



SYNCHRO CONVERTER INTERFACE UNIT

The **SYNCHRO CONVERTER INTERFACE UNIT** comprises an integrated solution providing Coarse and Fine Heading, Roll, Pitch, and Speed signals (S1, S2, S3) from corresponding synchro inputs (gyro compass, speed log).

Synchro speed outputs (coarse and fine) can also be generated from digital NMEA 0183 data.

Features

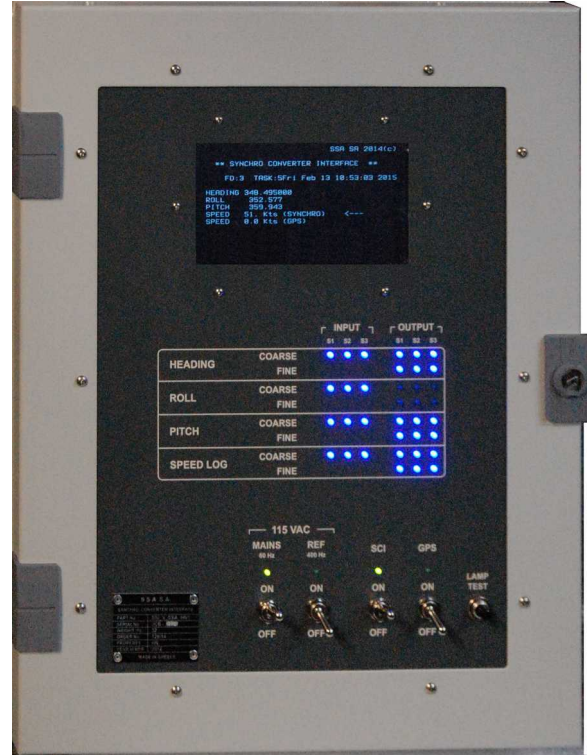
- Galvanic isolation between input and output signals
- DIN rail terminal block for easy signal interfacing
- Fuse protection on all synchro input and output lines
- Separate subsystem activation switches
- Input and output status indicators, with Lamp Test push button
- Synchro / Resolver to Digital and Digital to Synchro Resolver interfaces
- Graphics display panel
- Continuous Built-In Test (BIT)

Products

SIU_V_SSA_HN1	Synchro Converter Interface Unit
SCI-CP	SCI Control Panel
SIU33-HN	Sensor Interface Unit (SIU) - NAI
SCI-CP Mount	Set of shock mounts for SCI-CP
SIU Mount	Set of cooling base plate and shock mounts for SIU
SIU Interface cables	LSZH cables (application - specific)
SIU RMC (option)	Remote monitoring and control

Services

SCI Installation Study	Installation - Interconnection Study
SCI Installation	



SYNCHRO CONVERTER INTERFACE CONTROL PANEL (SCI-CP)

Application

The **SYNCHRO CONVERTER INTERFACE UNIT** is used to provide the fine-resolution synchro signals required by modern naval systems. The system comprises a state-of-the-art Sensor Interface Unit (SIU), equipped with galvanically isolated Synchro to Digital and Digital to Synchro converters, and a Synchro Converter Interface Control Panel (SCI-CP), housing power, protection, control, and status display electronics.

The unit typically interfaces with the vessel's gyro compass providing Heading, Pitch and Roll synchro signals, and speed log, providing the speed signals. Speed can also be input from a GPS or other device with an NMEA 0183 interface (EIA RS-422 / RS-232 serial).

All input and output signals are protected against overcurrent by slow-blow low-current fuses. A light indicator array shows the status of all input and output signals. Input signal values are also shown on the panel's graphics display.

For Naval applications, the assembly is installed using shock-absorber mounts, affording operation in extreme shock and vibration environments.



SENSOR INTERFACE UNIT (SIU)

SYNCHRO CONVERTER INTERFACE UNIT Specifications

Inputs	<p>Heading x 1 (360° / revolution), 28 to 90 V RMS, 400 Hz Pitch x 4 (90° / revolution), 28 to 90 V RMS, 400 Hz Roll x 4 (90° / revolution), 28 to 90 V RMS, 400 Hz Speed (54 knots / revolution), 28 to 90 V RMS, 400 Hz</p> <p>AC Reference: 2 to 115 V RMS</p> <p>RS-422/RS-232 NMEA0183 (VTG)</p> <p>In the case that both the Speed Log and NMEA inputs are present, priority is given to the Speed input</p>
Outputs	<p>Heading Coarse x 1 (360° / revolution), 90 V RMS, 400 Hz Pitch Coarse x 2 (180° / revolution), 90 V RMS, 400 Hz Roll Coarse x 2 (180° / revolution), 90 V RMS, 400 Hz Speed Coarse (100 knots / revolution), 90 V RMS, 400 Hz</p> <p>Heading Fine x 36 (10° / revolution), 90 V RMS, 400 Hz Pitch Fine x 2 (180° / revolution), 90 V RMS, 400 Hz Roll Fine x (90° / revolution), 90 V RMS, 400 Hz Speed Fine (10 knots / revolution), 90 V RMS, 400 Hz</p> <p>Maximum Load: up to 2.2 VA / CH</p>
Application	Conversion of single-speed (coarse) synchro and GPS signals to dual-speed (coarse / fine) synchro signals.
Status Display	Input Heading, Roll, Pitch, Log Speed, GPS Speed, Active Speed Input
Status Indicators	<p>SCI-CP Inputs:</p> <ul style="list-style-type: none"> S1, S2, S3 indicators for Coarse Heading, Pitch, Roll, Speed 115 VAC / 60 Hz Mains indicator 115 VAC / 400 Hz Reference indicator SCI Power indicator GPS indicator <p>SCI-CP Outputs:</p> <ul style="list-style-type: none"> S1, S2, S3 indicators for Coarse and Fine Heading, Pitch, Roll, Speed <p>SIU: Status, Power</p>
Protection	10 mA slow-blow fuses on all input and output lines
Operating Temperature	-5° to +60° C (-40° to +70° C for SIU)
Storage Temperature	-10° to +60° C (-55° to +105° C for SIU)
Humidity	0 to 95% relative humidity, non-condensing
Vibration	Per MIL-STD-167-1A, MIL-S-901D (SCI-CP and SIU mounted on shock absorbers)
Power	115 VAC, 100VA
Weight	32 kg, including shock mounts
Additional facilities	Customization for specific applications (input - output resolution, frequencies, additional serial and discrete channels) Fabrication of special cables

List of Services Offered

Training	Maintenance Personnel
Pre-Installation	Application planning, installation study
Installation	Installation, interoperability testing, setting to work
Post-Installation	After sales technical support.



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