



Manual
GSM Voice Synthesizer
Model 6807

Revision History

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1 INTRODUCTION

The GSM Voice Synthesizer Module (VSM), Model 6807V, interfaces with Unidata Model 6004 series, Model 7000 series and Model 7001 series Data loggers. It enables synthesized voice output of data logger readings via a GSM Modem (Model 6807C).

2 REQUIREMENTS

The Voice Synthesizer Module requires a 12 volt power source capable of supplying a 500mA load. It also requires a GSM Modem (Model 6807C). If a rechargeable sealed lead acid battery is used to provide the 12 volt supply, we recommend that a solar panel be connected to provide battery recharging. Battery recharging current via a solar panel is thermally limited.

The GSM modem must be equipped with a SIM card that has a Terminating Data Number (TDN) if data is to be retrieved from the logger remotely via the GSM Modem. If this feature is not required, a SIM card featuring a standard voice number only can be used to retrieve synthesized speech from the data logger. Contact your mobile service provider for more information regarding SIM cards.

3 SPECIFICATIONS

Inputs:	Logger (DB9). GSM (DB15). Solar Panel. Battery. Voice Synthesiser Module power.
Outputs:	Modem power.
Power supply:	12 to 18 VDC @ 40mA active, 140uA shutdown.
Housing (HxWxD):	30mm x 80mm x 147mm.
Operating temperature:	0° to 50°C (32° to 122°F).
Storage temperature:	-10° to 60°C (14° to 140°F).

4 INSTALLATION

4.1 Wiring

To wire-up the unit, do the following (See Appendix B -Wiring Diag):

1. Connect the data logger to the Voice Synthesizer Module (VSM) Logger connector using the supplied cable (Model 6602Y/4).
2. Connect the GSM Modem to the VSM GSM connector using the supplied cable (Model 6602Y/5).
3. Connect the GSM power cable to the Modem Power output of the VSM. Ensure that the SIM card is fitted to the GSM Modem BEFORE applying power to the system.
4. Connect the Power Supply to the Battery Charge and Voice System Power inputs using the supplied power cable. It is important to use the supplied power cable to ensure correct VSM operation. Longer cable lengths are available from your Unidata Sales Representative on request.
5. The system is now ready for programming.

4.2 Scheme Setup

The speech data is taken from a specified area of memory in the data logger. This area is designated in addresses 244 and 245.

Address 244 = Location

Address 245 = Block

This points to the first byte in what is referred to as the "speech string". The speech string must be in a specific form and must be contained in only one block of memory. There are three types of data in the speech string:

1. Byte corresponds to a spoken word from the words list (a table of spoken words in memory). This table is in Appendix A. For example, 0 = "Zero", 27 = "Litres".
2. 255 indicates the end of a speech string.
3. 200 indicates the following word (2 bytes) is to be converted into a decimal number. The format is 200 LSB MSB. Leading zeros are omitted. If only one byte is to be converted, the MSB must be zero. E.g. 200 0 1 would be spoken as two five six (256).

4.3 An Example

The string:

11 200 2 0 18 15 200 255 255

Would be “spoken” as:

Site two (pause) Level six five five three five

The generation of the speech string is usually performed in a scheme .INC file. Unidata can generate this file according to customer requirements. Contact your Unidata Representative for further information.

5 SYSTEM OPERATION

To listen to the synthesized speech of the data logger readings, dial the Voice Number on the SIM card in the GSM Modem. The call will be answered after five rings. The speech string will be spoken five times, then the call terminated by the VSM. The red LED (labelled ON), will light up when the VSM is dialled up. It will remain on while the speech string is spoken. It will turn off on termination of the call (after the speech string is spoken five times).

To program or download data remotely from the data logger, the Terminating Data Number must be called via a modem. Refer to Manual 6259 GSM System for details. The red LED will light up when an incoming call is detected. When modem handshaking has been completed, the red LED will turn off, and the green LED (labelled DATA) will turn on. It will remain on for the duration of data transmission, and turn off when the call is terminated.

Appendix A Word Table (Firmware VSM0.BIN)

This is the factory default vocabulary. Changes can be made upon request. Contact your Unidata representative for details.

BYTE	WORD	BYTE	WORD
0	Zero	26	Tank
1	One	27	Litres
2	Two	28	Per
3	Three	29	Second
4	Four	30	Kilo
5	Five	31	Flow
6	Six	32	Speed
7	Seven	33	Hour
8	Eight	34	Direction
9	Nine	35	Degrees
10	Point	36	From north
11	Site	37	Temperature
12	Milli	38	Celsius
13	Metres	39	Rainfall
14	River	40	Wind
15	Level	41	Centi
16	Channel	42	Mega
17	Value	43	Giga
18	“pause”	44	Minus
19	Danger	45	Water
20	A	46	Cubic

21	B	47	Day
22	D	48	Rate
23	Alarms	49	Knots
24	Pump	50	Inches
25	percent	51	Feet

Appendix B Wiring Diagram

