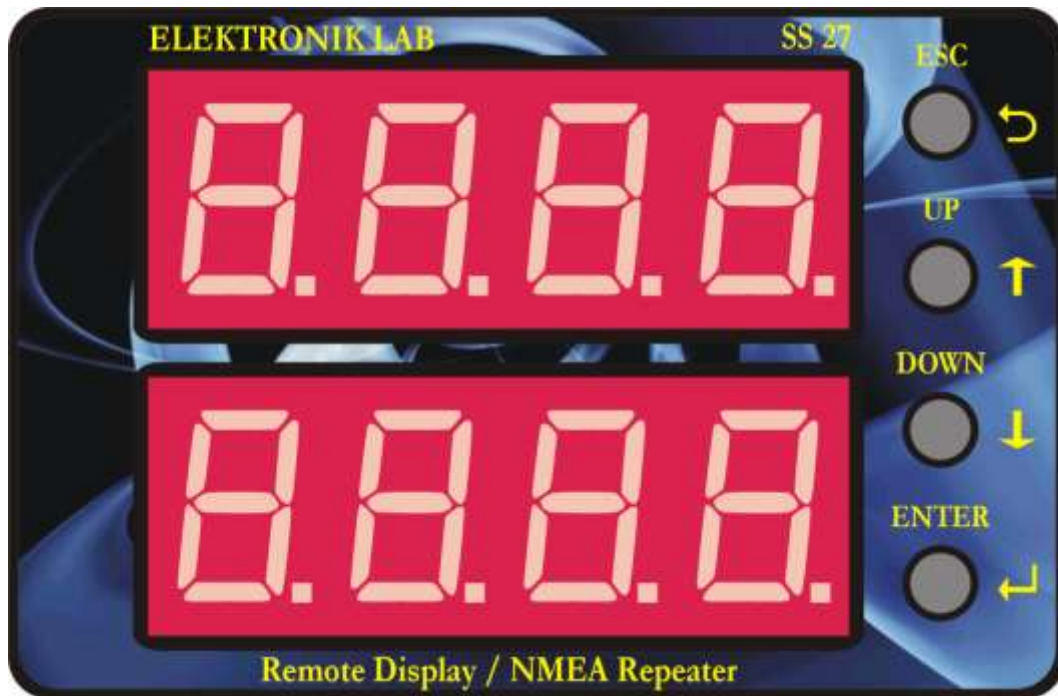


SS 27 – Remote Display / NMEA Repeater



SS 27 Remote Display / NMEA Repeater Front Panel

The **SS 27 Remote Display / NMEA Repeater** accepts and interprets **NMEA 0183** (IEC 61162 – 1 / 2) Serial Data from compatible navigational instruments with selectable display readouts for Heading , Speed Log , COG (Course Over Ground) , SOG (Speed Over Ground) , ROT (Rate of Turn) , Distance Travelled , Wind Angle (Direction) , Wind Speed , Depth , Revolutions , Water Temperature and HDOP (Horizontal Dilution of Precision). The large, clear and high illumination **Seven Segment Display** with its wide viewing angle allows ample choice for suitable installation locations. The display can be dimmed or brightened between **16 illumination levels** to suit ambient lighting conditions. The SS 27 operates from DC supply in the range 10 to 36 VDC from which it typically draws less than 750 mA. The SS 27 can be interfaced to **RS232** or **RS422** NMEA 0183 Serial Input with Selectable Baud Rates from **1200** to **38400 bps.** with Selectable Sentence Priority. The equipment provides **4 Simultaneous , Buffered** Data Outputs (**2 X RS232 + 2 X RS422**). With its low power consumption and multiple NMEA 0183 Data Outputs, the SS27 provides a low cost solution for Remote NMEA Display.



SS 27 Remote Display / NMEA Repeater Back Panel

Technical Specifications :-

DC Power Input : 10VDC to 32VDC @ 750mA.

Voltage Regulator : On – Board , **Switching Mode** Regulator.
Thermal Shutdown & Current Limit Protection.

Safety : Fuse Protected and **Reverse Polarity** Protected.

Data Input Channels : Standardized **NMEA 0183 (IEC 61162 – 1 / 2)** Serial format.

- **1 Channel** for Interface of **GPS** at up to **115200** Kbps. Baud.
- **3 Channels** for Interface of **NMEA 0183 (IEC 61162 – 1 / 2)** at up to **115200** Kbps. Baud.

Sentence Identifiers supported on the Data Input Channels :

- GPS** GGA , GLL , RMC , VTG and ZDA.
- GEN1** DBX , DPT , HDG , HDM , HDT , HSC , MTW , MWD , MWV , ROT , RPM , VBW , VHW , VPW and VWR.
- GEN2** DBX , DPT , HDG , HDM , HDT , HSC , MTW , MWD , MWV , ROT , RPM , VBW , VHW , VPW and VWR.
- GEN3** DBX , DPT , HDG , HDM , HDT , HSC , MTW , MWD , MWV , ROT , RPM , VBW , VHW , VPW and VWR.

Baud Rates supported on the Data Input Channels :

115200 bps., **57600** bps., **38400** bps., **19200** bps., **9600** bps., **4800** bps., **2400** bps., and **1200** bps.

The **Sentences** supported (with **Selectable Transmission**) on the NMEA 0183 Output are :

DBT, DPT, GGA, GLL, HDM, HDT, MTW, MWD, RMC, ROT, RPM, VHW, VLW, VPW, VTG & VWR.

The **Baud Rates** supported on the NMEA 0183 Output are :

38400 bps., **32000** bps., **24000** bps., **19200** bps., **9600** bps., **4800** bps., **2400** bps., and **1200** bps.

The Output **Signaling** is **2 X RS232 + 2 X RS422** , Buffered , Simultaneous.



User Setup Menu Structure

Display Mode

Display Mode Menu allows the User to **Disable (Off) / Enable (On)** the Individual Display Parameter's as listed below. The Upper SSD Stack will display the **Parameter Type** & the Lower SSD Stack will display the **Parameter Value**.

- Heading** – Disable Display (**Off**) , Enable Display (**On**).
- Speed** (Over Water) – Disable Display (**Off**) , Enable Display (**On**).
- COG** (Course Over Ground) – Disable Display (**Off**) , Enable Display (**On**).
- SOG** (Speed Over Ground) – Disable Display (**Off**) , Enable Display (**On**).
- ROT** (Rate of Turn) – Disable Display (**Off**) , Enable Display (**On**).
- Distance Travelled** – Disable Display (**Off**) , Enable Display (**On**).
- Wind Angle** (Direction) – Disable Display (**Off**) , Enable Display (**On**).
- Wind Speed** – Disable Display (**Off**) , Enable Display (**On**).
- Depth** – Disable Display (**Off**) , Enable Display (**On**).
- Revolutions** – Disable Display (**Off**) , Enable Display (**On**).
- Temperature** – Disable Display (**Off**) , Enable Display (**On**).
- HDOP** – Disable Display (**Off**) , Enable Display (**On**).

Units of Display

Units of Display Menu allows the User to set the **Units of Display** of the Individual Display Parameter's as listed below.

- Heading** Units – Degrees True , Degrees Magnetic
- Speed** (Over Water) Units – Knots , Km. / Hr.
- COG** (Course Over Ground) Units – Degrees True , Degrees Magnetic
- SOG** (Speed Over Ground) Units – Knots , Km. / Hr.
- Wind Angle** (Direction) Units – Degrees True , Degrees Relative
- Wind Speed** Units – Knots , Km./Hr.
- Depth** Units – Meters , Fathoms

Display Toggle Rate

Display Toggle Rate Menu allows the User to set the **Toggle Time** between displays of the Individual Display Parameter's as listed below.

- Toggle Rate** – 1 Sec., 1.5 Sec., 2 Sec., 2.5 Sec., 3 Sec., 3.5 Sec., 4 Sec., 4.5 Sec.

Keypad Beep Mode

Keypad Beep Mode Menu allows the User to set the **Key Press Sound** as listed below.

- Keypad Beep** – Silent (**Off**) , Beep (**On**).

NMEA I/P Baud Rate **

NMEA I/P Baud Rate Menu allows the Service Engineer to set the **Baud (Bit) Rate's** of the 4 IEC 61162 NMEA Input Channels as listed below.

- GPS** Baud Rate – 115200 bps., 57600 bps., 38400 bps., 19200 bps., 9600 bps., 4800 bps., 2400 bps., 1200 bps.
- GEN. 1** Baud Rate – 115200 bps., 57600 bps., 38400 bps., 19200 bps., 9600 bps., 4800 bps., 2400 bps., 1200 bps.
- GEN. 2** Baud Rate – 115200 bps., 57600 bps., 38400 bps., 19200 bps., 9600 bps., 4800 bps., 2400 bps., 1200 bps.
- GEN. 3** Baud Rate – 115200 bps., 57600 bps., 38400 bps., 19200 bps., 9600 bps., 4800 bps., 2400 bps., 1200 bps.



Talker Identifier **

Talker Identifier Menu allows the Service Engineer to set the **Sensor Talker Identifier's** on the 4 IEC 61162 NMEA Input Channels to **Ignore \$XX / Detect \$XX** as listed below.

- GPS** Talker Ident. – Ignore \$XX (**Off**) , Detect \$XX (**On**) .
- GEN. 1** Talker Ident. – Ignore \$XX (**Off**) , Detect \$XX (**On**) .
- GEN. 2** Talker Ident. – Ignore \$XX (**Off**) , Detect \$XX (**On**) .
- GEN. 3** Talker Ident. – Ignore \$XX (**Off**) , Detect \$XX (**On**) .

Sentence Identifier **

Sentence Identifier Menu allows the Service Engineer to set the **Individual Sentence Identifier's** on the 4 IEC 61162 NMEA Input Channels to **Ignore (Off) / Decode (On)** as listed below.

- GGA** Decode Mode – Ignore (**Off**) , Decode (**On**) .
- GLL** Decode Mode – Ignore (**Off**) , Decode (**On**) .
- RMC** Decode Mode – Ignore (**Off**) , Decode (**On**) .
- VTG** Decode Mode – Ignore (**Off**) , Decode (**On**) .
- ZDA** Decode Mode – Ignore (**Off**) , Decode (**On**) .
- DBX** Decode Mode – Ignore (**Off**) , Decode (**On**) .
- DPT** Decode Mode – Ignore (**Off**) , Decode (**On**) .
- HDG** Decode Mode – Ignore (**Off**) , Decode (**On**) .
- HDM** Decode Mode – Ignore (**Off**) , Decode (**On**) .
- HDT** Decode Mode – Ignore (**Off**) , Decode (**On**) .
- HSC** Decode Mode – Ignore (**Off**) , Decode (**On**) .
- MTW** Decode Mode – Ignore (**Off**) , Decode (**On**) .
- MWD** Decode Mode – Ignore (**Off**) , Decode (**On**) .
- MWV** Decode Mode – Ignore (**Off**) , Decode (**On**) .
- ROT** Decode Mode – Ignore (**Off**) , Decode (**On**) .
- RPM** Decode Mode – Ignore (**Off**) , Decode (**On**) .
- VBW** Decode Mode – Ignore (**Off**) , Decode (**On**) .
- VHW** Decode Mode – Ignore (**Off**) , Decode (**On**) .
- VPW** Decode Mode – Ignore (**Off**) , Decode (**On**) .
- VWR** Decode Mode – Ignore (**Off**) , Decode (**On**) .

NMEA O/P Mode **

NMEA O/P Mode Menu allows the Service Engineer to set the **Transmit Mode** of the NMEA Output Channel to **Disable Transmit (Off) / Transmit Selective (On)** as listed below.

- O/P Mode** – Disable Transmit (**Off**) , Transmit Selective (**On**) .

NMEA O/P Baud Rate **

NMEA O/P Baud Rate Menu allows the Service Engineer to set the **Baud (Bit) Rate** of the NMEA Output Channel as listed below.

- O/P Baud Rate** – **38400** bps., **32000** bps., **24000** bps., **19200** bps.,
9600 bps., **4800** bps., **2400** bps., **1200** bps.

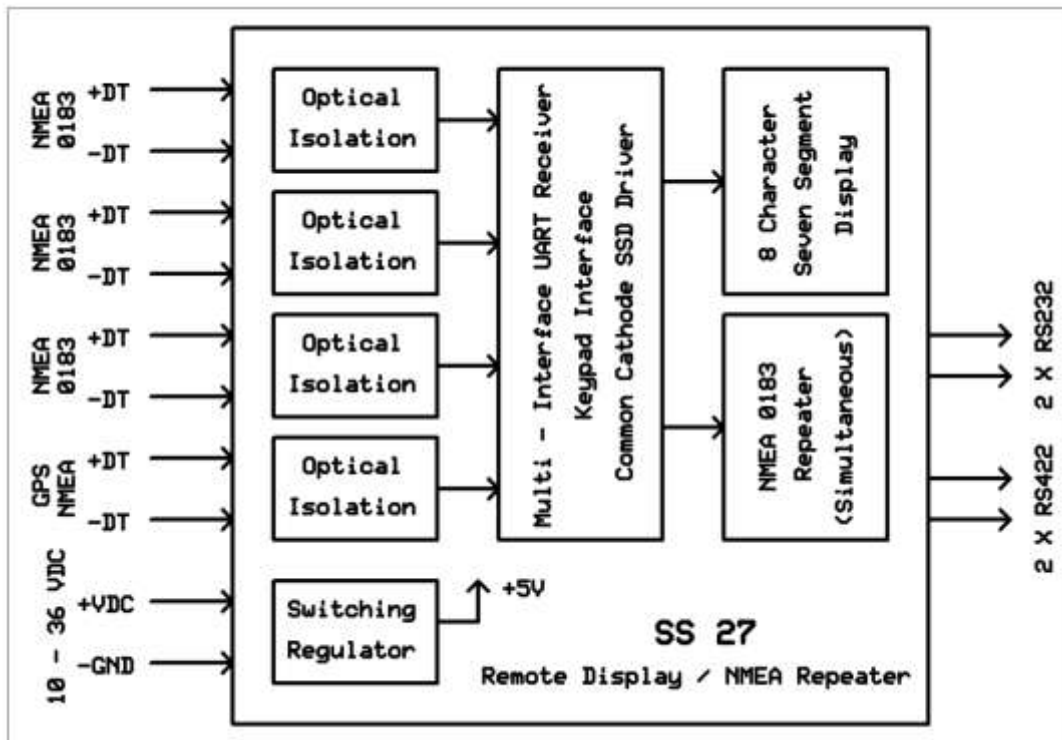
NMEA O/P Transmit Sentences **

NMEA O/P Transmit Sentences Menu allows the Service Engineer to set the **Selectable Transmission** of the NMEA Sentences on the NMEA Output Channel to **Disable Transmit (Off) / Enable Transmit (On)** as listed below.

- DBT Transmission – Disable Transmit (**Off**) , Enable Transmit (**On**).
- DPT Transmission – Disable Transmit (**Off**) , Enable Transmit (**On**).
- GGA Transmission – Disable Transmit (**Off**) , Enable Transmit (**On**).
- GLL Transmission – Disable Transmit (**Off**) , Enable Transmit (**On**).
- HDM Transmission – Disable Transmit (**Off**) , Enable Transmit (**On**).
- HDT Transmission – Disable Transmit (**Off**) , Enable Transmit (**On**).
- MTW Transmission – Disable Transmit (**Off**) , Enable Transmit (**On**).
- MWD Transmission – Disable Transmit (**Off**) , Enable Transmit (**On**).
- RMC Transmission – Disable Transmit (**Off**) , Enable Transmit (**On**).
- ROT Transmission – Disable Transmit (**Off**) , Enable Transmit (**On**).
- RPM Transmission – Disable Transmit (**Off**) , Enable Transmit (**On**).
- VHW Transmission – Disable Transmit (**Off**) , Enable Transmit (**On**).
- VLW Transmission – Disable Transmit (**Off**) , Enable Transmit (**On**).
- VPW Transmission – Disable Transmit (**Off**) , Enable Transmit (**On**).
- VTG Transmission – Disable Transmit (**Off**) , Enable Transmit (**On**).
- VWR Transmission – Disable Transmit (**Off**) , Enable Transmit (**On**).

** - Indicates Setup Menu accessible only to Service Engineer using Service Access Password.

Schematic Diagram





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