Features
PTP Slave
PTP Boundary clock
PTP Grandmaster
10/100/1000 Base-T PTP Ethernet port
SMPTE 2059-2 compatible
Two 10 MHz outputs, third output optional
PPS and time and date data string reference output
Additional unbalanced and balanced PPS output
Leap year / second compatible
SNMP ready
Hot swappable module
Failure relay
TC_link compatible
Surge Voltage protector
UMID data capable

The PLURA RUBIDIUM SERIES PTP module C3 is the most advanced and universal solution to handle PTP signals for any broadcast and non broadcast systems. The module can be configured into multiple applications such as a PTP Grandmaster, PTP Slave or PTP boundary clock.

C3 comes with two 10MHz outputs, which can be synchronized with any third-party SPG system.

With the **SLAVE** option, the C3 is acting as a PTP slave only. If the PTP master is unavailable within the network, the module will stay in listening mode waiting for the master PTP.

With the **GRANDMASTER** option, the module is acting as a PTP Grandmaster and needs a reference from a GPS (GNS10MHz).

The **BOUNDARY CLOCK** option is a master-slave mode. The system is in slave mode, but can also act as a PTP master if master PTP is unavailable within the network.

GRANDMASTER with PTP FALLBACK option is a grandmaster mode with a fallback to slave mode if a another master PTP signal is available within the network.

BOUNDARY CLOCK with GPS option is designed for unstable GPS-signal environments. In a network with more than one master, the system with the best GPS-signal becomes the master and all other systems become slaves.

IEEE 1588 client, OCXO oscillator option is designed to improves free running accuracy by one magnitude (factor 10).
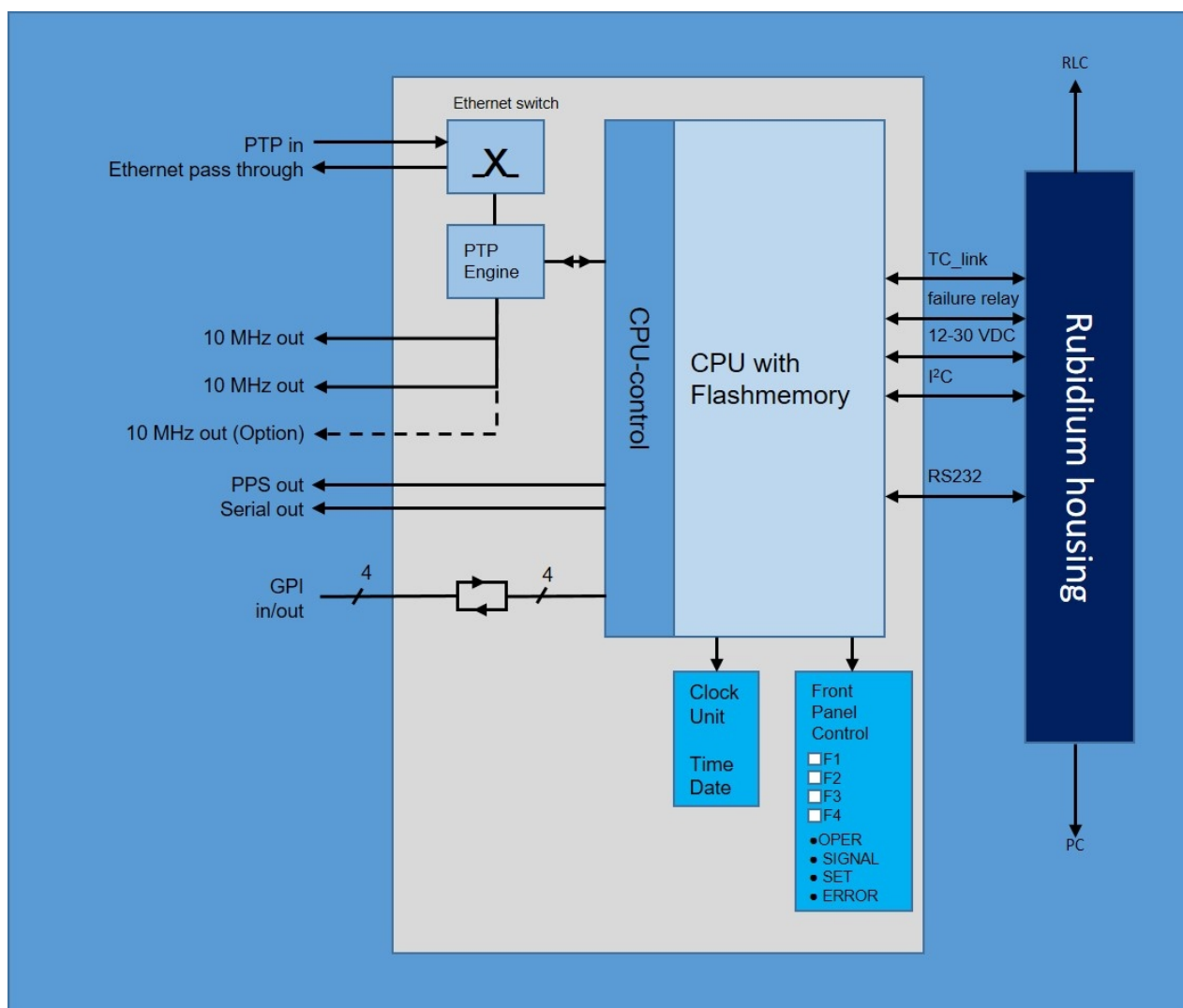
C3 module in RUBIDIUM H1 housing

The C3 module can be integrated with any RUBIDIUM Series frames.

The C3 offers a variety of monitoring and control capabilities and can be implemented into the most advanced and fail-proof redundant systems.

The C3 module has the following outputs:
- serial output for time information
- Seconds pulse (PPS)
- Two 10 MHz outputs
- GPI
- 10/100/1000 Base-T

Every module is connected to an internal hot swappable bus, which bilaterally connects all modules within a particular housing. The internal bus can be distributed over several housings by using the RLC port. The RLC connection consists of a DC source, a failure relay and a TC_link interface. TC_link is a real time capable proprietary interface, which is based on a customized RS485 interface.

Two modules connected to our RUBIDIUM Series SR module offer a time, date and 10 MHz fail-proof redundant system.

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C3 specifications

Time alignement higher than +-1 microsecond. (on a managed GbE network under G.826 test conditions)
Frequency alignement higher than +- 10 ppb. (on a managed GbE network under G.826 test conditions)
Supports 1-step and 2-step operation.
Input sync rate: up to 128 sync packets per second
Ethernet (Layer 2) or UDP IPv4/IPv6 (Layer 3) supported.
Supports one-step and two-step clock
Supports P2P and E2E modes
Supports multicast and unicast
Fully transparent, low latency pass through traffic
Additional 10/100/1000 Base-T ethernet port for pass through traffic.

Standards

SMPTE ST 2051-2:2015 and default profiles
Full IEEE 1588-2008 PTPv2

Status LEDs

4 free configurable front LEDs

Time to sync

30 seconds to first fix

Backup battery

When power is off, on-board real time clock keeps time and date information. Holdover time: more than 7 days.

Frequency output

two 10 MHz (BNC), 1 Vpp, Sinus 75 Ohm

Others
Operating Voltage

10-30 VDC
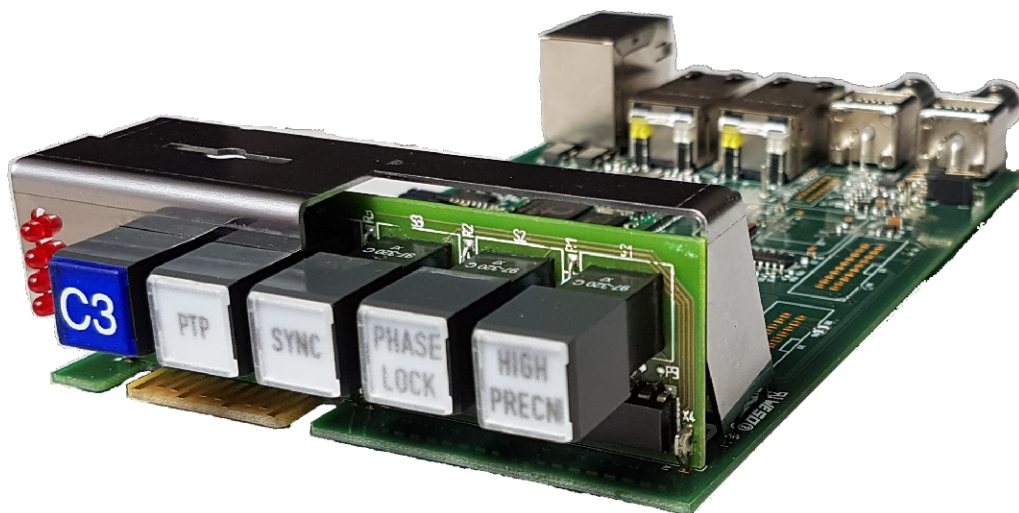**Power Consumption**
max 5.9 W
Weight
0.4 kg

Environmental characteristics operating mode
Temperature: 5°C-40°C/ relative humidity: 30% - 85% non-condensing
Environmental characteristics non-operating mode
Temperature: -10°C-60°C/ relative humidity: 5% - 95% non-condensing

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Product ordering ID

22110000 C3
C3 module RUBIDIUM 1 Series
(at least one option is required for operation)

22310000 C3
C3 module RUBIDIUM 3 Series
(at least one option is required for operation)

22200010 C3-SL
Slave option for C3
22200020 C3-GM
Grandmaster option for C3
22200030 C3-BC
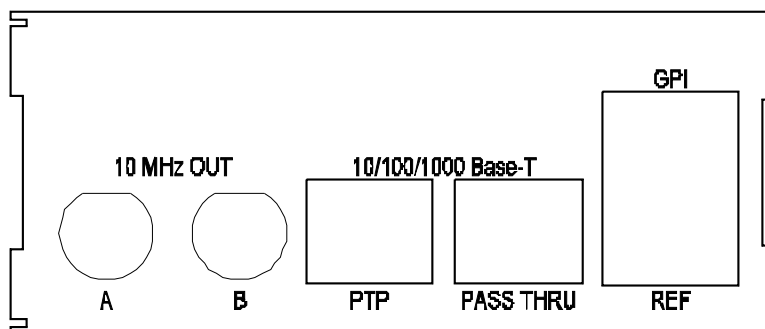Boundary clock option for C3
22200040 C3-GF
Option Grandmaster with PTP fallback for C3
22200050 C3-BG
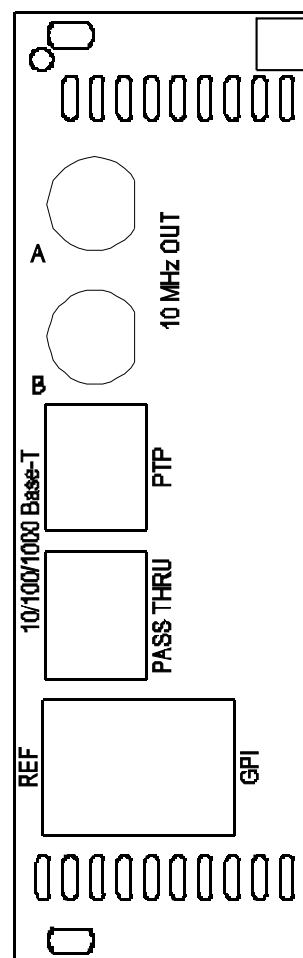Option Boundary Clock with GPS for C3
22350000 C3-OCXO
IEEE 1588 client, OCXO oscillator

Backpanel RUBIDIUM 3 module

Backpanel RUBIDIUM 1 module