MODEL1815
Multi-Station Configuration

Building a Multi-Station with the MODEL 1815 Radar

With version 1.03 software and above, up to **three (3) displays can be connected to one dome antenna**: The display units (RDP157) are networked via **Ethernet** allowing control and adjustment of the Radar from additional second or third stations.

Unit	Item	Version	Remarks
Display Unit RDP157	Application	0359375-**01.03**	Version 1.03 updates both the main application and FPGA software.
	FPGA	0359372-01.02	

The antenna unit (RSB127-120) does not require update. Software v01.03 is only for the display units (RDP157) If software is needed, it is posted under the 1815 product page. (https://www.furunousa.com/en/support/1815)

1. Installation

Interconnection

The following diagrams compare a standalone configuration with that of the multi-station. The main difference is antenna cable type. While the standalone configuration requires the standard cable, the **multi-station** requires a cable with the RJ45 connector fitted, allowing it to be connected to an Ethernet hub. The type needed is the same cable type used on the DRS4DL+ or DRS4D-NXT radars. Assorted cables length options are shown under those products as accessories.

Antenna Cable Length and Supply Voltages in Standalone and Multi Station Configurations

You **must** use a supply voltage of **24 VDC** if using a 30m antenna cable for either configuration type.
12/24 VDC input is allowed for the standalone or multi-station configurations that are using **up to 20m** antenna cable length.

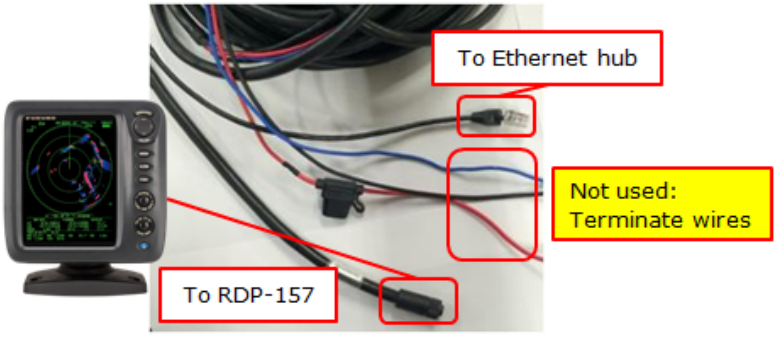
NMEA0183 IN/OUT

(1) While radar images from one antenna can be shared via Ethernet, **NMEA0183 data is NOT shared**. Make sure to input NMEA0183 data such as AIS, heading, and other navigation data to the NMEA0183 port(s) on each RDP157 as required. A splitter might be needed to ensure proper signal levels depending on the installation.

(2) If the NMEA0183 **OUTPUT** data is needed from the display, it should **NEVER** be tied to the output of another display. For example, if TLL is needed from each display location, you will need separate input ports at your receiving device. Trying to “Merge” the display output data into one input port will result in shorting and equipment damage.

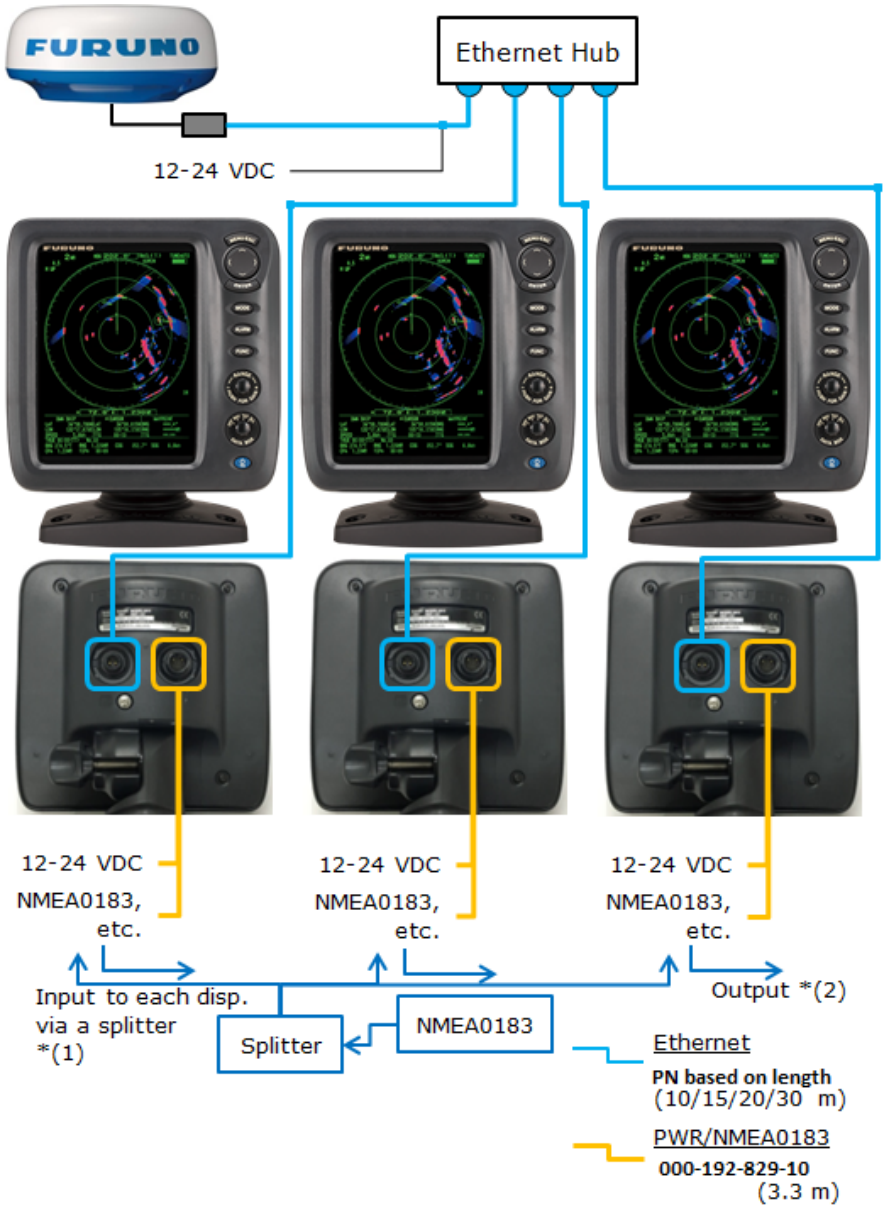
Cable terminations for RDP157

The multi configuration radar cable consists of RJ45 connector and three (3) wires. These individual wires are **not used** to connect the RDP157 to an Ethernet hub. Make sure that these wires are fully terminated (cut clean) in order to **avoid short circuit**.



Standalone Configuration

Multi Station Configuration



2. Independent and Synchronized Adjustments

The RDP157 at the second and/or third stations can independently adjust Radar screens. However, some settings are synchronized. The following table shows independent or synchronized adjustments or operation.

Basic Operation

✓: Independent adjustment available

Operation	-	Independent Adjustment	Remarks
Power ON/OFF	-	✓	Each RDP157 can be turned on or off.
Range Scale	-	Synchronized	All the stations show echoes in the same range scale.
Auto and Manual Gain/Sea/Rain	-	Synchronized	All the stations show echoes in the Auto or Manual mode with the same gain, sea, and rain settings.
Mode Key	-	✓	See the following table for details.
Alarm Key	-	✓	See the following table for details.
FUNC Key	-	✓	-

Menu Settings

✓: Independent adjustment available

Layer 1	Layer 2	Independent Adjustment	Remarks
Brill/Color	Echo Brill	✓	-
	Rings Brill	✓	-
	Mark Brill	✓	-
	HL Brill	✓	-
	Character Brill	✓	-
	Viewing Position	✓	-
	Display Color	✓	-
	Echo Color	✓	-
	Background Color	✓	-
	Character Color	✓	-
	Menu Transparency	✓	-
	Echo Color Mode	✓	-
	Custom Echo Color	✓	-
Display	Display Mode	✓	-
	Zoom	✓	-
	Zoom Reference	✓	-

Layer 1	Layer 2	Independent Adjustment	Remarks
	Off-Center Mode	✓	-
	Save Off-Center	✓	-
	Echo Area	✓	-
	Text Display	✓	-
	STBY Display	✓	-
Echo	Auto SEA	Synchronized	-
	Echo Stretch	✓	-
	Echo Average	✓	-
	Noise Rejection	Synchronized	-
	Wiper	✓	-
	Int Rejection	Synchronized	-
	Display-Curve	Synchronized	-
	Low Level Echo	✓	-
Alert Settings	Target Alarm 1	✓	-
	Target Alarm 2	✓	-
	Target Alarm Level	✓	-
	Watchman	Synchronized	-
	Panel Buzzer	✓	-
	External Buzzer	✓	-
	Alert Status	✓	-
Trail	Gradation	✓	-
	Color	✓	-
	Reference	✓	-
	Level	✓	-
	Restart	✓	-
	Narrow	✓	-
	Own Ship	✓	-
	Trail Erase	✓	-
Tuning	Tuning Mode	Synchronized	-
	Manual Tuning	Synchronized	-
	Tune Initialization	Synchronized	-
Others	FUNC Setup	✓	-
	WPT Mark	✓	-
	EBL Reference	✓	-
	VRM Unit	✓	-
	Cursor Data	✓	-
	TLL Mode	✓	-

Layer 1	Layer 2	Independent Adjustment	Remarks
Target	Vector Time	✓	-
	Vector Reference	✓	-
	Past Positions	✓	-
	Past Posn Interval	✓	-
	CPA	Synchronized	-
	TCPA	Synchronized	-
	Proximity	✓	-
OS/Barge Mark	OS Mark	✓	-
	OS Length	✓	-
	OS Beam	✓	-
	Barge Mark	✓	-
	Barge Position	✓	-
	Barge Length	✓	-
	Barge Beam	✓	-
	Barge Arrangement	✓	-
TT	Display	✓	-
	Color	✓	-
	Auto Acquisition	Synchronized	-
	Erase Lost Targets	Synchronized	-
	TT Erase	Synchronized	-
AIS	Display	✓	-
	Color	✓	-
	Number of Targets	✓	-
	Sort By	✓	-
	Range	✓	-
	Sector Start	✓	-
	Sector End	✓	-
	Ignore Slow Targets	✓	-
	Erase Lost Targets	✓	-
GPS	Navigational Aid	✓	-
	Datum	✓	-
	Datum Number	✓	-
	WAAS	✓	-
	WAAS Number	✓	-
	Satellite Monitor	✓	-
	Self Test	✓	-
	Cold Start	✓	-

Layer 1	Layer 2	Independent Adjustment	Remarks
Initial	Key Beep	✓	-
	Off-Center Speed	✓	-
	Compass Type	✓	-
	Range Preset	✓	While the displayed range scale is synchronized between the RDP157 units, preset range values are independently adjustable on each unit. E.g. RDP157 No. 1 sets 3 NM range to OFF. RDP157 No. 2 sets 3 NM range to ON. When No. 2 is selected with the 3 NM range scale, No. 1 also shows echoes with the 3 NM range although 3 NM is not selectable from No. 1.
	Wind Direction	✓	-
	NMEA Port 1	✓	-
	NMEA Port 2	✓	-
	NMEA Mixing Out	✓	-
Test	Self Test	✓	-
	LCD Test	✓	-
	Radar Sensor Test	✓	-
Sector Blanks	Sect-Blank 1 Status	Synchronized	-
	Sect-Blank 1 Start	Synchronized	-
	Sect-Blank 1 End	Synchronized	-
	Sect-Blank 2 Status	Synchronized	-
	Sect-Blank 2 Start	Synchronized	-
	Sect-Blank 2 End	Synchronized	-
Units	Range Unit	Synchronized	-
	Ship Speed Unit	✓	-
	Depth Unit	✓	-
	Temperature Unit	✓	-
	Wind Speed Unit	✓	-
TT	Multiple of detailed TT settings…	Synchronized	-
Installation	Simulation	✓	-
	Antenna Rotation	Synchronized	-
	Heading Alignment	Synchronized	-
	Sweep Timing	Synchronized	-
	MBS Adjustment	Synchronized	-
	Auto Install Setup	Synchronized	-

Layer 1	Layer 2	Independent Adjustment	Remarks
	Total On Time	Synchronized	The total time is stored in the antenna.
	Total TX Time	Synchronized	The total time is stored in the antenna.
	Memory Reset	Partially Synchronized	-
Factory	Language	✓	-
	Usage	✓	-

IMPORTANT NOTE: Some of the features listed above require external sensors to be connected (In example. Position/Heading/Nav Data)

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