

aselsan

4900 ATLAS Radio Family

ATLAS RADIOFAMILY



PORTABLE

MOBILE

DESKTOP



Specifications are subject to change without any notice.

Atlas Portable Radio

The world's first radio having an integrated map application

With its various user-friendly applications, ergonomic structure and resistance to tough environmental conditions, the 4900 Atlas Portable Radio makes a difference in the world of radios. It has proved its innovative style with the awards given.

Map Application Features

- Vector and raster maps
- Instant speed and direction
- Route identification (navigation)
- Blue Force Tracking

Functionality

- VHF/UHF dual-band operation
- Multi-system structure
- Supported protocols
 - SK2 protocol developed by ASELSAN
 - P25 conventional
 - P25 trunk
 - P25 direct mode
- Communication in digital and analog channels
- Software encryption or hardware encryption
- File transfer through USB connector
- Support for different languages

Device Architecture

- 8GB storage
- ARM based processor
- Linux operating system
- 2600mAh battery
- Internal GPS module
- 2.4" Daylight readable QVGA colored LCD display (240x320)
- USB connector
- Ready for tough environmental conditions
- Two microphones (to reduce the ambient noise)

Rich Portfolio of Applications

- Map application
- Data applications
- Notepad
- Calendar
- Calculator
- Gallery
- Music player
- Custom applications can be uploaded based on the user's needs



The 4900 Atlas Portable Radio has auxiliary units such as desktop charger, in-vehicle charger and clip. It can also operate with various audio accessories.

General Technical Specifications

Weight	490g (including battery)
Dimensions (excluding bulges and knobs)	149 x 56 x 37 mm (HxWxD)
Dimensions (EIA)	168x71x46 mm (HxWxD)
Operating Temperature Range	-30°C /+60°C
Storage Temperature Range	-40°C /+85°C
Power Supply	7.5 ±20%Vdc
Processor	ARM9
Memory	8GB
Operating System	Linux

Receiver Technical Specifications

Frequency Range	136-174 MHz (VHF) 380-470 MHz (UHF)
Sensitivity	≤-119 dBm (VHF) ≤-118 dBm (UHF)
Intermodulation Rejection	≥70 dB
Audio Distortion	≤ 5% (rated audio power) ≤ 5% (17dB below rated audio power)
Spurious Response Rejection	≥70 dB
Bit Error Ratio	≤ 0.01%
Hum and Noise Ratio	≥40 dB @25 kHz ≥34 dB @12.5 kHz

Transmitter Technical Specifications

Frequency Range	136-174 MHz (VHF) 380-470 MHz (UHF)
Transmission Power	0.2-5W
FM Noise Ratio	≥40 dB@ 25 kHz ≥34 dB@ 12.5 kHz
Frequency Accuracy	≤2.5 ppm

Battery Features

Type	Li-Ion
Capacity	2600 mAh
Duty Cycle 10-10-80*	>8 hours
Duty Cycle 5-5-90*	>14 hours
Weight	158/179g (Without/with clip)
Dimensions(HxWxD) (mm)	122x56x19/30 (Without/with clip)

* : Measured in the digital mode per TIA 603-D under nominal conditions at 5.0W RF output power.

Standards

IEC 61149
ETSI EN 300 086-2
ETSI EN 300 113-2
ETSI EN 301 489-1,5
ETSI EN 60950
MIL-STD-810C/D/E/F/G
R&TTE Directive
TIA-102.CAAB-D
TIA-603-D

Functional Properties

Interfaces

On/Off Button
5 Navigation Keys
12 Alphanumerical Keys
Rx/Tx LED
2 Programming Buttons
Emergency Button
Microphone
Push-to-Talk Button

Menus/System Services

Zone/Channel Selection
Channel/Group Scan
SMS
User and System Profiles
Caller ID
VOX (Only With Audio Accessories)
Integrated Data Applications
Group Call
Individual Call
Status Messages
Volume Settings
Settings
Phone Book
Data Communication Through PC connection

Mobile Radio

All-in-one design

The 4900 Atlas Mobile Radio makes a difference with its advanced features and the wide usage scenario it offers in public security communication systems.



Functionality

- VHF/UHF dual-band operation without hardware or software modifications
- Communication continuity in areas not covered by the system through simplex/direct modes of operation
- Supported protocols
 - SK2 protocol developed by ASELSAN
 - P25 conventional
 - P25 trunk
 - P25 direct mode
- Communication in digital and analog channels
- Software encryption or hardware encryption
- Transmitting the location information through the system channels or simplex and direct mode channels
- Data communication without a PC, by using the Docking Station and Tablet Control Unit.
- Data communication with a PC.
- Ready for tough environmental conditions



General Technical Specifications

Weight	2425 g
Dimensions	61x177x246 mm (HxWxD)
Operating Temperature Range	-30°C /+60°C
Storage Temperature Range	-40°C /+85°C
Power Supply	13.6 ±20%Vdc
Processor	ARM9
Operating System	Linux

Receiver Technical Specifications

Frequency Range	136-174 MHz (VHF) 380-470 MHz (UHF)
Sensitivity	≤-119 dBm (VHF) ≤-118 dBm (UHF)
Intermodulation Rejection	≥75 dB
Audio Distortion	≤5% (rated audio power) ≤5% (17dB below rated audio power)
Spurious Response Rejection	≥80 dB
BER	≤0.01%
Stand-by Current- Reception (Rx) Current	≤500 mA, ≤1.2 A
Hum and Noise Ratio	≥40 dB@25 kHz ≥34 dB@12.5 kHz

Transmitter Technical Specifications

Frequency Range	136-174 MHz (VHF) 380-470 MHz (UHF)
Dual Band Transmission Power Range	10-40 W (VHF) 10-30 W (UHF)
Single Band Transmission Power Range	10-90 W (VHF) 10-70 W (UHF)
FM Noise Ratio	≥40 dB@25 kHz ≥34 dB@12.5 kHz
Frequency Accuracy	≤0.5 ppm
Modulation Fidelity	≤3%
Transmission (Tx) Current	≤8.0 A

Standards

IEC 61149
ETSI EN 300 086-2
ETSI EN 300 113-2
ETSI EN 301 489-1,5
ETSI EN 60950
MIL-STD-810C/D/E/F/G
R&TTE Directive
TIA-102.CAAB-D
TIA-603-D

Hand-Held Control Unit

Weight : 297 g
Dimensions : 132x68x42 mm (HxWxD)
Operating Temperature Range : -30°C /+60°C
Storage Temperature Range : -40°C /+80°C
Processor : ARM Cortex-M4
Display : 1.8" 64x128 Pixel OLED

Interfaces

On/Off Button
5 Navigation Keys
12 Alphanumerical Keys
Rx/Tx LED
2 Programming Buttons
Emergency Button
Microphone
Push-to-Talk Button

Menus/System Services

Zone/Channel Selection
Channel/Group Scan
SMS
Caller ID
Group Call
Individual Call
Status Messages
Volume Settings
Settings
Phone Book



The Handheld Control Unit having a microphone, a keypad and a display is connected to the radio transceiver. By means of its portable structure, it provides an ease of use similar to the portable radio.

Desktop Radio

Advanced compact design

Usage as a desktop or a repeater radio

The 4900 Atlas Desktop Radio is designed for the users in operation centers and call centers of public security communication systems.

Device Architecture

- Reduced weight and dimensions as compared to other desktop radios
- Ready for tough environmental conditions
- The desktop type control unit having a display, an alphanumerical keypad, a push-to-talk (PTT) button, a microphone and a speaker can be mounted separately from the transceiver
- Can also be used as repeater radio (relay) at fixed and mobile sites just by modifying the software.



Functionality

- VHF/UHF dual-band operation without hardware or software modifications
- Communication continuity in areas not covered by the system through simplex/direct modes of operation
- Supported protocols
 - SK2 protocol developed by ASELSAN
 - P25 conventional
 - P25 trunk
 - P25 direct mode
- Communication in digital and analog channels
- Software encryption or hardware encryption
- Data communication without a PC, by using the Docking Station and Tablet Control Unit
- Data communication with a PC

General Technical Specifications

Weight	2425 g
Weight (with fan)	2495 g
Dimensions	61x 177 x 246 mm (HxWxD)
Operating Temperature Range	-30°C /+60°C
Storage Temperature Range	-40°C /+85°C
Power Supply	13.6±20%Vdc
Processor	ARM9
Operating System	Linux

Receiver Technical Specifications

Frequency Range	136-174 MHz (VHF) 380-470 MHz (UHF)
Sensitivity	≤-119 dBm (VHF) ≤-118 dBm (UHF)
Intermodulation Rejection	≥75 dB
Audio Distortion	≤5% (rated audio power) ≤5% (17dB below rated audio power)
Spurious Response Rejection	≥80 dB
BER	≤0.01%
Stand-by Current-Reception (Rx) Current	≤500 mA, ≤1.2 A
Hum and Noise Ratio	≥40 dB@25 kHz ≥34 dB@12.5 kHz

Transmitter Technical Specifications

Frequency Range	136-174 MHz (VHF) 380-470 MHz (UHF)
Dual Band Transmission Power Range	10-40 W (VHF) 10-30 W (UHF)
Single Band Transmission Power Range	10-90 W (VHF) 10-70 W (UHF)
FM Noise Ratio	≥40 dB@25 kHz ≥34 dB@12.5 kHz
Frequency Accuracy	≤0.5 ppm
Modulation Fidelity	≤3%
Transmission (Tx) Current	≤8.0 A

Standards

IEC 61149
ETSI EN 300 086-2
ETSI EN 300 113-2
ETSI EN 301 489-1,5
ETSI EN 60950
MIL-STD-810C/D/E/F/G
R&TTE Directive
TIA-102.CAAB-D
TIA-603-D

Desktop Control Unit

Weight : 600 g
Dimensions : 65x162x188 mm (HxWxD)
Operating Temperature Range: -30°C /+60°C
Storage Temperature Range : -40°C /+80°C
Processor : ARM Cortex-M4
Display : 1.8" 64x128 Pixel OLED

Interfaces

On/Off Button
5 Navigation Keys
12 Alphanumerical Keys
Rx/Tx LED
2 Programming Buttons
Emergency Button
Microphone
Push-to-Talk Button

Menus/System Services

Zone/Channel Selection
Channel/Group Scan
SMS
Caller ID
Group Call
Individual Call
Status Messages
Volume Settings
Settings
Phone Book

The Desktop Control Unit having a microphone, an alphanumeric keypad and a display provides an ease of use for the users in charge at public security communication centers.



Portable Radio and Tablet Control Unit Applications

The applications enriching the 4900 Atlas Radio Family

Map Application*

Thanks to the features of map application designed by Aselsan such as monitoring POI's, defining routes and target points, users having critical responsibilities such as operation, search and rescue at urban and rural areas can accomplish their missions more quickly and with a complete success.

- Supports vector maps. Shows population centers, streets and main roads.
- Supports raster maps. Shows landforms such as sea, mountains and deserts.
- Displays points of interest (POI) such as hospitals, schools, and other governmental institutions.
- Other significant points can be defined by the user.
- Routes with up to 20 stops can be created.
- Route description for reaching the desired destination with current location and speed is monitored.
- Satellite signals monitored in real time and location data saved periodically.
- Capable of performing navigation.
- Supports decimal degree, degree-minute-second, UTM and MGRS coordinate systems. A defined location with one of these coordinate systems can be converted into other ones both in WGS84 and ED50 datums.



Blue Force Tracking Service*

- The locations of GPS-equipped radios can be tracked using softwares running on a PC directly connected to the system at the center or a PC connected to the radio or even directly on the radio through the map application by the authorized users. This feature can be used to provide the coordination between the personnel and patrols in the field.
- In wide area system (network) mode, locations of 10 different GPS-equipped radios can be monitored on the radio display simultaneously. Their coordinates are updated automatically and periodically through the system. This service can also be used in simplex and direct mode channels (depending on the user requirements and with a limited scenario).



Messaging Application+

- Sends messages to both PC users in the system and other 4900 Mobile Radio users without requiring a PC
- Image and office files can be attached and sent
- Sends messages in a predefined format.
- Text may either be entered through a software-based keyboard on the display or a keyboard connected to the device.



Query Application*

- Users at their place of duty can query the information in databases used by the organizations at the center without requiring a PC connection thanks to the query application.

Gallery*

- Displays drawings and photos uploaded to the devices.

Music Player*

- Plays audio files such as anthems and voice records uploaded to the devices.

Notepad*

- Can be used for taking and displaying notes.

Calendar*

- Users can display the day, month and year information by means of the calendar on the device.

Calculator*

- Users can make calculations through the calculator on the device.

Professional Navigation Application+

- In addition to the map application, a professional navigation application can be used to perform address search more quickly with visual and audio directives.

Office Application+

- It can be used for creating and displaying txt, pdf, doc, docx, xls, xlsx, ppt and pptx extended office documents.

Printer Application+

- It can be used for taking the printout of an office or image file in the Tablet Control Unit via a printer connected to the Docking Station. It supports both dot-matrix and laser printers.

Applications developed for the Linux operating system run on the 4900 Atlas Portable Radios, while applications developed for the Android operating system run on the Tablet Control Unit used with the 4900 Atlas Mobile Radios. The use of Linux and Android operating systems offers a framework which supports new applications to be developed in addition to the existing applications.

- * The application can be run both in the 4900 Atlas Portable Radio and Tablet Control Unit.
- + The application is only supported in the Tablet Control Unit





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