Line Despatcher Terminal Application Note

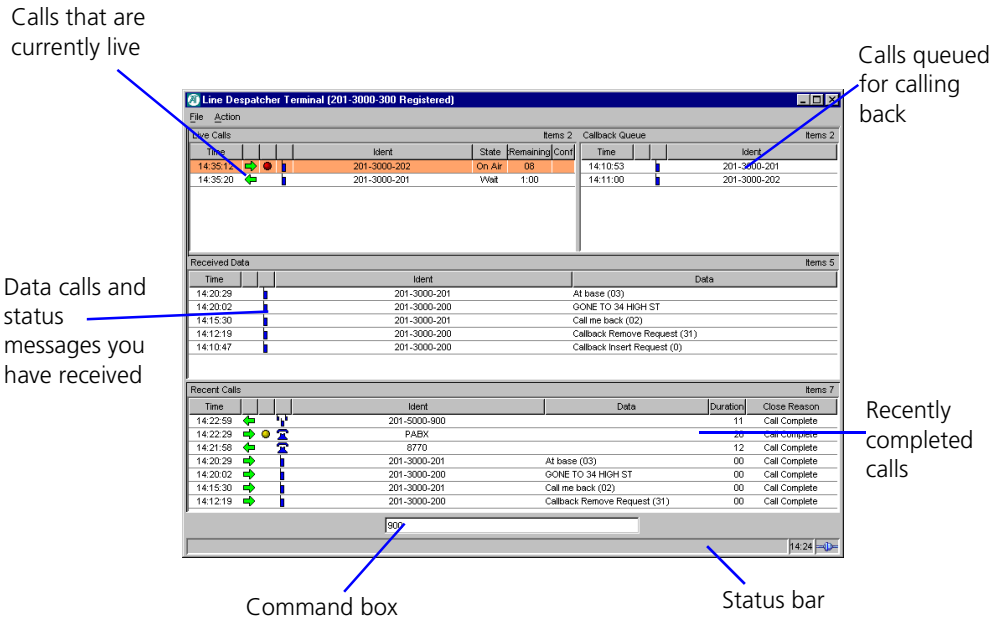
20 October 2000

This technical application note describes what the Tait Line Despatcher Terminal (LDT) is and how it can be used in despatch centres or to regularly update work team membership. For instructions on how to connect up an LDT and configure it for a network, see TN-637, Installing Tait Line Despatcher Terminals.

Line Despatcher Terminal

The Tait T1541-71-0000 Line Despatcher Terminal (LDT) is a PC-based tool that simplifies and enhances communications between a despatcher and radio users. It enables trunked PMR networks to offer their clients despatcher equipment for communications with fleets or other groupings. A set of one or more LDTs is an efficient and highly functional means of keeping in contact with mobile personnel. Typical users include transportation, government departments, utilities, ports, and oil refineries.

Version 2.00 of the LDT has been completely re-developed to enable mouse input and provide a familiar, easy-to-learn graphical user interface. The Java-based software runs under the Microsoft Windows operating system. By combining the functions of a trunked radio and a PC, with its screen, mouse, and keyboard, the LDT enables the despatcher to handle a large number of staff.



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The LDT consists of Tait LDT software running on a PC fitted with a Tait audio mixer card, third party Ethernet and sound cards, and a suitable headset (or handset).

Supported Call Types

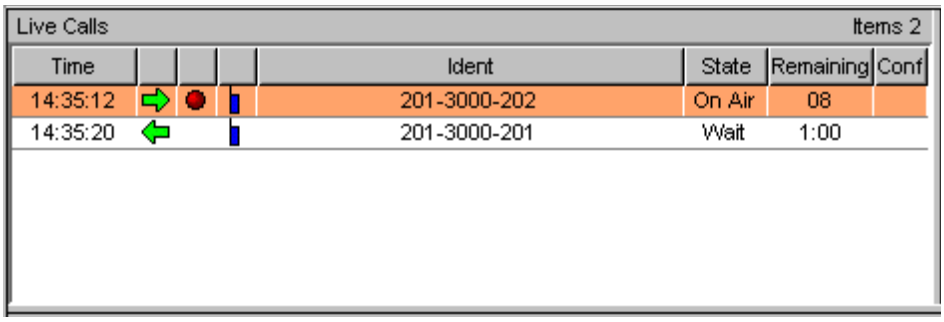
The LDT can make or receive the following standard MPT call types:

- Voice calls to/from an individual radio
- Pre-defined status messages
- Composed data messages (SSTs)
- Telephone calls to/from the PSTN or PABX
- Group calls
- Emergency and High Priority calls

The LDT also has some special despatcher call capabilities:

- Patching calls. The despatcher can connect a caller to another radio or telephone, and vice versa (T1541 networks only[1])
- Conferencing calls. The Despatcher can join existing calls together to form a conference (T1541 networks only[1]).

Information about current calls is displayed in the Live Calls area:



Features

- Four call lists optimise the display for the despatcher's main activities.
- Icons and colour make information quick to interpret.
- Mouse and keyboard or keyboard-only operation.
- Recent Calls list displays up to 50 calls.
- Daily log files store call details for up to one month.
- Despatcher can select group numbers for monitoring.
- Transparent access to radios anywhere on the network.

1. The LDT V 1.6 is still available for T1540 networks, where there is a requirement for call patching or conferencing (combining two or more individual calls).

Work Teams and the LDT

The LDT can update any suitable radio's group membership over the air. This makes it suitable for situations where a work team keeps changing to meet the changing work patttern. In this application, there is no despatch centre. Instead, the members of the work team communicate with each other or with a variety of other members of the organisation using group numbers.

The LDT operator maintains sets of talk groups (one for each work team) and updates them as needed, for example at the beginning of each working day. This ensures that the same group number reaches all members of the team, even though people are continually shifted from one team to another.

Work Team Functions

The LDT operator can:

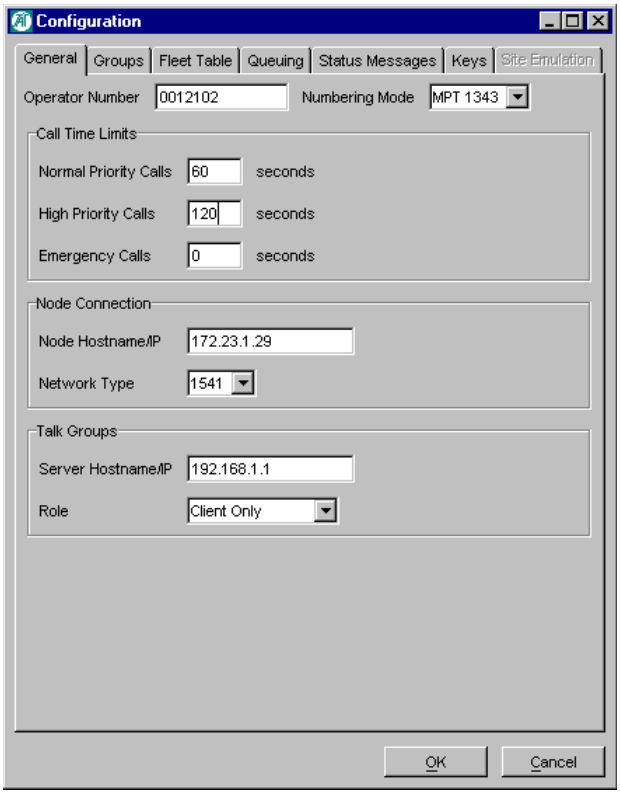
- Create talk groups
- Add or remove one or more radios from any talk group
- Assign up to 6 MPT group numbers to any talk group
- Update any talk group. This sends the group numbers assigned to the talk group over the air to the radios in the talk group.

Efficient Resource Use

Because of its direct connection to the node, the LDT is efficient in its use of network resources. By comparison, wireless despatcher equipment needs an additional RF channel for a call, unless that call is a radio-to-radio call at a single site. This new version of the LDT does not need a Despatcher DAS or Line Despatcher Cluster Controller. Each LDT therefore requires only one dedicated DAS port.

Ease of Configuration

The LDT is easily configured from its Configuration window. For example, you can specify how the LDT handles incoming calls. It can automatically answer them, queue them, place them in the Callback list, or put them on hold. You can specify a different response, depending on the priority level, type of call, and whether the LDT already has a current call.



LDTs with T1541-based Networks

Each LDT has an audio connection to a port in the digital audio switch (DAS) and a control connection to the node using TCP/IP over Ethernet. The number of LDTs that a node can have is in practice limited only by the conferencing capability of the DAS. From the node's perspective, each LDT is a radio with an audio connection into a particular DAS port. One LDT must be configured as a server that maintains talk group information for all the LDTs. If the LDTs are remotely located, they must be connected to the node via routers. Figure 1 shows a typical system configuration.

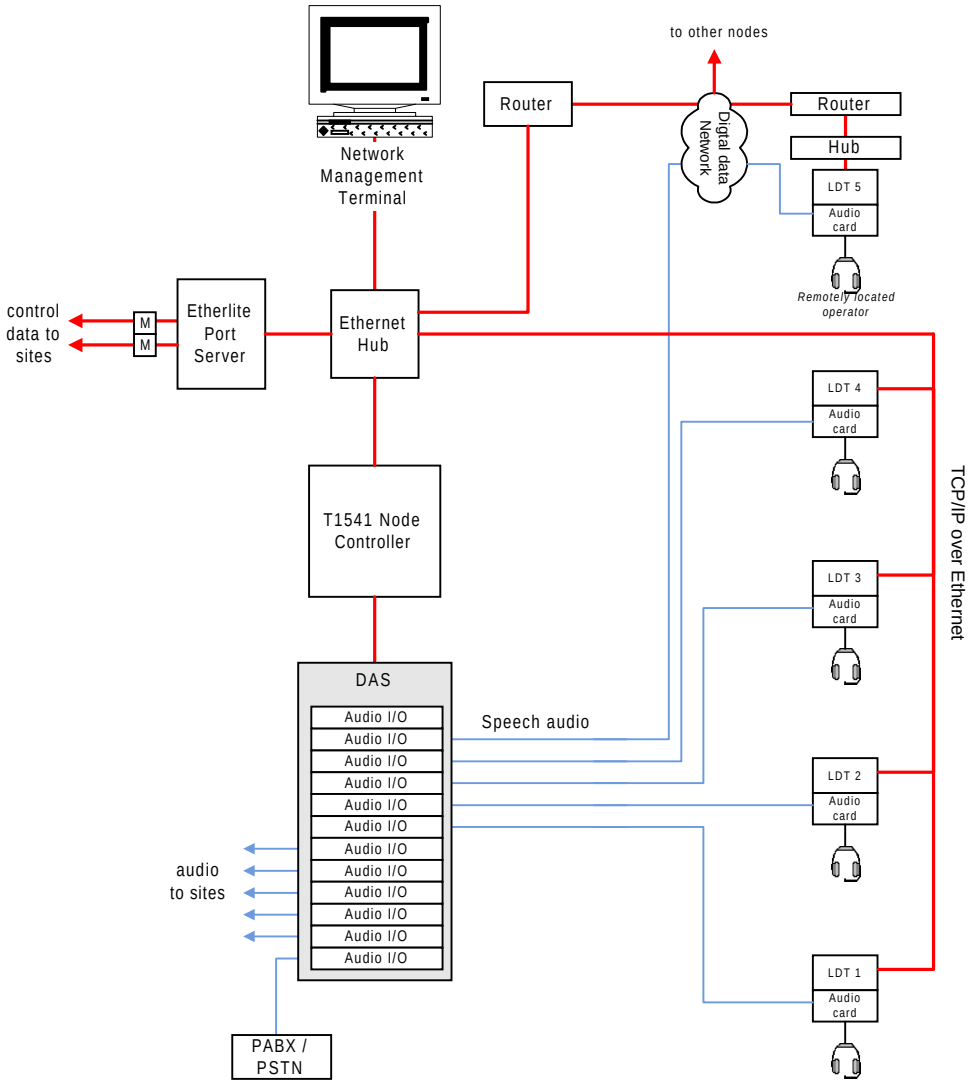


Figure 1 LDTs in a T1541-based Network

LDTs with Other Tait Trunked Networks

When LDTs are part of a T1530, T1540, or T1730 network, they can be master or slave LDTs. Master LDTs are connected to a site port at the node via a serial interface. Slave LDTs are connected to their master using TCP/IP over Ethernet. From the node's perspective, each LDT is a virtual radio and the master LDT is a virtual site as well. The number of master LDTs that a node can have is limited by the number of sites that the node can support. Figure 2 shows an example configuration with two master LDTs, one of which has three slave LDTs connected to it.

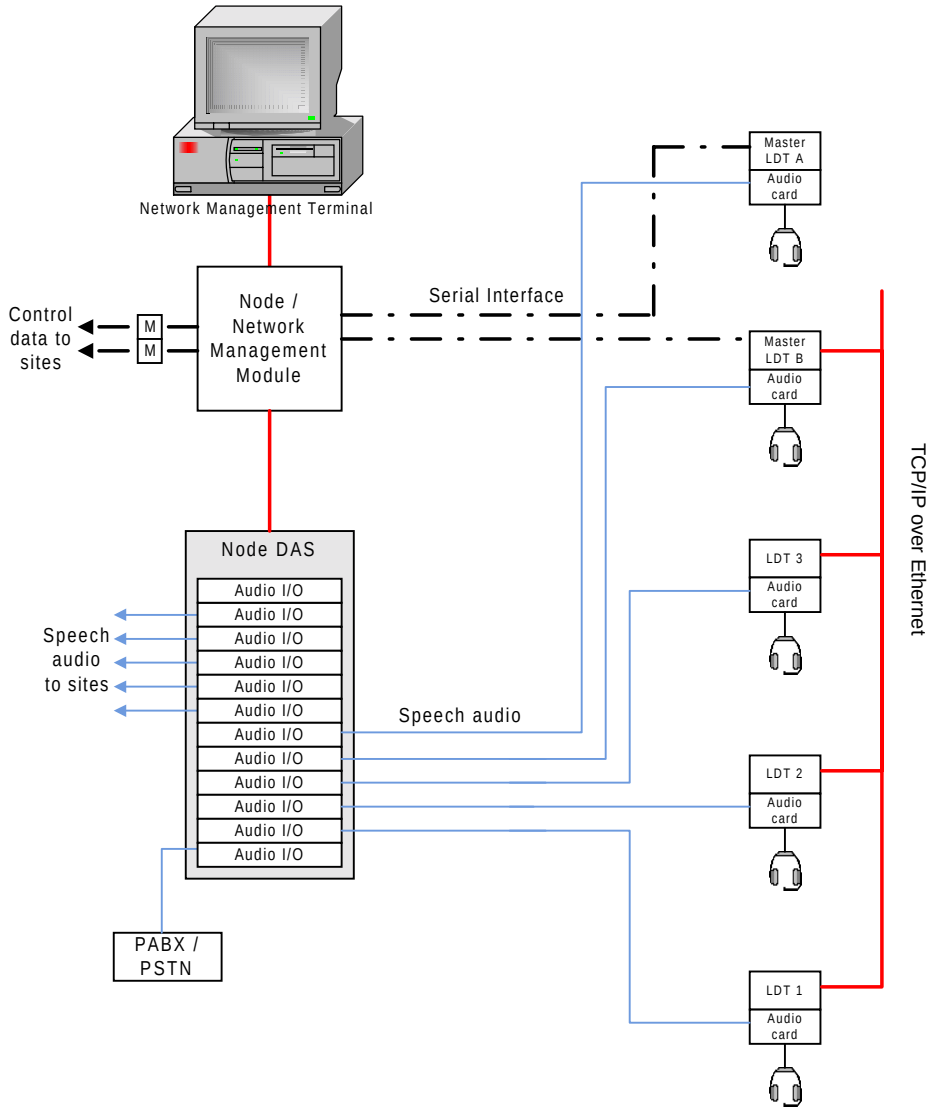


Figure 2 LDTs in a Network Based on the T1730, T1540, or T1530

Issuing Authority

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