Radar Target enhancers - X band and Dual Band

Echomax Active-XS-Dual Band Radar Target Enhancer

State of the Art Echomax Active-XS-Dual Band Radar Target Enhancer with minuscule current draw of 23mA on stand by and very high X and S band response many times the new ISO 8729-2 standard. Unique visual facility to identify S or X Band Radar paints. Quadruple alarm facility as standard.

The Active-XS amplifies and returns a stronger signal and these high responses to both X or S Band Radar increase the likelihood of improving your vessels radar cross section and helps to alert oncoming vessels of your position and detection especially in poor conditions and thereby reduces the risk of collision.

Active RTE are increasingly being used on navigation buoys and their estimated power consumption can be seen using this link. Non use of the control box saves 10mA of power.

The Active XS has FCC Approval ID: XZMACTIVE-XS - NATO stock number 5841-99-269-3512

SPECIFICATION

- Reception frequency: X Band Radar 9.3 - 9.5 GHz
- S Band Radar 2.9 - 3.1 GHz
- Operating Temperature: -20 to +60 degrees C
- Voltage: 12V DC - + 30% -10% (voltage surge and cross polarity protected)
- Current consumption 23mA in quiescent state:
- Current consumption X Band Radar 190mA when transmitting S Band Radar 155mA
- Position accuracy: Within 1 metre
- EIRP: 1W (typically)

DIMENSIONS

- Antenna length: 685mm
- Antenna width: 40.5mm
- Antenna weight ex cable: 573 gms
- Control Box width: 92mm
- Control Box height: 51 mm
- Control Box depth: 38mm
- Control box weight: 99gms
- Cable length: 24m 3 core 0.5mm²
- Cable weight: 967 gms

Active-X - XS drawings

UNIQUE QUADRUPLE ALARM FACILITY:

1. Green Switch activates internal buzzer when painted by X or S Band Radar
2. Green LED illuminates when being painted by X Band Radar
3. Yellow LED illuminates when being painted by S Band Radar
4. 8A Extension alarm facility when painted by either S or X Band Radar
- Optional base or rear entry wiring facility
- Externally accessible fuse

**STATED PERFORMANCE LEVEL SPL**
- Exceeds ISO 8729-2 effective July 09 - X Band Radar 7.5m² and S Band Radar 0.5m² at Zero, +/-10 and 20 degrees of heel maintained over a total angle of 280 degrees
- Typical performance - QinetiQ Funtington Anechoic Chamber March 2010

**X BAND RADAR SPL**
- (ISO Standard 7.5m²)
- Zero degrees: 118.33m²
- +/-10 degrees: 65.07m²
- +/- 20 degrees: 19.49m²

**S BAND RADAR SPL**
- (ISO Standard 0.5m²)
- Zero degrees: 6.26m²
- +/-10 degrees: 6.44m²
- +/- 20 degrees: 5.36m²
- NB. Production units have the following S band SPL:
  - 0 degrees 15.75m² SPL +/-10 degrees 16.2m² +/- 20 degrees 13.4m²

**Fitting**
- Base fitting: female 1 inch - 14 NF thread

**Production units** comply with:
- EN 302 752 V1.1.1. (2009-02)
- EN 60945: 2002 (Clauses 9,10 & 12)
- Complies with essential requirements of
- R & TTE Directive 1999/5/EC. CE 0191:
  - Performance requirements of ISO 8729-2
  - X and S Band Radar.
  - Specifications given in this leaflet are subject to change without notification.

For Active-XS Operations Manual [click here]

For linear diagrams [click here].

For suggested mounting options [click here].

For Practical Boat Owner Echomax Active-XS v SeaMe dual band RTE sea trails comparison see August edition published late June 2010.

**PBO verdict Echomax Active-XS best buy, which reported**

<table>
<thead>
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<th>Number of reliable paints from 10 scans</th>
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<tr>
<td></td>
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<td>No reflector</td>
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<tr>
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<tr>
<td>S band 6.9nm</td>
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<tr>
<td>X band 7.5nm</td>
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Unfortunately no tests at heel; to see September 09 sea trials heel data please press link to PBO sea trials in Active-X section below

State of the art Echomax Active-X-Band Radar Target Enhancer

The Active X has FCC Approved ID: XZMACTIVE-X - NATO stock number 5840 99 904 3941

State of the art Echomax Active-X-Band Radar Target Enhancer receives a signal from transmitting radar, amplifies and returns a stronger signal. This increases the likelihood of detection reducing the risk of collision and helps to alert oncoming vessels of your position.

Active RTE are increasingly being used on navigation buoys and their estimated power consumption can be seen using this link. Non use of the control box saves 10mA of power.
Specification

- Reception frequency: X band 9.32 – 9.5 GHz
- Operating Temperature: -20 to +60 degrees C
- Voltage: 12V DC + -30%-10% (voltage surge and cross polarity protected)
- Stand by current consumption: 15mA
- Position accuracy: Within 1 meter
- 5 interrogating radar 23mA
- 10 32mA
- EIRP: 1W

Dimensions

- Antenna length: 478 mm
- Antenna width: 40.5 mm
- Antenna weight: 327 gms excluding cable
- Cable length: 24M 2 core 0.5mm²
- Cable weight: 969 gms
- Performance Response
  - Zero degrees: 111.36M²
  - +/-10 degrees of heel: 78.96M²
  - +/-20 degrees of heel: 20.80M²

*Stated Performance Level – QinetiQ – 13th March 09 for linear diagrams click here.

For suggested mounting options click here.

Exceeds ISO 8729-2 effective 22nd July 09 X Band performance requirements 7.5M² @+/−10 degrees of heel for motor vessels and +/-20 degrees of heel for sailing vessels.

Control Box for Interior Installation Surface mount:

- Surface mount for interior installation or flush mount fitting with optional flush mount kit.
- With optional base or rear entry cable facility
- Red switch powers up unit and Red LED indicates power
- Green LED illuminates when being painted by radar
- Green switch controls internal buzzer
- One short flash in 2.4 seconds indicates one radar signal
- Multiple flashes in 2.4 seconds indicates multiple radar signals (Note: 2.4 seconds is time for revolution of normal speed radar. High speed radar will repeat every 1.5 seconds)
- Externally accessible fuse

TRIPLE ALARM FACILITY:

- Green LED indicates being painted by radar
- Switchable internal buzzer which sounds when being painted by radar
- 8A Volt free external alarm facility

Dimensions

- Antenna length: 478 mm
- Antenna width: 40.5 mm
- Antenna weight: 327 gms excluding cable
- Control Box width: 92 mm
- Control Box height: 51mm
- Control Box depth: 38 mm

For comparison with competing products click here.

Sept 09 PBO Active-X v SeaMe comparative sea trials – click here

New waterproof keypad operated waterproof control box for Active X and XS dual band RTE.

- X or XS dual band LED to match your single or dual band RTE
- Selectable 7 degrees of audible alarm sensitivity
- Selectable day or night time illumination brightness
- Extension alarm facility.

Dimensions
- Length 90mm
- Width 72mm
- Depth 15mm
- Cut out diameter is 57mm Overall depth with waterproof glands is 50mm ex
provision for cables.

**Dual Control Wiring Diagram** - click here.

**Waterproof Control Box Instruction Sheet** - click here.

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Echomax Active-X being subjected to sustained 5 bar/75psi high pressure water jet

Now available Active-X- XS with fitted LED light single
5 core cables enables remote on/off individual control,
easier installation, no separate mast light or shadowing
- A must for Ocean rowers - ideal for unmanned
remote vessels RIBS and buoys or anything that moves
around on water that wants to be seen!

LED Navigation light
Voltage: 12V
Wattage: 1W max
Heigt: 79.7mm
Base Width: 55mnm
Body Diameter:49.4mm
Colour: All round white

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**Fittings**

**ACTIVE-X Stainless mast head brackets**
- Now available with 26cm reach and 1 inch -14NF thread
- Base fitting: female 1 inch - 14NF thread

**Stainless Steel Optional Extras**
- Offset mast head bracket
- Deck fitting for cabin roofs, A frames
- 600mm extension pole where the Active X RTE needs to be above a radar
Active XS Ocean Mast Bracket

XS OCEAN MAST MOUNTING BRACKET is recommended for ocean use
- ACTIVE-XS Mast head bracket made from 1.5mm 316 stainless steel
- Now available with 1 inch -14NF thread
- Overall length 188mm
- Distance from centre of threaded mount to curvature of mast 135mm approx
- Wt 480gms

USER MANUALS:
- UK User Manual
- Dutch User Manual
- German User Manual
- French User Manual
- Italian User Manual
- Spanish User Manual
- Swedish User Manual