



TM8000 Product Update

Short Data Messages - SDM's Part 1 – 4th July 2005

Introduction

This product update (part 1 of a 2 part update) covers some of the frequently asked questions relating to the 1200 baud FFSK SDM's. Here they are:

What are SDM's?

These are short data messages (SDM) which are not unlike text messages that we find on a cellular phone. They have been available on the TO5000 products for some time.

How do I send these messages on the TM8000 radios?

Unlike the transparent modem formats on the TM8000 product SDM's can be sent in the CCDI command mode (if you are not sure about this read the update in two weeks time). This means they can be sent and received in amongst voice messages without having to change the radios mode. They are currently only available as messages sent into the radio serial port or sent out of the radios serial port on the TM8000 products. The message has to be formatted in the CCDI SDM command format (refer to CCDI information). Received SDMs also follow a prescribed format.

Why would you use SDM's instead of the transparent modem?

There are three distinct advantages, first as mentioned above it can co-exist with voice in the command mode format. This removes the need to use a command to set up transparent mode before sending data and probably more important removes any need to change mode to receive data. Secondly an SDM is sent to a specific radio or group address and so does not generate serial activity on all receiving radios. Thirdly the SDM message scheme supports an acknowledgement message that can be used to confirm that the addressed radio has received the SDM.

Can I get the ID of the calling radio?

In the TM8000 a specific version of SDM exists that allows Caller ID to be provided. This information is sent out of the addressed radio as well as the payload data.

How much data can I send in an SDM?

The maximum size of a short data message is 32 bytes (or 32 characters which includes spaces) an example of how long this is: "The quick brown fox jumps over t" This may not seem like much compared with phone texting but it meets the need of many customer applications. An example of this might be remote car park signs where the messages might be – "Car park Full" or "230 space left in the Car Park"

What products support SDM's?

All TM8000 products support SDM's via the serial ports. The Tait Orca 5000 portables support some of the functionality described. The TO5020 also supports user entry SDM's which moves us even nearer to a texting model.

Next week we will look in some detail at the format and applications of SDM's

Please do not hesitate to contact me if you have any questions

Kind regards,
Simon Rees



TM8000 Product Update

Short Data Messages - SDM's Part 2 – 18th July 2005

Introduction

This product update (part 2 of a 2 part update) covers some more of the frequently asked questions relating to the 1200 baud FFSK SDM's. Here they are:

Does the customer have to pay extra for SDM access?

No. The Short Data Message (SDM) is available as part of the standard radio firmware. There are no call charges relating to making SDM calls either – unlike text on a cellular phone!

Are there different formats of SDM?

There are a number of different formats of SDM. The particular SDM format chosen will normally depend on the information or payload it has to send across the radio system. Up until now we have discussed the format for sending text messages. However it is more efficient to use the binary format when data is being sent. An example of this is the use of the SDM to poll for and transport the location messages provided by a GPS receiver connected to the TM8000 radio. Rather than spend a lot of time discussing the different formats now the more important ones will be covered as part of specific applications in future updates.

Is it possible to create a message display in a vehicle for SDM's

Using the third party application board it is possible to control a simple message display that by using multiple SDM's can display names and addresses or work dispatch details. Such an application may be of value in the transport or utility sector. Bear in mind that the majority of the work will be required in the central office dispatch application. It is often possible to add SDM signalling on existing radio networks with minimal changes.

Could telemetry data be sent using SDM's?

It is possible to send a large amount of telemetry or telecommand data within the 32 byte limit. However the SDM format does not support the required frame size or format for large SCADA messages. Protocols of this type include DNP3 or Modbus. So anyone using SDM's for telemetry purposes would be creating a proprietary system.

Can Bus Stop messages be provided using SDM's?

One of the requirements of many Road Transport Passenger Information (RTPI) systems is the ability to deliver short messages to bus stops to inform the passengers of the time of arrival of the different services. The SDM could be used for this either being provided from a TM8000 or a TOP radio modem. Low power consumption regimes and timeslot operation would be a pre-requisite of such a design.

Is there ongoing development work with SDM's?

There are plans in the medium term to further enhance the SDM capability of the TM8000 product. These will be announced as product updates in the future.

To help us improve the information provided by these updates please contact us with any questions you may have or update ideas that you would like to see provided.

Kind regards,
Simon Rees