11 General tests

11.1 Verification of support and non-support of services (multiple numbering scheme or ISDN)

11.1.1 Mobile Terminated (MT) calls

11.1.1.1 Definition and applicability

This test applies to all MS. It is repeated for all Mobile Terminated Bearer Services / Teleservices according to GSM 02.02 and GSM 02.03 except Teleservices 21, 22 and 23.

11.1.1.2 Conformance requirement

1. The MS shall check the Information Elements for Bearer Capability in a received SETUP message, and if it agrees to the proposed set, it shall respond with a CALL CONFIRMED message.

   GSM 04.08, 5.2.2.2; GSM 04.08, 5.2.2.3.

2. The MS in the "Null" state, U0, ready to receive a SETUP shall reject a SETUP with Information Elements for Bearer Capability which are incompatible with the Bearer Services / Teleservices supported by the MS, and shall send a RELEASE COMPLETE message.

   GSM 04.08, 5.2.2.2; GSM 04.08, 5.2.2.3.1; GSM 07.01, 8.3.1; GSM 04.08, B.3.2.

11.1.1.3 Test purpose

1. To verify that the MS, for the case of the Multinumbering scheme or ISDN, accepts a SETUP message, where the Information Elements for Bearer Capability are compatible with the Bearer Services / Teleservices declared as supported by the MS, by sending a CALL CONFIRMED message.

   This is verified for all Mobile Terminated Bearer Services / Teleservices declared as supported by the MS.

2. To verify that the MS in the "Null" state, U0, when receiving a SETUP message containing incompatible Information Elements for Bearer Capability will respond with a RELEASE COMPLETE message.

   This is verified for all Mobile Terminated Bearer Services / Teleservices not declared as supported by the MS.

11.1.1.4 Method of test

11.1.1.4.1 Initial conditions

For an MS with an external interface the interface shall be setup in such a way that the MS is able to successfully receive the call for the service in question. The manufacturer shall state how this is done in a PIXIT statement. The same applies to features which must be activated by MMI before an incoming call can be accepted.

The PIXIT statement for the service in question shall be consistent with the PICS statement made by the manufacturer and will result for this tests in one or several valid BC codings as presented in section 11.8.

The generic call set-up procedure shall be followed up to and including the reception of the CIPHERING MODE COMPLETE message from the MS.

11.1.1.4.2 Procedure

a) For a Mobile Terminated Bearer Service / Teleservice declared as supported by the MS. The SS transmits a SETUP message.

The SETUP shall contain a single or dual BC-IE where the parameter values are arbitrarily selected among those declared as supported by the MS in PIXIT statements and corresponding to the Bearer Service / Teleservice being tested.

b) If more than one BC-IE (or pair of) correspond to the Bearer Service / Teleservice being tested, step a) is repeated once (and only once) with another single or dual BC-IE. The BC-IE shall be chosen in such a way that as many parameters as possible are different from the previous BC-IE. In particular, if more than one value for the "Connection Element" parameter is possible, the new BC-IE shall contain a different value from the previous one for this parameter.

c) Step a) and b) are repeated for all Bearer Services / Teleservices declared as supported by the MS.

d) For an Mobile Terminated Bearer Service / Teleservice not declared as supported by the MS. The SS transmits SETUP. If the MS supports TS62 but not TS61, then TS61 is not tested.

The SETUP shall contain a single or dual BC-IE where the parameter values are arbitrarily selected among those defined in GSM 07.01 Annex II and corresponding to the Bearer Service / Teleservice being tested. The complete coding of the corresponding BC-IE(s) can be found in section 11.8.

e) Step d) is repeated for all Bearer Services / Teleservices not declared as supported by the MS.

11.1.1.5 Test requirement

1) After steps a), b) and c), the MS shall send a CALL CONFIRMED message. The MS may contain a single or dual BC-IE. If present these IEs are not checked.

2) After steps d) and e), the MS shall send a RELEASE COMPLETE message with cause value 88 - incompatible destination.

11.1.2 Mobile Originated (MO) calls

11.1.2.1 Definition and applicability

This test applies to all MS able to initiate an MO call. It is repeated for all Mobile Originated Bearer Services / Teleservices according to GSM 02.02 and GSM 02.03 except Teleservices 21, 22 and 23, which are supported by the MS.

11.1.2.2 Conformance requirement

1. The MS shall set up a call with a SETUP message containing a single or multiple BC-IE and if required by the service, a single or multiple LLC according to the actual configuration of the MS. Two bearer capabilities can be present only in the cases described in GSM 07.01.

   GSM 04.08, 5.2.2.2; GSM 04.08, 5.2.2.3.1; GSM 04.08, 9.3.2; GSM 07.01, 8.3.3.

2. The Repeat Indicator Information Element shall be included in the SETUP message, when the in-call modification procedure is used.

   GSM 04.08, 9.3.2.

11.1.2.3 Test purpose

1. To verify that the MS generates a SETUP message which includes a single or multiple Bearer Capability and if required by the service, a single or multiple LLC, according to the actual configuration on the MS.

   This is verified for all Mobile Originated Bearer Services / Teleservices described in GSM 07.01 and declared as supported by the MS.

2. To verify that the MS includes a correctly encoded Repeat Indicator if it includes multiple Bearer Capabilities in the SETUP message.

11.1.2.4 Method of test

11.1.2.4.1 Initial conditions

If possible, the MS shall be configured to initiate an outgoing call with a specified BC and with the corresponding LLC when the ITC value is "unrestricted digital" in the SETUP message. The manufacturer must state how this is done in a PIXIT statement. The same applies to features which must be activated by MMI before an outgoing call can be initiated.

The PIXIT statement for the service in question shall be consistent with the PICS statement made by the manufacturer and will result for this test in one valid BC coding as presented in section 11.8.

11.1.2.4.2 Procedure

a) The MS shall be made to initiate a call.

b) If the MS can be configured to send a specific BC, the test is repeated with the MS configured for all possible preferred Bearer Services and Teleservices declared as supported by the MS. The complete coding of the corresponding BC-IE(s) can be found in section 11.8.

11.1.2.5 Test requirement

The MS shall send a SETUP message, which shall contain the BC among those declared as supported by the MS. If the MS is configured to send a specific BC, the SETUP message shall contain this particular BC. The BC-IE(s) shall be set according to GSM 07.01. When an ITC value is set to "unrestricted digital" the MS shall include the corresponding LLC information element.

Where two BCs are contained in the SETUP message, it shall be checked that the combination is allowed, according to GSM 07.01 and that a Repeat Indicator is also included.

11.2 Verification of support of the single numbering scheme

11.2.1 Definition and applicability

This test applies to all MS.

11.2.2 Conformance requirement

1. The MS shall respond to a SETUP message containing no BC-IE with a CALL CONFIRMED message including the single or multiple Bearer Capability, according to the actual configuration of the MS. Two bearer capabilities can be present only in the cases described in GSM 07.01.

   GSM 04.08, 5.2.2.2; GSM 04.08, 5.2.2.3.1; GSM 04.08, 9.3.2; GSM 07.01, 8.3.3

2. The Repeat Indicator Information Element shall be included in the CALL CONFIRMED message, when the in-call modification procedure is used, and no Bearer Capability Information Element is included in the received SETUP message.

   GSM 04.08, 9.3.2

11.2.3 Test purpose

1. To verify that the MS, for the case of the Single Numbering Scheme, accepts a SETUP message, where the Information Elements for Bearer Capability and Lower and Higher Layer Compatibility are not present by sending a CALL CONFIRMED message, which includes the single or multiple Bearer Capabilities, according to the actual configuration on the MS.

   This is verified for one Mobile Terminated Bearer Service / Teleservice described in GSM 07.01 and declared as supported by the MS.

2. To verify that the MS includes a correctly encoded Repeat Indicator if it includes multiple Bearer Capabilities in the CALL CONFIRMED message.

11.2.4 Method of test

11.2.4.1 Initial conditions

The MS is setup to receive a call. If possible, the MS shall be configured to respond to an incoming call with a specified BC selected arbitrarily from those declared as supported by the MS, in the CALL CONFIRMED message, in reply to a SETUP message with no BC, LLC or HLC elements. The manufacturer must state how this is done in a PIXIT statement. The same applies to features which must be activated by MMI before an incoming call can be accepted.

The generic call set-up procedure shall be followed up to and including the reception of the CIPHERING MODE COMPLETE message from the MS.

The PIXIT statement for the service in question shall be consistent with the PICS statement made by the manufacturer and will result for this tests in one or several valid BC codings as presented in section 11.8.

11.2.4.2 Procedure

The SS transmits a SETUP message with no BC, LLC or HLC elements.

11.2.5 Test requirement

The MS shall send a CALL CONFIRMED message, which shall contain the BC among those declared as supported by the MS. If the MS is configured to respond with a specific BC, the CALL CONFIRMED message shall contain this particular BC. The BC-IE shall be coded according to GSM 07.01.

Where two BCs are contained in the CALL CONFIRMED message, it shall be checked that the combination is allowed, according to GSM 07.01 and that a Repeat Indicator is also included.

11.3 Verification of non-support of services (Advice of Charge Charging (AoCC))

11.3.1 Definition and applicability

This test applies to MS which do **not** support AoCC.

Test procedures (a) and (b) apply to MS which support MT calls.

Test procedure (c) applies to MS which support MO calls.

Test procedure (d) applies to MS which support at least one circuit switched basic service.

11.3.2 Conformance requirement

1. An MS claiming to **not** support AoCC and in the outgoing call / U4 call delivered state, on receipt of a CONNECT message containing AoCC information shall acknowledge the CONNECT message but ignore and not acknowledge the AoCC information sent within the CONNECT.

2. An MS claiming to **not** support AoCC and in the outgoing call / U4 call delivered state, on receipt of a FACILITY message containing AoCC information shall ignore and not acknowledge the AoCC information contained within the FACILITY.

3. An MS claiming to **not** support AoCC and in the incoming call / U9 call confirmed state, on receipt of a FACILITY message containing AoCC information shall ignore and not acknowledge the AoCC information contained within the FACILITY.

4. An MS claiming to **not** support AoCC and in the U10 call active state, on receipt of a FACILITY message containing AoCC information shall ignore and not acknowledge the AoCC information contained within the FACILITY.

   GSM 03.86 sections 1.2, 1.3, 2.2, 2.3; GSM 04.86 section 2.

11.3.3 Test purpose

1. To verify that an MS claiming to **not** support AoCC and in the outgoing call / U4 call delivered state, on receipt of a CONNECT message containing AoCC information acknowledges the CONNECT message but ignores and does not acknowledge the AoCC information sent within the CONNECT.

2. To verify that an MS claiming to **not** support AoCC and in the outgoing call / U4 call delivered state, on receipt of a FACILITY message containing AoCC information ignores and does not acknowledge the AoCC information contained within the FACILITY.

3. To verify that an MS claiming to not support AoCC and in the incoming call / U9 call confirmed state, on receipt of a FACILITY message containing AoCC information ignores and does not acknowledge the AoCC information contained within the FACILITY.

4. To verify that an MS claiming to **not** support AoCC and in the U10 call active state, on receipt of a FACILITY message containing AoCC information ignores and does not acknowledge the AoCC information contained within the FACILITY.

11.3.4 Method of test

11.3.4.1 Initial conditions

The generic call set up procedures are followed up to and including the reception, or transmission, of the ALERTING message by the MS.

11.3.4.2 Procedure

a) For an Mobile Originated call in the U4 state the SS transmits CONNECT containing AoCC information.

b) For an Mobile Originated call in the U4 state the SS transmits FACILITY containing AoCC information.

c) For an Mobile Terminated call in the U9 state the SS transmits a FACILITY containing AoCC information.

d) For a call in the U10 state the SS transmits a FACILITY containing AoCC information

11.3.5 Test requirement

The MS shall ignore the AoCC information sent to it in the Facility information elements as part of the CONNECT/FACILITY messages and not send any AoCC information acknowledgement. It shall be checked for 15 seconds that the MS does not transmit any AoCC information acknowledgement after the receipt of AoCC information.

11.4 Verification of non-support of services (call hold)

11.4.1 Definition and applicability

Applicable to MS which do **not** support the Call-Hold supplementary service. This test applies only to MSs that claim to support AoCC. This test applies only to MS which support MO calls.

11.4.2 Conformance requirement

An MS claiming to **not** support the Call Hold supplementary service and in the U10 call active state shall, when the appropriate Call Hold MMI command is entered:

- Fail to put the first call on hold.

- Fail to place the second call.

- Optionally provide some indication to the user of an error.

GSM 02.83; GSM 04.83

11.4.3 Test purpose

To verify that an MS claiming to **not** support the Call Hold supplementary service and in the U10 call active state, reacts in the following manner when the appropriate call hold MMI command is entered:

- MS fails to put the first call on hold
- MS fails to place the second call.
- Optionally provides some indication to the user of an error.

11.4.4 Method of test

11.4.4.1 Initial conditions

The mobile originating generic call set up procedures shall be followed up to and including the transmission by the MS of the CONNECT ACKNOWLEDGE to place the call in the U10 call active state.

11.4.4.2 Procedure

A second directory number is entered followed by "SEND" via the MMI.

11.4.5 Test requirement

The MS shall not send any HOLD messages on the dedicated channel. This is checked for 3 seconds.

The MS may however send other messages.

The MS may also give the user an indication of the error that has occurred.

11.5 Verification of non-support of services (multiparty)

11.5.1 Definition and applicability

Applicable for MSs that support the Call-Hold supplementary service but **not** the MultiParty supplementary service. This test applies only to MSs that support AoCC. This test applies only to MS which support MO calls.

11.5.2 Conformance requirement

An MS claiming to not support the MultiParty supplementary service and in the U10 call active state with one call and in the held state with another call shall, when the appropriate MultiParty MMI command is entered:

- Fail to combine the three parties in a MultiParty call.
- Optionally provide some indication to the user of an error.

GSM 02.83, 02.84; GSM 04.83, GSM 04.84.

11.5.3 Test purpose

To verify that an MS claiming to not support the MultiParty supplementary service and in the U10 call active state with one call and another call on hold, reacts in the following manner when the appropriate MultiParty MMI command is entered:

- Fails to combine the three parties in a MultiParty call.
- Optionally provides some indication to the user of an error.

11.5.4 Method of test

11.5.4.1 Initial conditions

The mobile originating generic call set up procedures shall be followed up to and including the transmission by the MS of the CONNECT ACKNOWLEDGE to place the call in the U10 call active state. A second directory number is then entered followed by send to put the first call on hold and place a second call.

11.5.4.2 Procedure

"3" followed by "SEND" is entered via the MMI.

11.5.5 Test requirement

The MS shall not send a FACILITY message, containing the build multiparty request, on the dedicated channel. This is checked for 3 seconds.

The MS may however send other messages.

The MS may also give the user an indication of the error that has occurred.

11.6 Verification of non-support of feature (Fixed Dialling Number (FDN))

11.6.1 Definition and applicability

This test applies to MS which do **not** support FDN. This test applies only to MS which support MO calls.

11.6.2 Conformance requirement

1. An MS claiming to **not** support FDN that has a SIM with FDN allocated and activated in its SIM Service Table (Service Number 3) and has FDN "enabled" shall refuse a request from the user to attempt an outgoing call.

2. An MS claiming to **not** support FDN that has a SIM with FDN allocated and activated in its SIM Service Table (Service Number 3) and has FDN "enabled" shall not respond to paging.

3. An MS claiming **not** to support FDN that has a SIM with FDN allocated and activated shall not attempt to rehabilitate the IMSI and Location Information Elementary Files of the SIM.

   GSM 02.07 section B3.2, GSM 11.11 section 11.2.1.

11.6.3 Test purpose

1. To verify that an MS claiming to **not** support FDN and that has a SIM with FDN allocated and activated in its SIM Service Table and has FDN “enabled”. i.e. AND, IMSI and Location Information Elementary Files are Invalidated inserted, it refuses an attempt to make an outgoing call made by the user.

2. To verify that an MS claiming to **not** support FDN and that has a SIM with FDN allocated and activated in its SIM Service Table and has FDN “enabled”. i.e. AND, IMSI and Location Information Elementary Files are Invalidated inserted, it does not answer to paging.

3. To verify that an MS claiming **not** to support FDN and that has a SIM with FDN allocated and activated in its SIM Service Table and has FDN “enabled”. i.e. AND, IMSI and Location Information Elementary Files are Invalidated inserted, does not attempt to rehabilitate IMSI and Location Information.

11.6.4 Method of test

11.6.4.1 Initial conditions

The ME is powered off. No SIM is inserted in the ME.

11.6.4.2 Procedure

a) A SIM with FDN allocated and activated in its SIM Service Table and has FDN "enabled" is inserted in the ME and the MS is powered on.

b) An outgoing CM connection is attempted by the user.

c) The MS paged with its IMSI.

d) The MS is powered off and the SIM is examined using a suitable tool to determine if the IMSI and Location Information Elementary Files have been Rehabilitated.

11.6.5 Test requirement

1) in step b), the MS shall not send a CHANNEL REQUEST message.

2) in step c), the MS shall not send a CHANNEL REQUEST message.

3) in step d), the IMSI an Location Information Elementary Files shall be Invalidated.

11.7 IMEI Security

11.7.1 Conformance requirements

11.7.1.1 Programming security

The manufacturer declares that concerning the programming security he has taken necessary and sufficient steps to ensure that either, the IMEI cannot be electrically changed once initially programmed, or, secure password techniques have been adopted to prevent unauthorized re-programming of the IMEI.

GSM 02.09, GSM 03.20.

11.7.1.2 Mechanical security

The manufacturer declares that he has taken necessary and sufficient steps to ensure that unauthorized individuals or organizations cannot economically replace the component in which the IMEI is stored and thereby provide the MS with a different IMEI.

GSM 02.09, GSM 03.20

11.7.1.3 Technical knowledge and availability of programme

The manufacturer declares that he takes the necessary measurers to ensure that the technical knowledge for changing the IMEI (where applicable) will remain securely under his control and that the knowledge of the programme content will be restricted to his authorized representative(s) on a need to know basis.

GSM 02.09, GSM 03.20.

11.7.2 Test purpose

To verify that the physical protection of the IMEI is sufficiently secure.

11.7.3 Method of test

The manufacturer submitting his equipment for Type Approval shall make the declarations listed in the "Conformance Requirements".

The manufacturer shall give justification to support a claim that the requirements are met.

11.8 Coding of the Bearer Capability information element

This section describes the coding of the bearer capability IE in a SETUP and in a CALL CONFIRMED message according to GSM 07.01 and GSM 04.08.

More precisely, the matter of section 11.8.1 is the coding of the bearer capability IE in a mobile terminating SETUP and section 11.8.2 deals with the coding of the bearer capability IE in a mobile originating SETUP and in a CALL CONFIRMED message.

In the whole section "x", "y" and "X" have the following meanings:

- when a field is coded with values of "x", it means that several bit combinations are authorized and the allowable ones are described in the relevant paragraph or section;

- "y" means that the value of the spare bit can be set to either 0 or 1 at the sending side and that the receiving side shall accept either of these values;

- "X" in the hexadecimal coding of the Bearer Capability IE reflects all the possible values taken by an octet taking account of the number of bits coded as '"x" or "y" and their place in the octet.

11.8.1 Network to MS Direction

11.8.1.1 BS 21 to 26 - Asynchronous Service

11.8.1.1.1 BS 21

11.8.1.1.1.1 3,1 kHz Audio, Transparent

BC GSM = 04 07 AX X8 81 21 X1 4X 81

Octet 1	0	0	0	0	0	1	0	0	Information Element: Bearer Capability
Octet 2	0	0	0	0	0	1	1	1	Length
Octet 3	1	y	y	0	0	0	1	0	Extension Radio Channel Requirement: Spare Coding Standard: GSM Transfer Mode: Circuit Info. Transfer Cap.: 3,1 kHz Audio
Octet 4	1	y	1	1	1	0	0	0	Extension Spare Structure: Unstructured Duplex Mode: Full duplex Configuration: Point to Point Negotiation of Intermediate Rate Requested: No meaning Establishment: Demand
Octet 5	1	0	0	0	0	0	0	1	Extension Access Id Rate Adaptation: No Signalling Access Protocol: I.440 / I.450
Octet 6	0	0	1	0	0	0	0	1	Extension Layer 1 Id: Default User Information Layer 1 Protocol Synchronous / Asynchronous: Asynchronous
Octet 6a	0	***x***	0	***x***	0	0	0	1	Extension ***Number of Stop Bits, Depending of the TE Configuration*** Negotiation: In band Negotiation not possible ***Number of Data Bits, Depending of the TE Configuration*** User Rate: 0,3 kbit/s
Octet 6b	0	1	0	0	0	***x***	***x***	***x***	Extension Intermediate Rate: 8kbit/s NIC on TX: Not Required NIC on RX: Not Supported ***Parity, Depending of the TE Configuration***
Octet 6c	1	0	0	0	0	0	0	1	Extension Connection Element: Transparent Modem Type: V.21

The following configuration is also authorized:

Structure in Octet 4:	-	0	0	-	-	-	-	-	SDU Integrity
Intermediate rate in Octet 6b:	-	1	1	-	-	-	-	-	16 kbit/s
Connection element in Octet 6c:	-	1	x	-	-	-	-	-	Both T or NT preferred

11.8.1.1.1.2 3,1 kHz Audio, Non Transparent

BC GSM = 04 0X X2 XX 81 21 X1 6X A1 (CX)

Octet 1	0	0	0	0	0	1	0	0	Information Element: Bearer Capability
Octet 2	0	0	0	0	x	x	x	x	Length (7 or 8) depending on presence of octet 7.
Octet 3	1	y	y	0	0	0	1	0	Extension Radio Channel Requirement: Spare Coding Standard: GSM Transfer Mode: Circuit Info. Transfer Cap.: 3,1 kHz Audio
Octet 4	1	y	0	0	1	0	x	0	Extension Spare Structure: SDU Integrity Duplex Mode: Full duplex Configuration: Point to Point Negotiation of Intermediate Rate Requested Establishment: Demand
Octet 5	1	0	0	0	0	0	0	1	Extension Access Id Rate Adaptation: No Signalling Access Protocol: I.440 / I.450
Octet 6	0	0	1	0	0	0	0	1	Extension Layer 1 Id: Default User Information Layer 1 Protocol Synchronous / Asynchronous: Asynchronous
Octet 6a	0	***x***	0	***x***	0	0	0	1	Extension ***Number of Stop Bits, Depending of the TE Configuration*** Negotiation: In band Negotiation not possible ***Number of Data Bits, Depending of the TE Configuration*** User Rate: 0,3 kbit/s
Octet 6b	0	1	1	0	0	***x***	***x***	***x***	Extension Intermediate Rate: 16kbit/s NIC on TX: Not Required NIC on RX: Not Supported ***Parity, Depending of the TE Configuration***
Octet 6c	1	0	1	0	0	0	0	1	Extension Connection Element: Non transparent Modem Type: V.21
Octet 7 (NOTE 1)	1	1	0	***0***	***1***	***x***	***0***	***0***	Extension Layer 2 Id. ***User Inform. layer 2 protocol, Depending on the TE Configuration***

NOTE 1: Because Modem Type is V.21, Octet7 shall be present.

Depending of the type of flow control supported by the TE, the coding of octet 7 is different. The value ISO 6429 (0 1000) means "Inband flow control" and the value COPnoFLCT (0 1100) means "No flow control".

The following configuration is also authorized:

Connection element in Octet 6c: - 1 x - - - - - Both T or NT preferred

11.8.1.1.1.3 UDI, Transparent

BC GSM = 04 07 X1 X8 89 21 X1 4X 80

Octet 1	0	0	0	0	0	1	0	0	Information Element: Bearer Capability
Octet 2	0	0	0	0	0	1	1	1	Length
Octet 3	1	y	y	0	0	0	0	1	Extension Radio Channel Requirement: Spare Coding Standard: GSM Transfer Mode: Circuit Info. Transfer Cap.: UDI
Octet 4	1	y	1	1	1	0	0	0	Extension Spare Structure: Unstructured Duplex Mode: Full duplex Configuration: Point to Point Negotiation of Intermediate Rate Requested: No meaning Establishment: Demand
Octet 5	1	0	0	0	1	0	0	1	Extension Access Id Rate Adaptation: V.110 Signalling Access Protocol: I.440 / I.450
Octet 6	0	0	1	0	0	0	0	1	Extension Layer 1 Id: Default User Information Layer 1 Protocol Synchronous / Asynchronous: Asynchronous
Octet 6a	0	***x***	0	***x***	0	0	0	1	Extension ***Number of Stop Bits, Depending of the TE Configuration*** Negotiation: In band Negotiation not possible ***Number of Data Bits, Depending of the TE Configuration*** User Rate: 0,3 kbit/s
Octet 6b	0	1	0	0	0	***x***	***x***	***x***	Extension Intermediate Rate: 8kbit/s NIC on TX: Not Required NIC on RX: Not Supported ***Parity, Depending of the TE Configuration***
Octet 6c	1	0	0	0	0	0	0	0	Extension Connection Element: Transparent Modem Type: None

The following configuration is also authorized:

Structure in Octet 4:	-	0	0	-	-	-	-	-	SDU Integrity
Intermediate rate in Octet 6b:	-	1	1	-	-	-	-	-	16 kbit/s
Connection element in Octet 6c:	-	1	x	-	-	-	-	-	Both T or NT preferred

11.8.1.1.1.4 UDI, Non Transparent

BC GSM = 04 0X X1 XX 89 21 X1 6X A0 (CX)

Octet 1	0	0	0	0	0	1	0	0	Information Element: Bearer Capability
Octet 2	0	0	0	0	x	x	x	x	Length (7 or 8) depending on presence of octet 7.
Octet 3	1	y	y	0	0	0	0	1	Extension Radio Channel Requirement : Spare Coding Standard: GSM Transfer Mode: Circuit Info. Transfer Cap.: UDI
Octet 4	1	y	0	0	1	0	x	0	Extension Spare Structure: SDU Integrity Duplex Mode: Full duplex Configuration: Point to Point Negotiation of Intermediate Rate Requested Establishment: Demand
Octet 5	1	0	0	0	1	0	0	1	Extension Access Id Rate Adaptation: V.110 Signalling Access Protocol: I.440 / I.450
Octet 6	0	0	1	0	0	0	0	1	Extension Layer 1 Id: Default User Information Layer 1 Protocol Synchronous / Asynchronous: Asynchronous
Octet 6a	0	***x***	0	***x***	0	0	0	1	Extension ***Number of Stop Bits, Depending of the TE Configuration*** Negotiation: In band Negotiation not possible ***Number of Data Bits, Depending of the TE Configuration*** User Rate: 0,3 kbit/s
Octet 6b	0	1	1	0	0	***x***	***x***	***x***	Extension Intermediate Rate: 16kbit/s NIC on TX: Not Required NIC on RX: Not Supported ***Parity, Depending of the TE Configuration***
Octet 6c	1	0	1	0	0	0	0	0	Extension Connection Element: Non Transparent Modem Type: None
Octet 7 (need not be present)	1	1	0	***0***	***1***	***x***	***0***	***0***	Extension Layer 2 Id. ***User Inform. layer 2 protocol, Depending of the TE Configuration***

Depending of the type of flow control supported by the TE, octet 7 is present or not. If not present, it means "outband flow control". If octet 7 is present, the value ISO 6429 (0 1000) means "Inband flow control" and the value COPnoFLCT (0 1100) means "No flow control".

The following configuration is also authorized:

Connection element in Octet 6c: - 1 x - - - - - Both T or NT preferred

11.8.1.1.2 BS 22

Same as BS 21 except

	User Rate in Octet 6a:	-	-	-	-	0	0	1	0	1,2 kbit/s
If different from "none",	Modem Type Octet 6c:	-	-	-	0	0	0	1	0	Modem V.22

In case of 3,1kHz Audio non transparent service, depending of the type of flow control supported by the TE, octet 7 is present or not. If not present, it means "outband flow control".

11.8.1.1.3 BS 24

Same as BS 21 except

	User Rate in Octet 6a:	-	-	-	-	0	0	1	1	2,4 kbit/s
If different from "none",	Modem Type Octet 6c:	-	-	-	0	0	0	1	1	Modem V.22bis

In case of 3,1kHz Audio non transparent service, depending of the type of flow control supported by the TE, octet 7 is present or not. If not present, it means "outband flow control".

11.8.1.1.4 BS 25

Same as BS 21 except

	User Rate in Octet 6a:	-	-	-	-	0	1	0	0	4,8 kbit/s
If different from "none",	Modem Type Octet 6c:	-	-	-	0	0	1	1	0	Modem V.32

In case of 3,1kHz Audio non transparent service, depending of the type of flow control supported by the TE, octet 7 is present or not. If not present, it means "outband flow control".

11.8.1.1.5 BS 26

Same as BS 21 except

	NIRR in Octet 4	-	-	-	-	-	-	0	-	no meaning
	User Rate in Octet 6a:	-	-	-	-	0	1	0	1	9,6 kbit/s
	Interm. Rate in Octet 6b:	-	1	1	-	-	-	-	-	16 kbit/s
If different from "none",	Modem Type Octet 6c:	-	-	-	0	0	1	1	0	Modem V.32

In case of 3,1kHz Audio non transparent service, depending of the type of flow control supported by the TE, octet 7 is present or not. If not present, it means "outband flow control".

11.8.1.1.6 BS 23

For MOC only.

11.8.1.2 BS 31 to 34 - Synchronous Service

11.8.1.2.1 BS 32

11.8.1.2.1.1 3,1 kHz Audio, Transparent, non-X.32 case

BC GSM = 04 07 X2 X8 81 20 13 43 83

Octet 1	0	0	0	0	0	1	0	0	Information Element: Bearer Capability
Octet 2	0	0	0	0	0	1	1	1	Length
Octet 3	1	y	y	0	0	0	1	0	Extension Radio Channel Requirement : Spare Coding Standard: GSM Transfer Mode: Circuit Info. Transfer Cap.: 3,1 kHz Audio
Octet 4	1	y	1	1	1	0	0	0	Extension Spare Structure: Unstructured Duplex Mode: Full duplex Configuration: Point to Point Negotiation of Intermediate Rate Requested: No meaning Establishment: Demand
Octet 5	1	0	0	0	0	0	0	1	Extension Access Id Rate Adaptation: No Signalling Access Protocol: I.440 / I.450
Octet 6	0	0	1	0	0	0	0	0	Extension Layer 1 Id: Default User Information Layer 1 Protocol Synchronous / Asynchronous: Synchronous
Octet 6a	0	0	0	1	0	0	1	1	Extension Number of Stop Bits: NA Negotiation: In band Negotiation not possible Number of Data Bits: NA User Rate: 2,4 kbit/s
Octet 6b	0	1	0	0	0	0	1	1	Extension Intermediate Rate: 8kbit/s NIC on TX: Not Required NIC on RX: Not Supported Parity: NA
Octet 6c	1	0	0	0	0	0	1	1	Extension Connection Element: Transparent Modem Type: V.22 bis

11.8.1.2.1.2 UDI, Transparent mode, non-X.32 case

BC GSM = 04 07 X1 X8 8X 20 13 43 80

Octet 1	0	0	0	0	0	1	0	0	Information Element: Bearer Capability
Octet 2	0	0	0	0	0	1	1	1	Length
Octet 3	1	y	y	0	0	0	0	1	Extension Radio Channel Requirement : Spare Coding Standard: GSM Transfer Mode: Circuit Info. Transfer Cap.: UDI
Octet 4	1	y	1	1	1	0	0	0	Extension Spare Structure: Unstructured Duplex Mode: Full duplex Configuration: Point to Point Negotiation of Intermediate Rate Requested: No meaning Establishment: Demand
Octet 5	1	0	0	0	1	0	x	x	Extension Access Id Rate Adaptation: V.110 Signalling Access Protocol
Octet 6	0	0	1	0	0	0	0	0	Extension Layer 1 Id: Default User Information Layer 1 Protocol Synchronous / Asynchronous: Synchronous
Octet 6a	0	0	0	1	0	0	1	1	Extension Number of Stop Bits: NA Negotiation: In band Negotiation not possible Number of Data Bits: NA User Rate: 2,4 kbit/s
Octet 6b	0	1	0	0	0	0	1	1	Extension Intermediate Rate: 8kbit/s NIC on TX: Not Required NIC on RX: Not Supported Parity: NA
Octet 6c	1	0	0	0	0	0	0	0	Extension Connection Element: Transparent Modem Type: none

If the mobile station supports only SAP I.440/450, the System Simulator sets SAP field value to::

SAP in Octet 5: - - - - - 0 0 1 I.440/I.450

If the MS supports only SAP X.21 , SAP field is set to:

SAP in Octet 5: - - - - - 0 1 0 X.21

Else, the MS supports both values and SAP is set to:

either

SAP in Octet 5: - - - - - 0 0 1 I.440/I.450

or

SAP in Octet 5: - - - - - 0 1 0 X.21

11.8.1.2.1.3 3,1 kHz Audio, Transparent mode, X.32 case (Packet Service)

BC GSM = 04 07 X2 X8 86 20 13 43 83

Octet 1	0	0	0	0	0	1	0	0	Information Element: Bearer Capability
Octet 2	0	0	0	0	0	1	1	1	Length
Octet 3	1	y	y	0	0	0	1	0	Extension Radio Channel Requirement : Spare Coding Standard: GSM Transfer Mode: Circuit Info. Transfer Cap.: 3,1 kHz Audio
Octet 4	1	y	1	1	1	0	0	0	Extension Spare Structure: unstructured Duplex Mode: Full duplex Configuration: Point to Point Negotiation of Intermediate Rate Requested: No meaning Establishment: Demand
Octet 5	1	0	0	0	0	1	1	0	Extension Access Id Rate Adaptation: No Signalling Access Protocol: X.32
Octet 6	0	0	1	0	0	0	0	0	Extension Layer 1 Id: Default User Information Layer 1 Protocol Synchronous / Asynchronous: Synchronous
Octet 6a	0	0	0	1	0	0	1	1	Extension Number of Stop Bits: NA Negotiation: In band Negotiation not possible Number of Data Bits: NA User Rate: 2,4 kbit/s
Octet 6b	0	1	0	0	0	0	1	1	Extension Intermediate Rate: 8kbit/s NIC on TX: Not Required NIC on RX: Not Supported Parity: NA
Octet 6c	1	0	0	0	0	0	1	1	Extension Connection Element: Transparent Modem Type: V.22 bis

The following configuration is also authorized:

Structure in Octet 4:	-	0	0	-	-	-	-	-	SDU Integrity
Intermediate rate in Octet 6b:	-	1	1	-	-	-	-	-	16 kbit/s
Connection element in Octet 6c:	-	1	x	-	-	-	-	-	Both T or NT preferred
UIL2P in Octet 7	-	-	-	0	0	1	1	0	X.25

11.8.1.2.1.4 3,1 kHz Audio, Non Transparent mode, X.32 case (Packet Service)

BC GSM = 04 07 X2 XX 86 20 13 63 A3 C6

Octet 1	0	0	0	0	0	1	0	0	Information Element: Bearer Capability
Octet 2	0	0	0	0	1	0	0	0	Length
Octet 3	1	y	y	0	0	0	1	0	Extension Radio Channel Requirement : Spare Coding Standard: GSM Transfer Mode: Circuit Info. Transfer Cap.: 3,1 kHz Audio
Octet 4	1	y	0	0	1	0	x	0	Extension Spare Structure: SDU integrity Duplex Mode: Full duplex Configuration: Point to Point Negotiation of Intermediate Rate Requested Establishment: Demand
Octet 5	1	0	0	0	0	1	1	0	Extension Access Id Rate Adaptation: No Signalling Access Protocol: X.32
Octet 6	0	0	1	0	0	0	0	0	Extension Layer 1 Id: Default User Information Layer 1 Protocol Synchronous / Asynchronous: Synchronous
Octet 6a	0	0	0	1	0	0	1	1	Extension Number of Stop Bits: NA Negotiation: In band Negotiation not possible Number of Data Bits: NA User Rate: 2,4 kbit/s
Octet 6b	0	1	1	0	0	0	1	1	Extension Intermediate Rate: 16kbit/s NIC on TX: Not Required NIC on RX: Not Supported Parity: NA
Octet 6c	1	0	1	0	0	0	1	1	Extension Connection Element: Non Transparent Modem Type: V.22 bis
Octet 7	1	1	0	0	0	1	1	0	Extension Layer 2 Id. X.25

The following configuration is also authorized:

Connection element in Octet 6c: - 1 x - - - - - Both T or NT preferred

11.8.1.2.1.5 UDI, Non Transparent mode, X.32 case (Packet Service)

BC GSM = 04 08 X1 XX 96 20 13 63 A0 C6

Octet 1	0	0	0	0	0	1	0	0	Information Element: Bearer Capability
Octet 2	0	0	0	0	1	0	0	0	Length
Octet 3	1	y	y	0	0	0	0	1	Extension Radio Channel Requirement : Spare Coding Standard: GSM Transfer Mode: Circuit Info. Transfer Cap.: UDI
Octet 4	1	y	0	0	1	0	x	0	Extension Spare Structure: SDU integrity Duplex Mode: Full duplex Configuration: Point to Point Negotiation of Intermediate Rate Requested Establishment: Demand
Octet 5	1	0	0	1	0	1	1	0	Extension Access Id Rate Adaptation: X.31 flagstuffing Signalling Access Protocol: X.32
Octet 6	0	0	1	0	0	0	0	0	Extension Layer 1 Id: Default User Information Layer 1 Protocol Synchronous / Asynchronous: Synchronous
Octet 6a	0	0	0	1	0	0	1	1	Extension Number of Stop Bits: NA Negotiation: In band Negotiation not possible Number of Data Bits: NA User Rate: 2,4 kbit/s
Octet 6b	0	1	1	0	0	0	1	1	Extension Intermediate Rate: 16kbit/s NIC on TX: Not Required NIC on RX: Not Supported Parity: NA
Octet 6c	1	0	1	0	0	0	0	0	Extension Connection Element: Non Transparent Modem Type: None
Octet 7	1	1	0	0	0	1	1	0	Extension Layer 2 Id. X.25

11.8.1.2.2 BS 31

For non X.32 case only, same as BS 32 except

	User Rate in Octet 6a:	-	-	-	-	0	0	1	0	1,2 kbit/s
If different from "none",	Modem Type Octet 6c:	-	-	-	0	0	0	1	0	Modem V.22

BS31 for Packet Service does not exist.

11.8.1.2.3 BS 33

Same as BS 32 except

	User Rate in Octet 6a:	-	-	-	-	0	1	0	0	4,8 kbit/s
If different from "none",	Modem Type Octet 6c:	-	-	-	0	0	1	1	0	Modem V.32

11.8.1.2.4 BS 34

Same as BS 32 except

	NIRR in Octet 4	-	-	-	-	-	-	0	-	no meaning
	User Rate in Octet 6a:	-	-	-	-	0	1	0	1	9,6 kbit/s
	Interm. Rate in Octet 6b:	-	1	1	-	-	-	-	-	16 kbit/s
If different from "none",	Modem Type Octet 6c:	-	-	-	0	0	1	1	0	Modem V.32

11.8.1.3 BS 61 - Alternate Speech / Data

The first BC in the Setup message is coded "Speech": 04 01 A0

The repeat Indicator in the Setup message is coded "Circular for successive selection (alternate)": D1

The second BC in the Setup message is coded as described below.

11.8.1.3.1 Speech/Asynchronous Data, Transparent

BC GSM = 04 07 X2 X8 81 21 XX XX 8X

Octet 1	0	0	0	0	0	1	0	0	Information Element: Bearer Capability
Octet 2	0	0	0	0	0	1	1	1	Length
Octet 3	1	y	y	0	0	0	1	0	Extension Radio Channel Requirement : Spare Coding Standard: GSM Transfer Mode: Circuit Info. Transfer Cap.: 3,1 kHz Audio
Octet 4	1	y	1	1	1	0	0	0	Extension Spare Structure: Unstructured Duplex Mode: Full duplex Configuration: Point to Point Negotiation of Intermediate Rate Requested: No meaning Establishment: Demand
Octet 5	1	0	0	0	0	0	0	1	Extension Access Id Rate Adaptation: No Signalling Access Protocol: I.440 / I.450
Octet 6	0	0	1	0	0	0	0	1	Extension Layer 1 Id: Default User Information Layer 1 Protocol Synchronous / Asynchronous: Asynchronous
Octet 6a	0	***x***	0	***x***	**x**	**x**	**x**	**x**	Extension ***Number of Stop Bits, Depending of the TE Configuration*** Negotiation: In band Negotiation not possible ***Number of Data Bits, Depending of the TE Configuration*** **User Rate**
Octet 6b	0	**1**	**x**	0	0	***x***	***x***	***x***	Extension **Intermediate Rate** NIC on TX: Not Required NIC on RX: Not Supported ***Parity, Depending of the TE Configuration***
Octet 6c	1	0	0	**0**	**x**	**x**	**x**	**x**	Extension Connection Element: Transparent **Modem Type**

Depending of the user rate supported by the MS, the user rate, the modem type and the intermediate rate change:

	User Rate in Octet 6a:	-	-	-	-	0	0	0	1	0,3 kbit/s
	Intermediate rate in Octet 6b:	-	1	0	-	-	-	-	-	8 kbit/s
	Modem type in Octet 6c:	-	-	-	0	0	0	0	1	Modem V.21

	User Rate in Octet 6a:	-	-	-	-	0	0	1	0	1,2 kbit/s
	Intermediate rate in Octet 6b:	-	1	0	-	-	-	-	-	8 kbit/s
	Modem type in Octet 6c:	-	-	-	0	0	0	1	0	Modem V.22

	User Rate in Octet 6a:	-	-	-	-	0	0	1	1	2,4 kbit/s
	Intermediate rate in Octet 6b:	-	1	0	-	-	-	-	-	8 kbit/s
	Modem type in Octet 6c:	-	-	-	0	0	0	1	1	Modem V.22bis

	User Rate in Octet 6a:	-	-	-	-	0	1	0	0	4,8 kbit/s
	Intermediate rate in Octet 6b:	-	1	0	-	-	-	-	-	8 kbit/s
	Modem type in Octet 6c:	-	-	-	0	0	1	1	0	Modem V.32

	NIRR in Octet 4	-	-	-	-	-	-	0	-	no meaning
	User Rate in Octet 6a:	-	-	-	-	0	1	0	1	9,6 kbit/s
	Intermediate rate in Octet 6b:	-	1	1	-	-	-	-	-	16 kbit/s
	Modem type in Octet 6c:	-	-	-	0	0	1	1	0	Modem V.32

The following configuration is also authorized:

Structure in Octet 4:	-	0	0	-	-	-	-	-	SDU Integrity
Intermediate rate in Octet 6b:	-	1	1	-	-	-	-	-	16 kbit/s
Connection element in Octet 6c:	-	1	x	-	-	-	-	-	Both T or NT preferred

User Information L2 Protocol (see Non Transparent service)

11.8.1.3.2 Speech/Asynchronous Data, Non Transparent

BC GSM = 04 0X X2 XX 81 21 XX 6X AX (CX)

Octet 1	0	0	0	0	0	1	0	0	Information Element: Bearer Capability
Octet 2	0	0	0	0	x	x	x	x	Length (7 or 8) depending on presence of octet 7.
Octet 3	1	y	y	0	0	0	1	0	Extension Radio Channel Requirement : Spare Coding Standard: GSM Transfer Mode: Circuit Info. Transfer Cap.: 3,1 kHz Audio
Octet 4	1	y	0	0	1	0	x	0	Extension Spare Structure: SDU Integrity Duplex Mode: Full duplex Configuration: Point to Point Negotiation of Intermediate Rate Requested Establishment: Demand
Octet 5	1	0	0	0	0	0	0	1	Extension Access Id Rate Adaptation: No Signalling Access Protocol: I.440 / I.450
Octet 6	0	0	1	0	0	0	0	1	Extension Layer 1 Id: Default User Information Layer 1 Protocol Synchronous / Asynchronous: Asynchronous
Octet 6a	0	***x***	0	***x***	**x**	**x**	**x**	**x**	Extension ***Number of Stop Bits, Depending of the TE Configuration*** Negotiation: In band Negotiation not possible ***Number of Data Bits, Depending of the TE Configuration*** **User Rate**
Octet 6b	0	1	1	0	0	***x***	***x***	***x***	Extension Intermediate Rate: 16kbit/s NIC on TX: Not Required NIC on RX: Not Supported ***Parity, Depending of the TE Configuration***
Octet 6c	1	0	1	**0**	**x**	**x**	**x**	**x**	Extension Connection Element: Non transparent **Modem Type**
Octet 7 (may not be present)	1	1	0	***0***	***1***	***x***	***0***	***0***	Extension Layer 2 Id. ***User Inform. layer 2 protocol, Depending of the TE Configuration***

Depending of the type of flow control supported by the TE, the coding of octet 7 is different. The value ISO 6429 (0 1000) means "Inband flow control" and the value COPnoFLCT (0 1100) means "No flow control". The "Outband Flow control is not allowed with V.21 modem).

Depending of the user rate supported by the MS, the user rate and the modem type change:

	User Rate in Octet 6a:	-	-	-	-	0	0	0	1	0,3 kbit/s
	Modem type in Octet 6c:	-	-	-	0	0	0	0	1	Modem V.21

	User Rate in Octet 6a:	-	-	-	-	0	0	1	0	1,2 kbit/s
	Modem type in Octet 6c:	-	-	-	0	0	0	1	0	Modem V.22

	User Rate in Octet 6a:	-	-	-	-	0	0	1	1	2,4 kbit/s
	Modem type in Octet 6c:	-	-	-	0	0	0	1	1	Modem V.22bis

	User Rate in Octet 6a:	-	-	-	-	0	1	0	0	4,8 kbit/s
	Modem type in Octet 6c:	-	-	-	0	0	1	1	0	Modem V.32

	NIRR in Octet 4	-	-	-	-	-	-	0	-	no meaning
	User Rate in Octet 6a:	-	-	-	-	0	1	0	1	9,6 kbit/s
	Modem type in Octet 6c:	-	-	-	0	0	1	1	0	Modem V.32

The following configuration is also authorized:

Connection element in Octet 6c: - 1 x - - - - - Both T or NT preferred

11.8.1.3.3 Speech/Synchronous Data

BC GSM = 04 07 X2 X8 81 20 1X X3 8X

Octet 1	0	0	0	0	0	1	0	0	Information Element: Bearer Capability
Octet 2	0	0	0	0	0	1	1	1	Length
Octet 3	1	y	y	0	0	0	1	0	Extension Radio Channel Requirement : Spare Coding Standard: GSM Transfer Mode: Circuit Info. Transfer Cap.: 3,1 kHz Audio
Octet 4	1	y	1	1	1	0	0	0	Extension Spare Structure: Unstructured Duplex Mode: Full duplex Configuration: Point to Point Negotiation of Intermediate Rate Requested: No meaning Establishment: Demand
Octet 5	1	0	0	0	0	0	0	1	Extension Access Id Rate Adaptation: No Signalling Access Protocol: I.440 / I.450
Octet 6	0	0	1	0	0	0	0	0	Extension Layer 1 Id: Default User Information Layer 1 Protocol Synchronous / Asynchronous: Synchronous
Octet 6a	0	0	0	1	**x**	**x**	**x**	**x**	Extension Number of Stop Bits: NA Negotiation: In band Negotiation not possible Number of Data Bits: NA **User Rate**
Octet 6b	0	**1**	**x**	0	0	0	1	1	Extension **Intermediate Rate** NIC on TX: Not Required NIC on RX: Not Supported Parity: NA
Octet 6c	1	0	0	**0**	**x**	**x**	**x**	**x**	Extension Connection Element: Transparent **Modem Type**

Depending of the user rate supported by the MS, the user rate, the modem type and the intermediate rate change:

	User Rate in Octet 6a:	-	-	-	-	0	0	1	0	1,2 kbit/s
	Intermediate rate in Octet 6b:	-	1	0	-	-	-	-	-	8 kbit/s
	Modem type in Octet 6c:	-	-	-	0	0	0	1	0	Modem V.22

	User Rate in Octet 6a:	-	-	-	-	0	0	1	1	2,4 kbit/s
	Intermediate rate in Octet 6b:	-	1	0	-	-	-	-	-	8 kbit/s
	Modem type in Octet 6c:	-	-	-	0	0	0	1	1	Modem V.22bis

	User Rate in Octet 6a:	-	-	-	-	0	1	0	0	4,8 kbit/s
	Intermediate rate in Octet 6b:	-	1	0	-	-	-	-	-	8 kbit/s
	Modem type in Octet 6c:	-	-	-	0	0	1	1	0	Modem V.32

	NIRR in Octet 4	-	-	-	-	-	-	0	-	no meaning
	User Rate in Octet 6a:	-	-	-	-	0	1	0	1	9,6 kbit/s
	Intermediate rate in Octet 6b:	-	1	1	-	-	-	-	-	16 kbit/s
	Modem type in Octet 6c:	-	-	-	0	0	1	1	0	Modem V.32

11.8.1.4 BS 81 - Speech followed by Data

The first BC in the Setup message is coded "Speech": 04 01 A0

The repeat Indicator in the Setup message is coded "Sequential for successive selection (followed by)": D3

The second BC in the Setup message is coded as described below.

11.8.1.4.1 Speech followed by Asynchronous Data

See chapters 11.8.1.3.1 and 11.8.1.3.2

11.8.1.4.2 Speech followed by Synchronous Data

See chapter 11.8.1.3.3

11.8.1.5 TS 61 - Alternate Speech / Facsimile group 3

The first BC in the Setup message is coded "Speech": 04 01 A0

The repeat Indicator in the Setup message is coded "Circular for successive selection (alternate)": D1

The second BC in the Setup message is coded as described below.

11.8.1.5.1 TS 61 - Alternate Speech / Facsimile group 3, Transparent

BC GSM = 04 07 X3 X8 81 20 1X X3 80

Octet 1	0	0	0	0	0	1	0	0	Information Element: Bearer Capability
Octet 2	0	0	0	0	0	1	1	1	Length
Octet 3	1	y	y	0	0	0	1	1	Extension Radio Channel Requirement : Spare Coding Standard: GSM Transfer Mode: Circuit Info. Transfer Cap.: FAX3
Octet 4	1	y	1	1	1	0	0	0	Extension Spare Structure: Unstructured Duplex Mode: Full duplex Configuration: Point to Point Negotiation of Intermediate Rate Requested: No meaning Establishment: Demand
Octet 5	1	0	0	0	0	0	0	1	Extension Access Id Rate Adaptation: No Signalling Access Protocol: NA
Octet 6	0	0	1	0	0	0	0	0	Extension Layer 1 Id: Default User Information Layer 1 Protocol Synchronous / Asynchronous: synchronous
Octet 6a	0	0	0	1	**x**	**x**	**x**	**x**	Extension Number of Stop Bits: NA Negotiation: In band Negotiation not possible Number of Data Bits: NA **User Rate**
Octet 6b	0	**1**	**x**	0	0	0	1	1	Extension **Intermediate Rate** NIC on TX: Not Required NIC on RX: Not Supported Parity: NA
Octet 6c	1	0	0	0	0	0	0	0	Extension Connection Element: Transparent Modem Type: None

Depending of the user rate supported by the MS, the user rate and the intermediate rate change:

	User Rate in Octet 6a:	-	-	-	-	0	0	1	1	2,4 kbit/s
	Intermediate rate in Octet 6b:	-	1	0	-	-	-	-	-	8 kbit/s

	User Rate in Octet 6a:	-	-	-	-	0	1	0	0	4,8 kbit/s
	Intermediate rate in Octet 6b:	-	1	0	-	-	-	-	-	8 kbit/s

	NIRR in Octet 4	-	-	-	-	-	-	0	-	no meaning
	User Rate in Octet 6a:	-	-	-	-	0	1	0	1	9,6 kbit/s
	Intermediate rate in Octet 6b:	-	1	1	-	-	-	-	-	16 kbit/s

11.8.1.5.2 TS 61 - Alternate Speech / Facsimile group 3, Non-Transparent

BC GSM = 04 07 X3 XX 81 20 1X 63 X0

Octet 1	0	0	0	0	0	1	0	0	Information Element: Bearer Capability
Octet 2	0	0	0	0	0	1	1	1	Length
Octet 3	1	y	y	0	0	0	1	1	Extension Radio Channel Requirement : Spare Coding Standard: GSM Transfer Mode: Circuit Info. Transfer Cap.: FAX3
Octet 4	1	y	0	0	1	0	x	0	Extension Spare Structure: SDU integrity Duplex Mode: Full duplex Configuration: Point to Point Negotiation of Intermediate Rate Requested Establishment: Demand
Octet 5	1	0	0	0	0	0	0	1	Extension Access Id Rate Adaptation: No Signalling Access Protocol: NA
Octet 6	0	0	1	0	0	0	0	0	Extension Layer 1 Id: Default User Information Layer 1 Protocol Synchronous / Asynchronous: synchronous
Octet 6a	0	0	0	1	**x**	**x**	**x**	**x**	Extension Number of Stop Bits: NA Negotiation: In band Negotiation not possible Number of Data Bits: NA **User Rate**
Octet 6b	0	1	1	0	0	0	1	1	Extension Intermediate Rate: 16 kbit/s NIC on TX: Not Required NIC on RX: Not Supported Parity: NA
Octet 6c	1	**x**	**x**	0	0	0	0	0	Extension **Connection Element** Modem Type: None

Depending of the user rate supported by the MS, the MS may have the following values:

	User Rate in Octet 6a:	-	-	-	-	0	0	1	1	2,4 kbit/s

	User Rate in Octet 6a:	-	-	-	-	0	1	0	0	4,8 kbit/s

	User Rate in Octet 6a:	-	-	-	-	0	1	0	1	9,6 kbit/s

Depending on the support or not of both modes, Non Transparent and Transparent, the connection element field may have the following values:

	Connection element in Octet 6c:	-	0	1	-	-	-	-	-	Non transparent

	Connection element in Octet 6c:	-	1	x	-	-	-	-	-	Both T or NT preferred

If present, Octet 7 shall have the following value:

Octet 7	1	1	0	0	0	1	1	0	Extension Layer 2 id X.25

11.8.1.6 TS 62 - Automatic Facsimile group 3

The repeat Indicator in the Setup message is not available.

The BC GSM is coded as described in chapter 11.8.1.5.

11.8.2 MS to SS direction

In the whole section 11.8.2, "1)" and "2)" stand for:

1) Not applicable in a CALL CONFIRMED message.

2) Not applicable in a CALL CONFIRMED message responding to a SETUP message with no BC-IE (PSTN-originated call with single numbering scheme).

If the MS supports only Full Rate

Radio Channel Requirement in Octet 3:	-	0	1	-	-	-	-	-	Full rate support only mobile station

Else

Radio Channel Requirement in Octet 3:	-	1	x	-	-	-	-	-	Dual rate mobile station

11.8.2.1 BS 21 to 26 - Asynchronous Service

If the MS supports only SAP I.440/I.450

SAP in Octet 5:	-	-	-	-	-	0	0	1	I.440/I.450

If the MS supports only SAP X.28 non dedicated PAD

SAP in Octet 5:	-	-	-	-	-	1	0	1	X.28 nond

Else

SAP in Octet 5:	-	-	-	-	-	x	0	1	I.440/I.450 or X.28 nond

11.8.2.1.1 BS 21

11.8.2.1.1.1 3,1 kHz Audio, Transparent

BC GSM = 04 0X X2 X8 8X 21 X1 XX X1 (CX)

Octet 1	0	0	0	0	0	1	0	0	Information Element: Bearer Capability
Octet 2	0	0	0	0	x	x	x	x	Length (7 or 8) depending on the presence of octet 7.
Octet 3	1	**x**	**x**	0	0	0	1	0	Extension **Radio Channel Requirement** Coding Standard: GSM Transfer Mode: Circuit Info. Transfer Cap.: 3,1 kHz Audio
Octet 4	1	y	**x**	**x**	1	0	0	0	Extension Spare **Structure** Duplex Mode Configuration: Point to Point Negotiation of Intermediate Rate Requested: No meaning Establishment: Demand
Octet 5	1	0	0	0	0	**x**	**0**	**1**	Extension Access Id Rate Adaptation: No **Signalling Access Protocol**
Octet 6	0	0	1	0	0	0	0	1	Extension Layer 1 Id: Default User Information Layer 1 Protocol Synchronous / Asynchronous: Asynchronous
Octet 6a	0	***x***	0	***x***	0	0	0	1	Extension ***Number of Stop Bits, Depending of the TE Configuration*** Negotiation: In band Negotiation not possible ***Number of Data Bits, Depending of the TE Configuration*** User Rate: 0,3 kbit/s
Octet 6b	0	**1**	**x**	0	0	***x***	***x***	***x***	Extension **Intermediate Rate: 8kbit/s** NIC on TX: Not Required NIC on RX: Not Supported ***Parity, Depending of the TE Configuration***
Octet 6c	1	**x**	**x**	0	0	0	0	1	Extension **Connection Element** Modem Type: V.21

If the mobile station supports only Transparent mode or responds with a CALL CONFIRMED message:

Structure in Octet 4:	-	1	1	-	-	-	-	-	Unstructured
Intermediate rate in Octet 6b:	-	1	0	-	-	-	-	-	8 kbit/s
Connection element in Octet 6c:	-	0	0	-	-	-	-	-	Transparent

[1)] If the mobile station supports both Transparent and Non Transparent modes

Structure in Octet 4:	-	0	0	-	-	-	-	-	SDU Integrity
Intermediate rate in Octet 6b:	-	1	1	-	-	-	-	-	16 kbit/s
Connection element in Octet 6c:	-	1	x	-	-	-	-	-	Both T or NT preferred

User Information L2 protocol in Octet 7 (see Non Transparent service)

11.8.2.1.1.2 3,1 kHz Audio, Non Transparent

BC GSM = 04 0X X2 XX 8X 21 X1 6X X1 (CX)

Octet 1	0	0	0	0	0	1	0	0	Information Element: Bearer Capability
Octet 2	0	0	0	0	x	x	x	x	Length (7 or 8) depending on presence of octet 7.
Octet 3	1	**x**	**x**	0	0	0	1	0	Extension **Radio Channel Requirement** Coding Standard: GSM Transfer Mode: Circuit Info. Transfer Cap.: 3,1 kHz Audio
Octet 4	1	y	0	0	1	0	x	0	Extension Spare Structure: SDU Integrity Duplex Mode: Full duplex Configuration: Point to Point Negotiation of Intermediate Rate Requested Establishment: Demand
Octet 5	1	0	0	0	0	**x**	**0**	**1**	Extension Access Id Rate Adaptation: No **Signalling Access Protocol**
Octet 6	0	0	1	0	0	0	0	1	Extension Layer 1 Id: Default User Information Layer 1 Protocol Synchronous / Asynchronous: Asynchronous
Octet 6a	0	***x***	0	***x***	0	0	0	1	Extension ***Number of Stop Bits, Depending of the TE Configuration*** Negotiation: In band Negotiation not possible ***Number of Data Bits, Depending of the TE Configuration*** User Rate: 0,3 kbit/s
Octet 6b	0	1	1	0	0	***x***	***x***	***x***	Extension Intermediate Rate: 16kbit/s NIC on TX: Not Required NIC on RX: Not Supported ***Parity, Depending of the TE Configuration***
Octet 6c	1	x	x	0	0	0	0	1	Extension Connection Element: NT, (Both T or Both NT)[1)] Modem Type: V.21
Octet 7 (need not be present)	1	1	0	***0***	***1***	***x***	***0***	***0***	Extension Layer 2 Id. ***User Inform. layer 2 protocol, Depending on the TE Configuration***

Depending of the type of flow control supported by the TE, the coding of octet 7 is different. The value ISO 6429 (0 1000) means "Inband flow control" and the value COPnoFLCT (0 1100) means "No flow control".

11.8.2.1.1.3 [2] UDI, Transparent

BC GSM = 04 0X X1 X8 8X 21 X1 XX X0

Octet 1	0	0	0	0	0	1	0	0	Information Element: Bearer Capability
Octet 2	0	0	0	0	x	x	x	x	Length (7 or 8) depending on the presence of octet 7
Octet 3	1	**x**	**x**	0	0	0	0	1	Extension **Radio Channel Requirement** Coding Standard: GSM Transfer Mode: Circuit Info. Transfer Cap.: UDI
Octet 4	1	y	**x**	**x**	1	0	0	0	Extension Spare **Structure** Duplex Mode: Full duplex Configuration: Point to Point Negotiation of Intermediate Rate Requested: No meaning Establishment: Demand
Octet 5	1	0	0	0	1	**x**	**0**	**1**	Extension Access Id Rate Adaptation: V.110 **Signalling Access Protocol**
Octet 6	0	0	1	0	0	0	0	1	Extension Layer 1 Id: Default User Information Layer 1 Protocol Synchronous / Asynchronous: Asynchronous
Octet 6a	0	***x***	0	***x***	0	0	0	1	Extension ***Number of Stop Bits, Depending of the TE Configuration*** Negotiation: In band Negotiation not possible ***Number of Data Bits, Depending of the TE Configuration*** User Rate: 0,3 kbit/s
Octet 6b	0	**1**	**x**	0	0	***x***	***x***	***x***	Extension **Intermediate Rate** NIC on TX: Not Required NIC on RX: Not Supported ***Parity, Depending of the TE Configuration***
Octet 6c	1	x	x	0	0	0	0	0	Extension Connection Element Modem Type: None

If the mobile station supports only Transparent mode or responds with a CALL CONFIRMED message:

Structure in Octet 4:	-	1	1	-	-	-	-	-	Unstructured
Intermediate rate in Octet 6b:	-	1	0	-	-	-	-	-	8 kbit/s
Connection element in Octet 6c:	-	0	0	-	-	-	-	-	Transparent

[1] If the mobile station supports both Transparent and Non Transparent modes

Structure in Octet 4:	-	0	0	-	-	-	-	-	SDU Integrity
Intermediate rate in Octet 6b:	-	1	1	-	-	-	-	-	16 kbit/s
Connection element in Octet 6c:	-	1	x	-	-	-	-	-	Both T or NT preferred

User Information L2 protocol in Octet 7 (see Non Transparent service)

11.8.2.1.1.4 2) UDI, Non Transparent

BC GSM = 04 0X X1 XX 8X 21 X1 6X X0 (CX)

Octet 1	0	0	0	0	0	1	0	0	Information Element: Bearer Capability
Octet 2	0	0	0	0	x	x	x	x	Length (7 or 8) depending on presence of octet 7.
Octet 3	1	x	x	0	0	0	0	1	Extension Radio Channel Requirement Coding Standard: GSM Transfer Mode: Circuit Info. Transfer Cap.: UDI
Octet 4	1	y	0	0	1	0	x	0	Extension Spare Structure: SDU Integrity Duplex Mode: Full duplex Configuration: Point to Point Negotiation of Intermediate Rate Requested Establishment: Demand
Octet 5	1	0	0	0	1	x	0	1	Extension Access Id Rate Adaptation: V.110 Signalling Access Protocol
Octet 6	0	0	1	0	0	0	0	1	Extension Layer 1 Id: Default User Information Layer 1 Protocol Synchronous / Asynchronous: Asynchronous
Octet 6a	0	***x***	0	***x***	0	0	0	1	Extension ***Number of Stop Bits, Depending of the TE Configuration*** Negotiation: In band Negotiation not possible ***Number of Data Bits, Depending of the TE Configuration*** User Rate: 0,3 kbit/s
Octet 6b	0	1	1	0	0	***x***	***x***	***x***	Extension Intermediate Rate: 16kbit/s NIC on TX: Not Required NIC on RX: Not Supported ***Parity, Depending of the TE Configuration***
Octet 6c	1	x	x	0	0	0	0	0	Extension Connection Element: NT, (Both T or Both NT) 1) Modem Type: None
Octet 7 (need not be present)	1	1	0	***0***	***1***	***x***	***0***	***0***	Extension Layer 2 Id. ***User Inform. layer 2 protocol, Depending of the TE Configuration***

Depending of the type of flow control supported by the TE, octet 7 is present or not. If not present, it means "outband flow control". If octet 7 is present, the value ISO 6429 (0 1000) means "Inband flow control" and the value COPnoFLCT (0 1100) means "No flow control".

11.8.2.1.2 BS 22

Same as BS 21 except

	User Rate in Octet 6a:	-	-	-	-	0	0	1	0	1,2 kbit/s
If different from "none",	Modem Type Octet 6c:	-	-	-	0	0	0	1	0	Modem V.22

In case of 3,1kHz Audio non transparent service, depending of the type of flow control supported by the TE, octet 7 is present or not. If not present, it means "outband flow control".

11.8.2.1.3 BS 24

Same as BS 21 except

	User Rate in Octet 6a:	-	-	-	-	0	0	1	1	2,4 kbit/s
If different from "none",	Modem Type Octet 6c:	-	-	-	0	0	0	1	1	Modem V.22bis
							1	0	1	Modem V.26ter

In case of 3,1kHz Audio non transparent service, depending of the type of flow control supported by the TE, octet 7 is present or not. If not present, it means "outband flow control".

11.8.2.1.4 BS 25

Same as BS 21 except

	User Rate in Octet 6a:	-	-	-	-	0	1	0	0	4,8 kbit/s
If different from "none",	Modem Type Octet 6c:	-	-	-	0	0	1	1	0	Modem V.32

In case of 3,1kHz Audio non transparent service, depending of the type of flow control supported by the TE, octet 7 is present or not. If not present, it means "outband flow control".

11.8.2.1.5 BS 26

Same as BS 21 except

	NIRR in Octet 4:	-	-	-	-	-	-	0	-	no meaning
	User Rate in Octet 6a:	-	-	-	-	0	1	0	1	9,6 kbit/s
	Interm. Rate in Octet 6b:	-	1	1	-	-	-	-	-	16 kbit/s
If different from "none",	Modem Type Octet 6c:	-	-	-	0	0	1	1	0	Modem V.32

In case of 3,1kHz Audio non transparent service, depending of the type of flow control supported by the TE, octet 7 is present or not. If not present, it means "outband flow control".

11.8.2.1.6 BS 23

Same as BS 21 except

	User Rate in Octet 6a:	-	-	-	-	0	1	1	1	1,2 kbit/s/75 bit/s
If different from "none",	Modem Type Octet 6c:	-	-	-	0	0	1	0	0	Modem V.23

In case of 3,1kHz Audio non transparent service, depending of the type of flow control supported by the TE, octet 7 is present or not. If not present, it means "outband flow control".

11.8.2.2 BS 31 to 34 - Synchronous Service

11.8.2.2.1 BS 32

11.8.2.2.1.1 3,1 kHz Audio, Transparent, non-X.32 case

BC GSM = 04 07 X2 X8 81 20 13 43 83

Octet 1	0	0	0	0	0	1	0	0	Information Element: Bearer Capability
Octet 2	0	0	0	0	0	1	1	1	Length
Octet 3	1	x	x	0	0	0	1	0	Extension Radio Channel Requirement : Spare Coding Standard: GSM Transfer Mode: Circuit Info. Transfer Cap.: 3,1 kHz Audio
Octet 4	1	y	1	1	1	0	0	0	Extension Spare Structure: Unstructured Duplex Mode: Full duplex Configuration: Point to Point Negotiation of Intermediate Rate Requested: No meaning Establishment: Demand
Octet 5	1	0	0	0	0	0	0	1	Extension Access Id Rate Adaptation: No Signalling Access Protocol: I.440 / I.450
Octet 6	0	0	1	0	0	0	0	0	Extension Layer 1 Id: Default User Information Layer 1 Protocol Synchronous / Asynchronous: Synchronous
Octet 6a	0	0	0	1	0	0	1	1	Extension Number of Stop Bits: NA Negotiation: In band Negotiation not possible Number of Data Bits: NA User Rate: 2,4 kbit/s
Octet 6b	0	1	0	0	0	0	1	1	Extension Intermediate Rate: 8kbit/s NIC on TX: Not Required NIC on RX: Not Supported Parity: NA
Octet 6c	1	0	0	0	0	x	x	1	Extension Connection Element: Transparent Modem Type: V.22 bis or V.26 ter

11.8.2.2.1.2 [2] UDI, Transparent mode, non-X.32 case

BC GSM = 04 07 X1 X8 8X 20 13 43 80

Octet 1	0	0	0	0	0	1	0	0	Information Element: Bearer Capability
Octet 2	0	0	0	0	0	1	1	1	Length
Octet 3	1	x	x	0	0	0	0	1	Extension Radio Channel Requirement Coding Standard: GSM Transfer Mode: Circuit Info. Transfer Cap.: UDI
Octet 4	1	y	1	1	1	0	0	0	Extension Spare Structure: Unstructured Duplex Mode: Full duplex Configuration: Point to Point Negotiation of Intermediate Rate Requested: No meaning Establishment: Demand
Octet 5	1	0	0	0	1	0	x	x	Extension Access Id Rate Adaptation: V.110 Signalling Access Protocol
Octet 6	0	0	1	0	0	0	0	0	Extension Layer 1 Id: Default User Information Layer 1 Protocol Synchronous / Asynchronous: Synchronous
Octet 6a	0	0	0	1	0	0	1	1	Extension Number of Stop Bits: NA Negotiation: In band Negotiation not possible Number of Data Bits: NA User Rate: 2,4 kbit/s
Octet 6b	0	1	0	0	0	0	1	1	Extension Intermediate Rate: 8kbit/s NIC on TX: Not Required NIC on RX: Not Supported Parity: NA
Octet 6c	1	0	0	0	0	0	0	0	Extension Connection Element: Transparent Modem Type: none

If the mobile station supports only SAP I.440/450

SAP in Octet 5: - - - - - 0 0 1 I.440/I.450

If the MS supports only SAP X.21

SAP in Octet 5: - - - - - 0 1 0 X.21

Else

SAP in Octet 5: - - - - - 0 x x I.440/I.450 or X.21

11.8.2.2.1.3 3,1 kHz Audio, Transparent mode, X.32 case (Packet Service)

BC GSM = 04 0X X2 X8 86 20 13 X3 X3 (C6)

Octet 1	0	0	0	0	0	1	0	0	Information Element: Bearer Capability
Octet 2	0	0	0	0	0	1	1	1	Length
Octet 3	1	x	x	0	0	0	1	0	Extension Radio Channel Requirement Coding Standard: GSM Transfer Mode: Circuit Info. Transfer Cap.: 3,1 kHz Audio
Octet 4	1	y	x	x	1	0	0	0	Extension Spare Structure Duplex Mode: Full duplex Configuration: Point to Point Negotiation of Intermediate Rate Requested: No meaning Establishment: Demand
Octet 5	1	0	0	0	0	1	1	0	Extension Access Id Rate Adaptation: No Signalling Access Protocol: X.32
Octet 6	0	0	1	0	0	0	0	0	Extension Layer 1 Id: Default User Information Layer 1 Protocol Synchronous / Asynchronous: Synchronous
Octet 6a	0	0	0	1	0	0	1	1	Extension Number of Stop Bits: NA Negotiation: In band Negotiation not possible Number of Data Bits: NA User Rate: 2,4 kbit/s
Octet 6b	0	1	x	0	0	0	1	1	Extension Intermediate Rate NIC on TX: Not Required NIC on RX: Not Supported Parity: NA
Octet 6c	1	x	x	0	0	x	x	1	Extension Connection Element: Transparent Modem Type: V.22 bis or V.26 ter

If the mobile station supports only Transparent mode or responds with a CALL CONFIRMED message:

Structure in Octet 4:	-	1	1	-	-	-	-	-	Unstructured
Intermediate rate in Octet 6b:	-	1	0	-	-	-	-	-	8 kbit/s
Connection element in Octet 6c:	-	0	0	-	-	-	-	-	Transparent

[1)] If the mobile station supports both Transparent and Non Transparent modes

Structure in Octet 4:	-	0	0	-	-	-	-	-	SDU Integrity
Intermediate rate in Octet 6b:	-	1	1	-	-	-	-	-	16 kbit/s
Connection element in Octet 6c:	-	1	x	-	-	-	-	-	Both T or NT preferred
UIL2P in Octet 7	-	-	-	0	0	1	1	0	X.25

11.8.2.2.1.4 3,1 kHz Audio, Non Transparent mode, X.32 case (Packet Service)

BC GSM = 04 08 A2 XX 86 20 13 63 X3 C6

Octet 1	0	0	0	0	0	1	0	0	Information Element: Bearer Capability
Octet 2	0	0	0	0	1	0	0	0	Length
Octet 3	1	x	x	0	0	0	1	0	Extension Radio Channel Requirement Coding Standard: GSM Transfer Mode: Circuit Info. Transfer Cap.: 3,1 kHz Audio
Octet 4	1	y	0	0	1	0	x	0	Extension Spare Structure: SDU integrity Duplex Mode: Full duplex Configuration: Point to Point Negotiation of Intermediate Rate Requested Establishment: Demand
Octet 5	1	0	0	0	0	1	1	0	Extension Access Id Rate Adaptation: No Signalling Access Protocol: X.32
Octet 6	0	0	1	0	0	0	0	0	Extension Layer 1 Id: Default User Information Layer 1 Protocol Synchronous / Asynchronous: Synchronous
Octet 6a	0	0	0	1	0	0	1	1	Extension Number of Stop Bits: NA Negotiation: In band Negotiation not possible Number of Data Bits: NA User Rate: 2,4 kbit/s
Octet 6b	0	1	1	0	0	0	1	1	Extension Intermediate Rate: 16kbit/s NIC on TX: Not Required NIC on RX: Not Supported Parity: NA
Octet 6c	1	x	x	0	0	x	x	1	Extension Connection Element: NT, (Both T or Both NT)[1)] Modem Type: V.22 bis or V.26 ter
Octet 7	1	1	0	0	0	1	1	0	Extension Layer 2 Id. X.25

11.8.2.2.1.5 [2] UDI, Non Transparent mode, X.32 case (Packet Service)

BC GSM = 04 08 X1 XX 96 20 13 63 A0 C6

Octet 1	0	0	0	0	0	1	0	0	Information Element: Bearer Capability
Octet 2	0	0	0	0	1	0	0	0	Length
Octet 3	1	x	x	0	0	0	0	1	Extension Radio Channel Requirement Coding Standard: GSM Transfer Mode: Circuit Info. Transfer Cap.: UDI
Octet 4	1	y	0	0	1	0	x	0	Extension Spare Structure: SDU integrity Duplex Mode: Full duplex Configuration: Point to Point Negotiation of Intermediate Rate Requested Establishment: Demand
Octet 5	1	0	0	1	0	1	1	0	Extension Access Id Rate Adaptation: X.31 flagstuffing Signalling Access Protocol: X.32
Octet 6	0	0	1	0	0	0	0	0	Extension Layer 1 Id: Default User Information Layer 1 Protocol Synchronous / Asynchronous: Synchronous
Octet 6a	0	0	0	1	0	0	1	1	Extension Number of Stop Bits: NA Negotiation: In band Negotiation not possible Number of Data Bits: NA User Rate: 2,4 kbit/s
Octet 6b	0	1	1	0	0	0	1	1	Extension Intermediate Rate: 16kbit/s NIC on TX: Not Required NIC on RX: Not Supported Parity: NA
Octet 6c	1	0	1	0	0	0	0	0	Extension Connection Element: Non Transparent Modem Type: None
Octet 7	1	1	0	0	0	1	1	0	Extension Layer 2 Id. X.25

11.8.2.2.2 BS 31

For non X.32 case only, same as BS 32 except

	User Rate in Octet 6a:	-	-	-	-	0	0	1	0	1,2 kbit/s
If different from "none",	Modem Type Octet 6c:	-	-	-	0	0	0	1	0	Modem V.22

BS31 for Packet Service does not exist.

11.8.2.2.3 BS 33

Same as BS 32 except

	User Rate in Octet 6a:	-	-	-	-	0	1	0	0	4,8 kbit/s
If different from "none",	Modem Type Octet 6c:	-	-	-	0	0	1	1	0	Modem V.32

11.8.2.2.4 BS 34

Same as BS 32 except

	NIRR in Octet 4:	-	-	-	-	-	-	0	-	no meaning
	User Rate in Octet 6a:	-	-	-	-	0	1	0	1	9,6 kbit/s
	Interm. Rate in Octet 6b:	-	1	1	-	-	-	-	-	16 kbit/s
If different from "none",	Modem Type Octet 6c:	-	-	-	0	0	1	1	0	Modem V.32

11.8.2.3 BS 41 to 46 - PAD Access Asynchronous

11.8.2.3.1 [2] BS 41

11.8.2.3.1.1 [2] UDI, Transparent

BC GSM = 04 0X X1 X8 8C 21 X1 XX X0 (CX)

Octet 1	0	0	0	0	0	1	0	0	Information Element: Bearer Capability
Octet 2	0	0	0	0	0	1	1	1	Length
Octet 3	1	x	x	0	0	0	0	1	Extension Radio Channel Requirement Coding Standard: GSM Transfer Mode: Circuit Info. Transfer Cap.: UDI
Octet 4	1	y	x	x	1	0	0	0	Extension Spare Structure Duplex Mode: Full duplex Configuration: Point to Point Negotiation of Intermediate Rate Requested: No meaning Establishment: Demand
Octet 5	1	0	0	0	1	1	0	0	Extension Access Id Rate Adaptation: V.110 Signalling Access Protocol: X.28 dedicated universal NUI
Octet 6	0	0	1	0	0	0	0	1	Extension Layer 1 Id: Default User Information Layer 1 Protocol Synchronous / Asynchronous: Asynchronous
Octet 6a	0	***x***	0	***x***	0	0	0	1	Extension ***Number of Stop Bits, Depending of the TE Configuration*** Negotiation: In band Negotiation not possible ***Number of Data Bits, Depending of the TE Configuration*** User Rate: 0,3 kbit/s
Octet 6b	0	1	x	0	0	***x***	***x***	***x***	Extension Intermediate Rate NIC on TX: Not Required NIC on RX: Not Supported ***Parity, Depending of the TE Configuration***
Octet 6c	1	x	x	0	0	0	0	0	Extension Connection Element Modem Type: None

If the mobile station supports only Transparent mode or responds with a CALL CONFIRMED message:

Structure in Octet 4:	-	1	1	-	-	-	-	-	Unstructured
Intermediate rate in Octet 6b:	-	1	0	-	-	-	-	-	8 kbit/s
Connection element in Octet 6c:	-	0	0	-	-	-	-	-	Transparent

[1] If the mobile station supports both Transparent and Non Transparent modes

Structure in Octet 4:	-	0	0	-	-	-	-	-	SDU Integrity
Intermediate rate in Octet 6b:	-	1	1	-	-	-	-	-	16 kbit/s
Connection element in Octet 6c:	-	1	x	-	-	-	-	-	Both T or NT preferred

User Information L2 Protocol (see Non Transparent service)

11.8.2.3.1.2 [2] UDI, Non transparent

BC GSM = 04 08 X1 XX 8C 21 X1 6X X0 CX

Octet 1	0	0	0	0	0	1	0	0	Information Element: Bearer Capability
Octet 2	0	0	0	0	1	0	0	0	Length.
Octet 3	1	x	x	0	0	0	0	1	Extension Radio Channel Requirement Coding Standard: GSM Transfer Mode: Circuit Info. Transfer Cap.: UDI
Octet 4	1	y	0	0	1	0	x	0	Extension Spare Structure: SDU Integrity Duplex Mode: Full duplex Configuration: Point to Point Negotiation of Intermediate Rate Requested Establishment: Demand
Octet 5	1	0	0	0	1	1	0	0	Extension Access Id Rate Adaptation: V.110 Signalling Access Protocol: X.28 dedicated PAD, universal NUI
Octet 6	0	0	1	0	0	0	0	1	Extension Layer 1 Id: Default User Information Layer 1 Protocol Synchronous / Asynchronous: Asynchronous
Octet 6a	0	***x***	0	***x***	0	0	0	1	Extension ***Number of Stop Bits, Depending of the TE Configuration*** Negotiation: In band Negotiation not possible ***Number of Data Bits, Depending of the TE Configuration*** User Rate: 0,3 kbit/s
Octet 6b	0	1	1	0	0	***x***	***x***	***x***	Extension Intermediate Rate: 16kbit/s NIC on TX: Not Required NIC on RX: Not Supported ***Parity, Depending of the TE Configuration***
Octet 6c	1	x	x	0	0	0	0	0	Extension Connection Element: NT, (Both T or Both NT)[1] Modem Type: None
Octet 7	1	1	0	0	1	x	0	0	Extension Layer 2 Id. User Inform. layer 2 protocol: Depending on the TE Configuration

Depending on the type of flow control supported by the TE, octet 7 is present or not. If not present, it means “outband flow control”. If octet 7 is present, the value COPnoFLCT (01100) means “No flow control”.

11.8.2.3.2 BS 42

Same as BS 41 except

	User Rate in Octet 6a:	-	-	-	-	0	0	1	0	1,2 kbit/s

11.8.2.3.3 BS 44

Same as BS 41 except

	User Rate in Octet 6a:	-	-	-	-	0	0	1	1	2,4 kbit/s

11.8.2.3.4 BS 45

Same as BS 41 except

	User Rate in Octet 6a:	-	-	-	-	0	1	0	0	4,8 kbit/s

11.8.2.3.5 BS 46

Same as BS 41 except

	NIRR in Octet 4	-	-	-	-	-	-	0	-	no meaning
	User Rate in Octet 6a:	-	-	-	-	0	1	0	1	9,6 kbit/s
	Interm. Rate in Octet 6b:	-	1	1	-	-	-	-	-	16 kbit/s

11.8.2.3.6 BS 43

Same as BS 41 except

	User Rate in Octet 6a:	-	-	-	-	0	1	1	1	1,2 kbit/s 75bit/s

11.8.2.4 BS 51 to 53 - Packet Service Synchronous

11.8.2.4.1 [2] BS 51

BC GSM = 04 08 X1 X8 96 20 13 63 A0 C6

Octet 1	0	0	0	0	0	1	0	0	Information Element: Bearer Capability
Octet 2	0	0	0	0	1	0	0	0	Length
Octet 3	1	x	x	0	0	0	0	1	Extension Radio Channel Requirement Coding Standard: GSM Transfer Mode: Circuit Info. Transfer Cap.: UDI
Octet 4	1	y	0	0	1	0	0	0	Extension Spare Structure: Unstructured Duplex Mode: Full duplex Configuration: Point to Point Negotiation of Intermediate Rate Requested: No meaning Establishment: Demand
Octet 5	1	0	0	1	0	1	1	0	Extension Access Id Rate Adaptation: X.31 flag. Signalling Access Protocol: X.32
Octet 6	0	0	1	0	0	0	0	0	Extension Layer 1 Id: Default User Information Layer 1 Protocol Synchronous / Asynchronous: Synchronous
Octet 6a	0	0	0	1	0	0	1	1	Extension Number of Stop Bits: NA Negotiation: In band Negotiation not possible Number of Data Bits: NA User Rate: 2,4 kbit/s
Octet 6b	0	1	1	0	0	0	1	1	Extension Intermediate Rate: 16kbit/s NIC on TX: Not Required NIC on RX: Not Supported Parity: NA
Octet 6c	1	0	1	0	0	0	0	0	Extension Connection Element: Non Transparent Modem Type: None
Octet 7	1	1	0	0	0	1	1	0	Extension Layer 2 Id. X.25

11.8.2.4.2 BS 52

Same as BS 51 except

	User Rate in Octet 6a:	-	-	-	-	0	1	0	0	4,8 kbit/s

11.8.2.4.3 BS 53

Same as BS 51 except

	User Rate in Octet 6a:	-	-	-	-	0	1	0	1	9,6 kbit/s

11.8.2.5 BS 61 - Alternate Speech / Data

The first BC is coded as follows :

IF speech full rate version 2 is supported by the mobile, see 11.8.2.9.2

ELSE see 11.8.2.9.1

The repeat Indicator in the Setup message is coded "Circular for successive selection (alternate)": D1.

The second BC in the Setup message is coded as described below.

11.8.2.5.1 Speech/Asynchronous Data, Transparent

BC GSM = 04 0X X2 X8 81 21 XX XX XX (CX)

Octet 1	0	0	0	0	0	1	0	0	Information Element: Bearer Capability
Octet 2	0	0	0	0	0	1	1	1	Length
Octet 3	1	x	x	0	0	0	1	0	Extension Radio Channel Requirement Coding Standard: GSM Transfer Mode: Circuit Info. Transfer Cap.: 3,1 kHz Audio
Octet 4	1	y	x	x	1	0	0	0	Extension Spare Structure Duplex Mode: Full duplex Configuration: Point to Point Negotiation of Intermediate Rate Requested: No meaning Establishment: Demand
Octet 5	1	0	0	0	0	0	0	1	Extension Access Id Rate Adaptation: No Signalling Access Protocol: I.440 / I.450
Octet 6	0	0	1	0	0	0	0	1	Extension Layer 1 Id: Default User Information Layer 1 Protocol Synchronous / Asynchronous: Asynchronous
Octet 6a	0	***x***	0	***x***	**x**	**x**	**x**	**x**	Extension ***Number of Stop Bits, Depending of the TE Configuration*** Negotiation: In band Negotiation not possible ***Number of Data Bits, Depending of the TE Configuration*** **User Rate**
Octet 6b	0	**1**	**x**	0	0	***x***	***x***	***x***	Extension **Intermediate Rate** NIC on TX: Not Required NIC on RX: Not Supported ***Parity, Depending of the TE Configuration***
Octet 6c	1	x	x	**0**	**x**	**x**	**x**	**x**	Extension Connection Element **Modem Type**

If the mobile station supports only Transparent mode or responds with a CALL CONFIRMED message:

Structure in Octet 4:	-	1	1	-	-	-	-	-	Unstructured
Intermediate rate in Octet 6b:	-	1	x	-	-	-	-	-	Depending on the user rate
Connection element in Octet 6c:	-	0	0	-	-	-	-	-	Transparent

[1)] If the mobile station supports both Transparent and Non Transparent modes

Structure in Octet 4:	-	0	0	-	-	-	-	-	SDU Integrity
Intermediate rate in Octet 6b:	-	1	1	-	-	-	-	-	16 kbit/s
Connection element in Octet 6c:	-	1	x	-	-	-	-	-	Both T or NT preferred

User Information L2 protocol in Octet 7 (see Non Transparent service)

Depending of the user rate supported by the MS, the user rate, the modem type and the intermediate rate change:

	User Rate in Octet 6a:	-	-	-	-	0	0	0	1	0,3 kbit/s
	Intermediate rate in Octet 6b:	-	1	0	-	-	-	-	-	8 kbit/s in Transparent mode
	Modem type in Octet 6c:	-	-	-	0	0	0	0	1	Modem V.21

	User Rate in Octet 6a:	-	-	-	-	0	0	1	0	1,2 kbit/s
	Intermediate rate in Octet 6b:	-	1	0	-	-	-	-	-	8 kbit/s in Transparent mode
	Modem type in Octet 6c:	-	-	-	0	0	0	1	0	Modem V.22

	User Rate in Octet 6a:	-	-	-	-	0	0	1	1	2,4 kbit/s
	Intermediate rate in Octet 6b:	-	1	0	-	-	-	-	-	8 kbit/s in Transparent mode
	Modem type in Octet 6c:	-	-	-	0	0	0	1	1	Modem V.22bis
							1	0	1	Modem V.26ter

	User Rate in Octet 6a:	-	-	-	-	0	1	0	0	4,8 kbit/s
	Intermediate rate in Octet 6b:	-	1	0	-	-	-	-	-	8 kbit/s in Transparent mode
	Modem type in Octet 6c:	-	-	-	0	0	1	1	0	Modem V.32

	NIRR in Octet 4:	-	-	-	-	-	-	0	-	no meaning
	User Rate in Octet 6a:	-	-	-	-	0	1	0	1	9,6 kbit/s
	Intermediate rate in Octet 6b:	-	1	1	-	-	-	-	-	16 kbit/s in Transparent mode
	Modem type in Octet 6c:	-	-	-	0	0	1	1	0	Modem V.32

	User Rate in Octet 6a:	-	-	-	-	0	1	1	1	1,2 kbits/s 75bit/2
	Intermediate rate in Octet 6b:	-	1	0	-	-	-	-	-	8 kbit/s in Transparent mode
	Modem type in Octet 6c:	-	-	-	0	0	1	0	0	Modem V.23

11.8.2.5.2 Speech/Asynchronous Data, Non Transparent

BC GSM = 04 0X X2 XX 81 21 XX 6X XX (CX)

Octet 1	0	0	0	0	0	1	0	0	Information Element: Bearer Capability
Octet 2	0	0	0	0	x	x	x	x	Length (7 or 8) depending on presence of octet 7.
Octet 3	1	x	x	0	0	0	1	0	Extension Radio Channel Requirement Coding Standard: GSM Transfer Mode: Circuit Info. Transfer Cap.: 3,1 kHz Audio
Octet 4	1	y	0	0	1	0	x	0	Extension Spare Structure: SDU Integrity Duplex Mode: Full duplex Configuration: Point to Point Negotiation of Intermediate Rate Requested Establishment: Demand
Octet 5	1	0	0	0	0	0	0	1	Extension Access Id Rate Adaptation: No Signalling Access Protocol: I.440 / I.450
Octet 6	0	0	1	0	0	0	0	1	Extension Layer 1 Id: Default User Information Layer 1 Protocol Synchronous / Asynchronous: Asynchronous
Octet 6a	0	***x***	0	***x***	**x**	**x**	**x**	**x**	Extension ***Number of Stop Bits, Depending of the TE Configuration*** Negotiation: In band Negotiation not possible ***Number of Data Bits, Depending of the TE Configuration*** **User Rate**
Octet 6b	0	1	1	0	0	***x***	***x***	***x***	Extension Intermediate Rate: 16kbit/s NIC on TX: Not Required NIC on RX: Not Supported ***Parity, Depending of the TE Configuration***
Octet 6c	1	x	x	**0**	**x**	**x**	**x**	**x**	Extension Connection Element: NT, (Both T or Both NT)[1)] **Modem Type**
Octet 7 (may not be present)	1	1	0	***0***	***1***	***x***	***0***	***0***	Extension Layer 2 Id. ***User Inform. layer 2 protocol, Depending of the TE Configuration***

Depending of the type of flow control supported by the TE, the coding of octet 7 is different. The value ISO 6429 (0 1000) means "Inband flow control" and the value COPnoFLCT (0 1100) means "No flow control". The "Outband Flow control is not allowed with V.21 modem).

Depending of the user rate supported by the MS, the user rate and the modem type change:

	User Rate in Octet 6a:	-	-	-	-	0	0	0	1	0,3 kbit/s
	Modem type in Octet 6c:	-	-	-	0	0	0	0	1	Modem V.21

	User Rate in Octet 6a:	-	-	-	-	0	0	1	0	1,2 kbit/s
	Modem type in Octet 6c:	-	-	-	0	0	0	1	0	Modem V.22

	User Rate in Octet 6a:	-	-	-	-	0	0	1	1	2,4 kbit/s
	Modem type in Octet 6c:	-	-	-	0	0	0	1	1	Modem V.22bis
							1	0	1	Modem V.26ter

	User Rate in Octet 6a:	-	-	-	-	0	1	0	0	4,8 kbit/s
	Modem type in Octet 6c:	-	-	-	0	0	1	1	0	Modem V.32

	NIRR in Octet 4:	-	-	-	-	-	-	0	-	no meaning
	User Rate in Octet 6a:	-	-	-	-	0	1	0	1	9,6 kbit/s
	Modem type in Octet 6c:	-	-	-	0	0	1	1	0	Modem V.32

	User Rate in Octet 6a:	-	-	-	-	0	1	1	1	1,2 kbit/s 75bit/s
	Modem type in Octet 6c:	-	-	-	0	0	1	0	0	Modem V.23

11.8.2.5.3 Speech/Synchronous Data

BC GSM = 04 07 X2 X8 81 20 1X X3 8X

Octet 1	0	0	0	0	0	1	0	0	Information Element: Bearer Capability
Octet 2	0	0	0	0	0	1	1	1	Length
Octet 3	1	x	x	0	0	0	1	0	Extension Radio Channel Requirement Coding Standard: GSM Transfer Mode: Circuit Info. Transfer Cap.: 3,1 kHz Audio
Octet 4	1	y	1	1	1	0	0	0	Extension Spare Structure: Unstructured Duplex Mode: Full duplex Configuration: Point to Point Negotiation of Intermediate Rate Requested: No meaning Establishment: Demand
Octet 5	1	0	0	0	0	0	0	1	Extension Access Id Rate Adaptation: No Signalling Access Protocol: I.440 / I.450
Octet 6	0	0	1	0	0	0	0	0	Extension Layer 1 Id: Default User Information Layer 1 Protocol Synchronous / Asynchronous: Synchronous
Octet 6a	0	0	0	1	**x**	**x**	**x**	**x**	Extension Number of Stop Bits: NA Negotiation: In band Negotiation not possible Number of Data Bits: NA **User Rate**
Octet 6b	0	**1**	**x**	0	0	0	1	1	Extension **Intermediate Rate** NIC on TX: Not Required NIC on RX: Not Supported Parity: NA
Octet 6c	1	0	0	**0**	**x**	**x**	**x**	**x**	Extension Connection Element: Transparent **Modem Type**

Depending of the user rate supported by the MS, the user rate, the modem type and the intermediate rate change:

	User Rate in Octet 6a:	-	-	-	-	0	0	1	0	1,2 kbit/s
	Intermediate rate in Octet 6b:	-	1	0	-	-	-	-	-	8 kbit/s
	Modem type in Octet 6c:	-	-	-	0	0	0	1	0	Modem V.22

	User Rate in Octet 6a:	-	-	-	-	0	0	1	1	2,4 kbit/s
	Intermediate rate in Octet 6b:	-	1	0	-	-	-	-	-	8 kbit/s
	Modem type in Octet 6c:	-	-	-	0	0	0	1	1	Modem V.22bis
							1	0	1	Modem V.26ter

	User Rate in Octet 6a:	-	-	-	-	0	1	0	0	4,8 kbit/s
	Intermediate rate in Octet 6b:	-	1	0	-	-	-	-	-	8 kbit/s
	Modem type in Octet 6c:	-	-	-	0	0	1	1	0	Modem V.32

	NIRR in Octet 4:	-	-	-	-	-	-	0	-	no meaning
	User Rate in Octet 6a:	-	-	-	-	0	1	0	1	9,6 kbit/s
	Intermediate rate in Octet 6b:	-	1	1	-	-	-	-	-	16 kbit/s
	Modem type in Octet 6c:	-	-	-	0	0	1	1	0	Modem V.32

11.8.2.6 BS 81 - Speech followed by Data

The first BC is coded as follows :

IF speech full rate version 2 is supported by the mobile, see 11.8.2.9.2

ELSE see 11.8.2.9.1

The repeat Indicator in the Setup message is coded "Sequential for successive selection (followed by)": D3.

The second BC in the Setup message is coded as described below.

11.8.2.6.1 Speech followed by Asynchronous Data

See chapters 11.8.2.5.1 and 11.8.2.5.2.

11.8.2.6.2 Speech followed by Synchronous Data

See chapter 11.8.2.5.3.

11.8.2.7 TS 61 - Alternate Speech / Facsimile group 3

The first BC is coded as follows :

IF speech full rate version 2 is supported by the mobile, see 11.8.2.9.2

ELSE see 11.8.2.9.1

The repeat Indicator in the Setup message is coded "Circular for successive selection (alternate)": D1.

The second BC in the Setup message is coded as described below.

11.8.2.7.1 TS 61 - Alternate Speech / Facsimile group 3, Transparent

BC GSM = 04 07 X3 X8 81 20 1X X3 80

Octet 1	0	0	0	0	0	1	0	0	Information Element: Bearer Capability
Octet 2	0	0	0	0	0	1	1	1	Length
Octet 3	1	y	y	0	0	0	1	1	Extension Radio Channel Requirement: Spare Coding Standard: GSM Transfer Mode: Circuit Info. Transfer Cap.: FAX3
Octet 4	1	y	1	1	1	0	0	0	Extension Spare Structure: Unstructured Duplex Mode: Full duplex Configuration: Point to Point Negotiation of Intermediate Rate Requested: No meaning Establishment: Demand
Octet 5	1	0	0	0	0	0	0	1	Extension Access Id Rate Adaptation: No Signalling Access Protocol: NA
Octet 6	0	0	1	0	0	0	0	0	Extension Layer 1 Id: Default User Information Layer 1 Protocol Synchronous / Asynchronous: synchronous
Octet 6a	0	0	0	1	**x**	**x**	**x**	**x**	Extension Number of Stop Bits: NA Negotiation: In band Negotiation not possible Number of Data Bits: NA **User Rate**
Octet 6b	0	**1**	**x**	0	0	0	1	1	Extension **Intermediate Rate** NIC on TX: Not Required NIC on RX: Not Supported Parity: NA
Octet 6c	1	0	0	0	0	0	0	0	Extension Connection Element: Transparent Modem Type: None

Depending of the user rate supported by the MS, the user rate and the intermediate rate change:

	User Rate in Octet 6a:	-	-	-	-	0	0	1	1	2,4 kbit/s
	Interm. Rate in Octet 6b:	-	1	0	-	-	-	-	-	8 kbit/s

	User Rate in Octet 6a:	-	-	-	-	0	1	0	0	4,8 kbit/s
	Interm. Rate in Octet 6b:	-	1	0	-	-	-	-	-	8 kbit/s

	NIRR in Octet 4:	-	-	-	-	-	-	0	-	no meaning
	User Rate in Octet 6a:	-	-	-	-	0	1	0	1	9,6 kbit/s
	Interm. Rate in Octet 6b:	-	1	1	-	-	-	-	-	16 kbit/s

11.8.2.7.2 TS 61 - Alternate Speech / Facsimile group 3, Non Transparent

BC GSM = 04 07 X3 XX 81 20 1X 63 X0 66

Octet 1	0	0	0	0	0	1	0	0	Information Element: Bearer Capability
Octet 2	0	0	0	0	0	1	1	1	Length
Octet 3	1	y	y	0	0	0	1	1	Extension Radio Channel Requirement: Spare Coding Standard: GSM Transfer Mode: Circuit Info. Transfer Cap.: FAX3
Octet 4	1	y	0	0	1	0	x	0	Extension Spare Structure: SDU Integrity Duplex Mode: Full duplex Configuration: Point to Point Negotiation of Intermediate Rate Requested Establishment: Demand
Octet 5	1	0	0	0	0	0	0	1	Extension Access Id Rate Adaptation: No Signalling Access Protocol: NA
Octet 6	0	0	1	0	0	0	0	0	Extension Layer 1 Id: Default User Information Layer 1 Protocol Synchronous / Asynchronous: synchronous
Octet 6a	0	0	0	1	**x**	**x**	**x**	**x**	Extension Number of Stop Bits: NA Negotiation: In band Negotiation not possible Number of Data Bits: NA **User Rate**
Octet 6b	0	1	1	0	0	0	1	1	Extension Intermediate Rate: 16 kbit/s NIC on TX: Not Required NIC on RX: Not Supported Parity: NA
Octet 6c	1	x	x	0	0	0	0	0	Extension Connection Element Modem Type: None
Octet 7	1	1	0	0	0	1	1	0	Extension Layer 2 Id X.25

The user rate supported by the MS may have the following values:

	User Rate in Octet 6a:	-	-	-	-	0	0	1	1	2,4 kbit/s

	User Rate in Octet 6a:	-	-	-	-	0	1	0	0	4,8 kbit/s

	NIRR in Octet 4:	-	-	-	-	-	-	0	-	no meaning
	User Rate in Octet 6a:	-	-	-	-	0	1	0	1	9,6 kbit/s

If present, Octet 7 shall have the following value:

	UI2LP in Octet 7	-	-	-	0	0	1	1	0	X.25

11.8.2.8 TS 62 - Automatic Facsimile group 3

The repeat Indicator in the Setup message is not available.

The BC GSM is coded as described in chapter 11.8.2.7.

11.8.2.9 TS 11 and TS 12- Speech

11.8.2.9.1 Support of only full/half rate speech version 1

The BC in the Setup message is coded as described below.

BC GSM = 04 01 X0

Octet 1	0	0	0	0	0	1	0	0	Information Element : Bearer Capability
Octet 2	0	0	0	0	0	0	0	1	Length
Octet 3	1	x	x	0	0	0	0	0	Extension Radio Channel Requirement Coding Standard : GSM Transfer Mode : Circuit Info. Transfer Cap. : speech

11.8.2.9.2 Support of speech full rate version 2 (Enhanced Full Rate)

This BC will be used by MS supporting EFR as the most advanced speech version. Those supporting EFR and newer codec speech version such as speech version 3, half rate speech version 2 will not use this BC.

The BC in the Setup message is coded as described below.

BC GSM = 04 0X X0 0X XX (1X)

Octet 1	0	0	0	0	0	1	0	0	Information Element : Bearer Capability
Octet 2	0	0	0	0	0	x	x	x	Length
Octet 3	0	x	x	0	0	0	0	0	Extension Radio Channel Requirement Coding Standard : GSM Transfer Mode : Circuit Info. Transfer Cap. : speech
Octet_3a_1	0	0	0	0	0	x	x	x	Extension Coding Spare Speech version indication
Octet_3a_2	x	0	0	0	0	x	x	x	Extension Coding Spare Speech version indication
Octet_3a_3	1	0	0	0	0	x	x	x	Extension Coding Spare Speech version indication

IF the MS supports only Full Rate

Octet 2	0	0	0	0	0	0	1	1	Length
Radio Channel Requirement in Octet 3:	-	0	1	-	-	-	-	-	Full rate support only mobile station/preference as in octets3a_etc

Octet_3a_1	-	-	-	-	-	0	x	0	x=0 : full rate speech version 1 x=1 : full rate speech version 2

Octet_3a_2	1	-	-	-	-	0	x	0	x=0 : full rate speech version 1 x=1 : full rate speech version 2

the speech indication in Octet_3a_1 shall be different from the one in Octet_3a_2.

Octet _3a_3 is not present.

ELSE

Octet 2 Radio Channel Requirement in Octet 3:	0 -	0 1	0 x	0 -	0 -	1 -	0 -	0 -	Length x=0 or 1 :Dual rate mobile station/ preference as in octets3a_etc

Octet_3a_1	-	-	-	-	-	0	x	x	(0,0) :full rate speech version 1 (1,0) : full rate speech version 2 (0,1) : half rate speech version 1

Octet_3a_2	0	-	-	-	-	0	x	x	(0,0) :full rate speech version 1 (1,0) : full rate speech version 2 (0,1) : half rate speech version 1

Octet_3a_3	1	-	-	-	-	0	x	x	(0,0) :full rate speech version 1 (1,0) : full rate speech version 2 (0,1) : half rate speech version 1

Each speech indication in Octet_3a_i shall be different from the one in Octet_3a_j, i≠j.