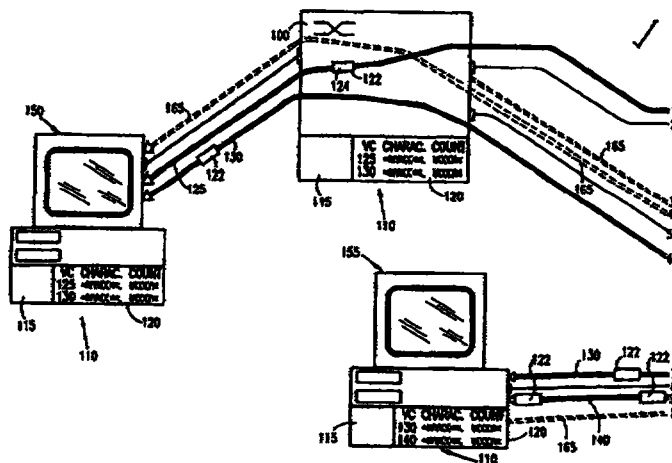


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(54) Title: **SYSTEM FOR PARAMETER ANALYSIS AND TRAFFIC MONITORING IN ASYNCHRONOUS TRANSFER MODE (ATM) NETWORKS**

(57) Abstract

This invention discloses a method and apparatus for analyzing traffic on an ATM network, the network comprising a first plurality of stations to be interconnected by a second plurality of ATM connections, the method includes intercepting at least one ATM connection (125) characteristic of each of the second plurality of ATM connections (130) and storing the at least one ATM connection (125) characteristic in an ATM connection characteristic memory, monitoring the amount of traffic passing over each of the second plurality of ATM connections (130) and accumulating the amounts of traffic in the ATM connection characteristic memory; for at least one ATM connection subset including at least one of the second comprising a combination of at least one of the ATM connection characteristics, determining the total amount of traffic that has passed over the ATM connection subset by retrieving from the memory, using the retrieval key, the amount of traffic passing over each ATM connection in the ATM connection subset and summing the amounts and generating an output representation of the total amount of traffic.