RADENSO DS1

DS1 USER MANUAL

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Preamble Display

During a Preamble, the display shows Radesndo DS1 logo with Bright mode.

Button Operation

Power	Press	Power on/off
Vol +	Press	**Volume Level Up** (Display & 1 Beep): 0-9 Level
Vol -	Press	**Volume Level Down** (Display & 1 Beep): 9-0 Level
Menu	Press	Menu Mode
Mute	Press	**Toggle Mute Off/On** (Display Only) Lockout save/delete
	1 sec Press	**Red / Speed/ Red & Speed Camera Delete** (During Alert)
	2 sec Press	**User Point save and delete** (While not Alerting)

Mute On/Off, Auto Demute

1. **Mute On** can be activated by pressing Mute button when unit is detecting (alerting) Laser or Radar signals. Laser/Radar/Over speed alert (Voice and Beep) are muted.
2. Press Mute button again to turn off Mute mode.
3. Unit turns back into Mute Off from Mute On automatically 20sec after the radar/laser alarm ends.
4. Unit turns back into Mute Off from Mute On if the Laser/Radar band changes.
5. Unit turns back into Mute off from Mute On if the Menu mode is selected

Button Operation in Menu Mode

1. **Main Menu**
   [VOL+]: Move to the right from the left in Main Menu
   [VOL-]: Move to the left from the right in Main Menu
   [MENU]: Select an option to enter the Sub Menu.

2. **Sub Menu:**
   [VOL+]: Step down on the Sub Menu .
   [VOL-]: Step up on the Sub Menu
   [MENU]: Select an option to enter the Option Menu

3. **Option Menu:**
   [VOL+]: Step down on the Option Menu
   [VOL-]: Step up on the Option Menu.
   [MENU]: Select an option

4. **[MENU] Long press:** Go back to the upper Menu. Go back to the Standby mode when you are in the Main menu.

5. Automatically exit the Menu If there is no button operation in the Menu mode for 10 seconds.

Factory Reset

Select **Factory Reset** in the Menu to reset all the settings except **GMT** and **Region** settings. **GMT** and **Region** settings will stay the same even after Factory Reset.

MENU SETTINGS

The default menu settings are denoted in bold.

Menu	Submenu	Option Menu
User Preference	Mode	**Auto**, Custom
	Voice	**On**, Off
	Frequency Display	On, **Off**
	Low Speed Mute	Off, 5-45mph/5mph step, 10-70kmph/10kmph step **Default:** US/CAN: 15mph; AUS/NZ: 40kmph
	Overspeed Warning	**Off**, 65-105mph/5mph step, 100-170kmph/10kmph step
	BT (Bluetooth)	On, **Off**
	BT Pairing	Set Default: off
Band On/Off	Laser	**On**, Off
	Ka	**On**, Off
	MRCD	**On**, Off
	K	**On**, Off
	X	On, **Off**
	POP Ka	On, **Off**
	POP K	On, **Off**
Band Setting	Ka Radar Sensitivity	**100%**, 90%, 80%, 70%, 60%, 50%
	K Radar Sensitivity	**100%**, 90%, 80%, 70%, 60%, 50%
	X Radar Sensitivity	**100%**, 90%, 80%, 70%, 60%, 50%
	Ka	**Wide**, Narrow, Segment
	K	Wide, Narrow, NA K Narrow (AUS/NZ) **Default:** US, AUS, NZ: off; Canada: on

Menu	Submenu	Option Menu
Band Setting (cont.)	Ka1 Mode	**On**, Off
	Ka2 Mode	**On**, Off
	Ka3 Mode	**On**, Off
	Ka4 Mode	**On**, Off
	Ka5 Mode	**On**, Off
	Ka6 Mode	**On**, Off
	Ka7 Mode	**On**, Off
	Ka8 Mode	**On**, Off
	Ka9 Mode	**On**, Off
	Ka Filter	**On**, Off
	K Filter	**On**, Off
	TSA Filter	On, **Off**
Display Setting	Brightness	**Auto**, Bright, Dim, Dimmer
	Display Color	**Red**, Blue, White, Gray, Pink, Purple, Green, Amber
	Alert Laser Color	**Red**, Blue, White, Gray, Pink, Purple, Green, Amber
	Alert Ka Color	**Red**, Blue, White, Gray, Pink, Purple, Green, Amber
	Alert MRCD Color	**Red**, Blue, White, Gray, Pink, Purple, Green, Amber
	Alert K Color	**Red**, Blue, White, Gray, Pink, Purple, Green, Amber
	Alert X Color	**Red**, Blue, White, Gray, Pink, Purple, Green, Amber
	Idle Mode	Time, **Scan**, Smart Dark, Dark
	Sub Mode	**Speed**, Compass, Speed + Compass, Altitude, Off

Menu	Submenu	Option Menu
Tone	Laser Tone	**1**, 2, 3, 4, 5, 6, 7, 8, 9, 10
	Ka Tone	1, **2**, 3, 4, 5, 6, 7, 8, 9, 10
	MRCD Tone	1, 2, **3**, 4, 5, 6, 7, 8, 9, 10
	K Tone	1, 2, 3, **4**, 5, 6, 7, 8, 9, 10
	X Tone	1, 2, 3, 4, **5**, 6, 7, 8, 9, 10
GPS	GPS	**On**, Off
	GPS Signal Announce	**On**, Off
	Auto Lockout	**On**, Off
	Auto Lockout Area	**No Limit**, 50 mile, 100 mile, 150 mile, 200 mile
	Pin Home	**Set** (no default setting)
	Red Light Camera	**On**, Off
	Speed Camera	**On**, Off
	Red & Speed Camera	**On**, Off
	GPS Alert Distance	**Auto**, Short, Medium, Long
	RLC Auto Mute	**Off**, 55/70mph/5mph step, 90-110kmph/10kmph step
	Delete All User Points?	Reset?
	Delete All Lockouts?	Reset?
	Delete All Auto Lockouts?	Reset?

Unit	Region	**US**, Canada, AUS/NZ
	GMT	-12 to 0 to +12 / 1 step **Default:** US/CAN: -5 ; AUS/NZ: +12
	DST	**On**, Off
	Time 12/24	**12 hr**, 24 hr
	Unit	English (mph), Metric (kmph) **Default:** US: english; CAN/AUS/NZ: metric
	Auto Power Off	**Off**, 15 min, 30 min
	Auto Mute	On, **Off**
	Auto Mute Start	1 sec, 2 sec, **3 sec**
	Auto Mute Vol	**50%**, 40%, 30%, 20%, 10%, 0%
	Factory Reset Mode	Reset?
	Firmware Version Mode	Vx.xx
	Database Version Mode	xx.xx.xx

Etc	Volume Level	0, 1, 2, 3, **4**, 5, 6, 7, 8, 9

Speed Unit

Speed Unit can be changed mph or km/h in the Menu
1. Set mph : Speed : mph, Distance and height : feet
2. Set km/h : Speed : km/h, Distance and height : meter

Unit of Measure for Quiet Ride & Speed Limit

1. mph to km/h
    1.1 Low Speed Mute
    5 mph to 10 km/h
    10 mph to 20 km/h
    15 mph to 20 km/h
    20 mph to 30 km/h
    25 mph to 40 km/h
    30 mph to 50 km/h
    35 mph to 60 km/h
    40 mph to 60 km/h
    45 mph to 70 km/h
    1.2 Over Speed Warning
    65 mph to 100 km/h
    70 mph to 110 km/h
    75 mph to 120 km/h
    80 mph to 130 km/h
    85 mph to 140 km/h
    90 mph to 140 km/h
    95 mph to 150 km/h
    100 mph to 160 km/h
    105 mph to 170 km/h
    1.3 RLC Mute
    55 mph to 90 km/h
    60 mph to 100 km/h
    65 mph to 100 km/h
    70 mph to 110 km/h

2. km/h to mph
    2.1 Low Speed Mute
    10 km/h to 5 mph
    20 km/h to 10 mph
    30 km/h to 20 mph
    40 km/h to 25 mph
    50 km/h to 30 mph
    60 km/h to 35 mph
    70 km/h to 45 mph
    2.2 Over Speed Warning
    100 km/h to 65 mph
    110 km/h to 70 mph
    120 km/h to 75 mph
    130 km/h to 80 mph
    140 km/h to 85 mph
    150 km/h to 95 mph
    160 km/h to 100 mph
    170 km/h to 105 mph
    2.3 RLC Mute
    90 km/h to 55 mph
    100 km/h to 60 mph
    110 km/h to 70 mph

DISPLAYS

Idle Display
Set the standby mode.
1. **Scan Display:** A moving red scan graph is displayed.
2. **Time Display:** The current time is displayed. User can select 12hr or 24hr in the menu.
3. **Smart Dark, Dark:** Shows only one dot on the right bottom side. Smart dark only operates when the button clicks and it alerts. In Smart Dark mode, the display turns on and the brightness level is changed to the brightness setting in the brightness mode when a button is pressed or an alert goes off.

Sub Display
Set the display information that is located on the upper left side.
1. **Speed:** Shows your current speed.
2. **Speed + Compass:** Shows your current speed and direction.
3. **Compass:** Shows your current direction.
4. **Altitude:** Shows your current altitude.
5. **Off:** Displays nothing.

Alerts
1. **Laser Alert:** The display will show "Laser" to alert you of a Laser threat.
2. **MRCD Alert:** The display will show "MRCD" to alert you of a MRCD threat.
3. **Radar Alert:** The display will show the radar band and frequency to alert you of a radar threat.
4. **Threat Display:** The display will show the radar band and frequency to alert you of a radar threat.
5. **App Connected by Bluetooth:** The display will show a bluetooth symbol in the left bottom corner
6. **Lockout Display:** in the right bottom corner, "Lockout" will show in green while within the radius

of the lockout.

7. **Auto Lockout:** in the right bottom corner, "Auto Lockout" will show in green while within the radius of the lockout.

8. **K 24.199 Lockout Display:** in the right bottom corner, "K L/O 24.199" will show in green while within the radius of the false alert.

9. **Speed Camera Alert:** The alert will show "Speed Camera" as well as the distance to the threat, and voice will alert "Speed Camera Ahead."

10. **Red Light Camera Alert:** The alert will show "Red Light Camera" as well as the distance to the threat, and voice will alert "Red Light Camera Ahead."

11. **Red Light & Speed Camera Alert:** The alert will show "Red Light Camera" as well as the distance to the threat, and voice will alert "Red Light and Speed Camera Ahead."

12. **POI Limit Speed Alert:** The voice will alert "Attention reduce speed" with a sound effect and the Display shows "Over Speed." The Left Display shows the current speed if the Left Display setting is "Speed." POI Limit Speed Alarm has higher priority than Laser/Radar alarm.

13. **Over Speed Warning Alert:** The voice will alert "Attention reduce speed" with a sound effect and the Right Display shows "Over Speed." POI Limit Speed Alarm has higher priority than Laser/Radar alarm.

Low Speed Mute

If the current speed is slower than the speed in Low Speed Mute which user set, Speed Camera, User Point, Auto Lockout, X, K, POI Limit Speed Voice, Over Speed Warning Voice will be Mute.

RLC Auto Mute

If the current speed is slower than the speed in RLC Auto Mute which user set, Speed Camera, the alert for Red Light Camera, Red & Speed Camera will be Mute.

Lockouts

The user can mute the frequency at the specific location during alarming X, K band. Then, if the same frequency (X, K band: +/-10MHz) is detected at the same location, X and K alarm will be muted and the display will show 'Lockout' in green at the lower right corner until DS1 goes out of the 500m radius.

Lockout Range
Entry: approximately 450m
Exit: approximately 500m

If both Lockout and Auto Lockout are detected at the same time, the display will show "Lockout."

To save a lockout
1. When X or K alerts, press [MUTE] to mute the voice and beep alerts.
2. Press [MUTE] again to store the current location and the frequency of the false alert. The display and voice will say "Lockout Stored."
3. If the lockout is saved properly, the display will

show "Lockout" in green in the lower right corner
until the DS1 is out of the 500m radius.
4. A maximum of 5,000 lockout points can be saved.
    If the user wants to save an additional Lockout, the
    oldest lockout will be deleted and the new lockout
    will be saved.

To Delete a Lockout
1. When the DS1 gets a lockout signal, you will see
    "LOCKOUT" in green in the bottom right corner
2. While "LOCKOUT is still displayed, press [MUTE].
    The voice and display will say "Delete Lockout?"
3. Press [MUTE] again to delete. The voice and display
    will confirm that the lockout was deleted.

DS1 does not save the Lockout due to the problem of
receiving GPS location data, the voice says "GPS Error."
If GPS is unfixed, DS1 get Mute Off.

To Delete All Lockouts, select "Delete All Lockouts" in
the menu.

User Point Alarm
When User point is detected, the voice announces
("User Point Ahead") and shows User POI display.

User Point Alarm Range
- Entry : approximately 450m
- Exit : approximately 500m

To Save a User Point
Press [MUTE] for 2 seconds to save a User Point. When
a POI alert is detected, User point can not be saved. The
user can save a maximum of 5,000 points.

To Delete a User Point
During a POI Point alert, press [MUTE] for over 1 second
to delete User point.

Delete All User Points
If the user selects "Delete All User Point?" in the menu,
all User Points will be deleted.

POI Point Delete (Speed & Red light Camera)

During a POI Point alert, press [MUTE] for over 1 second
to delete User point.

Auto Lockout

If the same signal (X Band : +-10Mhz, K Band : +-10Mhz)
is detected at the same location three times(1st + 2nd +
3rd), DS1 will automatically lock the signal out as a false
alert. Once a signal is saved in Auto mute memory (the
1st counting) , DS1 will not save the same signal for 8
hours even though it is detected again, which means it
takes at least 16 hours(1st + 2nd + 3rd) to automatically
lock a signal out. The interval of 8 hours is to avoid
saving too many signals in Auto mute memory.

The user can set the radius using Auto Lockout and Pin
Home.

If both Lockout and Auto Lockout are detected at the
same time, the display shows "Lockout" as a priority.

Auto Lockout Range
- Entry : approximately 450m
- Exit : approximately 500m

Delete All Auto Lockout
If choose "Delete All Auto Lockout?" in the menu, all Auto Lockout will be deleted

K Lockout 24.199
DS1 mute the alert voice when K Band within the range of 24.199 +- 0.005MH detects. Display turns gray-out and shows "K L/O 24.199" in green.

City Mode
1. **Auto**
   DS1 sets Highway or City automatically depending on the vehicle speed. Auto mode is not activated when GPS is disconnected. If vehicle speed is over 50MPH, it sets Highway and if vehicle speed is under 50MPH, DS1 sets City Mode.
2. **Custom**
   User can set the sensitivity of each band (100 to 50%)

Bluetooth Mode
1. If BT on, the user can operate using the exclusive App.
2. The user can update F/W on DS1 unit using BT.

K Narrow/Wide
1. K Narrow: K Band : 24.080 ~ 24.200GHz
2. K Wide : All K Band : 24.050 ~ 24.250GHz
3. NZ K Narrow : K Band 23.950 ~ 24.130GHz, This option is shown only when the menu sets as AUS/NZ in Region Menu.

Ka Narrow/ Wide / Segmentation
1. Ka Narrow: Ka Band – 33.8Ghz +-99Mhz,35.5Ghz+-

99Mhz, 34.6Ghz~34.85Ghz
2.   Ka Wide: All Ka band: 33.399~35.700GHz
3.   Ka Segmentation: This feature allows users to select, from 9 filtered settings, a customized sweep of Ka band.
     a.   Ka 1 : 33.399 ~ 33.705 Ghz On<->Off
     b.   Ka 2 : 33.705 ~ 33.903 Ghz On<->Off
     c.   Ka 3 : 33.903 ~ 34.191 Ghz On<->Off
     d.   Ka 4 : 34.191 ~ 34.587 Ghz On<->Off
     e.   Ka 5 : 34.587 ~ 34.803 Ghz On<->Off
     f.   Ka 6 : 34.803 ~ 35.163 Ghz On<->Off
     g.   Ka 7 : 35.163 ~ 35.379 Ghz On<->Off
     h.   Ka 8 : 35.379 ~ 35.613 Ghz On<->Off
     i.   Ka 9 : 35.613 ~ 35.701 Ghz On<->Off

Threat Display

Its shows Three radar signal (up to 3radar bands) being detected at the same time.

*Display priority
1.   Laser
2.   MRCD
3.   Ka
4.   X, K

Bogey Tone

If the other frequency is detected during X, K, Ka Band Alert, DS1 sounds the Bogey Tone and then the band alert continues.

Auto Mute Mode

Auto Mute Mode : Selectable (On/Off)
1.   When Radar (X, K and Ka, POP) alert starts, DS1 alerts for the time which set in Auto Mute Start

Option (1 sec, 2 sec, 3 sec). After DS1 gets Auto Mute On, DS1 volume level sounds reduced by Auto Mute Vol option percentage.
2. Auto Mute ends 10 seconds after the alarm ends. If the same radar is detected within 10 seconds, the unit keeps Auto Mute On.
3. Auto Mute is not applicable to Laser alert.
4. If the current volume level is 0, DS1 keeps the current volume level.

Auto Dim Mode

DS1 has a light sensor to determine when the detector should use the Bright settings (daylight) and when it should use the Dim settings (nighttime). The brightness set Bright or Dimmer depending on the brightness of surroundings.

Auto Power Mode

1. If DS1 speed is 0 or DS1 cannot receive GPS location data for the set time (15 min, 30 min), DS1 counts Auto Power Off alarm about 10seconds and then power off.
2. The Auto Power alarm stops if the user presses any button during the Auto Power off alarm
3. The Brightness sets BRIGHT automatically.

(Auto Power Off Display)

Power Cord Alert LED

1. Power Cord Alert LED turns on when the power turns on.
2. Power Cord Alert LED blinks when Laser or Radar (X,

K, Ka) alarms
3. Power Cord Alert LED blinks slowly when the speed of Laser or Radar (X, K, Ka) alarms beeping sound is slow down and it blinks fast when the speed of the Laser or Radar alarm beeping sound increases.

Power Cord Mute Button

Power Cord Mute button operation is the same as those of DS1 unit.

Software Update

DS1 can be updated using both PC and BT.

FCC ID : 2AZ4TDS1, CONTAINS FCC ID : W75-BTM0

FCC Compliance Statement
This device complies with part 15 of the FCC rules.
Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) this device must accept any interference received,
including interference that may cause undesired
operation.

FCC Interference Statement
This equipment has been tested and found to comply
with the limits for a Class B digital device, pursuant
to part 15 of the FCC Rules. These limits are designed
to provide reasonable protection against harmful
interference in a residential installation. This equipment
generates, uses and can radiate radio frequency energy
and, if not installed and used in accordance with the
instructions, may cause harmful interference to radio
communications. However, there is no guarantee that
interference will not occur in a particular installation.
If this equipment does cause harmful interference to
radio or television reception, which can be determined
by turning the equipment off and on, the user is
encouraged to correct the interference by one of the
following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and
  receiver.
- Connect the equipment into an outlet on a circuit
  different from which the receiver is connected.
- Consult the dealer or an experienced radio/TV
  technician for help.

FCC Caution

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

SUPPORT

Thank you for purchasing the most advanced radar and laser defense in the world. Here at Radenso, we take your support very seriously; if you need support in any capacity, please contact us immediately.

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We hope you enjoy your product for many years!

Regards,
The Radenso Team