MARINE

FOR EVERYTHING MARINE, THINK AMI

X2 VOYAGE DATA RECORDER

AMI MARINE LTD About Us



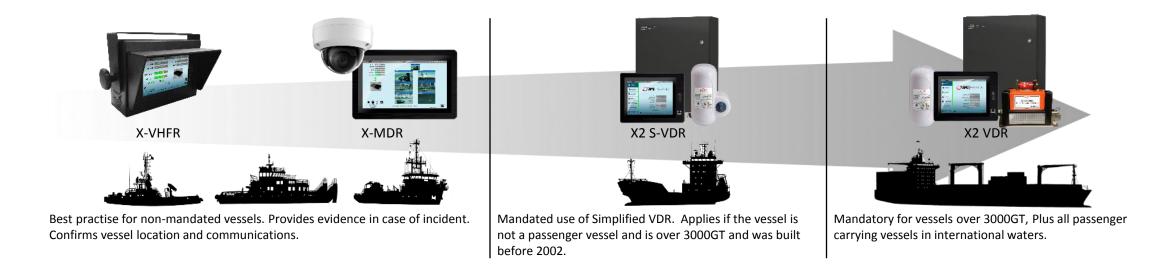


- Founded in 1995, AMI Marine is a British manufacturer of Bridge and Navigation electronic equipment.
- We provide high quality technology ranging from docking assist systems to interfacing and data recording for vessel operators and owners of small commercial workboats to the largest VLCC Vessels.
- AMI is a ISO9001/2015 registered company and have achieved MED Type Approval on a number of our products.

PRODUCTSFamily of Recorders
X-VHFR, X-MDR, X2272 and X2



Our Family of Data Recorders suit all users and all types of vessels. Our mini black box recorders are ideal for vessels which do not have to carry Voyage Data Recorders, but are optional solutions for vessel owners and operators of smaller vessels under 3000 GRT.



*All AMI recording equipment is flexible and can be configured record many forms of data with and volumes of data.

X2 VDR& SVDR Regulations Comparison



Pre July 2014 VDR Regulations (IEC 61996-1 Ed1.0)

- Fixed Protective Capsule must record minimum of 12 hours data
- At least 1 radar must be recorded
- The primary VHF audio must be recorded
- Microphones must be provided to cover each coning position to continuously record bridge audio
- Access to data for Investigators must be provided

New VDR Regulations (IEC 61996-1 Ed2.0)

- Fixed and Float-free capsules are required, each must be able to hold a minimum of 48 hours of data.
- Long-term recording medium must hold a minimum of 30 days of data.
- A maximum of 2 Internal Microphones should be connected to a single recording channel
- External Microphones must be recorded on a separate dedicated channel.
- Both radars must be connected and recorded.
- The Automatic Identification System (AIS) must be recorded.
- Electronic Chart Displays (ECDIS) must be recorded is suitable output is available
- Roll and Pitch motion must be recorded, if an electronic inclinometer is installed
- BNWAS data must be recorded.

X2 VDR & SVDR Regulations Comparison The Key Differences



Item	Pre July 2014	Latest VDR Regulations
Final recording medium	 Fixed Protective Capsule 12 hours minimum 	 Fixed Protective Capsule & Float-free 48 hours minimum Long-term recording medium 30 days minimum
Radar & Charts	• 1 radar minimum	 2 radars minimumMaster ECDIS
Audio	 Separate channel to VHF 1 or more Microphones continuously recording Bridge conversion on dedicated channel. 	 Separate channel to VHF Separate channels for internal microphones and external microphones
Download	 Requirement for Investigators to have access. No requirement for ship's staff access. 	Investigators have access. A download interface available for access by ship's staff for routine management information
Alarms	 Audible alarm required for system faults 	 No audible alarm required, visual caution indication required only

X2 VDR & SVDR System Summary



The X2 voyage data recorder has been designed with the combination of a highperformance main processor and solid state technology, offering extremely reliable performance with a superior user experience.

- Fit and forget system with superior solid state technology
- 8" and 9.7" Touch screen display options
- Three wire microphones for ease of retrofit
- Adaptable cable management system
- 1TB Internal storage allows for over 30 days storage
- 64GB Float Free and Fixed Capsule for over 48 hours of data per capsule

Type Approved as Voyage Data Recorder and Simplified Voyage Data Recorder



X2 VDR & SVDR Scope of Supply





STANDARD SCOPE OF SUPPLY

VDR System with both Float Free and Fixed Capsule, 2x VGA inputs for ECDIS/RADAR SYS-0061

Product No.	Qty	Description
MEU-0017	x1	VDR X2 Main Electronics Unit
KIT-0012	x2	Video Capture Card
KIT-0027	x1	Display Unit Interconnection Cable Kit
MIC-0006	x4	Internal Microphone
MIC-0005	x2	External Microphone
DSP-0019	x1	8" Flat Bezel Touch Screen Display (Optional 9.7" Display Upgrade)
PSU-0014	x1	Battery Backed Power Supply
BAT-0011	x2	Backup Batteries
CAP-0001	x1	Fixed Hardened Capsule
CAP-0002	x1	AMI Marine Float Free Capsule

X2 VDR & SVDR Main Electronic Unit





MAIN ELECTRONIC UNIT

The X2 Main Electronic Unit is simple to install, has clear LED indications and a new larger cable management system to accommodate bulky VGA connectors and larger power cables. Other main features include:

- 20x NMEA Data Inputs
- 10x Audio Channels (8 Microphone and 2 VHF Audio),
- 2x Radar VGA/DVI Image Capture *
- ECDIS Ethernet Interface for Ship's Network (IEC 61162-450)
- 1TB Solid State Drive LTRM (30 Days)
- Additional Storage Options Available

POWER: 24vDC

DIMENSIONS: 500 x 570 x 160mm 12kg

*Up to an additional 2x video capture cards available for ECDIS image capture

X2 VDR & SVDR Display & Software



				<u>ି 🔿 N</u>	MI MAR	INE	X-VDR	07.26.46	UTC 2018-10-05	
				A HON	IF.				_	
							2			
				S VID	EO		AMI	MAR	INE	
					_			₽: -		\odot
				🖡 AUE	OIO					U
							System Type			
					EA		Serial Number Software Version			Θ
					1			07 August 2018		
					SULE		Last Survey	28 September 2018		
					OULL		Vessel Name	AMI X VDR		
				4 000			IMO Number	16278555		
				1 POV	VER			1234587890		
				1			-44 23	arome.com a0 450 450		
	INF	X2 VD	2		NT LOG TC 2018-03-	System Upte	no: O Days, O Hours, 2 Min	ulos, 1 Seconds	0	
	MAN A	41204	8 25/2-5	COM K	MCT6					No. of Lot of Lo
A HOME	6 1000 P	A WA	0.000CT	DORTU DEAT	Distant Distant					
•	1940/24	a terra	C1981	CONTRACTOR OF THE OWNER	ante ven					
S VIDEO	No	LL OF THE REAL TO A LEVEL Deal Free Cale To 14	NEEN3401791		9w-					
1	STOLET, SCHOOL STOLET	Data Datas Calad Da 14 1920 - Datas Datas Di Put-								-
AUDIO	SARE ALL TALL OF	Dear Print Calif. Do 14 Dear 17 Table Television D. C. A. 2010 Television Loss of reaction 2010 Television Loss of reaction 2010 Television Television Dear Dear Street Print Television Contrast Street Print TeleVision	ia wena		18 m		(X)E	X2 VDR	09-00-44	UTC 2019-03-14
MEA	draft Oct ALLOS State (1971) CLAR (1 Berlin Andreas) CLAR (1 Berlin Andreas) Berlin Andreas Berlin Andreas Berl	Centry Main Profile 11/06/20 19/07 Jacquile - DANTS	en-1, es		No. of	AND DEADS	Mic 1	AZ VUR	Mo 2	0102019-03-14
- Singer	BOOD OF CONTRACTOR	Griffel and the harts Ghild Product I and the formation deer how if 173 (2)	T.Yes		A	HOME		1111111		
	BARAS CALLER BURG	2010 Main 2010 Transmiss 2010 T2 2010 Main Learner 2010	637.454				-			
	BRIESS STUDIES IN GEAR STORESS STORESS SCIENCE REPORTS		STATE as			VIDEO	🔴 Mic 3		Mc4	
POWER	SPECKET STATE AND STATES	G. COLORD COLOR FOR FOR MARKED STREET, STREET, COLOR WITH STREET, STREET, COLOR FOR STREET, ST	12							
		1047 Martin (* 144				AUDIO				
EVENT LOG	-	aptine of Days 0 Ho.					Mic 5		Mac 6	
1000	- Second	princip bags in no.	6 2 ********* 20 500	Arto	_	NMEA				
					-	INMEA				CONTRACTOR OF THE OWNER.
					-		• Mc /		Mc 8	
						CAPSULE				
					1000		Contraction in the local division in the loc			
					T	POWER				
						EVENT LOG	System Upt	ime O Days, 9 Hours, 1 Ninu	tor. 64 Brownik	Inches Works
							- Soon all and the	ener o carjo, a mono, i Niko	new are desidently	0

TOUCH SCREEN CONSOLE -8"

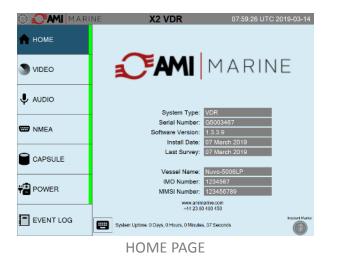
The main user interface is intuitive and user friendly, allowing seamless access to the data being recorded in real time, along with simple indications in the event of sensor loss.

- High Resolution Touch Screen Display
- Night Mode and Brightness Controls
- View Radar, ECDIS images and Audio Channels separately
- Realtime NMEA data monitoring
- "On Demand" System Performance Test
- Ethernet Interface for Data Collection
- Console Flush Mounting
- **VESA Mounting Option Available**

POWER: 24vDC supplied from the MEU

DIMENSIONS: 188 x 245 x 56mm 1.5kg, based on 8" Display

X2 VDR & SVDR Display & Software

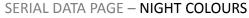


🔆 AMI MA	RINE	X2 V	DR	08:01:15 L	JTC 2019-03-14		
10	anve 🕒	ANGAPS	CHOICES	SRAAR	SERAL R		
🕈 НОМЕ	Streen	SCROLL SCROLA		e siciot	SUCTUS		
	Survice 🕒	O PIVLA	SIEHOI	SCHUIM	SW DAVY		
	SVYNEW	6005T	SVC4BW	SSED#T	51 \$1 \$1/-W		
	💮 84548.W	C PW(M	S WENET	SPAN VERSION	SEVER TYCE		
	STATIC/ICE						
VIDEO	Montomy Al				Fire: 1		
	STWASSIG BOLDAD	(A) NAMES Position: Loss of a to be be as about 1977 (A V/T and Aux Mach Fire Port ACT) and 2 Central Hatch 1962/16					
MMEA	9544,53, 03,000 9554 P. 13567,57,33 9544 P. 00005,005 957001,51, Deepe	AVV.295.8 T.Warssiet 1.295.	165				
CAPSULE	9-WED12 00000 9-WED200-00000 543498-AA000000 9594-5133024-22 8-WED3000000 9-XXI-F 000000000 9-XXI-F 0000000000 9-XXI-F 0000000000	6 51 00.0007-55 0072A - X V 255 5 1 Xeypoint 1 235 0 00.000/0754 00.0500/0754 02.255077 Postdor: Loss of 1 4523 Xe9075 0771 5 1 06 1	ines Lanues (DTMC/10				
POWER	SE-941H 134067 2021 SGPV10:266 ST, M1	(VV255 8 1) (Asypoint 1) 255 5 (VVHic2 MDG White Met 2) 5 (KVHic2 MDG White Met 2) 5 (KV2) 5 (KVH2) (AVSAND: AS: Loss of AR2 (8 (3) 5) (ANSA)	ane ToS				
EVENT LOG	MNEA In C	internal 110 🔿	(leatbear0st 💭		Incident Marka		

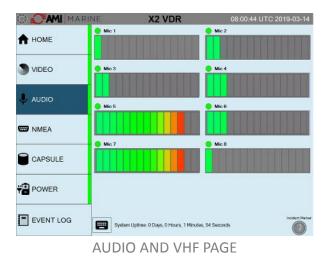


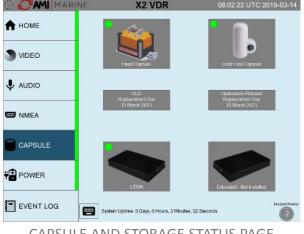






FOR EVERYTHING MARINE, THINK AMI





CAPSULE AND STORAGE STATUS PAGE

X2 VDR & SVDR Backup Power





UNINTERRUPTED POWER SUPPLY

The smart UPS will support you system when you lose power, it has an automatic change-over to battery backup when mains fail or drop.

- 110 to 230vAC 50,60Hz
- Battery Backed for 2 Hours Continuous Operation
- AC Status Monitoring
- Battery Health Monitoring

POWER: 24vDC Output

DIMENSIONS: 400 x 300 x 210mm 9.8kg Without Batteries / 22.8kg with Batteries

X2 VDR & SVDR Float Free Capsule





FLOAT FREE CAPSULE

The AMI Float Free Capsule is a Cospas-Sarsat and MED approved float free capsule which combines an Emergency Position Indicating Radio Beacon (EPIRB) and a 64GB float free storage medium to meet the MSC.333(90) and IEC 61996-1 Ed 2.0 VDR regulations.

- 64GB Solid State storage
- Holds in excess of 48 hours of recorded data
- Simple Ethernet connection

POWER: 24V DC Supplied from the MEU

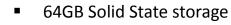
DIMENSIONS: 293 x 197 x 140mm 1.1kg

X2 VDR & SVDR Fixed Capsule



AMI FIXED CAPSULE

The AMI Marine fixed capsule combines high mechanical security with simple operation. With excellent build quality the equipment was designed with reliability and durability in mind.



- Holds in excess of 48 hours of recorded data
- Supplied with 15m Cable
- Supplied with PT9 Ninety ULB (90 Days Operational Life)

POWER: 24vDC supplied from the MEU

DIMENSIONS: 153 x 180 x 236mm 12kg



X2 VDR & SVDR Audio Recording





INTERNAL MICROPHONE

EXTERNAL AND INTERNAL MICROPHONES

The X2's three wire microphone solution allows for the existing cabling from previous VDR/S-VDR systems to be incorporated, removing the requirement for new cable runs.

EXTERNAL MICROPHONE

- IP67 Waterproof
- Built in Self-Test
- Environmental controls for audio optimisation

POWER: 12vDC supplied from the MEU **DIMENSIONS:** 110 x 80 x 65mm 100g

INTERNAL MICROPHONE

- Compact Design
- 3 Wire Connection
- Built in Self-Test

POWER: 12vDC supplied from the MEU **DIMENSIONS:** 47 x 39 x 25mm 80g

X2 VDR & SVDR Optional Extras



ANALOGUE INTERFACE - INT-0024

- 16x Input channels up to +/- 30V
- NMEA Data Output
- Data Pass Through Option
- Accepts AC or DC Input Signals

POWER: Nominal 24vDC

DIMENSIONS: 180 x 300 x 70mm 1.5kg

DIGITAL INTERFACE - INT-0025

- 32x Input Channels
- Data Pass Through Port
- Input and Output LEDs for Performance Monitoring

POWER: Nominal 24vDC

DIMENSIONS: 275 x 175 x 70mm 1.3kg

TOUCH SCREEN CONSOLE -9.7" - DSP-0020

- High Resolution Touch Screen Display
- "On Demand" System Performance Test
- Ethernet Interface for Data Collection
- VESA mounting option

POWER: 24vDC supplied from the MEU

DIMENSIONS: 280 x 219 x 38.50mm 1.8kg



VIDEO CAPTURE CARD KIT- KIT-0012

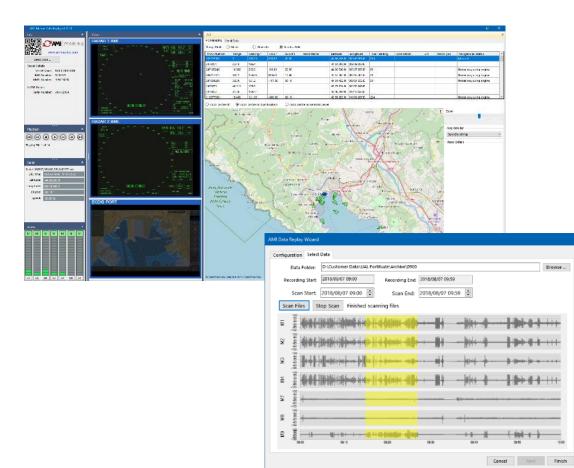
- Additional video inputs such as ECDIS or Radar
- Accepts video signal of up to 1920×1200
- Comes with required fittings, DVI to VGA converter and USB cable

DIMENSIONS: 170x140x120mm 400g



X2 VDR & SVDR Replay Software





The AMI Marine Replay software is unique due to having 'Audio Scan' and 'Jump to Incident' functions to provide intuitive data review by engineers, ship's crew and accident investigators.

The data download process is straight forward using a laptop or Office PC connected to the Ethernet port of the touch screen display. The provided download software allows the operator to choose data from the desired time period, along with the replay software and configuration files.

CAM MARINE

FOR EVERYTHING MARINE, THINK AMI

THANK YOU FOR YOUR TIME

+44 (0) 2380 480 450 sales@amimarine.com <u>www.amimarine.com</u>