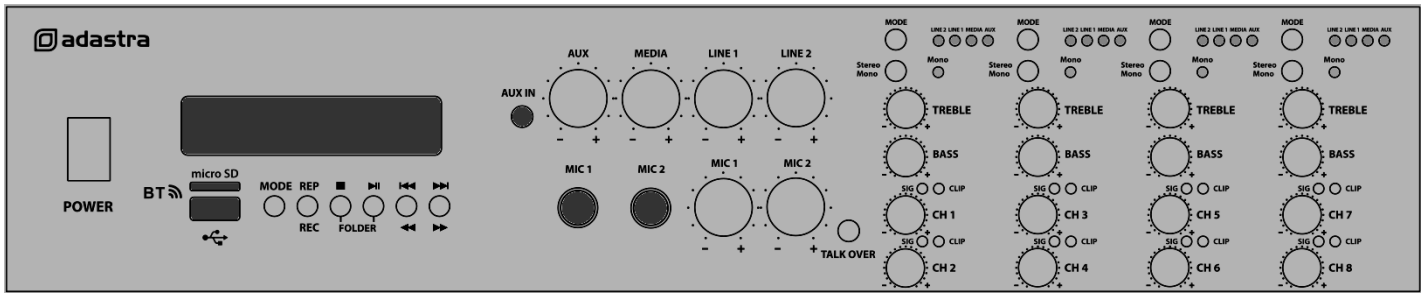
A8300

Rackmount Stereo Amplifier with Media Player

Item ref: 953.483UK

User Manual



Version 1.0

⚠ Caution: Please read this manual carefully before operating
Damage caused by misuse is not covered by the warranty

Introduction

Thank you for choosing the Adastra A8300 rackmount dual stereo amplifier to power your public address system. This amplifier is designed to offer high quality, reliable service for mobile and installed systems. Please read this manual fully and follow the instructions to achieve the best results with your new purchase and to avoid damage through misuse.

SAFETY SYMBOL AND MESSAGE CONVENTIONS

CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	AVIS RISQUE DE CHOC ELECTRIQUE NE PAS OUVRIR

This symbol indicates that dangerous voltage constituting a risk of electric shock is present within this unit

This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this unit.

SAFETY NOTICE

1. Prior to use, read through this manual
2. Keep the manual in good condition
3. Pay attention to safety warnings
4. Observe all operating requirements
5. Do not use the device near water or wet areas
6. For cleaning, only use a lint-free, dry cloth
7. Install according to the specifications
8. Place away from heat sources or heating appliances
9. Use mains lead provided and avoid damage to cable or connectors
10. Unplug power from mains during stormy weather or if unused for long periods
11. In case of malfunction, water ingress or other damage, consult qualified service personnel
12. Do not place in damp areas or near liquids or moisture. Do not spill liquids on the housing
13. Please pay attention to warning symbols during transit and placement
14. Terminals marked with the ϟ symbol are HAZARDOUS LIVE and should only be connected by qualified personnel
15. Ensure that the apparatus is connected to a mains socket with a protective EARTH connection
16. Ensure correct operation of the mains switch

Warning

To prevent the risk of fire or electric shock, do not expose any components to rain or moisture.
If liquids are spilled on the casing, stop using immediately, allow unit to dry out and have checked by qualified personnel before further use. Avoid impact, extreme pressure or heavy vibration to the case
No user serviceable parts inside – Do not open the case – refer all servicing to qualified service personnel.

Safety

- Check for correct mains voltage and condition of IEC lead before connecting to power outlet
- It is recommended to use speaker wire with a minimum current rating of 6A per output.
- Do not allow any foreign objects to enter the case or through the ventilation grilles

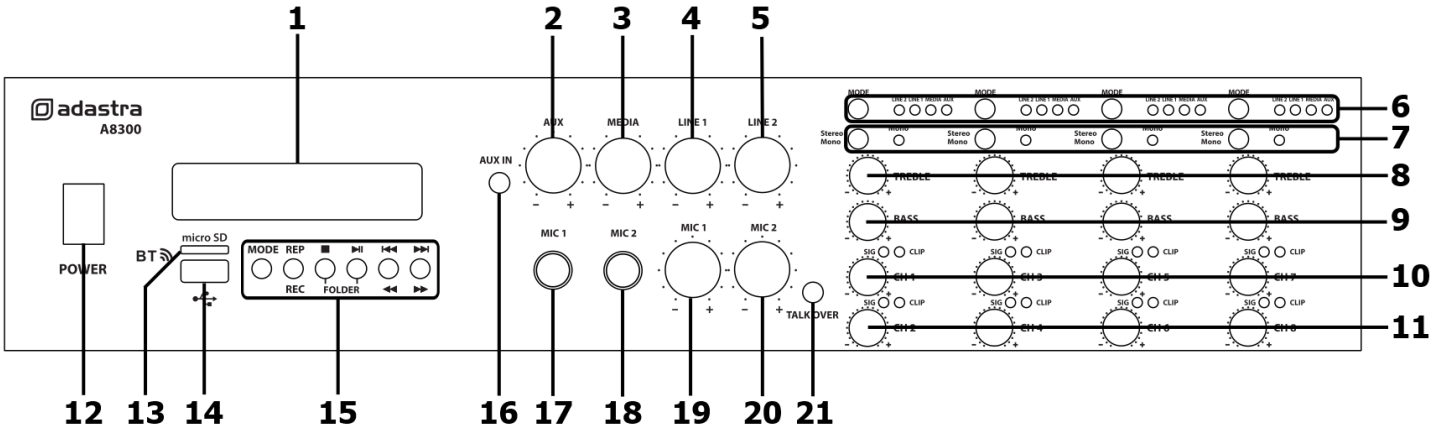
Placement

- Keep out of direct sunlight and away from heat sources
- Keep away from damp or dusty environments
- For rack-mounting, use the rack ears provided and ensure adequate support for the weight of the amplifier
- Ensure adequate air-flow and do not cover cooling vents
- Ensure adequate access to controls and connections

Cleaning

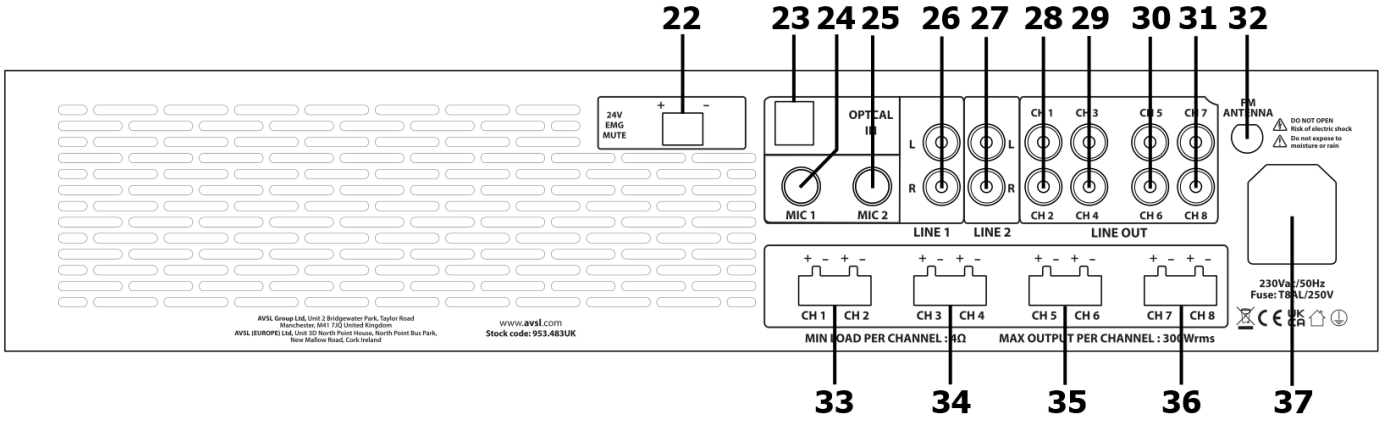
- Use a soft cloth with a neutral detergent to clean the casing as required
- Use a vacuum cleaner to clear ventilation grilles of any dust or debris build-ups
- Do not use strong solvents for cleaning the unit

Front panel



1. Media player display
2. Volume control for AUX input
3. Volume control for MEDIA player
4. LINE 1 input volume control
5. LINE 2 input volume control
6. Media player MODE selectors & indicators
7. MONO/STEREO switches & indicators
8. Treble EQ controls
9. Bass EQ controls
10. CH1/3/5/7 volume controls
11. CH2/4/6/8 volume controls
12. POWER on/off switch
13. MicroSD card slot
14. USB port (type A)
15. Media player control panel
16. AUX input 3.5mm stereo jack
17. Mic 1 input 6.3mm jack
18. Mic 2 input 6.3mm jack
19. Mic 1 volume control
20. Mic 2 volume control
21. Talkover on/off button

Rear panel



22. 24V emergency mute contacts
23. OPTICAL input
24. Mic 1 input (parallel with front panel jack)
25. Mic 2 input (parallel with front panel jack)
26. Line 1 input (L+R RCA)
27. Line 2 input (L+R RCA)
28. Line output Ch1+Ch2 (RCA)
29. Line output Ch3+Ch4 (RCA)
30. Line output Ch5+Ch6 (RCA)
31. Line output Ch7+Ch8 (RCA)
32. FM antenna connection (F type)
33. CH1+CH2 speaker output terminals (Euroblock)
34. CH3+CH4 speaker output terminals (Euroblock)
35. CH5+CH6 speaker output terminals (Euroblock)
36. CH7+CH8 speaker output terminals (Euroblock)
37. IEC mains inlet & fuse holder

Speaker connections

The A8300 has 8 speaker output channels (CH1-CH8) which are grouped in pairs (i.e. 1+2, 3+4, 5+6, 7+8)
There are 4 green Euroblock connectors on the rear panel (33, 34, 35, 36) for connecting speakers.
Each of these blocks can be removed from the panel to make connection more convenient.
Each has 4 screw terminals: "+" and "–" for each of the 2 channels on that zone.
To connect speakers, undo the screws to open the connections, then insert "–" to the "–" output terminal(s) and "+" to the "+" output terminal(s), tightening the screw onto each wire and ensuring no stray strands.

Connect speakers with a combined impedance of no lower than 4Ω (4 Ohms) to each output channel.
(most speakers are with 8Ω impedance)

- If the speakers are 8Ω impedance, you can 1 or 2 speakers in parallel to each channel. No more.
- If the speakers are 16Ω impedance, you can connect up to 4 speakers in parallel to each channel.

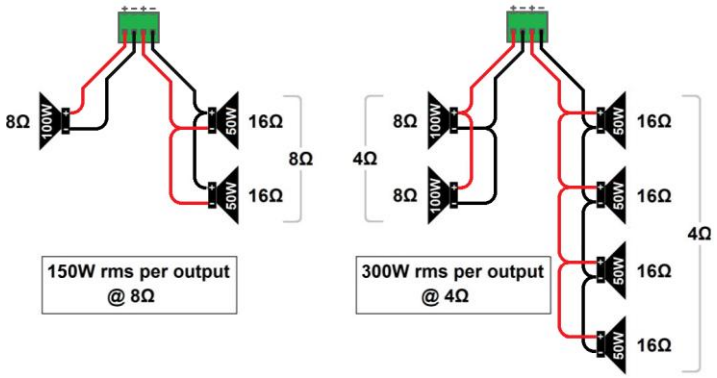
Some example wiring diagrams are shown opposite with speakers connected in parallel.

The impedance of the load measured in "Ohms" (Ω) will also determine the power output.

The amplifier delivers its maximum power output at the minimum impedance rating (4Ω).

Higher impedances result in a lower output.

- Note: Some speakers have 4Ω impedance, in which case connect only 1 speaker to each channel.



The combined load on each output shares the power from the amplifier. If the amplifier is delivering 300W to 2 speakers connected in parallel with the same impedance, they must each be capable of handling 150W.

Input connections

The A8300 has 2 mic inputs which are live to all output channels (or zones) at all times for announcements
Connect wired microphone(s) to the Mic 1 and/or Mic 2 jack inputs (6.3mm) on the front panel (17, 18) or alternatively on the rear panel (24, 25). The volume level of these is controlled by the Mic 1 and Mic 2 volume controls (19, 20). There is also a TALKOVER button (21) which when pressed in will give both microphone inputs priority over any of the stereo inputs, automatically muting their output during announcements.

For background music or other audio, there are 4 selectable stereo sources (one is the internal media player)
Each pair of channels can be set to deliver audio from one of these 4 sources – LINE 2, LINE 1, MEDIA, AUX.

A smart phone, tablet or mp3 player can be connected to the Aux jack (3.5mm) on the front panel (16)
To hear this input through the speakers, "AUX" must be set on the input selector (6) of that stereo zone.
The volume level of this stereo input is controlled by the Aux volume control (2)

On the rear panel, there are 2 further stereo line inputs for connecting CD/DVD players, DVB/DAB tuners etc. LINE 1 and LINE 2 inputs are on left + right RCA connectors on the rear panel (26, 27) and are controlled by separate volume controls on the front panel (4, 5). To hear these inputs through the speakers, "LINE 1" or "LINE 2" must be set on the input selector (6) of that stereo zone.

The mix of mic/line inputs to any of the 4 stereo zones can be fed onto further equipment via the LINE OUT RCA sockets for CH1+CH2, CH3+CH4, CH5+CH6, CH7+CH8, which are line level versions of the speaker outs.

For best results when using the media player's built-in FM tuner, it is advisable to connect an FM aerial to the rear panel F-connector (32) using shielded RG59 or RG6 cable.

If a digital optical input source is to be used, connect this to the optical input (23) using an appropriate lead.

For emergency muting, connect a 24V trigger (from alarm panel) to the 24V EMG MUTE terminals as shown.

Operation

When all signal connections to the amplifier are made, connect the IEC power inlet (33) to the 230Vac mains supply using the IEC lead provided. Turn all rotary controls down and switch on the power (12) and the media player display will illuminate.

Turn Treble and Bass controls (8, 9) to the 12 o'clock position (pointing straight up) and turn the CH1 - CH8 rotary controls (10,11) up part way for testing.

If a microphone is connected to one of the mic inputs (17, 18, 24, 25) gradually increase the volume control for that channel (19,20) and speak into the mic until it is heard through the speakers. If the TALKOVER switch is pressed in (21), any audio from the stereo channels will be muted whilst speaking into the microphone(s)

Alternatively, play a signal into the AUX or one of the LINE inputs (16, 26, 27) and ensure it is selected on the input mode selector (6) and turn up its volume control (2, 4, 5) until the signal is heard through the speakers.

The same test applies for the internal media player (see section below) by playing a track or radio station. Select "MEDIA" on the input selector (6) and gradually increase the media player volume (3)

Turn up the CH1 - CH8 volume controls to the maximum required volume level and reduce the input source volume control if necessary.

The output of each speaker channel is represented on the **SIG** and **CLIP** LEDs next to each channel output control and care should be taken that the red **CLIP** LED is only lit momentarily during use. Anything longer than a short flash of this LED may be indicating distortion or clipping of the output signal and the output channel volume control should be turned down.

Any microphones connected should not be able to "hear" the speakers, which can cause feedback (squealing or howling). They should not be pointed towards the speakers. If this still happens, turn down the volume for that microphone and adjust Bass and/or Treble EQ controls to reduce the feedback.

If the TALKOVER feature (21) is switched on, speaking into the microphone will "override" any audio playback from the selected stereo Aux, Line or Media input, which will be reduced in volume temporarily.
This allows voice announcements to be heard without interference from the line inputs or media player.

In addition to input and output volume controls, there are Treble and Bass EQ controls (8, 9) to adjust the tone of the overall output of each pair of outputs. At the 12 o'clock position, these controls apply no effect to the signal (no boost or cut).

Moving the Treble control clockwise boosts the high frequencies in the audio, whilst moving it anticlockwise will cut these high frequencies.

Likewise, moving the Bass control clockwise boosts the low frequencies in the audio, whilst moving it anticlockwise will cut these low frequencies.

Adjust these EQ controls to suit the type of audio signal or compensate for the room acoustics.

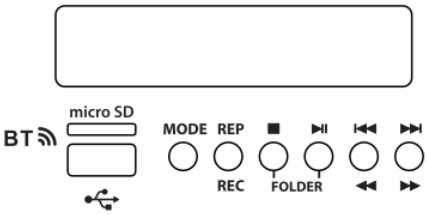
On the A8300, each pair of channels is set up as a separate stereo zone, but if the speakers attached to these channels are not in the same area, it can be more effective to deliver mono sound (both left + right signals merged into a single signal) so that parts of the audio are not missing from certain areas. For this option, each pair of channels has a MONO/STEREO switch and indicator (7) enabling the choice of mono or stereo output.

The following section explains the media player functions.

Media player

The A8300 amplifier is equipped with a multi-functional media player for playback of audio files from USB or microSD media, optical input, FM radio stations or Bluetooth connection. The MEDIA player option in the MODE selection is controlled by the MEDIA volume control (3). Front panel controls are as described below.

MODE	Select between USB/SD, FM tuner, Bluetooth & SPDIF (Optical)
REP/REC	Repeat: Random, One, Folder and All (hold to Record to USB)
■	Stop playback (hold select previous folder)
⏵ ⏸	Play/Pause (hold select next folder)
⏮	Previous track/FM station (hold for volume down)
⏭	Next track/FM station (hold for volume up)



USB/SD media playback

Insert USB or microSD media containing mp3 tracks and playback should begin automatically.
The stored tracks should be standard mp3 audio format. If playback does not start, press **MODE** or ⏵ ⏸
The display will show the elapsed time and track name.
Ensure MEDIA is selected on the output selector LED (6) and turn up the MEDIA volume control (3)
Tracks may be navigated by pressing ⏮ for the previous track and ⏭ for the next track.
Press and hold ⏮ to reduce the media player volume or press and hold ⏭ to increase the volume.
Playback can be paused and resumed by pressing ⏵ ⏸
Pressing **REP** sets the repeat mode: ONE = single track, FOLD = folder, RAND = random, ALL= all tracks

FM Tuner

For good reception of FM radio stations (if needed) in the media player, the A8300 has an "F" connector on the rear panel (32) which can be connected to an external FM antenna (aerial)
Press the media player MODE button until the display shows "FM Radio"
If auto-tuning has already been performed, the display may show a channel (e.g. "CH01")
If no channels are tuned in, press the REP/REC button to begin auto tuning, which scans available stations and stores them as channels within the FM tuner. Pressing REP/REC again will abort the auto-tuning.
To step through pre-set stations, press the ⏮ or ⏭ buttons… CH01, CH02, CH03, CH04… etc.
Press and hold ⏮ to reduce the FM radio volume or press and hold ⏭ to increase the volume.
Manual tuning down or up is performed using the Stop and Play buttons (■ / ⏵ ⏸)

Bluetooth

The Bluetooth function allows connection of a smart phone or tablet to the media player section for playback of stored files or streamed digital audio. To enable this function, it will be necessary to pair the sending device to the receiver as follows.

1. Press the media player MODE button until the display says "Bluetooth"
2. Open the Bluetooth settings menu on the smart phone or tablet (or other sending device)
3. Scan for Bluetooth devices and look for "A A-series" in the list of available devices (ensure that the A8300 is powered on, Bluetooth mode is selected and within reception range)
4. Select "A A-series" and the sending device should confirm that it is connected as an audio device.
5. Play audio from the sending device, ensuring that volume controls are not turned down/muted
6. Select MEDIA input (6) and turn up the MEDIA volume control (3) to the required level.

The ⏮, ⏭ and ⏵ ⏸ buttons will operate in Bluetooth as remote playback controls.
Holding the ⏮ or ⏭ buttons will adjust the output volume of the player.

If the sending device goes out of range, connection should automatically resume when back in range.
Likewise, if a different mode is selected, connection should resume when Bluetooth mode is re-selected.
If Bluetooth is disabled on the sending device or paired to a different receiver, it will be necessary to re-connect the sending device to "A A-Series" from step 2 above to re-establish a Bluetooth link.

SPDIF (Optical Input)

If an optical input is connected, this can be selected through the media player by pressing the MODE button until the display shows "SPDIF". When this is activated, any channel that has the media player selected as a source will hear the optical input.

For FM or Bluetooth modes, Holding the REP/REC button will record the output to a USB pen drive (if one is connected to the USB port). The resulting recordings will appear in the root folder named as "fm0001.mp3" or "bt0001.mp3" where the track number is incremented for each recording from that source.

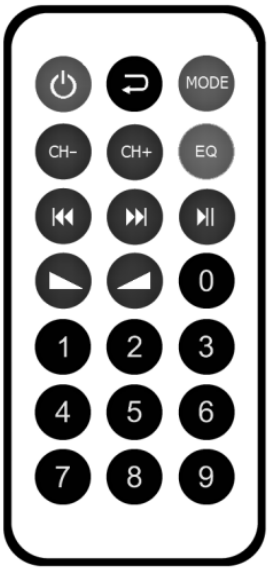
Media player remote control

In addition to front panel controls, the media player can be operated via the supplied I.R. remote handset.

As supplied, the handset will have a plastic tab at the bottom to preserve battery charge before first usage. Remove this tab by pulling away from the handset to engage the battery and activate the remote control. If this needs to be replaced, the battery compartment can be slid out from the bottom to reveal the cell. Replace the battery with a CR2025 button cell.

Point the top of the remote control towards the media player display and operate in line of sight.

Some of the controls on the remote handset mirror those on the front panel and are described below.



⏻	Media player power on/standby button
⮌	Repeat mode – select One, Folder, Random or All tracks
MODE	Select USB, SD, FM tuner, Bluetooth or SPDIF (Optical) mode
CH- / CH+	Select FM radio station
EQ	Select preset EQ – Bass, Pop, Rock, Jazz, Classical or Normal
⏮ / ⏭	Previous or Next track select
⏵ ⏸	Play / Pause track (auto-tune in FM tuner mode)
◣ / ◢	Adjust media player volume down or up
0 - 9	Direct track or channel access – key in number

Specifications

Power supply	230Vac, 50Hz (IEC)
Fuse	F6.3A, 250V
Output power rms @ 4 Ohms	2 x 4 x 300W
Output power rms @ 8 Ohms	2 x 4 x 150W
Amplifier: construction	Class D
Frequency response	20Hz - 20kHz ±0.5dB
Microphone inputs	2 x 6.3mm jack (mono) front panel and repeated on rear panel.
Line inputs	Line 1 & Line 2: L+R (RCA), Aux (3.5mm stereo)
Input sensitivity: Line	0.775Vrms
Input sensitivity: Aux	0.480Vrms
Input impedance	20k Ohms (balanced), 10k Ohms (unbalanced)
Audio source	USB/SD mp3 playback, Optical, FM tuner, BT receiver
Input controls	Aux, Media, Line1, Line2, Mic1, Mic2, Talkover
Line output	8 x RCA
Speaker outputs	4 x Euroblock screw terminal connectors (2 output channels +/- on each Euroblock)
Antenna connection	F-type (FM tuner)
Output controls	4 x MODE (source select), 4 x Bass, 4 x Treble, CH1 - CH8 volume
Dynamic range	92dB
THD +N	<0.1%
Protection	Thermal, over-current, over-voltage, short-circuit
Dimensions	482 x 300 x 88mm
Weight	11.556kg

Troubleshooting

No power LED on control panel	Ensure IEC lead is in good condition and connected properly
	Ensure POWER switch is on and check mains inlet fuse
Power light and output LEDs lighting but no output	Check speaker output terminals are connected correctly
	Check speakers are working (test on another amp if available)
	Check memory device is connected properly (remove and re-insert)
	Check file types – standard mp3 digital audio files required
	Check memory device works on a PC or Mac for standard playback
Bluetooth cannot connect	Ensure that Bluetooth is enabled on sending device
	Ensure that the sending device is within Bluetooth range (5-10m)
	Check that the device is connecting to "A A-series"
No audio from Bluetooth device	Ensure that volume controls are not turned down on sending device
	Check volume setting and Play/Pause buttons on media player
Output too loud or distorted	Reduce MIC, LINE IN, MEDIA and/or CH level
	Ensure Hi-Z line level input(s) not connected to a Mic input
Output too quiet or inaudible	Increase MIC, LINE IN, MEDIA and/or CH level
	Check for quiet recording of media files on USB/microSD
	Check TALKOVER is not unintentionally suppressing audio playback
Feedback from microphone	Face microphone away from speakers and monitors and reduce level
Amplifier overheating	Ensure cooling vents are clear from debris and dust
	Ensure that the load impedance on any output channel is no less than 4Ω

Disposal: The "Crossed Wheelie Bin" symbol on the product means that the product is classed as Electrical or Electronic equipment and should not be disposed with other household or commercial waste at the end of its useful life. The goods must be disposed of according to your local council guidelines.

Hereby, AVSL Group Ltd. declares that the radio equipment type 953.483UK is in compliance with Directive 2014/53/EU

The full text of the EU declaration of conformity is available at the following internet address:
http://www.avsl.com/assets/exportdoc/9/5/953483UK%20CE.pdf