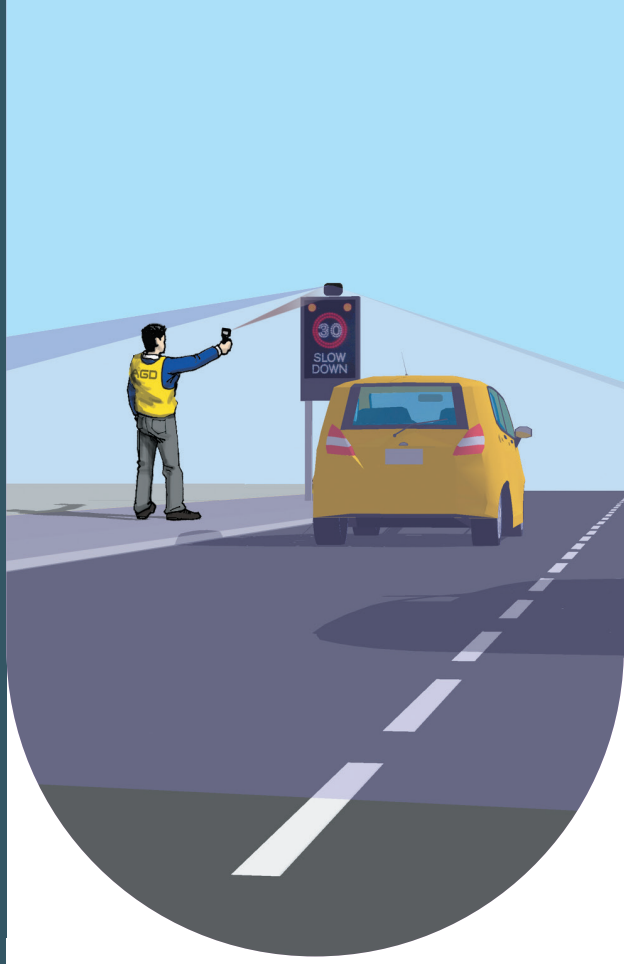
AGD® SAFER GREENER MORE EFFICIENT



PRODUCT MANUAL

AGD932

Target Simulator

AGD-SYSTEMS.COM

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Target Simulator

INTRODUCTION

PRODUCT OVERVIEW AND TECHNOLOGY

TThe AGD932 is a compact purpose designed portable radar target simulator that can be used to test radars on site for correct operation and speed reporting. A number of special features have been designed into the target simulator including user selectable pre-set speed values or capability to set specific speed values as required and vehicle type.

The target simulator features a number of user adjustable parameters via an intuitive user interface allowing quick and easy set up in a roadside environment.

KEY FEATURES

- Lightweight ergonomic profile
- State-of-the-art radar technology
- Ease of set up in road side environment
- Intuitive user Interface
- User selectable pre-set speed values
- User definable specific speed values
- Battery powered (2x AA)

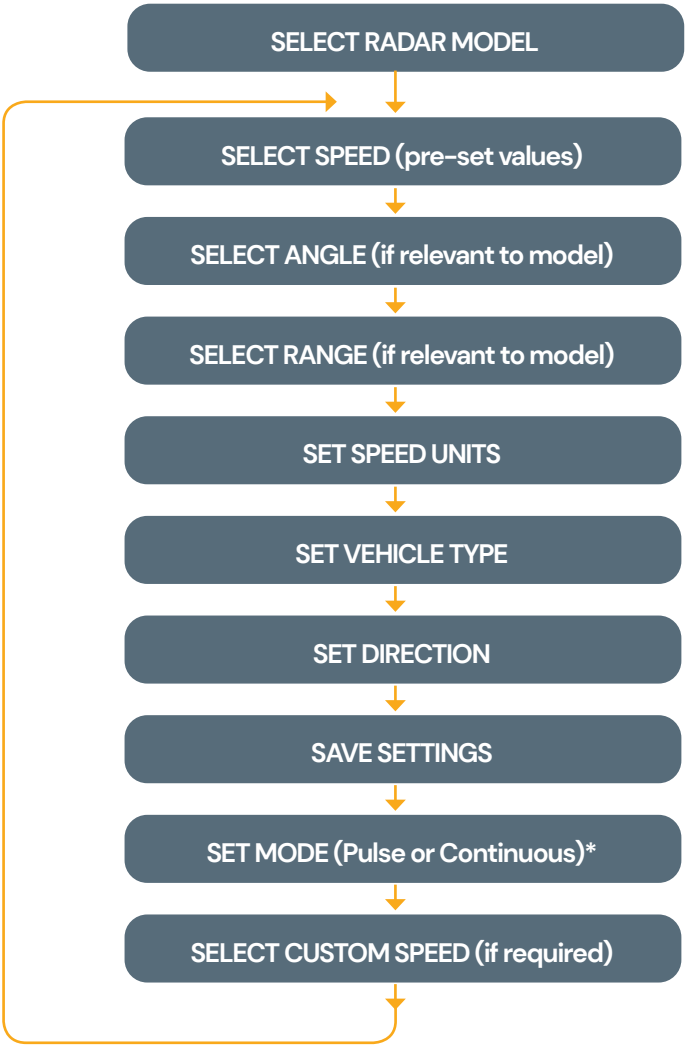
INTRODUCTION

TYPICAL APPLICTIONS

DISPLAY / CONFIGURATION

SCREEN MODE OPERATION

The 932 menu system works on a basic principal whereby the screen will cycle through the menu options as shown below. The return button allows you to enter a menu and the up/down arrows allow you to adjust settings, pressing the return button will cycle you to the next menu option.



*The 350 radar has extra modes available, please refer to relevant section in this manual

DISPLAY / CONFIGURATION

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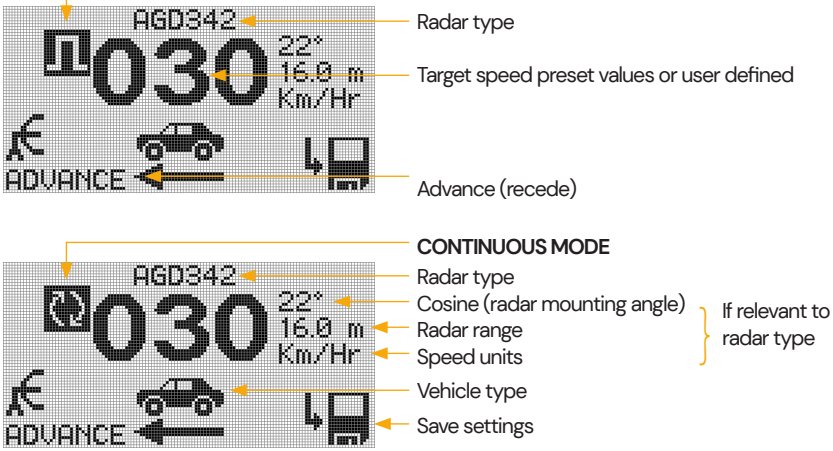


SCREEN MODES

Start up screen

On powering up the 932 will display a splash screen. The current software version is shown on the bottom left, along with the detector model the 932 has been calibrated for.

Select radar type

The screen will switch to "Select Radar" automatically, here you can scroll up or down using the arrows to select the radar you wish to test. Press return to select and move to next screen.

Please note that the orientation of the unit varies with radar type due to the e field polarisation – horizontal or vertical.

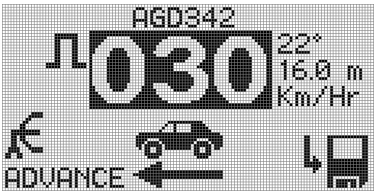
DISPLAY / CONFIGURATION

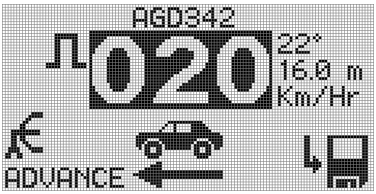
SETTING THE TARGET SPEED VALUES

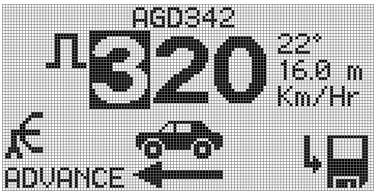
The large numbers indicating the pre-set speed setting is highlighted ready for input. The default setting is 30Km/Hr, press return to make active, the numbers will flash you can use the up/down arrows to amend the speed, see the table on page 11 for the pre-set values. The presets will simply cycle through from minimum to maximum range - 20Km/Hr (12mph) to 320Km/Hr (200mph). To select the speed press the return button.

The sample screens show the minimum speed setting of 21Km/Hr and the maximum speed setting of 320Km/Hr.

NOTE: certain radars may only support certain speed values.

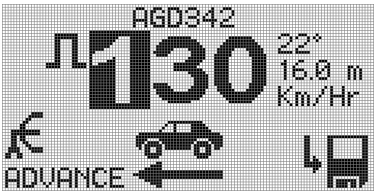


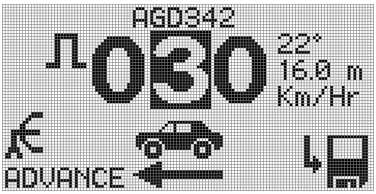


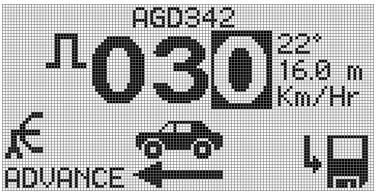


USER SELECTABLE SPEED VALUES

You can highlight the individual numbers, i.e. hundreds, tens and units to set your own speed measurement. Toggle through each unit then press return to set.





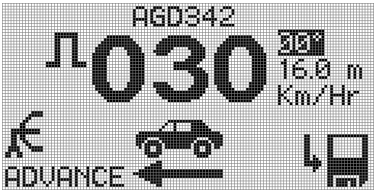


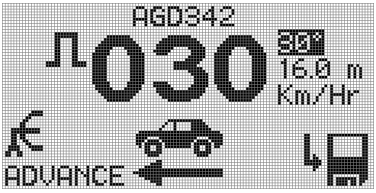
DISPLAY / CONFIGURATION

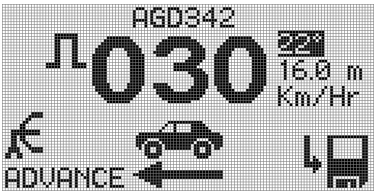
SETTING THE RADAR MOUNTING ANGLE

The next setting displayed is the radar target mounting angle – top right. Minimum angle is 0° – maximum is 30°, use the return button to make active and arrows buttons to alter value, either up or down. Press return again to set.

NOTE: certain radars may not require mounting angle adjustment.



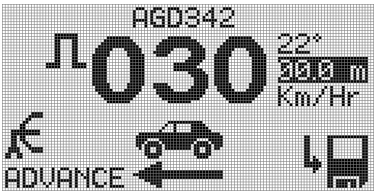


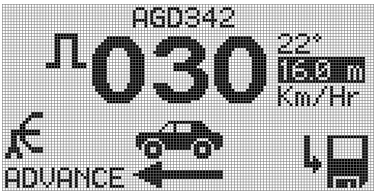


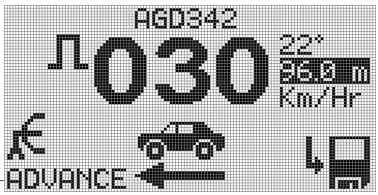
SETTING THE RADAR RANGE

The radar range can be set from a minimum of zero metres to a maximum of 96 metres. The value increments will depend on the radar type.

NOTE: This function is only available on certain radar types.



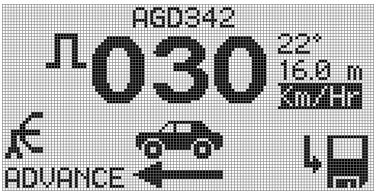


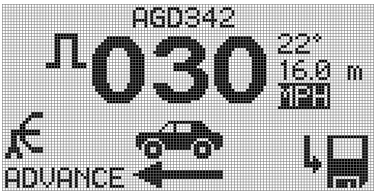


DISPLAY / CONFIGURATION

SETTING MEASUREMENT – KPH/MPH

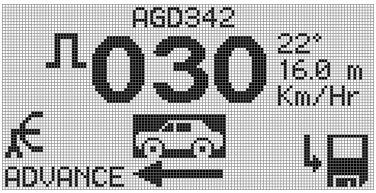
The next setting allows you to toggle between kph and mph.

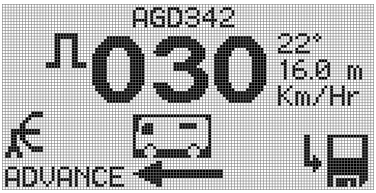


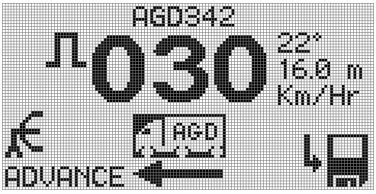


SETTING THE TARGET TYPE

There are 3 options for target type, Car, Van and Lorry. Simple cycle through the options and press return to select.



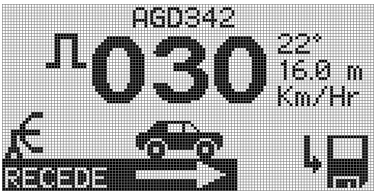


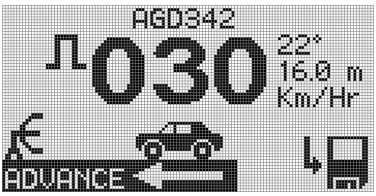


DISPLAY / CONFIGURATION

SET TO RECEDE OR ADVANCE

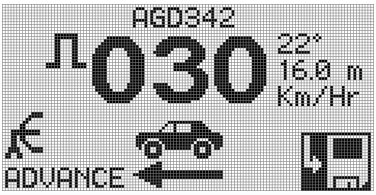
There is a simple toggle button to select either recede or advance. Press return to select.





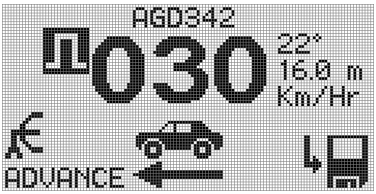
SAVE SETTINGS

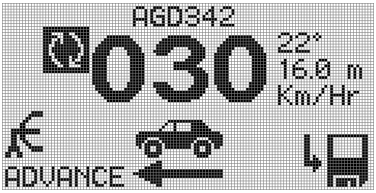
Arrow forward to the save settings button bottom right and press return.



TRANSMIT & CONTINUOUS MODE

This option allows you to decide between transmit or continuous mode.

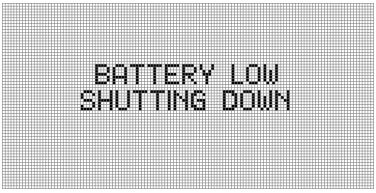




DISPLAY / CONFIGURATION

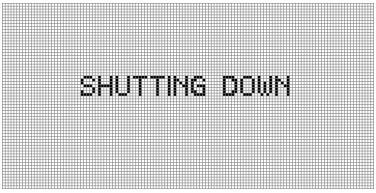
LOW BATTERY WARNING

If during operation the batteries become depleted the unit will warn you with this message before automatically shutting down. Simply replace batteries x2 AA and restart to continue.



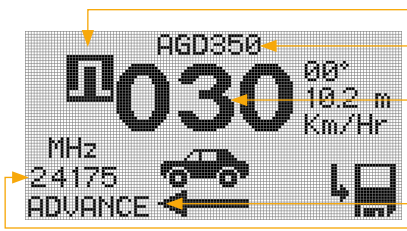
SHUTTING THE UNIT DOWN

Holding the power on button for more than one second will shut the unit down. We would advise removing the batteries if the unit is not going to be used for long period.

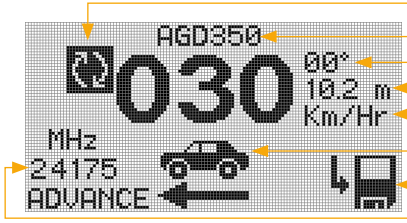


DISPLAY / CONFIGURATION

INFORMATION DISPLAY 350

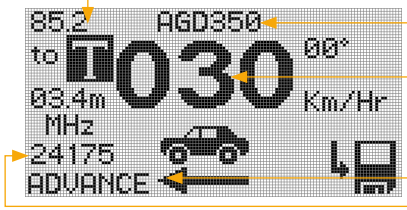


PULSE/TRANSMIT MODE
- Radar type
- Target speed preset values or user defined
- Advance (recede)
- Channel frequency

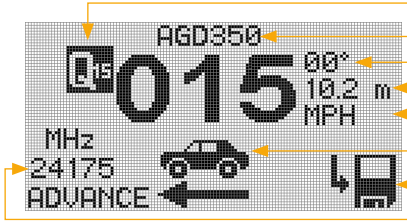


CONTINUOUS MODE
- Radar type
- Cosine (radar mounting angle)
- Radar range
- Speed units
- Vehicle type
- Save settings
- Channel frequency

If relevant to radar type

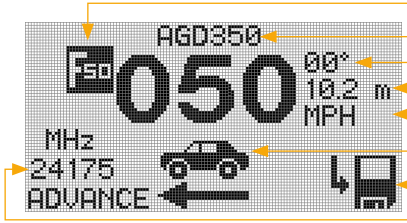


TRACKED TARGET MODE
- Radar type
- Target speed preset values or user defined
- Advance (recede)
- Channel frequency



QUEUE MODE
- Radar type
- Cosine (radar mounting angle)
- Radar range
- Speed units
- Vehicle type
- Save settings
- Channel frequency

If relevant to radar type



FREE FLOW MODE
- Radar type
- Cosine (radar mounting angle)
- Radar range
- Speed units
- Vehicle type
- Save settings
- Channel frequency

If relevant to radar type

DISPLAY / CONFIGURATION

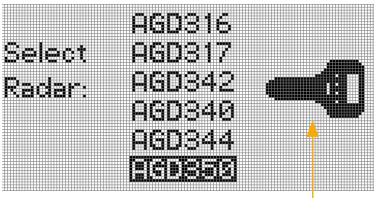
SCREEN MODES

START UP SCREEN

On powering up the 932 will display a splash screen. The current software version is shown on the bottom left, along with the detector model the 932 has been calibrated for.

SELECT RADAR TYPE

The screen will switch to "Select Radar" automatically, here you can scroll up or down using the arrows to select the radar you wish to test. Press return to select and move to next screen.



Please note that the orientation of the unit varies with radar type due to the e field polarisation – horizontal or vertical.

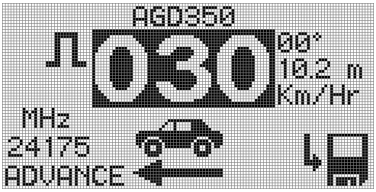
DISPLAY / CONFIGURATION

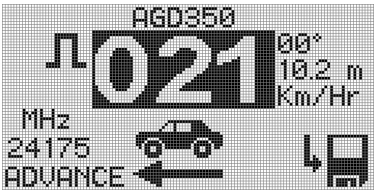
SETTING THER TARGET SPEED VALUES

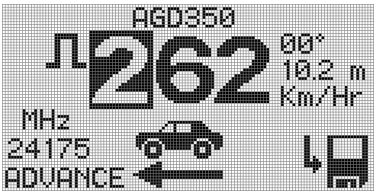
The large numbers indicating the pre-set speed setting is highlighted ready for input. The default setting is 30Km/Hr, press return to make active, the numbers will flash you can use the up/ down arrows to amend the speed. See the table on page 11 for the pre-set values. The presets will simply cycle through from minimum to maximum range - 21Km/Hr (12mph) to 320Km/Hr (200mph). To select the speed press the return button.

The sample screens show the minimum speed setting of 21Km/Hr and the maximum speed setting of 320Km/Hr.

NOTE: certain radars may only support certain speed values.

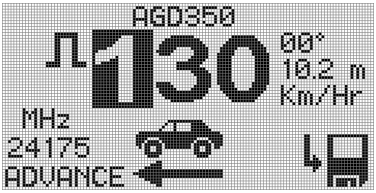


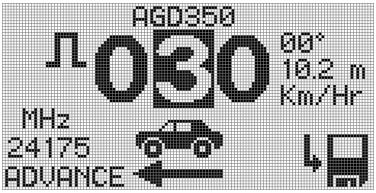


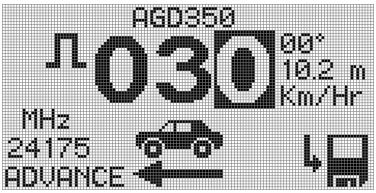


USER SELECTABLE SPEED VALUES

You can highlight the individual numbers, i.e. hundreds, tens and units to set your own speed measurement. Toggle through each unit then press return to set.





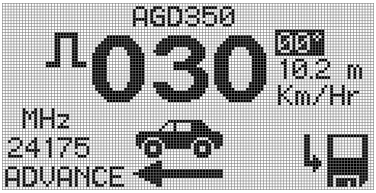


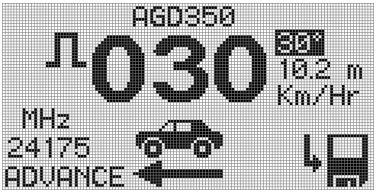
DISPLAY / CONFIGURATION

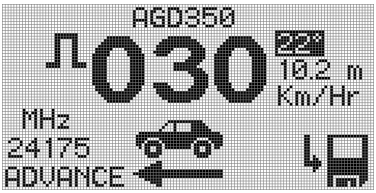
SETTING THE RADAR MOUNTING ANGLE

The next setting displayed is the radar target mounting angle – top right. Minimum angle is 0° – maximum is 30°, use the return button to make active and arrows buttons to alter value, either up or down. Press return again to set.

NOTE: It is advised to use the radar in a setting of 0° for the 350 radar. Please ensure to also set the mounting angle correctly in the radar.



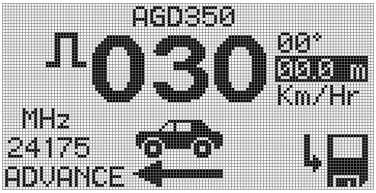


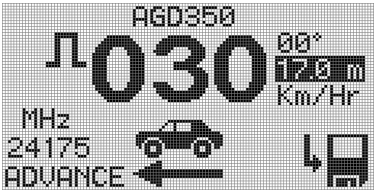


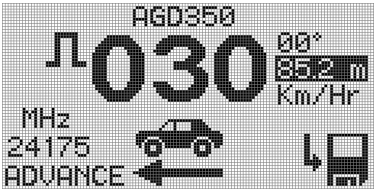
SETTING THE RADAR RANGE

The radar range can be set from a minimum of zero metres to a maximum of 85.2 metres. The value increments will depend on the radar type.

NOTE: This function is only available on certain radar types.



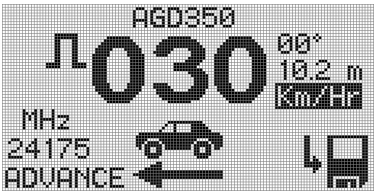


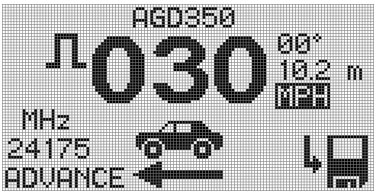


DISPLAY / CONFIGURATION

SETTING MEASUREMENT – KPH/MPH

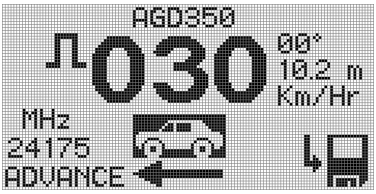
The next setting allows you to toggle between kph and mph.

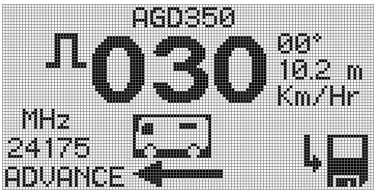


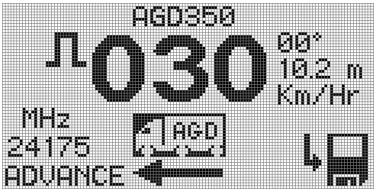


SETTING THE TARGET TYPE

There are 3 options for target type, Car, Van and Lorry. Simply cycle through the options and press return to select.



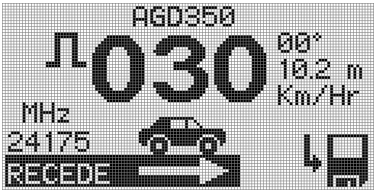


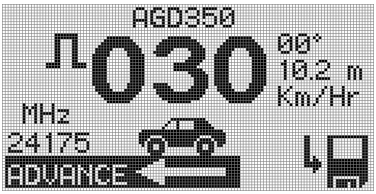


DISPLAY / CONFIGURATION

SET TO RECEDE OR ADVANCE

There is a simple toggle button to select either recede or advance. Press return to select.



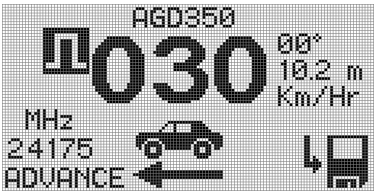


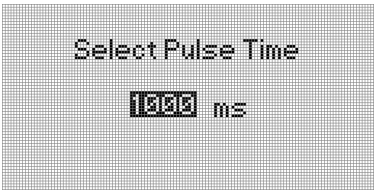
MODES OF OPERATION (PULSE)

This option allows you to choose between five modes in the 350 radar:

Pulse/transmit Mode:

This mode is selected by highlighting the mode of operation icon. Selecting this mode will then give the option of adjusting the pulse time. This value is adjustable between 100ms and 1000ms in 100ms steps. To adjust the on-screen value, select using the return key and adjust tthe value using the up/down keys. Hitting return will exit to the main screen with the selected value.



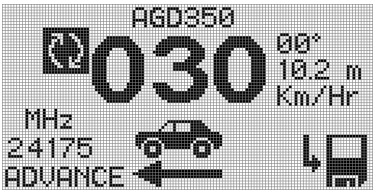


MODES OF OPERATION (CONTINUOUS)

This option allows you to choose between five modes in the 350 radar:

Continuous Mode:

This mode is selected by highlighting the mode of operation icon. Selecting this mode will then give a continously repeated target which has a one second off period before re-transmitting. There are no adjustable parameters associated with this mode.



DISPLAY / CONFIGURATION

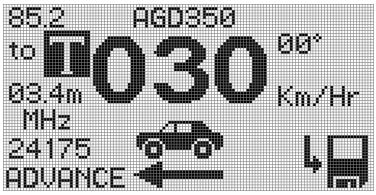
MODES OF OPERATION (TRACKED)

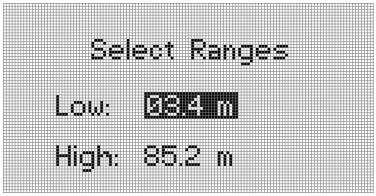
This option allows you to choose between five modes in the 350 radar:

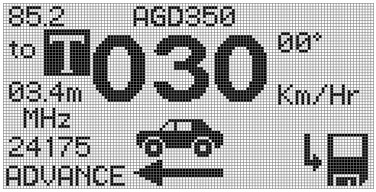
Tracked Mode:

This mode is selected by highlighting the mode of operation icon.

Selecting this mode will generate a target either advancing or receding that steps in range toward or away from the radar. Upon selecting the 'tracked target' icon, the screen will display a low and high range figure in metres. Simply press the down arrow to accept these figures and move back to the home screen, or hit the return key on the highlighted parameter to adjust. Pressing the down arrow after adjustment will return to the home screen







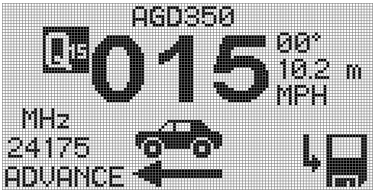
MODES OF OPERATION (QUEUE)

This option allows you to choose between five modes in the 350 radar:

Queue Mode:

This mode is selected by highlighting the mode of operation icon.

Represented as Q15 in the display, selecting this mode will simulate a target with a pre-set speed of 15mph, pulsed as such to generate a queue when using the queue detection function in the 350 radar. Both speed and direction may be adjusted when using this parameter.



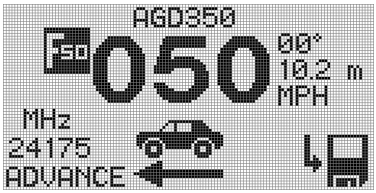
MODES OF OPERATION (FAST FLOW)

This option allows you to choose between five modes in the 350 radar:

Fast Flow Mode:

This mode is selected by highlighting the mode of operation icon.

Represented as F50 in the display, selecting this mode will simulate a target with a pre-set speed of 50mph, pulsed as such to release the queue generated using the above queue function when using the queue detection function in the 350 radar. Both speed and direction may be adjusted when using this parameter.



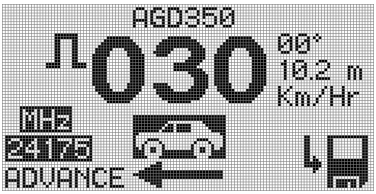
DISPLAY / CONFIGURATION

SETTING THE CHANNEL FREQUENCY

This option allows you to select one of six transmit frequencies. Highlighting the transmit frequency in the display, select using the return button and using the arrows, the device can cycle through and select the following frequencies:

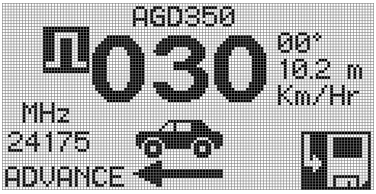
24.077GHz, 24.125GHz, 24.175GHz, 24.223GHz for CE marked models of the 350.

24.102GHz and 24.148GHz for FCC marked models of the 350.



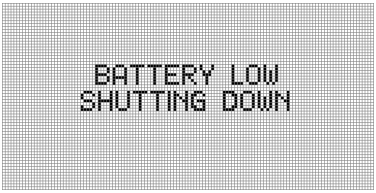
SAVE SETTINGS

Arrow forward to the save settings button bottom right and press return.



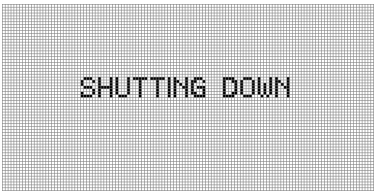
LOW BATTERY WARNING

If during operation the batteries become depleted the unit will warn you with this message before automatically shutting down. Simply replace batteries x2 AA and restart to continue.



SHUTTING THE UNIT DOWN

Holding the power on button for more than one second will shut the unit down. We would advise removing the batteries if the unit is not going to be used for long period.



CONFIGURATION

ADJUSTABLE PARAMETERS

PARAMETER	VALUE / RANGE	COMMENTS
Cosine	0° - 30°	
Speed	20 - 320 kph	Pre-set or user adjustable
	(4 - 262 kph for 350 radar)	
Speed units	kph / mph	User selectable
Target direction	Advance / recede	User selectable
Operating mode	Single burst / pulsed / continuous	Audible indication provided
	/ tracked / queue / free flowing	(whilst simulating signal is active)
Vehicle type	Small / Medium / Long	Depicted as Car / Van / Lorry
Radar type		Select radar model number
Range		Pre-set range value available on select model type

PRE-SET SPEED VALUES

SPEED KPH	SPEED MPH
21	13
38	24
50	31
64	40
82	51
97	60
110	68
131	81
250	150

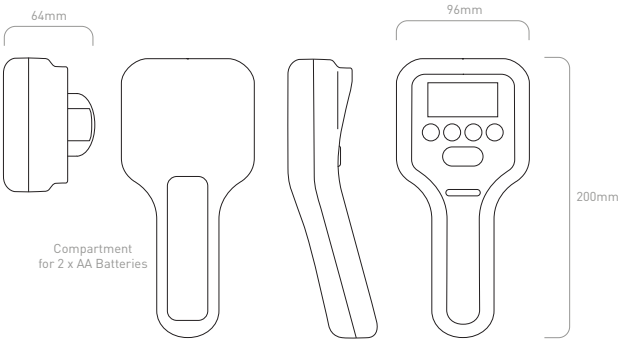
In addition to the pre-set speed values, user adjustable speed values between 20kph (12mph) and 320kph (200mph) can be set (4 - 262kph for 350 radar).

NOTE: standard operating distance is between 1 and 2 metres from detector face. Use outside of this recommended operating distance may result in data errors.

TECHNICAL SPECIFICATIONS

AGD932

Target Simulator



SPECIFICATIONS	
Frequency	K-Band 24GHz
Simulation Range	20 - 320 kph (4 - 262 kph for 350 radar)
Operating Time	10 hours continuous use
Operating Distance	Min 1m - Max 2m
Mounting	Flange fixings or tripod mount
Mounting Height	1 - 3.5m nominal
Housing Material	Polycarbonate
Sealing	IP52
Operating Temp	-20° C to +50° C
Power	40mA (120mA Transmit)
Power Supply	2.2V - 3.6V (2 x AA Batteries)
Approved to	BS EN 50293 EN 301-489 ETSI EN 300-440 AS/NZ 4268:2003

Standard operating distance is between 1 and 2 metres from detector face. Use outside of this recommended operating distance may result in data errors.

Owing to the Company's policy of continuous improvement, AGD Systems Limited reserves the right to change their specification or design without notice. AGD products should be installed by a competent person.

RoHS COMPLIANT

CERTIFICATION

AGD932

Target Simulator

TRaC
testing regulatory and compliance

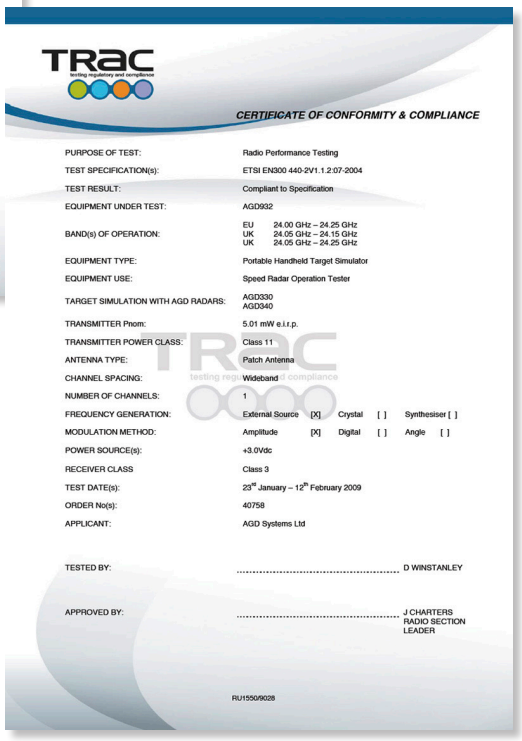
CERTIFICATE OF CONFORMITY & COMPLIANCE

PURPOSE OF TEST:	Radio Performance Testing
TEST SPECIFICATION(s):	AS/NZS 4268:2003
TEST RESULT:	Compliant to Specification
EQUIPMENT UNDER TEST:	AGD932
BAND(s) OF OPERATION:	24.00 GHz – 24.25 GHz
EQUIPMENT TYPE:	Portable Handheld Target Simulator
EQUIPMENT USE:	Speed Radar Operation Tester
TARGET SIMULATION WITH AGD RADARS:	AGD330 AGD340
TRANSMITTER Pnom:	5.01 mW e.i.r.p.
ANTENNA TYPE:	Patch Antenna
CHANNEL SPACING:	Wideband
NUMBER OF CHANNELS:	1
FREQUENCY GENERATION:	External Source [X] Crystal [ ] Synthesiser [ ]
MODULATION METHOD:	Amplitude [X] Digital [ ] Angle [ ]
POWER SOURCE(s):	+3.0Vdc
TEST DATE(s):	23rd January – 12th February 2009
ORDER No(s):	40758
APPLICANT:	AGD Systems Ltd

TESTED BY: ..... D WINSTANLEY

APPROVED BY: ..... J CHARTERS
RADIO
PRODUCT
MANAGER

RU1550/9030



TRaC
testing regulatory and compliance

CERTIFICATE OF CONFORMITY & COMPLIANCE

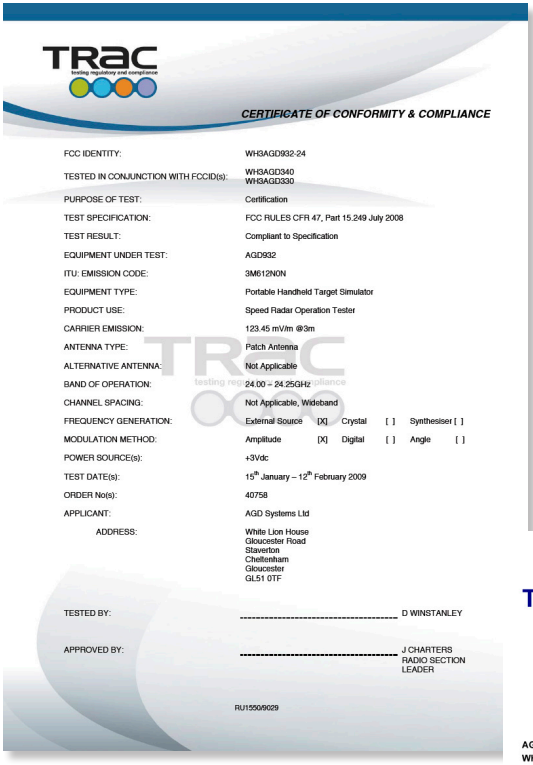
PURPOSE OF TEST:	Radio Performance Testing
TEST SPECIFICATION(s):	ETSI EN300 440-2V1.1.2:07-2004
TEST RESULT:	Compliant to Specification
EQUIPMENT UNDER TEST:	AGD932
BAND(s) OF OPERATION:	EU 24.00 GHz – 24.25 GHz UK 24.05 GHz – 24.15 GHz UK 24.05 GHz – 24.25 GHz
EQUIPMENT TYPE:	Portable Handheld Target Simulator
EQUIPMENT USE:	Speed Radar Operation Tester
TARGET SIMULATION WITH AGD RADARS:	AGD330 AGD340
TRANSMITTER Pnom:	5.01 mW e.i.r.p.
TRANSMITTER POWER CLASS:	Class 11
ANTENNA TYPE:	Patch Antenna
CHANNEL SPACING:	Wideband
NUMBER OF CHANNELS:	1
FREQUENCY GENERATION:	External Source [X] Crystal [ ] Synthesiser [ ]
MODULATION METHOD:	Amplitude [X] Digital [ ] Angle [ ]
POWER SOURCE(s):	+3.0Vdc
RECEIVER CLASS	Class 3
TEST DATE(s):	23rd January – 12th February 2009
ORDER No(s):	40758
APPLICANT:	AGD Systems Ltd

TESTED BY: ..... D WINSTANLEY

APPROVED BY: ..... J CHARTERS
RADIO SECTION
LEADER

RU1550/9028

CERTIFICATION

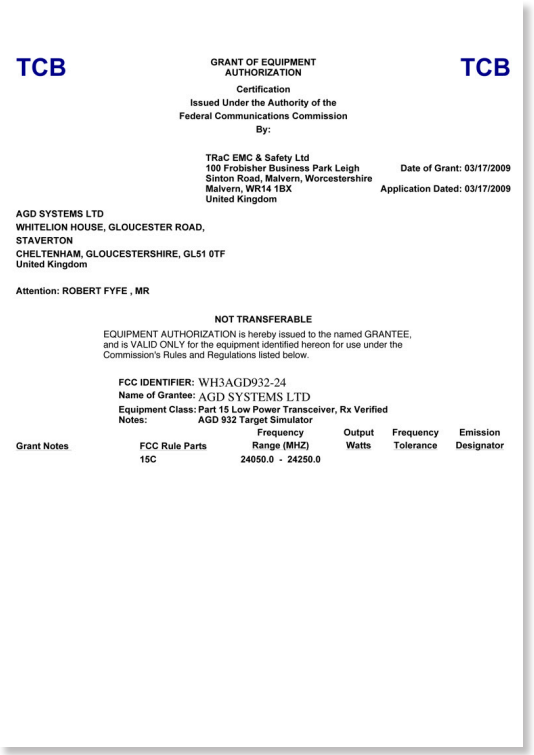


TRaC testing regulatory and compliance

CERTIFICATE OF CONFORMITY & COMPLIANCE

FCC IDENTITY:	WH3AGD932-24
TESTED IN CONJUNCTION WITH FCCID(s):	WH3AGD340 WH3AGD330
PURPOSE OF TEST:	Certification
TEST SPECIFICATION:	FCC RULES CFR 47, Part 15.249 July 2008
TEST RESULT:	Compliant to Specification
EQUIPMENT UNDER TEST:	AGD932
ITU: EMISSION CODE:	3M612N0N
EQUIPMENT TYPE:	Portable Handheld Target Simulator
PRODUCT USE:	Speed Radar Operation Tester
CARRIER EMISSION:	123.45 mV/m @3m
ANTENNA TYPE:	Patch Antenna
ALTERNATIVE ANTENNA:	Not Applicable
BAND OF OPERATION:	24.00 – 24.25GHz
CHANNEL SPACING:	Not Applicable, Wideband
FREQUENCY GENERATION:	External Source [X] Crystal [ ] Synthesiser [ ]
MODULATION METHOD:	Amplitude [X] Digital [ ] Angle [ ]
POWER SOURCE(s):	+3Vdc
TEST DATE(s):	15th January – 12th February 2009
ORDER No(s):	40758
APPLICANT:	AGD Systems Ltd
ADDRESS:	White Lion House Gloucester Road Staverton Cheltenham Gloucester GL51 0TF
TESTED BY:	---------- D WINSTANLEY
APPROVED BY:	---------- J CHARTERS RADIO SECTION LEADER

RU1550/9029



TCB **TCB**

GRANT OF EQUIPMENT AUTHORIZATION

Certification
Issued Under the Authority of the
Federal Communications Commission
By:

TRaC EMC & Safety Ltd
100 Frobisher Business Park Leigh
Sinton Road, Malvern, Worcestershire
Malvern, WR14 1BX
United Kingdom

Date of Grant: 03/17/2009
Application Dated: 03/17/2009

AGD SYSTEMS LTD
WHITELION HOUSE, GLOUCESTER ROAD,
STAVERTON
CHELTENHAM, GLOUCESTERSHIRE, GL51 0TF
United Kingdom

Attention: ROBERT FYFE , MR

NOT TRANSFERABLE

EQUIPMENT AUTHORIZATION is hereby issued to the named GRANTEE, and is VALID ONLY for the equipment identified hereon for use under the Commission's Rules and Regulations listed below.

FCC IDENTIFIER: WH3AGD932-24
Name of Grantee: AGD SYSTEMS LTD
Equipment Class: **Part 15 Low Power Transceiver, Rx Verified**
Notes: **AGD 932 Target Simulator**

Grant Notes	FCC Rule Parts	Frequency Range (MHZ)	Output Watts	Frequency Tolerance	Emission Designator
	15C	24050.0 - 24250.0			

IMPORTANT

SAFETY PRECAUTIONS

All work must be performed in accordance with company working practices, in-line with adequate risk assessments. Only skilled and instructed persons should carry out work with the product. Experience and safety procedures in the following areas may be relevant:

- Working with mains power
- Working with modern electronic/electrical equipment
- Working at height
- Working at the roadside or highways

1. This product is compliant to the Restriction of Hazardous Substances (RoHS - European Union directive 2011/65/EU).
2. Only the specified access port should be used to access and replace batteries (2x AA).
3. The product must be correctly connected to the specified power supply. All connections must be made whilst the power supply is off or suitably isolated. Safety must take always take precedence and power must only be applied when deemed safe to do so.
4. No user-maintainable parts are contained within the product. Removing or opening the outer casing is deemed dangerous and will void all warranties.
5. Under no circumstances should a product suspected of damage be powered on. Internal damage may be suggested by unusual behaviour, an unusual odour or damage to the outer casing. Please contact AGD for further advice.
6. 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.

   • This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance such that the module should not be installed in equipment intended to be used within 20cm of the body.

   • The transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

   • Changes or modifications not expressly approved by AGD Systems Ltd could void the user's to operate the equipment.

DISCLAIMER

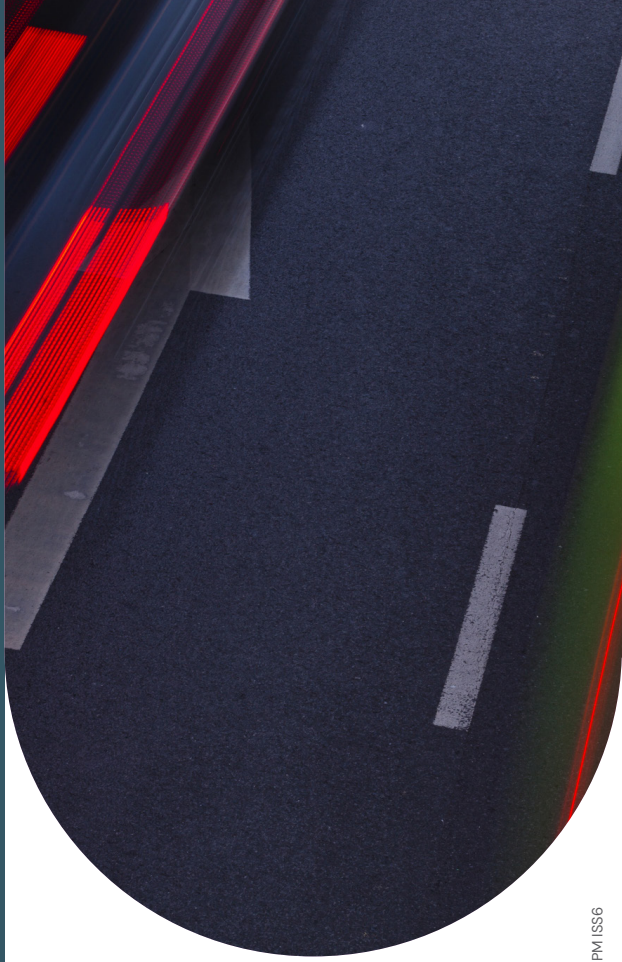
While we (AGD Systems) endeavour to keep the information in this manual correct at the time of download or print, we make no representations or warranties of any kind, express or implied, about the completeness, accuracy, reliability, suitability or availability with respect to the information, products, services, or related graphics contained herein for any purpose.

Any reliance you place on such information is therefore strictly at your own risk. In no event will we be liable for any loss or damage including without limitation, indirect or consequential loss or damage, or any loss or damage whatsoever arising from loss of data or profits arising out of, or in connection with, the use of this manual.

Warranty

All AGD products are covered by a 12 month return to factory warranty. Products falling outside this period may be returned to AGD Systems for: evaluation, repair, update or re-calibration, any of which may be chargeable.

Revision
Issue 6 May 2024



AGD® | SAFER GREENER MORE EFFICIENT

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