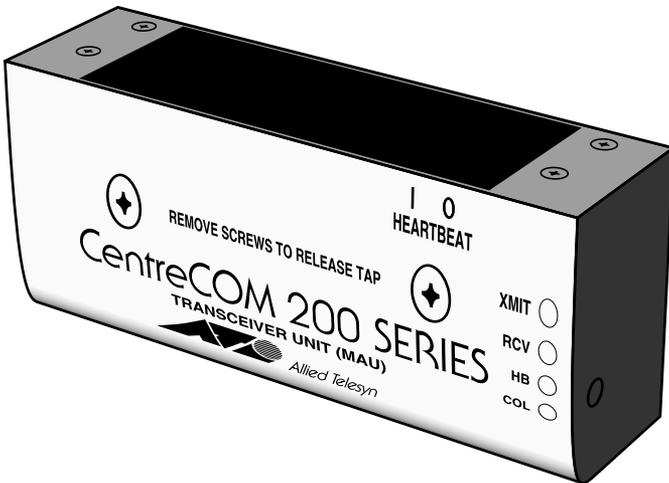




CentreCOM™ AT-200 Series Single Port Transceiver User Manual



RADIATED ENERGY

U.S. Federal Communications

Note: This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with this instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Note: Modifications or changes not expressly approved of by the manufacturer or the FCC, can void your right to operate this equipment.

Canadian Department of Communications

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de Classe A. Prescrites dans le règlement sur le brouillage radioélectrique édicté par le ministère des Communications Du Canada.

This product has been tested and complies with the German Vfg 243/1991 requirements for a Class B device.

SAFETY

These products have been safety tested by UL to Standard UL 478, CSA to CSA 220 and by TÜV to EN60950.

The AT-200 series models have been safety tested as "Non-Patient Equipment" by Underwriters Laboratories Inc, to UL544, the Standard for Medical and Dental Equipment.



LIGHTNING DANGER

DANGER: DO NOT WORK on equipment or CABLES during periods of LIGHTNING ACTIVITY.



INSTALLATION

Operating temperature: This product is designed for a maximum ambient temperature of 50 degrees C.

Environmental Air Notice

Caution: UL listed for use in other Environmental Air Spaces in Accordance with Article 300-22(C) of the U.S.A National Electrical Code. Note: Product is not Plenum rated

All Countries: Install product in accordance with local and National Electrical Codes.

STRAHLUNGSENERGIE

Bescheinigung des Herstellers/Importeurs

Hiermit wird bescheinigt, daß das Single port Transceiver Typenbezeichnung AT-200 in Übereinstimmung mit den Bestimmungen der BAPT-AmtsblVfg 243/1991 Klasse B funktionsfähig ist. Der vorschriftsmäßige Betrieb mancher Geräte (z. B. Meßsender) kann allerdings gewissen Einschränkungen unterliegen. Beachten Sie deshalb die Hinweise in der Bedienungsanleitung.

Dem Zentralamt für Zulassungen im Fernmeldewesen wurde das Inverkehrbringen dieses Gerätes angezeigt und die Berechtigung zur Überprüfung der Serie auf Eienhaltung der Bestimmungen eingeräumt.

Von Benutzer zusammengestellte Systeme, die dieses Gerät beihhalten, müssen den Bestimmungen von Vfg 243/1991 Klasse B, entsprechen.

SICHERHEIT

Die Sicherheitsprüfung dieser Produkte wurde von Underwriters Laboratories Inc. gemäß Norm 478, CSA nach CSA 220 und gemäß TÜV nach EN60950 durchgeführt.

Die Sicherheitsprüfung erfolgte nur für die Modelle der Serie AT-200 als "nicht für Patienten zugelassene Geräte" durch Underwriters Laboratories Inc. gemäß UL544, der Norm für medizinische und zahntechnische Geräte.



GEFAHR DURCH BLITZSCHLAG

GEFAHR: Keine Arbeiten am Gerät oder an den Kabeln während eines Gewitters ausführen



INSTALLATION

Betjeningstemperatur: Dieses Produkt wurde für den Betrieb in einer Umgebungstemperatur von nicht mehr als 50° C entworfen.

Alle Länder: Installation muß örtlichen und nationalen elektrischen Vorschriften entsprechen.

STRÅLINGSENERGI

Dette kommercielle produkt opfylder de krav, der i USA stilles til udstyr af Klasse A.

Dette produkt opfylder krav, der ifølge German Vfg 243/1991 stilles til udstyr af Klasse B

SIKKERHED

Disse produkter er blevet sikkerhedstestet af UL til Standard 478, CSA til CSA 220 og af TUV til EN60950.

Kun modeller fra serie AT-200 er blevet sikkerhedstestet som "Non-patientapparat" af Underwriters Laboratories Inc. til UL544, standard for medicinsk og dentalapparat.



FARE UNDER UVEJR

FARE: UNDLAD at arbejde på udstyr eller KABLER i perioder med LYNAKTIVITET.



INSTALLATION

Betjeningstemperatur: Dette apparat er konstrueret til en omgivende temperatur på maksimum 50grader C.

Alle Lande: Installation af produktet skal ske i overensstemmelse med lokal og national lovgivning for elektriske installationer.

STRALINGSENERGIE

Dit handelsprodukt werd getest en voldoet aan de Amerikaanse vereisten voor een klasse A toestel.

Dit produkt werd getest en voldoet aan de Duitse Vfg 243/1991 vereisten voor een klasse B toestel.

VEILIGHEID

De veiligheid van deze produkten is door UL getest geworden volgens Norm 478, CSA tot CSA 220 en door TUV volgens EN60950.

Alleen de modellen van de AT-200 serie zijn op veiligheid getest geworden als "Niet voor patiënten bestemde uitrusting" door Underwriters Laboratories Inc. volgens UL544, de Norm voor Geneeskundige en Tandheelkundige Uitrusting.



GEVAAR VOOR BLIKSEMINSLAG

GEVAAR: NIET aan toestellen of KABELS WERKEN bij BLIKSEM.



INSTALLATIE

Bedrijfstemperatuur: De omgevingstemperatuur voor dit produkt mag niet meer bedragen dan 50 gradenCelsius.

Alle landen: het toestel installeren overeenkomstig de lokale en nationale elektrische voorschriften.

ENERGIE RAYONNEE

Ce matériel a été testé et est certifié conforme par la réglementation américaine aux normes définies pour les appareils de classe A.

Ce matériel a été testé et est certifié conforme par la réglementation allemande Vfg 243/1991 aux normes définies pour les appareils de classe B.

SECURITE

La sécurité de ces produits a été testée par UL conformément à la norme du Standard 478, CSA à CSA 220 et par TUV conformément à la norme EN60950.

Seuls les modèles de série AT-200 ont été approuvés en tant que "matériel non patient" par Underwriters Laboratories Inc., conformément au standard UL544, la norme des matériels dentaires et médicaux.



DANGER DE Foudre

DANGER: NE PAS MANIER l'équipement ou les CABLES pendant les périodes d'activité orageuse.



INSTALLATION

Temperature De Fonctionnement: Ce produit est capable de tolérer une température ambiante maximum de 50 degrés Celsius

Pour tous pays: Installer le produit conformément aux normes électriques nationales et locales.

SÄTEILYENERGIA

Tämä kaupallinen tuote on testattu ja noudattaa Yhdysvaltojen vaatimuksia luokan A laitteelle.

Tämä kaupallinen tuote on testattu ja noudattaa Saksan Vfg 243/1991 -vaatimuksia luokan B laitteelle.

TURVALLISUUS

UL on turvatestannut nämä tuotteet Standard 478 mukaisesti, CSA standardin CSA 220 mukaisesti ja TUV standardin EN60950 mukaisesti.

Underwriters Laboratories, Inc. on turvatarkastanut ainoastaan sarjaan AT-200 kuuluvat laitteet "Ei-potilas laitteina," standardin UL544 mukaisesti jonka otsikkona on Lääke- ja hammaslääketiedevälineistandardi (the Standard for Medical and Dental Equipment).



SALAMANISKUVAARA

HENGENVAARA: ÄLÄ TYÖSKENTELE laitteiden tai KAAPELEIDEN KANSSA SALAMOINNIN AIKANA.



ASENNUS

Käyttölämpötila: Tämä tuote on suunniteltu ympäröivän ilman maksimilämpötilalle 50°C.

Kaikki maat: Asenna tuote paikallisten ja kansallisten sähköturvallisuusmääräysten mukaisesti.

ENERGIA IRRADIATA

Questo prodotto commerciale è stato collaudato e risponde ai requisiti U.S.A. per i dispositivi di classe A.

Questo prodotto è stato collaudato e risponde ai requisiti della legge tedesca Vfg 243/1991 per i dispositivi di classe B.

NORME DI SICUREZZA

Questi prodotti sono stati sottoposti a collaudi di sicurezza dai seguenti enti: dalla UL in conformità allo standard 478, dalla CSA in conformità allo standard CSA 220 e dal TÜV in conformità allo standard EN60950.

Solo i modelli della serie AT-200 sono stati sottoposti a collaudi di sicurezza in qualità di "strumenti non-paziente" dalla Underwriters Laboratories Inc. in conformità allo standard UL544 per la strumentazione medica e odontoiatrica.



PERICOLO DI FULMINI

PERICOLO: NON LAVORARE sul dispositivo o sui CAVI durante PRECIPITAZIONI TEMPORALESCHIE.



INSTALLAZIONE

Temperatura di funzionamento: Questo prodotto è concepito per una temperatura ambientale massima di 50 gradi centigradi.

Tutti i paesi: installare il prodotto in conformità alle vigenti normative elettriche nazionali.

UTSTRÅLT ENERGI

Dette kommersielle produktet har blitt testet og er i samsvar med amerikanske krav for et A-Klasse apparat.

Dette produktet har blitt testet og er i samsvar med tyske Vfg 243/1991 krav for et B-Klasse apparat.

SIKKERHET

Disse produktene er blitt sikkerhetstestet av UL i forhold til Standard 478, CSA i forhold til CSA 220, og av TUV i forhold til EN60950.

Bare modellene i AT-200-serien er blitt sikkerhetstestet som "Non-patient equipment" (utstyr som ikke skal brukes på pasienter) av Underwriters Laboratories Inc. i forhold til UL544, standard for medisinsk- og tannlegeutstyr.



FARE FOR LYNANTENNELSE

FARE: MÅ IKKE BRUKES på utstyr eller ledninger mens LYN-AKTIVITET er i gang.



INSTALLASJON

Driftstemperatur: Dette produktet har blitt fremstilt til bruk med maksimum romtemperatur på eller 50 grader celsius.

Alle land: Produktet må installeres i samsvar med de lokale og nasjonale elektriske koder.

ENERGIA IRRADIADA

Este produto foi testado e atende aos requisitos para dispositivos comerciais de Classe A nos E.U.A.

Este produto foi testado e atende aos requisitos Vfg 243/1991 para dispositivos de Classe B na Alemanha.

SEGURANÇA

Este produtos foram testados pela UL quanto a aspectos de segurança no Padrão 478, CSA a CSA 220 e pela TUV para EN60950

Somente os modelos da série AT-200 foram testados quanto a aspectos de segurança pela Underwriters Laboratories Inc. para UL544, como "equipamentos não destinados a pacientes," dentro do Padrão para Equipamentos Médico-Dentários.



PERIGO DE CHOQUE CAUSADO POR RAI0

PERIGO: NÃO TRABALHE no equipamento ou nos CABOS durante períodos suscetíveis de QUEDAS DE RAI0.



INSTALAÇÃO

Temperatura De Funcionamento: Este produto foi projetado para uma temperatura ambiente máxima de 50 graus centigrados.

Todos os países: Instale o produto de acordo com as normas federais e locais para instalações elétricas.

ENERGIA RADIADA

Este producto comercial ha sido probado y cumple con las normas requeridas en los EE. UU. para un dispositivo de Clase A.

Este producto ha sido probado y cumple con los requisitos Vfg 243/1991 de Alemania para un dispositivo de Clase B.

SEGURIDAD

La seguridad de estos productos ha sido probada por UL como conforme con la Norma 478, CSA a CSA 220, y por TUV como conforme con EN60950.

La seguridad de únicamente los modelos de serie AT-200 como "Equipo que no es para pacientes" ha sido probada por Underwriters Laboratories Inc. como conforme con UL544, la Norma para Equipo Médico y Dental.



PELIGRO DE RAYOS

PELIGRO: NO REALICE NINGUN TIPO DE TRABAJO O CONEXION en los equipos o en LOS CABLES durante TORMENTAS DE RAYOS.



INSTALACION

Temperatura requerida para la operación: Este producto está diseñado para una temperatura ambiental máxima de 50 grados C.

Para todos los países: Monte el producto de acuerdo con los Códigos Eléctricos locales y nacionales.

ENERGIUTSTRÄLNING

Denna handelsprodukt har testats och befunnits vara i enlighet med U.S.A.s krav för klass A utrustning.

Denna produkt har testats och befunnits vara i enlighet med Tysklands Vfg 243/1991 krav för klass B utrustning.

SÄKERHET

Dessa produkter har säkerhetstestats av UL i enlighet med Standard 478, av CSA i enlighet med CSA 220, och av TUV i enlighet med EN60950.

Endast modellerna i serien AT-200 has säkerhetstestats som "Utrustning ej avsedd för patient" av Underwriters Laboratories, Inc., enligt UL544:s standard för utrustning för sjuk- och tankvård (the Standard for Medical and Dental Equipment).



FARA FÖR BLIXTNEDSLAG

FARA: ARBETA EJ på utrustningen eller kablarna vid ÅSKVÄDER.



INSTALLATION

Driftstemperatur: Denna produkt är konstruerad för rumstemperatur ej överstigande 50 grader Celsius.

Alla länder: Installera produkten i enlighet med lokala och statliga bestämmelser för elektrisk utrustning.

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Overview

CentreCOM™ AT-200 Series Single Port Transceivers are highly reliable compact Media Access Units (MAUs) for users of Ethernet Local Area Networks (LANs). They provide the electronic and physical interface between the IEEE 802.3 coaxial cable and a Data Terminal Equipment (DTE) station.

The AT-200 transceiver is available in a variety of configurations, all of which meet the transceiver compliance requirements of IEEE 802.3 and are compatible with Ethernet Version 1.0 and 2.0. The use of industry-standard connectors ensures plug compatibility with all existing cable connectors used in Attachment Unit Interface (AUI), thicknet (10BASE5) or thinnet (10BASE2) installations.

Table 1 shows the AT-200 series transceiver models available.

Table 1: AT-200 Series Single Port Transceivers

Model	Cable	Connector
AT-204	10BASE2	Bayonet Nut Couple (BNC)
AT-205	N/A	No Backbone Connector
AT-206	10BASE5	Coaxial Active (Stinger) Type Tap
AT-207	10BASE2	BNC-T
AT-208	10BASE5	Coaxial N-Series

Installation

Installation of an AT-200 series transceiver involves checking heartbeat configuration, installing the tap body (if it is shipped separated or has been removed) and connecting the cables properly. The AT-204, AT-207 and AT-208 are shipped with the coaxial tap body installed. With the AT-206, you install the coaxial active tap body when you tap the 10BASE5 cable. The AT-205 comes with no tap body.

Heartbeat configuration



All transceivers are shipped with the Heartbeat switch in the “0” (disabled) position.

With few exceptions, the Signal Quality Error (SQE)/Heartbeat (i.e., Collision Presence Test) should be disabled; i.e., the Heartbeat switch should be left in the “0” (disabled) position. Check the device’s documentation to determine whether to enable SQE/Heartbeat. In most cases, when the AUI port is connected to a repeater or another node, the switch must be set to “0” to eliminate the possibility of excessive collisions. The switch should be set to “1” (enabled) with some older Data Communication Equipment (DCE) repeaters and Network Interface Controller (NIC) cards that take advantage of the heartbeat signal.

When necessary, you can enable the SQE test using the Heartbeat switch located on the Printed Circuit Board (PCB) inside the transceiver body. This must be done without the tap body installed in the transceiver.

▶ **Checking and setting the SQE/Heartbeat switch**

1. If the tap body is not installed in the transceiver (for models AT-205 and AT-206), skip to step 3.
2. To remove the tap body from the transceiver, remove the two panhead screws and slide the tap body out.
3. Locate the PCB inside the tap body opening. See Figure 1. With the transceiver facing you, the SQE/Heartbeat switch is on the right side of the circuit board. Set the switch to the desired setting ("1" = SQE enabled; "0" = SQE disabled).
4. Install the tap body.

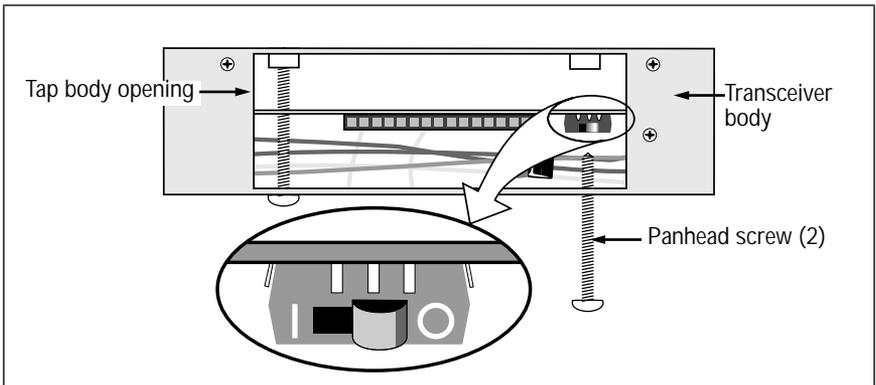


Figure 1: Location of the Heartbeat Switch

Thick Ethernet installation with coaxial active tap assembly (for model AT-206)

Before installing the AT-206 Single Port Transceiver, check to see that the transceiver package contents are complete. If any of the following items are missing or damaged, contact your sales representative.

- AT-200 Series Single Port Transceiver
- AT-06 tap kit
 - Clamp/pressure-block assembly
 - Tap body
 - Braid terminators (2)
 - Probe assembly
 - Protective dust cover
 - Button head socket screw
- Manual
- Warranty card

Data cabling considerations. When configuring 10BASE5 coax segments, IEEE 802.3 specifications provide the following rules to follow:

- MAU attachments limited to 100 per segment
- MAU attachments spaced at multiples of 2.5 meters (8.2 ft.) measured accurately from the cable end (50 Ω terminator included)
- Segment length cannot exceed 500 meters (1,640 ft.)
- Worst case “end-to-end” propagation delay for the segment is 2165 ns
— Propagation delay of 10BASE5 Ethernet coax is calculated at 4.33 ns/meter
- Both ends of the segment must be terminated with a 50 Ω termination with a power rating of 0.5 watts or greater
- Earth grounding of the segment shield must take place at only one point on the cable

Tapping the cable and assembling the transceiver. In addition to the tap kit supplied with the AT-206, you also need the following tools supplied as accessory AT-1220-K:

- Hex wrench
- Combination hex nut driver and coring drill

The clamp assembly has a frame that slides onto the tap body, a pressure block that holds the cable in place and a button head socket screw. The tap body features a cable channel that retains the cable and an internal guide slot to accept the transceiver's PCB.

The braid terminators are designed to pierce the cable jacket and provide a secure ground. The probe assembly features a spring-loaded contact (stinger) and threads into the tap body, ensuring permanent contact with the center conductor.



To install the tap body, cable and clamp assembly

1. Before attaching the tap to the transceiver, make sure the transceiver's SQE/Heartbeat switch is in the correct position. Refer to the “Heartbeat configuration” on page 1.
2. Insert the two braid terminators into the tap body. Refer to the exploded view of the tap in Figure 2.
3. Determine a tapping location on the cable. These may be found on the cable at 2.5 meter (8.2 ft.) intervals (usually denoted by black marks).

4. Place the cable in the cable channel of the tap body.

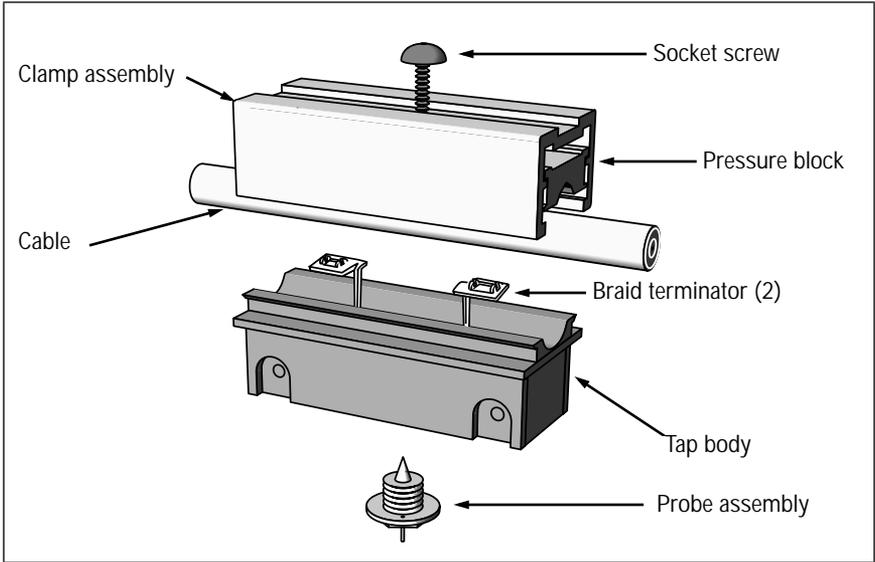


Figure 2: Assembling the Coaxial Active Tap

5. Slide the clamp assembly onto the tap body until it stops.
6. Using the hex wrench, thread the button socket screw into the clamp frame until the pressure block bottoms on the clamp track and holds the cable securely.

Caution



Use only the coring drill supplied separately in the coaxial active connector installation tool kit, model AT-1220-K, to drill the thick Ethernet cable.

7. Insert the combination nut driver/coring drill through the hole in the tap body. Drill through the cable to the center conductor. The coring drill end has a stop to prevent overdrilling.
8. Inspect the hole to be sure no particles remain.

Caution



Hand-tighten only. Do NOT over-tighten or damage could result.

9. Using the nut driver end of the tool assembly, thread the probe assembly into the tap body until the probe assembly is firmly seated.
10. If installed, remove the two long panhead screws from the transceiver body.

11. To install the transceiver, align the opening on the transceiver body so that the diagnostic LEDs are facing you. (The transceiver is reversible front to back.) Gently guide the tap body into the transceiver opening so that the probe post and the two braid terminator posts are aligned with the three gold-colored circuit board contacts. Then slide the tap assembly fully into the slot.
12. Secure the tap body to transceiver with the two panhead screws.



Note Replacement probe assembly and braid terminators are available as tool kit AT-060-K.

13. Be sure the cable is terminated at both ends. Figure 3 shows a terminator installed at one end of a thicknet segment.

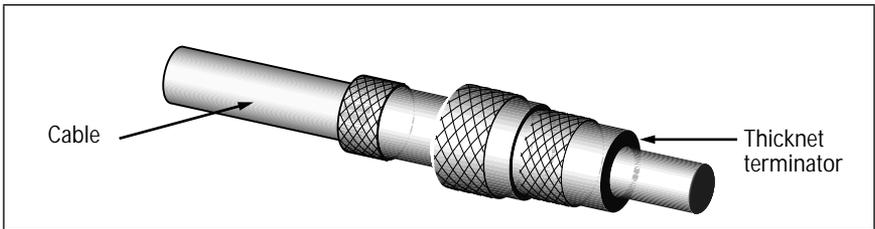


Figure 3: 50 Ω Terminator for Thicknet Segment

Thick Ethernet installation with coaxial N-series tap (for model AT-208)

Before installing the AT-208 Single Port Transceiver, check to see that the transceiver package contents are complete. If any of the following items are missing or damaged, contact your sales representative.

- AT-200 Series Single Port Transceiver with AT-08 tap
- Manual
- Warranty card

No assembly of the transceiver is required. It comes with the tap body factory installed. See Figure 4.

The SQE/Heartbeat is factory set to the “0” (disabled) position. Unless your application calls for the heartbeat signal to be enabled, leave this switch in the “0” position. (See “Heartbeat configuration” on page 1.)

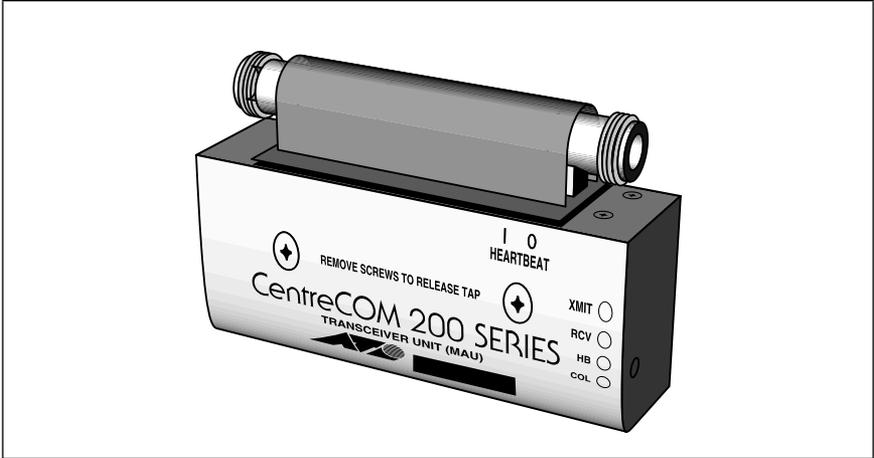


Figure 4: AT-200 with N-Series Thicknet Backbone Connector (AT-208)

Data cabling considerations. When configuring 10BASE5 coax segments, IEEE 802.3 specifications provide the following rules to follow:

- MAU attachments limited to 100 per segment
- MAU attachments spaced at multiples of 2.5 meters (8.2 ft.) measured accurately from the cable end (50 Ω terminator included)
- Segment length cannot exceed 500 meters (1,640 ft.)
- Worst case “end-to-end” propagation delay for the segment is 2165 ns — Propagation delay of 10BASE5 Ethernet coax is calculated at 4.33 ns/meter
- Both ends of the segment must be terminated with a 50 Ω termination with a power rating of 0.5 watts or greater
- Earth grounding of the segment shield must take place at only one point on the cable



Attach the N-series tap to cable

1. Attach 10BASE5 coaxial cable, using male N-series connectors, to either end of the transceiver’s N-series connector.

Note



There is no internal termination on the AT-200 series transceiver. Be sure both sides of the N-series connector on the tap body are connected to a cable.

2. Be sure the cable is terminated at both ends. Figure 3 on page 5 shows a terminator installed at one end of a thicknet segment.

Thin Ethernet installation with BNC tap (for models AT-204 and AT-207)

Before installing the AT-204 or AT-207 Single Port Transceiver, check to see that the transceiver package contents are complete. If any of the following items are missing or damaged, contact your sales representative.

- AT-200 Series Single Port Transceiver with AT-04 or AT-07 tap
- Manual
- Warranty card

No assembly of the transceiver is required. It comes with the tap body factory installed. Figure 5 shows an AT-204 transceiver, which is used with a separate T-connector, and Figure 6 shows an AT-207, which is ready to attach to the thinnest backbone. The AT-204 enables you to take the transceiver off the network without interrupting traffic on the segment.

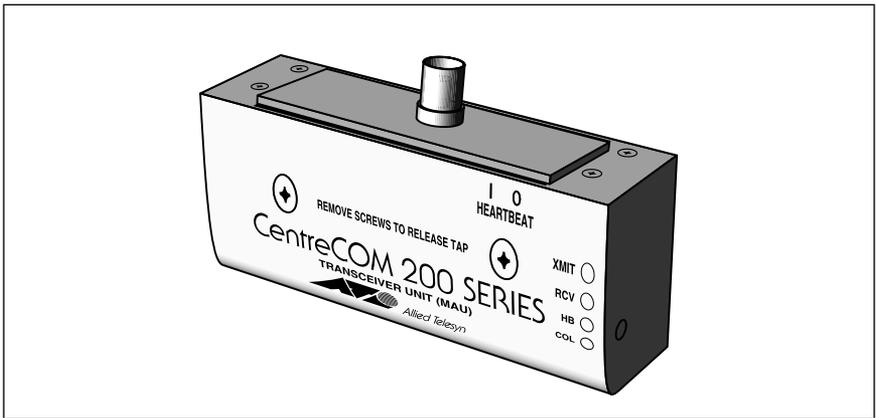


Figure 5: AT-200 with Thin Coax Backbone Connector (AT-204)

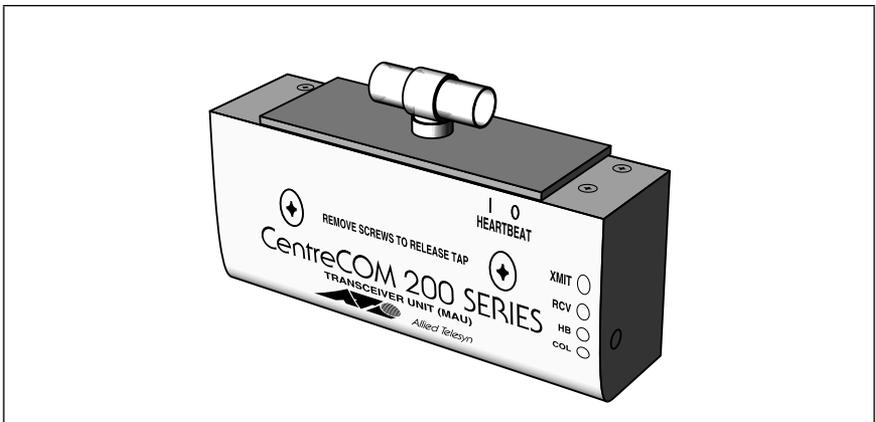


Figure 6: AT-200 with Thin Coax T-Connector (AT-207)

The SQE/Heartbeat is factory set to the “0” (disabled) position. Unless your application calls for the heartbeat signal to be enabled, leave this switch in the “0” position. (See “Heartbeat configuration” on page 1.)

Data cabling considerations. When configuring 10BASE2 coax segments, IEEE 802.3 specifications provide the following rules to follow:

- ❑ MAU attachments limited to 29 per cable segment
- ❑ MAU attachments spaced at no less than 0.5 meter (1.64 ft.)
- ❑ Segment length cannot exceed 185 meters (607 ft.)
- ❑ Worst case propagation “end-to-end” propagation delay for the segment is 950.9 ns
 - Propagation delay of 10BASE2 Ethernet cable is 5.14 ns/meter
- ❑ Both ends of the segment must be terminated with a 50Ω termination with a power rating of 0.5 watts or greater
- ❑ Earth grounding of the segment shield must take place at only one point on the cable

▶ **Attach the BNC connector to cable**

1. Plug a BNC-T connector into the BNC receptacle.
2. Plug in the 10BASE2 coaxial cable. If the AT-200 series transceiver is between nodes on the cable, attach a thin coax segment to each side of the T-connector. If the transceiver is at the end of the segment, attach a thin coax segment to one side of the T and a 50Ω terminator to the other side as shown in Figure 7.

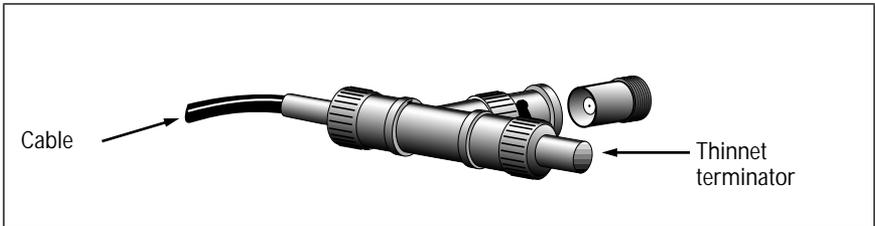


Figure 7: BNC-T with 50 Ω Terminator



Note

There is no internal termination on the AT-200 series transceiver. Do not plug a thinnet coaxial cable directly into the BNC connector on the tap body without a T-connector.

Attaching AUI drop cables (for all models)

Data cabling considerations. AUI or Drop cables are governed by the following IEEE 802.3 specification rules:

- ❑ Length cannot exceed 50 meters (164 ft.)
- ❑ Attachments may be made only to the cable ends at the 15-pin D-subminiature connector

- ❑ AUI cables may have a maximum 257 ns propagation delay, as used for computing the worst case propagation delay of a cable system
 - AUI cable propagation delay is approximately 5.13 ns/meter
- ❑ AUI cable internally consists of four shielded twisted pair wires with an overall shield and drain wire; a 15-pin D-subminiature male connector at one end and a 15-pin D-subminiature female connector at the other end
- ❑ Cable impedance is nominally 78 Ω
- ❑ AUI cable typically connects a transceiver attached to a coaxial segment to a DTE (workstation).



Attach the AUI port to cable

Caution



If power appears at any pin other than 6 (power return) and 13 (power), connecting the cable to the transceiver might result in severe damage to the transceiver and void your warranty.

1. Connect the cable at the station DTE end and test the pins at the transceiver end to make sure that power does not appear at any pins other than 6 and 13.
2. Carefully insert the 15-pin D-subminiature connector into the connector on the transceiver.
3. Move the slide lock to the locked position; this engages the lock posts on the transceiver.
4. Check the Power indicator on the side of the transceiver to make sure it is enabled.

Checking Operation

Once installation is complete, make sure that the Power indicator is illuminated.

1. The Power indicator changes color depending upon which position the heartbeat switch is set.
2. An amber color indicates that heartbeat is enabled ("1" position). A green color indicates that heartbeat is disabled ("0" position).

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