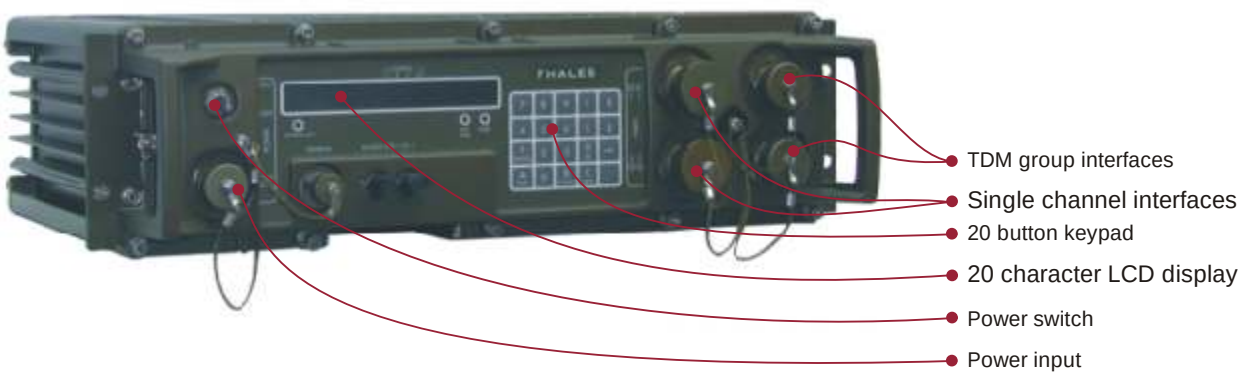
Multi applications

The TAS350 is designed in accordance with the EUROCOM D/1 standard, applicable NATO standards and ITU recommendations. Typical applications are stand alone field exchange, access networks, air defence systems, command posts and C3I systems.

Main features

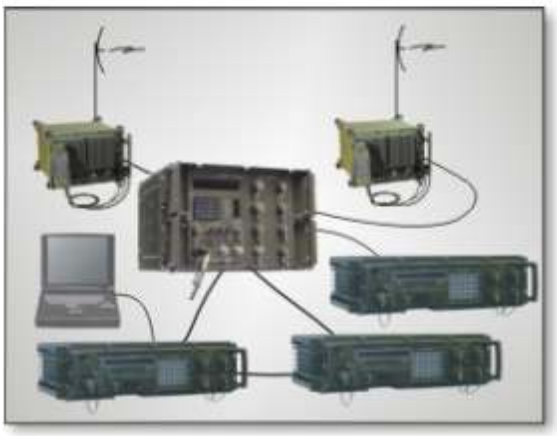
- Small size with full tactical characteristics according to military standards
- Easy to use and operate
- Robust non-blocking switch for up to 30 subscribers
- Analogue interfaces for voice and fax
- Digital interfaces for voice and data according to EUROCOM K
- Digital interfaces for data according to ITU for bit rates up to 512 kbit/s
- Integrated high speed X.25 packet switch with military facilities
- Radio access to many radio systems
- Up to 10 predefined configurations can be selected from the front panel

The operator can easily configure interface characteristics, define subscriber numbers, select subscriber profiles and many other tasks from the front panel. A large range of subscriber terminals such as analogue telephones, EUROCOM terminals, analogue and digital fax machines, internet routers etc. can be connected to the single channel interfaces. To form command post networks, the TDM group interfaces can be connected to other TAS350 or to the tactical area network. For convenience, the TAS350 is equipped with a telephone connection on the front. Subscriber database and other configuration data is stored in



Stand-alone field exchange

In this basic mode of operation, TAS350 will operate autonomously and provide all relevant switching functions. It can be connected to external telephone networks by single channel lines.



Distributed switching in headquarters

Distributed switching is advantageous for large headquarters consisting of separate command cells. This can be provided by a network of TAS350 or a combination of TAS300 and TAS350. Distributed switching gives more flexibility than a centralised field exchange, while all the services and switching functions are maintained throughout the network. Interconnection of switches in a command post is by TDM trans-mission.

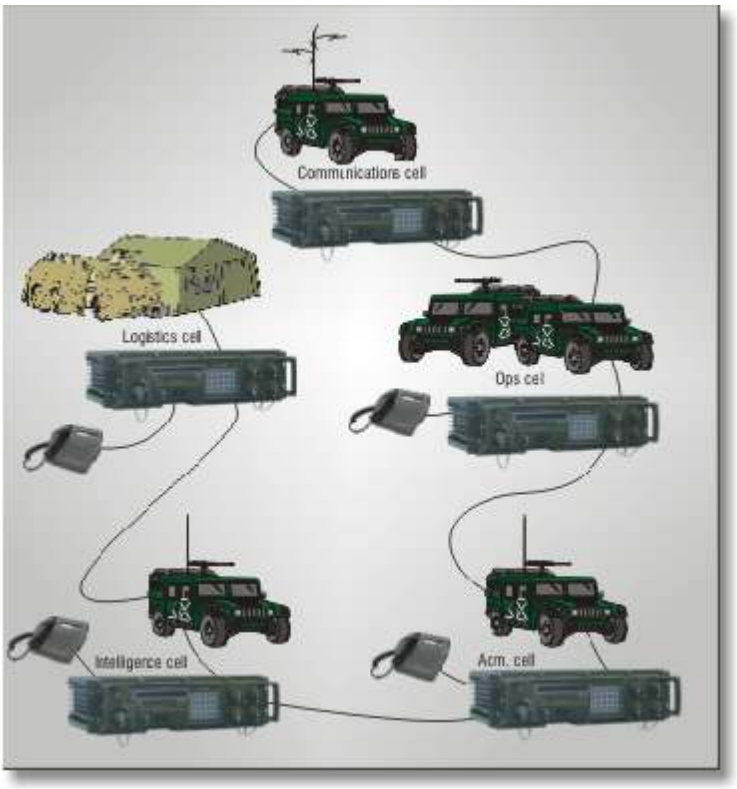
Access switch in tactical networks

TAS350 can be equipped for multichannel (TDM) access to the tactical network. The 2 TDM interfaces will even allow dual connections to the net-work, which can provide redundancy or transit traffic through the TAS350. Radio relay is the most typical TDM transmission media for net-work access.

Command post networks can be deployed by interconnec-ting a number of TAS350, using copper or fibre optic cable, or other TDM transmission systems.

A Facility Control (TNC300) can be connected to control any switch in the command post.

TAS300 is the larger member of the TAS family of tactical switches. It is fully compatible with TAS350 and can be incorporated in the same network for increased capacity and flexibility. TAS300 is typically equipped for 6 TDM groups and 30 single channel interfaces.



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Technical specifications

Baseline Specification
EUROCOM D/1

Circuit Switch
Up to 4 ports (Group or Subscriber)

Subscriber/single channel ports (Up to 2)
Subscriber interface modules:
- 15 analogue interfaces
- 15 digital Eurocom K interfaces
- 4-8 data interfaces (V.28)
- 6 digital Eurocom K interfaces and 3-6 data interfaces (V.36 and V.28)

Group interfaces (Up to 2)
- Eurocom Trunk Group:
  256, 512, 1024 and 2048 kb/s.
  Dynamic allocation of 16 to 512 kb/s channel rate.
- Eurocom Loop Group:
  512 kb/s
- Symetric Loop Group:
  512 kb/s

Gateways
- Analogue exchange line to PTT
- Eurocom D/1 IIA 256, 512 kb/s
- STANAG 4206 256 kb/s
- STANAG 5040

Routing
- Full saturation search
- Multilevel saturation search
- Deterministic routing (adaptive)

Synchronization
- Master-slave operation

Single channel interfaces
Analogue CB subscriber line
- 2-wire Central Battery, dial pulse or DTMF dialling.

Analogue universal interface
- 2-wire Central Battery, DTMF or pulse dial
- 2-wire Local Battery
- 2-wire exchange line to PTT, DTMF or pulse dial
- 4-wire E&M

Digital Interfaces
Eurocom data classes: 1,2,3,4
- ITU rec. V.24/V.28 (RS-232):
  300 b/s to 64 kb/s synchronous
  300 b/s to 38.4 kb/s asynchronous
- ITU rec. V.24/V.36 (RS-422):
  300 b/s to 512 kb/s synchronous
  300 b/s to 19.2 kb/s asynchronous
- Eurocom K:
  16/32 kb/s, 2-wire/4-wire

Packet Switch
Packet Switching
- ITU rec. X.25

Packet Assembly/Disassembly (PAD)
- ITU rec. X.3/X.28/X.29

Switching capacity
700 packets per second (128 octet)
Trunk bitrate up to 307.2 kb/s
Subscriber access bitrate up to 512 kb/s

PS line capacity
Up to 24 lines (subscriber or trunk)
Up to 1000 virtual connections (VC)

X.75 and X.25 gateways
- Military enhancements
- 64 kb/s

Routing
- Saturation search
- Spanning tree search
- Deterministic routing (adaptive)

Facilities
Subscriber handling
- Integrated CS/PS subscriber profiles
- Multiple subscribers on one line
- Affiliation
- Reaffiliation
- Deaffiliation

Circuit switch facilities
- Normal call
- Sole user circuit
- Hotline (delayed/switched)
- Abbreviated dialling
- Compressed dialling
- Camp-on busy
- Automatic ringback
- Call hold
- Call transfer
- Call transfer on busy
- Call transfer on no answer
- Dialling out into other networks (DOD)
- Dialling in from other networks (DID)
- Closed user groups
- Conference
- Broadcast
- Call barring
- Precedence / pre-emption
- Group number (multihoming)
- Operator services (queueing of calls, intrusion, night service etc.)

Packet switch subscriber facilities
- Basic X.25 services
- Security
- Precedence / pre-emption
- Other Military Enhancements

Local Control
- Display and keypad on the front of the unit
- Handling of TDM interfaces; bitrates, local status, remote status, etc.
- Handling of single channel interfaces; modes, bitrates, etc.
- Handling of subscriber characteristics: profiles, hotlines etc.
- Alarms; visual and audible.
- BITE; automatic test of each printed circuit board on start up, periodic test of interfaces during operation.
- Non volatile storage of subscriber database and interface characteristics.

Physical characteristics
Temperature
- Operation: -40°C to +55°C
- Storage: -55°C to +70°C

Environmental
- DEF-STAN 07-55

EMC/EMP
- MIL-STD 461C/462

Reliability and maintainability
- MTBF: typical more than 4600 hours
- MART: typical less than 30 minutes

Dimensions
Width: 482 mm
Height: 132 mm
Depth: 390 mm

Installation
19 inch rack, IEC 297
All cabling on front

Weight
Approx. 15 kg

Power inlet
20-32 VDC

Power consumption
70 W nominal

Quality
The TAS350 is designed, built and tested under the quality provisions of AQAP 110, AQAP 150 and ISO 9001.

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