Amphenol Aerospace

3U VPX 56 CHANNEL 25G ETHERNET SWITCH

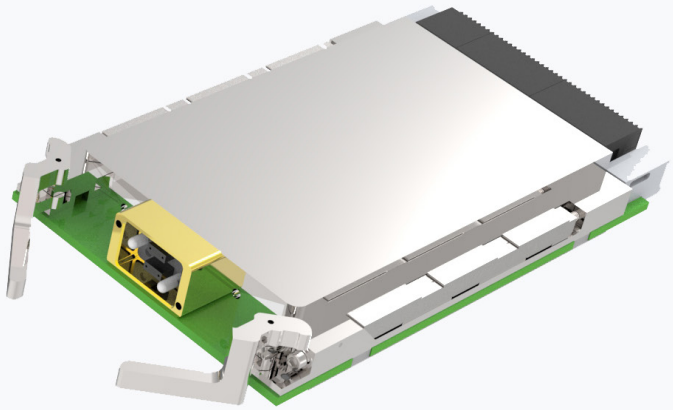
AMPHENOL FAMILY OF RUGGEDIZED ETHERNET SWITCHES

PDS - 313

3U Conduction Cooled (CC) 25G SWITCH:
CF-020400-069

3U Air Cooled (AC) 25G SWITCH:
CF-020400-070

3U 25G Rear Transition Module (RTM):
CF-020400-069R



Amphenol Aerospace has a new 3U 56 channel and 25Gbps VPX conduction and air cooled Ethernet switch.

This is in addition to our tried and true 10Gbps technology in 3U and 6U configurations. The 56 channel 25G switch is configurable for system connectivity, speeds, port types, and inter-operation of various media converters and connectors for system interfacing. The configuration to meet system requirements is achieved through superior product design.

For starters, each port is capable of 100G, 25G, 10G, 1G, or 100M Ethernet. The backplane consists of 32 channels of SERDES 25GBase-KR channels and the top of the board has 24 channels of 25GBase-SR fiber optics. Any four channels of the board can be ganged together for a 100G connection. The switching throughput is 1.4Tbps when using all 56 ports on the switch. In addition, the switch is non-blocking and low-latency for high-throughput architectures and applications. Finally, the management software provides a command line interface, SNMP, and other web based options for configuring the switch which is capable of a full complement of virtualization, quality of service, security, tunneling, PTP, and other capabilities.

FEATURES & BENEFITS

- Up to 56 channels of 25G interfaces on a single card. Ports are configurable for 100G, 25G, 10G, 1G, and 100M speeds.
- Line rate forwarding up to 1.4Tbps
- L2 / L3 managed switch
- PTP IEEE 1588v1/v2 support
- VITA 46 3U VPX available in conduction and air cooled configurations for -40-85C environments as well as harsh vibration profiles

ORDERING INFORMATION

Part Number	Cooling	Top Fiber	VPX SERDES
CF-020400-069	Conduction	24	32
CF-020400-070	Air	24	32
CF-020400-069R Rear Transition Module			

For other options, please contact factory.

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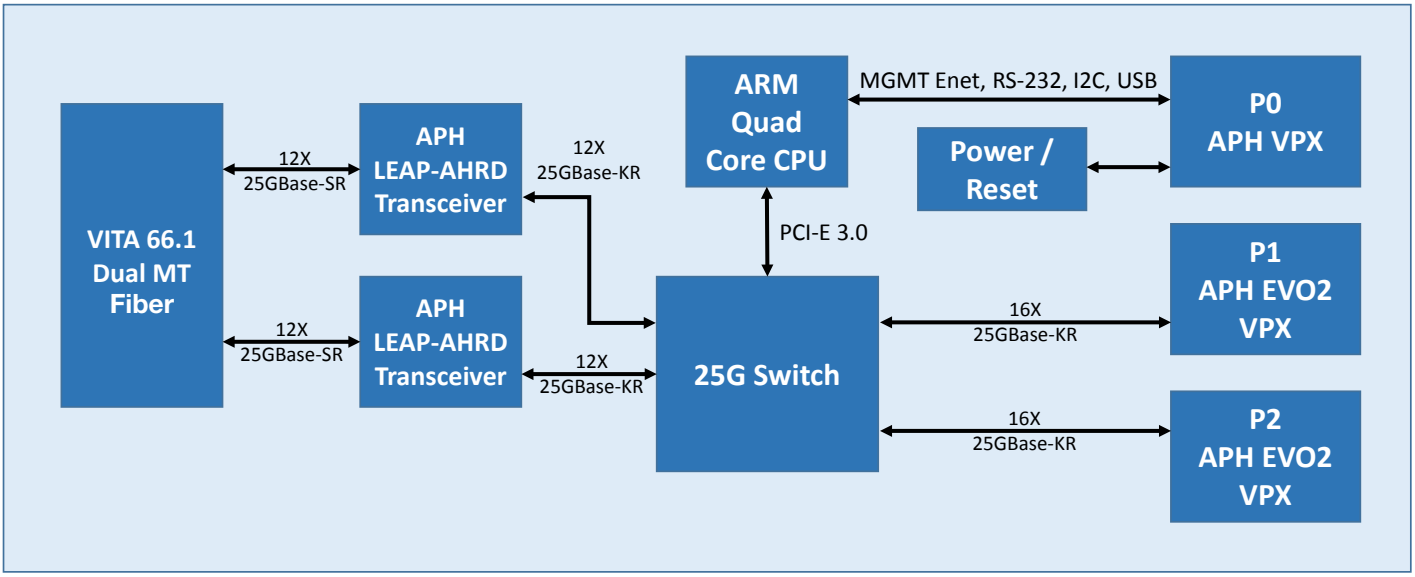
BLOCK DIAGRAM



ETHERNET INTERFACES

- 1X 100/1GBase-T Management Interface
- 32X 25GBase-KR copper off P1 and P2 - Can be configured from 100M to 25GBase-KR
- 24X 25GBase-SR fiber off VITA connector on top of board

OTHER FEATURES

- Built in test on each port
- DHCP client, server per VLAN (4000+ available) instantiated
- Status interface – temperature, serdes, set speed, port packet counters
- NTP, ping, FEC, IGMP
- SNMP
- Custom routing
- Syslog
- SSH
- Web servers for status

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TECHNICAL SPECIFICATIONS

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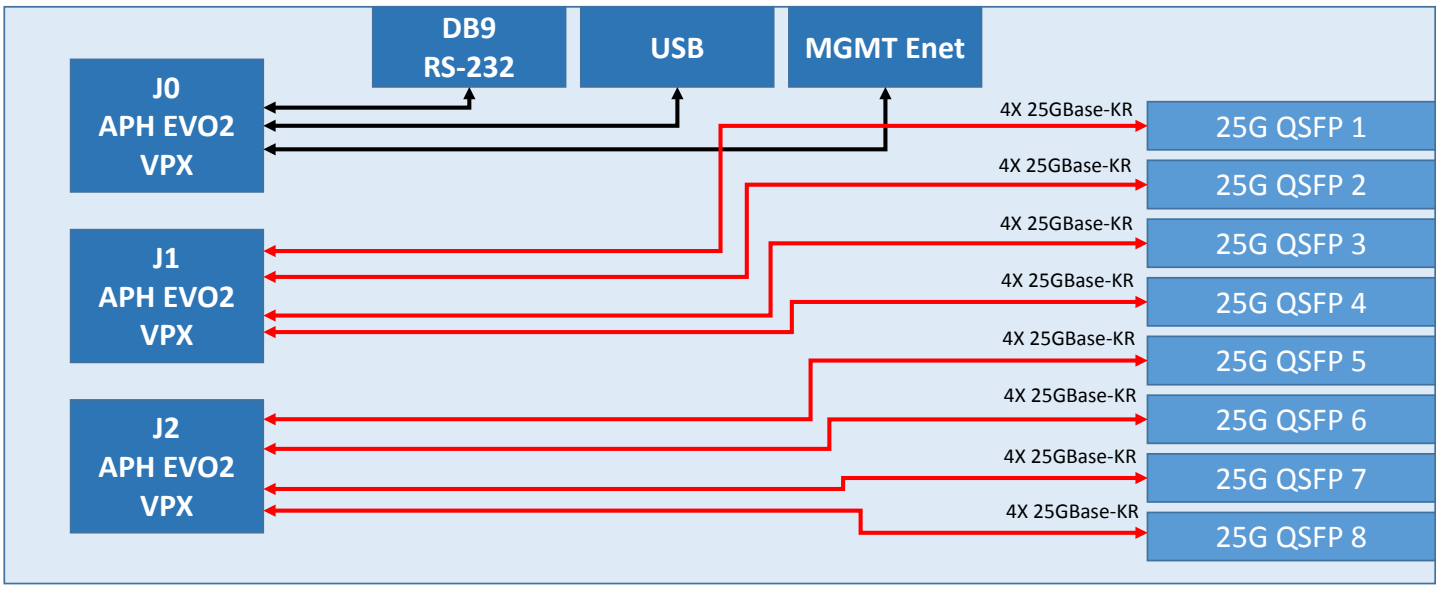
LAYER 2 SWITCHING ENGINE

- 802.1Q-compliant bridging
- Large forwarding database for MAC entries, IGMPv3/ MLDv2 IP multi-cast, FCoE entries, and router host entries
- Learning and forwarding based on virtual ports (ePorts) and virtual bridge domains
- L2 ECMP and link aggregation groups

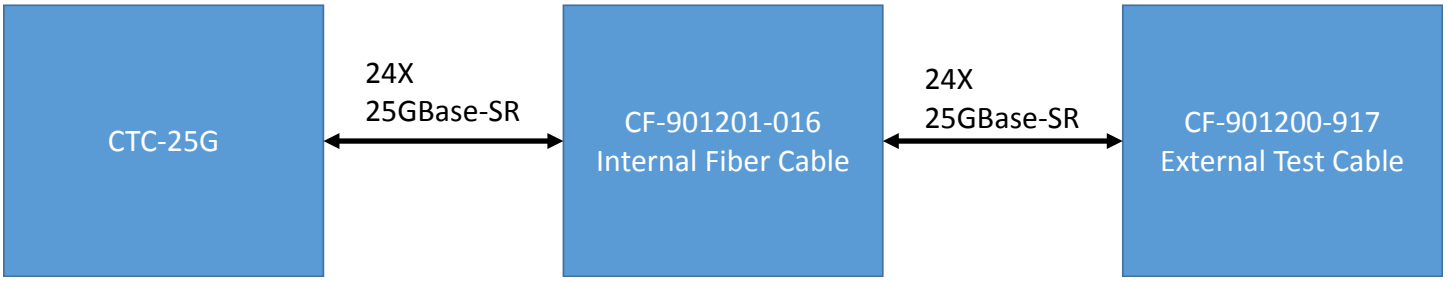
LAYER 3 WIRE-SPEED ROUTING ENGINE

- Longest prefix match for IPV4/6 and IP Multi-cast
- Policy based routing
- VRF, VRF-Lite, BGP/MPLS IP VPNs
- Multi-cast routing supporting PIM-SM/DM and PIM-bidirectional routing protocols
- ECMP routing for load balancing traffic
- Network address translation (NAT 44,66)

BLOCK DIAGRAM 3U REAR TRANSITION MODULE (RTM)



FIBER OPTIC CABLE TO TOP OF SWITCH



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CF-901201-016: CONNECTOR DETAILS

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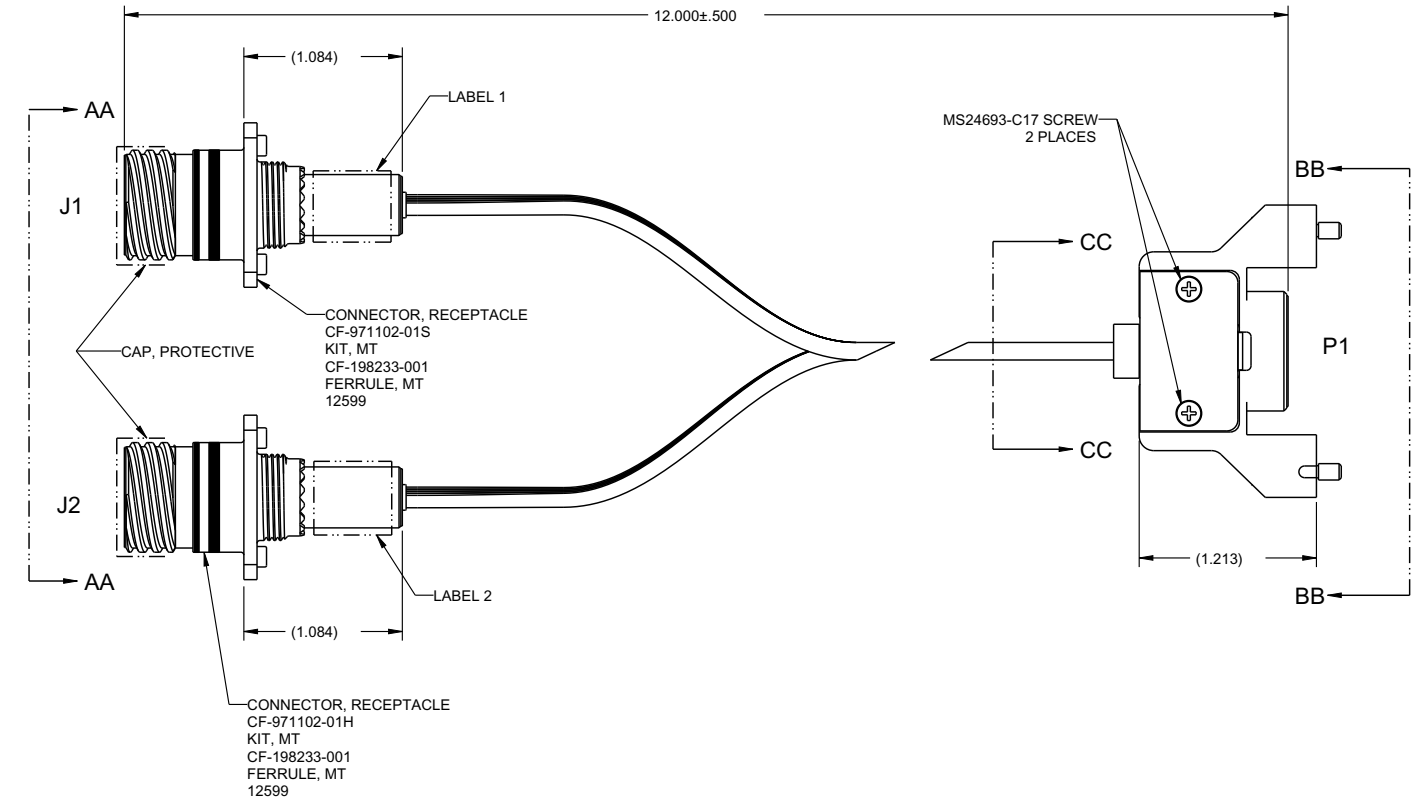
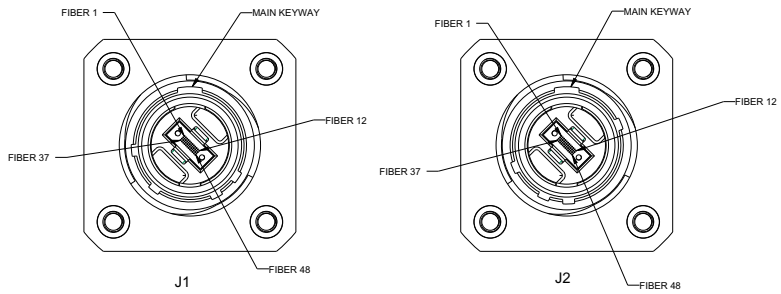
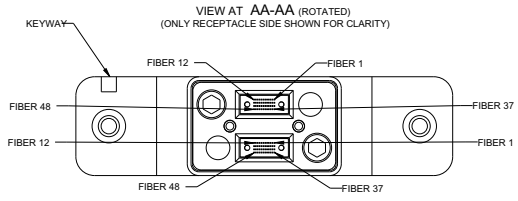
CABLE FIBER OPTIC: 2 48MT TO 2MT MODULE

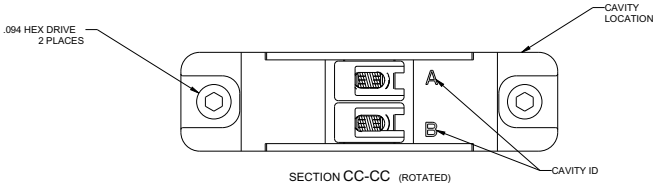




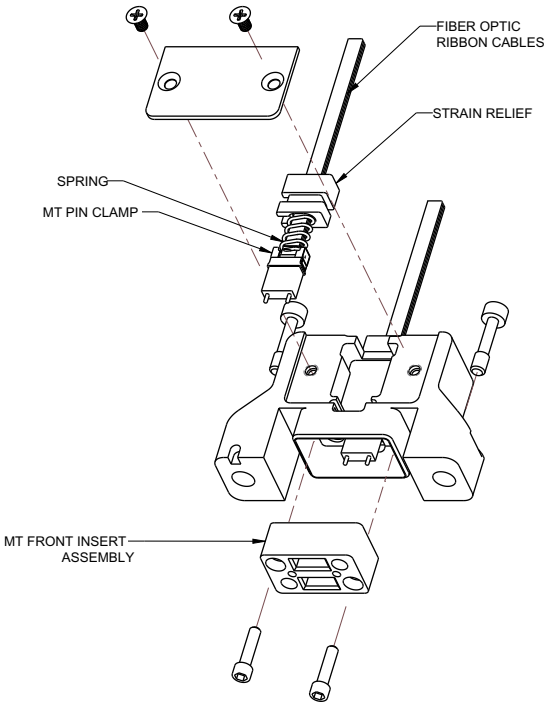
VIEW AT AA-AA (ROTATED)
(ONLY RECEPTACLE SIDE SHOWN FOR CLARITY)



VIEW AT BB-BB (ROTATED)



SECTION CC-CC (ROTATED)



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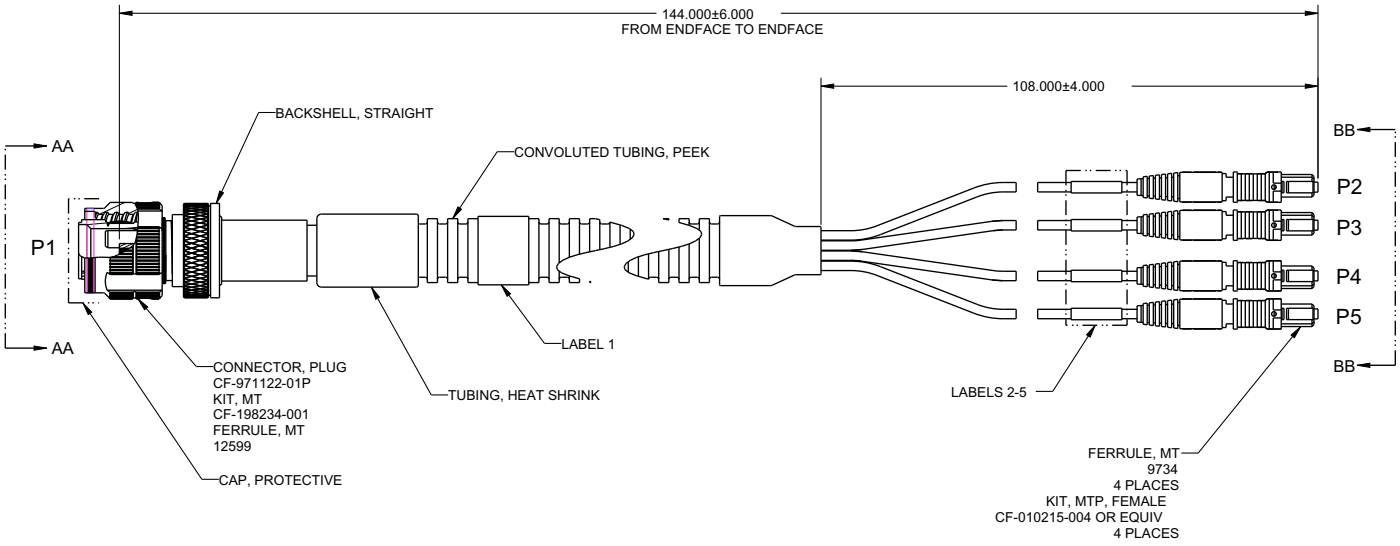
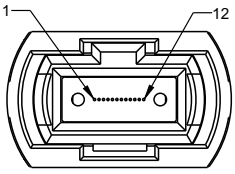
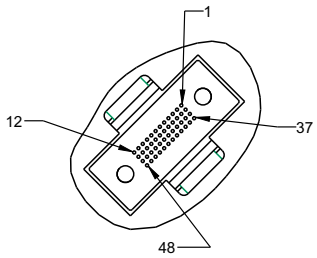
CF-901200-917: CONNECTOR DETAILS

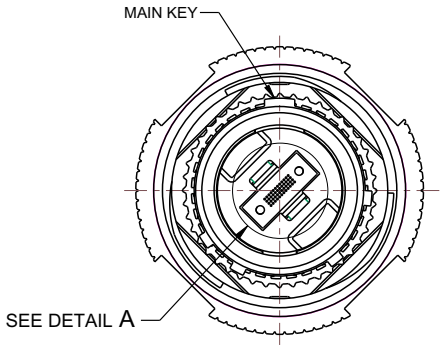




VIEW AT BB-BB



DETAIL A



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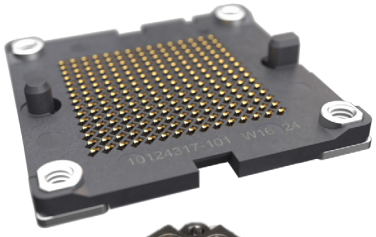
LEAP-AHRD ON BOARD TRANSCEIVER

AMPHENOL HIGH SPEED SOLUTIONS RUGGED DEVICE



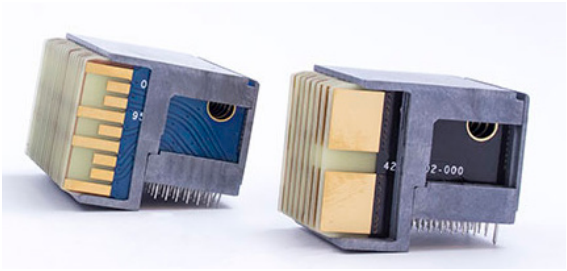
Amphenol 300Gb/s Leap-AHRD® High-Speed Optical Module is faster, smaller, more cost and power efficient than most conventional data center interconnects.

FEATURES & BENEFITS

- 300Gb/s High-Speed Optical Module
- Small, fast, high density, and power efficient
- Capable of speeds up to 25Gbps and distances up to 100 meters
- 300Gbps total through-put requires only one square inch of board space and 5.4W of power
- Optical cable can be routed above around other components in the design
- Integrated heat sink design
- Class 1M laser version available
- Enhanced Bit Error Rate (1e-12) requires no or limited FEC
- Compatible with Amphenol socket
- Easy to install
- Transceivers can be placed in 2-dimensional layout grid with 1” pitch between adjacent transceivers
- Uses 2.5x less board space than QSFP28 (12-channels)
- Ethernet transmission distance up to 100m (multi mode fiber)
- Uses off-the-shelf MT optical interface
- No through holes to connect transceiver – one side of board only
- Allows for transceiver optimization and monitoring connection discovery, channel diagnostics, and signal status monitoring

R-VPX EVOLUTION

HIGH SPEED



AMPHENOL INTRODUCES R-VPX EVOLUTION MODULE CAPABLE OF 16+ GBPS DATA RATE

Evolution is specifically designed to support the latest high-speed protocols while still meeting open VPX requirements. Evolution meets the performance requirements of VITA 46 & 47. Evolution is designed to be intermateable with existing VITA 46 backplane connectors and still achieve 16Gbs of performance. This connector system is optimized for speed and ruggedized to handle harsh environment requirements in military applications across the board.

FEATURES & BENEFITS

- PCIe Gen 4
- 1000BASE-KX
- 10GBASE-KX4
- 100GBASE-KR4
- Infiniband SDR, DDR, and QDR
- Serial RapidIO 12.5 Gbaud

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