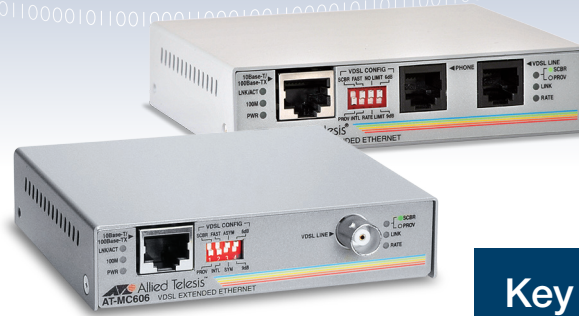Allied Telesis™

MC600 Series
VDSL Media Converters

AT-MC606
Subscriber/provider unit

AT-MC605
Subscriber/provider unit

Extended Ethernet Operation

Used as a pair, the AT-MC606 provides up to 100Mbps of data transfer over a Coax 50 or 75 ohm cable via a BNC connector. Standard Ethernet operation is preserved end to end, retaining VLAN tags, and Ethernet MAC information across the link, while higher layer protocols are passed transparently. Cable length of up to 2km can be supported by the AT-MC606.

Used as a pair, the AT-MC605 provides up to 100Mbps / 60Mbps of data transfer, while supporting POTS service over phone-grade, twisted-pair, wiring (CAT1, 2, 3) at distances up to 3km or 10,000 feet. These units are the ideal solution for providing data on "last-mile" twisted-pair circuits or existing in-building wiring.

Standard Ethernet operation is preserved end to end, retaining VLAN tags, and Ethernet MAC information across the link, while higher layer protocols are passed transparently. 10/100Mbps Ethernet operation is supported simultaneously with POTS, ISDN or PBX signaling, without disruption.

MTU and MDU Applications

Hospitals, Multi-Tenant Units (MTU) such as offices and campuses, and Multiple Dwelling Units (MDU) such as hotels and apartments, are an ideal environment for the MC600 Series network extenders, where private phone-grade wiring can be used to provide broadband access to Internet services including video streaming, www, gaming and e-mail. There is no need to re-wire premises with expensive CAT5 or fiber to provide broadband Ethernet services.

Standalone and Rack-mount

MC600 Series provider units are available as compact standalone units for installation at the central office, or alternatively, they can be rack- mounted in a standard Allied Telesis AT-MCR12 chassis. The compact chassis is capable of housing up to twelve units with a redundant power supply, simplifying wiring and minimizing space requirements.

Plug and Play Operation

Simply connect to the RJ-45 Ethernet port and the unit will automatically auto-sense and configure for 10T or 10/100TX, as well as full- or half-duplex Ethernet operation. An integral POTS splitter on AT-MC605 means existing phone services are not affected—no reconfiguration is required.

Cable length up to 2km

Length	Synchronous	Asynchronous
200m	>85Mbps	>100Mbps / 60Mbps
2km	~20Mbps	~30Mbps / 9Mbps

The async mode is useful for IP surveillance applications, as it allows downstream information to be sent to the camera (zoom, etc.) – which requires minimal bandwidth, while giving the maximum bandwidth to the upstream channel for video being sent to the servers. With this amount of bandwidth, a single existing coax cable can support multiple IP cameras, if they are connected via a switch to the MC600 Series.

Key Features

▶ Up to 100Mbps, throughput

▶ Up to 100Mbps / 60Mbps VDSL operation up to 3km or 10,000ft

▶ Up to 2km coax cable

▶ Support 50 and 75 ohm coax cable

▶ BNC connector

▶ Asynchronous and synchronous operation

▶ Unmanaged

▶ Simple setup via DIP switches

▶ Same product operates as both provider and subscriber

▶ Traffic shaping upstream and downstream

▶ Supports both fast mode and interleave mode

▶ Operates over category 1, 2, 3 or 5 telephone-quality cabling

▶ 10/100 Ethernet port

▶ POTS port

▶ Integral POTS splitter

▶ Auto MDI/MDI-X

▶ Power, Ethernet activity and link LEDs

▶ VDSL link and rate LEDs

▶ Fully configurable using front panel dipswitch

▶ Standalone and rack-mountable

▶ Can be used in AT-MCR1, AT-MCR12, AT-TRAY1, AT-TRAY4

▶ Wall-mountable using optional AT-WLMT bracket

▶ Compact form factor

▶ Metal chassis

▶ ENERGY STAR-compliant external power adapter

Applications

The MC600 Series is a perfect fit for the IP surveillance market. Many already-installed analog cameras use a coax cable to connect cameras back to the control center or encoder. (At the encoder, the analog signal is converted to digital for backhaul transmission.)

When these cameras need replacing, they are now increasingly being replaced by digital cameras. Digital cameras do not allow connectivity over coax cables, so either the camera and cable needs to be upgraded, or the existing cable can be used if an AT-MC606 is installed at either end of the cable, saving the cost of running all new cabling.

The AT-MC606 can also be used in legacy 10Base2 (ThinNet) style applications, when two AT-MC606 devices are connected, and provided they are at the end of the cable runs.

Advantages of IP Cameras (Digital) over Analog

▶ Cameras can provide higher quality images up to multi-mega pixel HD type formats.

▶ As the data is sent in a digital format, there is no signal quality degradation in transmission.

▶ Installation is easier, as the camera can use PoE for power, instead of having to use a separate power cable. Also, analog PTZ cameras also need additional cabling (even if they have audio), with each function being carried on a separate cable. With IP cameras, all information is carried on a single Ethernet cable.

Technical Specifications

Speed/Distance

Tables show information for a product configured as a provider. For suscriber, reverse DownSteam (DS) and UpSteam (US) parameter.

unit=kbps

COAX CABLE DISTANCE SYMMETRICAL 6DB		
Loop simulator	Real cable 5C2V	
CPE setting	BNC	
	SNR margin 6dB	
	Fast mode	
	Symmetric	
Loop length	Linerate (DS)	Linerate (US)
0m	86944	95136
200m	91840	97344
400m	87008	89088
600m	80544	83264
800m	70528	70176
1000m	62848	57376
1200m	50464	40160
1400m	40512	36736
1600m	34112	25152
1800m	22720	22176
2000m	20896	18400

COAX CABLE DISTANCE SYMMETRICAL 9DB		
Loop simulator	Real cable 5C2V	
CPE setting	BNC	
	SNR margin 9dB	
	Fast mode	
	Symmetric	
Loop length	Linerate (DS)	Linerate (US)
0m	82112	88000
200m	86880	91200
400m	79328	82688
600m	74496	75840
800m	65824	63040
1000m	56512	50624
1200m	44064	34752
1400m	34642	31200
1600m	29120	21600
1800m	26560	19616
2000m	19168	16064

COAX CABLE DISTANCE ASYMMETRICAL 6DB		
Loop simulator	Real cable 5C2V	
CPE setting	BNC	
	SNR margin 6dB	
	Fast mode	
	Asymmetric	
Loop length	Linerate (DS)	Linerate (US)
0m	101024	58208
200m	108928	61568
400m	107584	60128
600m	104224	55648
800m	92576	46272
1000m	82816	38720
1200m	70016	29120
1400m	60480	19968
1600m	52256	14208
1800m	44640	11136
2000m	31552	9024

COAX CABLE DISTANCE ASYMMETRICAL 9DB		
Loop simulator	Real cable 5C2V	
CPE setting	BNC	
	SNR margin 9dB	
	Fast mode	
	Asymmetric	
Loop length	Linerate (DS)	Linerate (US)
0m	96608	55744
200m	99168	55872
400m	98880	54816
600m	97120	50752
800m	85728	42720
1000m	74784	34336
1200m	63488	24864
1400m	54592	15488
1600m	46784	11072
1800m	39232	9920
2000m	28992	7648

MC600 Series | VDSL Media Converters

Typical Performance Over POTS Network
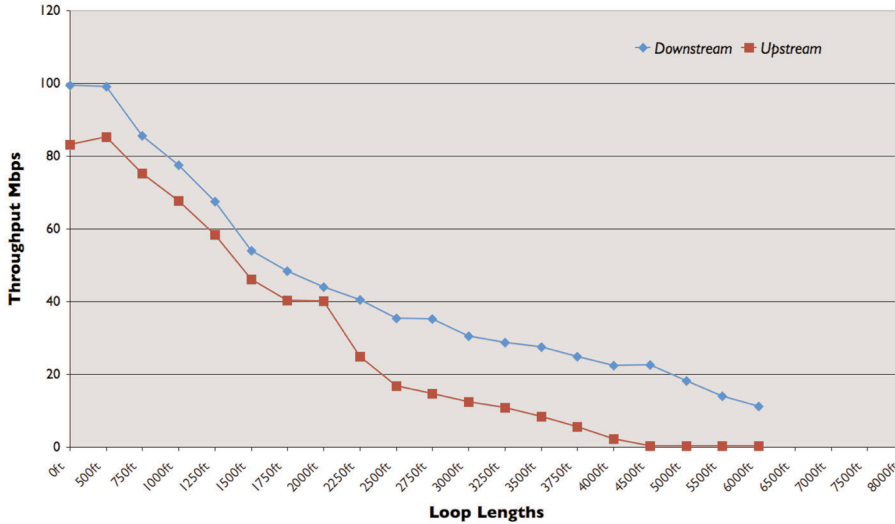
Typical Performance Over ISDN Network
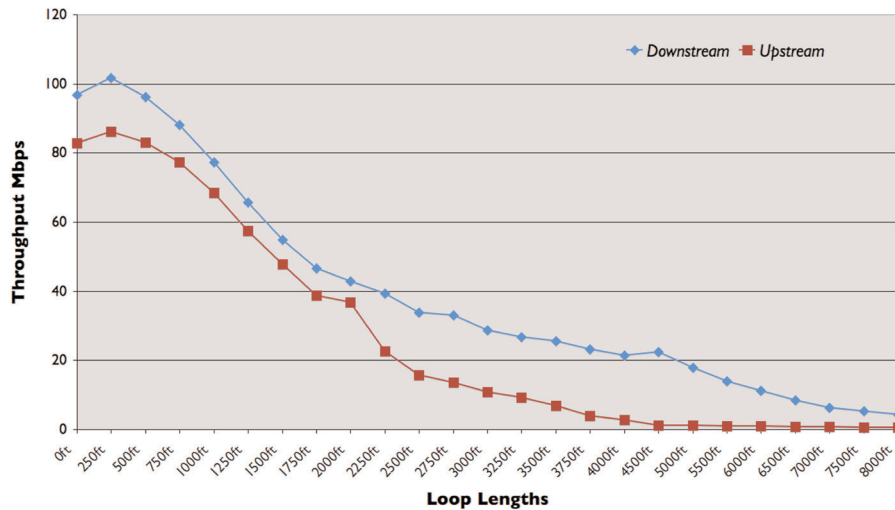
Product Specifications

DMT modulation (MC605)
Spectrally compatible with ISDN and POTS services (MC605)
FDD duplexing (MC605)Datarate up to 100Mbps
4M flash
Half/full-duplex
Auto-negotiation
Auto MDI/MDI-X

Interface Connections

VDSL interface	RJ-11 (MC605)
Ethernet interface	Coax BNC-1 (MC606)
Management	4-pin DIP switch

Front Panel Indicators

VDSL interface	RJ-11 (MC605)
Ethernet interface	RJ-45 (MC605)
POTS interface	RJ-11 (MC605)
System power	
Ethernet link	
Ethernet activity	
Coax BNC link (MC606)	
Coax BNC rate (MC606)	

Provider/Subscriber

SNR	6dB / 9dB
Async/sync	
Fast/intl	<1ms / <6ms latency

Speed/Distance

Speed up to 100Mbps / 60Mbps at short distances; data throughput up to 3km or 10,000ft distances (subject to cable type)

Reliability

MTBF	700,000 hours

Physical Characteristics

Dimensions (W x D x H)	9.5 cm x 10.9 cm x 2.5 cm (3.74 in x 4.29 in x 1.0 in)
Weight:	300 g (10.58 oz)
Mounting	Tabletop and rack-mountable* * requires AT-MCR12 chassis

Power Characteristics

External power supply	120V AC, 60Hz (US model) 240V AC, 50Hz (European models)
Input supply voltage	12vDC
Max current	500mA
Power consumption	4W
ENERGY STAR-compliant	

Environmental Specifications

Operating temperature	0ºC to 40ºC (32°F to 104°F)
Storage temperature	-25ºC to 70ºC (-13°F to 158°F)
Operating altitude	Up to 3,048 m (10,000 feet)
Relative humidity	5% to 95% (non-condensing)

Country of Origin

China

Approvals

UL 1950
FCC class B CSA
EN 55022 class B EN 60950 (TUV)
EN 50082-1

Ordering Information

AT-MC605-60

Subscriber/provider unit with ENERGY STAR multi-country power adapter.

AT-MC606-60

RJ-45 to Coax BNC media converter with ENERGY STAR.

Product supplied with multi-region external power adapter for US, EU, UK, AU.