Raymarine®

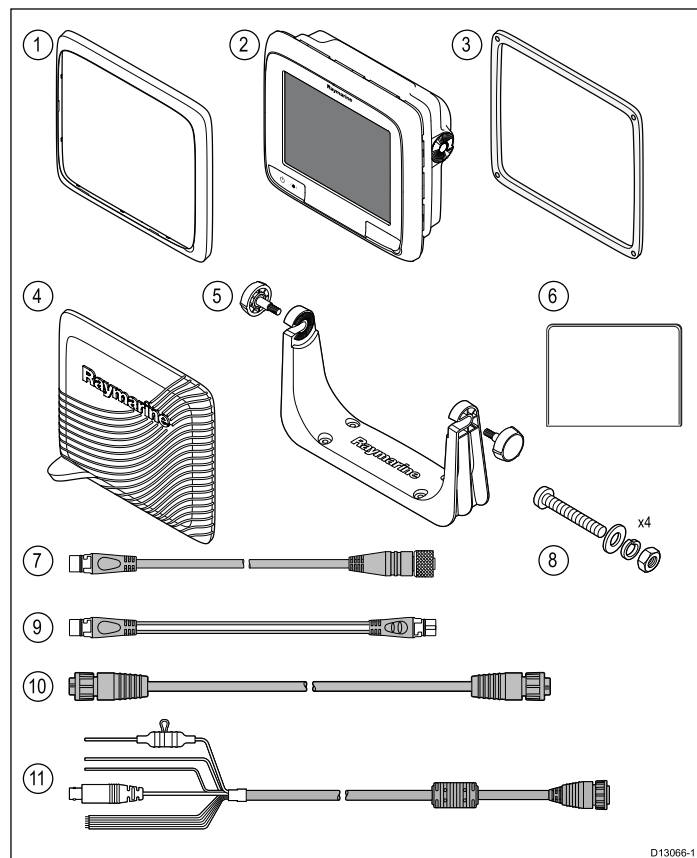# a9x and a12x Supplementary information

a9x and a12x parts supplied

The following items are supplied with your a9x and a12x variant MFD.

D13066-1

1	Front bezel
2	Multifunction display (MFD)
3	Mounting gasket
4	Sun cover
5	Trunnion bracket kit
6	Documentation pack
7	SeaTalk^{ng} to DeviceNet adaptor cable
8	4x Nuts, bolts, spring washers and washers (can be used for either surface or bracket mounting.)
9	3 m (9.8 ft.) SeaTalk^{ng} spur cable
10	2 m (6.6 ft.) RayNet cable
11	1.5 m (4.9 ft.) Power and data cable (Power/NMEA/Video)

a Series Display specification

	a6x	a7x	a9x	a12x
Size	5.7 in	7 in	9.0 in	12.1 in
Type	TFT backlit LED	TFT backlit LED	TFT backlit LED	TFT backlit LED

	a6x	a7x	a9x	a12x
Color depth	24–bit	24–bit	24–bit	24–bit
Resolution	640 x 480 VGA	800 x 480 WVGA	800 x 480 WVGA	1280 x 800 WXGA
Aspect	4:3	16:9	16:9	16:9
Maximum allowable wrongly illuminated pixels	5	6	6	6

Environmental specification

Environmental specifications below apply to all display variants

Operating temperature	-25 ºC to +55 ºC (-13 ºF to 131 ºF)
Storage temperature	-30 ºC to +70 ºC (-22 ºF to 158 ºF)
Relative humidity	Maximum 75%
Waterproof rating	• IPX6 and IPX7

a9x Power specification

Nominal supply voltage	12 V / 24 V dc
Operating voltage range	10.8 V dc to 31.2 V dc
In-line Fuse	• 7 A (Standard 20 mm glass fuse)
Power consumption	Full brightness: • **a95** — 14.5 W Max • **a97** — 18.1 W Max • **a98** — 16.5 W Max PowerSave mode: • **a95** — 4.5 W Max • **a97** — 8.1 W Max • **a98** — 6.5 W Max
LEN (Refer to Seatalk^{ng} reference manual for further information).	1

Note: Power consumption figures represent a loaded system and for sonar and DownVision variants include an active transducer.

a12x Power specification

Nominal supply voltage	12 V / 24 V dc
Operating voltage range	10.8 V dc to 31.2 V dc
In-line Fuse	• 7 A (Standard 20 mm glass fuse)

Power consumption	Full brightness:
	• **a125** — 26 W Max
	• **a127** — 29.6 W Max
	• **a128** — 28 W Max
	PowerSave mode:
	• **a125** — 5.2 W Max
	• **a127** — 8.8 W Max
	• **a128** — 7.2 W Max
LEN (Refer to Seatalk^{ng} reference manual for further information).	1

Note: Power consumption figures represent a loaded system and for sonar and DownVision variants include an active transducer.

a9x and a12x Data connections

Wired connections

NMEA 0183	• NMEA port 1: Input and output, 4800 / 38400 baud rates
	• NMEA port 2: Input only, 4800 / 38400 baud rates
	Note: a6x and a7x variant MFDs do not include NMEA 0183 connections
Network (SeaTalk^{hs})	• a6x and a7x = 1 x RayNet type SeaTalk^{hs} port. 10/100 Mbits/s
	• a9x and a12x = 2 x RayNet type SeaTalk^{hs} port. 10/100 Mbits/s
SeaTalk^{ng}	1 x SeaTalk^{ng} connection
GA150	1 x TNC type external GPS / GLONASS antenna connection
Video input	1 x BNC type video input connection

Wireless connections

Wi-Fi	802.11 b / g
Bluetooth	Bluetooth 2.1 + EDR power class 1.5 (supported profile: AVRCP 1.0)

Internal GNSS (GPS / GLONASS) receiver specification

Channels	72
Cold start	<2 minutes
Receiver IC Sensitivity	–167 dBm (Tracking) / –148 dBm (Acquisition)
GNSS compatibility	• GPS
	• GLONASS
	• * Beidou
SBAS compatibility	• WAAS
	• EGNOS
	• MSAS
Special features	Active Jamming and Interference Reduction

Operating frequency	• GPS L1 C/A
	• GLONASS L10F
	• Beidou B1
Signal Acquisition	Automatic
Almanac Update	Automatic
Geodetic Datum	WGS-84 (alternatives available through Raymarine MFD)
Update Rate	10 times per second (Concurrent GNSS)
Antenna	• **Internal** — Ceramic chip mounted near top of unit
	• **External** — GA150 external antenna may be used
Position Accuracy	• Without SBAS: <= 15 metres 95% of the time
	• With SBAS: <= 5 metres 95% of the time

Note: * Supported but not currently available. A software update will be required to add support for this GNSS when it becomes available. A GA150 must be connected to receive Beidou. Please check with your Raymarine dealer for further details.

Internal sonar specification

The internal sonar specifications only apply to sonar variant multifunction display variants.

Operating frequencies	50 / 83 / 200 KHz
Transmit power	Up to 600 W RMS, depending on transducer
Depth range	Up to 3000 ft, depending on transducer

Sonar / DownVision specification

Channels	2 x CHIRP (1 x sonar and 1 x DownVision)
Beam coverage	• **Sonar** — **conical** beam.
	• **DownVision** — Wide (port / starboard) and thin (fore / aft) **fan** beam.
Depth	Typical depth performance of 189 m (600 ft). Applies to both Sonar and DownVision channels.