Product Change Notification

Product Change Notification #: 061407-00

Notification Date: June 14, 2007

Products: SocketModem® EDGE
MTSMC-E.R2, MTSMC-E.R2-SP, MTSMC-E-V.R2, MTSMC-E-V.R2-SP

Type of Change: New firmware release.

Production Cut Over Date: Immediate

Release Notes

Old Firmware version: 1.001
New Firmware Version: 3.010

New or Improved Features

AT+CNMI
If AT+CNMI=2,1 is set and short messages are received while the AT interface is reserved, all "+CMTI:" URCs are correctly buffered and delivered when the AT interface is free again.

AT^SMONG
The response parameter "G" of the AT^SMONG command has been corrected. The GPRS/EGPRS status will now be indicated as follows:
0   GPRS / EGPRS not available in currently used cell
1   GPRS available in currently used cell
2   GPRS attached
3   EGPRS available in currently used cell
4   EGPRS attached

EGPRS Class 12
Full EGPRS (EDGE) Class 12 is now supported.

Storing GPRS PDP contexts: AT^SCFG, parameter "GPRS/PersistentContexts"
The new parameter "GPRS/PersistentContexts" of the AT^SCFG command controls whether the PDP contexts specified with AT+CGDCONT are stored volatile (delivery default) or nonvolatile. Non-volatile storage also implies that AT&F does not clear the defined PDP contexts.

AT+CLCC
The list of current calls returned by AT+CLCC and AT^SLCC is now correct.

New or Improved Internet Service AT Commands

URC mode / polling mode (controlled with AT^SCFG)
URC mode (delivery default):
The progress of an Internet session is URC driven. The URCs notify the host whether data can be sent or received, whether data transfer has completed, whether the service can be closed or whether an error has occurred. This mechanism eliminates the need to poll the service until the necessary progress information is received.
Polling mode:
In polling mode, the presentation of URCs related to the Internet Services is disabled. The host is responsible for retrieving all the status information needed for controlling the Internet session. This is done by polling, where the host application keeps sending the commands AT^SISR, AT^SISW, AT^SISI. The following URCs are disabled: "^SISR" URC, "^SISW" URC and "^SIS" URC for parameter <urcCause>=0 (Internet service events), but not for <urcCause>=1 or 2 (needed for

the Socket listener and always enabled). To enable the URC mode select: AT^SCFG="Tcp/WithURCs",on. To enable the polling mode select: AT^SCFG="Tcp/WithURCs", off.

AT^SISI (Status report)
New AT command used to monitor the progress of an Internet session. The command reports the service state of the used service profile and indicates the number of bytes received, the number of bytes sent and, in the case of sending, the number of bytes acknowledged or unacknowledged by the remote peer.

Response of the read command:
[^SISI: <srvProfileId>, <srvState>, <rxCount>, <txCount>, <ackData>, <unackData>] [^SISI: ...]

AT^SISE (Error report)
New AT command used to detect errors. If an error occurs during a session you can enter the AT^SISE command and the <srvProfileId> to identify the reason. This is especially important in polling mode.
The information received with AT^SISE is identical to the "^SIS" URC which is disabled in polling mode.

AT^SICI (Bearer status)
New AT command used to query the current status of a specific connection profile (bearer).

AT^SICO (Opens bearer)
New AT command used to open a connection profile (bearer). Unlike the AT^SISO command which starts a connection profile and the service profile bound to it, AT^SICO activates only the selected connection profile.

AT^SICC (Closes bearer)
New AT command used to release a connection opened with AT^SICO.

AT^SISX (Ping)
New AT command used to send ICMP (Internet Message Protocol) Echo Requests to a target IP address or host name.

AT^SISO
The functionality of AT^SISO has been refined:
The new service state "Down" has been introduced.
The parameters <srvState>, <rxCount>, <txCount> are identical in the responses of AT^SISO and AT^SISI.

AT^SICS, "inactTO" value
The inactivity timeout defined for the connection profile is no longer limited to "0". The value can now be user defined, default setting is 20 seconds.

AT^SISS, "hcRedir" value
The default setting of "hcRedir" has been changed from "0" (no redirection) to "1" (redirection possible).

AT^SISR (Peek operator, Indicating end of data transfer)
The AT^SISR command has been enhanced to provide two new features:
Peek operator:
The parameter <reqReadLength> (requested read length) now includes the additional value 0, referred to as the peek operator. The peek operator queries the number of received bytes in internal buffers.
Indicating end of data transfer:
The parameter <cnfReadLength> has been enhanced. The value -2 indicates that the download job is finished (all data have been read) and the service can be closed with AT^SISC.

AT^SISW (End of data flag, Binary mode, Interactive text mode)
The AT^SISW command has been enhanced to provide two new features:
End-of-data flag <eodFlag>:
New parameter to be set in the last AT^SISW command of an upload job. Indicates to the service that the upload data stream is finished.
The end-of-data flag applies only to the services Socket, FTP and SMTP.
Binary mode <mode>=0
This mode allows sending a number of bytes defined with parameter <reqWriteLength>.

Interactive text mode <mode> = 1:
This mode allows the user to type and send 8-bit ASCII characters while the service is open. Ctrl-Z terminates data input and causes the data to be transferred.

Socket UDP service configured for use as UDP client or UDP endpoint
Two kinds of Socket service based on the UDP protocol are now available:
One is referred to as UDP client intended for connections to a given remote host. In this case the IP address and the UDP port of the remote host are set as a fixed parameter in the service profile created with AT^SISS. The second type, introduced with this release, is referred to as UDP endpoint. In this case, the IP address and the UDP port of the remote hosts are handled in each read (AT^SISR) and write (AT^SISW) request. This enables the host application of the modem to communicate with different remote hosts.

Performance control solutions for TCP/IP connections
The following parameters have been introduced to control the performance of TCP/IP connections:
Selective acknowledge (<tcpSAck>):
Enables / disables TCP extensions according to RFC 1323.
Parameter is set with AT^SCFG="Tcp/SAck",<tcpSAck>.
Transaction/TCP (<tcpTtcp>):
Enables / disables T/TCP extension for transaction-oriented service according to RFC 1644.
Parameter is set with AT^SCFG="Tcp/TTcp",<tcpTtcp>.

Retransmission of TCP/IP packets
With this release the following parameters have been introduced to control the retransmission of TCP/IP packets. The implementation follows the rules of the RFC 1122 specification.
Initial retransmission timeout (<tcpIrt>):
Controls the time (in seconds) the TCP/IP stack will wait before starting the first retransmission of packets during the initial connection setup phase.
Parameter is set with AT^SCFG="TCP/IRT",<tcpIrt> (where <tcpIrt> = 1 to 60 seconds).
Maximum number of retransmissions (<tcpMr>):
Specifies the maximum number of times to retransmit TCP packets.
Parameter is set with AT^SCFG and AT^SISS. The setting made with AT^SCFG is a global value and assumed as default when creating a new service profile with AT^SISS, but may be overwritten in each service profile. The value set in a specific service profile has precedence over the setting of AT^SCFG.
Overall timer for outstanding connections <tcpOT>:
Specifies the number of seconds to wait before closing a connection if TCP/IP packets are not acknowledged.
Parameter is set with AT^SCFG and AT^SISS. The setting made with AT^SCFG is a global value and assumed as default when creating a new service profile with AT^SISS, but may be overwritten in each service profile. The value set in a specific service profile has precedence over the setting of AT^SCFG.

AT&C
The AT&C command has been enhanced. Now, you can configure the DCD line of the used serial interface to indicate whether an Internet service is active. For Socket, HTTP, SMTP and POP3 the service states "Up" or "Connecting" are indicated, for FTP only the state "Up".

"^SIS:" URC / AT^SISE
New information elements delivered with the parameters <urcInfoId> and, optionally, <urcInfoText> have been introduced. Furthermore, the <urcInfoId> number now clearly identifies the type of information element:
0   Service is working properly
1 – 2000   Error, service is aborted and has entered service state "Down"
4001 – 6000   Warning, but no service abort
6001 – 8000   Notes
New information elements:
<urcInfoId> 80, 84 – 87, 50, 2100, 4300, 4400
All information elements are delivered within the "^SIS" URC and the responses of the new AT^SISE command.
The value 3 of the "^SIS" URC parameter <urcCause> known from earlier releases has been removed.

List of Internet Service AT Commands not Compatible with Earlier Releases
Due to the revision of the Internet Service AT commands several functions have been enhanced or changed and are no longer compatible with recent releases. Below please find a summary of the features you are required to change in an existing host application after upgrading to this firmware version.

Closing an upload service with AT^SISC
New release: The new end-of-data flag set within AT^SISW eliminates the need for the former <closeMode> parameter of AT^SISC. With release 03.010 <closeMode> has been removed. The end-of-data flag mechanism notifies the service that no further upstream data follow. As a result, the running protocol is completed and the service enters the service state "Closing", then "Down". AT^SISC now always stops the service immediately. This means, if entered while an upload is ongoing AT^SISC will cut off the transfer. **IMPORTANT:** The improved close mechanism requires that existing host applications be adapted.
Previous releases: The AT^SISC parameter <closeMode> determines the close mechanism, either graceful or immediate.

Service state "Down"
New release: After finishing the protocol each service remains in state "Down" until AT^SISC is called.
Previous releases: After finishing the protocol the service switches automatically to state "Allocated". AT^SISC must be called, too.

AT^SISW? Read command
New release: Returns a 3rd parameter: <unackData>
Previous releases: Returns two parameters

FTP service
New release: Size parameter no longer supported in URL string as end-of-data flag is sufficient.
Previous releases: Size parameter in URL string supported.

"^SIS" URC
New release: <urcCause> has 2 values. <urcCause> = 3 has been removed. <urcInfoID> 107 related to FTP size has been removed. <urcInfoId> 48, 49 has been changed.
Previous releases: <urcCause> has 3 values. <urcInfoID> 107 related to FTP size is supported.

Ordering Information:

Old Ordering Part #	New Ordering Part #
MTSMC-E.R2	MTSMC-E.R3
MTSMC-E.R2-SP	MTSMC-E.R3-SP
MTSMC-E-V.R2	MTSMC-E-V.R3
MTSMC-E-V.R2-SP	MTSMC-E-V.R3-SP

Please direct any questions regarding this PCN to our OEM Sales Department.
Phone: (800) 328-9717 or + (763) 785-3500
E-mail: oemsales@multitech.com