Ascend

MAX 2012 and 2024

FAQ

1. *What are the MAX 2012 and 2024?*

   The MAX™ 2012 and 2024 are two new products in the MAX product line. They are based on the MAX 2000 series but have been developed specifically for business/corporate network operations. The MAX 2012/2024 are two-slot access switches with one WAN port for channelized T1, and one T1/CSU or serial V.35 interface. They bundle Ascend's Remote Networking Software (Multiprotocol Call Routing, MAXLink Pro™, and MAXDial™) and Secure Access™ Firewall.

2. *Can I upgrade my MAX 2000 to the new products?*

   No. These products are separate units that include bundled software and cost-reduced, high-performance hardware.

3. *Can I upgrade MAX 2012 to a MAX 2024?*

   Yes. The MAX 2012 may be upgraded to a MAX 2024 by adding a second Series56™ Digital Modem module. No additional software is required.

4. *Are the MAX 2012 and 2024 compatible with other Ascend MAX products?*

   Yes. Using MAX Stack, the MAX 2012 and 2024 can be mixed with other MAX products to provide a strategic solution for a growing company's remote access needs.

5. *What software options are available for the MAX 2012 and 2024?*

   The software options that are available for the MAX 2012 and 2024 include:

   - Hybrid Access™ 2000, which includes ISDN PRI signaling, Frame Relay support and digital access for 12 or 24 channels
   - ISDN PRI signaling
   - Virtual Private Networking software with ATMP and PPTP support
   - Ascend Access Control™ for extended RADIUS support

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6. *Do the MAX 2012 and 2024 support the new 56K technology?*

   Yes. The MAX 2012/2024 is supplied with the Series56 Digital Modem modules. The new modem design incorporates state-of-the-art Rockwell Digital Signal Processing (DSP) technology. The modems are completely software-upgradable to accommodate developing industry standards for K56flex-compatible modems and other enhancements.

7. *What does the term "digital modem" mean?*

   A digital modem accepts calls from analog modems across a digital circuit. A digital modem is either connected to a DS-0 on a channelized T1 line or a single B-channel on a PRI line. The digital modem can accept calls that originated from an analog modem or send calls to analog modems directly. In either case, the connection between the analog modems and the digital modem use standard analog modem protocols, like V.34.

8. *What is K56flex?*

   K56flex is a 56 Kbps modem protocol developed by Rockwell and Lucent, and is being backed by most major modem manufacturers, developers and implementers. It allows for 56 Kbps transfer rate on the downstream portion of a call and for 33.6 Kbps transfer rate on the upstream portion of the call.

9. *What K56flex modems are compatible with the MAX 2012 and MAX 2024?*

   The MAX 2012 and 2024 are fully compliant with the Open 56K Forum standard and work with all K56flex-compatible modems.

10. *Is there a 56 Kbps modem standard?*

    The 56K modem standard available today is being supervised by the Open 56K Forum, which is an organization founded by 28 companies including Ascend. This group represents over 70 percent of the modem communications industry. The Open 56K Forum is backing the protocol they believe is the most open and provides the best foundation for widespread interoperability, which is currently the K56flex protocol.

11. *How does the Open 56K Forum standard compare to other standards like U.S. Robotics x2?*

    Unfortunately, the x2 protocol is not interoperable at 56 Kbps with the Open 56K Forum standard, which is based on K56flex. U.S. Robotics has been invited to join the Open 56K Forum, but they have not yet decided to become a member. The Open 56K Forum will support any technology/protocol— including x2— that can be part of an open, interoperable solution. At this time, however, x2 is a proprietary specification from U.S. Robotics.

12. *Will the MAX 2012 and 2024 work with x2 modems?*

    The MAX 2012 and MAX 2024 will work with the x2 modems, but not at 56 Kbps. The MAX digital modems and x2 modems use V.34 as the fallback protocol, so the two modems will connect using speeds of 33.6 Kbps or below.

13. *The international 56K standard is not yet finalized. How can I assure compatibility with the MAX 2012 and 2024 if the specification changes?*

    Fortunately, Ascend has already provided an architecture that is capable of keeping up with the standards. Ascend has implemented all of the new Series56 Digital Modems with a software-based upgrade option built-in. Therefore, if standards change, new software can be loaded to comply with the new standard.

    Additionally, Ascend provides the capability to remotely upgrade software during system operation. This allows for centralized management of the entire network, allowing administrators to upgrade to the most current standards without disrupting service to the users.

14. *What sort of performance should I expect from the MAX 2012 and 2024? Do they offer better performance than the existing modems?*

    Performance from the MAX 2012 and 2024 to a remote K56flex-compatible modem can reach speeds of 56 Kbps, with the return path offering V.34 speeds of 33.6 Kbps. Performance between the MAX 2012 and 2024 and any other modem will operate at the highest rate possible by the other modem, including rates up to 33.6 Kbps. The new Series56 Digital Modems offer the 56K line rates, while the previous digital modems do not have this capability.

    In addition, Ascend has added a dedicated DSP to each Series56 module to efficiently handle the task of packetizing and aggregating incoming byte streams, and converting packets to bytes for outgoing traffic. This significantly unloads the central processor of the switch, which boosts system performance by allowing the switch to focus on tasks like packet forwarding and routing.

15. *Will xDSL technology be available on the new products?*

    No, xDSL will not be supported on this platform.

16. *Other companies lease access switches. Can I lease MAX 2012s and 2024s?*

    Yes. Leasing options are available through Ascend Credit Corp. If you would like to explore alternate financing options, please contact our credit division at 1-800-Ascend4.

17. *What about reliability? If a modem fails, how will I know?*

    Ascend uses an innovative algorithm to track a modem's performance. Modems which have a connection fail are moved to the bottom of the "available modem" list. After consistent failure, that modem is taken out of service. SNMP traps can be set to warn of the failed connections and to alarm in the case of a failure.

18. *Is the MAX 2012 and 2024 available in an E1 configuration?*

    Yes, however the configuration of the MAX 2012/2024 is not well-suited for E1 connectivity since it can handle a maximum of 24 connections and an E1 has 30 channels available.

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