Home Intercom/Single Line Variety Package Feature Document 1A ESS™ Switch

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1. Introduction

Definition

1.01 The **Home Intercom** feature allows telephones (extensions) sharing the same DN (directory number) to be used as an intercom system. Any one of these telephones is capable of alerting all the telephones on the line.

1.02 The **SVP (Single Line Variety Package)** feature with the Home Intercom feature provides the following capabilities: intercom code dialing, selective intercom dialing, selective call transfer, and dialable call hold.

Reason For Reissue

1.03 This document is being reissued to include changes from Addendum, Issue 1 and to add information concerning the Termination Attempt Trigger (TAT) and Advanced Intelligent Network (AIN) Release 0.1 Protocol and Capabilities Features.

Availability

1.04 The Home Intercom feature is available in Issue 8A.03 of the 1AE8A generic program and the initial release of the 1AE9 generic program. The Home Intercom enhancement is available in Issue 8A.06 of the 1AE8A generic program and the initial release of the 1AE9.01 generic program. This enhancement allowed centrex lines the capability of using Home Intercom.

1.05 The SVP feature is available in the 1AE8A.09 and 1AE9.04 generic program.

1.06 AT&T welcomes your comments on this practice. Your comments aid us in improving the quality and usefulness of AT&T documentation. Please use the Feedback Form provided in this practice or call the AT&T Documentation Preparation Group at 708-224-7053.

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(d) **All Others:** Call 800-432-6600.

1.08 Every effort has been made to ensure that the information in this practice is complete and accurate at the time of printing. However, information is subject to change.

1.09 This practice is issued by:

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Feature Groups

1.10 The Home Intercom feature is base controlled. The 9SDRNG (distinctive ringing) feature group must be loaded.

1.11 The SVP feature requires the 9SDRNG feature group, 9FPACT (prefixed access code translator) feature package and the Home Intercom feature (set card FF011).

Feature Assignment

1.12 The Home Intercom and SVP features are available to single party POTS (plain old telephone service) and RSS (Remote Switching System) lines via a service order. This feature requires an OMAJ (originating major) class of 4 and a TMAJ (terminating major) class of 4. The Home Intercom and SVP features are also available to centrex lines with an OMAJ class of 18 and a TMAJ class of 18. A customer must subscribe to Home Intercom; it is not usage sensitive.

2. User Perspective

User Profile

2.01 The Home Intercom and SVP features are applicable where extensions are far apart such as:

- Between floors in a house, apartment, or business
- Between buildings on a farm or small business
- Between adjoining rooms where someone is physically impaired.

Activation

A. Home Intercom

2.02 The POTS, RSS, and MVP (multiline variety package) centrex customers initiate a Home Intercom call by going off-hook and dialing his or her own DN from that telephone. [To get out of centrex, a non-MVP centrex customer is required to dial his access code (to initiate direct distance dialing) prior to dialing his own DN.] The customer receives busy tone. When the customer goes on-hook within 15 seconds, the office applies DRNG to all extensions of that line. The customer must go on-hook within 15 seconds or the Home Intercom activation is canceled. There is no timing involved in ringback for a POTS or centrex line. For a RSS line, if the call is not answered within 3 minutes, it is abandoned and the RSS channel involved is placed on a maintenance list to be tested.

2.03 When an extension is taken off-hook, the extensions connected to that DN have a talking path established until all extensions are placed back on-hook. This means that any two extensions can continue a conversation if other extensions go on-hook.

B. Single Line Variety Package

2.04 **Intercom code dialing** enables the SVP customer to activate the Home Intercom feature by dialing an access code. This is done in the following way:

(a) The user goes off-hook, receives dial tone, and dials the access code for intercom code dialing (Table A).

(b) The user receives activation confirmation dial tone and must hang up.

(c) All extensions will ring back with a distinctive ringing pattern [pattern B for POTS/centrex or pattern C for RSS (Table A)].

(d) When any extension for the DN goes off-hook, ringing is disconnected. If any other extension goes off-hook, the result is a talking path between the extensions. The talking path is held until all extensions go back on-hook. If off-hook does not occur within approximately 3 minutes of ringback, the intercom code dialing call will be disconnected.

2.05 **Selective intercom dialing** permits the SVP user to select, by way of distinctive ringing, the particular person or extension that the user wishes to alert. The user proceeds in the same manner as for intercom dialing with the exception that there are two access codes

available with distinctive ringing patterns (Table A). All extensions will ring with the same pattern. An RSS line may not use selective intercom dialing. If an RSS line tries to use selective intercom dialing; it will receive treatment for incorrect dialing. (An RSS line supplies the distinctive ring itself, and it can only provide one distinctive ringing pattern that is used by intercom code dialing.) If off-hook does not occur within approximately 3-minutes of ringback, the selective intercom dialing call will be disconnected.

2.06 **Selective call transfer** gives the user the capability to transfer any incoming call to the person for whom the call was intended as follows:

(a) A call is received at one extension but is intended for another member. The user flashes the switchhook and receives recall dial tone. The calling party is placed on temporary hold.

(b) The user dials a selective call transfer access code (Table A) and receives activation confirmation dial tone.

(c) The user hangs up and the DN is rerung with distinctive ringing associated with the access code dialed.

(d) The extensions are rerung until an extension for the DN goes off-hook. A stable connection is then reestablished with the calling party.

2.07 **Dialable call hold** gives the user the capability of placing a call on hold so that the call may be continued from another extension. This is done in the following way:

(a) At any stage while connected to a call (either incoming or outgoing), the user flashes the switchhook. The call is placed on temporary hold and the user receives recall dial tone.

(b) The user dials the dialable call hold access code (Table A), and receives activation confirmation dial tone and hangs up the phone. The call is now placed on an extended hold and will remain on hold until any extension is taken off-hook or the calling party disconnects.

(c) When the telephone is picked up from any extension, the user will be immediately reconnected to the held party.

Deactivation

2.08 The Home Intercom and SVP features are deactivated when all extensions of that DN go on-hook. On all SVP features, the user must go on-hook within 15 through 20 seconds (before dial tone time-out) after dialing the SVP access codes and receiving activation confirmation dial tone. Otherwise, the feature activation is canceled.

Interactions

2.09 To have the flashing privilege required by selective call transfer and dialable call hold, the Three-Way Calling feature must be assigned to SVP lines. After a user flashes during a two-way call, an access code can be dialed to request the SVP capabilities or a 7/10-digit number can be dialed to initiate three-way calling.

2.10 Customers with the Call Forwarding features will be allowed to have their calls forwarded while the SVP capabilities are being used.

2.11 When a customer is engaged in a call with an outside calling party, the Call Waiting feature can be in effect. The calling party hears audible ringing and the SVP user receives call waiting tone. The user can answer or disregard it. If the user is engaged in a pure intercom call, the holding circuit is not capable of a connection that would allow call waiting tone to be given to the user. Therefore, the incoming caller will receive busy treatment. If the user has placed an incoming call on an extended hold using dialable call hold, the user will not be able to hear a call waiting tone. Therefore, the incoming caller will receive busy treatment.

2.12 There are additional interactions between SVP capabilities and other centrex features (for example, Station Dial Conference and Call Transfer features) that require a flash to signal the 1A ESS switch. If a line has these features and SVP, the interactions would be independent up to the point where the switch returns dial tone after flashing. At this stage, the digits entered

indicate to the switch which feature should be activated.

Operational Limitations

2.13 The following limitations apply:

- Home Intercom and SVP will work only with POTS and RSS lines that have an OMAJ and a TMAJ class of 4 or a centrex line that has an OMAJ and a TMAJ class of 18.
- Home Intercom lines cannot be part of a MLHG (multiline hunt group) or series completion list. (A SVP line can be part of a series completion list.)
- Home Intercom will not work on a line that has call forwarding activated because call forwarding takes precedence over Home Intercom. However, SVP can be used when call forwarding is activated.
- Home Intercom will function on a line with call waiting but call waiting is deactivated for the duration of the home intercom, intercom code dialing, selective intercom dialing or dial call hold calls.
- Home Intercom calls may not be initiated as any part of a 3-way call. If the SVP subscriber is the third leg on a 3-way call, the subscriber can initiate selective call transfer or dialable call hold action.
- Home Intercom does not interface with the ICLID (Individual Calling Line Identification) feature of LASS (Local Area Signaling Services). The Home Intercom customers with ICLID will not see their DN displayed when they activate a Home Intercom call.
- Home Intercom calls cannot be initiated by the Automatic Recall feature of LASS.
- Advanced Services Platform/Service Switching Point (ASP/SSP) provides the 1A ESS Switch capabilities to operate as part of the Advanced Intelligent Network (A-I-Net). This feature is the foundation that provides the necessary switch to database communications which allow for new services to be developed at the Service Control Point (SCP) database without additional switch development. If a Home Intercom subscriber dials their own telephone number and encounters a Dialed Number Trigger (DNT), Home Intercom treatment will not occur even if the SCP returns the Home Intercom number as a route to DN. Refer to Part 6A(6) for more information about ASP/SSP.
- Home Intercom Lines can have a Termination Attempt Trigger (TAT) assigned. However, if a home intercom subscriber dials his own DN, the home intercom feature takes precedence over TAT (the TAT is ignored). Refer to AT&T Practice 231-390-522 for more information on the Advanced Intelligent Network (AIN) Release 0.1 Protocol and Capabilities which include the TAT feature.

3. Engineering

Hardware

3.01 A trunk holding circuit is required for the duration of a Home Intercom and SVP intercom call. This is a tone or recorded announcement circuit SD-1A218-01 or -05. The trunk holding circuits should be assigned to the route index 142 for reverting call holding trunks.

3.02 A special ringing circuit (SD-1A188-01) is required for the ringing portion of a Home Intercom and SVP call.

3.03 A three-port conference circuit (SD-1A284) is required during selective call transfer and dialable call hold functions.

Software

A. Base Generic Program

3.04 The Home Intercom feature is base controlled and requires 215 words of program store memory. The SVP feature requires an additional 500 words of program store memory.

B. Optionally Loaded Feature Groups

3.05 The Home Intercom and SVP features require the 9FDRNG feature group to be loaded. The SVP feature also requires the 9FPACT feature to be loaded.

C. Parameters/Call Store Areas

3.06 There will be an increase in the use of reverting call registers (7 words each),

special ringing registers (20 words each) and three-port conference registers (for SVP users) based on expected use of the Home Intercom feature.

3.07 The parameter word B6SVP contains the beginning address of the SVP traffic counts block in the variable call store. Parameter word B6SVP + 1 contains the size of the SVP traffic counts block.

D. Translations

3.08 Bit 2 of the DN class 2 word is set to one to indicate that the DN has the Home Intercom feature. This is an option 9 word in the individual or centrex line DN auxiliary block.

3.09 Bit 11 of the LEN (line equipment number) class 4 word is set to one to indicate that the DN has the SVP feature. This is an option 8 word (individual line) and option 6 word (centrex or RSS line) LEN auxiliary block. Since the SVP feature requires the Home Intercom feature, the Home Intercom indicator (DN class 2 word, bit 2) is required. The SVP feature also requires the three-way call indicator to be set (LEN class 1 word, bit 12).

3.10 For POTS/RSS use, the SVP feature requires that the PACT translator have entries for feature type 31 (index 2) and subtype 0 through 3. For centrex use, the SVP feature requires that the centrex digit interpreter translator have entries for data type 5, sub-type 31 (index 2) and sub-subtype 0 through 3. The subtype (POTS/RSS) or sub-subtype (centrex) will indicate the actual SVP feature that will be accessed (Table A).

Real Time

3.11 Real time impact should be minimal. This feature uses approximately the same number of cycles as an intraoffice POTS call.

4. Implementation

Set Cards

4.01 The following set cards are applicable to the Home Intercom feature:

(a) Set card FF011 is set to one when the office supports the Home Intercom feature. Otherwise, set card FF011 is set to zero.

(b) Set card NRV defines the number of revertive call registers. A revertive register is used in processing an intercom call.

(c) Set card NSR defines the quantity of special ringing circuits.

(d) Set card 9FDRNG is required to provide the distinctive ringing.

Refer to Part 6 B(3) for details.

4.02 In addition to the Home Intercom set cards, set cards 9SSVP and 9FPACT are set to one when the office supports the SVP feature. Otherwise, set card 9SSVP is set to zero. Set card NCF defines the quantity of conference registers. Refer to Part 6 B(3) for details.

Translation Forms

4.03 The following translation forms are applicable to this feature. Refer to Part 6 B(4) for details.

- ESS 1101 – Directory Number Record
- ESS 1107A – Supplementary Information Record.

Recent Change Messages

4.04 The Home Intercom feature is added to a line using the HMI keyword in the RC:LINE or RC:LINE;CHG messages. Home Intercom is deleted from a line using HMI NO or N in a RC:LINE;CHG message.

4.05 The SVP feature is added to a line using the SVP keyword in the RC:LINE or RC:LINE;CHG: messages. The SVP keyword requires that the HMI and ESC (three-way call) keywords be input if the line does not already have Home Intercom and Three-Way Call. The SVP feature can be removed from a line by inputting SVP NO.

4.06 The PACT access code entries are built by using the RC:PSWD or RC:GENT

messages. The centrex digit interpreter access codes are built using the RC:CTXDI message with the STYP, STYPIDX, and SSTYP keywords.

Verification

4.07 The HMI (Y/N) keyword is added to the VF:DNSVY input message under the FEATRS keyword. System response should be the TR75 output message.

4.08 The SVP (Y/N) keyword is added to the VF:DNSVY input message under the FEATRS keyword. System response should be the TR75 output message.

4.09 The VFY-XDGNT input message is used to verify digits that translate to the centrex digit interpreter table entry. System response should be the TR02 output message.

4.10 The VFY-LEN input message is used to identify the SVP bit in the LEN class 4 word. System response should be the TR03 output message.

5. Administration

Measurements

5.01 The TMC (traffic measurement code) 5 is available for the Home Intercom feature. This office count is added on the hourly (H and C), selected quarter hour (DA15), and special studies (S1 and S2) traffic schedules.

EGO	DESCRIPTION
259	**Home Intercom Calls Peg Count:** This counts the number of times a customer initiates a Home Intercom call. This count is on an office basis. Refer to Part 6 A(5) for details.

5.02 The TMC 161 is available for the SVP feature. This office count is added on the hourly (H and C), selected quarter hour (DA15), and special studies (S1 and S2) traffic schedules. The EGO count numbers are as follows:

EGO	DESCRIPTION
000	**SVP Intercom Code Dialing Peg Count:** This counts the number of times a customer successfully activates an intercom call by dialing an access code.
001	**SVP Selective Intercom Dialing Peg Count:** This counts the number of times a selective intercom call is successfully dialed.
002	**SVP Selective Call Transfer Peg Count:** This counts the number of times a selective call transfer access code is successfully dialed.
003	**SVP Dialable Call Hold Peg Count:** This counts the number of times a dialable call hold access code is successfully dialed.

Refer to Part 6 A(5) for details.

Automatic Message Accounting

5.03 There is no AMA (automatic message accounting) recording done on a Home Intercom or SVP call. Even if the line is defined as message rate, no units are calculated.

6. Supplementary Information

References

A. AT&T Practices

(1) 231-048-312 – *Line Recent Change Formats*

(2) 231-318-325 – *Line Recent Change Procedures (When Issued)*

(3) 231-090-158 – *Distinctive Ringing/Distinctive Call Waiting Tone Feature*

(4) 231-390-061 – *Prefixed Access Code Translator*

(5) 231-390-207 – *Traffic Measurements Feature*

(6) 231-390-519 – *Advanced Services Platform/Service Switching Point (ASP/SSP) Feature Document.*

(7) 231-390-522 – *Advanced Intelligent Network (AIN) Release 0.1 Protocol and Capabilities Feature Document*

B. Other Documentation

(1) *Input Message Manual IM-6A001*

(2) *Output Message Manual OM-6A001*

(3) *Parameter Guide PG-1A*

(4) *Translations Guide TG-1A.*

7. Abbreviations and Acronyms

A

AIN
Advanced Intelligent Network

AMA
Automatic Message Accounting

ASP
Advanced Services Platform

D

DN
Directory Number

DNT
Dialed Number Trigger

I

ICLID
Individual Calling Line Identification

L

LASS
Local Area Signaling Services

LEN
Line Equipment Number

M

MLHG
Multiline Hunt Group

MVP
Multiline Variety Package

O

OMAJ
Originating Major Class

P

POTS
Plain Old Telephone Service

R

RSS
Remote Switching System

S

SCP
Service Control Point

SSP
Service Switching Point

SVP
Single Line Variety Package

T

TAT
Termination Attempt Trigger

TMAJ
Terminating Major Class

TMC
Traffic Measurement Code

Table A. Centrex, POTS, and RSS Access Codes (Note 1)

Subtype/ Sub-Subtype	Access Code (Note 2)	SVP Use	No. of Rings	Ring Pattern	Description
Centrex and POTS Users					
NA	NA	Incoming Call	1	A	2 sec. on, 4 sec. off
0	XX	Intercom Code Dialing, and Selective Call Transfer	2	B	800 ms on, 400 ms off; 800 ms on, 4 sec. off
1	XY	Selective Intercom Dialing and Selective Call Transfer	3	C	400 ms on, 200 ms off; 400 ms on, 200 ms off; 800 ms on, 4 sec. off
2	XZ	Selective Intercom Dialing and Selective Call Transfer	3	D	300 ms on, 200 ms off; 1000 ms on, 200 ms off; 300 ms on, 4 sec. off
3	XQ	Dialable Call Hold	0	–	–
RSS Users					
0	XX	Intercom Code Dialing and Selective Call Transfer	3	C	400 ms on, 200 ms off; 400 ms on, 200 ms off; 800 ms on, 4 sec. off
3	XQ	Dialable Call Hold	0	–	–

Notes:

1. POTS/RSS access codes use feature type 31, feature subtype index 2, and subtypes 0 through 3. Centrex access codes use data type 5, subtype 31, sub-subtype index 2, and sub-subtypes 0 through 3.
2. The operating company will assign the access codes.

FEEDBACK FORM

Document Title: Home Intercom/Single Line Variety Package
Feature Document
1A ESS™ Switch

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