PERSEUS

PERSEUS Wireless Remote Dispatcher
RDS - Radio Dispatcher Station

Simulcast

TETRA

LAN

Optical Fiber

WiFi

WiMAX

Satellite

UMTS

Internet

SELEX
Communications
A Finmeccanica Company

PERSEUS Wireless Remote Dispatcher
RDS - Radio Dispatcher Station

The **Radio Dispatcher Station (RDS)** is based on the our TETRA fixed-radio that is part of the VS3000 Mobile Station family and it is operated by means of a Personal Computer.

The RDS Station is the simplest of the Dispatcher Stations family and provides basic dispatching functionality.

The Dispatcher is operated from a PC in the same way as the other TETRA Dispatcher Stations and the GUI (Graphic User Interface) style has been preserved in order to facilitate the easy passage from one type of Dispatcher Station to another (minimizing training needs).

The RDS Station can also connect to a DAC (Dispatcher Audio Console) device providing the same configuration as the wired Stations.

Suited for small Control Rooms and transportable usage

The typical environment for this type of dispatcher is the small Control Centre, a peripheral office that would not need a wired dispatcher which might be over-specified in respect of the type of work to be done and/or the personnel to be managed. The RDS provides a simpler solution better suited and more economic for these cases.

The RDS can also be deployed in Mobile Vehicular Units used to co-ordinate operations in temporary Incident Areas or in operations where there is a need to move the operating staff on occasion.

GENERAL FEATURES

This single Station is able to supply the following dispatching/administrative services provided by the Radio Dispatcher Application:

- Call management (all types of voice and data call) constrained by the fact that the radio only allows one active call at a time.
- Pre-emptive priority (e.g. emergency) calls.
- Dynamic group management.
- Access to the Phone Books inside the fixed-radio.
- Group scanning priority management.
- History folders for voice calls, messages and alarms.

Packet Data Context

Due to the absence of a wired link to the TETRA Infrastructure (as for wired Dispatcher Stations) it is necessary to provide an IP address if Packet Data activities are to be initiated.

The RDS offers this feature in order to run IP-based applications present on the PC (e.g. access to a remote database); in particular the Group management is provided using a packet data application.

Double-control and Resilience

The RDS can be configured such that the radio can be controlled either by the PC or the Front Panel of the fixed-radio (the normal operation of the FC3000). Resilience is enhanced by the fact that it is possible to keep in communication even in the case of a fault with the RDS application or PC.

Modularity and Re-use

Different roles of the fixed-radio module

When needed, the PC can be detached and the radio part can be used as a stand-alone fixed-radio provided that the FC3000 is equipped with a Front Panel. The fixed-radio can alternate between different roles: for example, it can be detached and installed into a rack inside a Mobile System (such as a SELEX Early Entry vehicular system) equipped for critical missions.

Custom use of audio frequencies

The SELEX Communications RDS provides an audio output to enable the use of a custom audio device or an analogue recorder.

It is also possible to connect the DAC console, making the RDS similar to the wired Dispatcher Stations.

COMPOSITION AND VERSIONS

The RDS Dispatching Station is based on the following components:

- Standard desktop mini-tower or ruggedized laptop PC (only for transportable RDS version) running under MS-Windows XP Professional operating system,
- SELEX Communications Fixed-Radio and relative Front Panel,
- DAC - Dispatcher Audio Console (optional); this external device has been designed to provide audio-accessories (headset, microphone, loudspeakers, etc.), analogue recorder and PTT (Push-To-Talk) connections,
- Audio accessories are available for the Fixed Radio and for DAC.

Fixed station (FC3000) with front management panel

RDS Light version

In the standard configuration the Front Panel is fitted and the audio-accessories are connected to it as per a fixed-radio (with the exception of the foot-PTT that, if required, is directly connected to the radio's case). In this simple configuration the loudspeaker used is the one that the fixed-radio is equipped with.

RDS full version

In the Full version the RDS is equipped with the DAC audio-console and related accessories. The Front Panel can be optionally fitted; if the Front Panel is present the control of the Station can be transferred between the PC and FP when needed.

The standard configuration provides audio-accessories for the DAC console, but accessories can alternatively be connected to the (optional) Front Panel. If a DAC is used, an audio output for recording purposes is available at the DAC case.

RDS in Transportable version

The RDS in transportable version is based on VS3000 radio equipment and operating on a TETRA standard as Dispatcher through Bluetooth® connection with a ruggedized tablet PC, inside the suitcase. The equipment, with the relative accessories, is built-in inside a waterproof ABS trolley, that can be used in any operating condition.

The trolley is compliant to standard IATA for hand luggage.

The transportable RDS is composed by:

- Waterproof ABS trolley
- Mechanical Kit and cabling
- Radio Equipment TETRA VS3000 with control panel
- Ruggedized tablet PC with touch screen and USB/USB serial ports
- Microtelephone

- Power supply kit CA and DC with cables
- Internal Emergency Battery 14.8 Vdc/12 Ah
- Antennas with magnetic base and cable tail. The connectors are:
  - N type (male) for TETRA communications,
  - TNC type (male) for Bluetooth® connections,
  - BNC type (male) for GPS connections.

The connection panel with the interfaces to the external device is located outside the trolley:
- 13 Vdc/24 Vdc connector to an external battery (i.e vehicle battery).
- 110-220 Vac connector to main power supply.
- Antenna connectors:
  - N type female for TETRA communications,
  - TNC type female for Bluetooth® connections,
  - BNC type female for GPS connections.

Radio Dispatcher Station in transportable version (trolley)

Functionality and interfaces

- Standard: TETRA
- TETRA operation modes:
  - TMO
  - DMO + Idle Dual Watch
  - DMO Repeater 1A/1B DMO Gateway

TECHNICAL DATA

Mobile radio unit features

RF power:	• Class 2 (10W, 40 dBm) ETSI EN 300 392-2
	• Class 3 (3W, 35 dBm) ETSI EN 300 392-2
Frequency band:	380 to 430 MHz and 410 to 470 MHz
AF power:	8W @1 kHz (on internal loudspeaker with 4 Ohm load)
Power supply:	• Fixed station version: 220 Vac (85 to 265V, 47 to 63 Hz)
	• Transportable version: 110/220 Vac +13,2 Vcc / 24V
Power consumption max.:	450W
Modulation:	$\Pi/4$ DQPSK
Carrier spacing:	25 kHz
RF performances compliant to:	ETSI EN 300 392-2
Environmental characteristics:	Compliant ETS 300 019-1-3 Class 3.1E
Operational temperature:	ETSI ETS 300 019-1-3 class 3.1
Storage environment:	ETSI ETS 300 019-1-1 class 1.2
Transportation environment:	ETSI ETS 300 019 1-2 class 2.3
EMC:	ETSI EN 301 489-18
Water and Dust protection:	IEC 60529 class IP66 and IP67 (VS3000 radio body), IP54 (front panel)
Operative temperature:	• -20° to +55°C TETRA TMO/DMO TX Single slot, DMO GTW/REP
	• -20° to +45°C TETRA Full Slot with time limit

Mechanical data versions

Dimensions and weights:	• Fixed station: (WxHxD) 540 x 90 x 270 mm, < 9 kg
	• Transportable version: 546 x 347 x 247 mm, ~ 20 kg
Protection against dust and water:	IP20 (fixed station), IP54 (transportable, suitcase closed)
Shock and vibrations:	ETS 300 019-1-2 class 2.3

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