

TECHNICAL DATA

GENERAL	VHF	UHF
Frequency range:	108 to 156 MHz	225 to 400 MHz
Frequency stability:	< 1 ppm / < 0.3 ppm (on demand)	< 1 ppm
Operating temperature range:	-20° to +55°C	
Supply voltage:	AC: 88 to 265 VAC 50/60 Hz (full range) DC: 21 to 31.5 VDC (autom. changeover on AC source failure)	
Channel spacing:	25 kHz / 8.33 kHz	25 kHz
Modulation types:	<ul style="list-style-type: none"> AM (A3E) AM-MSK @ 2.4 kbit/s D8PSK @ 31.5 kbit/s GFSK @ 19.2 kbit/s 	AM (A3E)
Offset operation:	<ul style="list-style-type: none"> Up to 5 carriers (AM 25KHz) Up to 2 carriers (AM 8.33KHz) 	Up to 4 carriers
Preset channel:	Up to 100	Up to 100
Dimensions:	19" standard rack, 3 HU, 330mm depth	19" standard rack, 3 HU, 330mm depth
Weight:	13 kg maximum	15 kg maximum

TRANSMITTER FEATURES

RF output power:	5 to 50W	5 to 30W
Duty cycle:	100 %	
Output impedance:	50 ohm	
VSWR:	> 2:1 at full power; no damage with open/short circuit	
Emissions (active mode):		
<i>spurious:</i>	• < -93 dBc	• < -90 dBc
<i>harmonics:</i>	• < -83 dBc	• < -80 dBc
Audio frequency:		
<i>response:</i>	• 350 to 2500 Hz (8.33kHz); 300 to 3400 Hz (25kHz)	• 300 to 3400 Hz
<i>input:</i>	• -30 to +10 dBm	• -30 to +10 dBm
<i>distortion:</i>	• < 3% @ 90% mod. depth	• < 3% @ 90% mod. depth
<i>noise:</i>	• > 45dB @ 80% mod. depth	• > 45dB @ 80% mod. depth

RECEIVER FEATURES

Input impedance:	50 ohm	
Squelch types:	Carrier to Noise or RSSI based, carrier override feature selectable	
Sensitivity:		
<i>AM:</i>	• < -107dBm @ 1kHz mod. and 10dB S/N weighted to ITU-T	• < -101dBm @ 1kHz mod. And 10dB S/N weighted to ITU-T
<i>D8PSK:</i>	• < -102 dBm with uncoded BER=10-3	
<i>GFSK:</i>	• < -100 dBm with uncoded BER=10-4	
Blocking:	> -7dBm @ 500kHz freq. offset	
Low frequency:		
<i>response:</i>	• 350 to 2500 Hz (8.33kHz); 300 to 3400 Hz (25kHz)	• 300 to 3400 Hz
<i>output:</i>	• -30 to +10 dBm	• -30 to +10 dBm
<i>distortion:</i>	• < 5% @ 90% mod. depth	• < 5% @ 90% mod. depth
<i>noise:</i>	• > 45dB @ 80% mod. depth	• > 45dB @ 80% mod. depth

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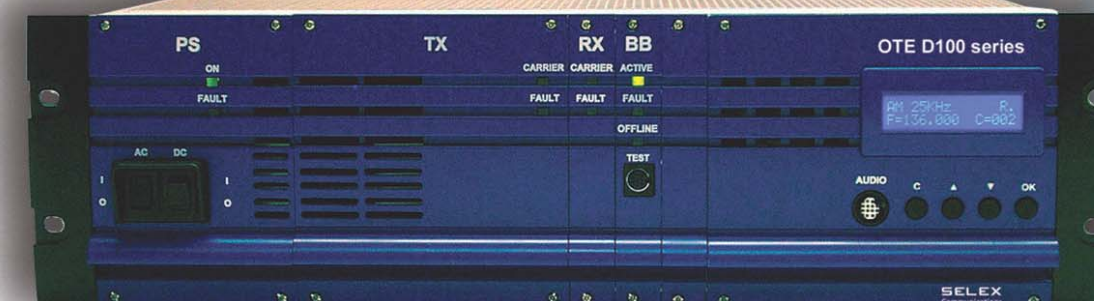
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SELEX Communications-OTE SpA is certified to work according to the following International Standards:
• ISO 9001 Quality System.
• ISO 14001 Environmental Management Systems.

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The Multimode Digital Radio Equipment

OTE D100 SERIES



General features

OTE D100 series is the unique digital radio equipment able to implement all communication standards foreseen by ICAO Annex 10 for the VHF band. It can be easily configured for integration into the following communication systems:

- > Voice networks with traditional analog AM-DSB modulation with two different channels spacing (**25kHz or 8.33 kHz**);
- > An Ethernet interface with embedded Voice Over IP (**VoIP**) capability is available for analog modes;
- > Legacy **ACARS** Ground Stations;
- > **VHF Data Link Mode 2** sub-networks: OTE D100 implements an ARINC 750 - compliant with VDL2 protocol stack (like the airborne VDR);
- > Integrated voice and data networks (**VDL mode 3**);
- > Navigation & Surveillance data networks: OTE D100 is a full **VHF Data Link Mode 4** transponder, that handles ADS-B data without the use of additional controllers.

OTE D100 equipment series is available in both VHF and UHF band.



Applicable standards

Depending on operating modes, the OTE D100 series is compliant with the following international reference standards:

ANALOG	ICAO Annex 10	ETSI EN 300 676	FAA-E-2938 v.3.0.	RTCA/DO-186A	EUROCAE ED 23B
ACARS	ARINC 618-5	ARINC 750-3			
VDL2	ICAO Annex 10 ETSI EN 301 841-1	ICAO VDL SARPs ARINC 750-3	ICAO VDL2 Tech.Man. ARINC 631-4	EUROCAE ED 92	RTCA DO-224A
VDL3	ICAO Annex 10	ICAO VDL SARPs	ICAO VDL3 Tech.Man.	RTCA DO-224A	FAA-E-2938 v.3.0.
VDL4	ICAO Annex 10 ETSI EN 301 842-3	ICAO VDL SARPs	ICAO VDL4 Tech.Man.	ETSI EN 301 842-1	ETSI EN 301 842-2
GBAS	RTCA DO-246A				
ENVIRONMENT	ETSI EN 301 489-22	IEC 664	CEI EN 60950 (1997-10)	CEI EN 60215 (1997-10)	

Interface Capability

OTE D100 series • Digital Radiocommunication Equipment

The OTE D100 series has been built to achieve high flexibility and high performances for covering all types of air traffic control applications and facilities, from ACC systems to single airport.

Main features are:

- > AM-DSB modulation for voice communication;
- > AM - MSK modulation for ACARS without using external devices (i.e. modem);
- > Digital D8PSK modulation for VDL mode 2, GBAS/LAAS operation, VDL mode 3;
- > GFSK@19.2 kbit/s for VDL mode 4;
- > Extended frequency range capability for any analogue or digital link applications without HW replacement (108 MHz to 156 MHz);
- > VHF or UHF frequency range to cover civil or military applications;
- > OTE D100 modular design keeps MTTR features at the minimum for maximum availability and optimizes spare parts management;
- > Wide interface capability by dedicated or COTS modules based on compactPCI™ worldwide standard;
- > Excellent collocation performances;
- > Permanent built-in test equipment;
- > Automatic 1+1 embedded radio+lines redundancy system (Embedded Changeover, patent pending);
- > DSP-based Noise Blanker;
- > Scanning / Dual Watch modes;
- > Operation with Guard Receiver.

The OTE D100 radio equipment series is available in the following configurations:

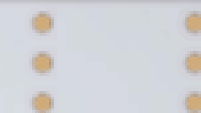
- **OTE DTR100 integrated transmitter and receiver**
- **OTE DT100 transmitter**
- **OTE DR100 receiver**
- **OTE DRR100 double receiver**

ANALOG INTERFACES

- > Standard ANSI 4WE&M audio port
- > Double standard ANSI 4WE&M audio ports with embedded switchover
- > In Band Tone for PTT and Squelch

VHF

UHF



DIGITAL INTERFACES

- > On-board IEEE802.3 10 Base T, or 100 Base T (configurable) digital interfaces for analog and any VDL mode
- > On-board IEEE802.3 10 Base T, or RS422 HDLC (configurable) digital interfaces for analog and any VDL mode
- > E1/T1 port for VDL3 (option)
- > RS232 for UTC time for VDL4 STDMA frame synchronisation source (GNSS interface)



MONITORING & CONTROL INTERFACES

- > RS232 port for local facilities
- > RS485 port for monitoring and control (MIRM100)
- > Embedded FSK modem on audio lines for monitoring and control
- > O&M Data multiplexed with VDL or VoIP Data on digital interfaces (Ethernet and RS422)



AUXILIARY INTERFACES

- > Tx/Rx balanced recorder output
- > AGC Output
- > PTT activation response output
- > General alarm status output
- > RX muting input
- > External RF switch command
- > Service voltage output for external devices

