

## DATA GATEWAY TELEPHONE GATEWAY

INDIVIDUAL DATA CALL

GROUP DATA CALL

ISSI TO IP ALIASING

NETWORK MANAGEMENT AND ALARMS

EXTERNAL ACCESS CONTROL

CLEAR MODE POINT-TO-POINT

CLEAR MODE POINT-TO-MULTIPOINT

DIRECT OUTWARD DIALLING

DIRECT INWARD DIALLING

BROADCAST SPEECH CALLS

PTT CONTROL

INDIVIDUAL DUPLEX AND HALF-DUPLEX VOICE CALLS

GROUP VOICE CALLS (INCOMING ONLY)

CALL FORWARDING

CALL QUEUING & WAITING

DTMF OVER-DIALLING

DID DIALING

PABX, PSTN AND ISDN CONNECTIVITY

NETWORK MANAGEMENT AND ALARMS

# T-MATRIX™ DATA GATEWAY

The T-MATRIX™ Data Gateway enables devices within the Tetra System (e.g. Terminals, dispatcher, NMT) to access an external IP data network. The external network can either be public (e.g. the internet) or private (e.g. a corporate data network). Additionally, the Data Gateway allows IP-based communication between data devices attached to TETRA terminals accessing the T-MATRIX™ TETRA radio system.

Data is accessed using standardised IP applications such as FTP, e-mail, and HTTP Web browsing. The Data Gateway can thus be used to

exchange information such as images, documents, sound etc.

The diagram shows the use of the Data Gateway for establishing data communication between TETRA Subscribers and a PC on an external IP Network. To maintain quality of service (QoS) and for security reasons the underlying private T-MATRIX™ IP Infrastructure network is not accessible externally, however it provides a transparent facility for data on the external network to be transported in a controlled manner to/from suitably equipped TETRA users having a PC or similar unit interfaced to their TETRA terminal.

## TECHNICAL DATA

### Data Gateway Functions

- Individual data call
- Group data call
- ISSI to IP aliasing
- Network management and Alarms
- External Access Control

### Physical aspects

The IP Data Gateway is supplied as part of a T-MATRIX™ system only and is rack-mounted at the most convenient location in the Network. It may be powered from either AC mains or 48V DC.

## General Features

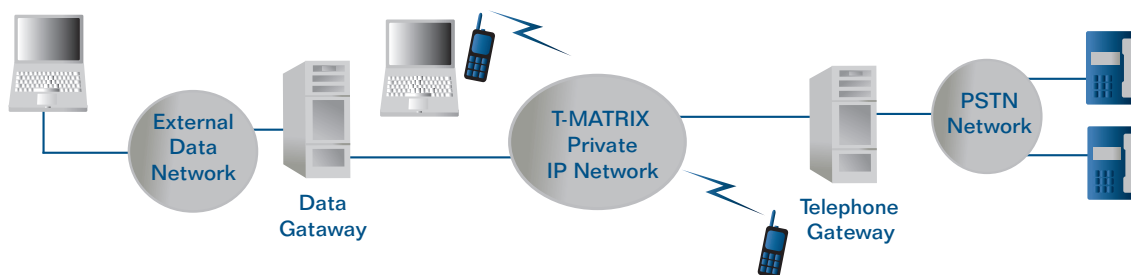
- Direct data access between computers attached to Terminals
- Data access between computers attached to Terminals or Dispatchers and a Data Server connected to the T-MATRIX™ network infrastructure
- Data access between computers attached to Terminals and any computer connected to the Internet

## External Interface

RJ45 Ethernet port (10/100BaseT)

## Interface to T-MATRIX™ Network

RJ45 Ethernet port (10/100BaseT)



# T-MATRIX™ TELEPHONE GATEWAY

The T-MATRIX™ Telephone Gateway facilitates voice communication between TETRA Network subscribers and PABX/PSTN network subscribers.

The design of the T-MATRIX™ Telephone Gateway ensures that external networks see the Telephone Gateway as if it were just another subscriber of the external network. The Gateway allows Direct Outward Dialling from a TETRA Subscriber to an external user and allows Direct Inward Dialling from an external user to a TETRA Subscriber. Two-stage dialling is also supported. On detecting an outgoing call request from a

TETRA user or an incoming call from the PABX/PSTN network, the Telephone Gateway generates all the signalling required for the setup and subsequent maintenance of that call.

The T-MATRIX™ Telephone Gateway also performs the necessary speech transcoding required to translate between the ETSI-defined speech coding method used on TETRA systems and either PCM or Analogue speech, depending on the version in use.

## TECHNICAL DATA

### Telephone Gateway Functions

- Clear Mode Point-to-Point
- Clear Mode Point-to-Multipoint
- Direct Outward Dialling
- Direct Inward Dialling
- Broadcast speech calls
- PTT control
- Individual Duplex and Half-duplex voice calls
- Group voice calls (incoming only)
- Call forwarding
- Call queuing & waiting
- DTMF over-dialling
- DID Dialling
- PABX, PSTN and ISDN connectivity
- Network Management and alarms

## External Interface Options

- PSTN (1 or 2 E1) or ISDN-PRI with Q.SIG.
- ISDN BRI with Q.SIG.
- 8 Analogue Ports (2 wire or 4 wire E&M) with Loop Start /Subscriber Loop Start and MF-R2

## Interface to T-MATRIX™ Network

RJ45 Ethernet port (10/100BaseT)

## Physical aspects

The Telephone Gateway is supplied as part of a T-MATRIX™ system only and is rack-mounted at the most convenient location in the Network. It may be powered from either AC mains or 48V DC.