TECH TIPS

MILCOM

CABLING ON AN ANALOGUE NT (ALSO KNOWN AS ANT1)

Analogue NT (also known as ANT1)

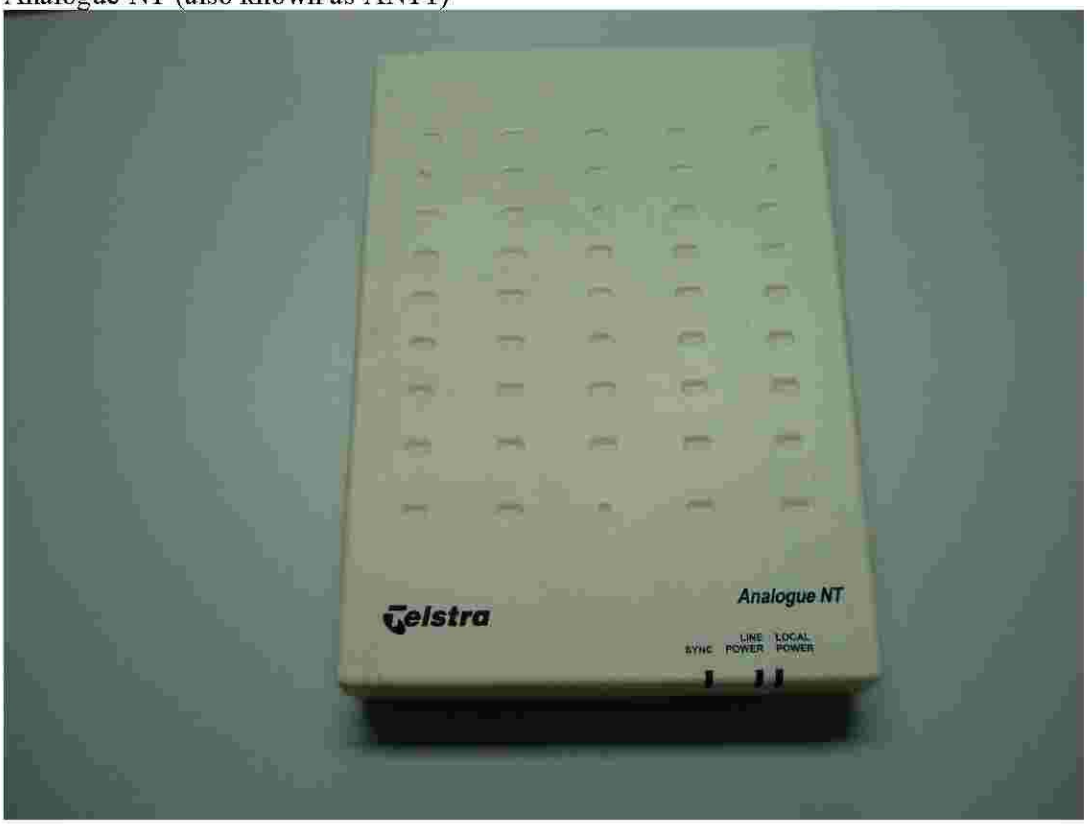

Figure 1 Analogue NT top view

Figure 1 show a unit known as the Analogue Network Termination Unit. This is a unit designed to terminate Telstra's ISDN network and provide two Plain Old Telephone Services (POTS). The device has 6 connections points:

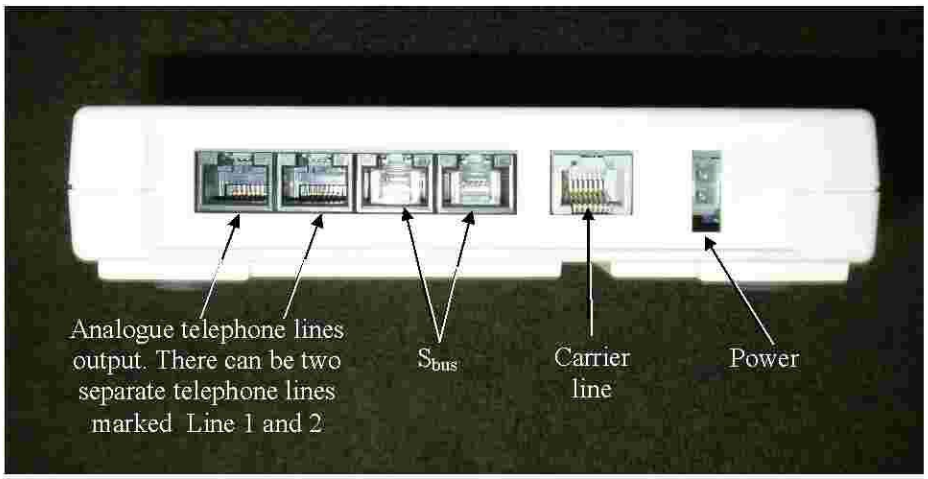

Figure 2 Analogue NT - Outlets

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The unit is powered from the telephone exchange so under mains power failure the phone will still work. It also has a local power pack so as to improve the overall quality of the signal. The unit is installed to allow two phone lines to be delivered to the premises, where there is only one pair available in the street. The carrier is connecting an ISDN (Integrated Service Digital Network) Basic Rate Access (BRA) services. This ISDN service provide two telephone lines on the one pair of wires. As this is a digital service the box provides a Terminal Adaptor functionality converting the ISDN digital service into a Plain Old Telephone Service (POTS) so you can use your existing analogue handsets.

As the Analogue NT supports two lines, there are two telephone line outputs:

Tel 1
Tel 2

To determine if the lines are active, simply plug your buttinski and dial 12722123, you will then get a announcement with the number you are dialing from.

The ANT1 has a socket for the carrier line and two analogue telephone outlets. Where an ANT1 is installed Telstra terminates the lead-in cable onto a RJ45 8P8C connector. (8P8C stands for 8 position with 8 connections. Just a fancy name for an RJ45 socket).

Telstra delivers a digital service on one pair of the lead-In cable. This is an ISDN BRA service and the voltage across this pair is nominally 100Vdc. The service is extended from the RJ45 socket to the ANT1 with a fly lead terminated at both ends with an RJ45 plug.

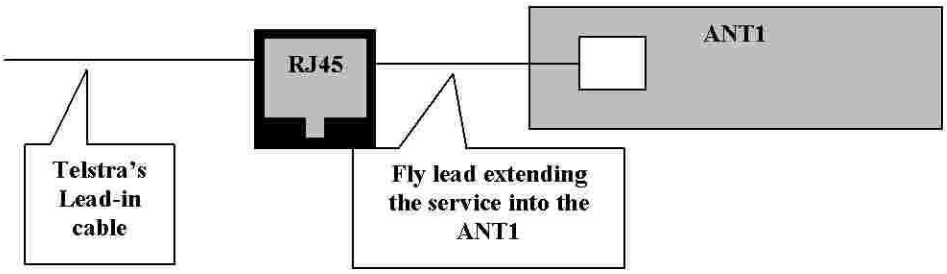

Figure 3 connection of the lead-in to the ANT1

The pair on the lead in is terminated at pins 4 and 5 on the RJ45.

Now comes the complication when you come across ANT1, the cabling of the analogue phones. To understand this clearly we need to look at the wiring in more details.

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The logical connection, one would expect, is the carrier cable terminating onto the carrier socket and the analogue phone lines would connect from the Analogue Telephone Sockets on the back on the ANT1.

Unfortunately this is not the case. The ANT1 has a back-feeding option, the incoming ISDN digital line is terminated on pins 4 and 5. The analogue telephones lines are back fed from the ANT1 on:

Line 1 – Pins 3 and 6
Line 2 – Pins 1 and 2

See Figure 4 for details.

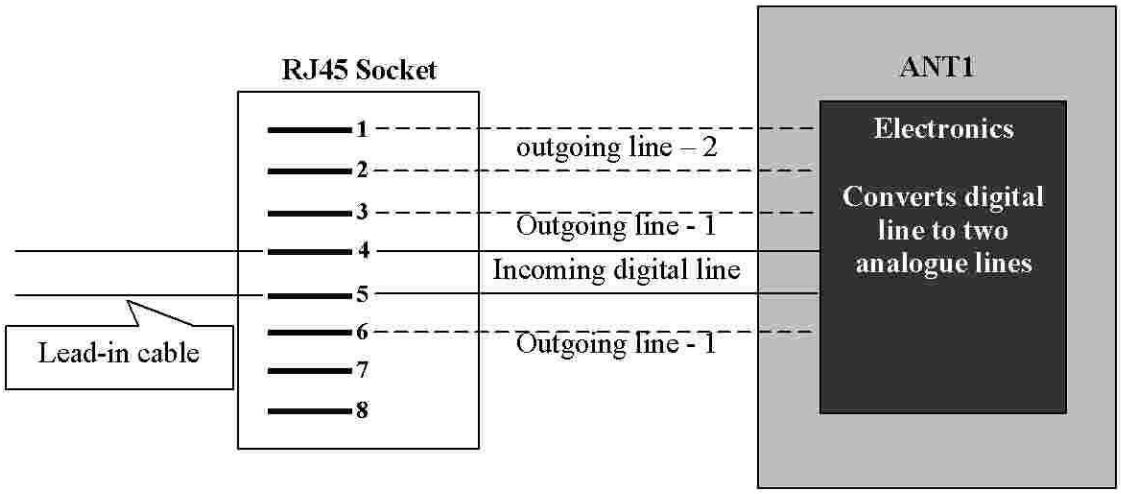

Figure 4 Wiring of ANT1 on the carriers side

With reference to Figure 4, if you come across the ANT1 you will find the analogue lines back feeding to the RJ45 socket and then onto the rest of the telephones.

If you are required to install any additional sockets onto either line 1 or 2, the recommended method is:

Extend the telephone lines from the sockets marked Line 1 or 2 to a new telephone socket next to the ANT1 and then connect it to any additional sockets.

The reason for this being the recommended method is that it allows you to provide what the customer needs without having to access the RJ45 installed by Telstra.