TextLink 9100MT

Basic setup for Gallaudet/DSPG mobile handset testing

The TextLink 9100MT is a modified version of the standard textphone designed for the purpose of testing with the Gallaudet/DSPG software package.

Supplied complete with two cables:

- one audio cable terminated with 2.5mm jacks for connection between handset and TextLink.

- one RS232 cable for connection between PC and TextLink.

- optional RS-232 to USB converter.

Currently being used for tests by mobile operators, ATIS and Gallaudet university

TSB 121 compliant

Fully CE approved

Serial connector

- Any standard or amplified phone or fax can be directly connected to the TextLink

- Call status message during call i.e. dialling, ringing, busy, trying to connect, connection established

- Caller Display (UK) & Caller ID (US) feature shows the phone number of caller

- If number is in the phone book, then the name of the caller is displayed.

- Call List displays details of the last 24 calls made and received.

- Supports 'Call Sign" (UK) & 'Distinctive Ring" (US) service

Main Features

- Fully compatible with the Gallaudet/DSPG test program.

- Internal implementation of the CTM modem allows it to operate with a GSM handset without any external adaptors. The CTM modem implementation has been verified by Ericsson and other manufacturers and fully conforms to 3GPP specification.

- Using specially designed "Mobile Baudot" mode allows it to operate with all types of CDMA, TDMA and analog mobile handsets.

- Successfully tested with Ericsson, Motorola, Nokia, Samsung, Apple, LG and other handsets

- Can be used on mobile or PSTN networks

- The use of V.18 automode in the wireline connection allows an automatic connection to virtually any textphone.

Display

- Large 5.5 mm character size

- 80 character (2 x 40) display

- Word wrap facility makes text easy to read

- Adjustable contrast for easy viewing

- Displays status and number of messages on answer machine

Keyboard

- 6 row keyboard

- 65 keys with tactile feedback

- 8 Customisable function keys can be programmed for Quick Dial, Quick Memo & Quick Menu

- Dedicated emergency service call button

- Emergency Key & Memo, can both be customised

- Dedicated GA & SK keys

- Dedicated Menu key

- 2 dedicated arrow keys to easily navigate menus

- On/Off key

- Sticky key for one handed typing

DSPG Telecom

Memory

- 10,500 character conversation memory with additional 127 phone book names & numbers memory

- Non volatile permanent storage ensures no loss of data or stored numbers even when power supply and batteries are removed

- Standard and customisable automatic greeting message.

- Emergency number and memo is not lost when power is removed

Wireline specific features

- **V.18 Automoding** connects to virtually any text phone

- Voice and Hearing Carry over facility

- Voice announcer

- Any standard or amplified phone or fax can be directly connected to the TextLink

- Call status message during call i.e. dialling, ringing, engaged, trying to connect, connection established

- **BT Caller Display** feature shows the phone number of the caller

- If number is in the phone book, then the name of the caller is displayed.

- Call List displays details of the last 24 calls made and received

- Supports BT **Call Sign** service

- BT TextDirect access prefix built in

Autoanswer

- Stores message in non-volatile memory

- Messages can be interrupted or reviewed on display later

- Customisable answer message

- Extra bright new message indicator to alert user to incoming calls and unread messages

- Display shows number of messages

- Can set number of rings before answering

Mobile specific features

Supports the following systems:

- GSM (in CTM mode)

- CDMA & TDMA (in Baudot mode)

- Compatible with most commercially available mobile handsets

Advanced features

- Quick Dial keys allow fast dialling

- Quick Memo allows easy storage and retrieval of text

- Expansion port for connecting to a printer or PC

- Remote program upgrade facility via dial up to specialised server

Power Management

- More than 50 hrs use from 4 AA batteries

- A user selectable auto shut down feature saves power when not in use

Physical Dimensions

- Size: 24 cm (L) x 16.52 cm (W) x 4.3 cm (H)

- Weight: 0.55 kg

Warranty

- One year standard warranty

- Optional extended warranty available

1 Testing Overview

The following sections describe basic procedures for wireless and landline (PSTN) testing using TextLink 9100 MT that can be used either in Laboratory or field testing. Field testing requires access to GSM and PSTN Networks.
The following tests can be performed

- Wireless Mobile to Mobile in laboratory or field conditions

- Mobile to Landline (PSTN) in laboratory or field conditions

- Landline to Landline (PSTN) in laboratory or field conditions

2 Mobile-to-Mobile Communication

The Mobile-to-Mobile testing can be implemented either directly with text communication performed by typing text on one of the TextLink 9100 MT's and receiving it on the other. The block diagram of connection is shown in Figure 1 (laboratory conditions) and Figure 2 (field conditions)
If formal tests are required then two PC's need to be connected running DSPG tools with Gallaudet software.

2.1 Requirements:

- 2 x TextLink 9100 MT

- 2 x Mobile phone handsets with hands-free adaptors

- 2 x 2.5 mm jack cable for connection to a mobile handset via Hands-Free Adaptor

- 2 x Optional RS-232 cable for connection to PC

- 2 x Optional RS-232 to USB converters

- 2 x Optional PC with downloaded TTY-Tools software

2.2 Testing Procedure

Set the volume on both mobile handsets to the mid-range

Optionally run the TTY-software test program and input all correct device information.

1. Select mobile mode (CTM) on both TextLink 9100MT's by using the following setting shortcut: **(Menu) (7) (2)**; "**<Mobile mode set>**" will be displayed on the TextLink 9100MT screen.

2. On the first mobile handset dial a number of the second handset and press OK for dial. After that press any of the keys A through to Z on the TextLink 9100MT keyboard. "**< Connection established > <MOBILE>**" will be displayed on the textphone screen.

3. Answer the call on the mobile using Answer button.

4. Press any of the keys A through to Z on the TextLink 9100MT .
"**< Connection established > <MOBILE>**" will be displayed on the textphone screen

5. Type some characters on one of the TextLink 9100MT's and check if they have been received by the other. If this communication is working OK reverse the order and use the other TextLink 9100MT to type text.

Note: TextLink 9100 MT set-up described above is the same for Laboratory and field tests shown in the following Figure 1 and Figure 2
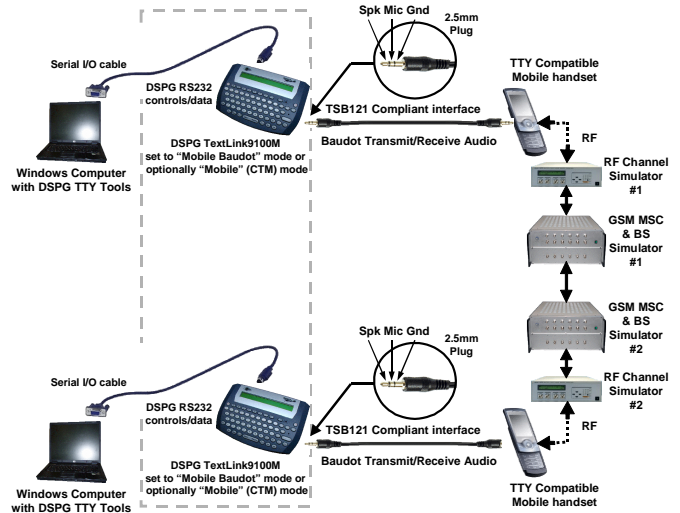

Laboratory tests

Figure 1 *Mobile-to-Mobile Laboratory Test set-up using two TextLinks 9100 MT's*
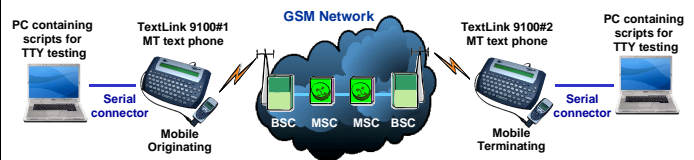

Field Tests

Figure 2 *Mobile-to-Mobile Field Test set-up using two TextLink 9100 MT's*

3 Mobile to Landline (PSTN) Communication

The Mobile-to-Landline (PSTN) testing can be implemented either directly with text communication performed by typing text on one of the TextLink 9100 MT's and receiving it on the other. The block diagram of connections is shown on Figure 3 (laboratory conditions) and Figure 4 (field conditions)
If formal tests are required then two PC's need to be connected running DSPG tools with Gallaudet software.

3.1 Requirements:

- 2 x TextLink 9100 Mobile MT

- 1 x Mobile phone handset with hands-free adaptor

- 1 x 2.5 mm jack cable for connection to a mobile handset via Hands-Free Adaptor

- 1 x RJ11 to RJ11 telephone cable

- 2 x RS-232 cable

- 2 x RS-232 to USB converters

- 2 x PC with downloaded TTY-Tools software

3.2 Testing Procedure

1. Set the volume on the mobile handset to the mid-range

2. Run the TTY software test program and input all correct device information.

3. Select mobile mode for the TextLink 9100M on one side by using the following setting shortcut on the textphone: **(Menu) (7) (2)**; "**<Mobile mode set>**" will be displayed on the textphone screen.

4. Select V18 or Baudot mode for the TextLink 9100M on the landline side by using the following setting shortcut on the textphone: **(Menu) (7) (1)**; "**<V.18 mode set>**" will be displayed on the textphone screen or **(Menu) (7) (4)**; "**<Baudot mode set>**" will be displayed on the textphone screen.

5. Dial a number on the mobile phone then press any of the keys A through to Z on the TextLink 9100M keyboard. "**< Connection established > <MOBILE>**" will be displayed on the textphone screen.

6. Answer the call on your TextLink 9100M by pressing any of the keys A through to Z on the keyboard.

7. Once the connection is established, wait for the "**Hello. GA**" message to appear on the display and then type some characters by hand and see if the other TextLink 9100M has received these characters. **IF yes, then type some characters on the other side to verify that both sides send and receive the characters.**

8. Start the TTY test by pressing the '**start call**' button on the screen. You will see the text displayed on the screen of the PC and on both the TL9100M screens.

9. Once the test is finished press the **(Dial/End Call)** button on the textphone and press '**end call**' on the mobile.

Note: TextLink 9100 MT set-up described above is the same for Laboratory and field tests shown in the following Figure 3 and Figure 4
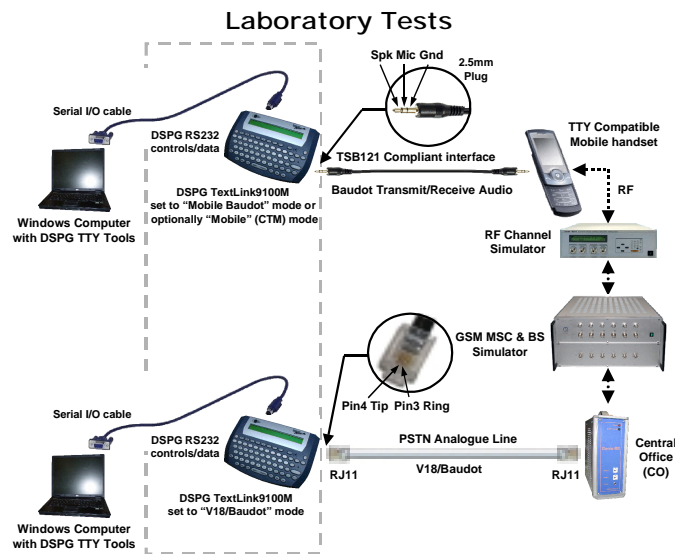
Laboratory Tests

Figure 3 *Mobile-to-PSTN Laboratory Test set-up using two TextLinks 9100 MT*
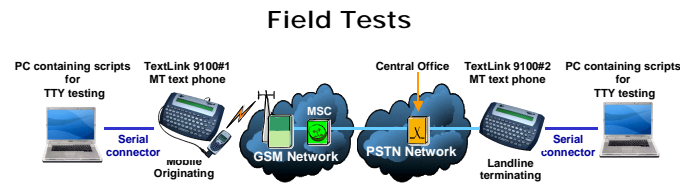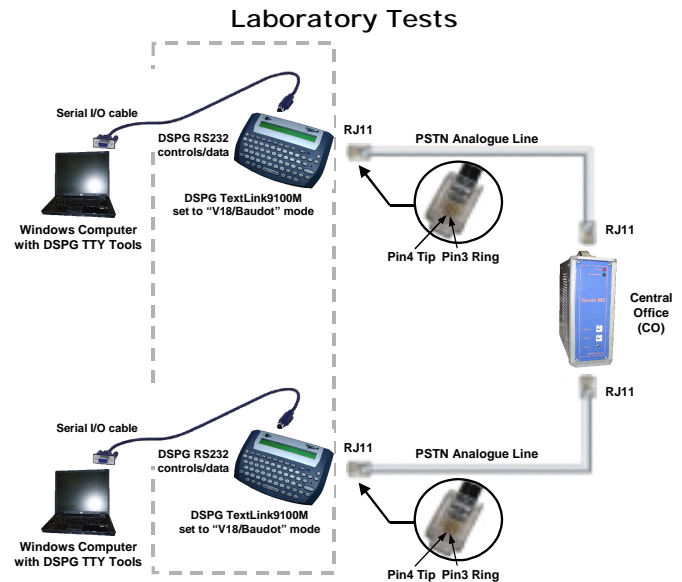
Field Tests

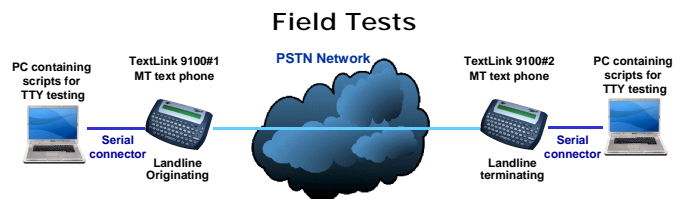**Figure 4** *Mobile-to-PSTN Field Test set-up using two TextLink 9100 MT's*

4 Landline (PSTN) to Landline (PSTN) Communication

1. Select V18 mode for the for both TextLink 9100MT's by using the following setting shortcut on the textphone: **(Menu) (7) (1)**; "**<V.18 mode set>**" will be displayed on the textphone screen.

2. In the laboratory environment using DSPG's network emulator or other commercially available PBX, dial any number on the TextLink 9100M keyboard then press '**Enter**' on the keyboard. "**< Dialling >**" will be displayed on the textphone screen.

3. In the field conditions dial the real PSTN number on the TextLink 9100MT keyboard then press '**Enter**' on the keyboard. Then follow the same procedure as above.

4. Answer the call on the other TextLink 9100MT by pressing any of the keys A through to Z on the keyboard.

5. Once the connection is established, "**< Connection established > <V.18>**" will be displayed on the textphone screen. Then type some characters by hand and see if the other TextLink 9100MT has received these characters. **IF yes, then type some characters on the other side to verify that both sides send and receive the characters.**

6. Start the TTY test by pressing the '**start call**' button on the screen. You will see the text displayed on the screen of the PC and on both the TL9100MT screens.

7. Once the test is finished press the **(Dial/End Call)** button on the textphone and press '**end call**' on the mobile.

Note: TextLink 9100 MT set-up described above is the same for Laboratory and field tests shown in the following Figure 5 and Figure 6

Laboratory Tests

Figure 5 *Landline (PSTN)-to-Landline (PSTN) Laboratory Test set-up using two TextLink 9100 MT's*

Field Tests

Figure 6 *Landline (PSTN)-to-Landline (PSTN) Field Test set-up using two TextLink 9100 MT's*