S824

S206/408

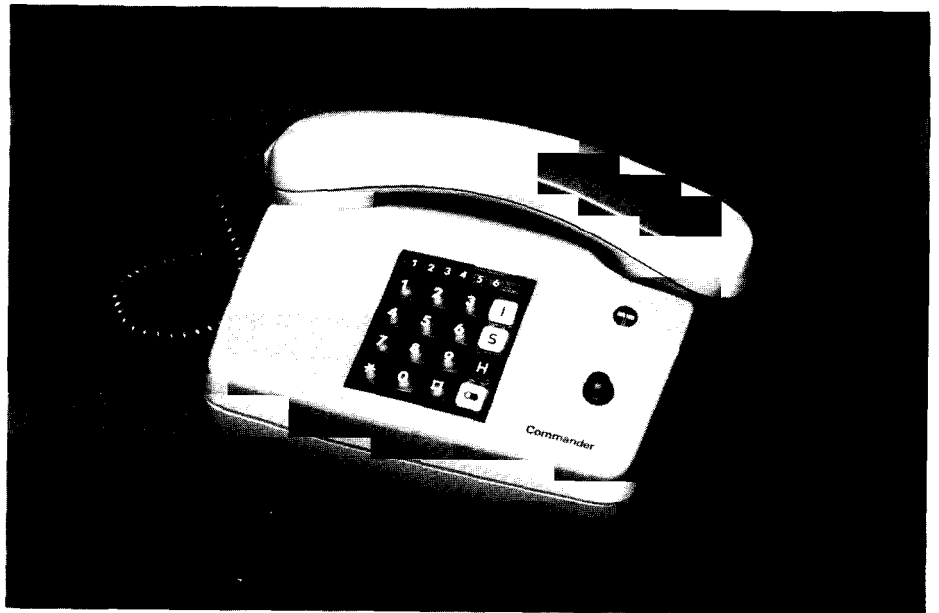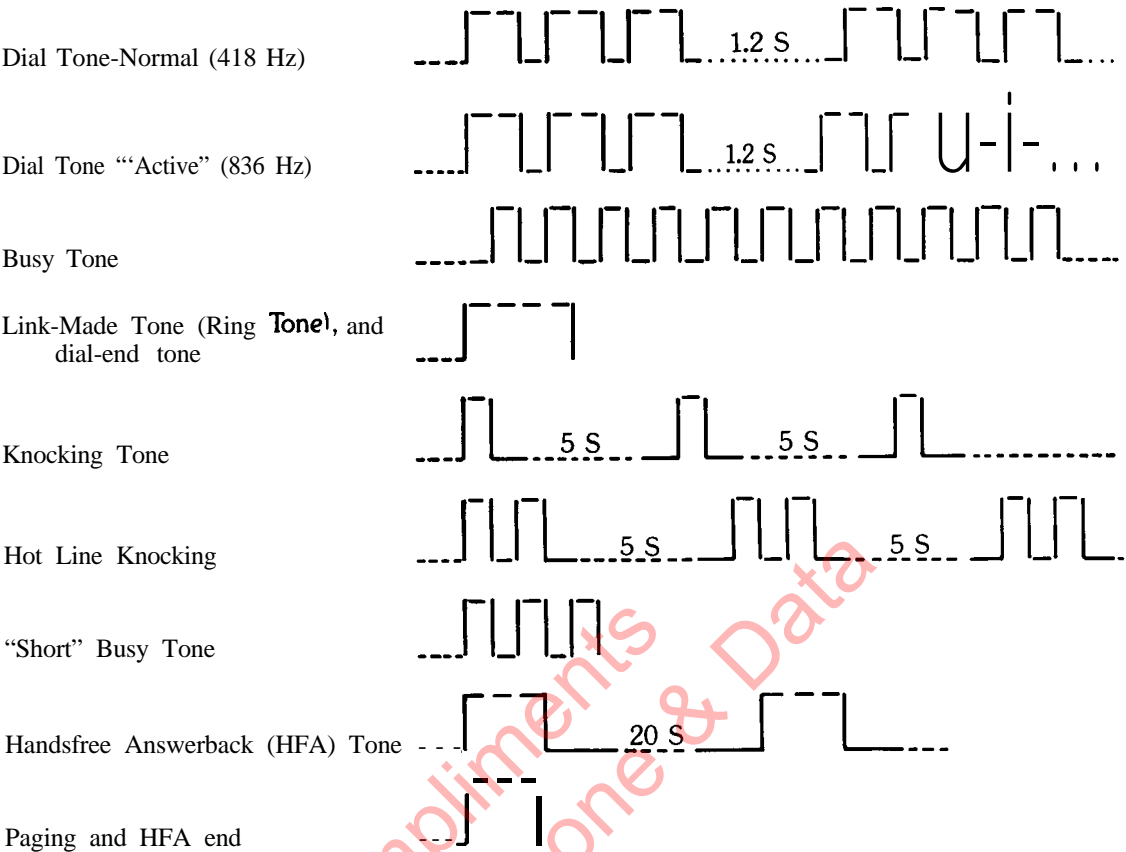COMSET T8   COMSET T16   DSS Console

STANDARD KEY
STATION

TWO-WIRE STATION
(typical 807)

Issue 2

1.9   **OPERATING INSTRUCTIONS FOR USERS**

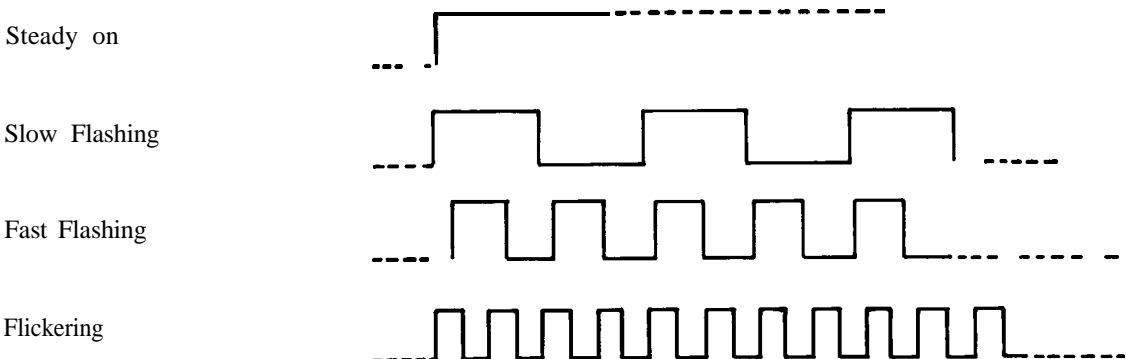1.9.1   **Service Tones**   Note "⌐" = approx. 120 *mS*

Dial Tone-Normal (418 Hz)

Dial Tone '"Active" (836 Hz)

Busy Tone

Link-Made Tone (Ring **Tone**⟩, and dial-end tone

Knocking Tone

Hot Line Knocking

"Short" Busy Tone

Handsfree Answerback (HFA) Tone

Paging and HFA end

1.9.2   **Service Signals (Ringing)**   Note: *Periodicity* as indicated

Internal Ringing

Hot Line Ringing
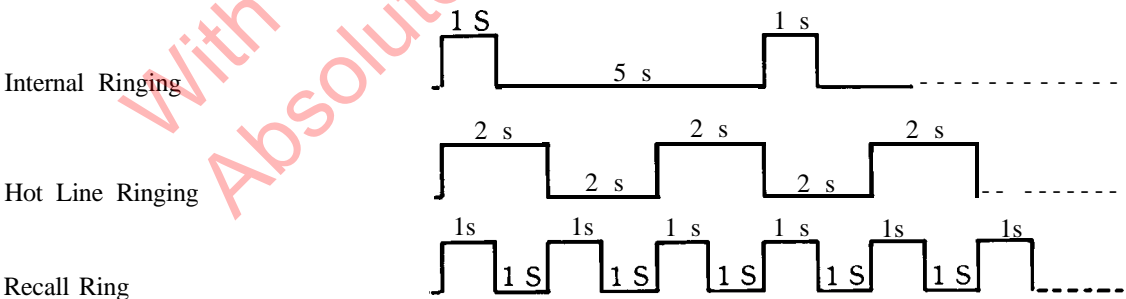
Recall Ring

Note: Outside call ring follows the cadence of the incoming signal

1.9.3   **LED Sequences**

Steady on

Slow Flashing

Fast Flashing

Flickering

1.9.4   **Station Face Layouts, Optical Signals and Keypad Functions**

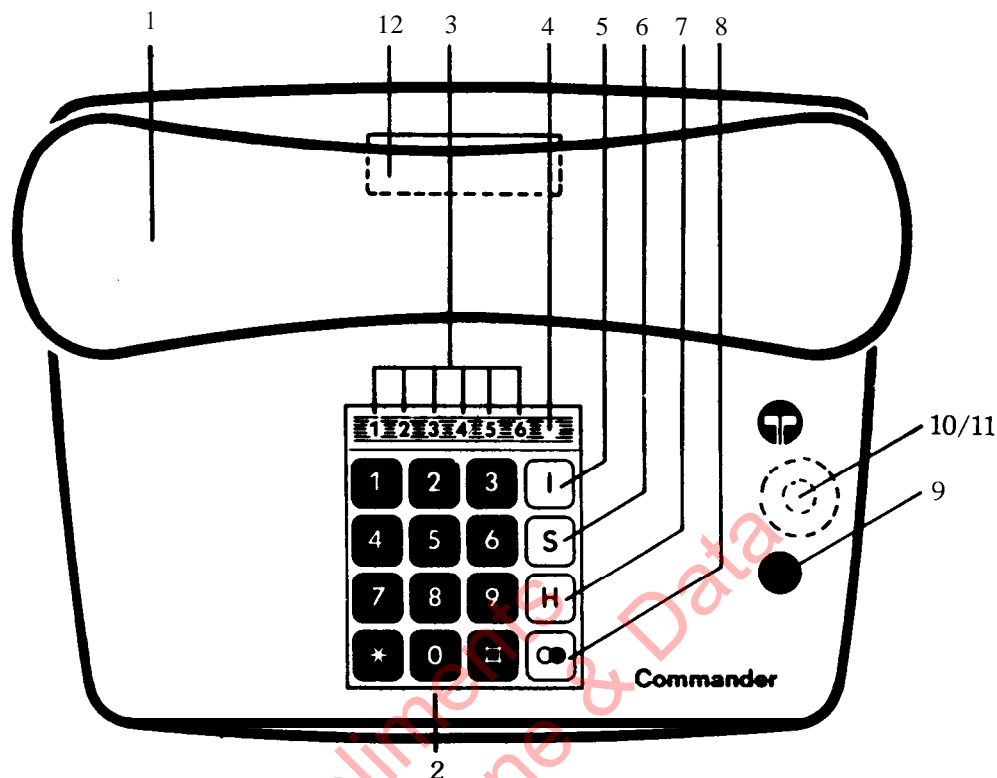1.9.4.1.   **Standard Key Station**

Fig. 1.1 Standard Key Station Face Layout

1. Handset
2. Keypad Assembly
3. LED'S (red) for external line status
4. LED (yellow) for facility activation indication — (facilities LED)
5. Internal Key — for dialling internal call numbers
6. Special Procedure Key — for activation of special procedures
7. Hold key — for holding external calls
8. Last Number Redial Key
9. PABX Recall Key
10. Knurled wheel for adjustment of ringer volume
11. Adjustment of ringer tone
12. Station Label

OPTICAL SIGNALS

The RED led's provide information regarding the status of the exchange lines:

  steady   on   — the related exchange line is in use
  slow flashing — the related exchange line is in HOLD state
  fast flashing — there is an unanswered incoming external call on that line.

The YELLOW led provides details regarding the internal conditions:

  steady on   — "night state" activated (mode A and mode B)
  slow flashing — Do-not-disturb, Call Diversion or Follow Me activated
  fast flashing — the station is being knocked-on.

NOTE: "Steady on" state takes precedence over other con-current active display details.

KEY PAD FUNCTION

Key	Off Hook Function	On Hook Function
1 - 8	Select that line for an external call.	"Book" that line for an external call.
0	Select any available exchange line.	"Book" first available exchange line.
#	Switch from decadic outpulsing to DTMF (in the State "External Connection").	Initiate station self test (#1).
*	Hot line code.	
I "Internal Key"	— 111 . I34 Dial an internal station. — I8 Access to "Paging system". (See Para 1.9.5.5)	
S "Service key"	— S00 . . . S59 Dial an abbreviated number	N/F
	— Answer a knocking signal.	
	— s o General cancellation of call diversion, follow-me facility and Do-not-disturb.	Ditto
	— S1 Activate/cancel Call Diversion	Ditto
	— s 2 Activate/cancel Follow-me	Ditto
	— s 3 Activate/cancel Do-not-disturb	Ditto
	— S4XX Activate "Night Switch'.	Ditto
	— s 4 Cancel "Night Switch'.	Ditto
	— S6 Send "Message Waiting" to a Comset.	N/F
	— s 7 Conference (both int/ext/int and int/ext/ext.)	N/F
	— S8 "Direct call" to a Comset.	N/F
	— s 9 Activate/cancel Data Transfer	
	— S# Programming of station abbreviated numbers	N/F
H "Hold Key"	— Hold an external call.	N/F
O● "Redial Key"	— Redial of the "Last Number" dialled.	N/F

NOTE: * System abbreviated numbers are programmable only from station 11, via a Service Key (S) procedure.
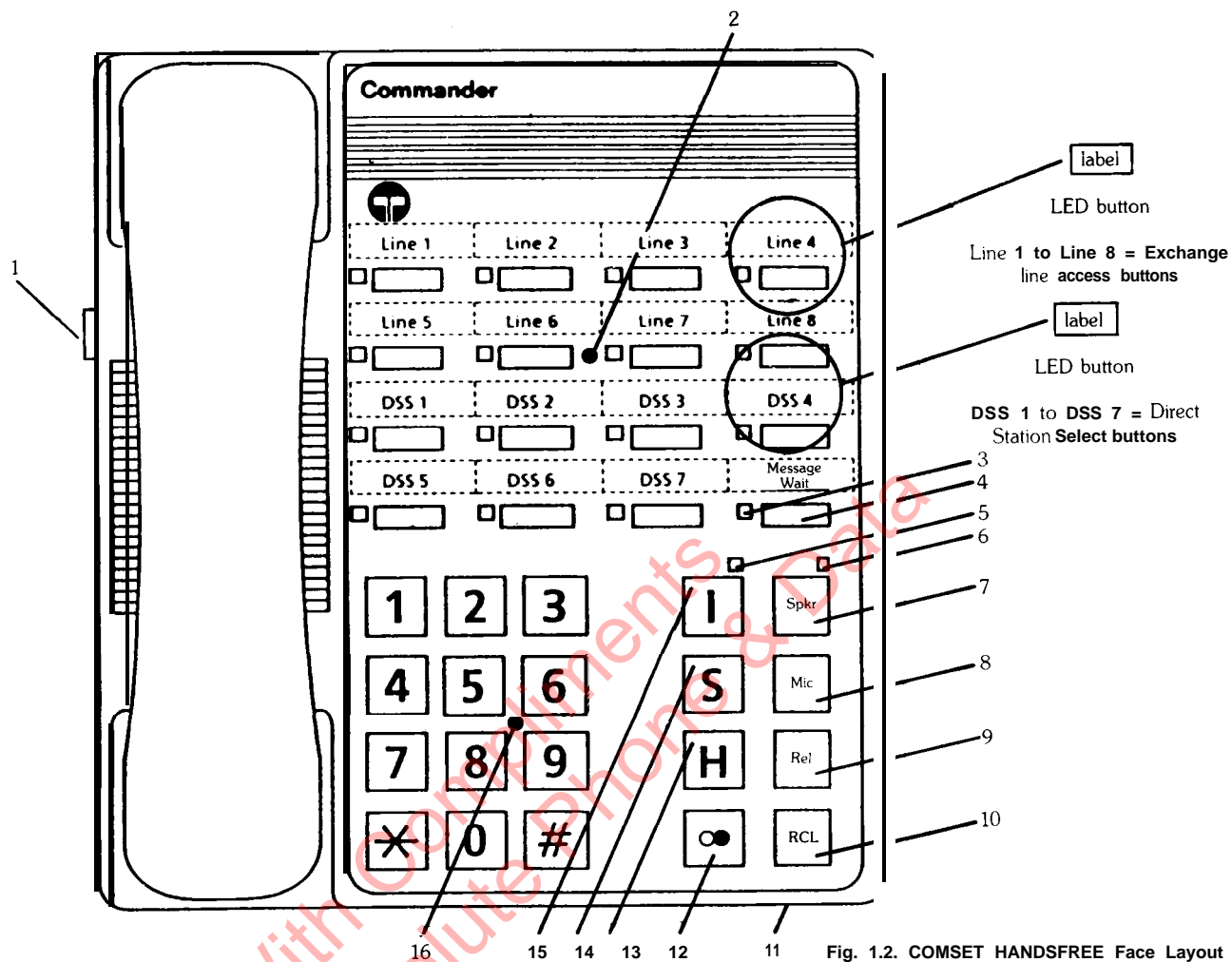
*N/F = No function

1.9.4.2 **Comset Handsfree Station**

NOTE: the station layout displayed is as set up for a S408 system.

For the S206, Line 3, Line 4, DSS 6 and DSS 7 push button positions have no function.

For the S824, the second row of push buttons (drawn here unlabelled) are the positions for Line 5 to Line 8.

Fig. 1.2. COMSET HANDSFREE Face Layout

1 Volume control for handsfree loudspeaker
2 "DSS" push button field
3 Message Waiting LED
4 Message Waiting activation button
5 Facilities LED, indicating the activation of Do-Not-Disturb, Call Diversion, Call Follow-me, or Night Switch State
6 Speaker/Microphone Mute LED
7 Speaker On/Off key
8 Microphone Key — Permitting/barring the Handsfree Answerback facility
9 Exchange Line release Key — acts as a quasi hook switch
10 PABX Recall Key
11 Inbuilt microphone for handsfree communications
12 Number Redial Key — "Last Number" or "Saved Number" can be redialled
13 Hold Key — for holding exchange line calls
14 Special Procedures Key — for activation of call diversion, call follow me, abbreviated numbers, etc.
15 Internal Key — for access to the paging link
16 Dialling Keypad
17 (Not shown) Ringer tone and volume combined control, accessible on base of Comset

OPTICAL SIGNALS

Exchange Line LED's

   Steady ON — exchange line busy

   Slow flashing — exchange line on hold

   Fast flashing — incoming call

   Flickering — knocking from that particular exchange line.

Station LED's

   Steady ON — station busy

   Fast flashing — that station is calling or being called from another station

   Flickering — that station is generating knocking or is engaged in a HFAB call with this station.

Facilities LED

   Steady ON — night state activated

   Slow flashing — DND, call diversion or follow me activated

Message Waiting LED

   Steady ON — this station has left a message

   Slow flashing — message is waiting to be answered.

SPKR LED

   Steady ON — microphone mute is activated

   Fast flashing — loudspeaker is ON (handsfree operation)

KEY PAD FUNCTIONS

Key	Off Hook Function	On Hook Function
0	Select any available exchange line	"Book' first available exchange line
#	Switch from decadic outpulsing to DTMF (in the state "External Connection")	
I "Internal Key"	— 18 access to "paging" system (see Para 1.9.5.5)	Ditto
S "Service Key"	— S00 . . . S59 Dial an abbreviated number	
	— SO General cancellation of call diversion, follow-me facility and Do-not-disturb	Ditto
	— S1 Activate/cancel Call diversion	Ditto
	— S2 Activate/cancel Follow-me	Ditto
	— S3 Activate/cancel Do-not-disturb	Ditto
	— S4XX Activate "Night Switch'	Ditto
	— S4 Cancel "Night Switch"	Ditto
	— S6 Send "Message Waiting" to a Comset	

| Key	Off Hook	On Hook

S
"Service Key"
(cont.)
	— s7 External conference
	      Int/Ext/Int
	      Int/Ext/Ext
	— S8 "Direct call" to
	     a Comset
	— S9 Activate/cancel
	     Data Transfer
	— S# Programming of
	     station abbreviated
	     numbers
	— SO● Activate "Save
	     Number" Redial
	     facility (for later
	     redialling)	

H "Hold Key"	— Hold an external call	

O●
"Redial Key"
	— Redial of the "Last
	  Number" or "Saved
	  Number"	

Spkr	— Loudspeaker on/off	ditto (in "Handsfree" operation mode this key also simulates the hook-switch)
Mic	—	microphone on/off
Rel	— Release (similar to effect of "on-hook")	ditto

RCL	— Signals the Main
	  Equipment to send the
	  required signal (earth or
	  flash) to the parent
	  exchange	

DSS KEY PAD FIELD FUNCTIONS

Key	Off-Hook	On-Hook
Line 1 -Line 8	— Select that line for an external call	"Book" that line for an external call

DSS	— Call to an internal
	  station (multi-call to set
	  up conference)
		Ditto

	— answer internal knocking
	  (recognized by flickering
	  LED of calling station)
		Ditto

	— refer back (enquiry call	Ditto
	— call pick-up	Ditto
Message Wait	— Leave a message (to another COMSET)	Ditto
	— Answer a message	Ditto

NOTE: The operation of any line key, DSS key, key pad digit, abbreviated dial code, or "I" key, while
      on-hook (at a Comset station) will automatically activate the on-hook dialling mode. If the Comset
      T16 is used, conversation can proceed via the in-built microphone. Otherwise the handset must
      be lifted.

1.9.4.3 **Comset On-Hook Station**
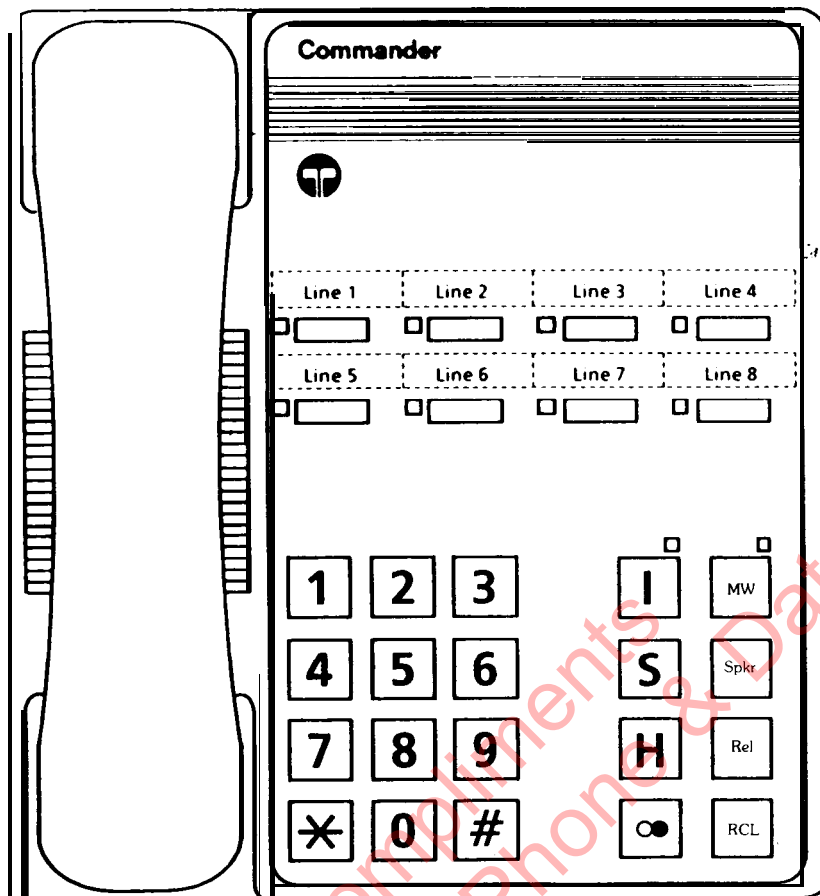
OF'TICAL SIGNALS

Exchange Line LED's

Steady ON — exchange line busy

Slow flashing — exchange line on hold

Fast flashing — incoming call

Flickering — knocking from that particular exchange line.

Facilities LED

Steady ON — night state activated

Slow flashing — DND, call diversion or follow me activated

Message Waiting LED

Steady ON — this station has left a message

Slow flashing — message is waiting to be answered.

KEY PAD FUNCTIONS

Key	Off Hook Function	On Hook Function
0	Select any available exchange line	'Book" first available exchange line
#	Switch from decadic outpulsing to DTMF (in the state "External Connection")	
I "Internal Key"	— 18 access to "paging" system (see Para 1.9.5.5)	Ditto
S "Service Key"	— S00 . . . S59 Dial an abbreviated number	
	— SO General cancellation of call diversion, follow-me facility and Do-not-disturb	Ditto
	— S1 Activate/cancel Call diversion	Ditto
	— s 2 Activate/cancel Follow-me	Ditto
	— S3 Activate/cancel Do-not-disturb	Ditto
	— S4XX Activate "Night Switch"	Ditto
	— S4 Cancel "Night Switch"	Ditto
	— S6 Send "Message Waiting" to a Comset	
S "Service Key" (cont.)	— s7 External conference Int/Ext/Int Int/Ext/Ext	
	— S8 "Direct call" to a Comset	
	— S9 Activate/cancel Data Transfer	
	— S# Programming of station abbreviated numbers	
	— SO● Activate "Save Number" Redial facility (for later redialling)	

Key	Off Hook	On Hook
H "Hold Key"	— Hold an external call	
⦿ "Redial Key"	— Redial of the "Last Number" or "Saved Number"	
Spkr	— **Loudspeaker** on/off (in "idle state" only)	ditto
Rel	— Release (similar to effect of "on-hook")	ditto
RCL	— Signals the Main Equipment to send the required signal (earth or flash) to the parent exchange	
MW	— Sends "Message Waiting" to another Comset — Answers "Message Wait" from another Comset	

DSS KEY PAD FIELD FUNCTIONS

Key	Off-Hook	On-Hook
Line 1 -Line 8	— Select that line for an external call	"Book" that line for an external call

NOTE: The operation of any line key, key pad digit, abbreviated dial code, or "I" key, while on-hook (at a Comset station) will automatically activate the on-hook dial mode.

1.9.4.4   **DSS Console**

Internal/External number keys
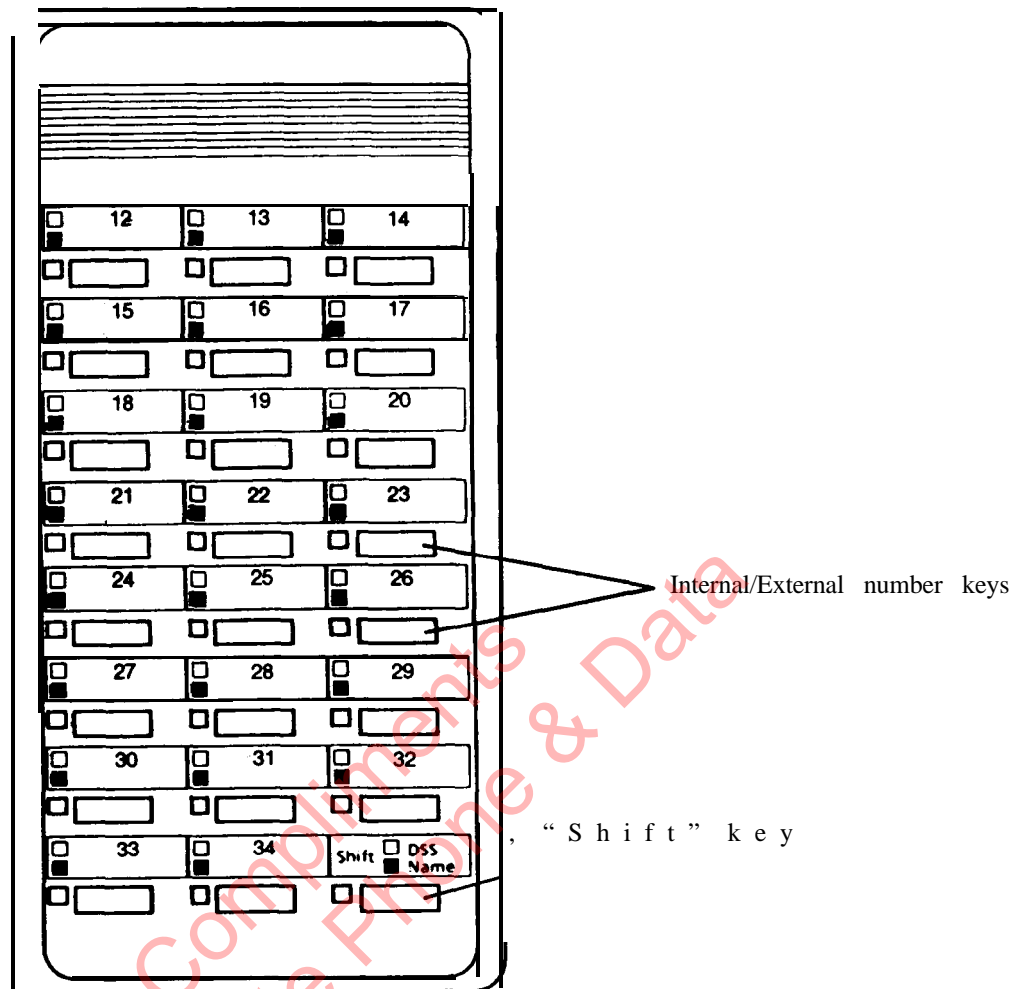
"Shift" key

In the "idle" state the DSS console keys are programmed to connect to internal stations. By pressing the "Shift" key, the DSS console now generates the coding to access external numbers, either directly stored, or stored as abbreviated number locations.

1.9.4.5   **Two Wire Station(s)**

Dial-pulsing telephones may be connected in lieu of the four-wire station type, by means of an optional module: TWIM-DEC-S (S338/950). See also section 2.4.5.

This module allows the **use** of a maximum of 8 normal dial-pulsing telephones which may or may not be equipped with a (PABX) recall-key, however, Telecom reserves the right to limit the number of 2-wire stations connected to an S206/S408/S824 system.

Standard impulse format is required, i.e.

         10-20 P.P.S.

          2: 1 break/make ratio

Facilities operation while on an external call can only occur after the end of the "interdigit interval". This is signalled to the user by a single short tone burst (referred to as the dial-end tone). Note that if "00" is programmed as interdigit interval in the customer data, then the two wire station timer is set to 20 seconds.

DIALLING CODES

Note that activation/deactivation of facilities from two-wire stations, must of course, be carried out with the handset off -hook.

         Issue 2

*Digit Function for 206/408

Diait Dialled	Function
0	• Seizure of a free external line for outgoing calls • Re-seizure of a previously held external line
1 to 4	• Seizure of a particular external line (or pick up a line from Common Hold
7	• Activation/Deactivation of a special facility 71 Call Diversion (71xx : where xx = destination) 72 Follow Me 73 Do-not-disturb (with issue "D" software) 74 Night Switch Mode 75 76 77 Int/Ext/Int Conference (with issue "D" software) 78 79 Change-over to DTMF out-dialling 70 Cancellation of 71 and/or 72
9	• Internal-Call code, followed by station number • Holding of an external connection. (Note that, if during a held external call the handset is replaced, the Common-hold state is not invoked, consequently the two-wire station is recalled immediately) • 98 Access to "Paging" and "Common Hold"

'Digit Function for S824

Diait Dialled	Function
0	• Seizure of a free external line for outgoing calls • Re-seizure of a previously held external line
1 to 8	• Seizure of a particular external line (or pick up a line from Common Hold)
9	• 911-934 Internal Call Code • While on an outside call, will place that call into exclusive hold. (Note that, if during a held external call the handset is replaced, the Common-hold state is not invoked, consequently the two-wire station is recalled immediately) • Activation/Deactivation of a special facility 971 Call Diversion (971xx: where xx = destination) 972 Follow Me 973 Do-not-disturb 974 Night Service (974 xx) 975 976 Message Wait (to Comset only) 977 978 979 970 Cancellation of 971/972/973 980 All call paging and Common Hold 981 Paging to Zone 1 982 Paging to Zone 2 984 Paging to Zone 1 and 2 985 Access to external paging and Common Hold

1.9.4.6   **DSS Numbering Scheme for Comset Handsfree Stations (T16)**
The lower 7 keys of the Cornset's DSS field are initially configured as direct access to the following arrangement of stations:

S206/408
and S824 group I

Stn 12	Stn 13	Stn 14	Stn 15
Stn 16	Stn 17	Stn 18	

(core number 11)   (as seen by station 11)

S824 group II

Stn 20	Stn 21	Stn 22	Stn 23
Stn 24	Stn 25	Stn 26	

(core number 19)   (as seen by station 19)

S824 group III

Stn 28	Stn 29	Stn 30	Stn 31
Stn 32	Stn 33	Stn 34	

(core number 27)   (as seen by station 27)

Note (1) The direct access to other internal stations is initially limited to its 'bwn group of eight". (Other stations are accessed via the "I" procedure).

    (2) The scheme shown above reflects the access as seen by the indicated station. At other stations, the station's individual number (on the key location) is replaced by the "core" number, for instance group I core number is 11.

e.g. at station 22 of a S824, the initial layout would be

Stn 20	Stn 21	Stn 19	Stn 23
Stn 24	Stn 25	Stn 26	

    (3) The DSS keys can be re-programmed at each individual station (behind a S824) to access any stations of the complete system.

1.9.5   **FACILITY DESCRIPTIONS AND OPERATIONS**

1.9.5.1   **Symbol Definitions**

Throughout this section the following symbols are used to relate procedures to specific types of instruments:

Procedures related to "Standard" Key telephone stations (S338/70 and S338/71)

Procedures related to "Comset Handsfree" stations (S338/916), also referred to as T16

Procedures related to "Comset On-Hook Dialling" stations (S338/990), also referred to as T8

Procedures relating to decadic 2-wire stations

☑ 206/408   Procedures that are valid for the S206/S408

☑ 8 2 4   Procedures that are valid for the S824

Note: The Comset On-Hook Station (T8) will only operate on S206/408 fitted with issue 'D' or later software. All production S824 have the T8 compatible software.

1.9.5.2   **Internal Communication**

☑ 206/408 ☑ 8 2 4

Station to station communication is initiated in the off-hook state, by pressing the 'I' key followed by the two digit station number. The dialled station receives internal ring signal and the initiator receives the "link-made" tone. The physical link is established when the rung party picks up the handset.

☑ 206/408

Station to station communication is initiated in the on/off-hook state, by pressing the allocated key position on the DSS panel. The dialled station receives internal ring signal and the initiator receives the "link-made" (single burst) tone. The physical link is established when the rung party picks up the handset, or presses the 'SPKR' key.

The station (B) also receives a visual indication of which station is initiating the call, by a fast flashing LED signal of the calling party (A). At all other Comset stations, the (B) party LED is on fast flashing sequence, while (A) party LED is steady on.

☑ 8 2 4

If required station has been programmed as a DSS appearance, then the procedure is as above. For access to all other stations the procedure is initiated by pressing the "I" key followed by the two digit station number.

☑ 206/408   ☑ 8 2 4

Station to station communication is initiated in the on/off-hook state, by pressing the 'I' key followed by the two digit station number. The dialled station receives internal ring signal and the initiator receives the "link-made" tone. The physical link is established when the rung party picks up the handset. Note that the T8 user must lift-off the handset to communicate (i.e. no "handsfree" operation).

☑ 206/408 ☑ 8 2 4

An internal call is established by lifting-off and dialling '9' followed by the two digit station number. If the called station is free, the two-wire station receives the "link-made" tone.

The link is disconnected by either party replacing their handset or at a COMSET by pressing the 'Rel' key or 'Spkr' (during the on-hook mode). At this time the other party receives busy tone.
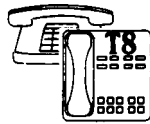
1.9.5.3   **Internal Conference**

Up to 5 stations can be included in an internal conference: four stations directly, and the fifth via the knocking procedure.

The called station joins the conference when its handset is lifted. Conference is terminated by the subscribers replacing their handsets to on-hook.

If requested station is busy then the conference link receives the "short" busy tone sequence. Note that automatic knocking does not occur. If a requested station does not answer before the "Transfer time" (as programmed in the Customer Data) then the call is released. Stations already connected will receive a warning tone to indicate that another party is about to join the conference.

☑ 206/408 ☑ 8   2   4

To build up conference connection, any of the parties already connected in an internal call simply need to press 'I', and the two digit number of the required station.

☑   206/408

To build up a conference connection, any of the parties already connected in an internal call simply need to press the 'DSS' key allocated to the required station.

Fast flashing of the station LED's indicate which stations are required for the internal link-up. When the station joins the conference that station LED (at all Comsets) goes to the steady on state.

☑   824

If the required party has been programmed as a DSS appearance then the procedure is as above. Otherwise, press "I" and the two digit station number.

☑ 206/408 ☑ 8   2   4

To build up a conference connection, standard telephones users simply need to dial digit 9, followed by the two digit number of the required station.

1.9.5.4   **Internal Call Waiting**

If a signalled internal station is busy, the system provides the capability of injecting a "call waiting" signal to that station to indicate that it is required by another internal party. The procedure is automatic and is engaged if an internal call receives busy tone for more than 5 seconds. After this mandatory 5 seconds, the system checks if an injection of tone is permitted to the called station. If a "call waiting" tone is allowed, the busy tone is switched off and the tone is sent to the called party. This tone is repeated every 5 seconds until the call is answered or the calling party hangs up. A continuing busy tone indicates that the required station is not reachable.

If the alerted station is a key station, then there is also visual indication of call waiting, at that station: fast flashing of the facilities LED or particular DSS LED.
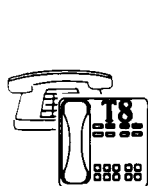
✗ 206/408 ✗ 8 2 4

The alerted party has two methods of answering the signal:

(1) Hang up the receiver: The station will then ring and the waiting party automatically connected on lift-off.

(2) Press the 'S' key:
- if presently connected to an external call, then this will be automatically put in to Exclusive Hold and the waiting party connected.
- if presently connected to an internal call, then the waiting party is brought into a conference mode.

✗   206/408

Answering is by pressing the DSS Key (button) associated with that station:
- if presently connected to an external call, then this will be automatically put in to Exclusive Hold and the waiting party connected.
- if presently connected to an internal call then the waiting party is brought into a conference mode.

✗ 8 2 4

If the waiting station exists as a DSS position, then answering is accomplished by -pressing the relevant DSS key. Otherwise press the 'S' key.

✗ 206/408   ✗ 8 2 4

The wanted party, upon hearing the alerting tone, is able to accept the call by firstly replacing the handset. Then, after receipt of the internal-recall ringing signal, on lifting the handset, a connection to the calling party is established.

1.9.5.5   **Paging**

☑ 206/408

A "paging" link is provided by the system, access to which is programmable. If external paging is programmed as "not available" then the user receives a busy tone, otherwise an announcement tone is sent through the system and also to the user. NOTE: Module type TWIM-DEC-S must be fitted for this facility.

Access Code (AC) = 8

☑ 8 2 4

The 824 system provides access to both an external paging system on up to two groups of internal Comset stations. Up to 12 Comset stations can exist in each group, and a Comset may also be common to both groups. The Access Codes are as follows.

External and both Internal Zones:	AC = 80
Paging to Internal Zone 1:	AC = 81
Paging to Internal Zone 2:	AC = 82
Paging simultaneously to Zone 1 and Zone 2:	AC = 84
External paging only:	AC = 85
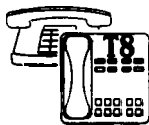
☑ 206/408 ☑ 8 2 4
Access to the specific link is established off-hook by dialling "I" followed by the "AC'.

☑ 206/408
Access to the specific link is established on/off-hook by dialling "I" followed by the "AC".

☑ 8 2 4
If a DSS key has been programmed to enable this procedure simply press the key, on/off-hook. Otherwise- follow the above procedure.

☑ 206/408 ☑ 8 2 4
Access to the specific link is established off-hook, by dialling "9" followed by the "AC".

**1.9.5.6**   **External Communication**

☑ 206/408 ☑ 8 2 4
Incoming calls are signalled audibly and visually: audibly at the station(s) as preprogrammed in the Customer Data Record and visually by a fast flashing of the relevant red LED at all stations with Class of Service level 1 or greater.
At the ringing station, the call is answered by lifting off the handset, or at the COMSET HANDSFREE by pressing the "Spkr" key. At all other (allowed) stations, by lifting-off and pressing the key number of the associated flashing LED. Once the call is answered, the LED remains steady on until some further operation is carried out.
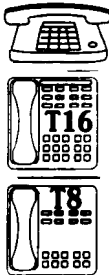
☑ 206/408 ☑ 8 2 4
Incoming external calls, if directed to a two-wire station as the "Designated Answer Point", will be audibly signalled at that point and visually at all keystations. Lifting the handset at the ringing telephone is all that is required to answer the call.

1.9.5.7 **Bypassing (of external calls)**

The system provides a facility whereby it is possible to make an external call (if an exchange line is available) even though an incoming call is being rung at that station.

☑ 206/408   ☑ **824**

Activation of the temporary bypass is by selecting a free exchange line with the handset on-hook. Note that line selection can also be done by pressing "0" thus getting the first available line.

The effect of the bypass is dependent on the pre-programmed call forwarding option allocated to the ringing line.

With option 00: no forwarding: the call is sent to a status defined as "ring at non-existing subscriber". During this time the call is still available to be picked up by any authorized station. If the call is still ringing when station (A) returns to the available state (handset on-hook) the call will be automatically re-allocated to him.

Other options: The call will be sent to the alternate answer point, and follow the normal call forwarding operation.

Note that the station initiating the bypassing receives a ringing signal (and fast flashing yellow LED) since the "Line Booking" procedure has been initiated.

1.9.5.8 **Call Pick-Up**

☑ 206/408 ☑ **8 2 4**

If the LED of a particular station is fast flashing (in the DSS field of any other COMSET HANDSFREE) call pick-up is possible. Any COMSET HANDSFREE user can answer that call by simply picking up his own handset and pressing the key (button) of the "flashing" extension.

Further call procedures are then carried on as normal.

The call pick-up facility can be activated while the required station is busy with another -call.

1.9.5.9 **Outgoing Traffic**

☑ 206/408 ☑ 8 2 4

Exchange line selection for an external call is carried out by lifting the handset and by pressing either the line key number, or by pressing 'O', in which case the next free line will be allocated

☑ 206/408 ( ) 824

An outgoing external connection may be established with the handset on-hook (handsfree dialling) or handset off-hook (normal mode).

HANDSFREE MODE:

An exchange line is selected and the number dialled via the keypad, the last number redial key, or the abbreviated number procedure.

The call can progress in either the HF mode or by lifting the handset for a private mode. The loudspeaker can be switched on and off any number of times during the call. The Spkr-LED indicates the HF mode by flashing slowly.

NORMAL MODE:

Exchange line selection can be made by pressing the required line key in the 'DSS' field (i.e. specific selection), or by pressing '0' in the dialling field (i.e. first available line).

The setup can be disconnected by the 'Rel' key while in HF mode or by replacing the handset during normal mode.

☑ 206/408 ☑ 8 2 4

An outgoing external connection may be established with the handset on-hook (on-hook dialling) or handset off-hook (normal mode).

ON-HOOK MODE:

An exchange line is selected and the number dialled via the keypad, the last number redial key, or the abbreviated number procedure.

The call can progress only by lifting the handset. The loudspeaker cannot be switched on during the call.

NORMAL MODE:

Exchange line selection can be made by pressing the required line key in the 'DSS field (i.e. specific selection), or by pressing '0' in the dialling field (i.e. first available line).

The setup can be disconnected by the 'Rel' key or by replacing the handset during normal mode.

☑ 206/408 ☑ 8 2 4

Exchange line selection for an external call is carried out by lifting the handset and by dialling the appropriate line number or by dialling digit '0', in which case the next free line will be allocated.

Note that because a specific interval needs to be timed-out, there will be a period of some seconds after dialling is completed before further functions can be invoked. This time is programmed in the Customer Data, and transmitted to the 2-wire station as the 'dial-end' tone.

1.9.5.10   **External Call Waiting**

External "call waiting" is audibly recognized by the alerting tone with the periodicity of normal external ring, and visually indicated by the flashing or flickering of the LED of that line.
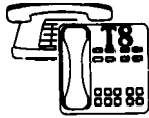
☑ 206/408 ☑ 8   2   4

To answer call waiting, press the S key.
Refer to Table 1.2 (below) to determine the result of this procedure.

☑ 206/408

To answer the call waiting, press the key of the line associated with the flickering LED.
Refer to Table 1.2 (below) to determine the result of this procedure.

☑ 8 2 4

To answer the call waiting, press the key of the line associated with the flickering LED or press the S key.
Refer to Table 1.2 (below) to determine the result of this procedure.

☑ 206/408   ☑ 8 2 4

To answer the call waiting, replace the handset to the on-hook condition and wait for the ring signal.

Table 1.2   Answering the Call Waiting

Present State	Call Waiting from	After Answer Procedure
Internal Call	Internal	Conference (3-way internal)
	External	Internal party disconnected External party connected
External Call	Internal	External call put on exclusive hold Internal party connected
	External	First external call put on exclusive hold Second external party connected

1.9.5.11 **Enquiry and Call Transfer**

☑ 206/408 ☑ 8 2 4

Enquiry is initiated at (A) by pressing the 'I' key followed by the required station's number (B). At both these stations, the line LED of the external line flashes slowly.

Call transfer can now take place in the following manner:

(1) Called party (B), hangs up: external call automatically reconnected to the original party (A)

(2) Calling party (A), hangs up: external call is automatically transferred and connected to the called party (B)

(3) Either party presses key '0': automatic connection to the external call, other party receives busy tone

(4) Either party presses key related to that line: as per (3)

(5) Calling party (A), selects another exchange line WITHOUT HANGING UP. External call is automatically transferred to the called party (B).

☑ 206/408

Enquiry is initiated by pressing the required station's number DSS key. As in the case of internal calls, the called station appears as a flashing signal on all other COMSET's within the system. The line LED of the now held call appears as a flickering signal at the calling station. At the called station, the line LED of the external line flashes slowly.

Further transfer procedures take place as described above, or additionally by (A) party pressing the 'Rel' key.

☑ 8 2 4

If the required station is programmed to appear as a DSS position, then enquiry is initiated by pressing that key. Alternatively, enquiry may be initiated in the same way as for the standard key station.

☑ 206/408 ☑ 8 2 4

To conduct an enquiry call, the two-wire station must dial '9' followed by the wanted station number. The call may be transferred by waiting for the wanted party to respond, then replacing the handset.

If during the enquiry call, the two-wire party wishes to return to the connection with the external party, then the two-wire party must dial '0'.

1.9.5.12   **Transfer Before Answering**

Transfer Before Answering procedure is permitted by this system. If the call is not taken before the end of a pre-programmed transfer time, then it is returned to the originator as a recall. At this time the line LED changes from a slow flashing sequence to a fast flashing sequence, and is indicated to all available 4-wire stations within the system.

The line is disconnected automatically if it has not been answered after the second programmed time has elapsed.

✍ 206/408 ✍ **8 2 4**

After dialling 'I' and the required station number, the handset is returned to on-hook condition. The call is now automatically transferred to the required station, and signalled by the recall ring signal. At the transferring station the line LED is flashing slowly (and remains in this condition until the call is answered), while at the dialled station the line LED flashes fast. To all other stations, the line LED remains steady on.

The "sending" station may retrieve the call at any time while the line LED is flashing (indicating a non-completed transfer).

✍ 206/408

The procedure is activated by pressing the required stations DSS key and releasing the line (handset on-hook, 'Rel' key etc.)

✍ **824**

If the required station has been programmed to appear as a DSS location, then the procedure is activated by pressing the particular DSS key. Otherwise, dial "I" and the required station number.
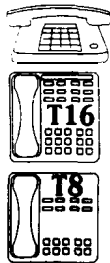
✍ 206/408 ✍ **8 2 4**

To transfer, the two-wire station must dial '9' followed by the wanted station number and put the handset on-hook.

If the wanted party fails to respond, then after a programmed time, the two-wire station is recalled.

1.9.5.13   **Exclusive Hold**

☑ 206/408 ☑ 8   2   4

Pressing the 'I-I' key during an external connection will put that line in a "holding" condition. The line LED indicates this condition by changing from a steady on state to a slow-flashing state. At all other stations the line LED remains steady on. Retrieval of the call is by pressing the key number associated with the line, or digit '0'.
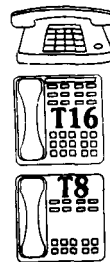
☑ 206/408 ☑ 8   2   4

If a moment of privacy is required, the two-wire station may dial '9' thus placing the external line on hold. Return to the external party is achieved by the subsequent dialling of digit '0'.

1.9.5.14   **Common Hold**

An answered external call may be made available for take-over by an undetermined station via the "Common Hold" procedure. Should the held call not be answered within a programmed time, then it is returned to the initiator, where it is signalled as a recall, with "recall" ringing sequence and fast flashing LED. If it cannot be answered immediately, a check is made every 5 seconds (up to the pre-programmed interval) for answer possibility. At the end of this time the call is disconnected. A "Common Hold" call is taken over by selecting the line on which the call is held.

☑ 206/408   ☑ 8 2 4

Pressing the 'H' key then replacing the handset, puts the call to this mode. The line LED indicates this status at all stations by a slow flashing signal.
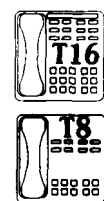
☑ 206/408

From a two-wire station, an external line may be brought into a state of "Common Hold" by dialling '9' then '8' and then replacing the handset. This is actually a call to the paging circuit (or quasicall when paging is not provided). Return to the external party at the two-wire station from this state would not normally be required, but can be achieved by the subsequent dialling of the specific (known) line number.

☑ 824

Common Hold is achieved by dialling "9", "8", "5", then placing the handset on-hook.

1.9.5.15   **Unit Line Dialling (COMSET only)**

☑ 206/408 ☑ 8   2   4

The COMSET position can be so programmed as to have a "unit line". Thus allowing immediate dialling out from the system without the selection of an exchange line.

1.9.5.16   **Last Number Redial/Saved Number Redial**

Note that "Saved Number Redial" is available only on the COMSET type stations.

◪ 206/408 ◪ 8   2   4

The Standard Station contains a buffer that retains the number last dialled on an exchange line. To redial a number, firstly an exchange line needs to be selected and then the 'O●' (redial) key pressed.

◪ 206/408 ◪ 8   2   4

The stored number is dialled automatically by line seizure followed by operation of the 'REDIAL' key. The system provides one of two redial features:

— Automatic Storage (last number redial)
— Saved Number Redial

A) **Automatic Storage:**
The digits are stored automatically and the old contents of the last number redial memory are overwritten when a new number is dialled.

B) **Saved Number Redial:**
Operation of the 'S' key and 'REDIAL' key before replacing the handset, stores the number dialled into the redial memory. By operating the line-key and 'REDIAL' key, the stored number will be dialled. Should the number be required to be "saved" again, the procedure must be repeated. Note that "last number" redial does not function while a number exists in the "saved number" store.

1.9.5.17   **Alternating**

Alternating involves the alternating connection to two or more exchange lines. Once an established call is put in the hold condition, the station is free to select another exchange line and make another exchange call. Newly arriving external calls can also be included in the alternating procedure.

Disconnection of an external line occurs by hanging up while connected to that line. The remaining external party is then automatically connected to the station when the handset is picked up.

◪ 206/408 ◪ 8   2   4

To alternate between the two (or more) external calls, press the 'H' key and select the line that needs to be serviced.
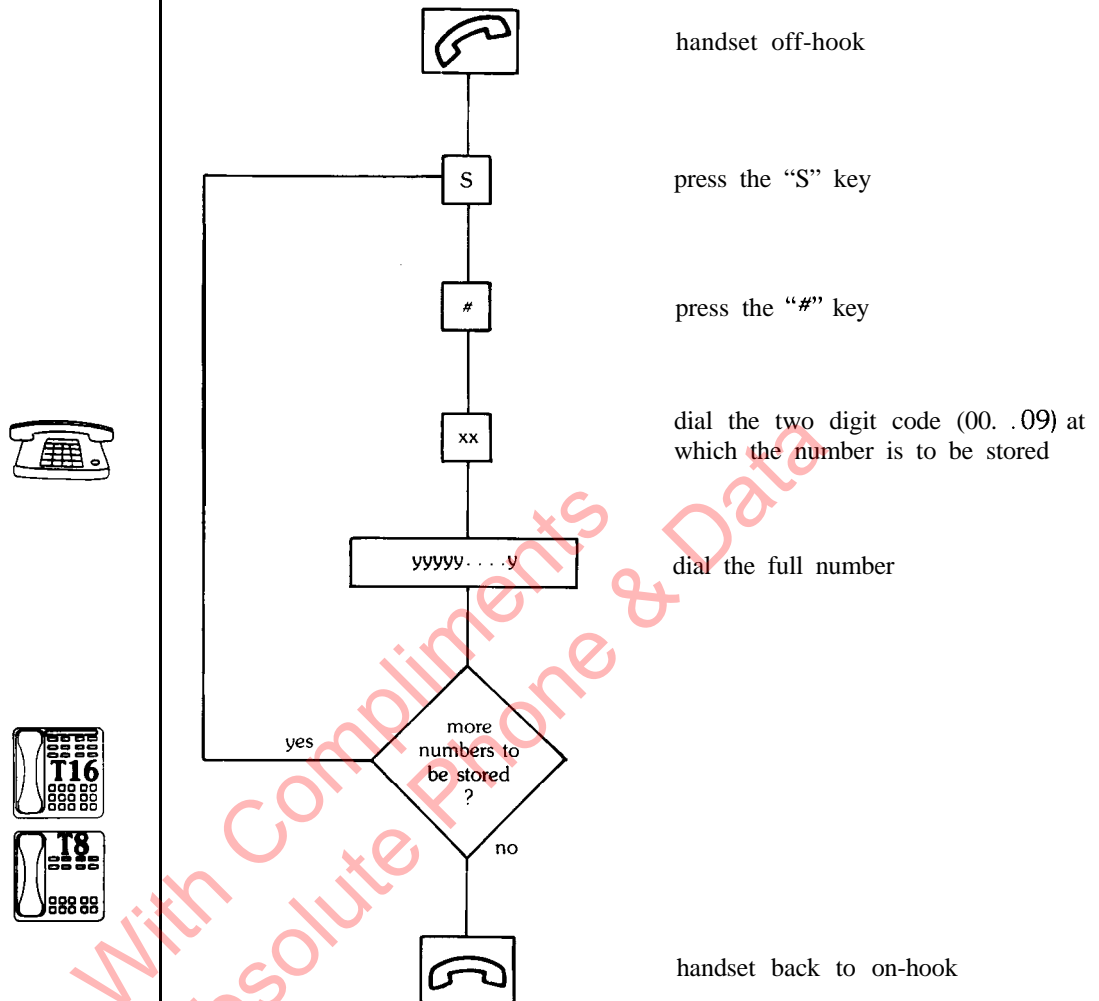
◪ 206/408 ◪ 8   2   4

To alternate simply press the line key of the line that needs to be serviced. The current exchange line is placed on hold, and selected line switched through to the station.

1.9.5.18　　**Abbreviated　Dialling — Storing of Station Numbers**

◪ 206/408 ◪ 8　2　4

Each station can store up to ten 20 digit numbers for private use. "Station" abbreviated numbers are programmed from the relevant station as follows:

handset off-hook

press the "S" key

press the "#" key

dial the two digit code (00. .09) at which the number is to be stored

dial the full number

more numbers to be stored ?

yes

no

handset back to on-hook

The number is stored only when the handset is replaced or the 'S' key pressed to indicate the further numbers are to be stored.

Note: (1) that the abbreviated dialled number is selected from the information stored in the main memory of the system. As such the "last number redial" procedure is inactive and does not retain the number dialled via this procedure.
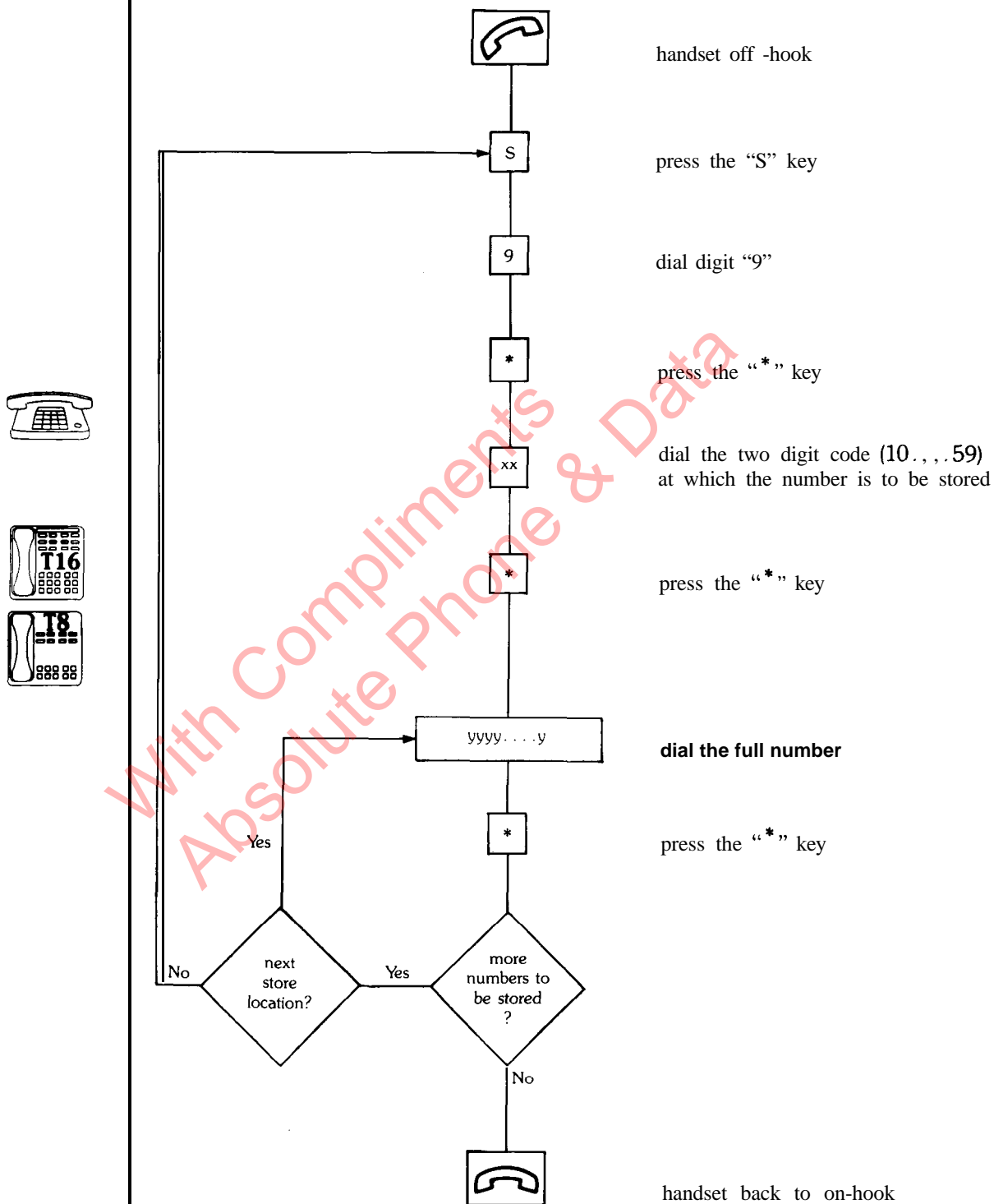
(2) individual station abbreviated numbers are not displayed by the system display. It is up to the user to confirm that his entry is correct.

(3) the individual station numbers are exclusive to that station and cannot be accessed by other stations.

(4) individual station abbreviated numbers may be cleared by pressing:
S # xx # S

1.9.5.19 **Abbreviated Dialling − Storing of System Numbers**
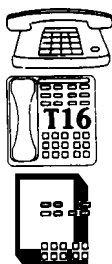
☑ 206/408 ☑ 8 2 4

The "System" group of numbers comprises of fifty 20 digit numbers available to all users of the system with access to an exchange line. These numbers can be programmed from the socket on the main equipment or the station numbered 11. Programming is carried out in the following manner:

📞	handset off -hook
S	press the "S" key
9	dial digit "9"
*	press the "*" key
xx	dial the two digit code (10.,,.59) at which the number is to be stored
*	press the "*" key
yyyy....y	**dial the full number**
*	press the "*" key

next store location? → Yes → S

more numbers to be stored? → Yes → yyyy....y

more numbers to be stored? → No →

📞	handset back to on-hook

Note: Individual "System" Abbreviated numbers may be cleared by pressing
S 9 * xx * # *

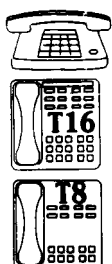..9.5.20   **Abbreviated Dialling Usage**

☑ 206/408 ☑ **8 2 4**

To use an "abbreviated number": select an exchange line then press the 'S' key followed by the two digit address of the required number. Chaining of abbreviated dialling is possible, and is accomplished by once again pressing the 'S' key and the two digit address.

1.9.5.21   **Line Booking**

☑ 206/408   ☑ **824**

If all exchange lines are busy, the "first available" exchange line can be selected by pressing digit '0'. Alternatively a specific line may be booked by pressing that specific key. Line booking is carried out with handset on hook.

As soon as the exchange line becomes available, the station is signalled by the recall ring sequence and visually by a slow flashing sequence of the related line LED. If it is not taken within a preprogrammed time (recall time), it becomes generally available.

During the time that "booking" is active, the station is available for incoming calls. -Booking can be cancelled by lifting then replacing the handset.

1.9.5.22   **Conference: Internal/External/Internal**

During an external connection it is possible to include another internal party into the connection to create this form of conference. The procedure is similar to that for a refer back call.
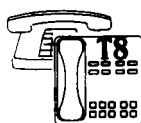
☑ 206/408 ☑ **8 2 4**

The 'I' key is pressed and the required station number dialled. Once the internal link is established, the 'S' key and digit '7' are pressed. The external connection is re-established, and now includes the second internal station.

☑ 206/408

The required station is selected via the relevant DSS key and the conference then established by pressing key S and 7.

☑ **824**

If the required station has been programmed a DSS appearance, then press the relevant DSS key. Alternatively, any station can be invited into the conference by pressing the "I" key followed by the two digit station number.

The conference may continue, or either party may take over the call by pressing the line key or digit '0'. The alternate station is then disconnected and receives busy tone.

1.9.5.23   **Conference: Internal/External/External**
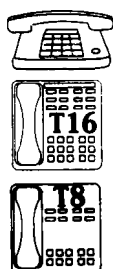
☑ 206/408   ☑ **824**

Due to the arrangement of the crosspoint matrix, it is possible to arrange a conference between two external parties and one internal party. After the first external call is established and put on hold, the second external call can be established. Conference mode can be entered at this stage by the procedure of pressing the 'S' key followed by digit '7'. All three parties are now connected.

If further communication needs to be carried out with only one of the external parties, then the line key related to this line needs to be pressed. The other external party is disconnected.

1.9.5.24   **Call Diversion**

Every station can activate a call diversion process whereby all incoming calls are answered at another allocatable station. Normal outgoing communication can be carried by station (A). However, all incoming calls (internal and external) are rung at station (B). Note that station (B) can ring station (A) during this procedure.

Note that if station (B) has originally a COS (0) it is now upgraded to be able to answer external calls.
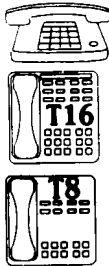
☑ 206/408   ☑ 8 2 4

To activate call forwarding at station (A), press the 'S' key, digit '1' then followed by the two digit number of the destination station (B). Station (A) displays a slow flashing facilities LED to indicate this condition and is now provided with a special dial tone as a reminder. Station (B) displays a slow flashing facilities LED to also indicate this condition. To cancel this function, station (A) has to press the 'S' key and digit '1'.

Facility Code:

☑ 206/408 = 71

☑ 824 = 971

To activate the facility from station (A), dial the "facility code" followed by the two digit destination station (B). As acknowledgement that this function is active, the station (A) hears the special dial tone on handset lift-off.

Cancellation of the facility is from the initiating station (A), by once again dialling the "facility code".

1.9.5.25   **Call Follow Me**

"Follow Me" is an extension to the "Call Diversion" procedure: however with this procedure it is possible to not only redirect calls to a particular station, but to also then further redirect the calls to another station without returning to the original station.

The procedure is activated from station (A) by initiating the normal "call-diversion" procedure.

Normal outgoing communication can be carried out by station (A). However, all incoming calls (internal and external) are rung at station (B). Note that station (B) can ring station (A) during this procedure.
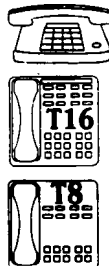
☑ 206/408   ☑ 8 2 4

Subsequent re-routing of the call can be done from any station. The procedure is: press the 'S' key, digit '2' and station (A)'s number.

Deactivation can only take effect at station (A) (the originator) by again pressing 'S' and '2' (a toggling function).

Facility code:

☑ 206/408   = 72

☑ 824 = 972

The procedure is the same as for "Call Diversion".

Cancellation (deactivation) can only take effect at station (A) by off-hook and dialling the facility code.

1.9.5.26   Do-Not-Disturb

By entering this procedure, a station is effectively cut-off from all incoming (internal and external) communication. Outgoing calls may still be made from this station.

Note: If a station of a "hot-line" pair activates D-N-D, then all incoming calls are automatically re-routed to the other member of the pair.
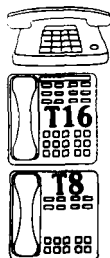
☑ 206/408 ☑ **8 2 4**

Activation and deactivation of this function is by pressing the 'S' key followed by digit '3'.

As an indication that the D-N-D is in operation, the facilities LED is in a slow flash cycle and the special dial tone is heard in the off-hook state.

Note: At all Comset stations the initiator of D-N-D is indicated as a busy station, i.e. DSS position LED on).

Facility code:

☑   206/408 = **973** NA (not available) before issue 'D' software : otherwise = 73

☑   **824**

Activation/deactivation of Do-not-disturb is in the off -hook state by dialling the facility code (and then replacing the handset to on-hook).

1.9.5.27   "Isolation" Procedures and Cancelling

The three procedures Call Diversion, Call Follow Me and Do Not Disturb all in effect "Isolate" the activating station. To simplify any confusion that might result in not knowing which procedure to cancel, a general "cancelling" is available.
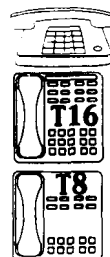
☑ 206/408 ☑ **8 2 4**

The indication that any of these facilities is active is the slow flashing of the facilities LED and the special dial tone.

By pressing 'S' followed by digit '0', all of the activated isolation procedures are cancelled.

Facility code:

☑ 206/408 = **70**

☑ **824 = 970**

The indication that any of these facilities is active, is the special dial tone heard on handset lift-off.

To activate the general cancelling procedure, lift off the handset and dial the facility code.

1.9.5.28   Message Waiting

A "message waiting" signal can be sent only to COMSET station that cannot be reached under normal conditions (busy, does not answer, etc.). The dialled station indicates that state by the slow flashing of the "message waiting" LED.

If the dialled station has call diversion active then message waiting cannot be sent.

A station can only send or receive ONE message wait signal.

Message waiting is answered (at a COMSET station) by pressing the "MESSAGE WAIT" key.
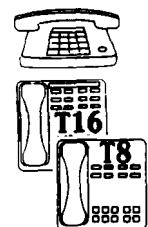
☑ 206/408 ☑ **8 2 4**

Before placing the handset back on-hook (after an unsuccessful contact attempt), press 'S' key and digit '6', or the "MESSAGE WAIT" (MW) key on the COMSET.

If the procedure was successful, then the "link-made" tone will be heard and the station returns to the off hook state, otherwise the busy tone continues.

The "message wait" remains until either the (B) party makes the connection or is cancelled by (A) party (by pressing 'S' key and digit '6' either off/on hook).

'Facility code:

☑ 206/408 = NA (not available)

☑ **824 = 976**

Before replacing the handset (after an unsuccessful internal call) dial the facility code.

To cancel Message Waiting, lift off handset and again dial the facility code.

1.9.5.29 **Night Switching**

The night state can only be switched at the "authorized" stations. The station that activated the procedure receives a special dial tone in off-hook state. All key stations indicate night state with the "facilities" LED on steady condition.

Refer to section 1.7.8 for definition of "modes".
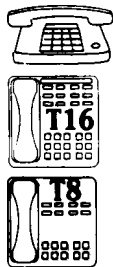
☑ 206/408 ☑ 8 2 4

The system can be switched into either one of the night modes by the following procedure:

for night mode A: press 'S' key then digits '4, 0, 0'.

for night mode *B*: press 'S' key then digit '4', then the two digit number of the required station.

The system can be returned to "daytime" state by pressing the 'S' key then digit '4'.
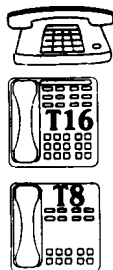
Facility code:

☑ 206/408 = 74

☑ 824 = 974

To activate this procedure from a two-wire station, dial the facility code.

• followed by '0' and '0' to invoke night mode A or

• followed by the two digit number of the target station to invoke night mode B.

To cancel "night switching", the authorized station again dials the facility code.

1.9.5.30 **Hot-Line**

☑ 206/408 ☑ 8 2 4

Dialling between the pairs of a hot-line is carried out by pressing the ' * ' key from either station. The partner is advised of a hot-line call by a differing ring cadence to other internal (or external) calls.

If Do-Not-Disturb is activated (by either one of the hot-line pairs) then calls coming into that station are re-routed to the partner station.

1.9.5.31 **External Data Transfer**

To facilitate non-interruptible and non-corruptible data transfers (e.g. PC to PC) the handset can be returned to the on-hook condition after the procedure is activated.

The exchange line is controlled by the system and therefore must be released (by the system) at the end of the transfer.

☑ 206/408   ☑ 8 2 4

(1) Select the line to be used for the transfer.

(2) If the parallel connected data device has its own dialling circuitry then go directly to (4).

(3) If the data device is a "dumb" terminal then establish the link by dialling the required number. When link is established (generally recognized by a continuous tone sent from the receiving end) then,

(4) Press keys S and 9, and replace handset to on-hook state. Activation of this procedure is indicated by a slow flashing sequence of all LED's

At the end of the transfer the exchange line can be returned to normal status by going off-hook and pressing the S and 9 keys to continue voice communication. OR — the line can be released by pressing the S and 9 keys while the handset is on-hook.

1.9.5.32   Direct Call to a Comset Station

☑ 206/408   ☑ **824**

If the dialled station of an internal call is a Comset, then it is possible to engage the "direct call" procedure (i.e., activation of "handsfree answer back" facility of the Comset). The procedure is as follows:

Dial 'I' followed by the two digit number of the station (e.g. XX)

then 'S' and '8'

i.e. I XX S 8.

If the dialled station was not a Comset, or the dialled station is not reachable then the calling party receives a busy tone.

Note: If the called station was a COMSET ON-HOOK DIAL station, the called party must lift the handset to answer back.

1.9.5.33   Security (Microphone Mute)

☑ 206/408 ☑ **8 2 4**

To prevent access by the Handsfree Answer Back procedure, each COMSET station can switch off its microphone. After pressing the 'Mic' key the Spkr-LED glows continuously to indicate that the microphone is off. Note that the activation must be carried out before an incoming call.

The operation of this facility does not impair the initiation of other functions.

The security protection can be cancelled by once again pressing the 'Mic' key.

1.9.5.34   PABX Recall

☑ 206/408 ☑ **8 2 4**

If the Commander S system is fitted as a satellite to a PABX, then recall to the PABX is effected by operating the "Recall button" on the telephone instruments.

Note that on the COMSET, the recall button is marked "RCL".

Note also that the system must be programmed to acknowledge that it is fitted behind a PABX.

1.9.5.35   Hands Free Answer Back

☑ 206/408 ☑ **8 2 4**

Each COMSET HANDSFREE station can contact any other COMSET HANDSFREE extension directly and announces such a request by means of the alerting tone.

There are two ways of utilizing the Hands Free Answer Back facility, the difference being only in the sequence of keys to be pressed.

First possibility:

The 'DSS' key of the wanted station is pressed after the handset had been lifted. Should the called extension not answer immediately, just press the keys 'S' and '8'.

Second possibility:

Operate the keys 'S' and '8' first and then the station 'DSS' key to put the called station into Hands Free Answer Back status before the call is put through.

The called station is now signalled the alerting tone and the LED of the calling station flickers on the called station during the call and the announcement.

The calling station receives the ring tone through the receiver and the LED of the called station is flashing fast. On all other COMSET stations the LED is ON continuously during the call and the announcement.

At the conclusion of the alerting tone, the called station can be contacted directly via loudspeaker. The microphone of the called station is switched on and the called station can answer directly in handsfree mode. For security reasons the two stations receive the altering tone every 20 seconds. The alerting tone is sounded again to the called station after the setup has been disconnected.

A normal internal call is initiated should, however the called station answer by lifting the handset. The LED of the called station on the calling station is now on continuously.

1.9.5.36   **Customer Account Code**
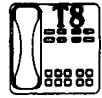
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(A) For an outgoing call:
During the call, BUT AFTER THE ELAPSE OF THE INTERDIGIT INTERVAL, press the * key, followed by the required account number (up to 8 digits) and terminated by the * key.

(B) For an incoming call:
Press the * key, followed by the required account code (up to 8 digits) and terminated by the * key.