

Megabit Modem

MM300S INSTALLATION GUIDE



THE MEGABIT MODEM 300S

The ADC® Megabit Modem® 300S (MM300S) provides a high-speed data connection over a single-pair copper line to another modem. The modem uses Symmetrical Digital Subscriber Line (SDSL) technology to support data rates from 128 to 2048 kbps. The data rate is manually set, based on the connection distance and line condition.

The modem connects through its 10BASE-T port to a PC or Local Area Network (LAN). The SDSL port provides access to the following type of connection: connection to another Megabit Modem 300S, which provides access to a remote PC or small LAN (Figure 1).

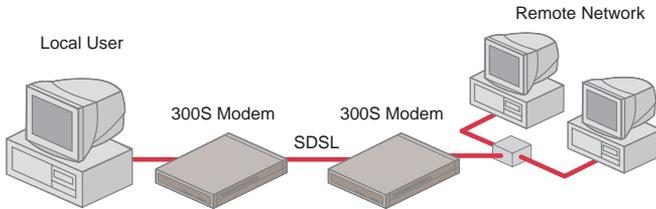


Figure 1. Megabit Modem 300S Connection

DETERMINING THE DATA RATE

The table below shows the best and worst case reach (based on an industry-standard noise model) on 26 AWG (0.4 mm) and 24 AWG (0.51 mm) wire for each data rate the Megabit Modem 300S supports. The actual reach depends on the condition of the line and the presence of bridge taps, splices, line noise, and so on.

		128 kbps	384 kbps	768 kbps	1024 kbps	1280 kbps	1536 kbps	1792 kbps	2048 kbps
26 AWG	kft	20/18.5	18.0/13.0	15.5/10.5	14.0/9.5	13.0/8.5	12.5/8.0	11.5/7.0	10.5/6.5
	(best/worst) km	6.10/5.64	5.49/3.96	4.72/3.20	4.27/2.90	3.96/2.59	3.81/2.44	3.51/2.13	3.20/1.98
24 AWG	kft	28.1/26.0	26.0/18.8	21.2/14.3	18.6/12.7	16.9/11.1	16.1/10.3	14.7/8.9	13.4/8.3
	(best/worst) km	8.56/7.92	7.93/5.73	6.45/4.37	5.68/3.86	5.16/3.38	4.90/3.13	4.48/2.73	4.07/2.52

FEATURES

The Megabit Modem 300S provides Media Access Control (MAC) layer bridging of frames received on its LAN and WAN interfaces. It provides transparent address learning—storing up to 8192 MAC addresses—for the LAN interface. Address entries are aged out after 300 seconds. The modem does not support spanning tree; as a result, it cannot be used in parallel with another bridge to provide redundancy.

The SDSL connection requires a dedicated single-pair wire to connect the local and remote units. The modem compensates for Tip and Ring reversals; therefore, rewiring the junction box should not be necessary.

The MM300S is easy to install: set the transmission rate with a dial on the back panel, connect the cables, and it's ready to use. The modem may be installed on a desktop or mounted on a wall.



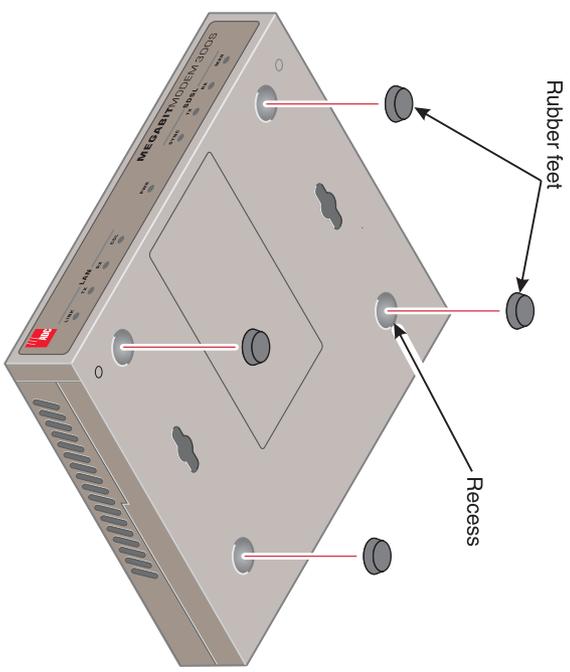
The MM300S allows larger packet sizes to accommodate Virtual Local Area Network (VLAN).

TECHNICAL SPECIFICATIONS

Power Supply	50/60 Hz, 120-220 Vac In, +5 Vdc Out
Connectors	
Ethernet Connector	RJ-45 connector for 10BASE-T interface, wired as MDI-X
SDSL Connector	RJ-11 connector for SDSL interface
Default SDSL Margin LED Threshold	6 dB
Physical	
Depth	5.5 in. (14.0 cm)
Width	6.75 in. (17.15 cm)
Height	1.25 in. (3.175 cm)
Weight	1.38 lb. (0.63 kg)
Environmental	
Operating temperature	+32 to 122°F (0 to 50°C)
Relative humidity	up to 95% non-condensing
Operating altitude	-200 to 13,000 ft. (-61 to 3962 meters)
Storage temperature	-40 to 158°F (-40 to 70°C)
Storage altitude	-1,000 to 30,000 ft. (-305 to 9144 meters)
Emissions and Immunity Compliances	FCC Part 15, Subpart B, Class B CE
Operations and Safety Compliances	UL-1950, cUL CE (EN 60950)



ATTACH THE FEET

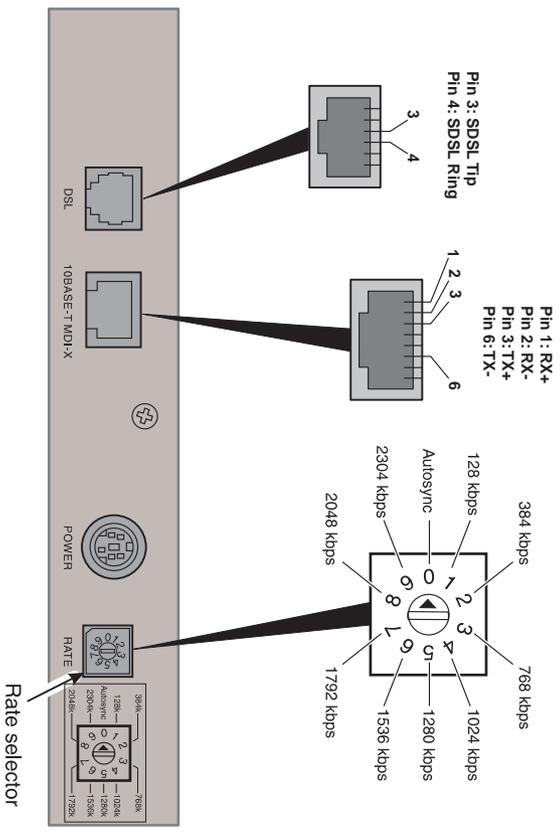


Attach one of the adhesive-backed rubber feet to the recess in each of the four corners on the bottom of the modem.

If you have more than one modem, you can also stack them on a desktop.



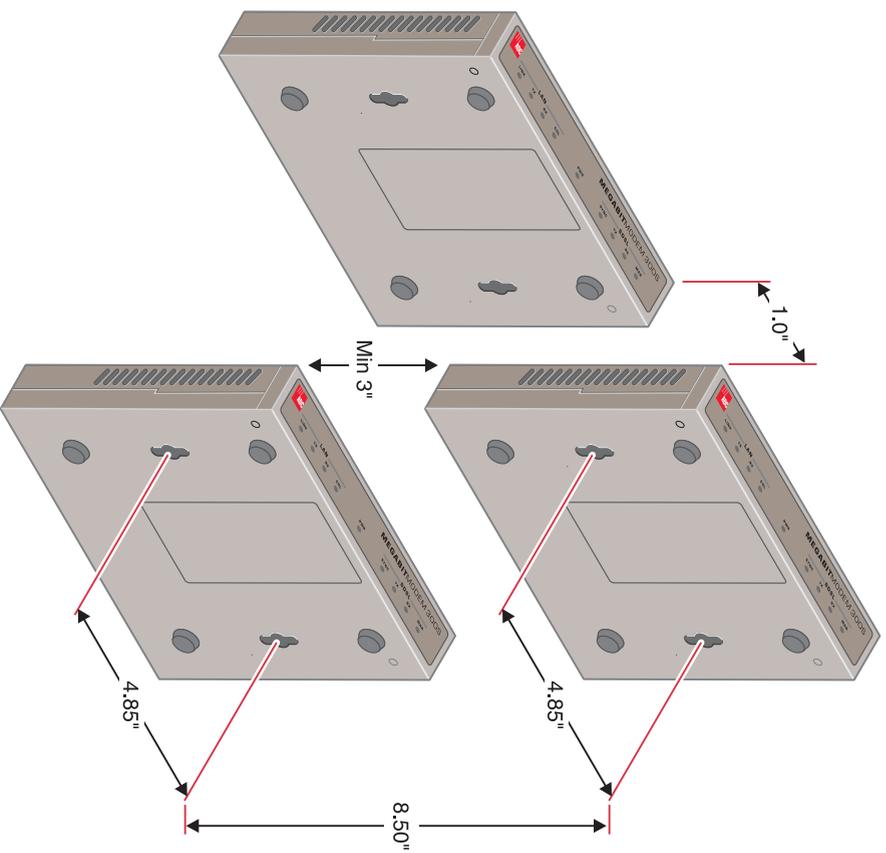
SET THE SDSL TRANSMISSION RATE



Set the SDSL transmission rate with the rate selector. The rate you set must match the rate set on the remote device. Do not set the rate selector to options 0 or 9. These settings are reserved for future releases of the modem.

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OPTIONAL WALL MOUNTING

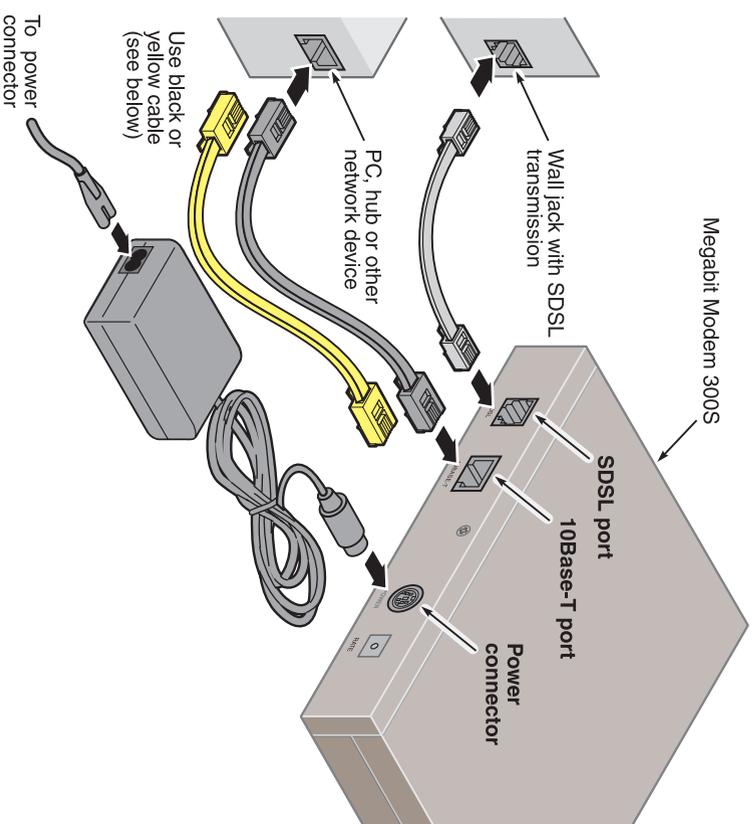


Mounting holes on the bottom of the modem provide the option to mount the modem on a wall. Use the figure above as a guide for wall mounting. Leave enough space to read the front panel LEDs.

If you have more than one modem, you can also stack them on a desktop.

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CONNECT THE CABLES



Connect the cables to the ports, as indicated above. Use one of the two provided 10BASE-T cables to connect the modem to the local unit:

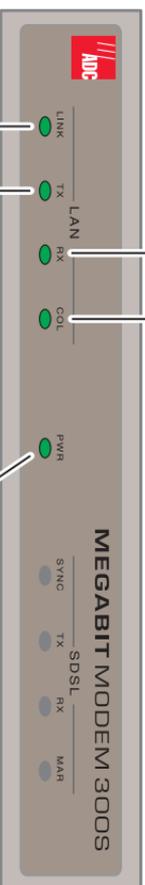
- To connect the modem to an Ethernet hub, use the yellow cross-over cable.
- To connect the modem to a PC, use the black straight-through cable.

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MONITORING THE LAN PORT

Flashing: Receiving a frame
Off: No current reception

Flashing: Collision detected
Off: No current collision



Flashing: Transmitting a frame
Off: No current transmission

On: Network link is up
Off: Network link is down

On: Power is available to the modem
Off: Power is off

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MONITORING THE SDSL LINE

Flashing: Establishing SDSL link
On: Link is up

Flashing: Transmitting a frame
Off: No current transmission

Flashing: Receiving a frame
Off: No current reception

On: Margin is at or above the margin threshold
Off: Margin is below the margin threshold



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FCC Certification

This device complies with Part 15, Class B of the FCC rules. Operation is subject to the following two conditions:

- 1 This device may not cause harmful interference.
- 2 This device must accept any interference received, including interference that may cause undesired operation.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

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