SecureSync Tech Brief

SecureSync 1200 to 2400 Migration Guide

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While we maximized the Form / Fit / Function compatibility between SecureSync 1200 and SecureSync 2400, the implementation of new features and design improvements led to some differences between both units, which may have some impact on SecureSync integration. This guide aims at listing the differences between SecureSync 1200 and 2400, focusing on interface considerations, providing a systematic path and some tips for revisiting the integration with SecureSync 2400.

Mechanical Interfaces

Item	SecureSync 1200	SecureSync 2400
Dimensions	425 x 44 x 364 mm (WxHxD)	434 x 44 x 385 mm (WxHxD)
Weight	2.72 kg	2.72 kg
Integration in 19" cabinet	Front ear with handle, part of ancillary kit	Front ear, part of ancillary kit Rear bracket, optional

Slide Rails

For integration using slide rails, due to the SecureSync 2400 slightly higher width, it may be that slide rails used for SecureSync 1200 are not appropriate for SecureSync 2400. A new model of slide rail for SecureSync 2400, featuring thin profile, will be offered in Q2 2022.

Rack Mounting

While both SecureSync 1200 and 2400 are mounted in a cabinet using rack ears (part of ancillary kit), SecureSync 2400 can be also mounted with an optional rear mounting bracket kit (P/N : 2400-0000-0704).

Connectors

Connector		SecureSync 1200	SecureSync 2400	
GNSS Input		N-Type	SMA + SMA to N adaptation cable	
1 pps Output		BNC	BNC	
10 MHz Output		BNC	BNC	
Console Port (Front Panel)		RS232 serial port, DB9	Micro-B USB	
Console Port (Rear Panel)		NA	RJ45	
Multi I/O		NA	HD-15	
Ethernet Port 0		RJ45 (10/100 bT)	RJ45 (10/100/1000 bT)	
Ethernet Port 1		NA	SFP	
Fixed or Hot Swap Power Supply 12 VDC	Base Unit Receptacle :			
	Supplier :	AMPHENOL	AMPHENOL	
	Supplier P/N :	97-3102A-10SL-3P(946)	97-3102A-10SL-4P(946)	
	Mating Plug :			
	Supplier :	AMPHENOL	AMPHENOL	
	Supplier P/N :	DL3106A10SL-3S	97-3106A10SL-4S(946)	
Fixed or Hot Swap 24/48 VDC power supply	Base Unit Connector :			
	Supplier :	AMPHENOL	AMPHENOL	
	Supplier P/N :	97-3102A-10SL-3P(946)	97-3102A-10SL-3P(946)	
	Mating Connector :			
	Supplier :	AMPHENOL	AMPHENOL	
	Supplier P/N :	DL3106A10SL-3S	DL3106A10SL-3S	
Power Single Fixed AC		C13/C14 with on/off switch and fuse	C13/C14 no on/off switch nor fuse	
Power Hot Swap Module AC		NA	Hot Swappable module C13/C14 no on/off switch nor fuse	

Notes

- It is important to keep the SMA to N adapter cable (which is provided with any SecureSync 2400 base unit) as part of the RF downlink, as this reduces the strain on the SMA connector

- When looking at the rear panel, the power supply inputs are on the left part of the rear panel on SecureSync 1200, and on the right part of the rear panel on SecureSync 2400. This may impact required power cable lengths.

- Several Timing inputs and outputs are available from a single HD-15 connector on SecureSync 2400. An optional breakout cable (Part Number CA08R-D500-0001) is available and provides fan-out with a single usual connector (BNC, SubD9) per signal. This breakout cable is mostly for evaluation purpose. It is recommended to design a dedicated breakout cable that matches the exact application requirements, in terms of single-signal connectors, cable length and type, etc...

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Environmental

Item	SecureSync 1200	SecureSync 2400
Operating Temperature	-20°C - + 65°C	-20°C - +65°C Restrictions may apply to Low Phase Noise configurations
Storage Temperature	-40°C - +85°C	-40°C - +85°C
Shocks	15 g, 11 ms	15g, 11 ms halfsine
Vibrations	10-55 Hz : 0.07 g peak 55-500 Hz : 1.0 g peak	MIL-STD-810H 514.8C-2 cat4 MIL-STD-810H 514.8D-11, cat 21 1.1g rms vertical, 0.8g rms longitudinal

Electrical Interfaces

Connector	SecureSync 1200	SecureSync 2400
GNSS Input	RF (1.5 GHz), 50 ohms + 5 VDC to antenna Antenna : 16 dB gain min	RF (1.5 GHz), 50 ohms + 5VDC to antenna Antenna : 16 dB gain min
1 pps Output	DCLS, TTL 4.3 V min, 50 ohms	DCLS TTL 4.3 V min, 50 ohms
10 MHz Output	Sinus, +13 dBm into 50 ohms	Sinus, +13 dBm into 50 ohms
Console Port (Front Panel)	RS232 serial port	USB
Console Port (Rear Panel)	NA	USB
Multi I/O	NA	Refer to User Manual
Ethernet Port 0	IEEE 802.3 compliant	IEEE 802.3 compliant
Ethernet Port 1	NA	IEEE 802.3 compliant
Power Single Fixed AC	100-240 VAC, 50/60 Hz, ±10%	100-240 VAC, 50/60 Hz, ±10%
Power Single Fixed 12VDC	12-17 VDC, -15% +20%	12-17 VDC, -15% +20%
Power Single Fixed 24/48 VDC	21-60 VDC -15% +20%	21-60 VDC -15% +20%
Power Hot Swap Module AC	NA	100-240 VAC, 50/60 Hz, ±10%
Power Hot Swap Module 12 VDC	NA	12-17 VDC, -15% +20%
Power Hot Swap Module 24/48 VDC	NA	21-60 VDC -15% +20%
Power Consumption (Base unit only)	TCXO/OCXO : 40 W (50 W startup) Rubidium : 50 W (80 W startup) LPN RUB : 52 W (85 W startup)	TCXO/OCXO : 40 W (50 W startup) Rubidium : 50 W (80 W startup) LPN RUB : 52 W (85 W startup)

Notes

- SFP modules to be purchased separately. Orolia offers Copper and Fiber SFPs. A list of supported / non supported SFPs is provided in SecureSync 2400 User Manual.
- The power consumption is provided for base unit. Option Cards add power consumption, typically around 1 W per Option Card, except Network Option Cards 1204-4A and 49 (9 W) and programmable frequency Option Card 1204-13/2F/30 (3 W).

Communication / Protocols

Connector	SecureSync 1200	SecureSync 2400
ASCII Messages (via RS232 / RS485)	NMEA : GGA, RMC, ZDA Proprietary formats – see User Manual Appendix	NMEA : GGA, RMC, ZDA Proprietary formats – see User Manual Appendix
NTP	NTP v4 Autokey not supported	NTP v4 Autokey not supported
PTP	NA (only through OC 1204-32)	Available on ports Eth0 and Eth1
Syslog	Yes	Yes
SNMP	V1, v2c, v3 MIB	V1, v2c, v3 MIB
Rest API Monitoring	Yes	Yes
LDAP	Yes, v2, v3	Yes, v2, v3
RADIUS	Yes	Yes
TACACS+		Yes
Secure Session	SCP, SSH	SCP, SSH

Notes

- Though both SecureSync 1200 and SecureSync 2400 can be monitored through REST API, some End Points are different between these two products. This is documented in the REST API implementation guide.
- SecureSync 1200 and SecureSync 2400 SNMP implementation and MIB structure (OIDs) are quite similar but some OIDs are specific to each product. Therefore, MIBs from the SecureSync 2400 will need to be loaded into the SNMP monitoring application.

Man-Machine Interface

Front Panel Interface

SecureSync 2400 provides a more interactive man-machine interface through the front panel, which provides more detailed status, as well as direct access to menus on OLED display using the led buttons. The SecureSync 2400 OLED display also provides more detailed information than the SecureSync 1200 display.

Web UI

Both SecureSync 1200 and SecureSync 2400 use a web-UI interface for

- Configuration / Administration
- Status
- SW Update

The web-UI pages are very similar and it is expected that a user who is familiar with SecureSync 1200 will be very quickly up to speed with SecureSync 2400.