

Internal Sync Timer

for GPS-synchronized Time Stamping
of Scan Data

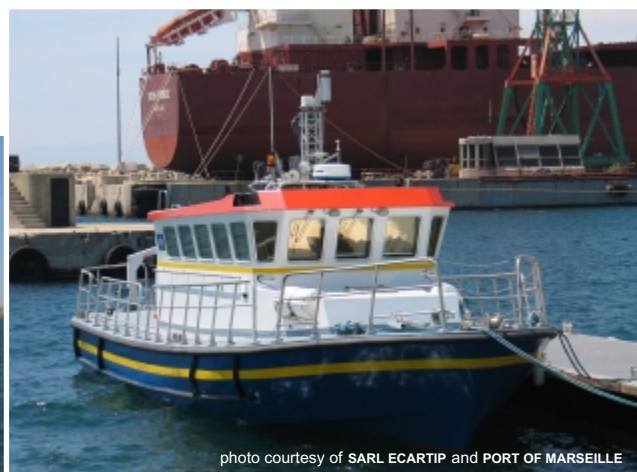
RIEGL 2D scanners are well suited for mapping applications from moving platforms (e.g., rovers, rail vehicles, boats). In order to register scan data acquired from non-stationary platforms in a stationary coordinate system, e.g., WGS84, the laser scanner has to be supplemented by position and attitude sensors, e.g., GPS and IMU, and the laser data have to be merged with these additional data.

RIEGL 3D scanners are primarily intended for acquiring of 3D data from a stationary scan position, but additionally support a 2D line scan mode as for 2D scanners, making them ready for applications as described above.

For seamless integration of the 2D line scan data with GPS position and IMU attitude data, both *RIEGL* 2D and 3D scanners optionally offer a time-stamping mechanism for adding **real-time-clock information to each laser range measurement**.

For this purpose the GPS synchronization output, sending SYNC pulses in periods of 1 second (1 PPS), is permanently connected to a scanner input line (Trigger input). The GPS serial RS232 port is connected to a PC controlling the scanner for time synchronization purposes prior to scan data acquisition or for synchronization checks.

Both SYNC pulse as well as RS232 interface are standard for GPS receivers.



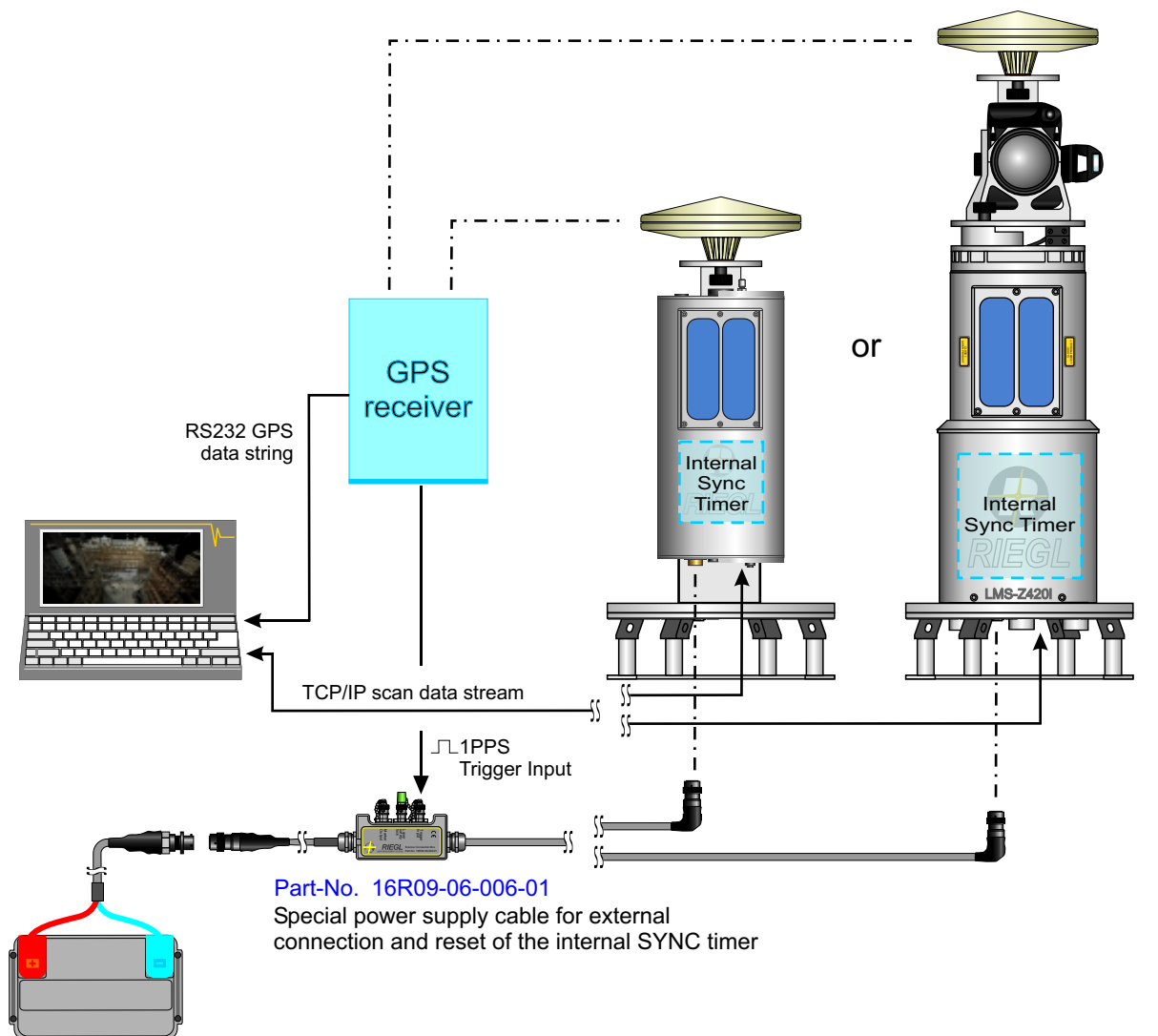
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RIEGL
LASER MEASUREMENT SYSTEMS

Schematic Scanner Setup

RIEGL LMS-Zxxx or RIEGL LMS-Qxxx Scanner with internal **SYNC** Timer
for GPS-synchronized time stamping of scan data



Part-No. 02Z07-04-001-00

Upgrade

(Please provide the instrument's serial number to allow check of feasibility of upgrading.)

Information contained herein is believed to be accurate and reliable. However, no responsibility is assumed by RIEGL for its use.
Technical data are subject to change without notice. Data Sheet Internal Sync Timer, 12/12/2007



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