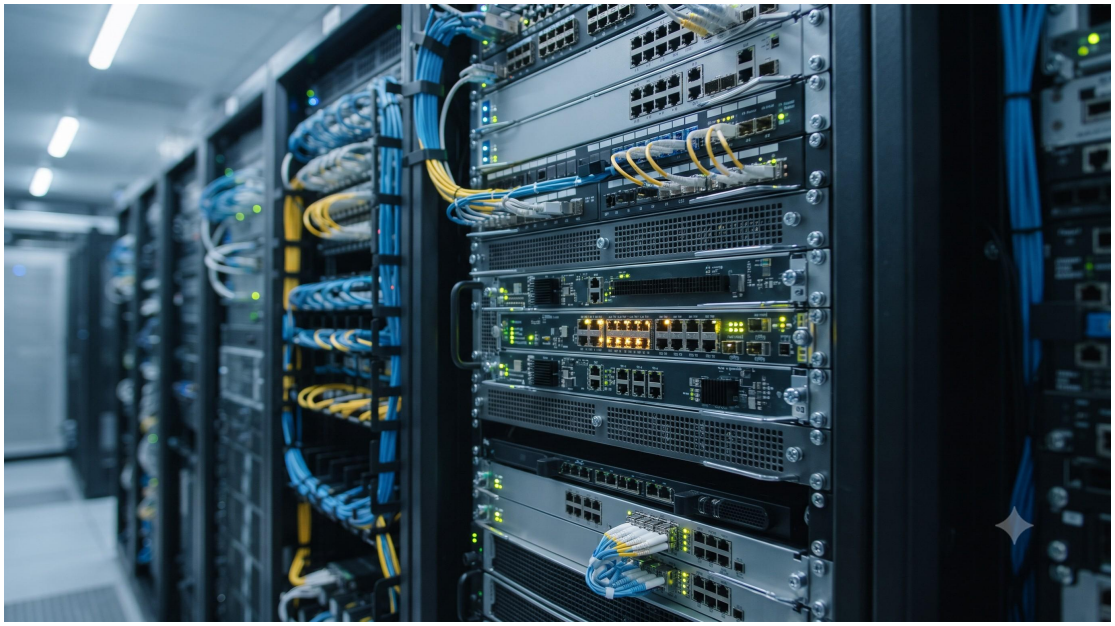
Huawei H901CIUA Interface Board External Clock and Alarm Pinout Specifications - Official Technical Overview & Hardware Datasheet

EXECUTIVE SUMMARY

The Huawei H901CIUA is a high-performance, general-purpose interface board engineered for carrier-grade OLT platforms, including the SmartAX MA5800 and EA5800 series. This board serves as the central timing and alarm interface hub, providing precise clock synchronization and external alarm management capabilities essential for robust network operations.

As a critical component in the system's timing architecture, the H901CIUA ensures network-wide synchronization through multiple BITS (Building Integrated Timing Supply) and 1PPS+TOD (1 Pulse Per Second + Time of Day) interfaces. Simultaneously, it aggregates and controls external alarm signals, enabling comprehensive hardware-level monitoring and failover management.



HARDWARE ARCHITECTURE & FUNCTIONAL OVERVIEW

The H901CIUA is a hot-swappable interface board designed for seamless integration into Huawei's modular chassis systems. Its primary function is to serve as the system's external clock and alarm I/O controller, providing a standardized interface to external synchronization equipment and alarm monitoring infrastructure.

The board's architecture is built around a robust clock processing unit that supports multiple operational modes: tracking (synchronizing to an external reference), holdover (maintaining synchronization during reference loss), and free oscillation (self-generated timing), ensuring high availability and resilience in demanding network environments .

KEY FEATURES & SPECIFICATIONS

The H901CIUA is distinguished by its comprehensive set of external connectivity and timing features, as detailed below:

- Clock Synchronization Interface: Supports two inputs for 2 Mbit/s or 2 MHz BITS clock signals, providing flexibility to interface with various external timing sources .
- Precision Time Protocol Interface: Provides two independent channels for 1PPS (Pulse Per Second) and ToD (Time of Day) time signal input, crucial for high-accuracy network synchronization .
- Clock Distribution Output: Features one dedicated output channel for 2 MHz or 2 Mbit/s clock signals and a separate output for a 1PPS+ToD signal, allowing the board to serve as a timing source for downstream equipment .
- Alarm and Control I/O: Equipped with seven discrete inputs for receiving external alarm or digital parameters and one output for digital control parameters, enabling direct integration with external monitoring and alarm systems .
- Auxiliary Management Interfaces: Integrates an external monitoring Ethernet port for transparent transmission of monitoring data and an RS485 serial port for out-of-band management of external devices .
- SSM Support: Supports Synchronization Status Message (SSM) messages in 2

Mbit/s mode, enhancing the quality and traceability of the synchronization network .

COMPLIANCE & STANDARDS

The H901CIUA is designed to meet the rigorous demands of telecommunications environments and adheres to relevant industry standards for performance, safety, and environmental compliance. It carries certifications including CE, RoHS, and Anatel, ensuring its suitability for deployment in various global markets . The board's operational parameters, including a wide temperature range of -40°C to +65°C and a physical design compliant with the SmartAX platform specifications, underscore its carrier-grade reliability .

TECHNICAL SPECIFICATIONS

The following table summarizes the key technical specifications for the H901CIUA Interface Board.

Parameter	**Specification**
Model	H901CIUA
Type	General Interface Board / Clock & Alarm I/O Board

BITS Inputs	2 x 2 Mbit/s or 2 MHz
BITS Outputs	1 x 2 Mbit/s or 2 MHz
1PPS+TOD Inputs	2 channels
1PPS+TOD Outputs	1 channel
Alarm/Control Inputs	7 discrete inputs
Alarm/Control Outputs	1 discrete output
Auxiliary Ports	1 x External Monitoring Ethernet Port, 1 x RS485 Serial Port
SSM Support	Supported in 2 Mbit/s mode
Operating Temperature	-40°C to +65°C
Static Power Consumption	6 W
Maximum Power Consumption	7 W
Operational Modes	Tracking, Holdover, Free Oscillation
Dimensions (D*W*H mm)	208*174*2
Compatible Platforms	Huawei SmartAX MA5800 / EA5800 Series

ORDERING & COMPATIBILITY INFORMATION

The H901CIUA is a standard interface board in the Huawei SmartAX MA5800 and EA5800 series OLT product families. It is compatible with various chassis

models, including the MA5800-X17, -X15, -X7, and -X2, offering a scalable solution for different network deployment densities .

