

**MESSAGE SERVICE SYSTEM  
FEATURE DOCUMENT  
1A ESS™ SWITCH  
AUTOPLEX™ SYSTEM 100**

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## CUSTOMER BENEFIT

**1.02** The AMSS feature can provide a mobile subscriber with a convenient way to avoid missing calls when busy on another call or when unavailable.

## AVAILABILITY

**1.03** The AMSS feature is initially available with the AUTOPLEX System 100 Release 2 (1AE8A.03) generic program.

**1.04** The HAMRS (Hybrid AUTOPLEX System 100 Message Retrieval Service) custom feature is an enhancement to AMSS and is available with the 1AE9.06 and later generic programs (paragraph 2.04).

**1.05** Please contact your AT&T Technologies' representative for feature licensing information.

## FEATURE GROUPS

**1.06** The HAMRS is an optional custom feature contained in the AMPSCP (System 100 call processing) feature package.

## INCOMPATIBILITIES

**1.07** A given mobile subscriber cannot have customer changeable CCF (conditional call forwarding) and the System 100 AMSS feature at the same time.

## 2. USER PERSPECTIVE

**2.01** The AMSS custom feature allows calls terminating to subscribing mobiles to be forwarded, with the MIN (mobile identification number) of the terminating mobile, to an appropriate message service system. Typically, the caller may leave a message for the called mobile and/or use an alternative as provided by the message service provider.

**2.02** Mobile subscribers may retrieve messages by accessing their message service, dialing their MIN and a personal security code, and then dialing one of several request codes.

**2.03** Alternately, mobile subscribers may call themselves (a revertive mobile to mobile call) and be forwarded to the message service. This procedure is more expedient for the user because only the 7-digit DN (directory number) of the mobile is dialed. The

MIN does not have to be dialed since it is outpulsed as a function of AMSS.

**2.04** Prior to the HAMRS enhancement, the latter method produced two AMA records: one for the initial mobile to mobile call, and a second one for the forwarding of the base DN (i.e., the MIN) to the message service. The HAMRS feature addresses this specific disadvantage by eliminating the initial mobile-to-mobile AMA record for all revertive AMSS mobile-to-mobile calls.

## FEATURE DESCRIPTION

**2.05** The System 100 AMSS feature is built upon the service order CCF feature. The following services are offered:

- Subscriber Busy only
- Subscriber No Answer only
- Subscriber Busy/No Answer combined.

**2.06** Busy: Incoming calls will be forwarded to the message storage system only when the subscriber is busy with another call. No alert is provided indicating that the call is being forwarded.

**2.07** No Answer: Incoming calls will be forwarded to the message storage system only in situations of no answer. The calling party does not receive a recorded announcement saying the call is being forwarded. Calls are forwarded in the following situations:

- The subscriber does not respond to paging (two attempts) because the mobile unit is turned off, or it is not in the service area.
- The subscriber is alerted but does not answer within the specified period of alerting time-out (0 through 60 seconds).

**2.08** Busy/No Answer: Subscriber receives either busy or no answer treatment depending upon the state of the mobile unit.

**2.09** For the System 100 AMSS feature, the remote DN is the message storage system DN. This DN is used to derive a route index to the special trunk group associated with the message storage system.

**2.10** For a System 100 AMSS call, the switch outpulses the subscriber's MIN rather than the remote DN as for CCF. Upon receiving the MIN, the message storage system checks to determine if the digits correspond to a valid subscriber. If not, the call is considered erroneous or unauthorized and is not completed.

**2.11** Any available outpulsing scheme can be used to transmit the digits. The type is specified in the route index expansion table.

### INTERACTIONS

**2.12** If the mobile subscriber has the Immediate Call Forwarding feature and it is activated, it takes precedence over the System 100 AMSS feature. That is, all incoming calls will forward to the specified telephone number.

**2.13** If the mobile subscriber also has the Call Waiting feature and is busy on a call, an incoming call will alert the subscriber in the normal manner. However, if the subscriber does not respond to the alerting tone, the call is forwarded to the message storage system upon time-out.

### 3. ENGINEERING

#### HARDWARE

**3.01** Miscellaneous trunk circuits (SD-1A236) are required as outgoing trunks to the message storage system.

#### SOFTWARE

##### A. Base Generic Program

**3.02** The AMSS feature is available in the 1AE8.03 generic program; approximately 250 words are required for AMSS. THE HAMRS feature requires the 1AE9.06 generic program.

##### B. Optionally Loaded Feature Groups

**3.03** The CCF feature package (MCFID, approximately 8000 words) must be loaded.

##### C. Parameters/Call Store Areas

**3.04** Fast feature set card FF010 controls the AMSS feature. Fast feature set card FF041 controls the HAMRS feature.

### D. Translations

**3.05** Translation requirements are:

- Two words for route index expansion table per trunk group.
- Four words for trunk class code expansion table for the SD-1A236 trunks. Bit 15 in word 2 indicates that this is a System 100 AMSS trunk group.
- Two additional DN auxiliary block words per subscriber for storage of the message storage system DN.

### REAL TIME

**3.06** The System 100 AMSS feature requires a maximum of 8000 cycles to forward a call.

### 4. IMPLEMENTATION

#### SET CARDS

**4.01** The FF010 set card is required for the System 100 AMSS feature. The FF041 set card is required for the HAMRS feature. Refer to the PG-1A for details.

#### TRANSLATION FORMS

**4.02** The following translation forms are applicable to the System 100 AMSS feature. Refer to the TG-1A for details.

- ESS 1101—Directory Number Record
- ESS 1107—Supplementary Information Record
- ESS 1204—Trunk Class Code Recrod.

#### RECENT CHANGE MESSAGES

**4.03** To have the System 100 AMSS feature implemented the subscriber is assigned the CCF by using the following messages:

RC:MOBL;CHG:ORD n, TN bbbbbb,NPA  
mmm,E6G! (Busy)

RC:MOBL;CHG:ORD n, TN bbbbbb,NPA  
mmm,E9G! (No Answer)

After assignment, this feature is implemented by using the following message:

RC:MOBL;CHG:ORD n, TN bbbbbb,NPA mm,E6G CFN hhhhhh! (Busy)

RC:MOBL;CHG:ORD n, TN bbbbbb,NPA mm,E9G CFN hhhhhh! (No Answer)

The feature is unassigned by using the following message:

RC:MOBL;CHG:ORD n, TN bbbbbb,NPA mm,E6G no, CFN no! (Busy)

RC:MOBL;CHG:ORD n, TN bbbbbb,NPA mm,E9G no, CFN no! (No Answer)

where bbbbbb = DN

hhhhhh = call forwarding DN

mmm = numbering plan area

n = order number

E6G = call forwarding Busy

E9G = call forwarding No Answer.

See Part 6 A(1) for details.

## **5. ADMINISTRATION**

### **MEASUREMENTS**

**5.01** The System 100 AMSS trunk groups peg, usage, and overflow counts may be used to engineer AMSS.

### **AMA (AUTOMATIC MESSAGE ACCOUNTING)**

**5.02** The forwarding of incoming mobile unit calls has a special AMA record written. When a call is placed to the subscriber DN, the AMA record for the call resembles that of a mobile unit origination. The differences are the fields containing the call type and voice channel usage time. The A2 data group indicates the call transfer services, while the voice channel seizure and release fields are interpreted as mobile telephone switching office voice trunk seizure and release time. This time interval includes any voice channel usage time (30 seconds) that could occur in the don't answer service of this feature. See Part 6 A(5) for details concerning AMA records.

**5.03** The HAMRS feature eliminates the initial mobile to mobile V32 AMA (originating AMA) record for all revertive AMSS mobile to mobile calls. This occurs when a mobile dials itself (using the 7-digit DN of the mobile) to retrieve messages. The AMA entry generated to record the forwarding of the base station to the remote DN remains unchanged.

## **6. REFERENCES**

### **A. AT&T Practices**

1. 231-218-301—Recent Change Formats and Implementation—Description and Procedures—AUTOPLEX System 100
2. 231-290-600—Mobile Telephone Switching Office Feature—Feature Document—AUTOPLEX System 100
3. 231-290-607—Immediate Call Forwarding Feature—Feature Document—AUTOPLEX System 100
4. 231-290-608—Conditional Call Forwarding Feature—Feature Document—AUTOPLEX System 100
5. 231-290-620—Automatic Message Accounting—Feature Document.

### **B. Other Documentation**

1. Input Message Manual IM-6A001
2. Office Parameter Specification PA-6A001
3. Output Message Manual OM-6A001
4. Parameter Guide PG-1A
5. Translation Guide TG-1A
6. Translation Output Configuration PA-6A002.

## **7. COMMENT FORM**

**7.01** A comment form is located at the back of this practice to provide a communications channel from the user to the writer.