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DMS-100 Family

TOPS IWS

Base HMI Application Guide

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NORTEL NETWORKS™

DMS-100 Family

TOPS IWS

Base HMI Application Guide

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1.0 Introduction

This document describes the base human machine interface (HMI) application provided to the general operator, service assistant, in-charge (IC) manager, and customer service expert (CSE). It covers screen displays, keyboard functions, and keying sequences.

Feature descriptions in this document are functionally dependent upon the software load in the DMS switch.

Unless otherwise noted, the term “operator,” when used in this document, refers to operators, service assistants, IC managers, and CSEs.

The base HMI application provides system and call information to the operator through windows, icons, and text. Each window consists of one or more fields used to display information and to receive keyboard input from the operator. For general operators, communication with the DMS switch includes logon, administrative searches, access to position and operator profiles, color and password changes on the position, and access to operator statistics and to all menus (including applications, functions, outtrunks, services, and trouble menus). For service assistants, IC managers, and CSEs, communication also includes paging operators, querying operator and position statistics, providing operator assistance, and monitoring operators.

In the following sections, string IDs uniquely identify the text strings displayed as field labels and informational messages in each window. The string IDs are numbered sequentially from 0 to identify the data file containing the strings. The text strings for each window can be changed in their associated language files; however, all listed string IDs contain the default text. This document uses the IWS default datafill in its discussion of display text. String lengths are determined based on average “X” width character sizes.

1.1 TOPS traffic office management overview

An operator work force can be organized into single or multiple traffic offices or teams. The layout depends on the size of the operator work force and the geographic distribution of the operating company’s serving area.

At the top of the work force hierarchy is the force supervisor, who is responsible for high-level decision making and control of the software features affecting the operator work force as a whole. The force supervisor does not focus on individual operators, but monitors the performance of teams of operators grouped in the separate traffic offices.

Below the force supervisor is the IC manager of each team or traffic office. A specific traffic office can contain any number of operators, as defined by DMS switch datafill. The size of the team is determined by the type of calls handled, the complexity of the operator’s job, the amount of assistance usually required from the management, and the administrative costs. The IC manager is concerned with information about individual operators. The IC manager can help operators requiring assistance, monitor and page operators, and review real-time traffic office statistics. There is only one IC position in a team or traffic office.

Below the IC manager there can be a number of service assistants. Their task is to assist operators as needed in handling calls and monitoring and paging other operators. Assistance positions also display certain events that occur in the traffic office.

Finally, there are the operators, whose responsibilities are to assist subscribers in completing their calls, provide assistance for emergency calls, assign proper billing to subscriber calls, and handle other aspects of call processing.

As defined by DMS-200 (toll tandem) or DMS 100/200 (local/toll) switch datafill, there can be up to 1023 operators in the operator work force, of which 127 can be service assistants and IC managers.

In a QMSCASE environment, CSEs can fill the roles of service assistants and IC managers. The QMSCASE environment is described in “QMSCASE operators” on page 105.

2.0 Base HMI in IWS

The base HMI application is one component of the open TOPS Intelligent Workstation (IWS) system. The base HMI application relies on the presence of the IWS Base application. It is independent, however, of the IWS Billing application, the Open Information Access (OIA) application, and any applications developed by the service provider.

This document refers to the IWS operator positions and all associated hardware and software components. For an overview of the IWS network topology, please refer to the *TOPS IWS Base Platform User's Guide*, 297-2251-010.

As shown in Figure 1, "IWS software architecture," on page 21, the base HMI application exists independently of the IWS Billing and OIA applications. In addition, it resides on top of and is dependent on the IWS base application. For a complete discussion of the IWS base software, refer to *TOPS IWS Base Platform User's Guide,* 297-2251-010.

As of IWS Release 17.1, two types of IWS position configurations are supported, TDM positions and IP positions. For more information on IWS position configuration, see the *TOPS IWS Base Platform User's Guide*, 297-2251-010.

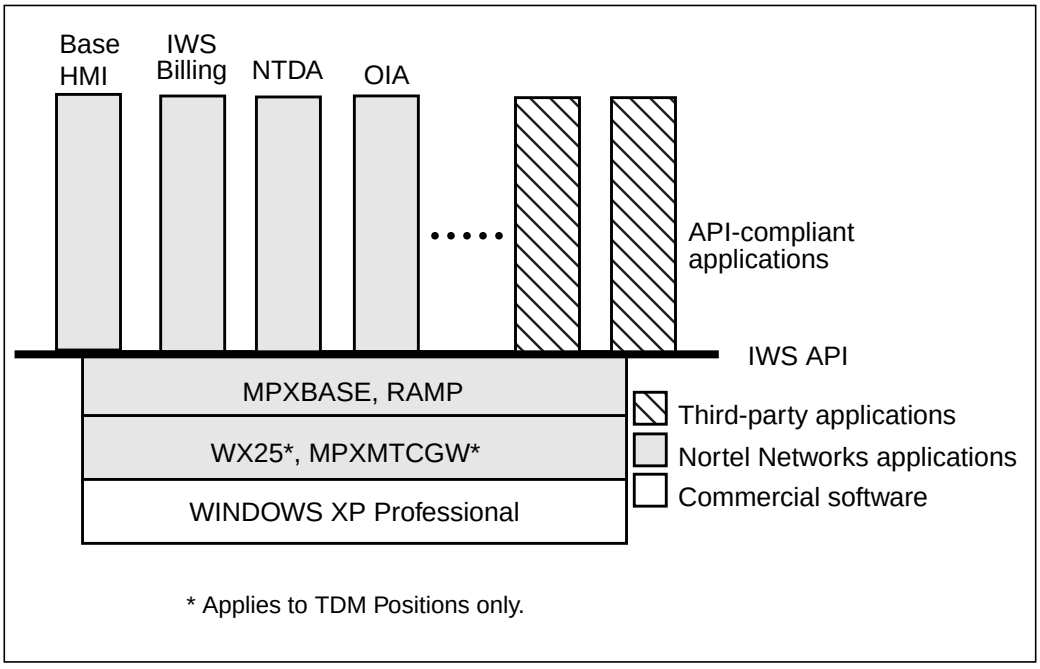

Figure 1. IWS software architecture

Note: The WX25 and MPXMTCGW applications apply to TDM Gateway positions only.

Architecturally, the software is separated as shown in Figure 1. Each layer below the heavy line depends on the layer beneath it. However, the position applications above the heavy line are completely independent of each other. Each functional unit can be delivered independently.

3.0 Logo window

The logo window displays the IWS logo, customizable messages, and the RAMP, gateway, and DMS maintenance busy icons. The IWS logo and customizable messages are automatically displayed after the position is initialized. The RAMP and gateway icons share the same space in the upper left corner of the screen. Each is displayed only if the position is running the RAMP (remote access maintenance position) or gateway application. (See Figures 2 and 3.) The DMS maintenance busy icon is displayed only if the position is put in a maintenance busy state by the DMS switch.

FIGURE 2. Logo window with RAMP icon

FIGURE 3. Logo window with gateway icon

3.1 IWS logo

Figure 2 shows the IWS logo on the IWS logo window. The logo window is identical for the different position types: operator, SA, and IC. The only valid key in the logo window is the **Start** key, which brings up the Operator Administration window. For more information, see “Operator administration window” on page 41.

3.2 RAMP and gateway icons

Figures 2 and 3 show the RAMP and gateway icons positioned on the logo window. These icons display only if the position is running the respective application. You can toggle the icon display on and off with the Profile utility, which is accessed from the Tools menu of the RAMP. Select Profile and Applications to access the window shown in Figure 4. When you choose “IWS BASE HMI” from the list of available applications, the Parameter Name window lists the parameters that can be toggled between true and false to display or hide either icon. The *TOPS IWS RAMP and Provisioning User’s Guide*, 297-2251-015, provides more detail about the Profile utility and other tools to configure the HMI of the IWS position.

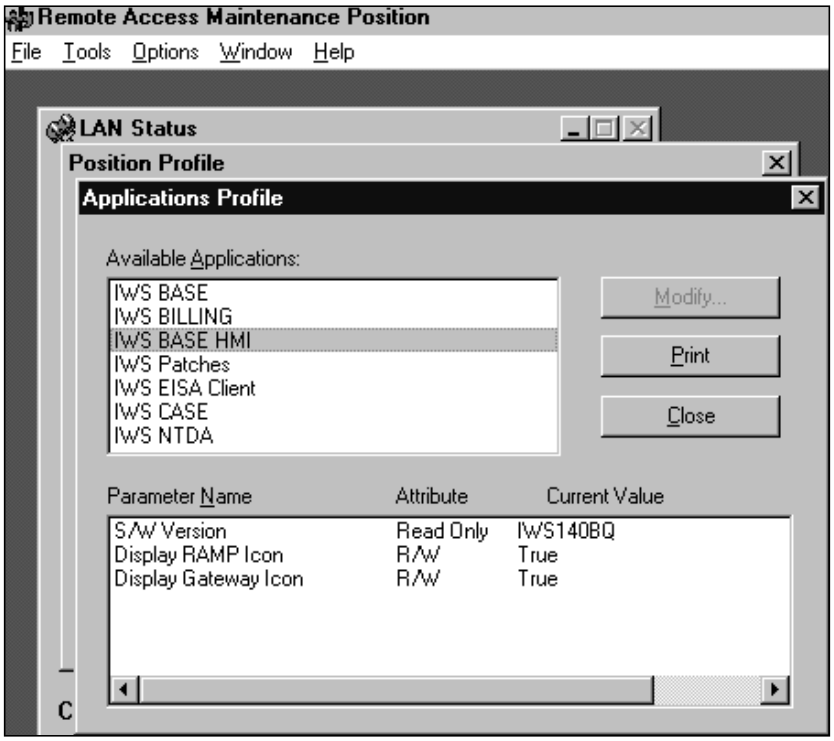

FIGURE 4. Toggle settings for RAMP and gateway icons

3.3 DMS maintenance busy icon

Figures 2 and 3 show the DMS maintenance busy icon positioned on the logo window. Note that the icon is displayed only if the position has been busied by the DMS switch. When the position is returned to service, the icon is removed.

3.4 Customizable message

Figures 2 and 3 show the customizable message positioned on the logo window. The customizable message consists of two lines used to provide information to the operators before login. The customizable message is displayed whenever the logo window is displayed.

4.0 IWS screen areas

Note: If you are using a mouse with the base HMI application, you may experience a loss of focus whether or not you disabled the mouse during installation of the IWS software. Clicking the mouse in certain areas causes the active window to gray out and lose focus. Softkeys do not respond, and any keyboard keystrokes associated with the window may be inactivated. To regain focus, move the cursor over the window where you were working and click the mouse. You should also be aware that it is possible to use the mouse to cut and paste.

4.1 Message/status area

The message/status area (MSA), as shown in Figure 5, is used to relay system and service or application-specific information to the operator. It is composed of a text display area, two loop information blocks and a port status information block. This window area cannot be overlaid by any other windows.

The text display area has four lines that display text strings for providing information to the operator. Each line is subdivided into several display fields, each of which displays a specific type of message.

To the left of the four lines of the text display area are two loop information blocks and the port status information block. These blocks provide information on the state of the two loops currently supported by TOPS, and the calling and called ports. The loop status and port status information blocks are discussed in more detail in the following sections.

Text strings displayed in the MSA are datafilled in files BHMIMSA.LNG and POSMSA.LNG. One of the IWS fixed pitch 7x12 pixel fonts is used to display all base HMI MSA messages. The font is selected based on the value of the CharTranslate option in file MPXPARM.INI.

4.1.1 MSA Text Display Area - Line 0

Figure 5 and Figure 6, “MSA broadcast field—line 0,” on page 28 highlight line 0 of the MSA text display area. Line 0 is subdivided into four fields: page, pending, broadcast, and time.

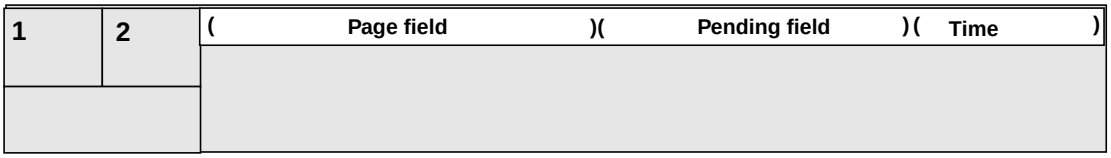

FIGURE 5. MSA page/pending fields—line 0

4.1.1.1 Page field

The page field is located toward the left of line 0 as shown in Figure 5. The maximum string length of the page field is 32 characters. Text for this field is datafilled in files BHMIMSA.LNG and POSMSA.LNG. The page field overwrites the first half of the

broadcast field. If a broadcast message is also to be displayed, then text in the page field is displayed in alert text color. The text displayed in the page field varies with position type.

4.1.1.2 Pending field

Like the page field, the text displayed in the pending field depends on the position type. The pending field is mainly used to display the “pending” states of the position; however, the information varies depending on the position type. The maximum string length of the pending field is 32 characters. The text for this field is datafilled in file BHMIMSA.LNG.

The appearance of one of the following strings in the pending field notifies the operator that the position is involved in an Operator Services Systems Advanced Intelligent Network (OSSAIN) simultaneous interaction:

Siml SN	**string ID 0019**
Rlsd SN	**string ID 0020**

The text for these strings is in file POSMSA.LNG. The string is cleared when the simultaneous interaction has been completed. The pending field overwrites the second half of the broadcast field. If a broadcast message is also to be displayed, the text in the pending field displays in alert text color.

4.1.1.3 Broadcast field

The broadcast field, shown in Figure 6, is used to display a broadcast message from the force management teletypewriters: QFADS and QTADS. The message can be up to 64 characters long. It remains displayed until it is cancelled from the DMS switch. This broadcast message text is displayed exactly as entered at the force management teletypewriters. The broadcast field has the same display and functionality for operators, service assistants, and IC operators.

Text in the page and pending fields overlays any text in the broadcast field. When it covers up a broadcast message, the page and pending fields text displays in alert text color.

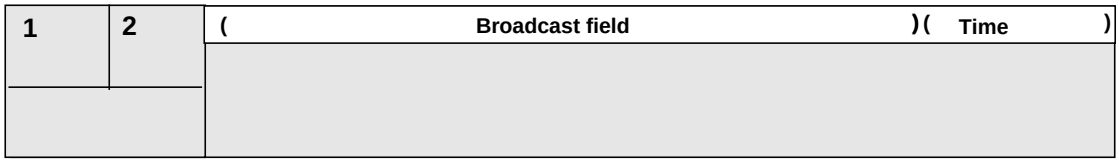

FIGURE 6. MSA broadcast field—line 0

4.1.1.4 Time field

This field displays one of the following items at a time in the following priority:

- DMS switch time or stopwatch
- call timer
- clock

Through the Functions menu window, the operator can request display of the DMS switch time or the stopwatch. When neither display is requested, the call timer, or the clock, or both can be displayed. (For turning on the call timer and clock through datafill in file MPXPARM.INI, refer to *TOPS IWS RAMP and Provisioning Guide*, 297-2251-015, and *TOPS IWS Base Platform User's Guide*, 297-2251-010.)

The call timer displays the amount of time used to process a call. The operating company can datafill the time threshold for each call type. The call timer has the following traits:

- It displays from call arrival to call release.
- It displays in digital form in minutes and seconds.
- It is call type specific; that is, each type of call has its own time threshold that can be datafilled in table XCOTHSD.TBL. (For detail on this table, refer to *TOPS IWS Base Platform User's Guide*, 297-2251-010.)
- It changes to an alert color when a specified time threshold has exceeded for a call.
- It supports colorblind capabilities that change the call timer display color to a color defined as an alert color in the colorblind mode when a specified time threshold for a call has been exceeded.

The clock displays the local time generated by the PC system at each position. This local time is synchronized with the DMS switch time when the operator logs on and invokes the clock display. The clock display has the following traits:

- It displays from logon to logoff.
- It displays in military format with hours and minutes, for example, 13:16.
- Adjustments can be made according to time zone changes. The adjustment range is +/- 12 hours

The call timer and clock are available to all API-compliant applications.

4.1.2 Message/status text display area—line 1

Figure 7 highlights line 1 of the MSA, which is subdivided into eight display fields:

- transient
- maintenance (Mtce)
- position/SA-IC info
- assistance calls waiting (Asst CW)
- calls waiting (CW)
- controlled traffic (CT)
- study data (ST)
- monitor (Mon)

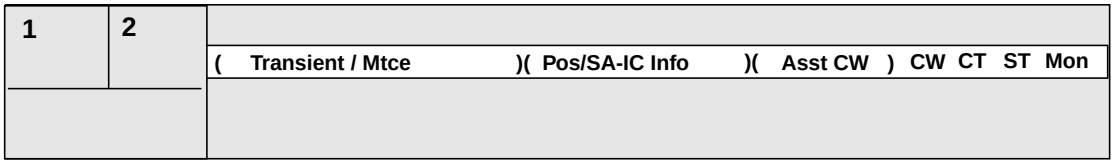

FIGURE 7. MSA text display area—line 1

4.1.2.1 Transient field

The transient field displays system information momentarily. The text displayed in this field, a maximum of 36 characters, is shown for approximately three seconds. It temporarily overwrites any text displayed in the Mtce field. The overwritten text is redisplayed afterward. Text strings that can be displayed in this field are:

<No Action Reasons>

Base HMI displays messages to the operator describing the reason DMS TOPS took no action in response to an operator action request. The No Action reasons displayed are contained in IWS table PANOACT.LNG. This functionality is the same for operators and for service assistants and IC operators. For details, refer to *TOPS IWS Base Platform User's Guide*, 297-2251-010.

4.1.2.2 Maintenance field

The maintenance field displays position maintenance information. The maximum text string length for this field is 36 characters. If text is to be displayed in the transient field and there is already text in the maintenance field, the maintenance text is temporarily overwritten. When the transient field is removed after three seconds, the maintenance field text is restored if there is text to be restored. If nothing is displayed in the transient field, the maintenance message is automatically displayed. The text for this field is datafilled in language file BHMIMSA.LNG.

4.1.2.3 Position/SA-IC info field

The Pos/SA-IC info field displays information for the service assistant and IC operator or other position-related information. The maximum string length of this field is 13 characters.

4.1.2.4 Assistance call waiting field

The asst CW field is the assistance calls waiting field, which is displayed only on the IC position.

4.1.2.5 Call waiting field

Figure 7, "MSA text display area—line 1," on page 30 shows the calls waiting field at the far right. If the DMS switch is properly datafilled, an indicator signals the operator that calls are waiting in a queue that the operator can access. If no calls are waiting, this field is blank. The call waiting text can be a maximum of three characters. Note that this string is

displayed only on operator positions. The text for this window area is datafilled in POSMSA.LNG.

4.1.2.6 Controlled traffic field

The display in the controlled traffic field indicates that the operator is in controlled traffic mode. Certain types of traffic are directed to that operator position, depending on the input at the TADS TTY. The field is left blank if the operator is not handling controlled traffic. Figure 7, “MSA text display area—line 1,” on page 30 illustrates this display. Note that this string is displayed only on an operator position. The maximum string length of the controlled traffic field is three characters. The text for this window area is datafilled in POSMSA.LNG.

QMSCASE does not have controlled traffic. Instead, it uses the space of the controlled traffic field to display the calls alerting string “CA.” This display appears when the customer service experts (CSE) logged into a designated alerting queue are busy, and a call is waiting. All CSEs logged on to the alerting queue see the display and hear the accompanying audible alert. When no calls remain in the queue, the CA display is cleared. For more information about QMSCASE, see Section 17.0 on page 105.

4.1.2.7 Study field

The display in the study field indicates that the operator number used at DMS switch logon is assigned to a study register for operator statistics broken up according to call type. The field is left blank if the operator is not handling traffic under study. Traffic studies is a DMS switch datafill option. This string is displayed only on an operator position. The maximum string length of the study field is three characters. The *QMSCASE operators* text for this window area is datafilled in POSMSA.LNG.

4.1.2.8 Monitor field

The display in the monitor field differs for supervisors who are monitoring and for operators who are being monitored.

4.1.2.8.1 Monitor field for SA/ICs

The maximum string length of the monitor field is three characters. These strings are datafilled in the POSMSA.LNG file. Monitoring is discussed later in this document. For details, refer to “Monitoring an operator or position” on page 76.

4.1.2.8.2 Monitor field for operators

The monitor field has text displayed on the monitored position whenever the operator/position is being monitored from either an SA or IC position. The display of the monitoring indication is a DMS switch datafill option. If monitoring is not active or if the DMS switch is datafilled to inhibit the monitor status, the field is left blank. The maximum string length of the monitor field is three characters. The text for this window area is datafilled in POSMSA.LNG.

4.1.3 MSA text display area—line 2

Figure 8 highlights line 2 of the MSA text display area. Line 2 is subdivided into four display fields: logon denied, SA-IC pos state, application message I, and application message II.

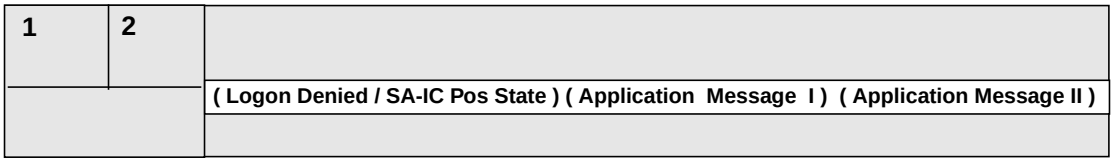

FIGURE 8. MSA text display area—line 2

4.1.3.1 Logon denied field

The logon denied field contains text to inform the operator that the DMS switch logon process has failed for the reason indicated. The maximum text string length is 25 characters. The text for this field is datafilled in file BHMIMSA.LNG.

4.1.3.2 SA-IC position state field

The SA-IC position state field is used to inform the SA or IC of the current position state with respect to the DMS switch. This field is also used to signal an operator who is being paged from an assistant position. The SA-IC position state field can display up to 25 characters. The text for this field is datafilled in the files BHMIMSA.LNG and POSMSA.LNG.

4.1.3.3 Application message I and II fields

These two fields in line 2 of the MSA are controlled by the currently active application, which can use these fields if it needs more display space. It is the responsibility of the currently active application to clear (or restore its own text in) these fields when it becomes active.

The application message I field has a maximum of 25 characters. The application message II field has a maximum of 26 characters.

4.1.4 Message/status text display area—line 3

Figure 9 highlights line 3 of the MSA, which contains three fields: application messages III, IV, and V.

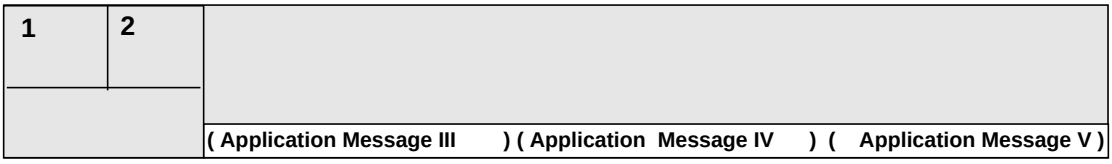

FIGURE 9. Message/status text display area—line 3

4.1.4.1 Application message III, IV, and V fields

Line three of the MSA is controlled by the currently active application. The active application may use these fields if it needs more display space, just as it may use the application message I field and application message II field in line 2 discussed above. It is the responsibility of the currently active application to clear (or restore its own text in) these fields when it becomes active.

Both application message III and application message IV fields are allowed a maximum of 25 characters. The application message V field has a maximum of 26 characters.

4.1.5 Loop status window

The loop status window displays information for the two call loops. Each loop information block has two display fields: label and icon. The label field identifies the loop for which information is provided in that block. As shown in the message/status area of Figure 10, the labels are “1” and “2” for loop 1 and loop 2, respectively.

The loop status window of the loop handling the currently active call is outlined in a bold black, as shown in Figure 10. The left icon indicates the status of the calling party, and the right icon indicates the status of the called party.

FIGURE 10. Loop status windows

4.1.5.1 Loop status icons

The icon field displays one of three icons: temporary hold, permanent hold, or notify, as shown in Figure 11.

A yellow open-hand icon indicates that the call on the loop is on temporary hold. If the position is in colorblind mode, a white open hand is displayed instead.

A cyan open-hand icon indicates that the call on the loop is on permanent hold. If the position is in colorblind mode, a solid grey open hand is displayed instead.

The notify icon, a cyan-colored talking operator, is displayed whenever a request for notification comes due on a call held at the position.

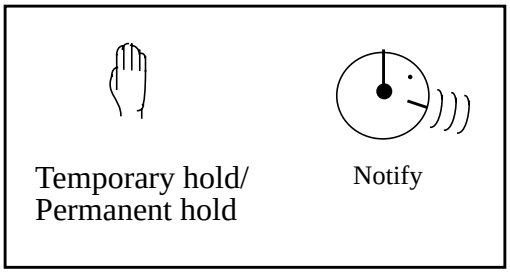

FIGURE 11. Loop status icons

If the operator is processing a call on the other loop, and the calling or called party on the held loop goes on-hook, the background behind the temporary hold icon is highlighted.

If an operator requests assistance with no service assistant or IC operator available, places the request on hold, and presses the position release key, the request is put on permanent hold. When the service assistant or IC operator becomes available and accepts the request by accessing the loop, the background behind the operator position loop icon is highlighted.

4.1.5.2 Port status window

The Port Status window displays the current port status of the calling and called parties on the currently active loop. The magenta on-hook icon indicates that one party is on-hook. The magenta off-hook icon indicates that one party is off-hook. Refer to Figure 12.

The middle icon in Figure 12 (the magenta-colored off-hook icon with a diagonal bar through it) indicates that the voice path of the calling or called party has been split off the line and the respective audio connection has been broken. The location of the split icon in the port status window indicates whether the calling party, the called party, or both were split.

The last two icons are associated with networks using R2 trunk signalling in an international environment. In such networks the operator may be unable to differentiate a subscriber-busy audible tone from a network fast-busy audible tone. Even when the tones are the same, however, the DMS switch knows the difference between the two. The magenta busy icon indicates to the operator that the line is subscriber busy. The red octagonal-shaped icon indicates network congestion.

If no status is displayed for the calling or called party, the party is not connected to the operator position.

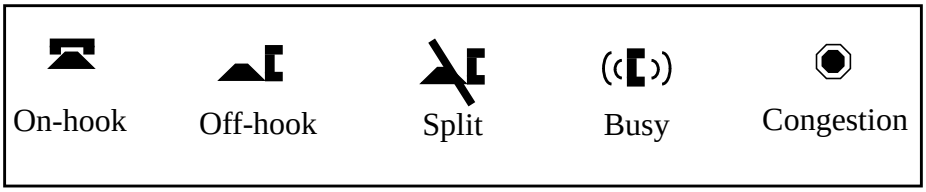

FIGURE 12. Port status icons

The port status window also displays the current status of the operator port of the currently active loop. If the operator port is joined (that is, there is a two-way connection established

for the operator, for both hearing and speaking), the background around the calling and called port icon areas is displayed as normal. If the operator port is split (that is, there is a one-way connection established for the operator, for hearing but not for speaking), the background around the calling and called port icon areas is inverted. Figure 13 shows the operator port as split.

FIGURE 13. Operator port split

4.2 Softkeys

The IWS keyboard has a group of eight keys called “softkeys,” whose purpose changes as the application dictates. These keys are used to invoke system- or application-specific functions. The softkey labels on the screen associate the softkeys on the keyboard with the functions they invoke. Each IWS application is responsible for its datafill and for its use of softkeys. Softkey labels are displayed in Microsoft Sans Serif 8 point bold variable pitch fonts.

The softkeys appear at the bottom of the screen. They cannot be overlaid by any other windows.

FIGURE 14. Softkeys

4.3 Application area

The area between the MSA and the softkeys is called the application area. This space can be used by any applications running on the position. The MSA and softkeys windows are always on top; therefore, any applications containing windows larger than the application area are cut off.

4.4 Save screen

By using the save screen feature, the operator can capture a screen display during a call. This can be used for reporting problems from an operator position. The system saves the captured screen in a file on the hard disk. It can be printed at the RAMP. (For printing a captured screen, refer to *TOPS IWS RAMP and Provisioning User’s Guide*, 297-2251-015.)

This feature is available to all API-compliant applications, but it is not available from the RAMP, KeyBind, and provisioning tool utilities.

4.4.1 Capturing and saving screens

The following methods can be used to capture a display on screen:

- Press the screen capture key on the keyboard. This optional key can be assigned through KeyBind during installation. (*F*or a discussion of KeyBind, see Figure 16 and refer to *TOPS IWS RAMP and Provisioning User's Guide,* 297-2251-015.)
- Enter a trouble code at an operator position.

  To enter a trouble code at a position, do one of the following:

  — Press the trouble menu key twice to access the trouble menu, then select a trouble code from the menu, or

  — Press the trouble menu key once for an entry space for a trouble code. The trouble menu does not show in this case.

When the operator enters a trouble code, the system captures the current screen display automatically. This occurs when the selected trouble code is datafilled with 'Y' for Yes in the XTROUBLE.TBL file. (See sample below.) The trouble menu (if requested by the operator) disappears from the screen.

Trouble ID	Trouble text	Screen capture (Y/N)
50	"Wrong No. or bad Intercept"	Y
51	"No Ring - No Answer"	N
52	"Noise during conversation"	N
53	"Can't Hear-Can't be Heard"	N
54	"Improper Supervision"	N
55	"Cut off during conv."	Y
56	"Reorder (3rd Att.)"	N
57	"No Oper. Ans./Dial Tone Return"	N
58	"Recorded announcement"	N

The following events occur when either of these methods is used to capture a screen display:

- The system saves the captured screen to a file in the file directory named SCRNCAPT on the hard disk; a slight delay in the system occurs when this process takes place.

  The screen captured is 640 x 480 in pixel size (regular IWS size), regardless of the display size.
- When a screen capture is successfully completed, the name of the file containing the screen capture appears in the transient field of the MSA. (For file name format, refer to "Screen Capture File Characteristics" in this document. For generating and completing screen capture, also refer to Figures 14 and 15.)

- There is a 5-second interval between screen captures. When an operator requests more than one screen capture within the 5-second interval, the system performs only the first one. After waiting five seconds, the operator can request another screen capture.

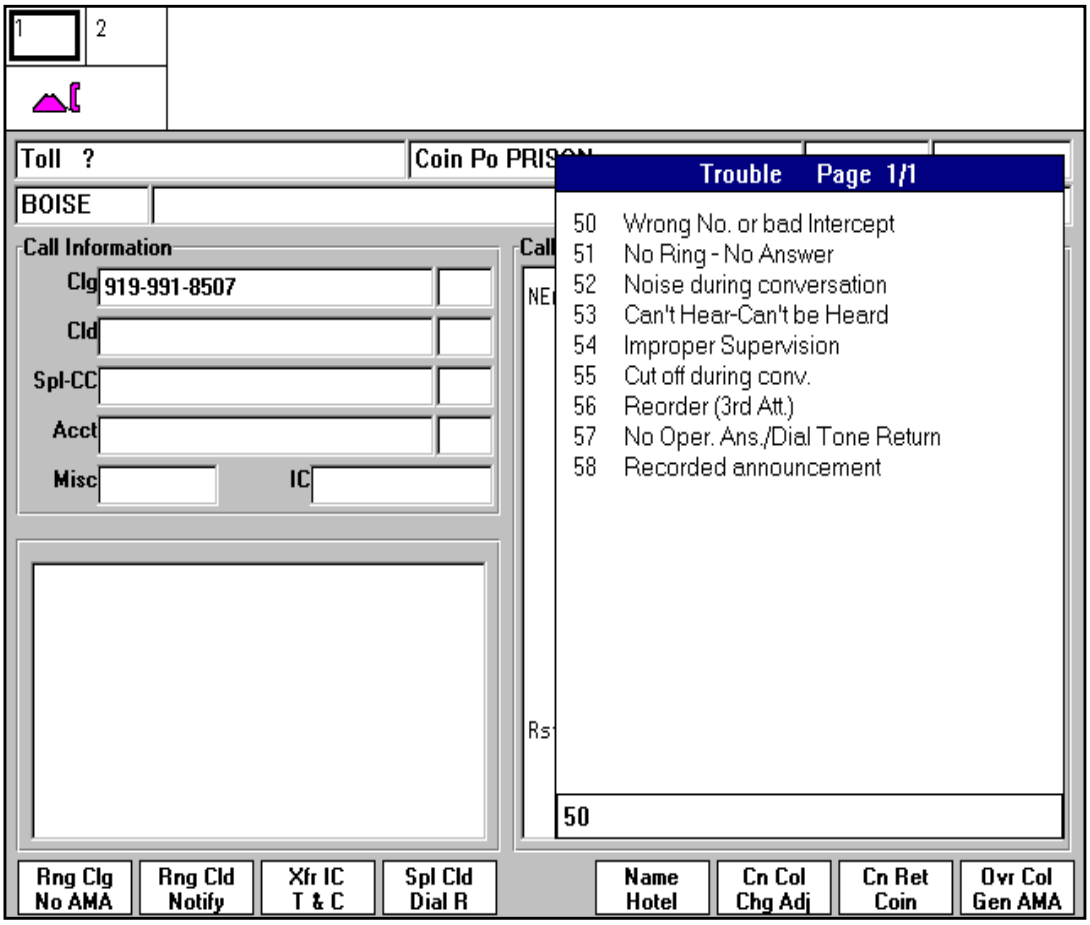

FIGURE 15. Generating a screen capture using the trouble menu

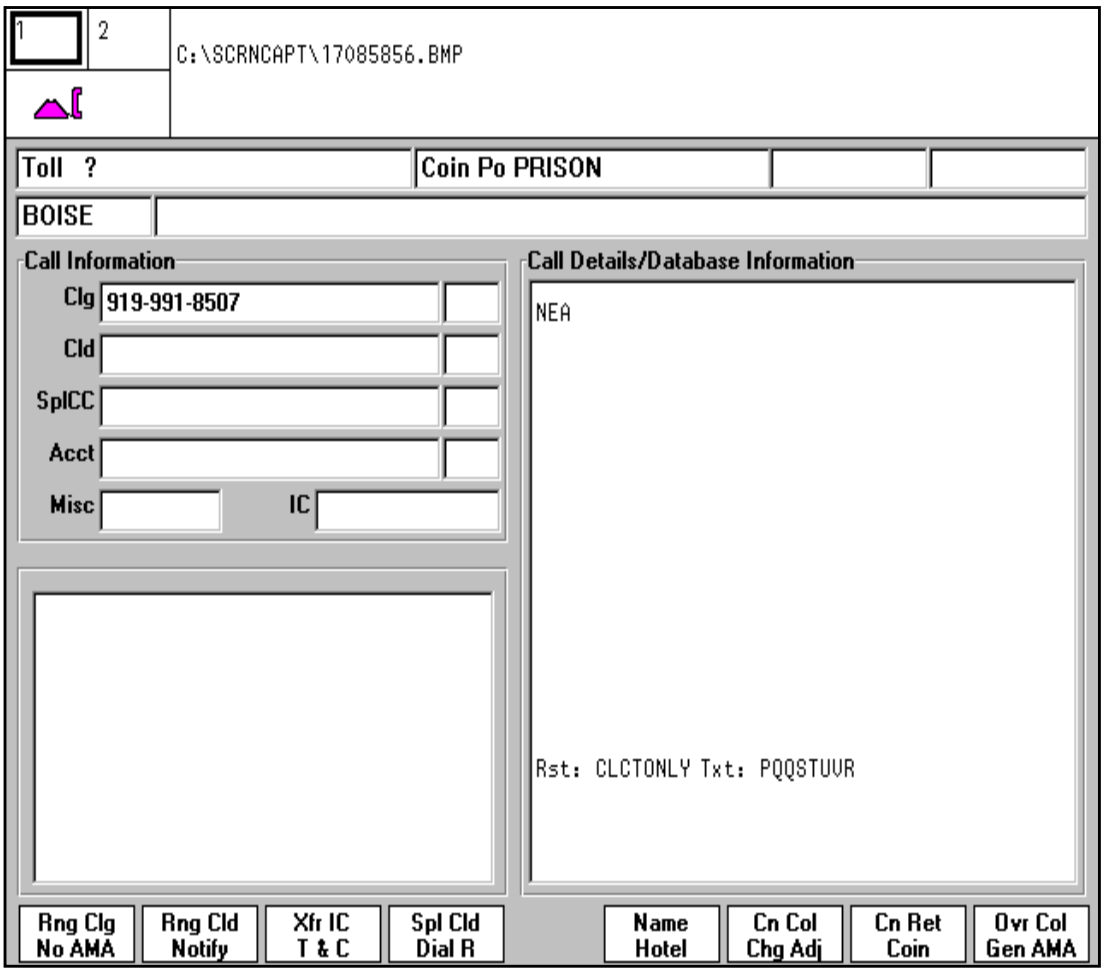

FIGURE 16. MSA transient field showing the file name of the file containing the screen capture

FIGURE 17. Assigning screen capture key through KeyBind

4.4.2 Screen capture file characteristics

The screen capture file has the following characteristics:

- File name format: DDHHMMSS.BMP where DD=day, HH=hour, MM=minute, SS=second, and BMP is the bitmap file extension. The file name indicates when the screen was captured. This naming convention helps in using the CM trouble log to identify these files.
- Location of files: SCRNCAPT directory
- Maximum number of files: 20. When the number of files exceeds 20, the oldest file is automatically deleted.
- File transfer: Files can be transferred from an operator position to the RAMP by using the existing manual remote file transfer capability (FTP) at the RAMP. Rules that apply to remote file transfer apply to transferring screen capture files. For example, the operator position cannot be in service while the RAMP is using FTP to transfer files from the position. (For detail on file transfer, refer to *TOPS IWS RAMP and Provisioning User's Guide*, 297-2251-015.)
- File tracking: The system generates a log file (CAP0001) at the RAMP whenever it completes a screen capture. This file contains:

  — the position number that generates the screen capture

— the name of the screen capture file

— the total number of screen capture files in the SCRNCAPT directory of the position

— the names of screen capture files deleted when the total number of such files exceeded the maximum of 20 files

5.0 Operator administration window

Figure 18 shows the operator administration window, which is reached by pressing the **Start** key in the logo window.

FIGURE 18. Operator administration window

The applications menu, which is available in the operator administration window, enables administration application sessions such as directory assistance administrative searches. It can also be used to access applications that do not require logon to the DMS switch. For more information on using the applications menu, refer to Section 18.0 on page 119.

Pressing the applications menu key once gives focus to the applications menu; pressing it a second time causes the menu to display. When the key is pressed only once, there is no visual indication to the operator that the menu has focus. IWS menus do not respond to softkeys; therefore, when the applications menu has focus, the operator administration window softkeys are not functional. In a situation where the operator administration window softkeys appear to be non-functional, press the **Start** key. If the cause of this situation is that the applications menu has focus, pressing the **Start** key causes the applications menu to return focus to the operator administration window. Operator administration window softkeys then function properly.

While in the operator administration window, the operator is not logged on to the DMS switch. The operator can reach this window in three ways:

- by pressing the **Start** key from the logo window
- by pressing the **{Logoff}** softkey from the Assigned Activities window
- by unseating the headset, assuming the HeadsetDriver option is set to 1 in the MPXINI.INI file datafill. If this option is set, and the operator unseats the headset from any other state when all calls have been released, the position logs off the DMS switch.

The MSA can display any of the following messages associated with this window.

The maintenance field may display the following strings, which are datafilled in the BHMIMSA.LNG language file.

Link Problems Encountered **string ID 0009**

Indicates data link problems between the DMS switch and the position.

Headset Unseated **string ID 0010**

Indicates that the operator's required headset has been unseated and is no longer connected to the operator position, after the position has been returned to service (RTSd) by the DMS switch. The display of this string is optional, based on the type of audio card used in the position, or depending on whether an audio card is required in the position.

5.1 Operator administration window fields

The operator administration window displays nothing except softkeys.

5.2 Operator administration window softkeys

When the operator first brings up the operator administration window, the screen contains three softkeys. The softkey labels are datafilled in OPADMSFK.LNG. Each row of softkey labels can have up to seven characters.

The following softkeys are displayed in the operator administration window.

Pos profile **string ID 0000**

Allows the operator access to position-related information. Information currently included in the display includes API-compliant applications, API versions used in creating the applications, and the IP address for the position. For more details, see "Position profile window" on page 45.

Logon **string ID 0001**

When the **{Logon}** softkey is pressed, the DMS logon procedure is initiated if the position has been returned to service. If the position has not been returned to service, the appropriate messages are displayed in the maintenance field of the MSA, and the softkey is ignored.

In addition, if the HeadsetDriver option is set in the MPXINI.INI file and the headset is unseated, the logon softkey is ignored. For more information on the HeadsetDriver option, refer to *TOPS IWS Base Platform User's Guide*, 297-2251-

010. If the appropriate criteria are met, the logon window is displayed for entry of operator ID and password. For more details, see “Logon window” on page 51.

Quit **string ID 0002**

Takes the operator out of the operator administration window and back to the logo window.

6.0 Position profile window

The position profile window is accessible from a softkey in the operator administration window. When the **{Pos profile}** softkey is pressed, the Position profile window is displayed, containing information specific to the position. This window displays information about the IWS base application, the IP address for the position, any active applications, their application version, and the API version used to create the active applications.

This window has two softkeys: **{Patch Info}** and **{Quit}**, as shown in.Figure 19.

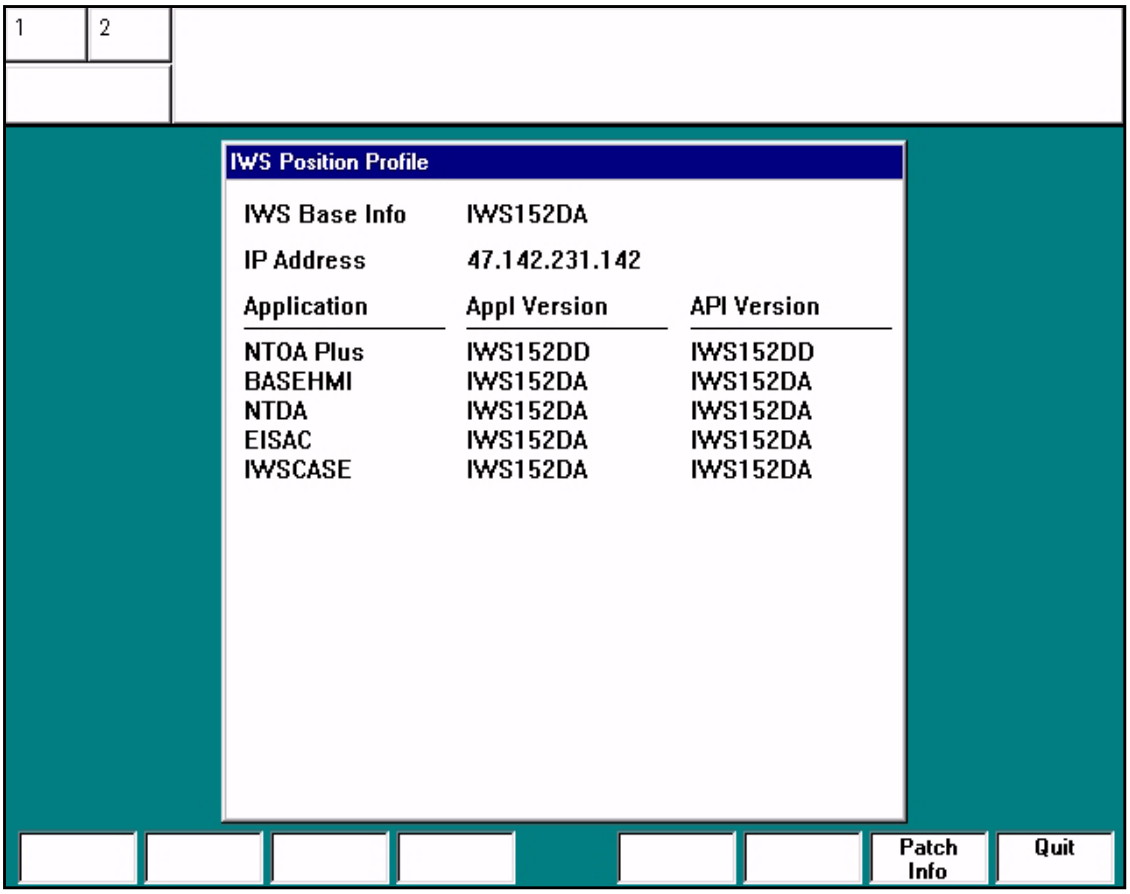

FIGURE 19. Position profile window

The screen resolution may be changed from the standard IWS default of 480 x 640 pixels. Figure 20 shows the position profile window as it would appear with a screen resolution of 800 x 600 pixels. For detailed information about the effects of screen resolution changes on the Base HMI application and instructions on how to change the screen resolution, refer to *TOPS IWS Base Platform User's Guide*, 297-2251-010.

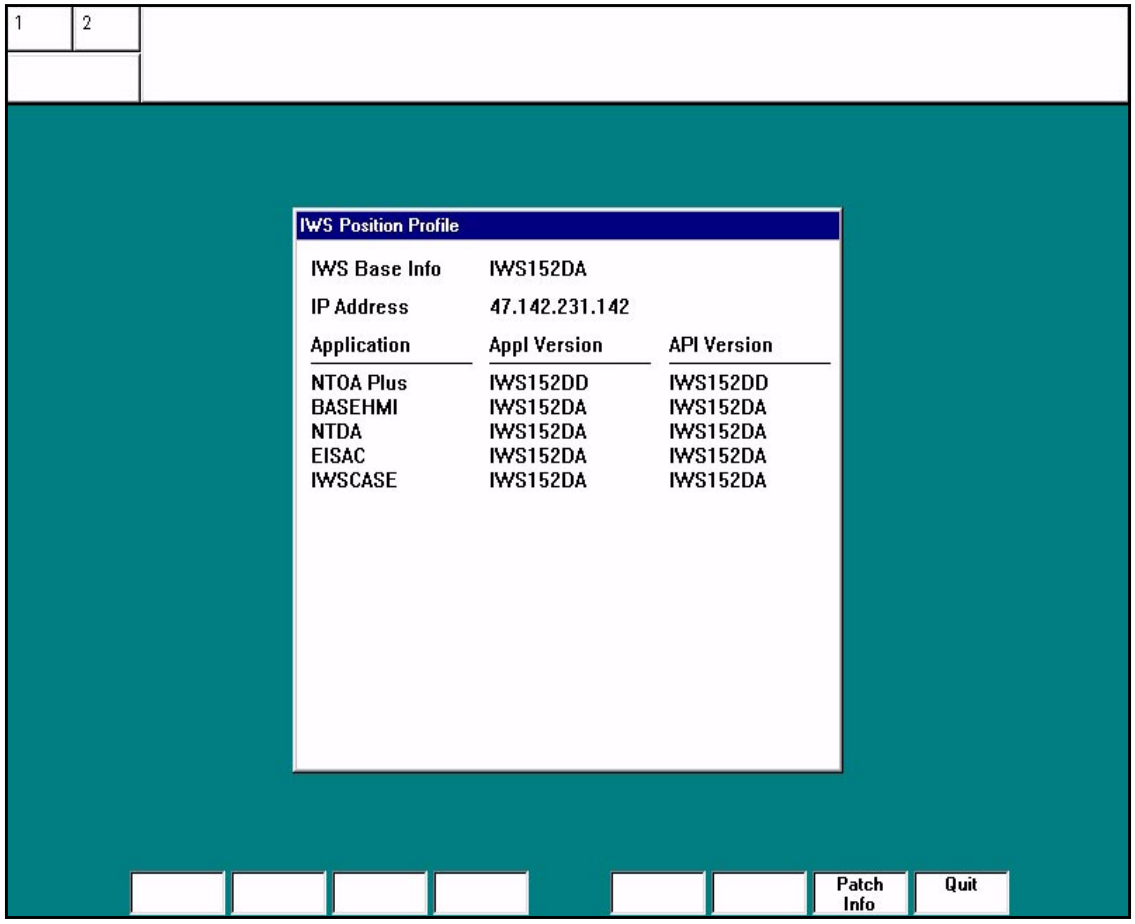

FIGURE 20. Position profile window with 800 x 600 screen resolution

6.1 Position profile window fields

The position profile window consists of a window title field and eleven other fields. The title and field labels are defined in table POSPRFLG.LNG. Figure 21, “Position profile window fields,” on page 47 shows the fields. Unless otherwise noted, the field labels and data in the fields display in Microsoft Sans Serif 8 point variable pitch font.

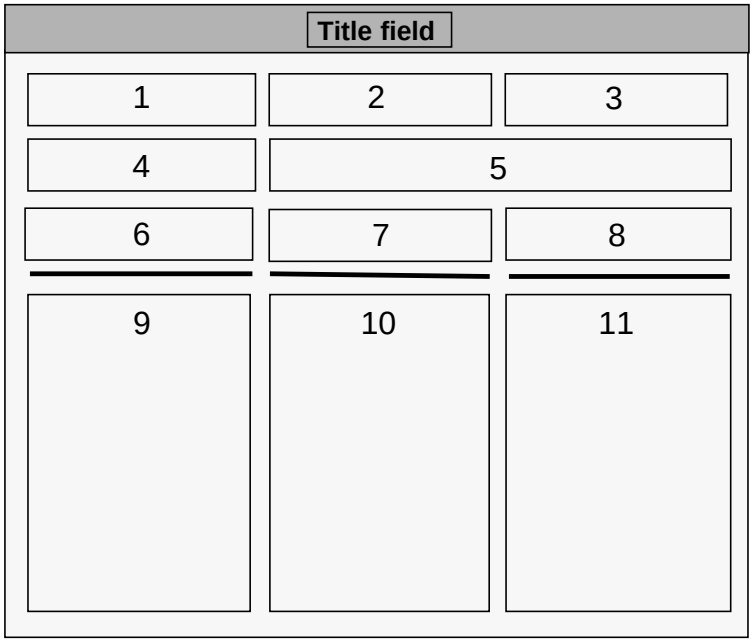

FIGURE 21. Position profile window fields

6.1.1 Window title field

The maximum number of characters in the title field label is 40.

IWS position profile **string ID 0000**

6.1.2 Position profile window fields

The maximum number of characters in each field label is 13.

6.1.2.1 Position profile version label (field 1)

IWS base Info **string ID 0001**

6.1.2.2 Position profile version data (field 2)

This field lists the current version of the IWS base application.

6.1.2.3 Position profile configuration data (field 3)

This field lists the configuration of the IWS base application, either the 5-application or 16-application configuration.

6.1.2.4 Position profile IP label (field 4)

IP Address **string ID 0002**

6.1.2.5 Position profile IP data (field 5)

This field gives the IP address for the position.

6.1.2.6 Position profile application label (field 6)

application **string ID 0003**

6.1.2.7 Position profile application version label (field 7)

Appl version **string ID 0004**

6.1.2.8 Position profile API label (field 8)

API version **string ID 0005**

6.1.2.9 Position profile application data (field 9)

This field lists the applications currently running on the position.

6.1.2.10 Position profile application version data (field 10)

This field lists the version of each application currently running on the position.

6.1.2.11 Position profile API data (field 11)

This field lists the version of the API used to build a currently running application.

6.2 Position profile window softkeys

In the position profile window, the **{Patch Info}** and **{Quit}** softkeys are available. softkey labels are defined in table POSPRFSK.LNG. Each row of text used as a softkey label can have up to seven characters. Microsoft Sans Serif 8 point variable pitch font is used for the softkey labels.

Only the **{Patch Info}** and **{Quit}** softkeys are available in this window. Figure 22 shows the layout of the softkeys in the Position profile window.

Patch Info **string ID 0001**

When this key is pressed, the operator position's IWS software is scanned for applied patches. This information displays in a patch information window (see Figure 22).

Quit **string ID 0000**

This key returns the operator to the operator administration window. Pressing the **{Quit}** softkey is the only way to return to the operator administration window.

FIGURE 22. Position profile window softkeys

6.3 Patch Info window

When the **{Patch Info}** softkey is pressed, the operator position's IWS software is scanned for any applied patches. This information is shown in the patch information window of Figure 23. For each listed patch, a patch identifier (ID) and patch information are given. If no patches are found, no patch ID or information appears. Use the **{Quit}** softkey to exit from this patch window and return to the previous profile window.

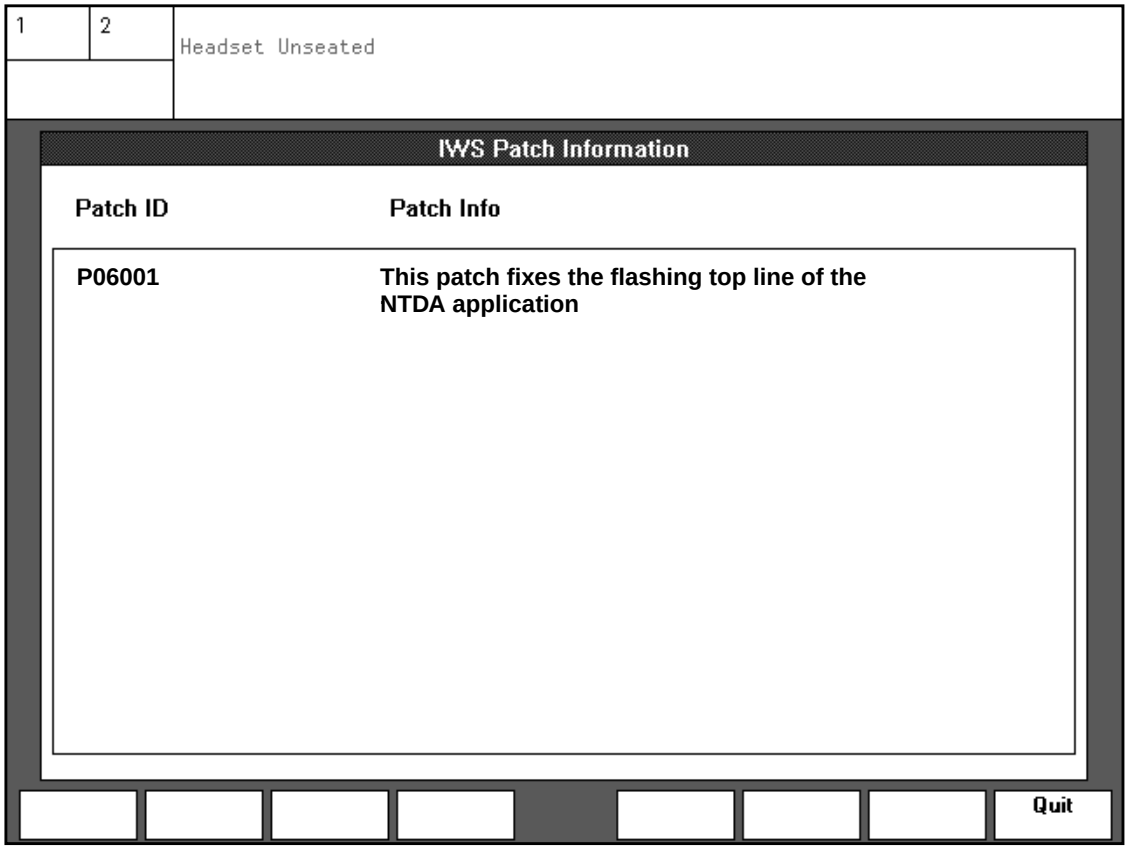

FIGURE 23. IWS Patch Information window

7.0 Logon window

To move from the operator administration window to the logon window, the operator presses the **{Logon}** softkey. If the headset is unseated and the HeadsetDriver option is set, the **{Logon}** softkey is disabled. To enable the **{Logon}** softkey, the operator must seat the headset.

Valid keys in the operator ID input field are **0-9** and the **Start** key. The operator presses **Start** to move to the password input field. Valid keys in the password input field are **0-9**, **A-Z**, and **a-z**, and the asterisk (*****) key. The **{Quit}** softkey is always valid in the logon window. Pressing the **{Quit}** softkey moves the operator back to the operator administration window, terminating the DMS logon process. To move back to the logo window, the operator must press the **{Quit}** softkey from the operator administration window.

As the operator enters each character of the DMS operator ID in the operator ID field, the cursor moves to the next character position within the field. If the operator enters more than four characters, as soon as the fifth character is entered, the field is cleared and the cursor returns to the left side of the field. At this point, the operator can re-enter the operator ID from the beginning. After the ID is entered, pressing the **Start** key sends the ID to the DMS switch for confirmation. If the DMS switch has been datafilled to require password entry, the cursor moves to the password field as soon as the operator ID is confirmed. The software handles this cursor movement to the password field automatically. No action is required from the operator. If the DMS switch does not require a password, the position tries to log on to the DMS switch at this time.

When the cursor is in the password field, the operator can begin to enter the DMS logon password. As the operator enters each character of the password, the cursor moves to the next character position within the field. The characters entered by the operator are not displayed. Instead, to ensure password security, an asterisk (*) is displayed for each entered character. If the operator enters more than seven characters, the password field is cleared as soon as the eighth character is entered, and the cursor returns to the left side of the field, where the operator may re-enter the password from the beginning. When the operator has finished entering the password, pressing the **Start** key sends the password to the DMS switch for confirmation.

If logon to the DMS switch is successful, the operator immediately proceeds to the assigned activities window, as described in Section 8.0 on page 55.

If logon to the DMS is denied, the logon denial reasons are displayed in the logon denied field of the MSA. The logon window remains displayed with the cursor placed in the appropriate input field. The strings listed below can be displayed in the logon denied field. These strings are datafilled in the BHMIMSA.LNG language file.

Incompat Srv Profile **string ID 0013**

Indicates an incompatibility between the position's and the operator's service profiles. The combined profile for the services defined for the position where the operator is logging on must agree with the operator's services datafilled in the DMS switch. The cursor is placed in the operator ID input field.

Incompat Queue profile **string ID 0014**

Indicates that an incompatible queue profile. The operator must enter a different operator number, or the DMS datafill must be updated appropriately. The cursor is placed in the operator ID input field.

Invalid Operator Num **string ID 0015**

Indicates that an invalid operator number was entered in the operator ID field during logon to the DMS switch. The cursor is placed in the operator ID input field.

Oper Already Logged On **string ID 0016**

Indicates that the operator number entered in the operator ID field during logon to the DMS switch is already in use. The cursor is placed in the operator ID input field.

Invalid Password **string ID 0017**

Indicates that an invalid password was entered into the password field during logon to the DMS switch. The cursor is placed in the password input field.

The operator ID and password fields are displayed in the logon window. The password field is always visible, but it is used only when the DMS switch has been datafilled to require a password.

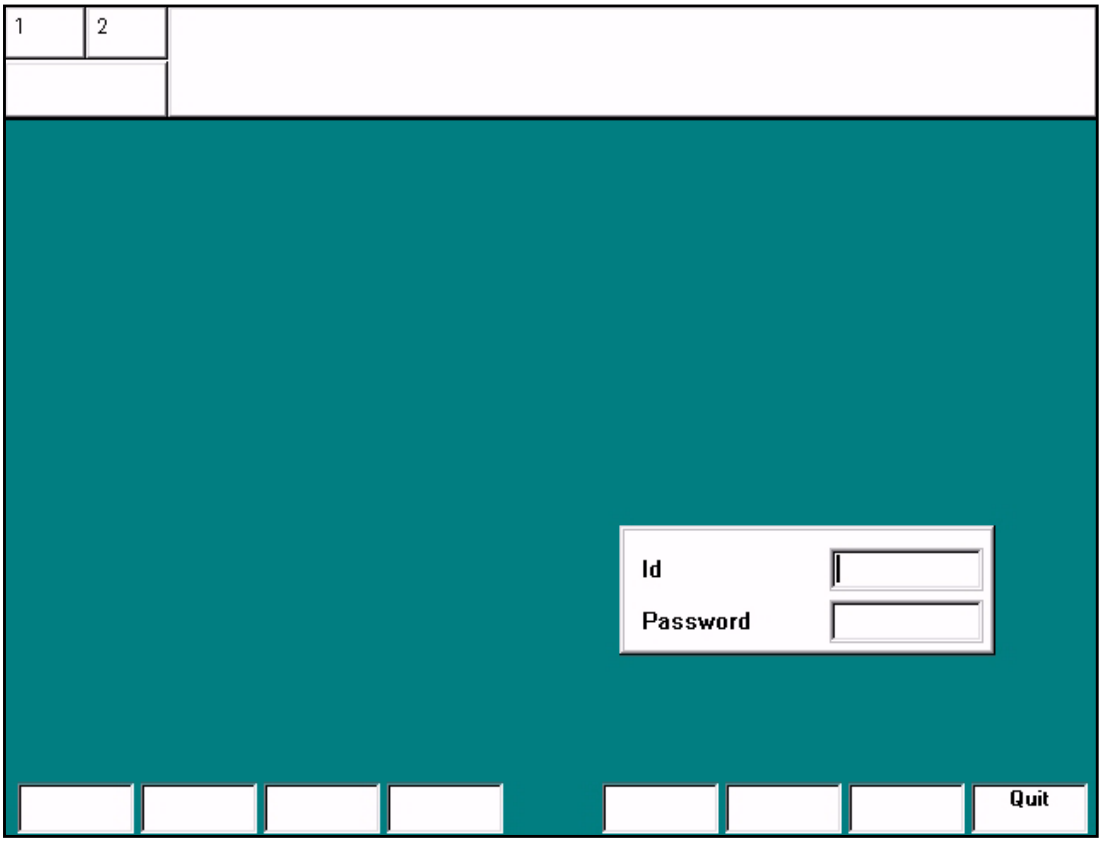

FIGURE 24. Logon window

The logon window has been enhanced so that the message status area and the softkeys have a more three-dimensional appearance.

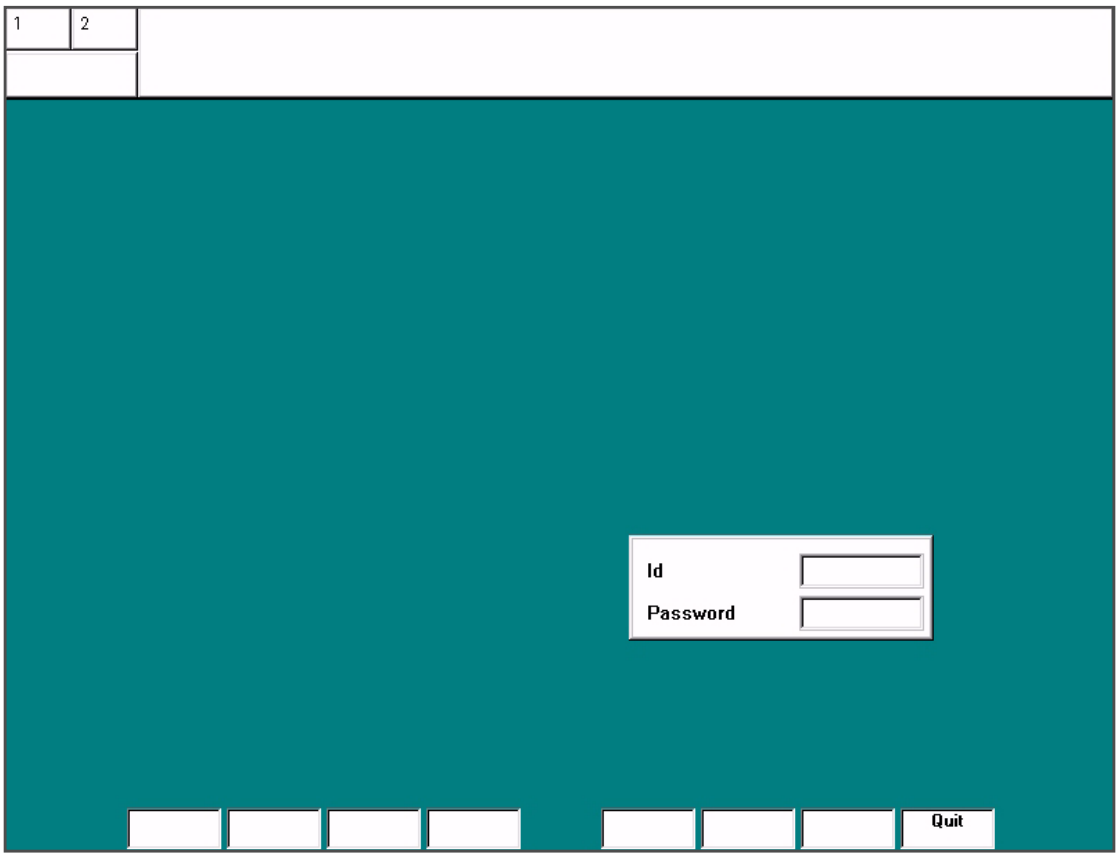

FIGURE 25. Logon window with 800 x 600 screen resolution

The screen resolution may be changed from the standard IWS default of 480 x 640 pixels. Figure 25 shows the logon window as it would appear with a screen resolution of 800 x 600 pixels. For detailed information about the effects of screen resolution changes on the Base HMI application and instructions on how to change the screen resolution, refer to *TOPS IWS Base Platform User's Guide*, 297-2251-010.

7.1 Logon window fields

The logon window is made up of the four fields shown in Figure 26. The text strings displayed on the logo window are contained in the LOGON.LNG file. Microsoft Sans Serif 10 point bold variable pitch font is used to display all logon text strings.

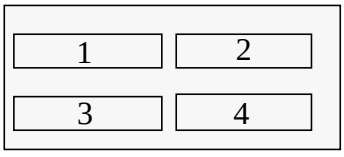

FIGURE 26. Logon window fields

7.1.1 Logon window operator ID label (field 1)

The logon window operator Id label is a maximum of 10 characters.

Id **string ID 0000**

7.1.2 Logon window operator ID input (field 2)

The first data entry field is the operator ID field. When the logon window is first displayed, the cursor appears in the operator ID field, as shown in Figure 24. This cursor location informs the operator that the system is waiting for the DMS operator ID to be entered. The operator ID field accepts only numeric characters. Up to four characters can be entered in the operator ID field.

Characters can be deleted by using the asterisk (*) key, if the asterisk is datafilled as a backspace key.

7.1.3 Logon window password label (field 3)

The logon window password label is a maximum of 10 characters.

Password **string ID 0001**

7.1.4 Logon window password input (field 4)

The second data entry field in the logon window is the password field. The password field accepts both numeric and alphabetic characters. Up to seven characters can be entered in the password field.

7.2 Logon window softkeys

The softkeys for the logon window are datafilled in the LGNSFK.LNG file. Each row of text datafilled as a softkey label can contain up to seven characters.

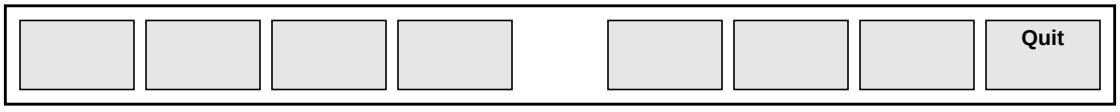

FIGURE 27. Logon window softkeys

Figure 27 shows the softkey layout for the logon window. Once the operator ID and password (if required) are sent to the DMS switch, the Quit softkey is ignored.

Quit **string ID 0000**

The **{Quit}** softkey returns the operator to the operator administration window and halts the logon.

8.0 Assigned activities window

The assigned activities window provides information about the type of position and the services the operator can provide. The softkeys and some string IDs differ for operators and SA/ICs. These are discussed in “Assigned activities softkeys” on page 58.

An operator can enter the assigned activities window in two ways. The first is by successfully logging onto the DMS switch. The assigned activities window is automatically displayed after a successful logon. The second way to enter the assigned activities window is by selecting the Make Busy function from the functions menu. After the operator has invoked the Make Busy function and completed the processing of any call currently at the position, IWS automatically enters the assigned activities window.

The AppTimeoutvalue parameter in the Timeout section of file MPXPARM.INI can be used to limit how long the assigned activities window is displayed on the position. If AppTimeoutvalue is set to zero, the timer is disabled and the assigned activities window remains on the position until the operator initiates a transition to another window. If AppTimeoutvalue is set to a value between 6–99, it specifies the number of seconds that the position will remain in the assigned activites window. When the specified amount of time expires, the position automatically transitions to the “Accept Calls” state and move to the operator information window.

QMS enables the IWS position to support up to 63 services. The services are displayed in a maximum of four pages, each page consisting of 16 services displayed in two columns of eight.

The operator can cycle through the available pages of services by pressing the **Page Forward** and **Page Backward** keys. Each time the **Page Forward** key is pressed, the next page is displayed. If the last available page is displayed when the **Page Forward** key is pressed, the key is ignored and no screen activity occurs. Each time the **Page Backward** key is pressed, the previous page is displayed. If the first page is displayed when the **Page Backward** key is pressed, the key is ignored and no screen activity occurs.

Figure 28, “Assigned activities window for general operator,” on page 56 shows the assigned activities window within the operator information window. The window displayed is the window for operators. Figure 29, “Assigned activities window for SA,” on page 56 shows the assigned activities window for SAs, and Figure 30, “Assigned activities window for IC,” on page 57 shows the assigned activities window for ICs. The assigned activities window components are described in the following sections.

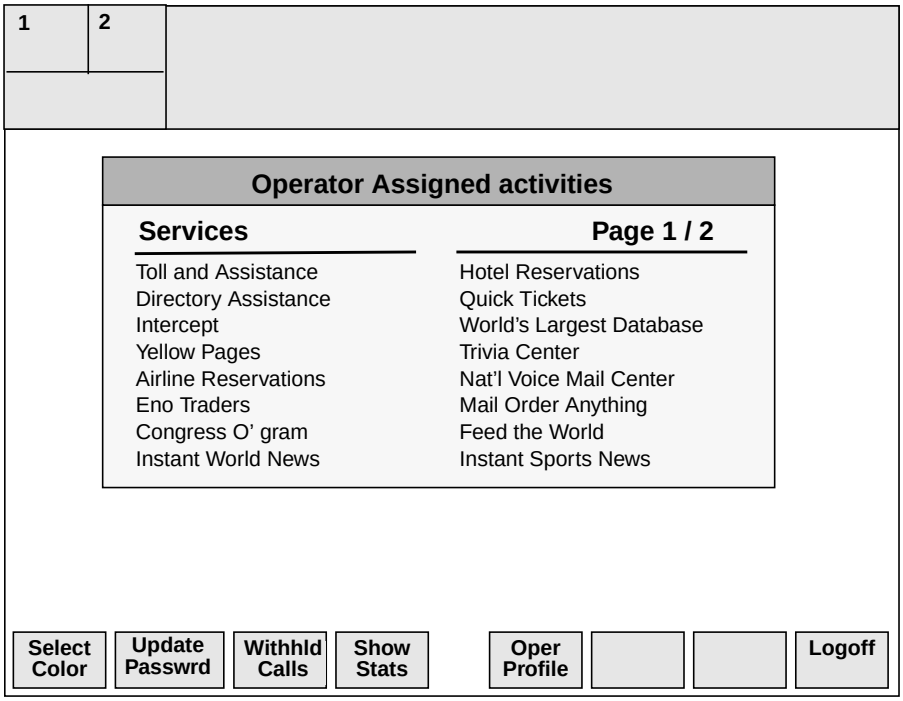

FIGURE 28. Assigned activities window for general operator

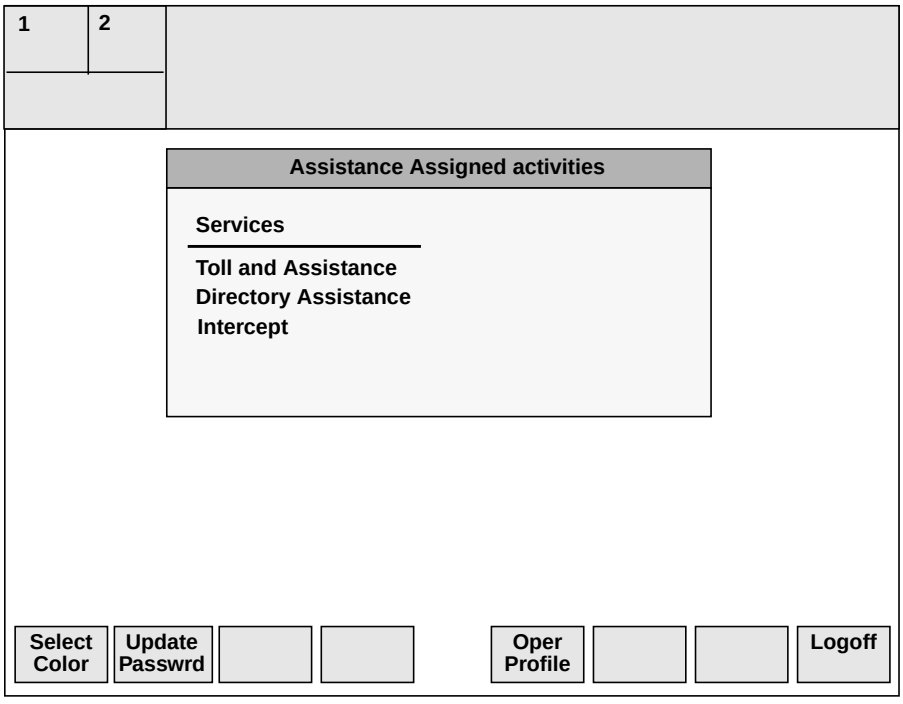

FIGURE 29. Assigned activities window for SA

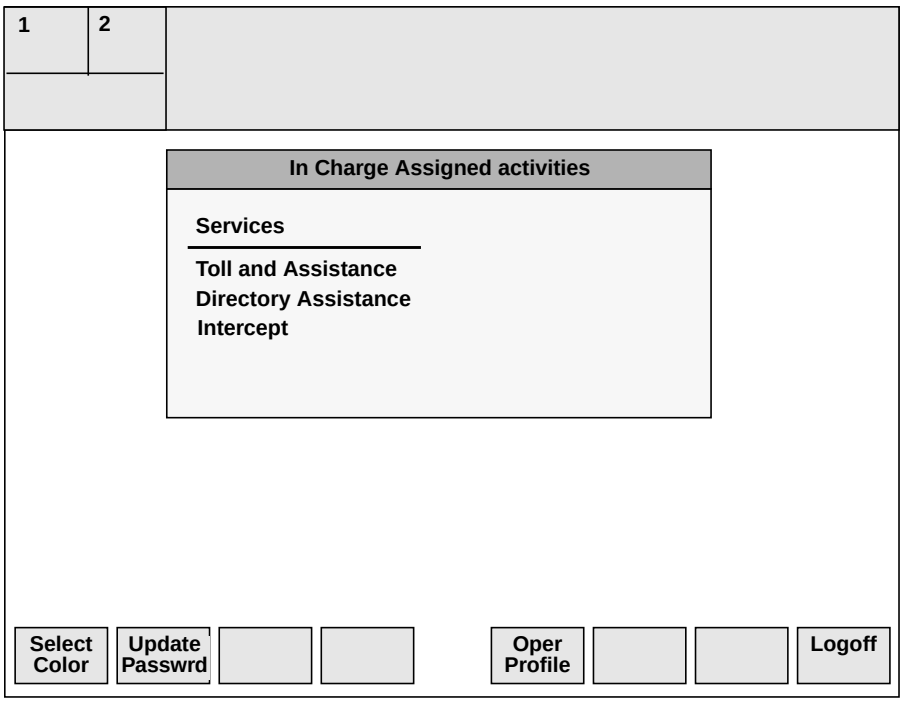

FIGURE 30. Assigned activities window for IC

8.1 Assigned activities window fields

The assigned activities window is made up of the five fields shown in Figure 8.0, “Assigned activities window,” on page 55.

The text strings displayed on the assigned activities window are contained in file ASSGNACT.LNG. Unless otherwise stated, all text strings in the assigned activities window display in Microsoft Sans Serif 10 point bold variable pitch font.

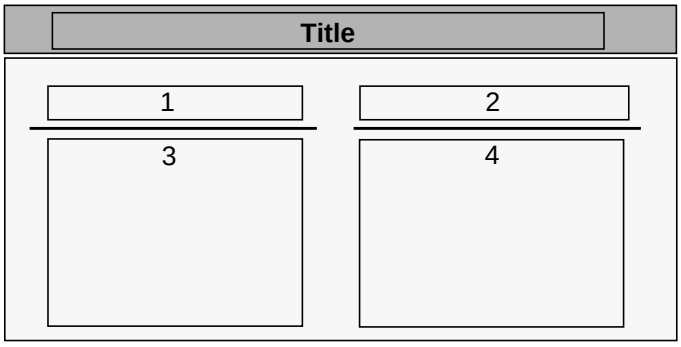

FIGURE 31. Assigned activities window fields

8.1.1 Assigned activities window title field

The assigned activities window title can contain at most a 40-character text string. The title indicates the position type, which is received from the DMS switch at operator logon.

Only one of the strings below is displayed on a position. The string displayed depends on the type of position: operator, SA, or IC.

MS Windows system font is used to display all title bar text.

Operator Assigned activities **string ID 0000**

Indicates that the position is an operator position.

In Charge Assigned activities **string ID 0001**

Indicates that the position is an in-charge position.

Assistance Assigned activities **string ID 0002**

Indicates that the position is a service assistant position.

8.1.2 Services List (field 1)

The Services List field displays a 12-character text string identifying the services provided by the applications installed on the position and assigned by the DMS switch.

Services **string ID 0003**

8.1.3 Service Attributes (field 2)

If a position fails to log on to a service that it requested, the service is displayed in the Service Attribute field in a text string of up to 19 characters. The string can have at most six characters of text, followed by the current page number (xx) and the maximum page number (yy).

Page xx/yy **string ID 0005**

8.1.4 Services/Transfers Display (fields 3 and 4)

QMS can support up to 63 services. Up to four pages of services can be displayed. Each page contains two columns (fields 4 and 5) of eight services. (As stated above, field 5 does not contain queue transfer information on a QMS position.) The operator can cycle through the available pages by pressing the **Page Forward** and **Page Backward** keys. Each time the **Page Forward** key is pressed, the next page is displayed. If the last available page is displayed when the **Page Forward** key is pressed, the key is ignored and no screen activity occurs. Each time the **Page Backward** key is pressed, the previous page is displayed. If the first page is displayed when the **Page Backward** key is pressed, the key is ignored and no screen activity occurs.

8.2 Assigned activities softkeys

Three sets of softkeys can be displayed in the softkey labels when the assigned activities window is active: SA and IC softkeys, operator softkeys, and color selection softkeys.

Each of the eight softkeys (numbered 0-7 from left to right) has two rows of text that can contain up to seven characters each. The text strings used for the Assigned activities softkey labels are contained in file AACTWSFK.LNG.

8.2.1 Assigned activities softkeys for SA/IC

When the Assigned activities window is active on an SA or IC position, the softkey labels are shown with the following set of softkeys. Since these are a subset of the operator softkeys, the discussion for each softkey is incorporated into Section 8.2.2, “Assigned activities softkeys for operators.”

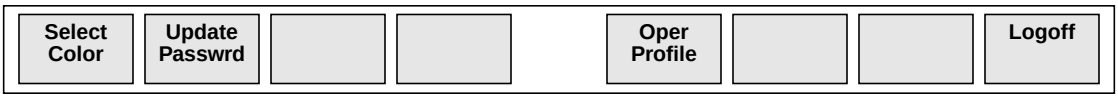

FIGURE 32. Assigned activities softkeys for SA/IC

8.2.2 Assigned activities softkeys for operators

When the Assigned activities window is active on an operator position, softkey labels are initially shown as follows:

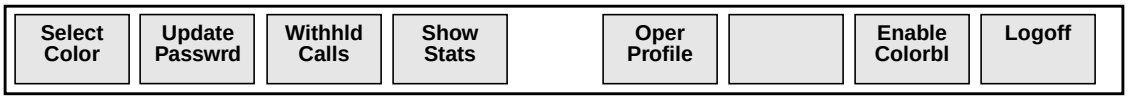

FIGURE 33. Assigned activities softkeys for operators

The softkeys shown in Figure 32 are the default softkeys displayed when the Assigned activities window has focus and no subtending windows are displayed. The text strings identify the function that operates when the softkey is pressed.

Select Color **string ID 00**

If only one color set is provided, this softkey label is blank and pressing the softkey has no effect. If more than one color set is available, this key is used to change the color set for the windows. If the operator presses **{Select Color}**, the set of softkeys associated with the Select Color the functionality is displayed on the screen, and the functions associated with these new softkeys become active. The Select Color set of softkeys offers the operator up to fourteen default color combinations from which to choose. The details of these softkeys are given in “Assigned activities Select Color softkeys” on page 61.

Update Passwrd **string ID 01**

If a password is not required during DMS logon, the **{Update Passwrd}** softkey is blank and pressing it has no effect. The password option is datafilled in the DMS switch. If a password is required during DMS logon, the softkey is displayed with the text as indicated above (“Update Passwrd”), and the operator can use the softkey to change his or her DMS password. When the softkey is pressed, the Password Update window is displayed. Details of screen activity involving the update password process are described in detail in the section “Password update window” on page 63.

Note: In the “Calls Withheld” state, the **{Update Password}** softkey is ignored.

Withhld Calls **string ID 02**

The behavior of this softkey depends on the value placed in the AppTimeoutvalue parameter in the Timeout section of file MPXPARM.INI. AppTimeoutvalue specifies the number of seconds that the position will remain in the “Calls Withheld” state. If AppTimeoutvalue is set to 0 (zero), the timer is disabled, and this softkey acts as a toggle. In this case, it is used to request position state changes between the “Calls Withheld” state and the “Busy” state. Pressing the **{Withhld Calls}** softkey requests the DMS switch to move the position into the “Calls Withheld” state. In this state, no calls are sent to the position once the operator moves to the operator information window. When the DMS switch confirms the state change, the text in the softkey label changes from **{Withhld Calls}** to **{Accept Calls}**. This label indicates that the next time this softkey is pressed, a request will be made to move to the “Busy” state. If the operator moves to the operator information window while the softkey display is **{Withhld Calls}**, calls will arrive at the position, because the position will be in the “Accept Calls” state. When the DMS switch confirms the change to the “Accept Calls” state, the text in the softkey label reverts to **{Withhld Calls}**.

When the AppTimeoutvalue parameter in the Timeout section of MPXPARM.INI is set to a value between 6–99, it specifies the number of seconds the position will stay in the “Calls Withheld” state once the **{Withhld Calls}** softkey is pressed. When the **{Withhld Calls}** softkey is pressed, the position will remain in the “Calls Withheld” state for the specified number of seconds. When the specified number of seconds passes, a change to the “Accept Calls” state is automatically requested.

Values between 1 and 5 are not allowed for AppTimeoutvalue. Values in this range are interpreted as zero.

This softkey is not available on SA or IC positions.

Show Stats **string ID 03**

This softkey is used to view the operator and system performance statistics from the DMS switch. When the operator presses **Show Stats**, the operator statistics window is displayed, the set of softkeys associated with operator statistics replaces the initial assigned activities softkeys on the screen, and the functions associated with show stats softkeys become active. For details on operator statistics, see “Operator statistics window” on page 67.

This softkey is not available on SA or IC positions.

Oper Profile **string ID 04**

This softkey allows operators to view their own profiles. The information presented in the operator profile window consists of the operator’s DMS ID, and the position ID. When the operator presses **{Oper Profile}**, the operator profile window is displayed, and the softkeys associated with the operator profile window replace the initial assigned activities softkeys on the screen. The functions

associated with operator profile softkeys become active. For details on the operator profile window, see “Operator Profile window” on page 71.

Enable Colorbl **string ID 15**

Disable Colorbl **string ID 16**

IWS colorblind support is provided to help colorblind and partially colorblind operators. IWS colorblind support does this by changing the color of some text strings and icons for the colorblind operator.

If colorblind support is not selected in IWS datafill, the colorblind softkey is blank, and pressing it has no effect. If colorblind support is selected, the colorblind softkey is displayed with the text as indicated above (“Enable Colorbld”). If the operator presses **{Enable Colorbl}**, the position switches from non-colorblind to colorblind mode, and the colorblind softkey label switches to **{Disable Colorbld}** accordingly. If the operator presses **{Disable Colorbld}**, the position switches from colorblind to non-colorblind mode, and the colorblind softkey label switches back to **{Enable Colorbl}** accordingly.

To enable IWS colorblind support, set “Select=1” in the “[Colorblind]” section of the MPXPARM.INI file. To disable IWS colorblind support, set “Select=0.” For more information on selecting IWS colorblind mode, see the colorblind support section of *TOPS IWS Base Platform User’s Guide*, 297-2251-010.

Logoff **string ID 14**

This softkey is used to log off the DMS switch and return to the operator administration window.

8.2.3 Assigned activities Select Color softkeys

When the **{Select Color}** softkey is pressed, the softkey display changes to display the set of softkeys associated with selecting IWS color sets. As of IWS 17.1, each softkey has two sets of colors. Figure 34 shows these softkeys.

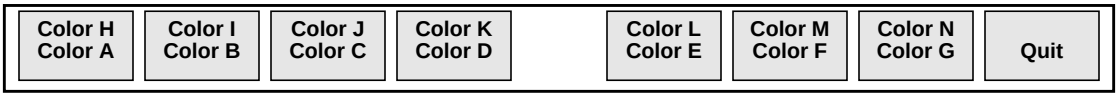

FIGURE 34. Assigned activities Select Color softkeys

This set of softkeys allows the operator to choose from up to fourteen screen color arrangements. As each softkey is pressed, the screen components of the assigned activities screen changes to the chosen color set. The operator can press each softkey or SHIFT+softkey to investigate the various color arrangements offered.

When a satisfactory color arrangement is decided upon, the operator presses the softkey to implement the color change for all IWS screens. There is no limit to the number of times colors can be changed. When the **{Quit}** softkey is pressed, the set of softkeys associated with **{Select Color}** key is replaced on the screen by the softkeys associated with the initial display of the Assigned activities window, and the softkey functions of the assigned activities window become active.

As long as more than one IWS color set is configured, operators can access the Select Color softkeys.

8.2.4 IWS color sets

Please refer to the *TOPS IWS Base Platform User's Guide*, 297-2251-010 for new instructions for establishing and storing IWS color sets.

8.3 Assigned activities MSA displays

The assigned activites window is the first window that appears after the operator logs on. Some fields in the MSA are displayed at any time after logon. The following strings can appear in the MSA while the assigned activities window is active.

The display of the following strings depends on the levels of traffic in the office. These strings represent the default datafill that can be found in the POSMSA.LNG file.

CW **string ID 0001**

Displayed in the calls waiting field. Indicates that calls are queued waiting for service.

CT **string ID 0002**

Displayed in the controlled traffic field. Indicates that controlled traffic mode is active.

The general operator's profile determines whether the following string is displayed. If the operator's DMS switch profile specifies that the operator has study registers active, this string (datafilled in POSMSA.LNG) is displayed.

ST **string ID 0003**

Displayed in the study field. Indicates that the study mode is active.

If a general operator is being monitored by a service assistant or IC operator, the general operator can see a display in the mon field of the MSA. The display of the monitoring indication is a DMS datafill option. The field is left blank if monitoring is not active, or if the DMS parameter that allows the display is disabled. The maximum string length of the monitor field is three characters. The text for this window area is datafilled in POSMSA.LNG. The default string is

Mon **string ID 0004**

Indicates that the operator or position is being monitored.

If a general operator moves to the calls-withheld position state, the information is displayed in the pending field of the MSA. The maximum string length of the pending field is 32 characters. The text for this window area is datafilled in file BHMIMSA.LNG. The default string is

Calls Withheld **string ID 0005**

9.0 Password update window

Figure 35 shows the Password Update window. If the password feature is enabled through DMS datafill, the **{Update Passwrd}** softkey is available when the assigned activities window is active. The password update window is displayed when the operator presses the **{Update Passwrd}** softkey. It is used to update the operator's DMS password. For the user to update the password, the position must be in the Busy state.

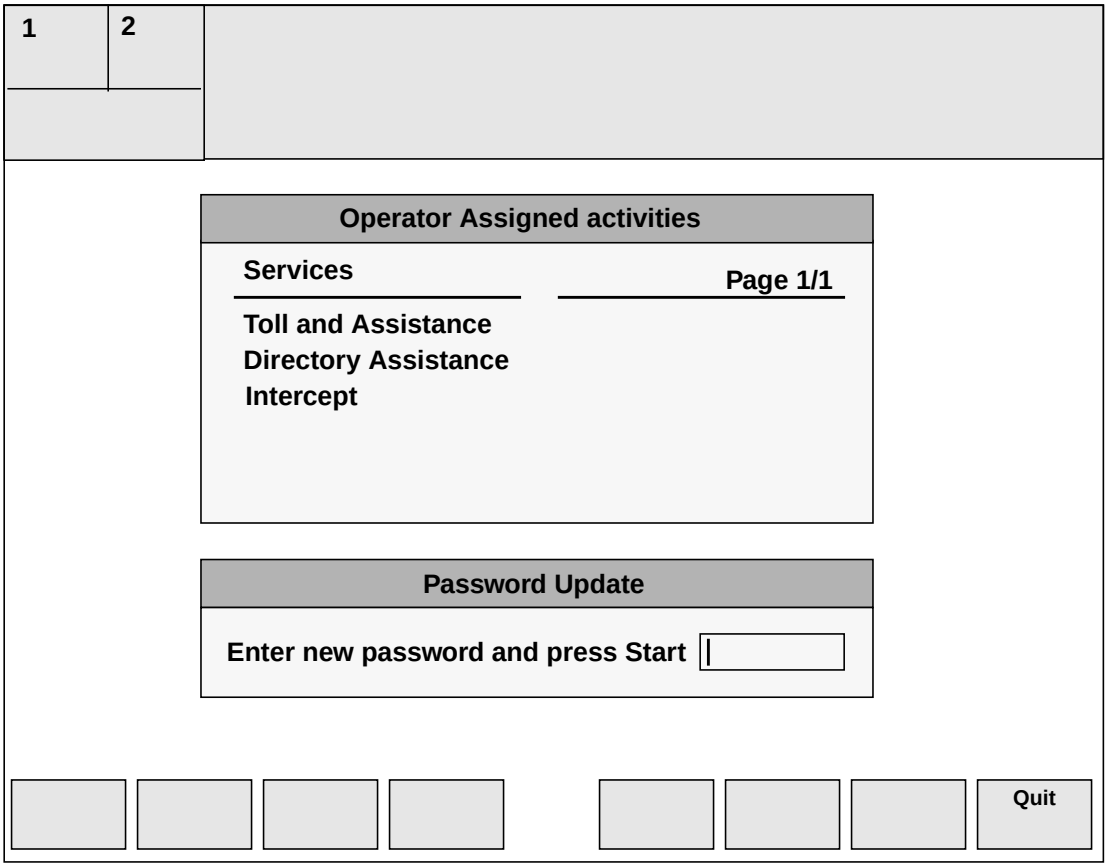

FIGURE 35. Password update window

The password update window has three associated displays. Each appears in turn as the operator follows the steps for changing a password. First the operator presses the **{Update Passwrd}** softkey to initiate the process. In response, the password update window is displayed.

9.1 Password update window fields

The password update window consists of three fields, as shown in Figure 36.

The text strings displayed in the password update window are contained in file PASSWORD.LNG. Unless otherwise stated, all are displayed in Microsoft Sans Serif 10 point bold variable pitch font.

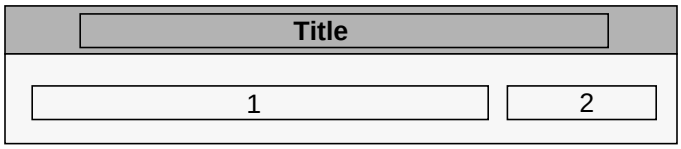

FIGURE 36. Password update window fields

9.1.1 Password update window title field

The password update window title can contain up to 40 characters. All title bar text is displayed in MS windows System font.

Password Update **string ID 0000**

9.1.2 Password prompt (field 1)

The password prompt field displays a 35-character text string that directs the operator through the process of updating a password.

Enter new password and press Start **string ID 0001**

Displayed when the operator begins the update password process. It is also displayed if the operator does not enter the same new password in the new password and confirm password fields.

Reenter to confirm and press Start **string ID 0002**

Displayed after the operator first enters the new password during the update password process.

Password entries did not match **string ID 0003**

Displayed if the operator does not enter the same new password in the new password and confirm password fields.

Password update failed **string ID 0004**

Displayed if for some reason the DMS switch cannot successfully update the password.

Password update successful **string ID 0005**

Displayed when the DMS switch has successfully updated the operator's password.

9.1.3 New password input (field 2)

The new password input field is a 7-character field terminated with the **Start** key. Alphanumeric characters are accepted in this field.

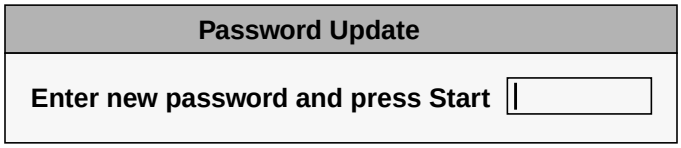

FIGURE 37. Password update window–display 1

As Figure 37 shows, the password update window presents one entry field for the operator: the new password input field. This field accepts up to seven alphanumeric characters, but for security reasons, these characters are not displayed. Asterisks are displayed instead. If an eighth character is entered, the display is cleared and the cursor is placed at the beginning of the field.

After the operator enters a new password and presses the **Start** key, the password update window changes to its second display. This display also has one entry field: the confirm password field. Like the new password field, the confirm password input field accepts up to seven alphanumeric characters. If an eighth character is entered, the display is cleared and the cursor is placed at the beginning of the field.

To ensure that the password was entered correctly, the operator must enter the same new password in the confirm password field that was entered in the new password field.

Figure 38 shows the second display of the password update window.

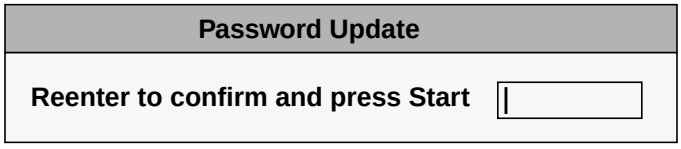

FIGURE 38. Password update window–display 2

After the operator enters the new password and presses the **Start** key, the entry field and the message are removed from the password update window. A new message field now becomes active to form the password update window's third display. Depending on the circumstances, one of three possible messages is placed in this field:

- Password entries did not match
- Password update failed
- Password update successful

Figure 39 shows the third display with one of the possible messages. All the possible messages are described in Section 9.1.2 on page 64.

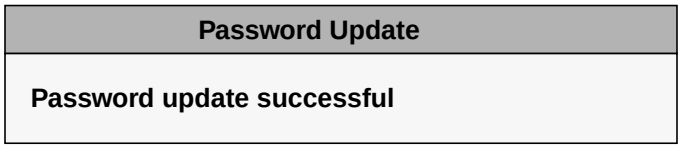

FIGURE 39. Password update window–display 3

The operator must press **Quit** to exit the password update window.

9.2 Password update softkeys

Each of the eight softkeys associated with updating a password (numbered 0–7 from left to right) has two rows of text; each row of text can contain up to seven characters. The text strings identify the function invoked when the operator presses the softkey. The text strings used for the top and bottom softkey labels are contained in the language file PASSWSFK.LNG.

When the password update window is activated on the IWS display, the **{Quit}** softkey label appears, as shown in Figure 40:

FIGURE 40. Password update softkeys

The softkeys 0–6 are blank and non-functional, as shown in Figure 40.

Quit **string ID 0000**

Removes the password update window from the screen when the operator has updated the password. When the **{Quit}** softkey is pressed, the set of softkeys associated with the initial display of the assigned activities window is displayed. The **{Quit}** softkey can also be used to halt the update password process before indication of a successful password update.

10.0 Operator statistics window

The operator statistics window, displayed below the assigned activities window, is shown in Figure 41.

The operator statistics window appears when the assigned activities **{Show Stats}** softkey is pressed. The statistics displayed include the operator's average work time, the number of calls handled, and the system average work time as computed by the DMS switch. Display of average work time, the number of calls, and the system average work time are DMS datafill options. This window is not available for service assistants or IC operators.

After viewing statistics, the operator can press the **{Quit}** softkey to remove the operator statistics window from the screen.

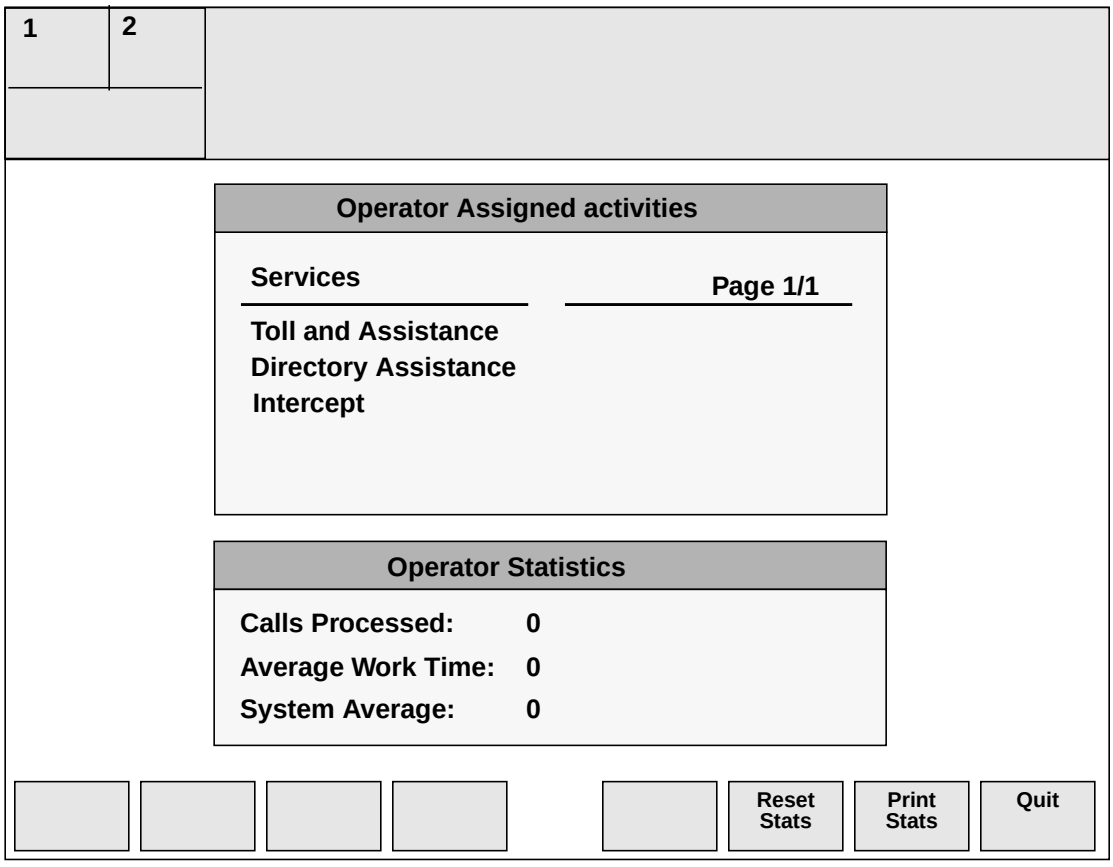

FIGURE 41. Operator statistics window

If statistics are disabled in the DMS, dashes (-) are displayed in the disabled fields. If the ability to reset statistics is disabled and the **{Reset Stats}** softkey is pressed, the DMS switch displays a No Action reason in the transient field of the MSA.

10.1 Operator statistics window fields

The Operator statistics window is made up of the following fields, as shown in Figure 42.

The text strings displayed in the operator statistics window are contained in file OPSTATS.LNG. Unless otherwise stated, all text strings in the operator statistics window display in MS Sans Serif 10 point bold variable pitch font.

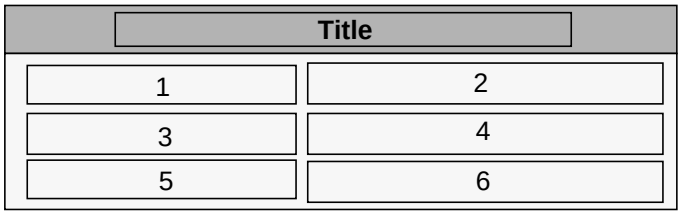

FIGURE 42. Operator statistics window fields

10.1.1 Operator statistics window title field

The title field can contain at most a 40-character text string. All title bar text is displayed in MS Windows system font.

Operator Statistics **string ID 0000**

10.1.2 Calls processed label (field 1)

This label can contain at most 18 characters.

Calls processed: **string ID 0001**

10.1.3 Calls processed data (field 2)

This field indicates the number of calls handled by the operator.

10.1.4 AWT label (field 3)

This label can contain at most 18 characters.

Average Work Time: **string ID 0002**

10.1.5 AWT data (field 4)

This field indicates the operator’s average work time.

10.1.6 System average label (field 5)

This label can contain at most 18 characters.

System Average: **string ID 0003**

10.1.7 System average data (field 6)

This field indicates the average work time across the DMS switch.

10.2 Operator statistics softkeys

Each of the eight softkeys (numbered 0–7 from left to right) has two rows of text that can contain up to seven characters each. The text strings identify the function to be invoked when the softkey is pressed. The text strings used for the top and bottom softkey labels are contained in file OPRSTSFK.LNG.

The softkey labels shown in Figure 43 appear when the operator statistics window is activated.

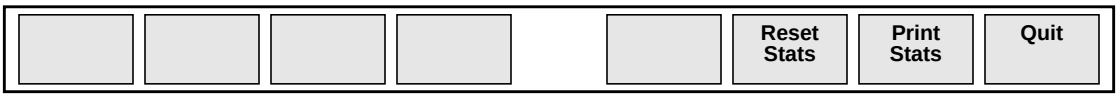

FIGURE 43. Operator Statistics softkeys

Softkeys 0– 4 are blank and non-functional.

Reset Stats **string ID 0000**

The ability to reset statistics is a DMS datafill option. If the ability to reset statistics is not enabled through proper DMS datafill, the text provided for this softkey label is still displayed, but pressing the softkey displays a No Action reason. If the ability to reset statistics is enabled, this softkey resets the operator statistics to zero in the DMS switch and changes the values shown in the window to zero.

Print Stats **string ID 0001**

This softkey directs the DMS switch to print a copy of the operator and system statistics. No screen activity occurs.

Quit **string ID 0002**

This softkey removes the Operator Statistics window from the screen when the operator finishes viewing the statistics. When the Operator Statistics window is removed from the screen, the set of softkeys associated with the initial display of the assigned activities window is displayed.

11.0 Operator Profile window

The Operator Profile window is accessible from a softkey in the assigned activities window. When the **{Oper Profile}** softkey is pressed, the Operator Profile window is displayed, containing the DMS operator ID and position number, as shown in Figure 44.

The size and location of the operator profile window are consistent with those of the password update and operator statistics windows.

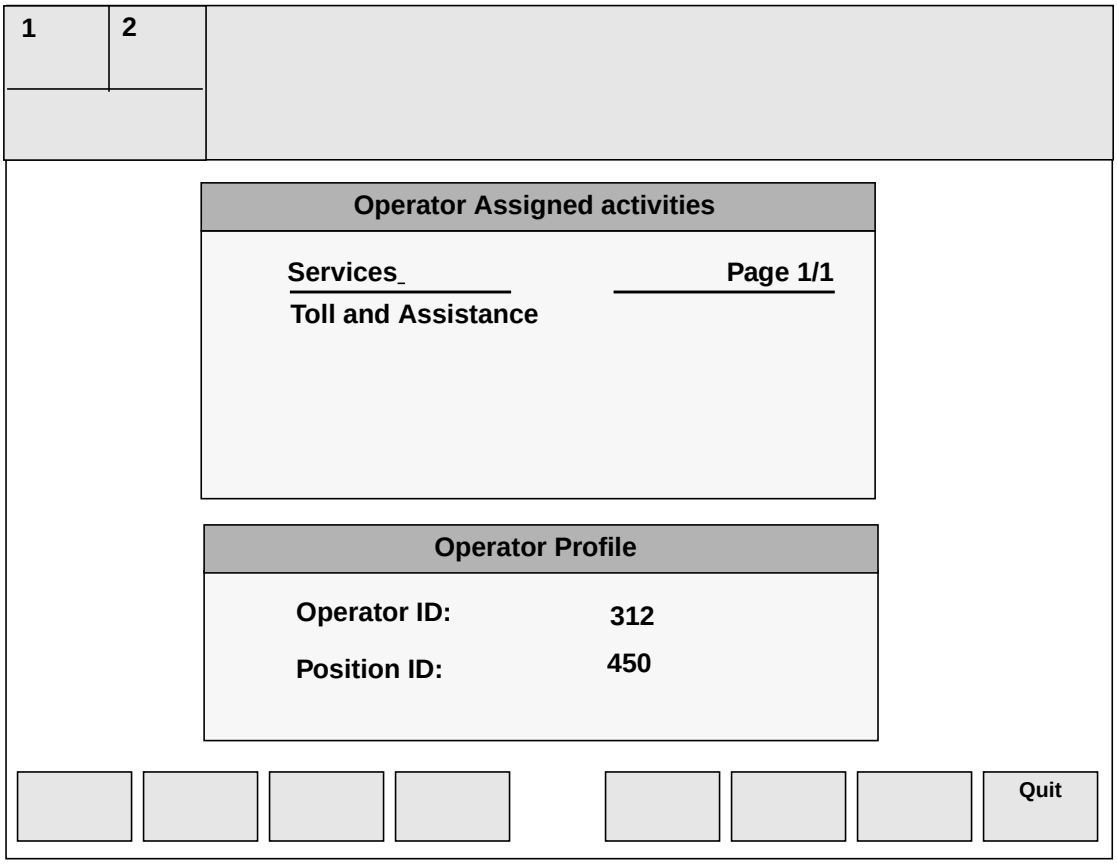

FIGURE 44. Operator Profile window

11.1 Operator profile window fields

The operator profile window consists of a window title and two data fields. The title and field labels are defined in file OPPRFLNG.LNG. Figure 34 shows each of the fields in the Operator Profile window. Unless otherwise stated, text in the fields is displayed in the Microsoft Sans Serif 8 point variable pitch font.

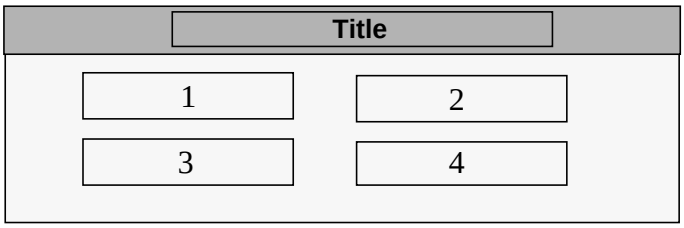

FIGURE 45. Operator Profile window fields

11.1.1 Window title field

The maximum string length for the operator profile window is 40 characters.

Operator Profile **string ID 0000**

11.1.2 Operator profile window fields

The maximum number of characters in each field label is 18.

11.1.2.1 Operator profile window label (field 1)

Operator ID: **string ID 0001**

11.1.2.2 Operator profile window data (field 2)

This field displays the operator's DMS ID, as datafilled in DMS table OPRDAT or TQOPROF.

11.1.2.3 Operator profile window label (field 3)

Position ID: **string ID 0002**

11.1.2.4 Operator profile window data (field 4)

This field displays the DMS position number as datafilled in DMS table TOPSPOS.

11.2 Operator profile window softkeys

The **{Quit}** softkey is datafilled in file OPPRFSFK.LNG.

Quit **string ID 0000**

Allows the operator to return to the assigned activities window.

12.0 Operator information window

The operator information window appears when a general operator leaves the assigned activities window by pressing the **Start** key. At this point, the position is ready to accept calls. Before the first call arrival, all softkeys are blank. This window appears as shown in Figure 46.

All menus are available from the operator information window. The numeric keypad is usable, as is the QWERTY keyboard.

Figure 46 depicts the operator information window, which is composed of the MSA, the application area, and the (blank) softkeys.

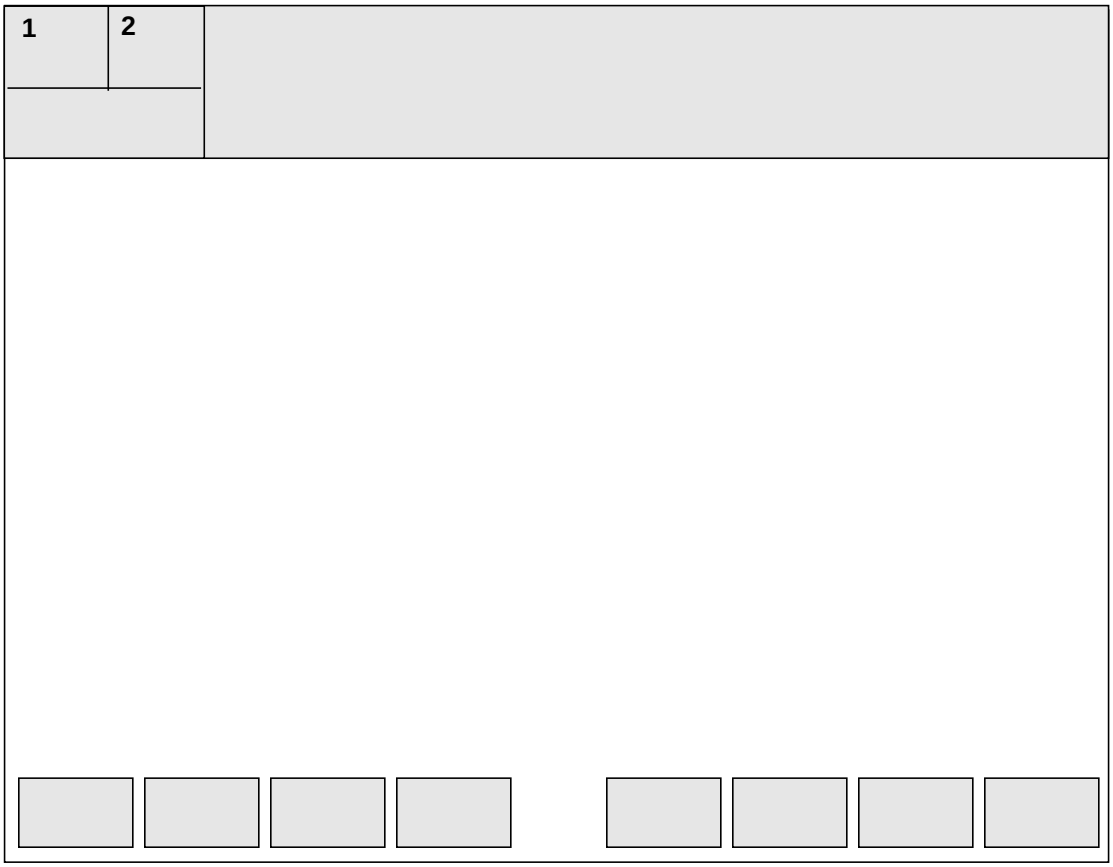

FIGURE 46. Operator information window

The operator information window has no windows or datafilled softkeys.

The following strings are displayed when the operator invokes the Calls Withheld function from the functions menu. These strings are displayed in the pending field of the MSA for a general operator, and are datafilled in file BHMIMSA.LNG.

Withhold calls pending... **string ID 0004**

Indicates that the position will enter the “Calls Withheld” state at completion of the current call.

Calls Withheld **string ID 0005**

Indicates that the position is currently in the “Calls Withheld” state.

The following string is displayed in the pending field of the MSA when the operator requests that the position change to the “Position Busy” state. This string is datafilled in the BHMIMSA.LNG file.

Make busy pending... **string ID 0006**

Indicates that the position will enter the “Position Busy” state at completion of the current call.

The following text string can appear while the operator information window is visible. This string is datafilled in the BHMIMSA.LNG file.

Forced busy pending... **string ID 0007**

Indicates that a maintenance condition exists which requires transition into a “Maintenance Busy” state at completion of the current call. This appears in the pending field of the MSA, and is datafilled in the BHMIMSA.LNG file.

The following text string can appear while the operator information window is visible. This string is datafilled in the BHMIMSA.LNG file.

Logoff pending... **string ID 0008**

Indicates that the operator unseated the headset while a call was still at the position. Upon completion of the call, the position logs off the DMS switch. This scenario is possible only if the HeadsetDriver option is set in file MPXINI.INI. This option appears in the pending field of the MSA, and is datafilled in the BHMIMSA.LNG file.

12.1 OSSAIN simultaneous interaction displays

One of the following six-digit character labels appears in the pending field of the MSA when an IWS operator is involved in an Operator Services Systems Advanced Intelligent Network (OSSAIN) simultaneous interaction. The string displays with a numeric identifier that shows to which service node the operator is attached. These strings are datafilled in file POSMSA.LNG.

Siml SN: **string ID 0019**

Indicates that the operator is engaged in a simultaneous interaction with a service node.

Rlsd SN: **string ID 0020**

Indicates that the operator who is involved in a simultaneous interaction has released the service node and taken control of the call.

13.0 Service assistant and IC manager keying strategies

When the service assistant or IC manager presses the **Start** key in isolation (that is, not to terminate data) while the assigned activities window is active, the appropriate SA or IC window is displayed in the operator information window, and the assigned activities window is removed. At this point the position is in the Calls Withheld state.

The type of SA or IC window, the title bar text, and the information that may be provided depend on DMS datafill and on whether a service assistant or IC manager is logged on to the position.

At the bottom of the SA and IC window is a data entry field in which the service assistant or IC manager can enter information such as the operator or position number for paging or monitoring. Paging and monitoring are discussed later in this chapter.

For details on the SA window, refer to Section 14.0 on page 83. For details on the IC window, see Section 15.0 on page 89, and for details on the IC query window, refer to Section 16.0 on page 99.

When another menu window is displayed (for example, a functions, services, applications, trouble, or outtrunks menu window), it partially overlays the IC window. The DMS switch continues to update the IC window, however. When the displayed menu window is taken down, the correct information is displayed for the IC window.

The region between the MSA and the softkeys may also change, depending on the activity of the service assistant or IC manager while using other IWS API-compliant applications. If the service assistant or IC manager accesses an application while the operator information window is active and after the assigned activities window is removed, the application’s windows can overlay any of the active windows between the MSA and the softkeys. The active application changes the labels and associated functionality of the service assistant or IC manager softkeys. Again, the DMS switch continues to update any overlaid windows as necessary. The service assistant or IC manager cannot see these windows or updates, however, until the active application’s windows are removed.

For information on the HMI of other IWS API-compliant applications, refer to vendor documentation.

13.1 Audible alert

If a situation in the office or system requires immediate attention, the DMS switch notifies the service assistant or IC manager by requesting that a special audible alerting tone be generated at the SA or IC position. Before answering or handling the special situation, the service assistant or IC manager may press the **Stop Bell** softkey or key the Stop Bell function from the functions menu (or a functions menu hot key) to ask the DMS switch to terminate the audible alert. If the situation is not handled promptly, however, the DMS switch may reactivate the audible alert.

The audible alert would be used, for example, if the SA or IC position was not accepting calls, and an operator was requesting assistance from the SA or IC position. The DMS switch would activate the audible alert to warn the service assistant or IC manager of an office condition that needs immediate response.

13.2 Paging an operator or position

The service assistant or IC manager may signal an operator to call him or her. The **{Page Pos}** softkey is used to signal the operator at a specified position to call. The **{Page Opr}** softkey is used to signal a specific operator to call. The operator may respond to the page by a directed assistance or paged assistance request. Operator assistance requests are discussed elsewhere in this document.

When paging, the service assistant or IC manager may see different displays in the MSA. The possible strings are listed below. These are datafilled in the POSMSA.LNG file.

Page To Pos <PPPP> **string ID 0005**

Displayed when the service assistant or IC manager pages an operator at a specific position. “PPPP” is the position number the service assistant or IC manager paged. The maximum text string length is 27 characters, allowing five characters for the position number.

Page To Opr <XXXX> **string ID 0006**

Displayed when the service assistant or IC manager pages a specific operator. “XXXX” is the operator number that the service assistant or IC manager paged. The maximum text string length is 27 characters, allowing five characters for the operator number.

Invalid Page **string ID 0007**

Displayed when the service assistant or IC manager performs an invalid page request. For example, the position or operator number is incorrect, the position is not occupied, the operator is not logged on, and so forth. The maximum text string length is 32 characters.

In addition to the displays in the MSA that are provided for the paging service assistant or IC manager, a message appears in the page field of the MSA. The default string is datafilled in the POSMSA.LNG file.

Page From Pos: <XXXX> **string ID 0000**

Indicates that the operator is being paged by the assistance position numbered <XXXX>. The maximum string length for the assistance position text is 27 characters, allowing five characters for the position number. The string is displayed in alert text color.

13.3 Monitoring an operator or position

The **{Monitor Pos}** and **{Monitor Opr}** softkeys allow the service assistant or IC manager to request a session to monitor an operator’s activities. To initiate a monitoring session, the SA or IC position must be in the Calls Withheld state.

When the position is in the Calls Withheld state, the following display appears in the SA/IC position state field of the MSA. The string is datafilled in the BHMIMSA.LNG file.

Calls Withheld **string ID 0018**

Displayed when the service assistant or IC manager presses the **{Withhld Calls}** softkey or function key. This string replaces the “Available” string for the service assistant or IC manager or the “Dir Calls” string for the IC manager. This display indicates that the service assistant or IC manager is unavailable. This position state is discussed later in this document.

If the DMS switch allows the monitoring session, the SA or IC window is removed, and the softkeys are cleared. The service assistant or IC manager can hear the operator and customer’s conversation. The following strings may be displayed in the monitor field of the MSA for the service assistant or IC manager.

Mon **string ID 0004**

Indicates that the SA or IC position is monitoring an operator or operator position. This string is datafilled in the POSMSA.LNG file.

mon **string ID 0027**

Notifies the IC manager that a service assistant who belongs to the IC manager’s team is monitoring an operator or operator position within that DMS operator team. This string is datafilled in the BHMIMSA.LNG file.

The service assistant or IC manager may see the following text in the predefined alert text color, which indicates certain states of the monitored position. For more information concerning the different position states used by the DMS switch, refer to the *Open Position Protocol Description*. When the DMS switch changes the monitored position’s state, this display is cleared or changed as appropriate. If the monitored operator logs off the position, the DMS switch terminates the monitoring session. When the monitoring session ends, this display is also cleared from the SA or IC screen. These strings are displayed in the page field of the MSA and are datafilled in the language file BHMIMSA.LNG.

(Position Busy) **string ID 0002**

Indicates that the position is in Position Busy state and is not currently processing calls.

(Position Forced Maintenance) **string ID 0003**

Indicates that the DMS switch has forced the position to undergo maintenance. The position may have a fault, or the DMS switch or its peripherals may have a fault. Any operator logged in at this position is not processing calls.

When an operator or position is being monitored, the displays on the screen are from the application currently in use. Softkeys from the current application are also visible.

Context switches initiated by the monitored operator and requiring no action from the DMS switch are considered local to that operator’s position. These types of context switches are not made at the monitoring SA or IC position.

Note: If a monitoring session is initiated with an operator who is currently handling a call, the monitoring operator’s display for the call in progress may be incomplete, since the DMS switch sends messages only after monitoring begins.

Window updates (including softkeys) from other database services or applications are dependent on the application and database vendors. For more information about monitoring and screen updates, refer to the appropriate vendor documentation.

When an operator or position is being monitored, no monitored operator keystrokes are shown on the SA or IC display. The monitoring service assistant or IC manager cannot see what keys are pressed by the monitored operator.

For more information about monitoring of operator keystrokes during a database session or other active application session, refer to the appropriate vendor documentation.

The SA or IC position should be datafilled with a superset of the team services. The service text datafill in the XSERVS.TBL file should be the same for each operator providing that service and also for the service assistant or IC manager. For details on the XSERVS.TBL file, refer to the *TOPS IWS Base Platform User's Guide*, 297-2251-010. If position datafill is not identical, then during monitoring, the SA or IC displays may not reflect what is presented to the monitored operator or position, and the service assistant or IC manager may find differences in keyboard functionality. For example, context change keys may be ignored.

The service assistant or IC manager may view the functions, services, applications, outttrunks, and trouble menu keys to look at menus while in a monitoring session. Only the Quit Monitoring and Stop Bell functions are available to an service assistant or IC manager, however.

If conditions in the office cause the audible alert to be activated, the service assistant or IC manager may use the Stop Bell function to terminate the audible alert. See "Audible alert" on page 75.

The Quit Monitoring function ends the monitoring session. In response to this request to end the monitoring session, the DMS switch stops sending the monitored operator information to the SA or IC position for display. The windows that appeared during monitoring, including the MSA, are cleared. The SA or IC windows and softkeys are updated as required and redisplayed.

Because of interactions between menus and other position applications, the displayed functions menu window is removed from the monitoring SA or IC position screen at call arrival and call end. Since the service assistant or IC manager has no control over call arrival and call end while monitoring, it is suggested that the Quit Monitoring function be datafilled as a functions menu hot key for easy access in terminating the monitoring session. For more information on datafilling functions menu hot keys, refer to *TOPS IWS Base Platform User's Guide*, 297-2251-010.

The SA or IC position is normally used to monitor operators or positions. The SA or IC manager or position cannot be monitored. If a monitored operator places a call to an service assistant or IC manager who is not monitoring, however, the monitoring service assistant or IC manager can hear the exchange between the connected operator and the service assistant or IC manager.

13.4 Operator assistance requests

When an operator is unable to handle a call, the service assistant or IC manager can provide assistance by answering the operator's questions or by talking to the customer directly. In order to receive a call from an operator, the service assistant or IC manager must be available to assist the operator and must have a loop accessed. Pressing the **{Accept Calls}** softkey requests that the DMS switch put the SA or IC position into the Available state that is required to receive calls from the operator.

When the operator toggles between the Accept Calls state and the Calls Withheld state, the following displays may be shown in the SA-IC Pos State field of the MSA. These strings are datafilled in the BHMIMSA.LNG file.

Available **string ID 0019**

Displayed when the SA presses the **{Accept Calls}** softkey and replaces the Calls Withheld string. It also is displayed when the IC manager presses the **{Accept Calls}** softkey, if the string displayed before Calls Withheld was the Available string. In addition, when the IC manager presses the **{Gen Calls}** softkey, this string replaces the "Dir Calls" string. This display indicates that the service assistant or IC manager is ready to accept general assistance requests.

Dir Calls **string ID 0020**

Displayed when the IC manager presses the **{Dir Calls}** softkey and replaces the "Available" string. It is also displayed when the IC manager presses the **{Accept Calls}** softkey, if the string displayed before "Calls Withheld" was the "Dir Calls" string. This display indicates that the IC manager is ready to accept directed assistance requests.

The service assistant or IC manager may receive general requests on loop 1 and directed requests (assistance request directed to a specific service assistant or IC manager) on loop 2.

The following strings are displayed in the pending field of the MSA to indicate that general assistance has been requested. These strings are datafilled in POSMSA.LNG.

Loop 1: Pos: <PPPP> Opr: <XXXX> **string ID 0010 and string ID 0012**

Indicates that a general assistance request has arrived for the first available service assistant or IC manager from operator "XXXX" at position "PPPP." "XXXX" is the operator number and "PPPP" is the operator position number where the request originated. Also, an on-hook telephone icon is presented in the loop 1 display area.

The maximum length of the "Loop 1: Pos:" text string is 15 characters, allowing five characters for the position number. The maximum length of the "Opr:" text string is seven characters, allowing five characters for the operator number.

Loop 1: Rel by Opr: <XXXX> **string ID 0011**

Indicates that a general assistance request has arrived and been released by operator "XXXX" to the SA or IC queue. "XXXX" is the number of the operator who released the call. Also, an on-hook telephone icon is presented in the loop 1

display area. The maximum string length is 27 characters, allowing five characters for the operator number.

The following strings are displayed in the page field of the MSA to indicate that directed assistance has been requested. These strings are datafilled in file POSMSA.LNG.

Loop 2: Pos: <PPPP> Opr: <XXXX> **string ID 0008 and string ID 0009**

Indicates that a directed assistance request was made by operator "XXXX" at position "PPPP". "XXXX" is the operator number and "PPPP" is the operator position number where the request originated. Also, an on-hook telephone icon is presented in the loop 2 display area and the SA or IC audible alert sounds. The audible alert tone is discussed earlier in this chapter.

The maximum length of the "Loop 2: Pos:" text string is 15 characters, allowing five characters for the position number. The maximum length of the "Opr:" text string is seven characters, allowing five characters for the operator number.

If at any time there are no SA or IC positions in Available state for handling assistance requests, the following string is displayed in the Pos/SA-IC Info field of the MSA. This string is datafilled in the BHMIMSA.LNG file.

No Asst Pos **string ID 0011**

Indicates that there are no SA or IC positions in the accept calls state to handle assistance requests. This indication could be team-wide or across the operator work force, depending on DMS datafill for cross-team routing.

The only time during a call that the service assistant or IC manager can use the Call Details function in the functions menu window to recover from lost messages is at call arrival when the call-begin message from the DMS switch has been lost. If any messages are lost during the call, the service assistant or IC manager must put the call on hold and re-access the loop to force the DMS switch to resend the call information.

To prevent assistance requests from arriving at the position, the service assistant or IC manager must put the position in the Calls Withheld state. When this function is invoked, the following strings are displayed. These strings are datafilled in the language file BHMIMSA.LNG.

Calls Withheld **string ID 0018**

Indicates that the position is currently in the Calls Withheld state. This string is displayed in the SA/IC Pos State field of the MSA.

Withhold calls pending... **string ID 0021**

Indicates that the position will enter the Calls Withheld state at completion of the current call. This string is displayed in the SA/IC Pos State field of the MSA.

While there is an assistance request at the position, the service assistant or IC manager may also invoke the Make Busy function, which moves the position to the Busy Pending state until the call is released. The following string is displayed when this function is invoked. This string is datafilled in the language file BHMIMSA.LNG.

Make busy pending... **string ID 0022**

Indicates that the position will enter the Position Busy state at completion of the current call. This string is displayed in the SA-IC Pos State field of the MSA.

The following text string may appear while the SA or IC window is visible:

Forced busy pending... **string ID 0023**

Indicates that a maintenance condition exists that requires transition into a Maintenance Busy state at completion of the current call. This appears in the SA-IC Pos field of the MSA, and is datafilled in the BHMIMSA.LNG file.

While there is an assistance request at the position, the service assistant or IC manager may also unseat the headset, which may transition the position to the “Logoff Pending” state until the call is released. If the HeadsetDriver option is set in the MPXINI.INI file, the state changes to “Logoff Pending.” If the option is not set, however, unseating the headset simply disconnects the audio path between the position and the operator. For more information on this option, refer to *TOPS IWS Base Platform User’s Guide*, 297-2251-010. The following string is displayed if the headset has been unseated while the option is set. This string is datafilled in the language file BHMIMSA.LNG.

Logoff pending... **string ID 0024**

Indicates that the position will enter the Position Busy state at completion of the current call. This string is displayed in the SA-IC Pos State field of the MSA.

13.5 Accessing a Loop

To make an outgoing call, the service assistant or IC manager may use one of the access loop functions in the functions menu window.

14.0 SA window

Figure Figure 47 shows an example of the SA position screen when the service assistant is not accepting assistance requests.

The region between the MSA and the softkeys may change, depending on the service assistant's activity while using other IWS API-compliant applications. If the service assistant accesses an application while the operator information window is active and after the assigned activities window is removed, the application's windows can overlay any of the active windows between the MSA and the softkeys. The active application can change the SA position softkey labels and associated functionality. The DMS switch continues to update any overlaid windows as necessary, but the service assistant does not see these windows or their updates until the active application's windows are removed. For information on the HMI of other API-compliant applications, refer to vendor documentation.

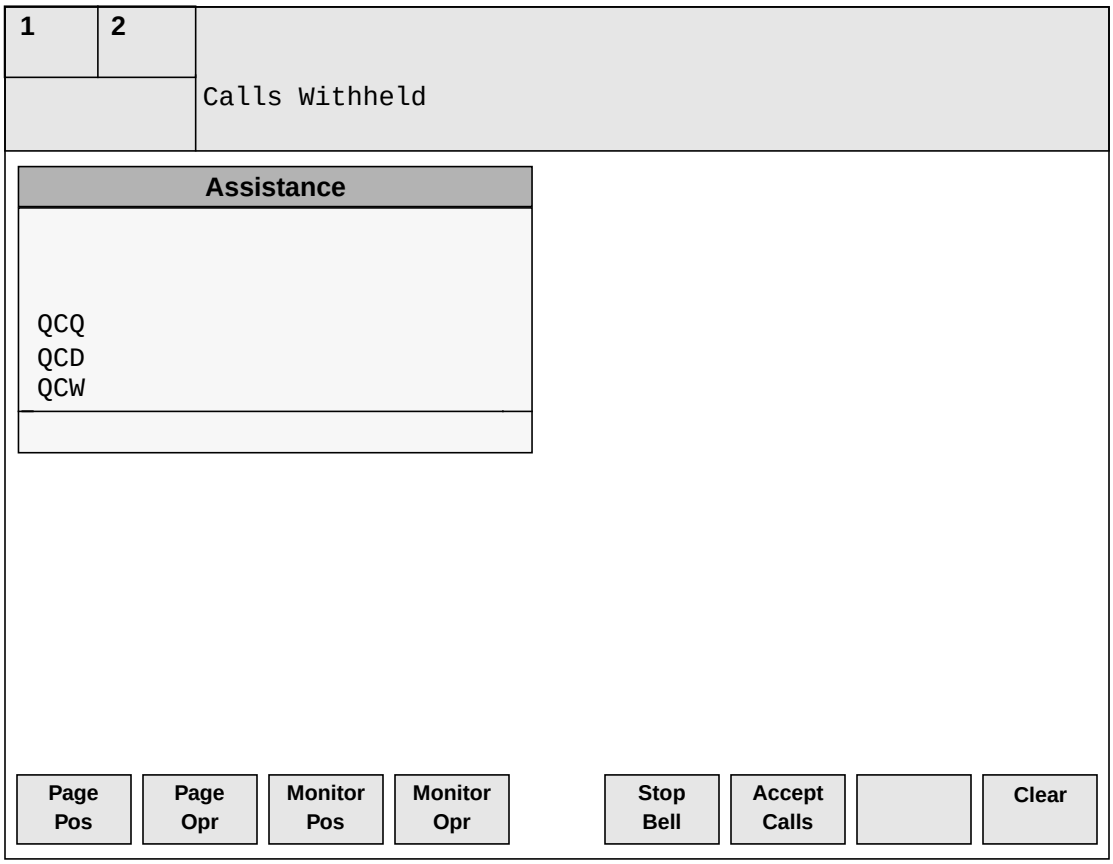

FIGURE 47. Example of SA window

The SA text strings displayed in the SA window are contained in the OASAICW.LNG file.

14.1 SA window fields

This section discusses the fields in the SA window. In figure Figure 48, each field of the SA window is outlined and enumerated. This section describes the text that may be

displayed in each field. Unless otherwise noted, all text in this window is displayed one of the IWS fixed pitch 7x12 pixel fonts. The font used depends on the value of the CharTranslate option in the MPXPARM.INI file.

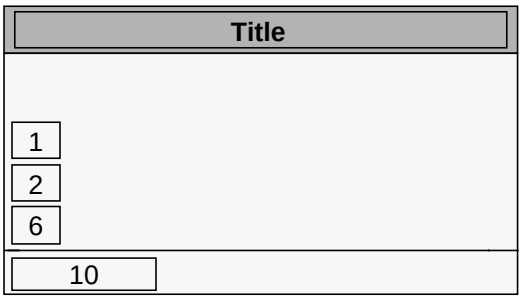

FIGURE 48. SA window Fields

14.1.1 SA window title field

The window title text displays in MS Windows System Font.

Assistance **string ID 0000**

Displayed in the SA window title field. This field may contain a maximum of 25 characters. Text in this field is centered and is displayed in MS Windows system font.

14.1.2 SA QMS Call Queues (field 1)

The maximum string length for this field is three characters.

QCQ **string ID 0001**

Indicates that there are calls in QMS queues for which no operators are logged on. When the situation has been corrected, this display is erased.

14.1.3 SA Calls Deflected (field 2)

The maximum string length for this field is three characters.

QCD **string ID 0003**

Indicates that calls are being deflected from one or more QMS queues to a treatment for one or more of the following reasons:

- the number of calls in queue for a specified queue is at the call queue maximum
- the wait time specified for call deflect has been reached
- the minimum number of calls in queue for no deflect has been met
- the number of call queue elements has been exhausted

When the situation has been corrected, this display is erased. The value for the “call deflect threshold” is datafilled in the DMS switch.

14.1.4 SA Calls Waiting (field 6)

The maximum string length for this field is three characters.

QCW **string ID 0008**

Indicates that the number of calls to be handled is greater than the “calls waiting on threshold” value for one or more QMS queues. When the number of calls waiting is less than the “calls waiting off threshold” value, this display is erased. The values for “calls waiting on threshold” and “calls waiting off threshold” are datafilled in the DMS switch.

14.1.5 SA Data Entry (field 10)

This field accepts and displays the operator or position number to be paged or monitored. The service assistant may enter up to four digits into this field. When the fifth digit is entered, the data is cleared and the cursor returns to the beginning of the field for data entry.

While the cursor is in the SA Data Entry field, the only valid keys are the numeric keys (0 - 9), the **Start** key, the **Backspace** key, the **{Stop Bell}** softkey, and the **{Clear}** softkey. To discontinue the page or monitor function without terminating the data with the **Start** key, the service assistant must press the **{Clear}** softkey. The asterisk (*****) is also available as a backspace key in this field if specified in the position datafill.

14.2 SA window softkeys

When the SA window is initially displayed, text on the softkey labels is also updated. This text reflects the functions such as paging, monitoring, and answering assistance requests that are associated with each softkey. This section describes the softkeys available to the service assistant. The text strings for the SA window softkeys are obtained from the SASFK.LNG file.

Figure 49 shows the set of softkeys that appear when the SA window is initially displayed.

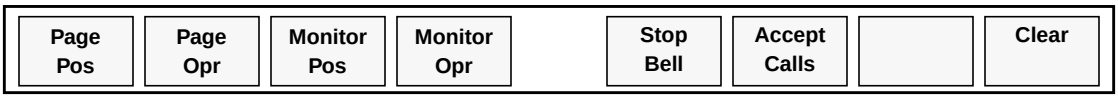

FIGURE 49. Initial softkeys for SA

The softkeys have the following functions.

Page Pos **string ID 0000**

Used by a service assistant to signal the operator at a specified position to call the service assistant.

Page Opr **string ID 0001**

Used by a service assistant to signal a specified operator to call the service assistant.

Monitor Pos **string ID 0002**

Allows the service assistant to request a session to monitor a specified position. The operator's activities at the position can be monitored. For more details on monitoring, see "Monitoring an operator or position" on page 76.

Monitor Opr **string ID 0003**

Allows the service assistant to request a session to monitor the activities of a specific operator. For more details on monitoring, see "Monitoring an operator or position" on page 76.

Stop Bell **string ID 0004**

Used by the service assistant to terminate the audible alerting tone. If the situation that caused the audible alert to be generated is not handled, however, the DMS switch may once again activate it. The **{Stop Bell}** softkey is always available while the SA window is displayed. The Stop Bell function is available whenever the functions menu is available.

Accept Calls **string ID 0005**

When an operator is unable to handle a call, the service assistant can provide assistance by answering the operator's questions or by talking to the customer directly. To receive a call from an operator, the service assistant must be available to assist the operator. Pressing the **{Accept Calls}** softkey asks the DMS switch to put the SA position into the available state, which is required to receive calls from an operator. Softkey labels and functionality are updated, as shown in Figure 46.

FIGURE 50. SA softkeys while in Available state

Clear **string ID 0006**

If the SA has pressed one of the page or monitor softkeys, the cursor is placed in the SA data entry field for input of either an operator or position number. If the SA enters the operator or position number and terminates the data with the **Start** key, the appropriate request is sent to the DMS switch. To discontinue the page or monitor function before terminating the data with the **Start** key, the service assistant can press the **{Clear}** softkey. This action clears the SA data entry field and removes the cursor from the field. For more information on the SA data entry field, refer to "SA Data Entry (field 10)" on page 85.

If the **{Clear}** softkey is pressed while the cursor is not in the SA data entry field, no action is taken.

Calls Withhld **string ID 0007**

To request that the SA position be removed from accepting assistance requests, the service assistant can press the **{Calls Withhld}** softkey, shown in Figure 50. Softkey labels text and functionality are replaced by the softkey set shown in Figure 49.

The Calls Withheld menu function is a toggle between the Calls Withheld and the Available states. For example, if the service assistant were in the Available state and keyed the menu function Calls Withheld twice, it would toggle to the Calls Withheld state and then return to the Available state.

15.0 IC window

This section discusses the fields in the IC window. For an example of the IC window, see figure Figure 51. The values in this figure are only an example of office statistics used to show field locations.

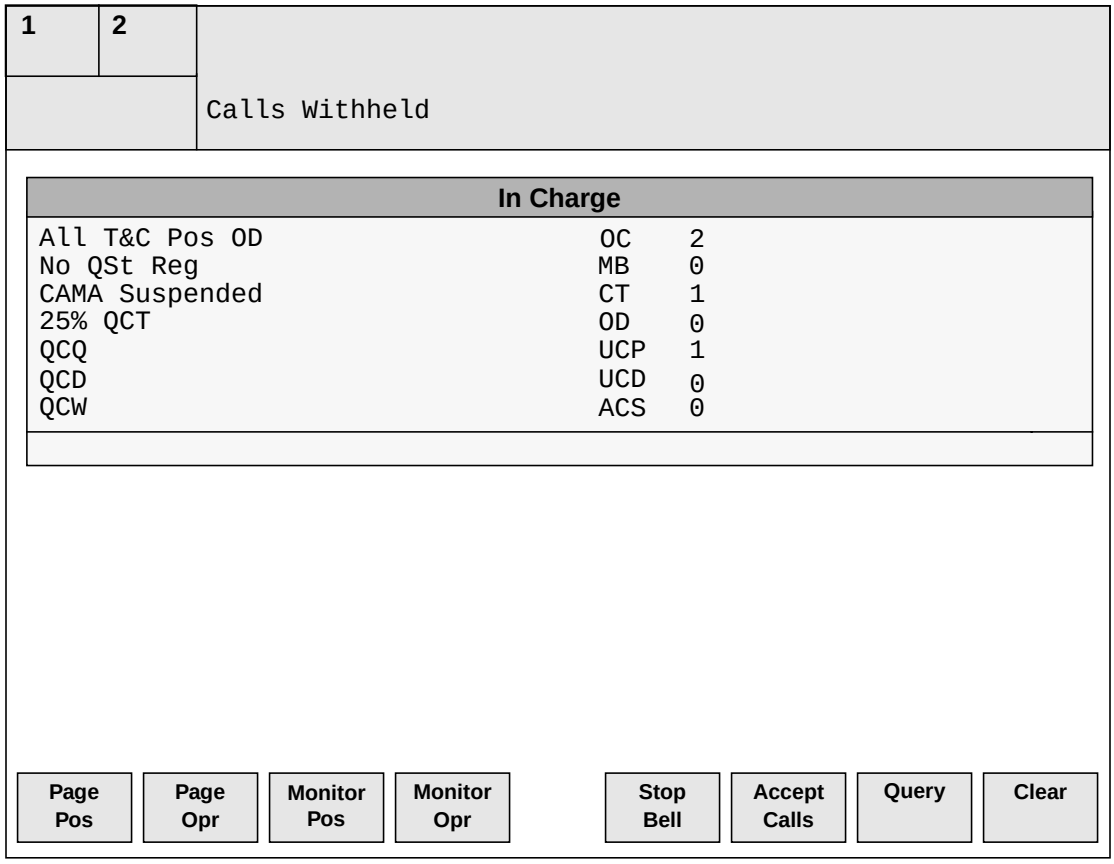

FIGURE 51. Example of IC window

In addition to the windows and fields displayed in the preceding figures, different strings may be displayed in the MSA. The assistance calls waiting (Asst CW) field is displayed only on the IC position. The text displayed in this field is described below. Each string is datafilled in file BHMIMSA.LNG.

ACW <nn> **string ID 0023**

Indicates that there are assistance requests in the SA or IC assistance queue. The letters nn represent the number of assistance requests in the SA or IC assistance request queue. The maximum text string length is six characters.

ACW Full **string ID 0024**

Indicates that the SA or IC assistance request queue is full. The maximum text string length is nine characters.

When this display is presented to the IC manager, and the required DMS switch datafill is provided, an audible alert notification is also activated at the IC position.

The audible alert notification can be disabled by pressing the **{Stop Bell}** softkey or by entering the Stop Bell function number from the functions menu each time it occurs. The audible alert notification and the **{Stop Bell}** functionality are discussed in Section 13.1 on page 75.

15.1 IC window fields

Figure Figure 52 outlines and enumerates each field of the IC window. This section describes the text that may be displayed in each field. Unless otherwise noted, all text in this window is displayed in one of the IWS fixed pitch 7x12 pixel fonts. The font used depends on the value of the CharTranslate option in the MPXPARM.INI file.

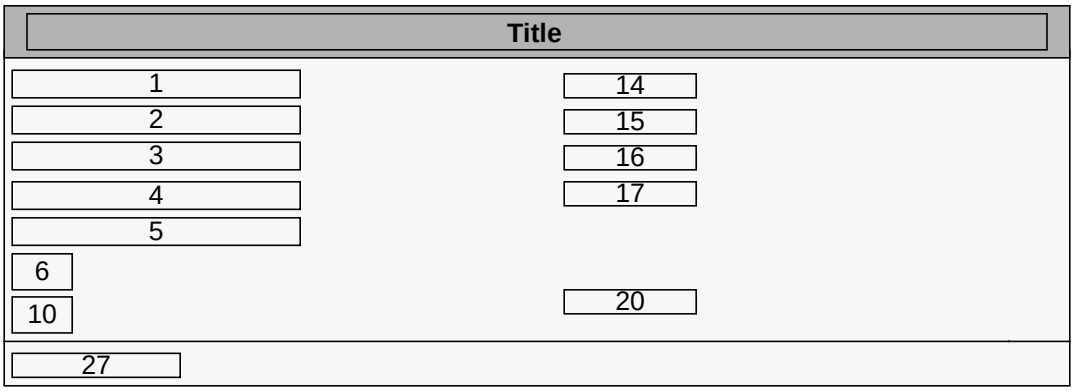

FIGURE 52. IC window fields

Figure 51 shows all of the available queue headers. Figure Figure 52 shows the locations of the queue headers as fields 22–27. This document addresses the available statistics for all queues. This section discusses the queue header displays and the statistics. These displays are datafilled in file OASAICW.LNG.

15.1.1 IC window title field

In Charge **string ID 0012**

Displayed in the IC window title field. This field may contain a maximum of 40 characters. Text in this field is centered and displayed in MS Windows system font.

15.1.2 T&C Position (field 1)

The maximum string length for this field is 19 characters.

All T&C Pos OD **string ID 0013**

Indicates that all time and charges (T&C) positions are out of order.

15.1.3 Study Register (field 2)

The maximum string length for this field is 19 characters.

No QSt Reg **string ID 0015**

Indicates that no QMS study registers are available.

15.1.4 CAMA Suspended (field 3)

The maximum string length for this field is 19 characters.

CAMA Suspended **string ID 0016**

Indicates that central automatic message accounting (CAMA) has been temporarily stopped. When CAMA resumes, this display is erased.

15.1.5 Controlled Traffic (field 4)

The maximum string length for this field is nine characters.

<xx>% QCT **string ID 0018**

Identifies the alarm condition for which the percentage of QMS positions in controlled traffic mode is greater than “xx” percent of the total number of active positions. For TOPS with OPP, “xx” is 25. For more information, refer to *Open Position Protocol Description*.

15.1.6 IC QMS Call Queues (field 5)

The maximum string length for this field is three characters.

QCQ **string ID 0001**

Indicates that there are calls in QMS queues for which no operators are logged on. When the situation has been corrected, this display is erased.

15.1.7 IC Calls Deflected (field 6)

The maximum string length for this field is three characters.

QCD **string ID 0003**

Indicates that calls are being deflected from one or more QMS queues to a treatment for one or more of the following reasons:

- The number of calls in queue for a specified queue is at the call queue maximum.
- The wait time specified for call deflect has been reached.
- The minimum number of calls in queue for no deflect has been met.
- The number of call queue elements has been exhausted.

When the situation has been corrected, this display is erased. The value for the call deflect threshold is datafilled in the DMS switch.

15.1.8 IC Calls Waiting (field 10)

The maximum string length for this field is three characters.

QCW **string ID 0008**

Indicates that the number of calls to be handled is greater than the calls waiting on threshold value for one or more QMS queues. When the number of calls waiting is less than the calls waiting off threshold value, this display is erased. The values for the calls waiting on and calls waiting off thresholds are datafilled in the DMS switch.

15.1.9 OC (field 14)

The maximum string length for this field is three characters.

OC <xxx> **string ID 0019**

Identifies the number of occupied positions. The letters xxx represent the value received from the DMS switch. An operator position is considered occupied when it is in one of the following states: Occupied, Position Busy, Position Busy Pending, Calls Withheld, Calls Withheld Pending, Accept All Calls, Accept Limited Calls Only, Training Mode, Administrative Mode, or Forced Maintenance Pending.

15.1.10 MB (field 15)

The maximum string length for this field is three characters.

MB <xxx> **string ID 0020**

Identifies the number of positions in the Made Busy state (not accepting calls). The letters xxx represent the value received from the DMS switch. An operator position is considered made busy when the position is in one of the following states: Occupied, Position Busy, or Calls Withheld.

15.1.11 CT (field 16)

The maximum string length for this field is three characters.

CT <xxx> **string ID 0021**

Identifies the number of positions in controlled traffic mode. The letters xxx represent the value received from the DMS switch.

15.1.12 OD (field 17)

The maximum string length for this field is three characters.

OD <xxx> **string ID 0022**

Idenitifies the number of positions out of order (including Maintenance Busy). The letters xxx represent the value received from the DMS switch.

15.1.13 ACS (field 20)

The maximum string length for this field is three characters.

ACS <xxx> **string ID 0025**

Identifies the number of positions with a loop accessed when neither a calling nor called party is attached. The letters xxx represent the value received from the DMS switch.

15.1.14 IC Data Entry (field 27)

This field accepts and displays the operator or position number to be paged or monitored. The IC manager may enter up to four digits into this field. When the fifth digit is entered, the data is cleared and the cursor is presented at the beginning of the field for data entry.

While the cursor is in the IC data entry field, the only valid keys are the numeric keys (**0–9**), the **Start** key, the **Backspace** key, the **{Stop Bell}** softkey, and the **{Clear}** softkey. To discontinue the page or monitor function without terminating the data with the **Start** key, the IC manager must press the **{Clear}** key. The asterisk (*****) is also valid in this field as a backspace key if it is specified in the position datafill.

15.2 IC window softkeys

Figure 53 shows the initial softkey set that appears when the IC window is displayed.

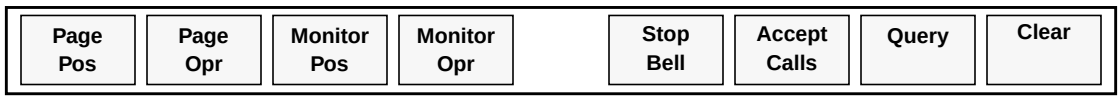

FIGURE 53. Initial softkeys for IC manager

When the IC window is initially displayed, text on the softkey labels is also updated. This text reflects the functions such as paging, monitoring, and answering assistance requests that are associated with each softkey. This sections describes the softkeys available to the IC manager. The text strings for the IC window softkeys are obtained from the ICSFK.LNG file.

Page Pos **string ID 0000**

The **{Page Pos}** softkey is used to signal the operator at a specified position to call the IC manager. Refer to “Paging an operator or position” on page 76 for details.

Page Opr **string ID 0001**

The **{Page Opr}** softkey is used to signal a specific operator to call the IC manager. Refer to “Paging an operator or position” on page 76 for details.

Monitor Pos **string ID 0002**

The **{Monitor Pos}** softkey allows the IC manager to request a session to monitor the activities of an operator at a specified position. Refer to “Monitoring an operator or position” on page 76 for details.

Monitor Opr **string ID 0003**

The **{Monitor Opr}** softkey allows the IC manager to request a session to monitor the activities of a specified operator. Refer to “Monitoring an operator or position” on page 76 for details.

Stop Bell **string ID 0004**

Pressing the **{Stop Bell}** softkey terminates the audible alert. If the situation that caused the audible alert to be generated is not handled, however, the DMS switch may once again activate it. In addition, the Stop Bell functions menu item is available to the IC manager whenever the functions menu is available.

Accept Calls **string ID 0005**

When an operator is unable to handle a call, the IC manager can provide assistance by answering the operator’s questions or by talking to the customer directly. To receive a call from an operator, the IC manager must be available to assist the operator. Pressing the **{Accept Calls}** softkey puts the IC position into the “Available” mode, which is required to receive calls from the operator. Refer to “Operator assistance requests” on page 79 for details.

Query **string ID 0006**

Allows the IC manager to request further information about certain office situations. When the **{Query}** softkey is pressed, another set of softkeys is displayed. For details on the IC query window softkeys, refer to “IC window softkeys for query” on page 96.

Clear **string ID 0010**

If the IC manager has pressed one of the page or monitor softkeys, the cursor is placed in the IC data entry field for input of either an operator or a position number. If the IC manager enters the operator or position number and terminates the data with the **Start** key, the appropriate request is sent to the DMS switch. To discontinue the page or monitor function before terminating the data with the **Start** key, the IC manager may press the **{Clear}** softkey. This action clears the IC data entry field and removes the cursor from the field. For more information on the IC data entry field, refer to the “IC Data Entry (field 27)” on page 93.

If the **{Clear}** softkey is pressed while the cursor is not in the IC data entry field or the IC query window is not displayed, no action is taken.

15.2.1 IC softkeys for Directed Calls state

When the position is in the Directed Calls state, softkeys 0, 1, 4, 6, and 7 retain the same functionality as discussed in the preceding section. Figure 54 shows the softkeys available while the IC manager is in Directed Calls state.

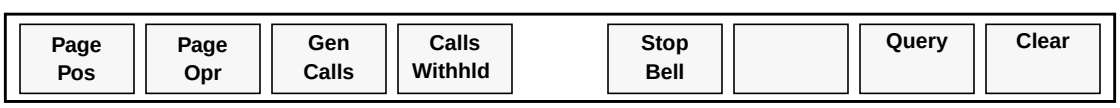

FIGURE 54. IC Softkeys while in Directed Calls state

Gen Calls **string ID 0008**

Allows the IC manager to receive any type of call. The **{Gen Calls}** softkey toggles the IC position between the Directed Calls and the Gen Calls states. The **{Gen Calls}** softkey is available only if the position is in the Directed Calls state.

Calls Withhld **string ID 0010**

To request that the IC position be removed from accepting assistance requests, the IC manager may press the **{Calls Withhld}** softkey. The **{Calls Withhld}** softkey label is shown above. If the IC position is no longer accepting calls, "Calls Withheld**"** replaces the "Available" or "Dir Calls" text string in the message/status area window. Softkey labels text and functionality are replaced by the softkey set shown in Figure 53.

The Calls Withheld menu function is a toggle between the Calls Withheld state and the state the IC manager was in before the Calls Withheld state (either "Directed Calls" or "Available"). For example, if the IC position were in the available state and keyed the Calls Withheld menu function twice, it would toggle to the Calls Withheld state and return to the Available state. In the special case when the IC manager keys the Calls Withheld function after the transition from the assigned activities screen, the position goes to the Directed Calls state, since the state preceding the Calls Withheld state was the Position Busy state.

15.2.2 IC softkeys for Available state

When in the Available state, the IC manager may change to the Accept Directed Calls state by pressing the **{Dir Calls}** softkey. In addition, the IC manager may also press the **{Accept Calls}** softkey to return to the Available state, if that was the position state preceding the Calls Withheld state. If this request is allowed by the DMS switch, the softkey labels and functionality are as shown in Figure 55.

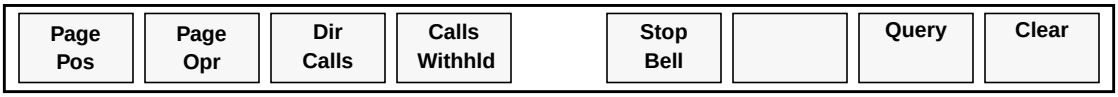

FIGURE 55. IC Softkeys While in Available State

When the position is in the Directed Calls state, softkeys 0, 1, 4, 6, and 7 retain the same functionality as discussed in the preceding section. The **{Dir Calls}** softkey is available to the IC manager at this time.

Dir Calls **string ID 0009**

Allows the IC manager to receive directed calls (assistance requests directed to a specific IC manager) from the operators. If the DMS switch allows the IC manager to accept directed requests, the "Calls Withheld" text string in the MSA is replaced by "Dir Calls." The softkey labels and functionality are as shown in Figure 53.

The IC manager may receive general requests on loop 1 and directed requests on loop 2. See the discussion of the page and pending fields in the MSA for the description of the displayed to notify the IC manager of a general or directed assistance request.

15.2.3 IC window softkeys for query

When the **{Query}** softkey is pressed, another set of softkey labels is displayed that provides additional functionality for the IC manager. This set of softkeys is shown in Figure 56, “Query softkeys for IC”. When one of these specific query softkeys is pressed, the relevant updated information is displayed in the IC query window and the softkeys return to their previous settings. Simultaneous query displays in the IC query window are not allowed.

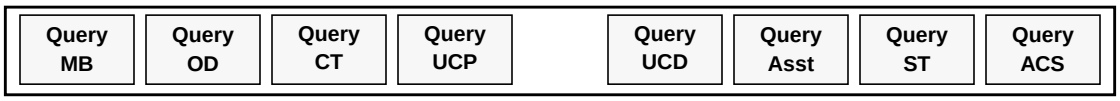

FIGURE 56. Query softkeys for IC

This section describes the functionality of each of the query softkeys. These softkeys are datafilled in the ICSFK.LNG language file.

Query MB **string ID 0012**

When the IC manager presses the **{Query MB}** softkey, a request is sent to the DMS switch for the position numbers of the occupied positions in the traffic office in an operator Made Busy (MB) state or a Calls Withheld (position unable to accept a call) state to be displayed in the IC query window.

Query OD **string ID 0013**

When the IC manager presses the **{Query OD}** softkey, a request is sent to the DMS switch for the position numbers of the out-of-service (OD) positions in the traffic office to be displayed in the IC query window.

Query CT **string ID 0014**

Pressing the **{Query CT}** softkey sends a request to the DMS switch for the operator numbers of the operators in the traffic office in the controlled traffic mode. These operator numbers are displayed in the IC query window.

Query UCP **string ID 0015**

When the IC manager presses the **{Query UCP}** softkey, a request is sent to the DMS switch for the position numbers of the unoccupied positions in the traffic office with a call in progress. (A position is deemed unoccupied if it is in either the operator administration window or the logo screen.) These position numbers are displayed in the IC query window.

Query UCD **string ID 0016**

When the IC manager presses the **{Query UCD}** softkey, a request is sent to the DMS switch for the position numbers of the unoccupied positions in the traffic office that have unreleased terminated calls. These position numbers are displayed in the IC query window.

Query Asst **string ID 0017**

The **{Query Asst}** softkey is used by the IC manager to request the following information from the DMS switch:

- the number of SA positions in the traffic office available to accept assistance requests (that is, SA positions that are in the Accept Calls state)
- the number of assistance requests connected to SA positions in the traffic office
- the operator position numbers generating the assistance requests in the traffic office

Query ST **string ID 0018**

When the IC manager presses the **{Query ST}** softkey, a request is sent to the DMS switch to display the operator numbers of operators in the traffic office who are logged on and are assigned to study registers in the DMS switch. These operator numbers are displayed in the IC query window.

Query ACS **string ID 0019**

An accessed position is one in which a loop is accessed but no calling or called party is attached. When the IC manager presses the **{Query ACS}** softkey, a request is sent to the DMS switch for the position numbers of the positions in the traffic office that are in this condition. The position numbers are displayed in the IC query window.

16.0 IC query window

The current status of the operator positions in the office is continuously available in the IC window. Of course, as previously discussed, the IC window is overlaid by other windows and removed during monitoring. The IC manager can request further information about certain office situations through the **{Query}** softkey.

The format of the IC query window is the same for all query functions except for query of assistants. The top line of the window describes the value displayed in the window. The second line begins the list of up to 56 operator and position numbers that the DMS switch can send to the position. This is a subset of the operator and position numbers the position can send to the DMS switch. For query of assistants, the top line shows the number of assistant positions available to accept assistance requests, the number of assistance requests currently connected to assistant positions, and the operators and positions that generated the assistance requests.

The IC query window is located on the bottom left side of the operator information window above the softkeys. It overlays the left side of the IC window. The title in the IC query window changes depending on the query request initiated by the IC manager and the query response sent by the DMS switch to the position. Figure Figure 57 shows an example of the IC query window after the **{Query Asst**} softkey is pressed. The functionality of each softkey is described later in this section.

If the IC query window is displayed, the IC manager must remove the window from the IC screen by pressing the **{Exit Query}** softkey.

16.1 IC query window fields

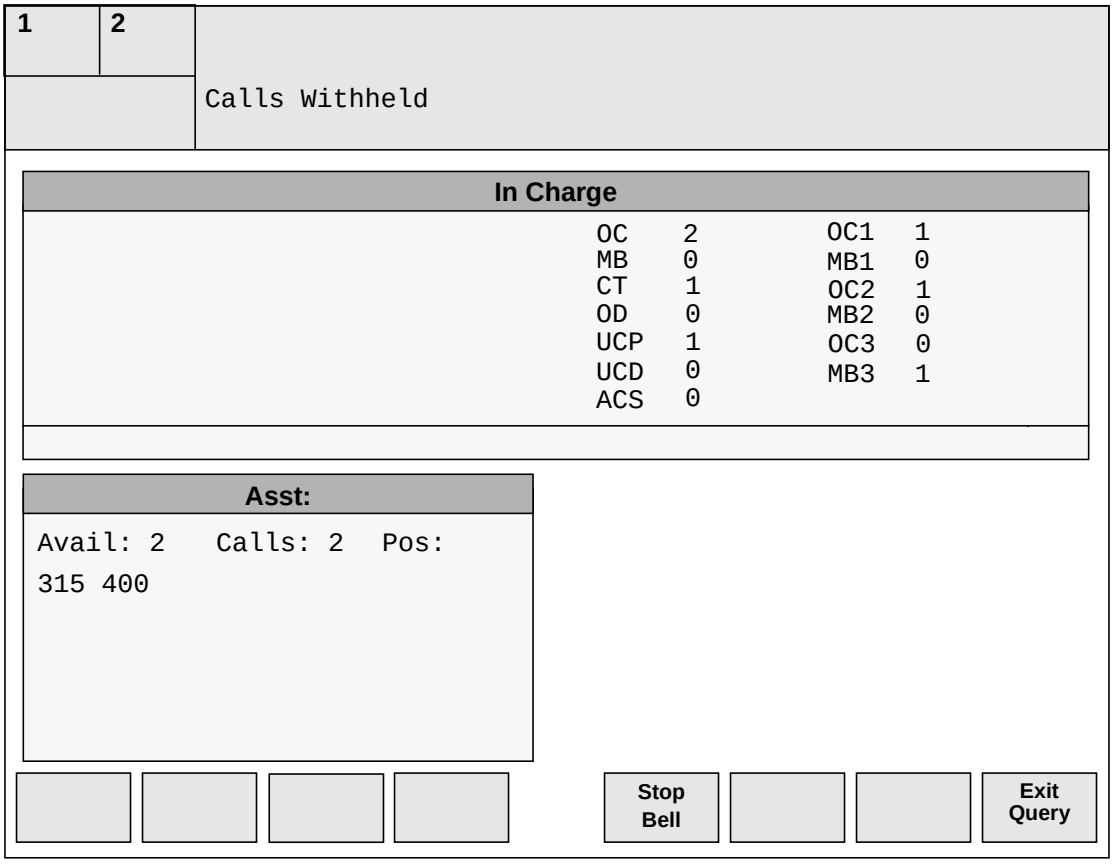

FIGURE 57. Example of IC query window

See Figure 59 for an example of the IC query window. Also refer to the following subsection, which discusses the IC query window fields.

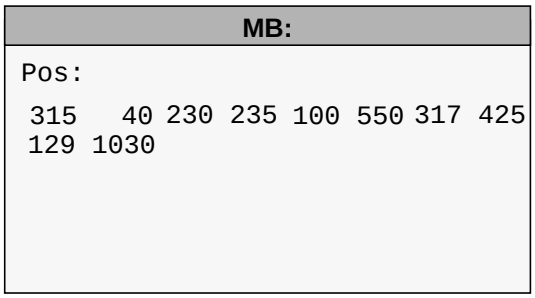

FIGURE 58. Example of IC Query window for operator made busy positions

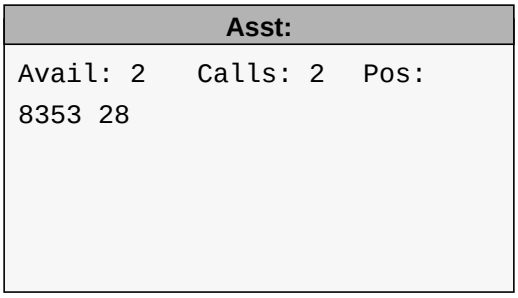

FIGURE 59. Example of IC query window for assistance information

Figure Figure 60 outlines and enumerates each field of the IC query window. This section describes the text that may be displayed in each field. Unless otherwise noted, all text in this window is displayed in one of the IWS fixed pitch 7x12 pixel fonts. The font used depends on the value of the CharTranslate option in the MPXPARM.INI file.

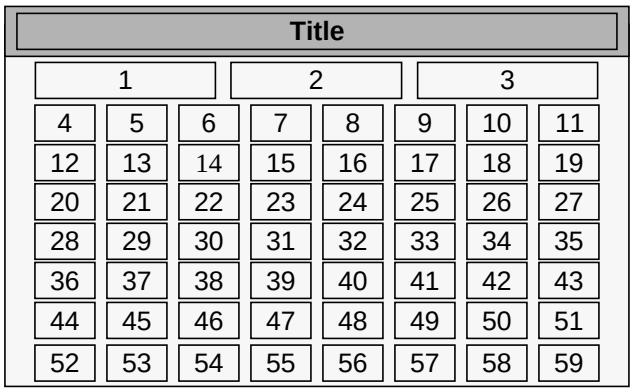

FIGURE 60. IC Query window fields

16.1.1 IC Query window Title field

The text displayed in the IC query window title field changes, based on which query softkey the IC manager pressed. This field may contain a maximum of 25 characters. Text in this field is displayed centered in MS Windows system font, and is datafilled in the OASAICW.LNG file.

MB: **string ID 0032**

Displayed when the **{Query MB}** softkey is pressed.

OD: **string ID 0033**

Displayed when the **{Query OD}** softkey is pressed.

CT: **string ID 0034**

Displayed when the **{Query CT}** softkey is pressed.

Asst: **string ID 0037**

Displayed when the **{Query Asst}** softkey is pressed.

ST: **string ID 0038**

Displayed when the **{Query ST}** softkey is pressed.

ACS: **string ID 0039**

Displayed when the **{Query ACS}** softkey is pressed.

16.1.2 Available (field 1)

This field may contain a maximum of 12 characters.

Avail: <xxx> **string ID 0040**

Displayed when the **{Query Asst}** softkey is pressed. The letters xxx represent the number of assistants available to accept assistance requests. The maximum string length for the label is nine characters, allowing three digits for the value xxx.

Opr: **string ID 0041**

Displayed when the **{Query CT}** or **{Query ST}** softkeys are pressed. This is the header for the operator numbers displayed in fields 4-59. The maximum string length for the label is nine characters.

Pos: **string ID 0042**

Displayed when all query softkeys except for **{Query Asst}**, **{Query CT},** or **{Query ST}** are pressed. This is the header for the position numbers displayed in fields 4-59. The maximum string length for the label is nine characters.

16.1.3 Calls (field 2)

This field may contain a maximum of 13 characters.

Calls: <xxx> **string ID 0043**

Displayed when the **{Query Asst}** softkey is pressed. The letters represent the number of assistants connected to operators. The maximum string length for the label is 10 characters, allowing three digits for the value xxx.

16.1.4 Asst Pos (field 3)

This field may contain a maximum of nine characters.

Pos: **string ID 0044**

Displayed when the **{Query Asst}** softkey is pressed. This is the header for the operator position numbers generating assistance requests displayed in fields 4–59.

16.1.5 Fields 4 - 59

Each of these fields may contain a maximum string of four digits for the operator/position numbers received from the DMS switch. Up to 56 operator/position numbers are displayed from left to right as they are received from the DMS switch.

16.2 IC query softkeys

Softkeys for the IC query window are datafilled in the ICQUSFK.LNG language file.

Stop Bell **string ID 0000**

The **Stop Bell** softkey is used to terminate the audible alert. If the situation that caused the audible alert to be generated is not handled, however, the DMS switch may once again activate it. The IC manager has access to the **{Stop Bell}** softkey and its associated functionality while the IC window is displayed. The IC manager always has access to the Stop Bell functions menu item.

Exit Query **string ID 0001**

If the IC query window is displayed, the IC manager must remove the window from the IC screen by pressing the **{Exit Query}** softkey.

17.0 QMSCASE operators

QMSCASE gives operating companies the ability to datafill operators for both call handling and force management capabilities. Senior operators can be given additional capabilities such as offering assistance to other operators. And operators who mainly view team statistics, offer assistance, and monitor other operators can also handle calls. This enhanced functionality is determined by datafill in the switch and supported by software on the IWS position.

17.1 IWS CASE application overview

Customer Assistance Service Enhancements (CASE) is a registering application installed with IWS base software. This application, along with QMSCASE switch software, allows an operating company to combine the functionality of traditional service assistants and in-charge operators with that of general operators. When switch datafill allows the capabilities, the CASE application gives an operator who handles calls the flexibility to view team statistics and office alarms and to query additional queue and statistical information as well.

The CASE application provides the following benefits:

- Access to information about team statistics
- Access to information about office alarms
- Access to position state information, up to 56 total positions or operators, such as OD, MB, and CT
- The ability to monitor or page on an operator or position basis
- A query mechanism to gain additional status information about teams and office queues

For information on installing the CASE application, see “Installation procedures for Base HMI application” on page 215.

This application must be used in coordination with QMSCASE switch software.

The CASE application is accessible to the user after logon through the Applications menu. The amount of information and functionality the application gives an operator depends on how that operator’s capabilities are datafilled in the switch.

Figure 61 shows the CASE application window.

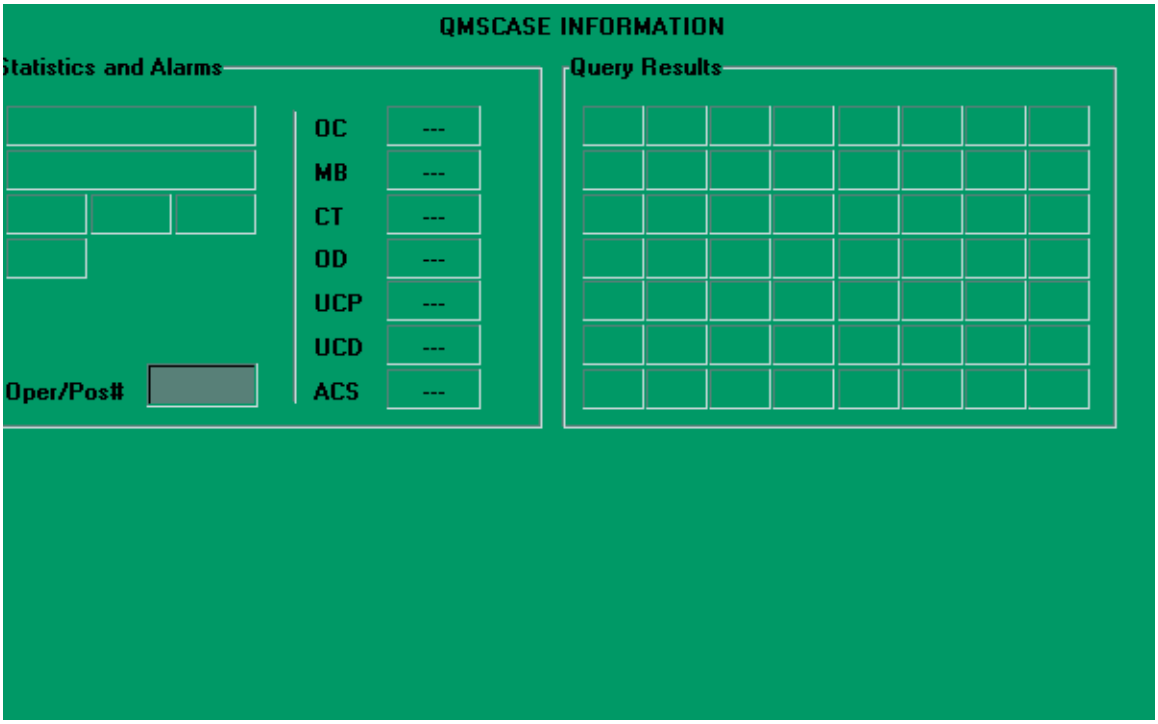

FIGURE 61. CASE application window

17.1.1 Accessing the CASE application

Because the CASE application is separate from any other on the IWS position, it is accessed through the Applications menu. It can also be datafilled on an Applications menu hot key. The Applications menu datafill is in XAPPL.TBL. The application tag for the CASE application is IWSCASE. For more information on how to datafill the Applications menu, refer to *TOPS IWS Base Platform User's Guide*, 297-2251-010. This book provides details on IWS table XAPPL.

When the CASE application is displayed, all the menus are accessible to the operator.

The following keys can be used to remove the CASE application from the display:

- CLG
- CLD
- SPL
- IC
- MISC
- CANCEL CALL
- RLS CLD
- POS RLS

Pressing any of these keys removes the CASE application. Subsequent keystrokes and responses belong to the application receiving focus.

17.1.2 Statistics and alarms window

The statistics and alarms window provides information about statistics, alarms, and queues. To see this window, operators must have one of the following operator logon capabilities:

- statistics and query
- queue status and query

Figure 62 shows the statistics and alarms window.

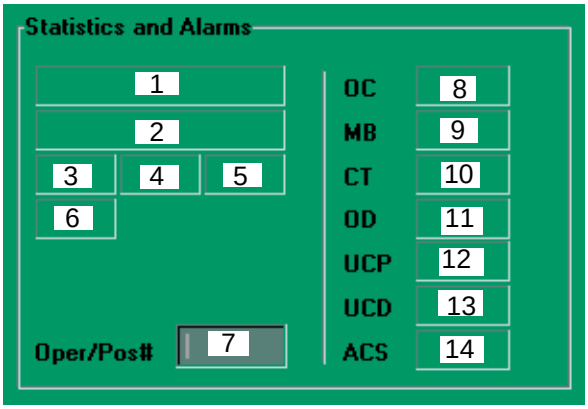

FIGURE 62. Statistics and alarms

All strings described in this section reflect the default datafill in the file CASEAPP.LNG, which can be customized appropriately.

Operators who have the STATS and QINFO logon capabilities receive office information, which is displayed in fields 1 and 2, as outlined below:

Field 1

Opr Svcs Suspended	Indicates that all operator calls are being routed to treatment. Maximum string length is 20 characters.

Field 2

All T&C OD	Indicates that all time and charges devices are out of order. Maximum string length is 20 characters.

Operators who have the queue status and query capability receive queue status warning information about the office, which is displayed in Fields 3 to 5, as outlined below:

Field 3

QCQ	Indicates that calls are waiting in QMS queues for which no operators are logged on. When the DMS switch detects that the condition has ended, the field is cleared. Maximum string length is three characters.

Field 4

QCD	Indicates that calls are being deflected from one or more QMS queues. When the DMS switch detects that the

condition has ended, the field is cleared. Maximum string length is three characters.

Field 5

QCW — Indicates that the number of calls to be handled is greater than the calls-waiting-on threshold value in one or more QMS queues. When the DMS switch detects that the condition has ended, the field is cleared. Maximum string length is three characters.

Field 6

QCA — Indicates that a designated alarming queue has more requests waiting than allowed. The threshold level for this alarm is datafilled in the DMS switch. When the switch detects that the condition has ended, the field is cleared. Maximum string length is three characters.

Operators who have the monitor or page capability can use Field 7, the operator and position number data entry field. The operator can also choose the monitoring or paging functions through the Functions menu. The data entry field accepts up to four digits.

Field 7

<data entry> — A cursor is placed in this field when the operator chooses to monitor or page another operator or position through the CASE application softkeys. For more information on the softkeys, refer to the “CASE initial softkey set” section.

When an operator presses a softkey that requires entry of an operator number, the label on the window changes to ‘Operator:’. When the operator presses a softkey that requires entry of a position number, the label on the window changes to ‘Position:’. When the operator presses **Start** to terminate the data and send it to the switch, the window label changes back to the default label, ‘Pos/Opr#:’.

Operators who have the statistics and query logon capability receive information about positions in the following states:

OC:	Occupied
MB:	Made Busy
OD:	Out of Service
UCP:	Unoccupied with a call in progress
UCD:	Unoccupied with a call disconnected
ACS:	Loop accessed with no connected, off-hook party

In addition, they receive information about operators in the following state:

CT:	Logged-in operators receiving controlled traffic

The information is displayed on the right side of the statistics and alarms window, in fields 8-14, in Figure 62.

Fields 8-14

<xxxx>	Identifies the number of positions in the state specified by the field label, as received from the DMS switch, ranging from 0 to 9999. If no information is available from the switch about a particular state, a '----' string is displayed in the field.

The following alarm conditions cause the audible alert to sound:

- Operator services suspended
- All time and charges devices unavailable
- QCQ
- QCD
- QCA

The audible alert can be stopped with the **{Stp Bell}** softkey in the CASE application or the Stop Bell function on the Functions menu.

The DMS switch constantly updates the information in the statistics and alarms window. Even when the application does not have focus, statistics and alarms continue to be updated.

When an operator is monitoring, the information displayed in the statistics and alarms window is cleared, because the displayed information might be meant for the monitored position. If there is truly information that should be displayed on the monitoring operator's window, the switch resends the information to update the displays.

An operator using the CASE application can also initiate a page or monitor session through the softkeys. For more information on the softkeys, see "CASE application softkeys," on page 111.

17.1.3 Query results window

Figure 63 shows the window that displays to operators who have queried for additional information about positions, operators, or queues on the team. A query can be invoked through a **{Qry xxx}** softkey, such as **{Qry MB}** or **{Qry UCP}**. To access the position state query softkeys, the operator must have the statistics and query logon capability. To access the queue query softkeys, the operator must also have the queue status and query logon capability. For more information on the softkeys, see "CASE initial softkey set."

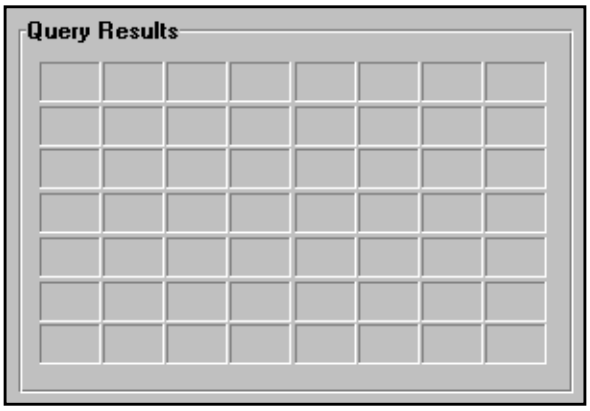

FIGURE 63. Query results window

The title of the query results window changes dynamically, to reflect the type of query initiated. The strings for these displays are datafilled in the CASEAPP.LNG file.

The MB, OD, UCP, UCD, and ACS queries refer to position numbers. For these queries the title of the query results window indicates that position numbers are displayed in the results. Figure 64 shows an example of the window that appears when the **{Qry MB}** softkey is pressed.

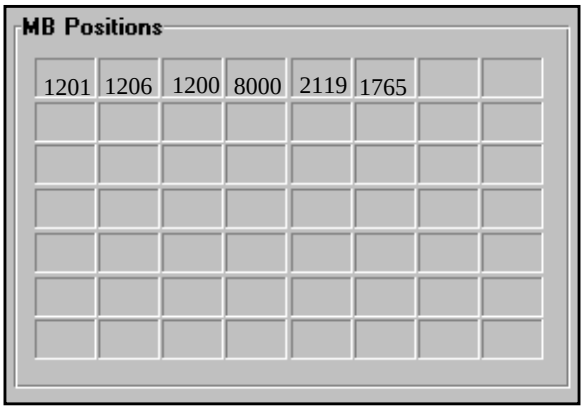

FIGURE 64. Made Busy query results

The CT query reflects information about operator numbers. The title of the query window indicates that operator numbers are displayed in the query results. Figure 65 shows an example of the query results window when the **{Qry CT}** softkey has been invoked.

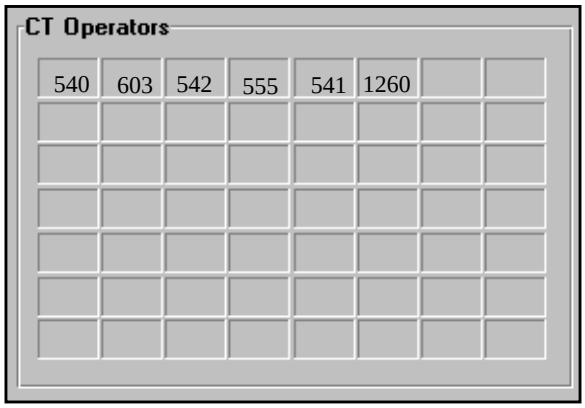

FIGURE 65. Controlled traffic query results

QCQ, QCD, and QCA queue statuses can be queried. The title of the query window changes to indicate which kind of queue numbers are displayed in the query results. Figure 66 shows an example of the query results window when the **{Qry QCQ}** softkey is invoked. For QCD or QCA queries, the title would change to “QCD Queues” or “QCA Queues.”

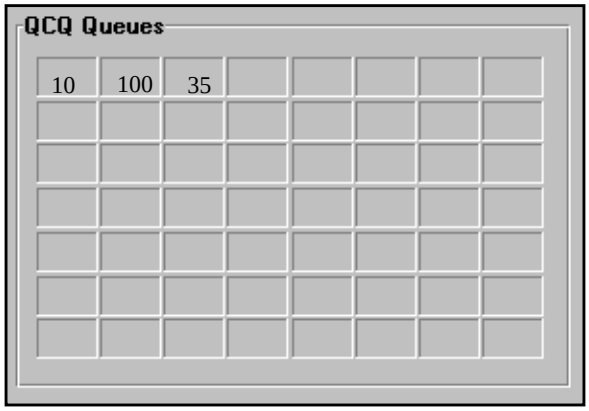

FIGURE 66. QCQ query results

The **{Clear}** softkey removes information from the query results window and restores the title to “Query Results,” provided the cursor is not active in the data entry field when the softkey is pressed.

When an operator is monitoring, the information displayed in the query results window is cleared.

17.1.4 CASE application softkeys

The CASE application has two levels of softkeys for invoking functions. Some softkeys have two functions, one requiring a single keypress, and the other requiring **Shift** + softkey. On the softkey labels, the shifted softkeys appear above the unshifted ones. As with other softkey sets, the strings are limited to seven characters per line. The softkey labels are datafilled in the language file CASESFKY.LNG. Figure 67 shows the initial

softkey set associated with the CASE application. This set is displayed as the default when the application is activated. The function of each softkey follows:

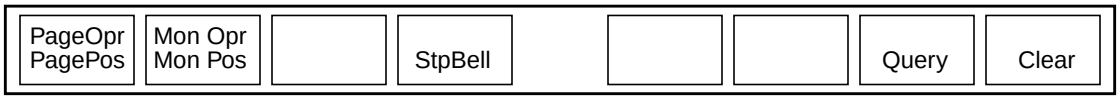

FIGURE 67. CASE initial softkey set

Page Opr	Allows one operator to page another by specifying the paged operator's login ID.
Page Pos	Allows one operator to page another by specifying the paged operator's position number.
Mon Opr	Allows one operator to monitor another by specifying the monitored operator's login ID.
Mon Pos	Allows one operator to monitor another by specifying the monitored operator's position number.
StpBell	Deactivates the audible alert, if it was activated.
Query	Allows the operator to query information from the switch regarding operators, positions, or queues. This softkey activates the second CASE application query softkey set, which is outlined below.
Clear	Clears any data that has been entered into the data entry field and removes the cursor from the field. This softkey should be used if the operator decides not to page or monitor a position after the page or monitor softkey has been pressed, but before the data has been terminated and sent to the switch. This softkey does not cancel a page in progress or end a monitoring session. This softkey also clears the query results window, if the cursor is not active in the data entry field. In addition, it restores the original title of the Query Results window.

When an operator presses the page and monitor softkeys, the cursor moves to the data entry field of the statistics and alarms window (Field 7). With the cursor in this field, the operator can enter a position or operator number and press the **Start** key to terminate data entry. If the operator decides not to page or monitor after the cursor is in the data entry field, the **{Clear}** softkey can be used to remove the cursor from that field, allowing the operator to proceed as usual. For more information on data entry, see Figure 62, "Statistics and alarms".

If the operator does not have the monitoring capability, the **{Mon Pos}** and **{Mon Opr}** softkeys are non-functional and are blanked out. If the operator has neither queue status and query nor statistics and query capabilities, the **{Query}** softkey is blank.

To monitor another operator, an operator must possess the monitoring capability and be in the Calls Withheld position state. The monitored operator cannot have the monitoring capability.

Figure 68 shows the second level of softkeys. This set is displayed when the operator presses the **{Query}** softkey from the initial softkey set. It includes eight unshifted softkeys and one shifted softkey that allow the operator to query specific information to be displayed in the query results window.

When a query softkey is pressed, the request is sent to the switch, and the initial softkey set reappears.

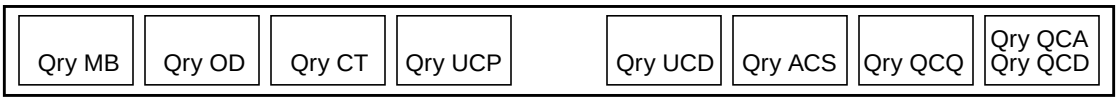

FIGURE 68. CASE application second softkey set

Following is the functional description of each softkey:

Qry MB	Allows the operator to query up to 56 positions on the team that are in the made-busy state.
Qry OD	Allows the operator to query up to 56 positions on the team that are out of service.
Qry CT	Allows the operator to query up to 56 operators on the team that are receiving controlled traffic.
Qry UCP	Allows the operator to query up to 56 positions on the team that are in the unoccupied state with a call in progress.
Qry UCD	Allows the operator to query up to 56 positions on the team that are in the unoccupied state with a call disconnected.
Qry ACS	Allows the operator to query up to 56 positions on the team that have a loop accessed with no connected, off-hook party.
Qry QCQ	Allows the operator to query up to 56 queues that have calls queued with no serving agent to answer the calls.
Qry QCD	Allows the operator to query up to 56 queues that have calls deflecting to treatment.

Qry QCA	Allows the operator to query up to 56 alarming queues to see which ones are sounding alarms because they have assistance requests waiting.

If the operator does not have the statistics and query capability, the following softkeys are blank: **{Qry MB}**, **{Qry OD}**, **{Qry CT}**, **{Qry UCP}**, and **{Qry UCD}**.

If the operator does not have the queue status and query capability, the **{Qry QCQ}**, **{Qry QCD}**, and **{Qry QCA}** softkeys are blank.

17.2 Message/status area displays for the QMSCASE operator

The message/status area (MSA) displays QMSCASE messages from the DMS switch related to paging and monitoring, assistance requests, and alerting queues.

17.2.1 Paging an operator or a position

An operator can signal another operator to call him or her. The **{Page Pos}** softkey is used to signal the operator at a specified position to call. The **{Page Opr}** softkey is used to signal a specific operator to call. The operator can respond to the page by using either the Directed Assistance function or the Paged Assistance function in the Functions menu. Operator assistance requests are discussed in Section 13.4, "Operator assistance requests."

When paging, the operator sees one of the following displays in the MSA. These displays are datafilled in POSMSA.LNG.

Page To Pos <PPPP> **string ID 0005**

Displayed on the paging operator's screen when that operator pages another operator at a specific position. PPPP is the position number that the paging operator paged. The maximum text string length is 27 characters, allowing five characters for the position number.

Page To Opr <XXXX> **string ID 0006**

Displayed on the paging operator's screen when that operator pages a specific operator. **XXXX** is the operator number of the operator who was paged. The maximum text string length is 27 characters, allowing five characters for the operator number.

In addition to displays provided in the MSA for the paging operator, a message also appears in the page field of the MSA. The default string is datafilled in file POSMSA.LNG.

Page From Pos: <XXXX> **string ID 0000**

Displayed on the paged operator's screen. The maximum string length for the Page From Pos text is 27 characters, allowing five characters for the position number. The string is displayed in the alert text color.

17.2.2 Monitoring an operator or position

The **{Monitor Pos}** and **{Monitor Opr}** softkeys allow a CSE to request a session to monitor an operator's activities. For an operator to initiate a monitoring session, the position must be in the Calls Withheld state.

If the DMS switch allows the monitoring session, the CASE application window is removed and the softkeys are cleared. The monitoring operator can hear the monitored operator and customer's conversation. The following string is displayed in the pending field of the MSA on the monitoring operator's screen.

Mon Opr: XXXX Pos: YYYY **string ID 0018, 0012, 0013**

This display is a combination of three datafilled strings. It indicates that the operator is monitoring another operator whose operator number is XXXX and whose position number is YYYY. This display can be toggled on or off using the Monitor Display Toggle function from the Functions menu.

Monitor sessions are terminated by the switch when the monitored operator logs out. When the DMS switch changes the monitored position's state, the position state display is cleared or changed as appropriate. When the monitoring session ends, this display is cleared from the monitoring operator's screen. These strings are displayed in the page field of the MSA and are datafilled in the language file BHMIMSA.LNG.

(Position Busy) **string ID 0002**

Indicates that the position has transitioned into the Position Busy state and is not currently processing calls.

(Position Forced Maintenance) **string ID 0003**

Indicates that the DMS switch has forced the position to undergo maintenance. The position might have a fault, or the DMS switch or its peripherals might have a fault. An operator logged in at this position is not processing calls.

An operator monitoring another operator or position sees displays from the application currently in use. Softkeys from the current application are also visible. Context switches that are initiated by the monitored operator and that require no action by the DMS switch are considered local to that operator's position. These types of context switches are not made at the monitoring operator's position.

Note: If a monitoring session is initiated with an operator who is currently handling a call, the monitoring operator's display for the call in progress may be incomplete, because the DMS switch sends messages only after monitoring begins.

Window updates (including softkeys) from other database services or applications are dependent upon the application and database vendors. For more information about monitoring and screen updates, refer to the appropriate vendor documentation.

When an operator or a position is being monitored, no monitored operator keystrokes are shown on the monitoring operator's display. For more information about monitoring operator keystrokes during a database session or other active application session, refer to the appropriate vendor documentation.

The monitoring operator's position should be datafilled with a superset of the team services. The service text datafill in the XSERVS.TBL file should be the same for each operator providing that service and also for the monitoring operators. For details on the XSERVS.TBL, refer to *TOPS IWS Base Platform User's Guide*, 297-2251-010. Except for services, position datafill should be the same across the team. Otherwise, the monitoring operator displays might not reflect what is presented to the monitored operator, and the monitoring operator might experience keyboard functionality differences, because context change keys might be ignored.

To end the monitoring session, the monitoring operator can invoke the Quit Monitoring function from the Functions menu.

17.2.3 Operator assistance requests

Operators can receive general assistance requests at their positions if switch datafill is set up so that they are serving a queue to which assistance requests are routed. Assistance requests can arrive on either loop, and they arrive as calls to the position.

The following string is displayed in the pending field of the operator's MSA to indicate that the current call is a general assistance request. These strings are datafilled in POSMSA.LNG.

Gen Pos: <XXXX> Opr: <PPPP **string ID 0012, 0013, and 0014**

When this string is displayed on the assisting operator's position, XXXX is the operator number and PPPP is the position number of the requesting operator.

When this string is displayed on the requesting operator's position, XXXX is the operator number and PPPP is the position number of the operator providing assistance.

The following strings are displayed in the page field of the MSA to indicate that directed assistance has been requested. These strings are datafilled in POSMSA.LNG.

Dir Pos: <PPPP> Opr: <XXXX> **string ID 0012, 0013 and 0015**

When this string is displayed on the assisting operator's position, XXXX is the operator number, and PPPP is the position number of the requesting operator.

When this string is displayed on the requesting operator's position, "XXXX' reflects the operator number, and "PPPP" reflects the position number of the operator providing assistance.

If an operator requests assistance, and all available operators who can provide assistance are busy, the following string is displayed in the pending field of the MSA to indicate that the operator is in queue for assistance. These strings are datafilled in POSMSA.LNG.

Queued **string ID 0017**

The maximum string length of this display is six characters.

If an operator who has been queued for assistance releases the call, the following string displays on the assisting operator's MSA to indicate that the call was an assistance request and that it has been released to queue. This string is datafilled in POSMSA.LNG.

Rlsd Opr: <XXXX> **string ID 0012, 0013, and 0016**

When this string is displayed, XXXX is the operator number of the operator who released the call to queue.

17.2.4 Assistance calls waiting in queue

The MSA displays two messages about calls waiting in alerting queues: CA and ACW##. Since alerting queues are most likely to be used for assistance calls, this book describes these alerting queues as containing assistance calls. If alerting queues are not being used for assistance queues, then this model does not apply.

When all the CSEs logged into a particular alerting queue are busy handling calls or have calls withheld, then some assistance calls may not be answered immediately. Whenever a call is waiting in an alerting queue, an audible alert sounds and the message “CA” (for “calls alerting”) displays in line 1of the MSA, in same location as the controlled traffic field. The CA display remains in the MSA, and the audible alert continues to sound, until no calls are left waiting. All CSEs logged on to that alerting queue see this message and hear the accompanying audible alert.

When no calls remain in the alerting queue, the CA display is cleared and the audible alert stops. The operator can also turn off the audible alert through the Functions menu or with the **{Stp Bell}** softkey in the CASE application.

The message “ACW ##” (for “assistance calls waiting”) shows how many calls are waiting in a designated alerting queue. It displays in the MSA only for CSEs whose operator profiles are appropriately datafilled in the switch. To see the ACW## display, a CSE must have the QINFO capability and be datafilled to observe the ACW count for one specified queue. This is the same ACW## display that appears on an in-charge position, and it appears in the same location. The maximum text string length is six characters. The numbers change as the number of calls in queue changes, but the display remains as long as the CSE is logged in.

18.0 Applications menu window

This window is used to activate the applications available to the position. The available IWS applications are displayed in the menu with an associated menu item number. The XAPPL position datafill table determines the text and the integer value displayed in the window. For details on table XAPPL, refer to the *TOPS IWS Base Platform User's Guide*, 297-2251-010. The applications menu is available in the operator administration window to allow administrative application sessions such as directory assistance administrative searches or to access applications that do not require logon to the DMS switch.

Figure 69 shows the applications menu window in its location on the IWS screen.

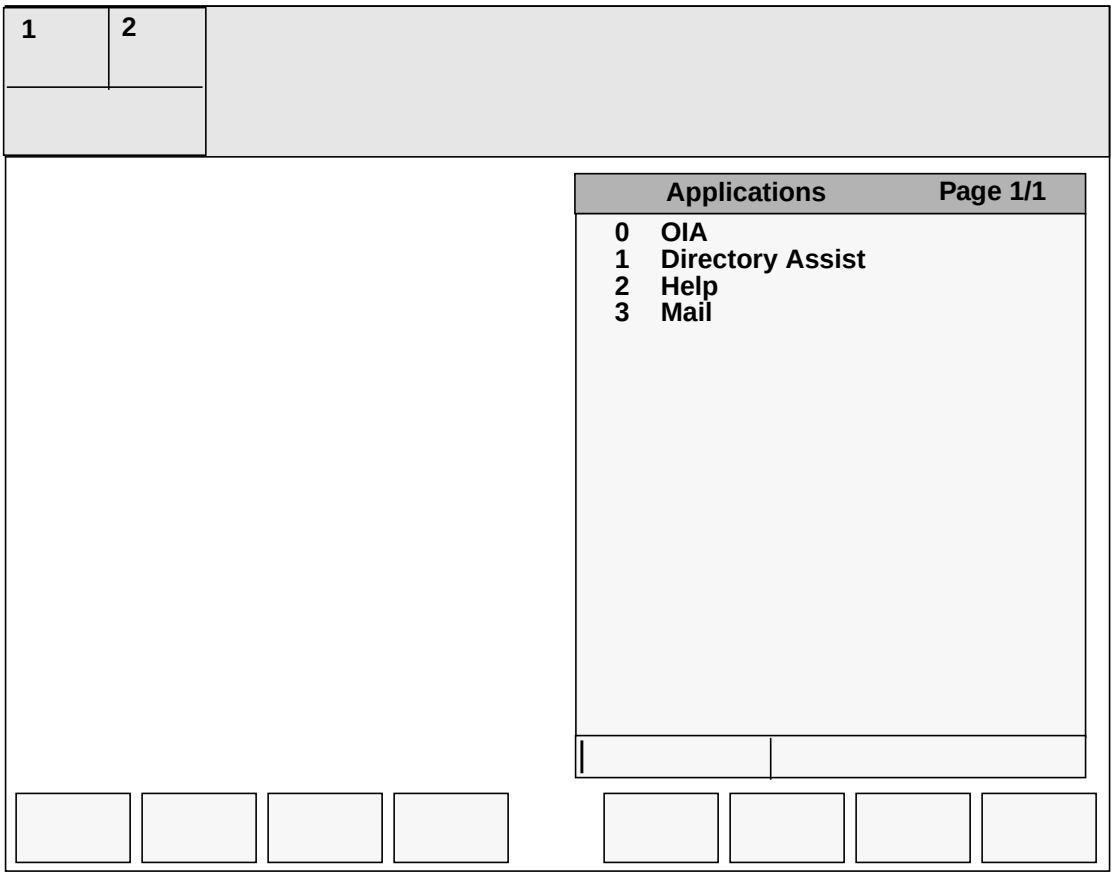

FIGURE 69. Applications menu window in the Operator Information window

To display the applications menu window, the operator must press the **Appl** key on the IWS keyboard twice. When this is done, the applications menu window is displayed, and the cursor is placed in the leftmost entry field.

The applications menu window can list up to 32 applications. By default, the initial display shows the first page of available applications. The operator can cycle through the available applications by pressing the **Appl** key once for each successive page. When the last page of the applications menu window is displayed, pressing the **Appl** key again brings up the first page. The operator can also use the page forward and page backward keys to cycle forward and backward through the pages. Unlike the **Appl** key, however, the

page forward and page backward keys do not cause the display to cycle from last page to first or from first page to last.

An application is activated by entering its associated index into the entry field and pressing the **Start** key on the IWS keyboard. The **Start** key activates the new application and removes the applications menu window from the screen.

When the operator enters more than two digits into the entry field of the applications menu window, the entry field is cleared. If the **Start** key is pressed with no value in the entry field, the applications menu window is removed from the screen and no other action is taken. If one of the call processing keys is pressed while the menu is displayed, the menu is removed from the screen and no other action is taken. If a menu control key other than **Appl** is pressed, the displayed menu is removed from the screen and no other action is taken.

While the applications menu is displayed, IWS responds to all the operator's keystrokes according to the key datafill for the application that had focus when the menu was activated.

Softkey functionality, context change key functionality, as well as **{Volume Up}** and **{Volume Down}** are ignored while the applications menu window is active.

The applications menu window does not have to be displayed to activate one of the applications. When the operator becomes familiar with the integer values, an application can be activated simply by typing:

Appl, XX, **Start**

where XX is the index that represents the application.

The integer value entered to select a menu item can be one or two digits. If more than two digits are entered, the menu is placed on the screen and the entry field is empty. Also, if the **Appl** key is pressed again after the digits are entered, but before the **Start** key is pressed, the applications menu window is displayed on the screen and the entry field is empty. When a menu key other than **Appl** is pressed before the **Start** key is pressed, the applications menu window is removed from display and the new menu becomes active.

If an invalid menu value is entered, the applications menu window displays, if it is not already displayed, and the invalid data appears in error text color in the first entry field of the menu.

The next numeric key that the operator presses clears the invalid data and displays the new menu entry in normal text color. If the operator presses one of the call processing keys while the applications menu window is on display with an invalid menu entry, the invalid menu entry and the applications menu window disappear. If the operator presses another menu control key menu window while the applications menu window is on display with an invalid menu entry, the invalid menu entry and the applications menu window disappear.

When the selected application is datafilled in table XAPPL to allow extra data input, the cursor goes to the second entry field of the applications menu window. The window compresses to show only the input fields. This compressed window repositions above the call details window, with the window title displaying the label "Item selected."

The selected application processes the entered data in the second data entry field for interpretation. The operator can press the **Start** key in this field with no data input in order to bypass entering any additional data. When the **Appl** key is pressed after the compressed window appears, this window expands to its original size to show all the applications available.

18.1 Administrative application sessions

Administrative application sessions are sessions activated before DMS logon. Administrative application sessions are invoked through the applications menu from the operator administration window. Administrative application sessions are initiated by accessing the applications menu and selecting the desired application number. For example, an administrative DA search can be initiated before DMS logon. It is considered an administrative application session.

Note: The IWS screen saver should not be used in the position if DOS-based applications are accessed before DMS logon for administrative application sessions.

18.2 Applications menu window fields

If an application allowing extra data entry is selected from the menu when the menu is not displayed, the menu displays, and the cursor is placed in the second entry field to allow entry of additional data. Likewise, if an applications menu hotkey is used to activate an application allowing extra data entry, the menu is displayed to allow data entry into the second input field.

Each field in the applications menu window is discussed in this section. Unless otherwise noted, text displayed in the applications menu window is displayed in the Microsoft san serif 10 point normal variable pitched font. Strings in the title bar of the applications menu window are located in the file APPLMENU.LNG.

18.2.1 Applications menu title field

The text displayed in this field identifies the window title and the appropriate page information. Text in the title bar is centered and is displayed in the Microsoft Windows system font.

The title of the menu can contain up to 13 characters as described below:

Applications **String ID 0000**

The page label of the menu can contain up to six characters as described below:

Page **String ID 0001**

In addition to the page label, the display includes xx/yy where xx indicates the current page number and yy indicates the total number of pages.

18.2.2 Applications

This field lists all applications datafilled at the position that are provided by the executables that were running in the position during position initialization. Text displayed

in this field is obtained from table XAPPL. It can be a maximum of 19 characters per application.

19.0 Services menu window

The services menu window is used to activate one of the services available to the position. It equates integer values to IWS services and displays the available services for the operator. The integer is entered in the data entry field at the bottom of the window. The text and the integer value to be displayed in the window are determined from the XSERVS position datafill table. Refer to the *TOPS IWS Base Platform User's Guide*, 297-2251-010, for details on table XSERVS.

Figure 70 shows the services menu window in its location on the operator information window.

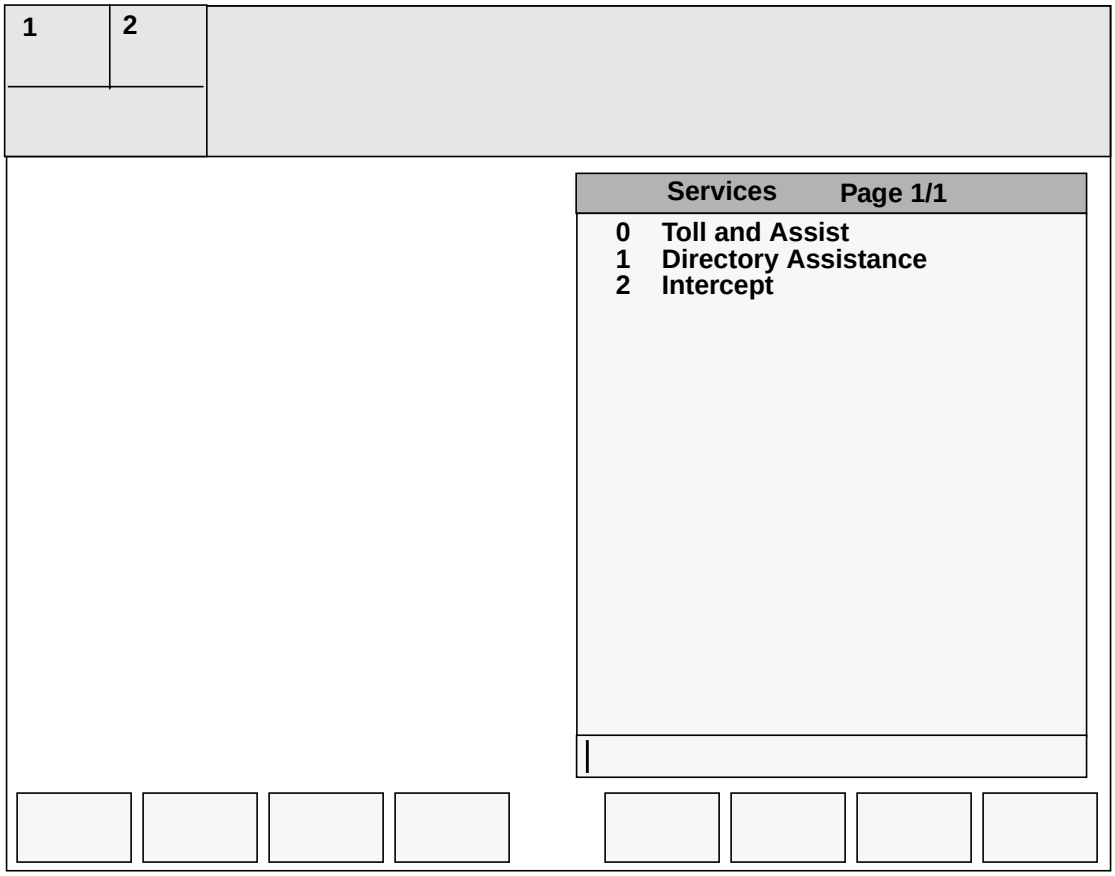

FIGURE 70. Services menu window in the operator information window

To display the services menu window, the operator must press the **Svcs** key on the IWS keyboard twice. When this is done, the services menu window is displayed, and the cursor is placed in the entry field.

By default, the initial display of the services menu window shows the first page of available services. The operator can cycle through the available services by pressing the **Svcs** key once for each successive page. When the last page of the services menu window is displayed, pressing the **Svcs** key again brings up the first page. The operator can also use the page forward and page backward keys to cycle forward and backward through the

pages. Unlike the **Svcs** key, however, the page forward and page backward keys do not cause the display to cycle from last page to first or from first page to last.

A service can be activated by entering its associated value into the entry field and pressing the **Start** key on the IWS keyboard. The **Start** key activates the new service and removes the services menu window from the screen.

If the operator enters more than two digits into the entry field of the services menu window, the entry field is cleared. If the **Start** key is pressed with no value in the entry field, the services menu window is removed from the screen. If one of the call processing keys is pressed while the menu is displayed, the menu is removed from the screen. If the menu control key other than **Svcs** is pressed, the displayed menu is removed from the screen.

While the services menu is displayed, IWS responds to all of the operator's keystrokes according to the key datafill for the application that had focus when the menu was activated.

Softkey and context change key functionality, as well as **{Volume Up}** and **{Volume Down}**, are ignored while the services menu window is active.

The services menu window does not have to be displayed to activate one of the services. When the operator becomes familiar with the integer values, a service can be activated simply by typing:

Svcs, XX, **Start**

where XX is the value that represents the desired service.

The integer value entered to select a menu item can be one or two digits. If more than two digits are entered, the menu is placed on the screen, and the entry field is empty. Also, if the **Svcs** key is pressed again after the digits are entered, but before the **Start** key is pressed, the services menu window is displayed on the screen, and the entry field is empty. If a menu key other than **Svcs** is pressed before the **Start** key is pressed, the services menu window is removed from display, and the new menu becomes active.

If the service selected from the services menu window is the active service, the effect of selecting that service is to request that an AMA record be generated by the DMS switch.

If an invalid menu entry is entered, the services menu window displays if it is not already displayed, and the invalid data appears in error text color in the first entry field of the menu. The next numeric key that the operator presses clears the invalid data and displays the new menu entry in normal text color. If one of the call processing keys is pressed while the services menu window is displayed with an invalid menu entry, the invalid menu entry is cleared, and the services menu window is removed from the screen. If the menu control key of another menu is pressed while the services menu window is displayed with an invalid menu entry, the invalid menu entry is cleared, and the services menu window is removed.

19.1 Services menu window fields

Each field in the services menu window is discussed in this section. Unless otherwise noted, text in the services menu window is displayed in the Microsoft san serif 10 point

normal variable pitched font. Strings in the title bar of the services menu window are located in the file SVCSMENU.LNG.

19.1.1 Services menu window title field

The text displayed in this field identifies the window title and the appropriate page information. Text in the title bar is centered and is displayed in the Microsoft Windows system font.

The title of the menu can contain up to 13 characters as described below:

Services **string ID 0000**

The page label of the menu can contain up to six characters as described below:

Page **string ID 0001**

In addition to the page label, the display includes xx/yy, where xx indicates the current page number and yy indicates the total number of pages.

19.1.2 Services

This field contains a list of all services that are datafilled at the position for which logon was requested. This list matches the list of services displayed in the assigned activities window. Text displayed in this field is obtained from table XSERVS and can be a maximum of 19 characters per service.

Each service listed has an associated integer value that can be entered into the data entry field to activate the service or request AMA record generation. The value is listed to the left of the service name in the window if the service can be accessed through the services menu window. If the service was not successfully logged onto, the value is not displayed with the service listed in the services menu window.

20.0 Outtrunks menu window

This window is used to invoke outtrunk events available to the position. It equates integer values to outtrunk events and displays the available outtrunk events for the operator. The text and the integer value displayed in the window are determined from the XOGTMENU position datafill table. For details on table XOGTMENU, refer to the *TOPS IWS Base Platform User's Guide*, 297-2251-010.

Figure 71 shows the location of the outtrunks menu window in the operator information window.

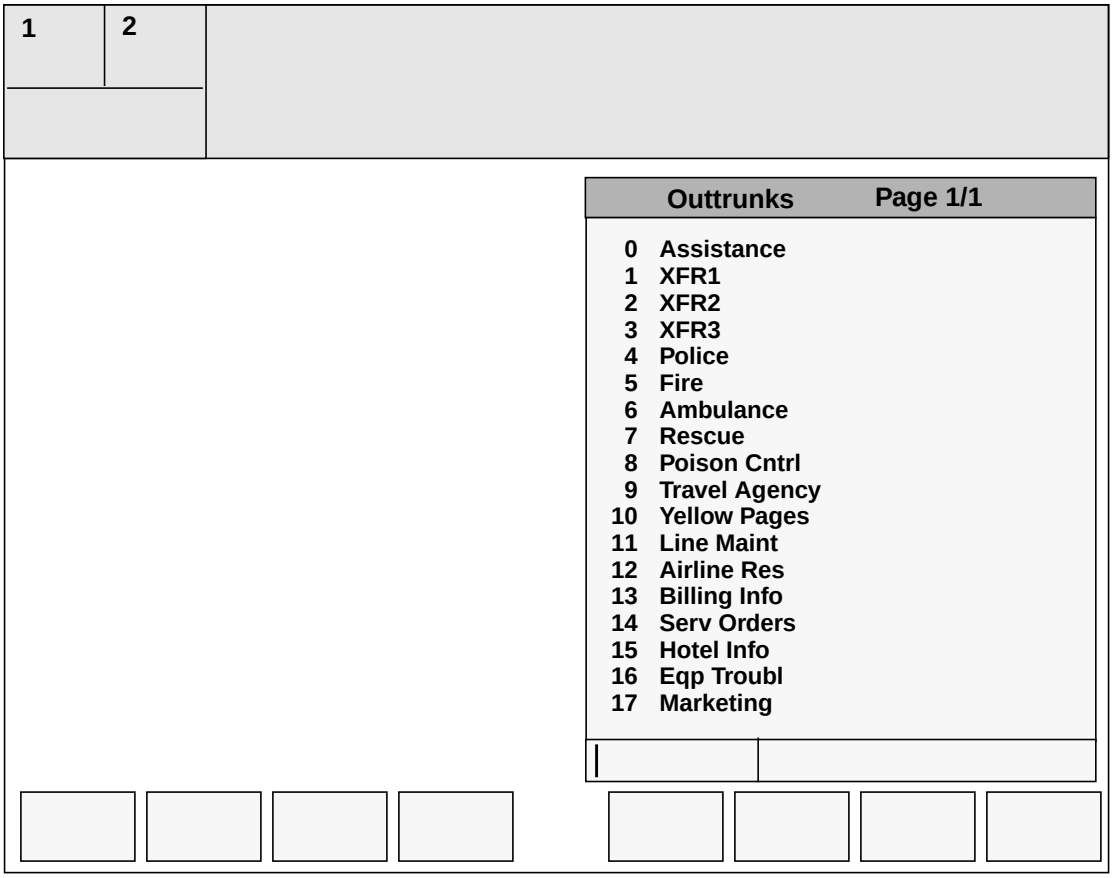

FIGURE 71. Outtrunks menu window in the operator information window

To display the outtrunks menu window, the operator must press the **OGT** key on the IWS keyboard twice. When this is done, the outtrunks menu window is displayed, with the cursor placed in the leftmost entry field.

The outtrunks menu window can have up to 100 events listed. By default, its initial display shows the first page of available outtrunk events. Further depressions of the **OGT** key cycle through the available pages of outtrunk events. If the last page of the outtrunks menu window is displayed when the **OGT** key is pressed, the first page is displayed. The operator can also use the page forward and page backward keys to cycle forward and backward through the pages. Unlike the **OGT** key, however, the page forward and page

backward keys do not cause the display to cycle from last page to first or from first page to last.

An outtrunk event is invoked by entering its associated value into the entry field and pressing the **Start** key on the IWS keyboard. The **Start** key invokes the outtrunk event and removes the outtrunks menu window from the screen.

If the operator enters more than two digits into the entry field of the outtrunks menu window, the entry field is cleared. If the **Start** key is pressed with no value in the entry field, the outtrunks menu window is removed from the screen. If one of the call processing keys is pressed while the menu is displayed, the menu is removed from the screen. If the menu control key other than **OGT** is pressed, the displayed outtrunks menu window is removed from the screen.

While the outtrunks menu is displayed, IWS responds to all of the operator's keystrokes according to the key datafill for the application that had focus when the menu was activated.

Softkey and context change key functionality, as well as **{Volume Up}** and **{Volume Down},** are ignored while the outtrunks menu window is active.

The call processing keys are available while in the second entry field of the outtrunks menu window.

The outtrunks menu window does not have to be displayed to invoke one of the outtrunk events. When the operator becomes familiar with the integer values, an outtrunk event can be activated simply by typing:

OGT, XX, **Start**

where XX is the value that represents the desired outtrunk event.

The integer value entered to select a menu item may be one or two digits. If more than two digits are entered, the menu is placed on the screen and the entry field is empty. Also, if the **OGT** key is pressed again after the digits are entered, but before the **Start** key is pressed, the outtrunks menu window is displayed on the screen and the entry field is empty. If a menu key other than **OGT** is pressed before the **Start** key is pressed, the outtrunks menu window is cancelled, and the new menu becomes active.

If the operator keys an invalid menu entry, the outtrunks menu window displays if it is not already displayed, and the invalid data is displayed in error text color in the first entry field of the menu. The next numeric key that the operator presses clears the invalid data and displays the new menu entry in normal text color. If one of the call processing keys is pressed while the outtrunks menu window is displayed with an invalid menu entry, the invalid menu entry is cleared, and the outtrunks menu window is removed from the screen. If the menu control key of another menu is pressed while the outtrunks menu window is displayed with an invalid menu entry, the invalid menu entry is cleared, and the outtrunks menu window is removed.

20.0.1 Canceling an OGT transfer

The key sequence used to transfer a call through an outgoing trunk is **OGT** + xx + **Start**. The transfer does not take place until the **PosRls** key is pressed. Until then, the operator can still cancel the transfer by repeating the same key sequence: **OGT** + xx + **Start**. The message `XFR cleared` appears in the transient field of the MSA to confirm that the transfer has been canceled.

Note: In the key sequence **OGT** + xx + **Start**, xx represents the menu item number. To cancel the transfer, the repeated key sequence must contain the *same* menu item number. If a different menu item number is entered, the previous OGT transfer request is replaced with the newly entered OGT request.

If the OGT transfer has been invoked through a hot key, then pressing the hot key again cancels the transfer.

20.1 Outtrunks menu window fields

Each fields in the outtrunks menu window is discussed in this section. Unless otherwise noted, text displayed in the outtrunks menu window is displayed in the Microsoft san serif 10 point normal variable pitched font. The strings in the outtrunks title field are datafilled in OGTMENU.LNG.

20.1.1 Outtrunks menu title field

The text displayed in this field identifies the window title and the appropriate page information. Text in the title bar is centered and is displayed in the Microsoft Windows system font.

The title area of the outtrunks menu window can contain up to 13 characters:

Outtrunks **string ID 0000**

The page label of the outtrunks menu window can contain up to 6 characters:

Page **string ID 0001**

In addition to the page label, the display includes xx/yy, where xx indicates the current page number and yy indicates the total number of pages.

20.1.2 Outtrunks

This field contains a list of all outtrunk events that are datafilled at the position. Text displayed in this field is obtained from table XOGTMENU and may be a maximum of 30 characters per event.

Each outtrunk event listed has an associated integer value that may be entered into the first data entry field to invoke the event. When extra input is required to process the selected event, the cursor goes to the second input field, and the outtrunk menu window compresses to show only the input fields. This compressed window repositions above the call details window, with the window title displaying the label “Item selected.”

When the **OGT** key is pressed after the compressed window appears, this window expands to its original size to show all the functions available.

There are five types of outtrunk events:

- assistance requests
- dual language
- outtrunk
- language
- call transfer

20.1.2.1 Assistance requests

This type of outtrunk event allows the operator to request assistance. When it is invoked, the cursor is placed in the second entry field of the outtrunks menu window. For direct assistance, the operator may enter the position number followed by the **Start** key. Up to four numeric characters may be entered in this field. For indirect assistance, the operator presses the **Start** key with no input.

Note: The assistance request must always be datafilled as outtrunk 0.

When the direct menu entry method or a hot key is used for entering an assistance request, the outtrunks menu window is displayed so the operator can enter the position number. If a key is datafilled for **OGT**, **0**, **Start**, the outtrunks menu window is displayed so the operator can enter the position number.

20.1.2.2 Dual language

This type of outtrunk event allows the operator to associate languages with the calling and called parties.

20.1.2.3 Outtrunk

This type of outtrunk event allows the operator to outpulse a number that has been datafilled without entering the number in the called data entry field of the call information window.

20.1.2.4 Language

This type of outtrunk event allows the operator to associate a language with the calling party for release to an automated system.

20.1.2.5 Call transfer

This type of outtrunk allows the operator to assign a new call type for queueing.

21.0 Trouble menu window

This window is used to enter trouble codes available to the position. It equates integer values to trouble codes and displays the available trouble codes for the operator. The text and the integer values displayed in the window are determined from the XTROUBLE position datafill table. For details on table XTROUBLE, refer to the *TOPS IWS Base Platform User's Guide*, 297-2251-010.

Figure 72 shows the location of the trouble menu window in the operator information window.

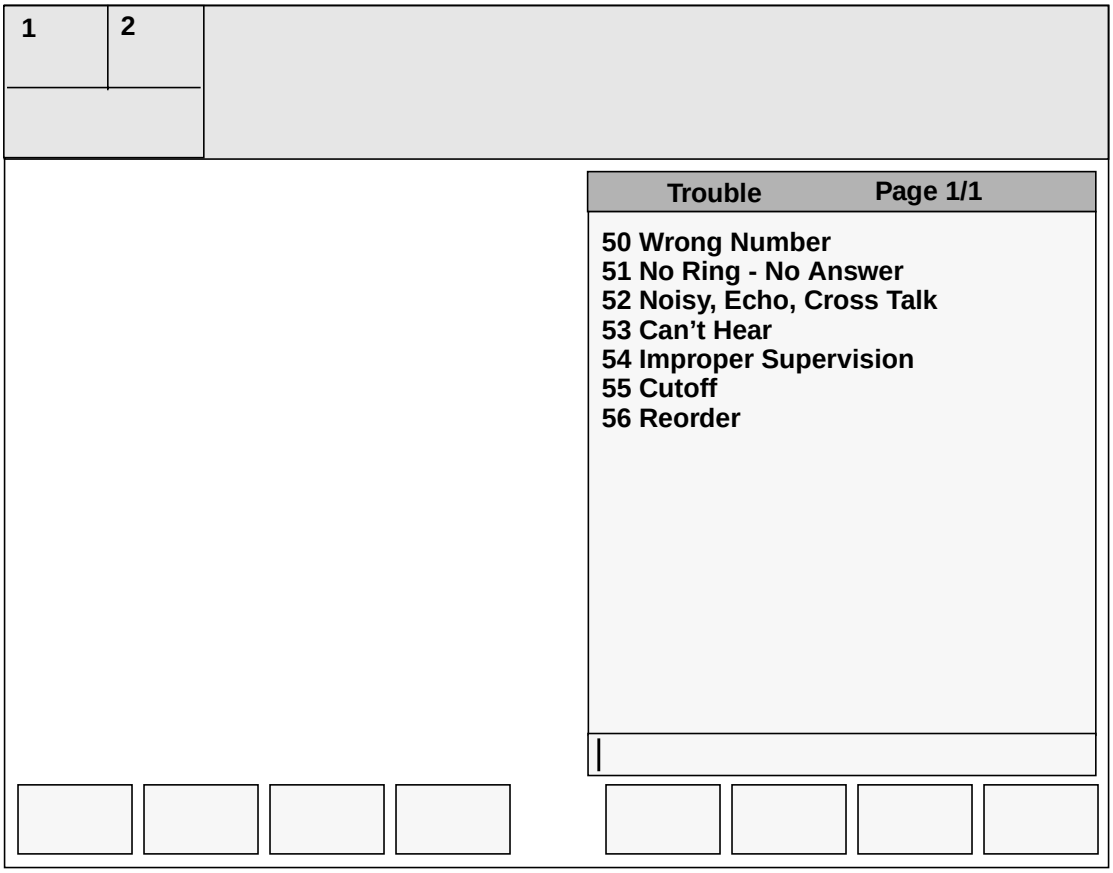

FIGURE 72. Trouble menu window in the operator information window

To display the trouble menu window, the operator must press the **Trbl** key on the IWS keyboard twice. When this is done, the trouble menu window is displayed, and the cursor is placed in the entry field.

The trouble menu window can have up to 100 events listed. By default, its initial display shows the first page of available trouble codes. Further depressions of the **Trbl** key cycle through the available pages of trouble codes. If the last page of the trouble menu window is displayed, then pressing the **Trbl** key causes the first page to be displayed. The operator can also use the page forward and page backward keys to cycle forward and backward through the pages. Unlike the **Trbl** key, however, the page forward and page backward keys do not cause the display to cycle from last page to first or from first page to last.

A trouble code can be invoked by entering its associated value into the entry field and pressing the **Start** key on the IWS keyboard. The **Start** key invokes the trouble code and removes the trouble menu window from the screen.

If the operator enters more than two digits into the entry field of the trouble menu window, the entry field is cleared. If the **Start** key is pressed with no value in the entry field, the trouble menu window is removed from the screen. If one of the call processing keys is pressed while the menu is displayed, the menu is removed from the screen. If the menu control key other than **Trbl** is pressed, the displayed menu is removed from the screen.

While the trouble menu is displayed, IWS responds to all of the operator's keystrokes according to the key datafill for the application that had focus when the menu was activated.

Softkey and context change key functionality, as well as **{Volume Up}** and **{Volume Down}** are ignored while the trouble menu window is active.

The trouble menu window does not have to be displayed to invoke one of the trouble codes. When the operator becomes familiar with the integer values, a trouble code can be activated simply by typing:

Trbl, XX, **Start**

where XX is the value that represents the trouble code.

The integer value entered to select a menu item may be only two digits. If more than two or less than one digit is entered, the trouble menu window is placed on the screen, and the entry field is empty. If the **Trbl** key is pressed again after the digits are entered but before the **Start** key is pressed, the trouble menu window is displayed on the screen, and the entry field is empty. If a menu key other than **Trbl** is pressed before the **Start** key is pressed, the trouble menu window is removed from display, and the new menu becomes active.

If the operator enters an invalid menu entry, the trouble menu window displays if it is not already displayed, and the invalid data is displayed in error text color in the entry field of the menu. The next numeric key that the operator presses clears the invalid data and displays the new menu entry in normal text color. If one of the call processing keys is pressed while the trouble menu window is displayed with an invalid menu entry, the invalid menu entry is cleared, and the trouble menu window is removed from the screen. If another menu control key is pressed while the trouble menu window is displayed with an invalid menu entry, the invalid menu entry is cleared, and the trouble menu window is removed.

A previously reported trouble code may be cleared by entering the octothorp (**#)** character into the entry field. If this character is entered after digits, the digits are cleared, and the # character is displayed. If digits are entered into the field after the # key has been entered, the field is cleared. After one # character has been entered, subsequent ones are ignored.

21.1 Trouble menu window fields

Each field in the trouble menu window is discussed in this section. Unless otherwise noted, text in the trouble menu window is displayed in the Microsoft san serif 10 point normal variable pitched font. Strings in the title field are datafilled in TRBLMENU.LNG.

21.1.1 Trouble menu window title field

The text displayed in this field identifies the window title and the appropriate page information. Text in the title bar is centered and is displayed in the Microsoft Windows system font.

The title area of the trouble menu window can contain up to 13 characters as described below:

Trouble **string ID 0000**

The page label of the trouble menu window can contain up to 6 characters as described below:

Page **string ID 0001**

In addition to the page label, the display includes xx/yy, where xx indicates the current page number and yy indicates the total number of pages.

21.1.2 Trouble field

This field contains a list of all trouble codes that are datafilled at the position. Text displayed in this field is obtained from table XTROUBLE and may be a maximum of 30 characters per event. For details on IWS table XTROUBLE, refer to the *TOPS IWS Base Platform User's Guide*, 297-2251-010.

Each trouble code listed has an associated integer value that may be entered into the data entry field to invoke the event.

22.0 Functions menu

The functions menu lists the IWS functions available to the operator in the base HMI application. Each function is displayed with an integer value that can be entered to invoke the function. The integer is entered into the leftmost data entry field located along the bottom of the functions menu.

The order in which the functions are listed in the functions menu depends on how file XFNCTS.TBL is datafilled for the position. The order of the functions can be changed to move frequently used functions to the first page, or to remove functions from the menu if they are not to be used. Follow the instructions in *TOPS IWS RAMP and Provisioning User's Guide*, 297-2251-015.

International functions that are contained in the default datafill file, XFNCTS.TBL, are initially commented out so that they can be added as needed.

Figure 73 shows the location of the functions menu in the operator information window.

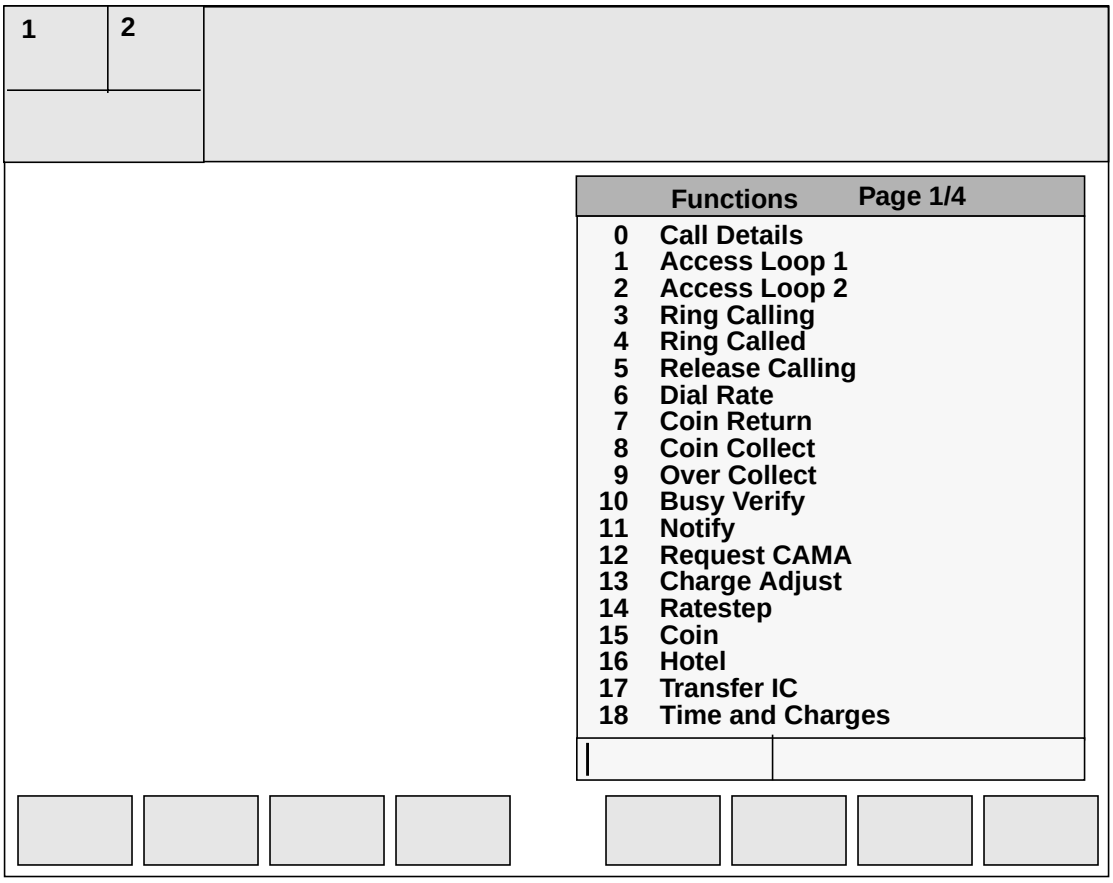

FIGURE 73. Sample functions menu in the operator information window

The following discussion assumes the default datafill for file XFNCTS.TBL. The functions menu currently displays four pages of functions. The functions menu shown in Figure 73 shows the first, default page of the functions menu. All the functions supplied in the default datafill are described in this chapter.

To display the functions menu, the operator must press the **Fncts** key on the IWS keyboard twice. When this is done, the functions menu is displayed, and the cursor is placed in the entry field.

By default, the initial display of the functions menu shows the first page of functions. Further depressions of the **Fncts** key cycle through the other pages of the menu. If the last page of the functions menu window is displayed, then pressing the **Fncts** key causes the first page to be displayed. The operator can also use the page forward and page backward keys to cycle forward and backward through the pages. Unlike the **Fncts** key, however, the page forward and page backward keys do not cause the display to cycle from last page to first or from first page to last.

A function can be invoked by entering its associated value associated into the first entry field and pressing the **Start** key. This invokes the function and removes the functions menu from the screen.

While the functions menu is displayed, IWS responds to all of the operator's keystrokes according to the key datafill for the application that had focus when the menu was activated.

When the operator enters more than two digits into the entry field of the functions menu, the entry field is cleared. The functions menu disappears from the screen when the operator presses:

- the **Start** key with no value in the entry field
- one of the call processing keys while a menu is on display
- the menu control key of a menu other than the functions menu

The functions menu does not have to be displayed to invoke a function. When the operator becomes familiar with the integer values, a function can be invoked by simply pressing:

Fncts, XX, **Start**

where XX is the integer value associated with the function to be invoked.

The integer value entered to select a menu item may be one or two digits. When more than two digits are entered, the functions menu displays on the screen, and the entry field is empty. When the **Fncts** key is pressed again after the digits are entered but before the **Start** key is pressed, the functions menu appears on the screen, and the entry field is empty. When a different menu key is pressed before the **Start** key is pressed, the functions menu disappears, and the new menu becomes active.

When the operator keys in an invalid menu item, the functions menu displays if it is not currently on display. The invalid data appears in error text color in the first entry field of the menu. The next numeric key pressed clears the invalid data and displays the new menu entry in normal text color.

Pressing one of the call processing keys while the functions menu is on display with an invalid menu entry makes the invalid menu entry and the functions menu disappear. Pressing the menu control key of a menu other than the functions menu while the functions menu is on display with an invalid menu entry makes the invalid menu entry and the functions menu disappear.

When extra input is required to process the selected function, the cursor goes to the second input field, and the functions menu compresses to show only the input fields. This compressed window repositions above the call details window. (See Figure 74.)

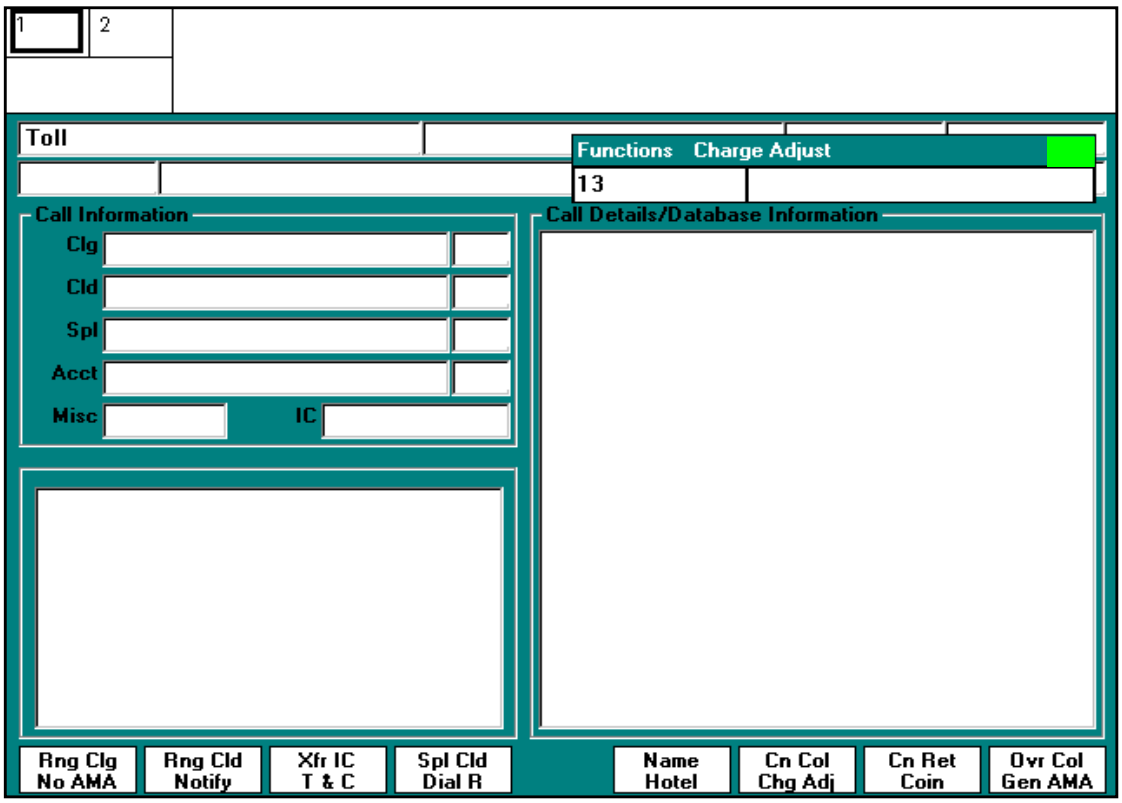

FIGURE 74. Example of compressed functions menu on IWS screen

When the **Fncts** key is pressed after the compressed window appears, this window expands to its original size to show all the functions available.

When invalid data is entered, it displays in error text color, and the cursor goes to the beginning of the second data entry field. The operator can then enter valid data or exit the functions menu as described above.

If extra input is entered into the second input field under 24 characters in length, if the valid number of characters for that entry is surpassed, the second input field is cleared. The cursor is placed back at the beginning of the input field ready for another attempt at a valid entry.

If extra input is entered into the second input field 24 characters or greater, if the valid number of characters for the given entry is surpassed, the field is not cleared. Any characters typed beyond the valid number are ignored. At this time, A and B party name are the only functions that act in this way.

If extra input is required, and the valid maximum number of characters that can be entered into the field is less than 24 characters, but was surpassed, the field is cleared. If the valid maximum number of characters is 24 characters or greater, the field is not cleared, but it does not allow any more characters to be entered.

Any function that is defined to be used as a softkey or a hotkey should be datafilled in the position in the functions menu. If extra input is required to process the request, such as the notify function, the functions menu is displayed. The menu item number corresponding to the selected function is shown in the first data entry field. The cursor is positioned in the second data entry field of the functions menu, ready for operator input.

If the softkey or hotkey function is not datafilled in the functions menu, and extra input is required to process the request, the functions menu is displayed with a "?" in the first data entry field instead of the menu item number. The cursor is positioned in the second data entry field, ready for operator input.

Softkey and context change key functionality, as well as **{Volume Up}** and **{Volume Down}** are ignored while the functions menu is active.

Call processing keys are available while in the second input field of the functions menu.

22.1 Functions menu window fields

All functions listed in the functions menu are discussed in this section. Each is identified by its function name and a short description. To provide most functionality, the functions menu exchanges messages with the DMS switch.

The function names (strings) listed below and all of the function names shown in this document are provided as default function names in file XFNCTS.TBL. They are the names listed in the functions menu when it is displayed. These function names can be altered by modifying file XFNCTS.TBL. Each function name can consist of up to 25 characters.

Unless otherwise noted, text displayed in the functions menu is displayed in the Microsoft san serif 10 point normal variable pitched font.

In addition, the extra entry field text is displayed in the Microsoft san serif 10 point normal variable pitched font. This field can be up to 23 characters long.

22.1.1 Functions menu title field

The text displayed in this field identifies the window title and the appropriate page information. Text in the title bar is centered and is displayed in the Microsoft Windows system font.

The title of the window can contain up to 13 characters as described below:

Functions **string ID 0000**

The page label in the title bar can contain up to six characters as described below:

Page **string ID 0001**

In addition to the page label, the display includes xx/yy, where xx indicates the current page number and yy indicates the total number of pages.

22.1.2 Call details

This function sends a message to the DMS switch requesting that all details related to the call on an accessed loop be sent to the position.

22.1.3 Access Loop 1

This function sends a message to the DMS switch requesting connection to Loop 1.

22.1.4 Access Loop 2

This function sends a message to the DMS switch requesting connection to Loop 2.

22.1.5 Ring Calling

This function asks the DMS switch to apply a ring tone to the calling line connected to the position.

22.1.6 Ring Called

This function asks the DMS switch to apply a ring tone to the called line connected to the position.

22.1.7 Release Calling

This function asks the DMS switch to take down the network connection to the calling party while retaining the calling number in memory.

22.1.8 Dial Rate

This function asks the DMS switch to charge a call as though it were dialed directly by the subscriber, without operator assistance.

22.1.9 Coin Return

This function asks the DMS switch to return coins to the customer when an incorrect deposit is received.

22.1.10 Coin Collect

This function asks the DMS switch to collect coins from the hopper.

22.1.11 Over Collect

This function asks the DMS switch to credit a call originating from a coin telephone when the subscriber does not have the correct combination of coins for the charge quoted. When invoked, the cursor is placed in the second entry field in the functions menu indicating that further input is required. The overcollect amount is limited to two numeric characters.

22.1.12 Busy Verify

This function asks the DMS switch to verify an existing connection and determine whether there is conversation. When invoked, the cursor is placed in the second entry field in the functions menu, indicating that further input is required. Input is limited to 23 digits.

22.1.13 Notify

This function asks the DMS switch to request automatic notification after a given time interval. When invoked, the cursor is placed in the second entry field in the functions menu, indicating that further input is required. The extra entry field accepts values ranging from 0 to 59. When the operator enters nothing in the extra entry field, the notify request is cancelled. When the operator enters zero in the extra entry field, a message is displayed in the MSA to signify an invalid value. Values ranging from 1 to 59 are all valid.

22.1.14 Request CAMA

This function asks the DMS switch to send the operator a CAMA call on the position's idle loop. This function is allowed by the position if a call is currently being handled.

22.1.15 Charge Adjust

This function asks the DMS switch to give credit for service difficulties or to allow for a change of billing for a coin call.

When invoked, the cursor is placed in the second entry field in the functions menu indicating that further input is required. The charge adjust entry is limited to the following formats:

Charge Adjust: Limited to 12 alphanumeric characters

This display is made up of the following parts:

charge adjust type (0 to 9) - n

hours (0 to 23) - hh

minutes (0 to 59) - mm

indicator (see note below)

C - monetary amount

T - number of occurrences

M - minutes

amount (0 to 9999) x

Formatted as follows:

nCxxxx
nT
nTx
nhhmmMx

nhhmmT
nhhmmTx

Note: Charge adjust indicators are used to interpret the charge adjust code in terms of money (using local currency), minutes, or number of calls that are credited. The three charge adjust indicators are provided in the MPXPARM.INI file. If the charge adjust indicator information in the MPXPARM.INI file is invalid or the MPXPARM.INI file cannot be found during the Base HMI application initialization, the functions menu uses the following default values:

- The money parameter is the character “C.”
- The minutes parameter is the character “M.”
- The occurrences parameter is the character “T.”

Refer to *TOPS IWS Base Platform User’s Guide*, 297-2251-010, for charge adjust indicator information that is datafilled in the MPXPARM.INI file.

22.1.16 Ratestep

This function allows the operator to enter rate step information when the DMS switch cannot calculate a rate step for the call. This rate step information is then sent to the DMS switch. When invoked, the cursor is placed in the second entry field in the functions menu, indicating that further input is required. The ratestep is limited to three numeric characters.

22.1.17 Coin

This function asks the DMS switch to designate the call as originating from a coin station.

22.1.18 Hotel

This function asks the DMS switch to designate the call as originating from a hotel.

22.1.19 Transfer IC

This function asks the DMS switch to pass a call to a specified interLATA carrier (IC).

22.1.20 Time and Charges

This function asks the DMS switch to indicate that the subscriber wishes to receive time and charges at the end of the call.

22.1.21 International

This function allows the operator to enter a called number terminating to an international location. When invoked, the cursor is placed in the second entry field in the functions menu, indicating that further input is required. Input cannot exceed 23 digits. Data input may be terminated by the **Start** key or the **Rls Cld** key.

After an international number is entered and sent to the DMS switch, the operator has two editing options. To enter a new international number, the operator must press the **Rls Cld**

key, reinvoke the international function, and enter a new number in the second entry field. The operator must then press the **Start** key to send the new international number to the DMS switch.

To edit the current international number, the operator must press the **Rls Cld** key, reinvoke the international function, and press the **Edit** key. This displays the current international number in the second entry field of the functions menu with the cursor located at the end of the number. The operator can then use the **Destructive Backspace**, **Home**, **Delete**, and the **Right**, **Left**, **Up**, and **Down Arrow** keys to edit the international number. The operator must press the **Start** key to send the edited international number to the DMS switch.

22.1.22 Person Call Back

This function asks the DMS switch to initiate the setup of call-back calls terminating within the traffic office serving area.

22.1.23 Name

This function allows the operator to enter the calling party name when locally required for hotel calls or calls from similar establishments. When invoked, the cursor is placed in the second entry field in the functions menu, indicating that further input is required. The name is limited to four alphanumeric characters.

22.1.24 Auto Collect

This function asks the DMS switch to class charge a call automatically as collect to the called party.

22.1.25 No AMA

This function asks the DMS switch to discontinue or prevent AMA billing.

22.1.26 Split/Join Clg

This function acts as a toggle. The first time it is invoked, it asks the DMS switch to split the calling party off the line and remove the audio connection. The second time it is invoked, it asks the DMS switch to join the party, re-establishing the audio connection.

22.1.27 Tone Repeat

This function asks the DMS switch to reactivate the tone sounded when an intercept, coin, or alarm call arrives at the position without all necessary call details.

22.1.28 Start Stopwatch

This function asks the position to start a stopwatch, which is displayed in the time field of the MSA in the following format:

hh:mm:ss

where hh represents the hour (0 - 23)

where mm represents the minutes (0 - 59)
where ss represents the seconds (0 - 59)

22.1.29 Clear Stopwatch

This function asks the position to remove the stopwatch from the time field of the MSA.

22.1.30 Start Timing

This function asks the DMS switch to allow an operator to float a call if an answer is required or when putting a call on permanent hold.

22.1.31 Cancel Timing

This function asks the DMS switch to cancel the previous billable time on a call or to cancel timing on AMA tape.

22.1.32 Hold

This function asks the DMS switch to allow the loop associated with a connection to be held.

22.1.33 Make Busy

This function asks the DMS switch to prevent new calls from accessing the position. This function makes the position busy.

22.1.34 Withhold Calls

The behavior of this function depends on the value placed in the AppTimeoutvalue parameter in the Timeout section of MPXPARM.INI. AppTimeoutvalue specifies the number of seconds that the position remains in the calls withheld state.

If AppTimeoutvalue is set to zero, the timer is disabled, and this function acts as a toggle. The first time it is invoked it asks the DMS switch to prevent new calls from accessing the position. The second time it is invoked, it asks the DMS switch to allow new calls to access the position.

When the AppTimeoutvalue parameter in the Timeout section of MPXPARM.INI is set to a value between 6 and 99, it specifies the number of seconds the position stays in the calls withheld state. When the withhold calls function is invoked, new calls are prevented from accessing the position only for the specified amount of time. When the time expires, new calls are again allowed to access the position. During the time when new calls are prevented from accessing the position, this function can be invoked again to allow new calls to access the position before the specified time has expired.

Values between 1 and 5 are not allowed for AppTimeoutvalue and are interpreted as zero.

22.1.35 Verify Special

This function asks the DMS switch to initiate a call to a third billing number for billing validation, or to a database for credit card validation when Mechanized Calling Card Service (MCCS) is not available.

22.1.36 Time

This function asks the DMS switch to send the position the current DMS time. When this function is invoked, the time is displayed in the time field of the MSA in the following format:

hh:mm:ss

where hh represents the hour (0 - 23), mm represents the minutes (0 - 59), ss represents the seconds (0 - 59)

22.1.37 Handoff to AABS

This function asks the DMS switch to hand off the call to the Automated Alternate Billing Service (AABS).

22.1.38 Requested Number

This function allows the operator to enter a directory assistance requested number and then send it to the DMS switch for outpulsing. When invoked, the cursor is placed in the second entry field in the functions menu, indicating that further input is required. Input cannot exceed 23 digits.

22.1.39 SN Routing

This function asks the DMS switch to route service calls to a service node.

22.1.40 Transfer/Recall

This function acts as a toggle and is valid only if the QMS queue management system is in use at the position. This function asks the DMS switch to mark a call for transfer. When invoked a second time, it asks the DMS switch to mark a call for recall.

22.1.41 Caller ID Blocking

This function asks the DMS switch to provide caller ID blocking on the call. When invoked a second time, it asks the DMS switch to reverse the blocking of the caller ID.

22.1.42 Split/Join Cld

This function acts as a toggle. The first time it is invoked, it asks the DMS switch to split the called party off the line and remove the audio connection. The second time it is invoked, it asks the DMS switch to join the party, re-establishing the audio connection.

22.1.43 Gen AMA

This function allows the operator to ask the DMS switch to generate an AMA record. For QMS calls, an operator can generate multiple Gen AMA requests to bill for different service portions of the same call.

22.1.44 Print Time and Charges

This function allows the operator to request the DMS switch to generate a time and charges report for the call.

22.1.45 Barge In

This function allows the operator to access an active conversation to interrupt a conversation to inform the parties of an urgent need for the line.

22.1.46 Special Called

This function allows the operator to request that the call be class charged as special called.

22.1.47 DTMF

This function allows the operator to transmit DTMF tones. When invoked, the cursor is placed in the second entry field in the functions menu, indicating that further input is required. At this point, the operator can press any key on the numeric keypad, or characters from a to d. The key presses create DTMF tones. The function remains active until the operator presses the **Start** key again.

This functionality is dependent on having an NTNX51BE audio card installed in the position.

22.1.48 Fixed Duration

This function acts as a toggle. The first time it is invoked, it asks the DMS switch to mark a call as fixed duration. The call can then be disconnected, without returning to an operator, after expiration of the notification period as entered by the operator. The next time the function is invoked, it marks the call as non-fixed duration.

22.1.49 International DA (GOS, or Global Operator Services, environment)

This function allows the operator to outpulse to an international DA operator without knowing the specific digits to dial. When invoked, the cursor is placed in the second entry field in the functions menu, indicating that further input is required. Input can be up to eight digits.

22.1.50 International Inward (GOS environment)

This function allows the operator to outpulse to an international INW operator without knowing the specific digits to dial. When invoked, the cursor is placed in the second entry

field in the functions menu, indicting that further input is required. Input can be up to eight digits.

22.1.51 Quit Monitoring

This function is used by the service assistant and IC operator to invoke an end to monitoring. This function is valid only on an SA/IC position that is monitoring an operator. If the quit monitoring function is invoked while a service assistant or IC operator is not monitoring, no action is taken.

Because of the interactions between menus and other position applications, the displayed functions menu is removed from the monitoring SA/IC position screen at call arrival and call end. Because the service assistant or IC operator has no control over call arrival and call end while monitoring, it is suggested that the quit monitoring function be datafilled as a functions menu hotkey for easy access to terminate the monitoring session. For more information on datafilling functions menu hotkeys, refer to *TOPS IWS Base Platform User's Guide*, 297-2251-010.

22.1.52 Stop Bell

Whenever the functions menu is available, this function is valid on the SA/IC position to stop the audible alerting tone.

22.1.53 Calling Party Name (GOS environment)

This function allows the operator to enter or clear the calling (A) party's name. Up to 32 characters can be entered in the second data entry field of the functions menu. Once the right margin of the second data entry field is reached during data entry, the next character entered causes the display in the second data entry field to scroll to the left by one character. Once 32 characters are entered, no more data can be entered into the second data entry field. After keying in the calling party name information, the operator must press the **Start** key to terminate the data and send it to the DMS switch.

When the calling party name is sent to the DMS switch and displayed in the call details window, the operator has several editing options. To edit the calling party name that is currently stored in the DMS switch and displayed in the call details window, the operator can select the "calling party name" functions menu item, and press the **Edit** key. This displays the current calling party name with the cursor located at the end of the text. From this point the **Destructive Backspace**, **Home**, **Delete**, and the **Right**, **Left**, **Up**, and **Down Arrow** keys can all be used to edit the calling party name. When editing is complete, the **Start** key must be pressed to send the edited calling party name to the DMS switch and update the call details window.

To clear the calling party name that is currently stored in the DMS switch and displayed in the call details window, the operator can select the "calling party name" functions menu item, and press the **Start** key without entering any data into the second data entry field of the functions menu. The calling party name is cleared in the DMS switch and cleared from the call details window. As an alternative, the operator can select the "calling party name" functions menu item, press the **Edit** key, and **Destructive Backspace** over the existing

information. The operator must then press the **Start** key to clear the calling party name in the DMS switch and from the call details window.

22.1.54 Called Party Name (GOS environment)

This function allows the operator to enter or clear the called (B) party's name. Up to 32 characters can be entered in the second data entry field of the functions menu. Once the right margin of the second data entry field is reached during data entry, the next character that is entered causes the display in the second data entry field to scroll to the left by one character. Once 32 characters are entered, no more data can be entered into the second data entry field. After keying the called party name information, the operator must press the **Start** key to terminate the data and send it to the DMS switch.

When the called party name is sent to the DMS switch and displayed in the call details window, the operator has several editing options. To edit the called party name that is currently stored in the DMS switch and displayed in the call details window, the operator can select the "called party name" functions menu item, and press the **Edit** key. This displays the current called party name with the cursor located at the end of the text. From this point the **Destructive Backspace**, **Home**, **Delete**, and the **Right**, **Left**, **Up**, and **Down Arrow** keys can all be used to edit the called party name. When editing is complete, the **Start** key must be pressed to send the edited called party name to the DMS switch and update the call details window.

To clear the called party name that is currently stored in the DMS switch and displayed in the call details window, the operator can select the "called party name" functions menu item, and press the **Start** key without entering any data into the second data entry field of the functions menu. The called party name is cleared in the DMS switch and from the call details window. As an alternative, the operator can select the "called party name" functions menu item, press the **Edit** key, and **Destructive Backspace** over the existing information. The operator must then press the **Start** key to clear the called party name in the DMS switch and from the call details window.

22.1.55 Generate Ticket Number (GOS environment)

This function causes the DMS to generate a ticket number to be associated with the current call.

22.1.56 Update Ticket Number (GOS environment)

This function allows the operator to enter or clear the ticket number currently associated with the call. Up to 11 characters can be entered in the second data entry field of the functions menu. Only the first three characters can be alphanumeric. The remaining eight characters must be digits. If the first key entered is not an alphabetic character, then only eight characters can be entered. If, the first character is numeric, however, then up to 11 characters can be entered. After the ticket number is entered, the operator must press the **Start** key to send the data to the DMS switch. Pressing the **Start** key with no data in the second data entry field sends a request to the DMS switch to clear the ticket number currently associated with the call.

22.1.57 Split/Join Operator (GOS environment)

This function acts as a toggle. If the operator has a one-way connection when this function is invoked, a message is sent to the DMS switch requesting that the operator port be joined, and a two-way connection established. If the operator has a two-way connection when this function is invoked, a message is sent to the DMS switch requesting that the operator port be "split," establishing a one-way connection.

22.1.58 Muted Notify (GOS environment)

This function asks the DMS switch to provide automatic notification after a given time interval. Upon arrival of a muted notify recall, the operator port is muted, allowing the operator to monitor a call without being heard. When invoked, the cursor is placed in the extra entry field of the functions menu, indicating that further input is required. The notify interval is limited to two numeric characters. The operator can enter values in the range of 0 to 59, or nothing at all. If nothing is entered in the extra entry field, the current muted notify is cancelled. If zero is entered, an invalid notify message is displayed in the call details window. Values in the range 1 to 59 ask the DMS switch to activate the notify function.

22.1.59 Alternate Route (GOS environment)

This function enables the operator the ability to find alternate routes for international calls when a connection cannot be made through a direct route. This situation can occur if no direct route exists or if the direct route is congested.

22.1.60 Start Calling TBI (GOS environment)

This function asks the DMS switch to allow a manual toll break-in on the calling party's line. This break-in enables the operator to speak to the calling party. This message is valid only if the calling party's line is currently busy, and the trunk type of the calling party is R2 type signalling.

22.1.61 Stop Calling TBI (GOS environment)

This function asks the DMS switch to separate the operator from the calling party. Then the calling party can go on hook so that they are free for the operator. This message is valid only if the calling party's line has previously received a Start CLG TBI.

22.1.62 Start Called TBI (GOS environment)

This function asks the DMS switch to allow a manual toll break-in on the called party's line. This break-in allows the operator to speak to the called party. This message is valid only if the called party's line is currently busy and the trunk type of the called party is R2 type signalling.

22.1.63 Stop Called TBI (GOS environment)

This function asks the DMS switch to separate the operator from the called party. Then the called party can go on hook and be free for the operator. This message is valid only if the called party's line has previously received a Start CLD TBI.

22.1.64 General Assistance

This function allows an operator to request assistance from any service assistant or IC manager who is available.

22.1.65 Dir. Asst. by Position

This function allows an operator to direct a request for assistance to a particular operator or SA/IC by specifying that operator's position number. When this function is invoked, the cursor is placed in the extra entry field of the functions menu, indicating that the position number is required. After the operator's position number is entered, the operator must press the **Start** key to send the data to the DMS switch. If the **Start** key is pressed with no number entered, a general assistance request is issued. If switch datafill does not allow the directed assistance request, an appropriate no action reason is displayed.

22.1.66 Paged Assistance

This function allows an operator who has been paged to request assistance directly from the general operator, service assistant, or IC operator who issued the page.

22.1.67 Release Operator

This function allows an operator who has requested assistance from another operator to cancel the assistance request while remaining on the call. If two operators are attached to the call, this function allows an operator to drop the other operator from the call. If the operator is datafilled for toll and assistance capability and is involved in an Operator Services Systems Advanced Intelligent Network (OSSAIN) simultaneous interaction, the service node is the active agent. The operator can release from the service node and take control of the call by invoking this function. The string "Rlsd SN" displays in the MSA to show that the operator has become the active (and only) agent. If the operator presses the **Pos Rls** key, the service node maintains control of the call, and the operator is free to handle another call.

22.1.68 Release Called

This function allows an operator to release the called party.

22.1.69 Page Operator

This function allows an operator to page another operator by specifying the operator's login ID. When this function is invoked, the cursor is placed in the extra entry field of the functions menu, indicating that the operator number is required. After the operator's number is entered, the operator must press the **Start** key to send the data to the DMS switch. If switch datafill does not allow the page, an appropriate no action reason is displayed.

22.1.70 Page Position

This function allows an operator to page another operator by specifying the operator's position number. When this function is invoked, the cursor is placed in the extra entry field of the functions menu, indicating that the position number is required. After the operator's position number is entered, the operator must press the **Start** key to send the data to the DMS switch. If switch datafill does not allow the page, an appropriate no action reason is displayed.

22.1.71 Monitor Operator

This function allows an operator to monitor another operator by specifying the operator's number. When this function is invoked, the cursor is placed in the extra entry field of the functions menu, indicating that the operator number is required. After the operator's number is entered, the operator must press the **Start** key to send the data to the DMS switch. If the requesting operator does not have the appropriate capabilities to invoke this function, an appropriate no action reason is displayed.

22.1.72 Monitor Position

This function allows one operator to monitor another by specifying the operator's position number. When this function is invoked, the cursor is placed in the extra entry field of the functions menu, indicating that the operator's position number is required. After the operator's position number is entered, the operator must press the **Start** key to send the data to the DMS switch. If the requesting operator does not have the appropriate capabilities to invoke this function, an appropriate no action reason is displayed.

22.1.73 Monitor Display Toggle

This function allows a monitoring QMSCASE operator to toggle the display of the monitor string that specifies the monitored operator's position and operator numbers. If the string is displayed, this function toggles the display off. Likewise, if the monitor string is not currently displayed, this function toggles the display on. If the operator is not currently monitoring, this function does nothing.

22.1.74 Dir. Asst. by Operator

This function allows an operator to direct a request for assistance to a particular operator, service assistant, or IC operator by specifying that operator's login ID number. When this function is invoked, the cursor is placed in the extra entry field of the functions menu, indicating that the operator's number is required. After the operator number is entered, the operator must press the **Start** key to send the data to the DMS switch. If the **Start** key is pressed with no number entered, a general assistance request is issued. If switch datafill does not allow the directed assistance, an appropriate no action reason is displayed.

22.1.75 LNP Info Calling

This function requests the portability status of the calling directory number (DN). It can be activated only on a formatted Calling DN. Local number portability (LNP) changes the way the operator uses the operator reference database (ORDB). To use ORDB properly, the operator must invoke the "LNP info calling" function. The resulting portability status display helps the operator make the proper ORDB queries. Displays related to this function are described in the *IWS Billing Application User Guide*, 297-2251-016. Information indicating success or failure of the function is displayed in the call details window.

22.1.76 LNP Info Called

This function requests the portability status of a called directory number (DN). It can be activated only on a formatted called DN. Local number portability (LNP) changes the way the operator uses the busy verify function. To handle a busy line verification (BLV) request from a subscriber properly, the operator must invoke the "LNP info called" function. Then, based on the resulting portability status display, the operator can determine how to handle the BLV attempt properly. Displays related to this function are described in the *IWS Billing Application User Guide*, 297-2251-016. Information indicating success or failure of the function is displayed in the call details window.

22.1.77 LNP Info Special

This function allows the operator to process portability verification for special numbers. When the operator activates this function, IWS requests the portability status of a credit card number or directory number for third-party billing. Only North American NPAs and credit card numbers based on a fourteen-digit line base are accepted for this function. The following types of numbers are unacceptable for verification:

- fourteen-digit Credit Issuer Identifiers (CIIDs) that contain revenue accounting office (RAO)
- credit card numbers of the International Telegraph and Telephone Consultative Committee (CCITT)
- ten-digit special number containing RAO

Displays related to this function are described in the *IWS Billing Application User Guide*, 297-2251-016. Information indicating success or failure of the function is displayed in the call details window.

22.1.78 Calculate Est Chg

The operator enters or modifies call data needed to calculate an estimate of charges for a call and invokes this function to provide the estimate of charges. The estimate of call charges feature is described in *IWS Billing Application User Guide*, 297-2251-016.

22.1.79 Allow Automation

This function allows the operator to override the no automation specification from the DMS switch for the current call. This action also removes the no automation icon from the IWS display.

22.1.80 Clear Trigger Profile

The DMS switch has the ability to allow a call to return to an operator, to an automated system, or to a service node. This capability makes possible features such as sequence calling. Switch software monitors for predefined events called *triggers* (such as, for example, use of the star (*) or pound (#) key on the telephone keypad) and takes the action indicated by the trigger's description, or *profile*.

The clear trigger profile function allows the operator to manually disable the triggers for a particular call to prevent that call from returning to the operator, to the automated system, or to the service node.

For a complete explanation of triggers, refer to *TOPS OSSAIN User's Guide*, 297-8403-901.

22.1.81 No Release Line Trunking (GOS environment)

This functions allows an operator to turn off Release Line Trunking

23.0 CT4Q menu window

The CT4Q menu window is used to enter the call types for queueing (CT4Q) that allow calls to be transferred to designated queues. This menu displays available CT4Qs for the operator. The numbering of the menu items and the text describing them are determined from table XCT4QMNU in IWS base software. For details on table and XCT4QMNU, and on how it works with IWS table XCT4Q, refer to *TOPS IWS Base Platform User's Guide*, 297-2251-010.

The order in which the CT4Qs are displayed in the CT4Q menu depends on the order in which file XCT4QMNU.TBL is datafilled for the position. The order can be changed to move frequently used CT4Qs to the first page, or to remove CT4Qs from the menu if they are not being used. *TOPS IWS RAMP and Provisioning User's Guide*, 297-2251-015, explains how to datafill the CT4Q menu.

Figure 75 shows the location of the CT4Q menu window in the operator information window.

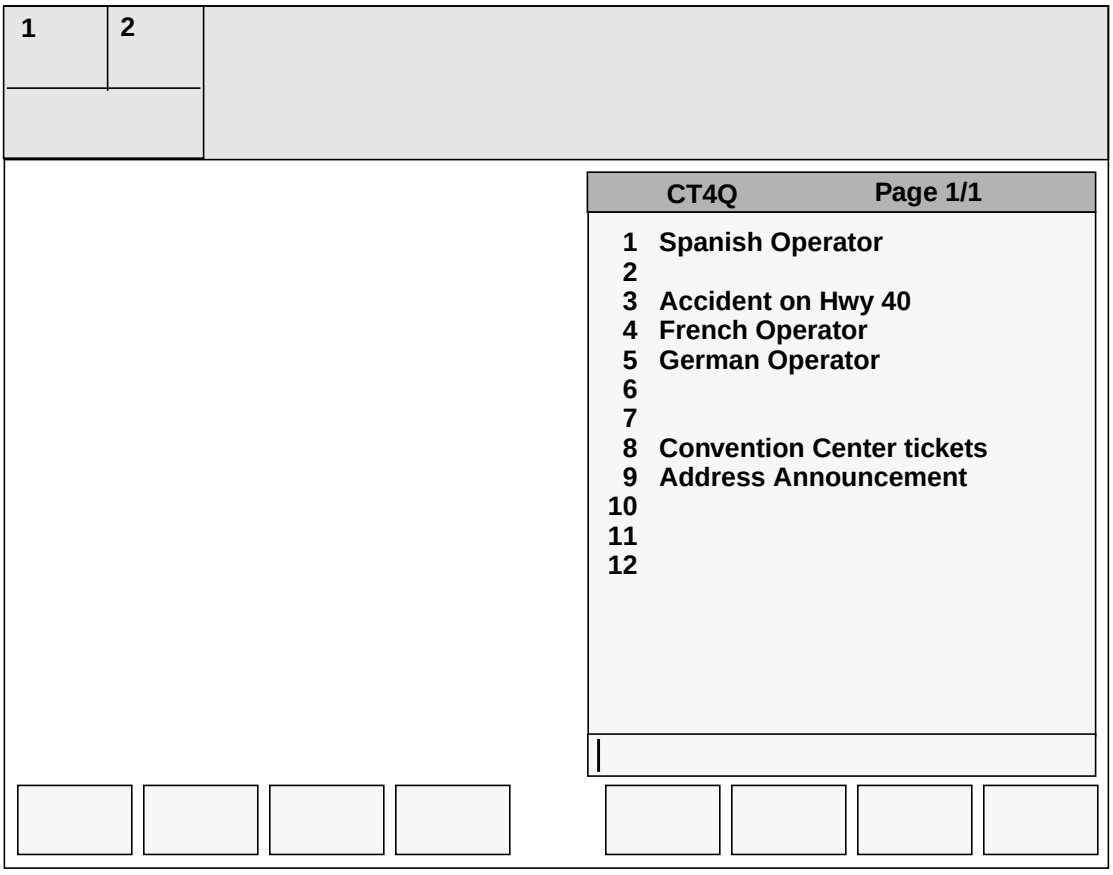

FIGURE 75. Sample CT4Q menu window in the operator information window

23.1 Using the CT4Q menu

This section explains how to use the CT4Q menu.

23.1.1 Displaying the CT4Q menu

To display the CT4Q menu window, press the **CT4Q** key on the IWS keyboard twice. The CT4Q menu window displays with the cursor placed in the entry field.

Note: Before the **CT4Q** key can be used, it must be bound to a hard key on the IWS keyboard. For information on how to bind keys, refer to *TOPS IWS RAMP and Provisioning Guide*, 297-2251-015. A keycap label is provided for the **CT4Q** key.

23.1.2 Moving through pages of the CT4Q menu

Up to 2046 different call types for queueing can be listed in the CT4Q menu window. In addition, the CT4Q menu can list the same items more than once. Two advantages of this arrangement are described in the following paragraphs.

The CT4Q menu differs from any other IWS menu in allowing blank entries, as the example in Figure 76 shows. You can remove invalid entries without causing all the subsequent numbers to be renumbered automatically. Operators who have become familiar with the location of various CT4Q menu items need not relearn those locations every time the menu changes. These blanks can exist because the CT4Q menu table, XCT4QMNU.TBL, allows duplicate numbers to be entered. For a full explanation, refer to the section on XCT4QMNU.TBL in *TOPS IWS Base Platform User's Guide*, 297-2251-010.

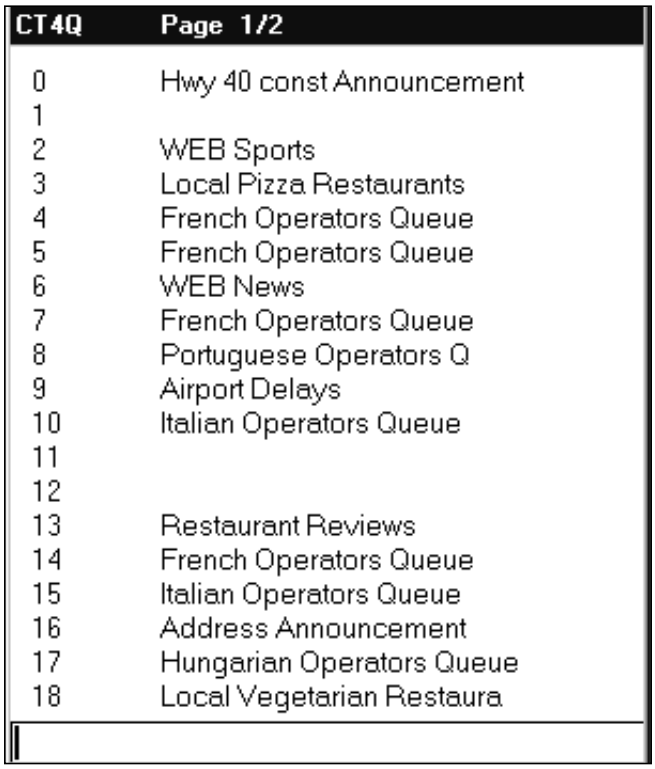

FIGURE 76. Blank entries in a sample CT4Q menu

The second advantage of duplicate entries is that operators may benefit from having a heavily used menu item appear on multiple pages of the menu. For example, note that "French operator" appears in the first page listing shown in Figure 76 and again in the second page listing shown in Figure 77.

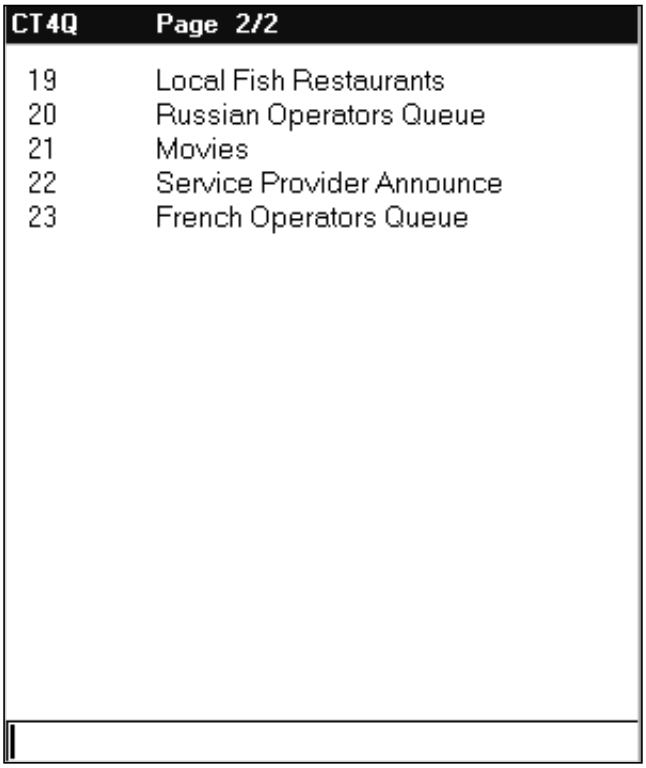

FIGURE 77. Second page of a sample CT4Q menu

By default, the initial display of the CT4Q menu shows the first page of available CT4Qs. With further keypresses you can cycle through the available pages of CT4Qs. If the last page of the CT4Q menu window is displayed, then pressing the **CT4Q** key causes the first page to be displayed.

You can also use the page forward and page backward keys to cycle forward and backward through the pages. Unlike the **CT4Q** key, however, the page forward and page backward keys do not cause the display to cycle from last page to first.

23.1.3 Invoking a CT4Q from the menu

Once the CT4Q menu is brought up by pressing the **CT4Q** key twice, a CT4Q can be invoked by entering its associated menu entry number in the entry field and pressing the **Start** key. The **Start** key invokes the CT4Q and removes the CT4Q menu window from the screen.

23.1.4 Invoking a CT4Q without using the menu

The CT4Q menu window does not have to be displayed in order to invoke one of the CT4Qs. An operator who becomes familiar with the integer values can activate a CT4Q simply by typing:

CT4Q, XX, **Start**

where XX is the value that represents the CT4Q menu item number.

Another way to invoke a CT4Q quickly is to create a hot key for it. Information about hot keys is provided in the KeyBind section of *TOPS IWS RAMP and Provisioning Guide*, 297-2251-015.

23.1.5 Invalid key actions

The CT4Q menu disappears from the screen if you press

- the **Start** key when there is no menu entry number in the entry field
- one of the call processing keys while the menu is displayed
- a menu control key other than **CT4Q**

If you key in an invalid CT4Q number, the display turns red, and the cursor returns to the beginning of the field.

While the CT4Q menu is displayed, IWS responds to all keystrokes according to the key datafill for the application that had focus when the menu was activated. Softkey and context change key functionality, as well as **{Volume Up}** and **{Volume Down}** are ignored while the CT4Q menu window is active.

23.1.6 Invalid menu entries

Any number on the menu that does not have text beside it is an invalid CT4Q number. (For an explanation of blank menu items, see Section 23.1.2 on page 154.)

The integer value entered to select a menu item may be up to four digits long. The CT4Q menu window is displayed with the entry field empty

- if more than four or less than one digit is entered
- if the **CT4Q** key is pressed again after the digits are entered but before the **Start** key is pressed

If a menu key other than **CT4Q** is pressed before the **Start** key is pressed, the CT4Q menu window is removed from display, and the new menu becomes active.

If an invalid menu item is entered, the CT4Q menu window displays if it is not already displayed, and the invalid data is displayed in red in the entry field of the menu. The next numeric key pressed clears the invalid data and displays the new menu entry in normal text color.

If one of the call processing keys is pressed while the CT4Q menu window is displayed with an invalid menu entry, the invalid entry is cleared, and the CT4Q menu window is removed from the screen.

If another menu control key is pressed while the CT4Q menu window is displayed with an invalid menu entry, the invalid entry is cleared, and the CT4Q menu window is removed.

23.1.7 Canceling a CT4Q transfer

The key sequence used to transfer a call through a CT4Q is **CT4Q** + xx + **Start**. The transfer does not take place until the **PosRls** key is pressed. Until then, the operator can still cancel the transfer by repeating the same key sequence: **CT4Q** + xx + **Start**. The

message `XFR cleared` appears in the transient field of the MSA to confirm that the transfer has been canceled.

Note: In the key sequence **CT4Q** + xx + **Start**, xx represents the menu item number. To cancel the transfer, the repeated key sequence must contain the *same* menu item number. If a different menu item number is entered, the previous CT4Q transfer request is replaced with the newly entered CT4Q request.

If the CT4Q transfer has been invoked through a hot key, then pressing the hot key again cancels the transfer.

23.2 CT4Q menu window fields

This section discusses each field in the CT4Q menu window. Unless otherwise noted, text in the CT4Q menu window is displayed in the Microsoft san serif 10 point normal variable pitched font. Strings in the title fields are datafilled in CT4QMENU.LNG.

23.2.1 CT4Q menu window title field

The text displayed in this field identifies the window title and the appropriate page information. Text in the title bar is centered and is displayed in the Microsoft Windows system font.

The title area of the CT4Q menu window can contain up to 13 characters, as described below:

CT4Q **string ID 0000**

The page label of the CT4Q menu window can contain up to 6 characters, as described below:

Page **string ID 0001**

In addition to the page label, the display includes xx/yy, where xx indicates the current page number and yy indicates the total number of pages.

23.2.2 CT4Q menu listing

This field contains a list of all CT4Qs datafilled in the XCT4QMNU.TBL file. Each CT4Q listed has an associated integer value that can be entered into the data entry field to invoke the CT4Q. The numbers displayed in this list can range from 0 through 2046.

24.0 Scripting window

The IWS scripting window has a variety of different uses. Most often IWS scripting is used to give the operator extra information on how to process the current call. An event such as certain call arrival information received from the DMS switch can cause the scripting window to automatically display information or instructions on how to handle the current call.

An application can display the scripting window in different sizes and positions on the IWS screen. The scripting window can overlay other application windows. Per operator keying, the scripting window can also be displayed when there is no call at the position.

Dynamic Script Selection was implemented in the IWS 17.1 release. This created a new mode of scripting called enhanced scripting. As of that release, two types of IWS scripting exist: Standard scripting and Enhanced scripting. Some applications may only support standard scripting. Nortel Networks' billing application, NTOA, and the Directory Assistance application, NTDA support enhanced scripting. Enhanced scripting, with its Dynamic Script Selection, can be made available for other applications including non-Nortel Networks applications. Third party developers should contact the Nortel Networks IWS Development group for details on providing an interface.

The scripting window itself looks the same for both standard scripting and enhanced scripting, but enhanced scripting provides much more capability for determining the contents of the scripting window. Enhanced scripting provides the following;

- More call arrival parameters
- Wildcard call arrival parameters
- NULL call arrival parameters
- A simpler algorithm to determine which script message to display
- Scripting datafill debugging features
- An alternate method for doing scripting datafill that makes use of the Microsoft Excel program

Enhanced scripting is explained in detail later in this chapter. Please refer to Section 24.4 on page 175.

Since not all applications support enhanced scripting, see the appropriate application documentation to see if that application supports enhanced scripting. The IWS base software supports standard scripting to provide backwards compatibility with applications that do not support enhanced scripting.

24.1 Scripting overview

All the information provided in this section applies to both standard and enhanced scripting. Subsequent sections provide more detailed information on the two types of scripting.

This section provides a general description of the scripting window and its functionalities. Refer to specific IWS application documentation to determine if the application displays

the scripting window, the type of events that trigger scripting window display, and the directions for using the scripting window while in that application.

The scripting window consists of the following fields (see Figure 78):

- script window title
- script message title
- script message

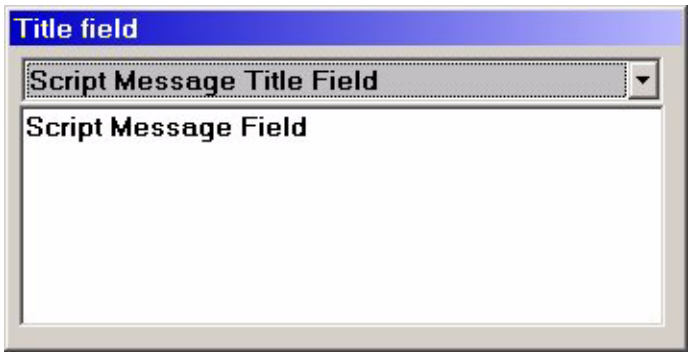

FIGURE 78. Example scripting window with labeled fields

The text in the scripting window fields, and the scripting window size and location, are configured in IWS datafill files discussed in this chapter. Figure 79 shows the scripting window with a sample script title and script message.

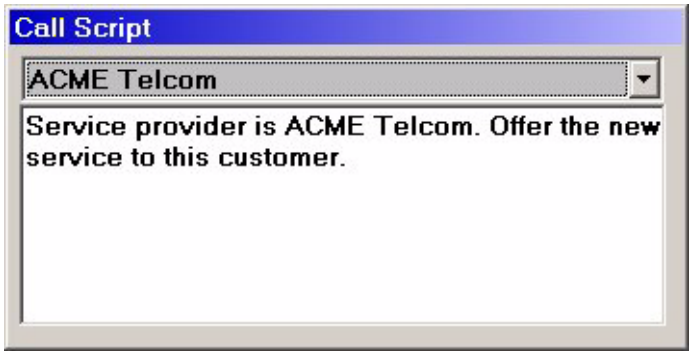

FIGURE 79. Example of scripting window display

24.1.1 Scripting window keys

For using the IWS scripting window, Nortel Networks recommends that key actions Start**,** up arrow, down arrow, right arrow, left arrow, page up, page down, home, and Script Window Display be datafilled in IWS keyboard datafill file, XKBOARD.TBL. This keyboard file is described in the *TOPS IWS Base Platform User's Guide*, 297-2251-010. The section "KeyBind Utility" in the *TOPS IWS RAMP and Provisioning User's Guide*, 297-2251-015, provides step-by-step instructions on the assignment and validation of keyboard datafill.

24.1.2 Scripting window fields

Each field in the scripting window is discussed in detail in the following sections.

24.1.2.1 Scripting window title field

The string displayed in the scripting window title field is datafilled in the IWS file SCRPTLNG.LNG. The text displayed in this field is the scripting window title. Text in the title field is automatically centered. As with other IWS text strings, this text need not be in English. This field can contain up to 12 characters. The following is the default datafill for the title field text string:

Call Script **string ID 0000**

As with all windows on the IWS, the color of the title field's background indicates when the scripting window has focus. If the scripting window has focus, then the background will be displayed in a certain color, normally navy blue. If the scripting window does not have focus, then the title background will be displayed in another color, normally gray. These colors are determined by the current IWS color set.

24.1.2.2 Script title field

When the scripting window gets focus, focus is set to the script message title field by default. This is indicated by highlighting of this field. This field displays a title for the associated script message displayed in the script message field. The script title field can be used by the operator to locate and select other script messages for display in the script message field. Text in the script title field and the script message field is taken directly from the SCRPTSCR.SCR datafill file described later in this chapter. As with other IWS text strings, this text need not be in English.

Depending on the usage of the IWS scripting window, the operator may never need to manually change the script title and corresponding script message. There are two methods for the operator to change the script window display to another script message. First, pressing the down arrow or right arrow key in the script title field causes the display of a drop-down list of script message titles (see Figure 80).

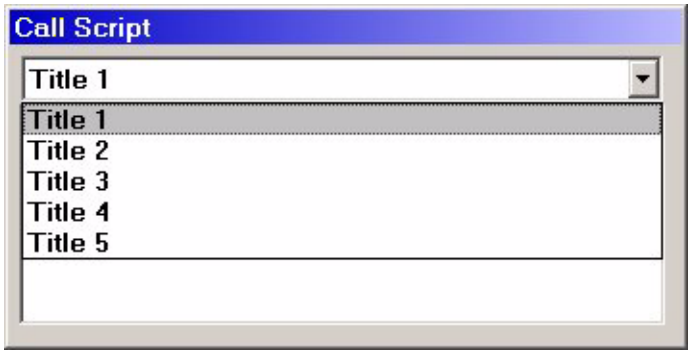

FIGURE 80. Script message title list

The script title drop-down list contains titles that identify each script message that can be displayed in the script message field. The drop-down list is shown in alphanumeric order. When there are more script message titles than can displayed in this list window, the list automatically displays a vertical scroll bar (see Figure 81). The operator can traverse the list of titles by pressing the up arrow, down arrow, right arrow, left arrow, page up, page down, or home key. When the desired script message title is highlighted, pressing the IWS start key action once or the Windows' return key once selects the script title, displays the associated message in the script message field, and removes the drop-down list of script titles.

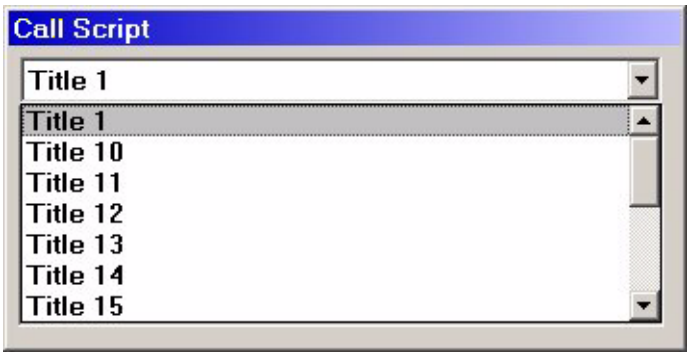

FIGURE 81. Script message title list with scroll bar

The second method for selecting another script message for display is typing the first letter of a script message title. This keying causes the first title that begins with this letter to be displayed in the script message title field and its associated script message to be displayed in the script message field. If more than one script message title begins with the same letter, subsequent keying of that letter causes display of the next matching script message title and its associated script message.

After selecting a different script message by either of these methods, pressing the Script Window Display key automatically resets the window to the script title and message that were automatically displayed when the scripting window was first displayed.

24.1.2.3 Script message field

Pressing the Windows' tab key while in the script title field moves focus to the script message field, as indicated by the display of the cursor in the script message field and the removal of the highlighting from the script title field. Pressing tab again returns focus to the script title field. The script message field displays the text of the script message associated with the current script title. If the number of lines of text in the script message exceeds the number of lines that can be displayed in the message field, a vertical scroll bar is automatically displayed to indicate that more script text is available for viewing (see Figure 82). As in the script message title field, the up arrow, down arrow, right arrow, left arrow, page up, page down, and home keys can be used to navigate through the script message text, and the Script Window Display key action can be used to return the display to the original script title and script message. Text in this message field is taken from the datafill file, SCRPTSCR.SCR, which is described later in this chapter.

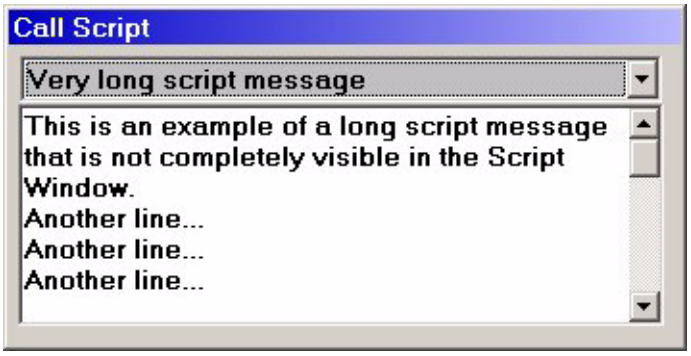

FIGURE 82. Script message field with scroll bar

24.1.3 Scripting window display

The following functionality applies for both standard and enhanced scripting.

The current active application controls the display of the scripting window, not the IWS base software.

The IWS Billing application (NTOA) supports scripting. The scripting window can be displayed during call processing. Per scripting datafill, the scripting window can automatically be displayed at call arrival. Per datafill in base file SCRIPTINI.INI, the scripting window can automatically take focus at call arrival or the normal NTOA field can take focus. In the latter case, the cursor appears in the appropriate IWS Billing application data entry field, just as it would if the scripting window had not been automatically displayed. Thus at call arrival, the operator can quickly check the contents of the script window and then proceed without delay with the appropriate call handling

keystrokes. If desired though the operator can switch focus to the scripting window by pressing the **Script Window Display** key action. When the scripting window has focus, the operator can press the **Start** key action to remove the scripting window.

The IWS Directory Assistance application (NTDA) supports scripting. The scripting window can be displayed during call processing. Per scripting datafill, the scripting window can automatically be displayed at call arrival, but the scripting window will not automatically take focus. As normal, the cursor appears in an NTDA top line field, e.g. the name1 field, ready for the operator's data entry. As soon as the operator presses a search key, e.g. residential search, the scripting window disappears, so as not to obscure any DA listings. The operator can redisplay the script while a call is at the position by using the **Script Window Display** key action. When the scripting window has focus, the operator can press the **Start** key action to remove the scripting window.

24.2 Scripting-related datafill

Scripting requires datafill files that are loaded during installation into the C:\MPXBASE\DATAFILL directory and the C:\WINDOWS\directory. For a general discussion of datafill files, refer to *TOPS IWS Base Platform User's Guide*, 297-2251-010. Datafill required by scripting includes the language file SCRPTLNG.LNG. This file contains string datafill for the scripting window title field. Other IWS datafill required by scripting includes files SCRPTINI.INI and SCRPTSCR.SCR. Yet other datafill files are specific to standard or enhanced scripting.

24.2.1 SCRPTINI.INI file

The initialization file, SCRPTINI.INI, contains information about the scripting window for each application that displays the scripting window. This file resides in the Windows directory C:\WINDOWS. The IWS provisioning tool can be used to alter and view this file. For more information about the IWS provisioning tool and using it to configure the SCRPTINI.INI file, refer to the *TOPS IWS RAMP and Provisioning User's Guide*, 297-2251-015.

24.2.1.1 SCRPTINI.INI format

A section must exist in the SCRPTINI.INI file for each application that uses scripting. The entries in this application section specifies whether automatic display of the scripting window is enabled or disabled for that application, indicates the size and location of the scripting window when displayed by the application, and contains any other application specific scripting parameters. The scripting window should be sized and placed relative to other windows or information displayed by the application. Because the scripting window can overlay other application displays, it is recommended that a window size and location be used that does not interfere with important information displayed by the application. Note that the y-coordinate of the scripting window position is relative to the lower boundary of the IWS message/status area such that the scripting window and the message/status area window will not overlay each other. For example, specifying a y-coordinate of 0 causes the top of the scripting window to appear next to the bottom of the message/status area window. Each application section in the SCRPTINI.INI file has the following format:

[<*application tag*>] - The text for the section name is the tag for the application that is to display the scripting window. Refer to the application documentation for the exact application tag string. The length of the application tag string must not exceed eight characters. **Note:** As of IWS release 13.0, the NTOA/NTOA Plus application was officially renamed the IWS Billing application, but continue to use the designation “NTOA” when datafilling the application tag in the SCRPTINI.INI file. Use “NTDA” for the Nortel Networks Directory Assistance application.

Enable=<x> The Enable entry specifies whether or not the scripting window is displayed automatically by the application. It is an integer value. The range for this parameter is 0 to 1. If 0, the scripting window is disabled and is not displayed automatically by the application. If 1, the scripting window is enabled and can be displayed automatically by the application. The default value is 0.

XPos=<x> The XPos entry specifies the x-coordinate of the upper left corner of the scripting window. It is an integer value.

YPos=<x> The YPos entry specifies the y-coordinate of the upper left corner of the scripting window relative to the lower boundary of the IWS Message/Status Area. It is an integer value.

Width=<x> The Width entry specifies the size of the scripting window along the x-axis. It is an integer value.

Height=<x> The Height entry specifies the size of the scripting window along the y-axis. It is an integer value.

GiveScrptFocusOnArrival=<x> The GiveScrptFocusOnArrival entry controls whether the script window automatically gets focus at call arrival, or whether the appropriate Billing Application field gets focus. (For example, on a 0- call, the CLD field normally gets focus, and on a 0+ call, the SPL field normally gets focus.) The range of values is 0 to 1. A value of 0 causes the NTOA field to get focus. A value of 1 causes the scripting window to get focus. The default value is 0. This parameter only applies to the NTOA application. With the NTDA application, the scripting does not automatically get focus.

Each application section in the SCRPTINI.INI file has more parameters, but these parameters are specific to “standard” scripting, and as such are discussed in a later section (see Section 24.3.1 on page 173). Also, the SCRPTINI.INI file contains a section dedicated to enhanced scripting (see Section 24.4.4.1 on page 181).

24.2.1.2 SCRPTINI.INI sample datafill

```
;SCRPTINI
;The preceding line is used by ProvTool, DO NOT REMOVE!
;+
;  ------------------------------------------------------
; : SCRPTINI.INI
;  ------------------------------------------------------
;
;  Description:
;  -------------
;     Scripting Initialization File
;
;     This .ini file is used for Scripting setup.
;
;
; Enhanced scripting provides more flexibility in determining which
; script gets displayed. Not all applications may support enhanced
; scripting. See appropriate application documentation to see if an
; application supports enhanced scripting. Both Nortel Networks
; NTOA and NTDA applications support enhanced scripting. Enhanced
; scripting is configured by the following datafill:
;
; [EnhancedScripting]
; EnhScrEnable=e
; NoMatchLogs=n
; DebugDatafill=d
; DisplayUndefinedScript=d
; RulesFile=r
; ScriptsFile=s
;
; An explanation of the entries is as follows;
;
; EnhScrEnable: Set to 1 to enable enhanced scripting, 0 to disable
;    enhanced scripting. The default value is 0.
; NoMatchLogs: Set to 1 to enable an IWS log that will be generated
;    when a matching script can not be found for a call. Set to 0 to
;    disable this log. The default value is 0.
; DebugDatafill: Only set this parameter to 1 when debugging
;    scripting datafill. Set to 0 for normal call handling. This
;    parameter is very useful when trying to understand why some
;    calls are not producing the desired script. When enabled,
;    all pertinent call parameters are prepended to the script
;    message giving the technician very useful debug information.
;    The default value is 0.
; DisplayUndefinedScript: Set to 1 to display the scripting window
;    when the script is undefined. Set to 0 to not display the
;    scripting window when the script is undefined.
;    The default value is 0.
; RulesFile: Quoted name of the enhanced scripting rules file.
;    This file can take two forms. The file can be in the form of
;    a standard IWS table file. IWS installation provides an example
;    rules file, "xscrules.tbl". The file can also be in the form of
;    a MicroSoft Excel tab delimited text file. For instructions on
;    how to produce this Excel file, see IWS Enhanced Scripting
;    documentation.
; ScriptsFile: Quoted name of the enhanced scripting scripts file.
;    This file can take two forms. The file can be in the form of
;    a standard IWS '.scr' file. IWS installation provides an example
;    scripts file, "scrptscr.scr". The file can also be in the form
;    of a MicroSoft Excel tab delimited text file. For instructions
;    on how to produce this Excel file, see IWS Enhanced Scripting
;    documentation.
;
;
;
; For each App using Scripting, a section must exist. The section
; and its entries should be in the following form;
;
; [AppName]
; Enable=e
; XPos=x
; YPos=y
; Width=w
; Height=h
; RCPriority=n              (applicable only to NTOA)
; SPIDPriority=n            (applicable to NTOA/NTDA)
; CT4QPriority=n            (applicable to NTOA/NTDA)
; COPriority=n              (applicable to NTOA/NTDA)
; GiveScrptFocusOnArrival=e  (applicable only to NTOA)
```

```
;
; The maximum AppName length is eight characters. To determine the
; AppName, see the application's documentation.
;
; An explanation of the entries is as follows;
;
; Enable: 0 to disable Scripting; 1 to enable Scripting
; XPos: x coordinate of upper left corner of Scripting window
;    relative to lower left corner of Message/Status Area.
;    min = 0 ; default = 5
; YPos: y coordinate of upper left corner of Scripting window
;    relative to lower left corner of Message/Status Area.
;    min = 0 ; default = 299
; Width: window size along the x-axis.
;    min = 100 ; default = 356
; Height: window size along the y-axis.
;    min = 100 ; default = 180
;
; Recommended values for XPos, YPos, Width, and Height are as
; follows;
;
; Application   Screen Resolution    Entry    Recommended Value
;-------------------------------------------------------------------
; NTOA          640x480              XPos     13
; NTOA          640x480              YPos     223
; NTOA          640x480              Width    274
; NTOA          640x480              Height   150
; NTOA          800x600              XPos     5
; NTOA          800x600              YPos     299
; NTOA          800x600              Width    356
; NTOA          800x600              Height   180
;
; NTDA          640x480              XPos     13
; NTDA          640x480              YPos     213
; NTDA          640x480              Width    274
; NTDA          640x480              Height   150
; NTDA          800x600              XPos     5
; NTDA          800x600              YPos     299
; NTDA          800x600              Width    356
; NTDA          800x600              Height   180
; NTDA          1024x768             XPos     207
; NTDA          1024x768             YPos     450
; NTDA          1024x768             Width    274
; NTDA          1024x768             Height   150
;
;
; Illustration of window size and position parameters
;
;   Top left corner of IWS's screen
;
;      |--------------------------------------------
;      |
;      |
;      |           Message/Status Area
;      |
;      |
;  (0,0)+--------------------------------------------- -> +X
;      |
;      |
;      |                  -------------  ^
;      |                  | Scripting | Height
;      |                  | Window    | |
;      |                  -------------  v
;                         <---Width--->
;      |
;      v +Y
;
; - The x coordinates start with 0 at the bottom left corner of
;   the screen's Message/Status Area and proceed positively in
;   the rightward horizontal direction.
; - The y coordinates start with 0 at the bottom left corner of
;   the screen's Message/Status Area and proceed positively in
;   the downward vertical direction.
;
;
; GiveScrptFocusOnArrival:  0 to give focus to the appropriate application
;    field when the script window is displayed at the beginning of a call;
;    1 to give focus to the script window when the script window is displayed
;    at the beginning of a call; default = 0
;
;
```

```
; The priority parameters listed below are ignored when enhanced scripting is
; enabled.
;
; RCPriority: priority level in the Scripting Hierarchies for
;    Reason Code
;    lowest  = 4 (NTOA only)
;    highest = 1 (NTOA only)
;    default = 1 (NTOA only)
; SPIDPriority: priority level in the Scripting Hierarchies for
;    SPID
;    lowest  = 4/3 (NTOA/NTDA)
;    highest = 1
;    default = 2/1 (NTOA/NTDA)
; CT4QPriority: priority level in the Scripting Hierarchies for
;    CT4Q
;    lowest  = 4/3 (NTOA/NTDA)
;    highest = 1
;    default = 3/2 (NTOA/NTDA)
; COPriority: priority level in the Scripting Hierarchies for
;    Call Origination
;    lowest  = 4/3 (NTOA/NTDA)
;    highest = 1;
;    default = 4/3 (NTOA/NTDA)
;
;
;
;-
;
[EnhancedScripting]
EnhScrEnable=0
NoMatchLogs=0
DebugDatafill=0
DisplayUndefinedScript=0
RulesFile=xscrules.tbl
ScriptsFile=scrptscr.scr
;
;
[NTOA]
Enable=0
XPos=5
YPos=299
Width=356
Height=180
RCPriority=1
SPIDPriority=2
CT4QPriority=3
COPriority=4
GiveScrptFocusOnArrival=0
;
;
[NTDA]
Enable=0
XPos=5
YPos=299
Width=356
Height=180
SPIDPriority=1
CT4QPriority=2
COPriority=3
;
;
```

24.2.2 SCRPTSCR.SCR file

The datafill file SCRPTSCR.SCR contains text for all the script titles and messages displayed in the scripting window. This datafill file is used for both standard and enhanced scripting. SCRPTSCR.SCR is installed in the default datafill directory C:\MPXBASE\DATAFILL and must reside in the directory pointed to by the Datapath entry in the MPXINI.INI initialization file. The SCRPTSCR.SCR file can be altered and viewed by a text editor, or altered and viewed by Microsoft's Excel program. Note that the Excel program is not supplied as part of the IWS position or IWS software. Microsoft

Excel or Microsoft Office can be purchase from a local software vendor or via the Internet. The user can installed Excel on an IWS position or the user can configure the SCRPTSCR.SCR file on another PC, and then copy the resulting file to an IWS position for testing. See section 24.4.5.6 for more details on modifying scripting datafill with the Microsoft Excel program.

24.2.2.1 SCRPTSCR.SCR field descriptions

Table 1 shows the range of values for the fields in the SCRPTSCR.SCR file. The table is followed by a description of each field.

TABLE 1. SCRPTSCR.SCR fields

Field name	Range of values
Script ID	0 - 300
Script title	Up to 40 ASCII characters
Script message text	Up to 500 ASCII characters

Script ID: This field specifies the script message identifier. Script ID 0 is strictly reserved for an undefined message. Script ID 0 must always be datafilled. Use text as appropriate to indicate an undefined script. This script is displayed when an application requests to display a script message that is not datafilled. Scripts 1 through 300 are for the user.

Script title: This field is a text string for display in the scripting window's message title field. The title should be indicative of the associated script message. The title text must be enclosed in double quotes. Title strings that are too long are automatically truncated by IWS scripting. Titles are displayed in alphanumeric order in the scripting window's drop down title list. To have scripts listed in a user-defined order, prepend a unique three digit index at the beginning of each script title. For example, three script titles could be datafilled as follows;

"003 - 411 call info",

"010 - 555 call info"

"001 - 3rd party billing info".

These three script titles would appear in the following order in the scripting window's drop-down list:

"001 - 3rd party billing info"

"003 - 411 call info"

"010 - 555 call info"

Prepending indexes also enables scripts to be grouped. For example, indexes 100 through 299 could be reserved for toll call scripts, indexes 300 through 499 could be reserved for DA call scripts, and so on.

"100 - 0- toll call"

"101 - 0+ toll call"

.

.

"300 - 411 call"

"301 - 555 call"

.

.

These indexes that are embedded in the script titles have no relationship to the script ID. If desired though, these indexes can be the same value as the associated script ID.

Script message text: The script message text is the message associated with the preceding script ID and script title. To have a blank line in the message when it is displayed in the script window, enter two blank lines in the script message text in this datafill file. For two blank lines in the script message, enter three blank lines in this datafill file, and so on. The message size limit is 500 characters, including blanks and punctuation.

24.2.2.2 SCRPTSCR.SCR sample datafill

```
;SCRPTSCR
;The preceding line is used by ProvTool and IWS Base, DO NOT REMOVE!
;+
;  ------------------------------------------------------
; Script: SCRPTSCR.SCR
;  ------------------------------------------------------
;
;  Description:
;  --------------
;     Script Message File
;
;     This file maps script titles and script messages with Script ID's
;     found in IWS Script mapping table files (i.e. X___XSC.TBL files)
;     or in the enhanced scripting rules file.
;
;  Display:
;  ---------
;     Applications may display the Script message text to provide some
;     on-line help for the attendant.
;
;  Fields:
;  -------
;
;  Script ID
;                 The Script ID is the Script message identifier. This ID
;                 must be in the range 0-300. IDs outside this range and
;                 their corresponding script titles and script messages will
;                 be ignored. Script ID 0 is strictly reserved for an
;                 undefined Script message. Script ID 0 must always be
;                 datafilled. The datafill for Script ID 0 should be text
;                 appropriate for the unconfigured script.
;
;  Script Title
;                 The Script Title is a short title of the Script message.
;                 This title must be from 0 to 40 characters in length.
;                 Longer titles will be truncated.
;
;  Script Message Text
;                 The Script Message Text is the script message associated
;                 with the preceding Script ID. To have a blank line in the
;                 Script message when it is displayed in the Script window,
;                 enter two blank lines in the Script message text in this
;                 datafill file. For two blank lines in the Script message,
;                 enter three blank lines in this datafill file, and so on.
;                 Script message length cannot exceed 500 characters. This
;                 size limit is the maximum number of characters including
;                 blanks and punctuation.
;
;  Notes:
;  ------
;
;  1) String lengths of datafill lines should not exceed 80 characters.
```

```
;
;  2) Script IDs need not be in order or sequential.
;
;  3) Scripts will appear in alphanumeric order in the scripting window's
;     title drop down list. To have scripts listed in a certain order,
;     prepend a unique three digit index at the beginning of each script
;     title. For example, three script titles could be as follows;
;     "003 - 411 call info", "010 - 555 call info", and "001 - 3rd party
;     billing info". These three script titles would appear in the
;     following order in the scripting window's drop down list:
;
;     "001 - 3rd party billing info"
;     "003 - 411 call info"
;     "010 - 555 call info"
;
;     Prepending indexes also enables scripts to be grouped. For example,
;     indexes 100 through 299 could be reserved for toll call scripts,
;     indexes 300 through 499 could be reserved for DA call scripts, and
;     so on.
;
;     "100 - 0- toll call"
;     "101 - 0+ toll call"
;     .
;     .
;     "300 - 411 call"
;     "301 - 555 call"
;     .
;     .
;
;     These indexes that are embedded in the script titles have no
;     relationship to the script ID. If desired though, these indexes
;     can be the same value as the associated script ID.
;
;-
;
;  Below are the Script IDs and associated Script titles and Script
;     messages.
;
;
;  Script ID     Script Title
;  Script Message
;  ----------------------------
0 "000 - Script not configured" ;This script must always be datafilled.
+BeginScript+
Script message not defined.
-EndScript-
;
;
; Example Scripts
;
;1 "100 - Example script"
;+BeginScript+
;This is an example Script message.
;-EndScript-
```

24.3 Standard scripting

The section contains information that is only relevant to Standard Scripting. See Section 24.4 on page 175 for information specific to Enhanced Scripting.

24.3.1 SCRPTINI.INI file

For “standard” scripting, each application section in the SCRPTINI.INI file has some additional parameters, the priority parameters. These parameters are ignored by “enhanced” scripting. For Nortel Networks applications, NTOA and NTDA, these parameters are as follows;

RCPriority=<x> The RCPriority entry specifies the priority level in the scripting hierarchies of Reason Code. This field only applies to the IWS Billing application, NTOA. The range of values is 1 to 4. Default is 1 for NTOA.

SPIDPriority=<x> The SPIDPriority entry specifies the priority level in the scripting hierarchies of SPID (service provider ID). This field applies to both the IWS Billing and NTDA applications. The range of values is 1 to 4 (default is 2) for the IWS Billing application, and 1 to 3 (default is 1) for NTDA.

CT4QPriority=<x> The CT4QPriority entry specifies the priority level in the scripting hierarchies of call type for queuing. This field applies to the IWS Billing and NTDA applications. The range of values is 1 to 4 (default is 3) for the IWS Billing application, and 1 to 3 (default is 2) for NTDA.

COPriority=<x> The COPriority entry specifies the priority level in the scripting hierarchies of call origination. This field applies to the IWS Billing and NTDA applications. The range of values is 1 to 4 (default is 4) for the IWS Billing application, and 1 to 3 (default is 3) for NTDA.

24.3.2 Scripting cross-reference datafill files

With standard scripting, IWS registering applications can display a specific script when certain types of calls arrive at the IWS position. Scripting cross reference datafill files map certain call events to script IDs in the SCRPTSCR.SCR file.

As part of the IWS Base software, cross reference files are provided for call parameters; call origination type, call type for queuing (CT4Q), reason code, and SPID. These cross-reference filenames have the filename form, X<event>XSC.TBL, and are as follows:

- XCORGXSC.TBL maps each call origination type value received for a call to a specific script message. Each call origination type value can be mapped to a different script message, or multiple call origination type values can be mapped to the same script message.
- XCT4QXSC.TBL maps a CT4Q value to a script ID. This file works in a manner similar to the XCORGXSC.TBL file.
- XRCXSC.TBL maps a reason code to a script ID.
- XSPIDXSC.TBL maps a service provider ID (SPID) to a script ID.

Refer to *TOPS IWS Base Platform User's Guide*, 297-2251-010, for more information about these files.

The billing application NTOA provided with IWS Base software uses these cross reference files for scripting. Other applications, including NTDA, may use different cross reference files. Refer to the appropriate application documentation for more details. For NTOA scripting, please refer to the *IWS Billing Application User Guide,* 297-2251-016. For NTDA scripting, please refer to *TOPS IWS NTDA Application Guide,* 297-2251-017.

Note: Nortel Networks recommends using enhanced scripting. Enhanced scripting ignores these cross reference files. These files are supported for backwards compatibility with pre-existing customer datafill, and thus are mentioned here. For additional information on Enhanced Scripting, please refer to Section 24.4 on page 175.

24.4 Enhanced scripting

IWS enhanced scripting implements the Dynamic Script Selection functionality. This provides the capability to use various call arrival parameters to drive automatic script window display. A much wider range of call arrival parameters are supported as compared to standard scripting. Wildcarded call parameters and NULL call parameters are supported. In addition, a completely wildcarded script rule can be datafilled. Datafilling this rule will make sure the script window always displays at call arrival, and can be used to show call arrival scenarios for which there are no scripting rules defined. With enhanced scripting enabled, a new method for datafilling the scripts file is also provided. Another feature of enhanced scripting is that the scripting initialization file provides two new parameters that greatly help with scripting datafill troubleshooting and configuration.

Enhanced scripting does not change the size and placement of the scripting window. The window size and placement for each application is datafillable as with standard scripting. Thus with enhanced scripting, the scripting window appearance is not changed, just how the contents of the script window are determined.

With enhanced scripting, any combination of the following call parameters can be used to determine the script message:

- switch ID
- service ID
- call origination type
- call type for queuing (CT4Q)
- service provider identifier (SPID)
- trunk group display index
- billing restriction number
- OLNS restrictions number
- OLNS equipment number

Enhanced scripting employs datafill that contains a set of script matching rules. Each script matching rule has a script ID and an entry for each of the call parameters listed previously. An example script rule:

Script ID	Switch ID	Service ID	SPID	Trunk Group	Call Orig Type	CT4Q	Billing Rest. Number	OLNS Rest Number	OLNS Equip Number
4	1	1	AATEL	245	2	5	2	3	4

Script matching rules are provided through a list or rules. If enhanced scripting is enabled, the IWS will start at the top of this list of rules searching for the first rule that completely matches the current call arrival information, i.e. all fields in the rule must match corresponding call information. Once the IWS finds a complete match, the IWS stops looking through the list of rules and it displays the corresponding script message.

24.4.1 Wildcard entry

Given the large number of parameters in each rule, and the large number of possible values for each parameter in a rule, the number of possible matching rules is quite large. In order to reduce the number of rules needed and to make configuring rules much easier, a wildcard entry of "*" is supported. When a wildcard is entered in a script matching rule field, then any call value will be considered a match. This includes when the DMS does not send a value for that field, e.g., the DMS does not send an OLNS restriction number for every call. The following is an example of a script rule using a wildcard entry for the OLNS restriction number:

Script ID	Switch ID	Service ID	SPID	Trunk Group	Call Orig Type	CT4Q	Billing Rest. Number	OLNS Rest Number	OLNS Equip Number
4	1	1	AATEL	245	2	5	2	*	4

For this rule all of the following calls would be considered a match:

Call #1

- switch ID=1
- service ID=1
- SPID=AATEL
- trunk group=245
- call origination type=2
- CT4Q=5
- billing restriction number=2
- OLNS restriction=3
- OLNS equipment=4

Call #2

- switch ID=1
- service ID=1
- SPID=AATEL
- trunk group=245
- call origination type=2
- CT4Q=5
- billing restriction number=2
- OLNS restriction=51
- OLNS equipment=4

Call #3

- switch ID=1
- service ID=1
- SPID=AATEL
- trunk group=245
- call origination type=2
- CT4Q=5
- billing restriction number=2
- OLNS restriction=92
- OLNS equipment=4

The use of this wildcard entry helps reduce the number of rules needed. The wildcard parameter should always be used when possible due to the considerable number of call information parameter combinations.

24.4.2 'Not sent' entry

As mentioned, some call parameters may not be sent by the DMS at call arrival, e.g., OLNS equipment number is not always sent by the DMS. A matching rule value is provided for specifying this 'not sent' condition. The entry is "", or nothing. An example script rule with the OLNS equipment number mark as 'not sent' is as follows:

Script ID	Switch ID	Service ID	SPID	Trunk Group	Call Orig Type	CT4Q	Billing Rest. Number	OLNS Rest Number	OLNS Equip Number
4	1	1	AATEL	245	2	5	2	*	

For this rule all of the following calls would be considered a match:

Call #1

- switch ID=1
- service ID=1
- SPID=AATEL
- trunk group=245
- call origination type=2
- CT4Q=5
- billing restriction number=2
- OLNS restriction=3
- OLNS equipment='not sent'

Call #2

- switch ID=1
- service ID=1
- SPID=AATEL
- trunk group=245
- call origination type=2
- CT4Q=5
- billing restriction number=2
- OLNS restriction=51
- OLNS equipment=‘not sent’

Call #3

- switch ID=1
- service ID=1
- SPID=AATEL
- trunk group=245
- call origination type=2
- CT4Q=5
- billing restriction number=2
- OLNS restriction=92
- OLNS equipment=‘not sent’

24.4.3 Enhanced scripting rules search algorithm

As mentioned, IWS searches through the scripting rules looking for the first complete match. Given this design, multiple rules could match a given call, so the order in which the rules are listed will impact the results. Consider the following set of rules:

Script ID	Switch ID	Service ID	SPID	Trunk Group	Call Orig Type	CT4Q	Billing Rest. Number	OLNS Rest Number	OLNS Equip Number
10	*	*	*	*	*	*	*	*	*
3	1	1	BTEL	43	2	5	2	*	4
6	1	1	BTEL	*	*	*	2	*	4
90	6	1	BTEL	43	2	5	2	*	4
4	7	1	BTEL	43	2	5	2	*	4
100	3	1	BTEL	43	2	5	2	*	4

Script ID	Switch ID	Service ID	SPID	Trunk Group	Call Orig Type	CT4Q	Billing Rest. Number	OLNS Rest Number	OLNS Equip Number
12	4	1	BTEL	43	2	5	2	*	4
9	5	1	BTEL	43	2	5	2	*	4

Now consider the following call:

- switch ID=1
- service ID=1
- SPID=BTEL
- trunk group=43
- call origination type=2
- CT4Q=5
- billing restriction number=2
- OLNS restriction=51
- OLNS equipment=4

Rules for script IDs 10, 3, and 6 all match the call information, but script 10 is selected because it appears first in the list. Actually, the order in which these rules are listed will always result in the first rule, Script 10, being selected for all calls since this rule is completely wildcarded.

A better list or rules would be as follows:

Script ID	Switch ID	Service ID	SPID	Trunk Group	Call Orig Type	CT4Q	Billing Rest. Number	OLNS Rest Number	OLNS Equip Number
90	6	1	BTEL	43	2	5	2	*	4
4	7	1	BTEL	43	2	5	2	*	4
100	3	1	BTEL	43	2	5	2	*	4
12	4	1	BTEL	43	2	5	2	*	4
9	5	1	BTEL	43	2	5	2	*	4
3	1	1	BTEL	43	2	5	2	*	4
6	1	1	BTEL	*	*	*	2	*	4
10	*	*	*	*	*	*	*	*	*

With this arrangement, Script 10 is only selected if there is no match before it in the list. Script 10 would effectively be the default script, and thus the scripting window would

always be displayed at call arrival since there will always be a matching script rule. As shown by this example, rules should be listed such that the most specific (least wildcarded) rules are listed first and the most general (most wildcarded) rules are listed last.

Many rules can reference a single script ID. This configuration may be useful. For example, consider the following list of matching rules:

Script ID	Switch ID	Service ID	SPID	Trunk Group	Call Orig Type	CT4Q	Billing Rest. Number	OLNS Rest Number	OLNS Equip Number
12	6	1	BTEL	43	2	5	2	*	4
12	7	1	BTEL	43	2	5	2	*	4
12	3	1	BTEL	43	2	5	2	*	4
12	4	1	BTEL	43	2	5	2	*	4
12	5	1	BTEL	43	2	5	2	*	4

There are several different rules referencing script ID 12. Script 12 may be applicable to all these different types of calls.

If multiple rules are the same except for the script ID field, only the first matching rule in the list will apply. IWS will never match any of the other subsequent matching rules, and thus will never display the other scripts. This configuration is not useful. Consider the following:

Script ID	Switch ID	Service ID	SPID	Trunk Group	Call Orig Type	CT4Q	Billing Rest. Number	OLNS Rest Number	OLNS Equip Number
20	6	1	BTEL	43	2	5	2	*	4
21	6	1	BTEL	43	2	5	2	*	4
22	6	1	BTEL	43	2	5	2	*	4
23	6	1	BTEL	43	2	5	2	*	4
24	6	1	BTEL	43	2	5	2	*	4

These rules have exactly the same matching criteria. Thus only the first one, the one that references script ID 20, will ever match a call and only script 20 will ever be displayed.

24.4.4 Enhanced scripting datafill

As with standard scripting, enhanced scripting requires datafill files that are loaded during installation into the C:\MPXBASE\DATAFILL directory and the C:\WINDOWS directory. As with standard scripting, enhanced scripting makes use of datafill files, SCRPTLNG.LNG, SCRPTINI.INI and SCRPTSCR.SCR. Enhanced scripting also uses a datafill file that standard scripting does not use. This file is the scripting rules files mentioned previously. For a general discussion of IWS datafill files, refer to *TOPS IWS Base Platform User's Guide*, 297-2251-010.

24.4.4.1 SCRPTINI.INI file

A section exists in the SCRPTINI.INI file that is specific to enhanced scripting. This section is "[EnhancedScripting]". This section contains the following parameters:

EnhScrEnable=<e> The EnhScrEnable entry specifies whether or not to enable enhanced scripting. Set to 1 to enable enhanced scripting. Set to 0 to disable enhanced scripting. The default value is 0.

> ***Note:*** Some applications do not support enhanced scripting. Both Nortel Networks applications, NTOA and NTDA, support enhanced scripting. Enhanced scripting can be made available for other applications including non-Nortel Networks applications. Contact Nortel Networks for details.

NoMatchLogs=<n> This parameter only applies to enhanced scripting. The NoMatchLogs entry specifies whether or not to enable a log that will be generated when a matching script can not be found for a call. Set to 1 to enable this IWS log. Set to 0 to disable this IWS log. The default value is 0.

DebugDatafill=<d> The DebugDatafill entry specifies whether or not to enable enhanced scripting datafill debugging. Set this parameter to 1 when debugging scripting datafill. Set to 0 for normal call handling. This parameter is very useful when trying to understand why some calls are not producing the desired script. When enabled, all pertinent call parameters are prepended to the script message giving the technician very useful debug information.The default value is 0.

RulesFile=<r> The RulesFile entry specifies the enhanced scripting rules filename. The scripting rules file can take two forms. The file can be in the form of a standard IWS table file. IWS installation provides an example rules table file, "xscrules.tbl". The file can also be in the form of a Microsoft Excel generated tab delimited text file. Instructions on how to produce this Excel file are provided later in this chapter (see Section 24.4.5.3 on page 186).

ScriptsFile=<s> The Scripts File entry specifies the enhanced scripting scripts file. This file can take two forms. The file can be in the form of a standard IWS '.scr' file. IWS installation provides an example scripts file, "scrptscr.scr". The file can also be in the form of a Microsoft Excel tab delimited text file. Instructions on how to produce this Excel file are provided later in this chapter (see Section 24.4.5.6 on page 189).

24.4.5 Configuring Enhanced Scripting

A dedicated section exists in the SCRPTINI.INI file for enhanced scripting. To use enhanced scripting, it must be enabled via the SCRPTINI.INI enhanced scripting "EnhScrEnable" parameter. As with original scripting, enhanced scripting must also be enabled for each application to automatically display the script window at call arrival.

Note: If enhanced scripting is enabled, then all applications that have scripting enabled will perform enhanced scripting, but only if each application supports enhanced scripting. If an application has not been upgraded to support enhanced scripting, then scripting for that application will be standard scripting. Both Nortel Networks NTDA and NTOA (Nortel DA application and Nortel billing applications) have been updated to support enhanced scripting.

With Enhanced Scripting, the scripting window can be displayed automatically even when the script is undefined. If Enhanced Scripting's "DisplayUndefinedScript" parameter is set to 1, then the scripting window always displays at call arrival even if the script is undefined. If Enhanced Scripting's "DisplayUndefinedScript" parameter is set to 0, then the scripting window displays at call arrival only if the script is defined.

The "EnhancedScripting" section also has two parameters that can assist the craftsperson in configuring scripting datafill. If the "NoMatchLogs" parameter is set, a log is generated when a script is not displayed for a call. This 'no match' situation happens when there is no script rule that matches the current call information. It also happens when the referenced script ID is not datafilled in the SCRPTSCR.SCR file. The other parameter, "DebugDatafill", causes the current call information that relates to scripting to be prepended to the script message so the craftsperson can easily determine why a certain script is being displayed or not displayed.

Note: If Enhanced Scripting's "DebugDatafill" is enabled, then the script window is always displayed at call arrival regardless of the value of the "DisplayUndefinedScript" parameter.

The new enhanced scripting section also has two parameters for specifying the names of the scripting rules file and the script messages file.

The IWS provisioning tool supports datafilling the SCRPTINI.INI file for enhanced scripting as shown in Figure 83.

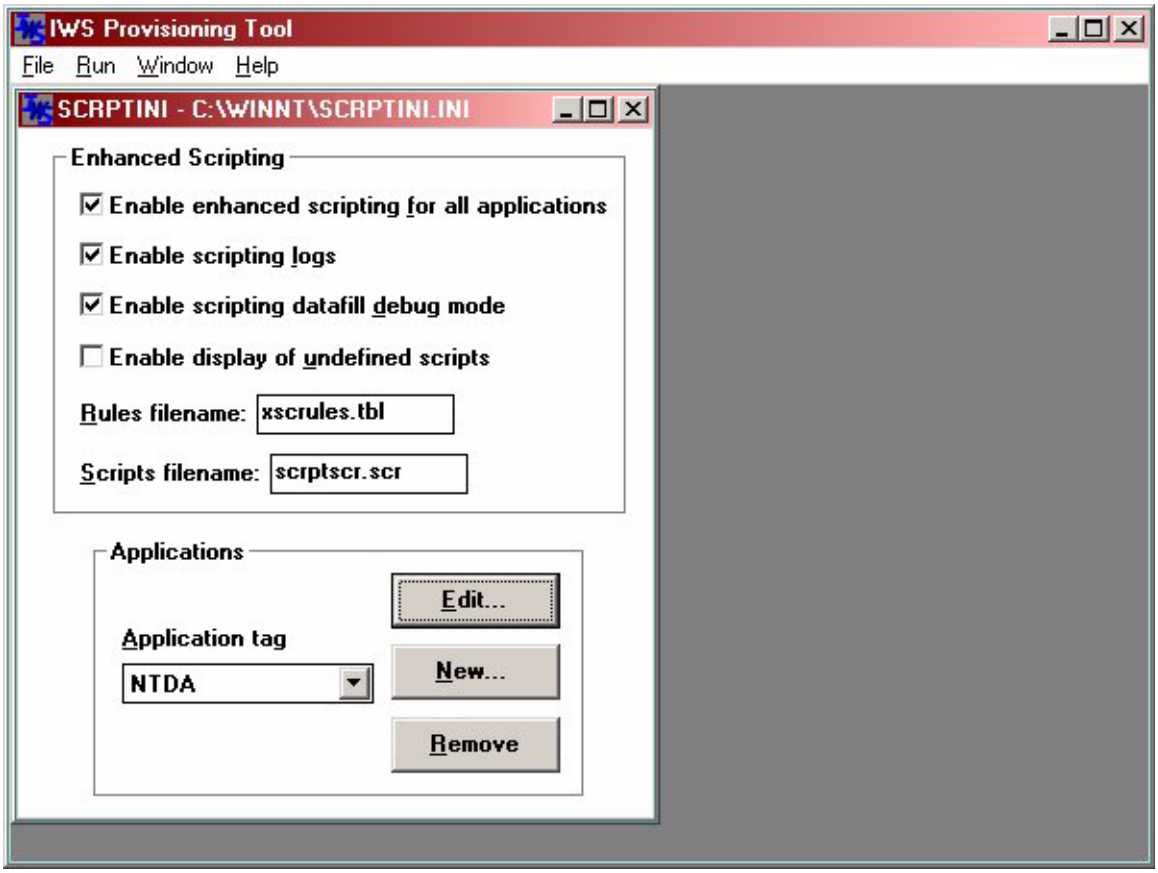

FIGURE 83. SCRPTINI.INI provisioning screen.

24.4.5.1 Scripting rules datafill file

The script matching rules file can be named anything. The SCRPTINI.INI file has a parameter for specifying the name of this rules file. The Nortel Networks default name is XSCRULES.TBL. A default version of this file is provided in the C:\MPXBASE\DATAFILL directory.

Unlike other IWS table files, the script rules file can take two forms: a traditional IWS datafill table file format or a Microsoft Excel generated tab delimited text file. With the standard IWS table file version, the IWS provisioning tool, ProvTool, can be used to configure this file. With the Excel based file version, Microsoft Excel is used to configure this file. Both files can be edited with a text based editor if desired, but the user must be very careful not to change the format of the file.

Note: No matter which form of this file is used, Nortel Networks suggests that the craftsperson make a backup copy of the file before editing with a text editor.

The Nortel Networks default version of the rules file is the traditional IWS table file. This table file is provided as C:\MPXBASE\DATAFILL\XSCRULES.TBL. An example of an Excel based table file is also provided as C:\MPXBASE\DATAFILL\XSCRULES.TXT. Note that the Excel program is not supplied as part of the IWS position or IWS software. The user can install Microsoft Excel on an IWS position, or the user can configure the

rules file on another PC and then copy the file to an IWS for testing. See section 24.4.5.3 for more details on modifying scripting datafill with the Excel program.

24.4.5.2 XSCRULES.TBL - IWS table file format

The script matching rules are listed in the IWS table file XSCRULES.TBL. The IWS provisioning tool supports this file as shown in the following figure, Figure 84.

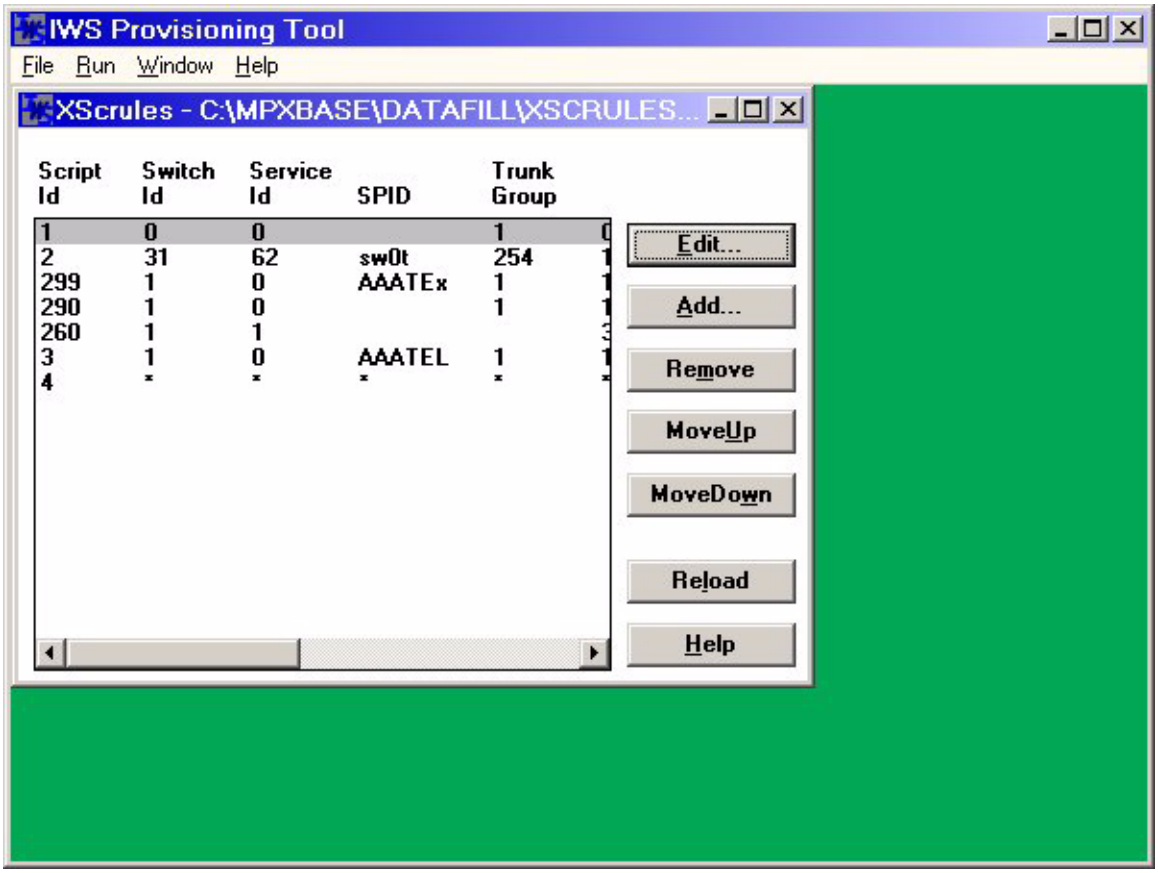

FIGURE 84. XSCRULES.TBL provisioning screen.

The Nortel Networks default scripting rules file is as follows:

```
;XSCRULES
;The preceding line is used by ProvTool, DO NOT REMOVE!
;+
;  ------------------------------------------------------------
;  Table:  XSCRULES.TBL
;  ------------------------------------------------------------
;
;  Description:
;  ------------
;     Enhanced Scripting Rules Table
;
;     This datafill table associates an IWS Script ID with
;     various call parameters. Wildcards are supported for each
;     call parameter. For example, to specify any switch
```

```
;     ID put an "*" in the switch ID field. Some call parameters
;     may not exist for some calls. To specify a non existent
;     parameter, put "" in the appropriate field. For example,
;     to specify no OLNS restriction received put "" in the OLNS
;     restriction. A maximum of 1000 rules are allowed.
;
;
;  Fields:
;  -------
;     Index          Index for listing rules, range 1 - 1000.
;
;     Script ID      The originating switch ID, range 1-300.
;
;     Switch ID      The originating switch ID, range "0"-"31",
;                    "*", or "".
;
;     Service ID     The service type, range "0"-"62", "*", or "".
;
;     SPID           The service provider identifier string,
;                    range one to six quoted characters, "*",
;                    or "".
;
;     Trunk Group    The originating trunk group index, range
;                    "1"-"254", "*", or "".
;
;     Call Orig      The call origination type, range "0"-"100",
;     Type           "*", or "".
;
;     CT4Q           The call origination type, range "0"-"2046",
;                    "*", or "".
;
;     Billing Rest   The billing restriction number, range "0"-"99",
;     Number         "*", or "".
;
;     OLNS Rest      The OLNS restriction number, range "0"-"99",
;     Number         "*", or "".
;
;     OLNS Equip     The OLNS equipment number, range "0"-"99",
;     Number         "*", or "".
;
;
;  Note:
;  -----
;
;-
;  Notes:
;  -----
;     String lengths of datafill lines should not exceed 80 characters.
;
;
;
;Index Script Switch Service SPID     Trunk Call  CT4Q   Billing OLNS   OLNS
;      ID     ID     ID              Group Orig         Rest    Rest   Equip
;                                          Type         Number  Number Number
;----- ------ ------ ------- -------- ----- ----- ------ ------  ------ ------
1      1      "0"    "0"     ""       "1"   "0"   "0"    "0"     ""     ""
2      2      "31"   "62"    "sw0t"   "254" "100" "2046" "99"    "99"   "99"
3      299    "30"   "60"    "AAATEL" "250" "100" "2000" "99"    "99"   "99"
4      290    "1"    "0"     ""       "1"   "1"   "1"    "1"     ""     ""
```

```
5       260     "1"     "1"     ""        ""     "36"   "257"   "1"      ""      ""
6       3       "1"     "0"     "AAATEL"  "1"    "1"    "1"     "1"      ""      ""
7       4       "*"     "*"     "*"       "*"    "*"    "*"     "*"      "*"     "*"
;
```

24.4.5.3 XSCRULES.XLT - Excel form of rules file

Enhanced scripting provides an alternate method of datafilling the rules file using the Microsoft Excel program. This method can be used instead of configuring datafill through the IWS table file XSCRULES.TBL. To use this new type of IWS datafill for configuring enhance scripting rules, the user must have Microsoft Excel installed on the PC where the enhanced scripting datafill is to be configured. This PC does not have to be an IWS position. Nortel Networks has verified that Excel 2002 (10.4109.3501 SR-1) and Excel 97 (SR-1) can be used for modifying the scripting rules file, but other versions of Excel may also work.

To configure the rules datafill file, the user should start Excel and open the Nortel Networks supplied scripting rules template file. This file can be found on an IWS position at the following path C:\MPXBASE\TOOLS\TEMPLATE\\XSCRULES.XLT. After opening the template with Excel, but before making any changes to the file, the user should immediately save the template as an Excel workbook, e.g. filename XSCRULES.XLS. To do this, the user should use Excel's "File->Save As..." option and specify "Microsoft Excel workbook" file type. This Excel workbook can then be edited. Up to a thousand script rules can be entered. Excel will automatically supply valid data entry prompts for each field. Excel will also perform automatic field validation as rules are entered. To speed up datafilling scripting rules, the user can use various Excel features such as cut and paste to duplicate and then modify rules.

Once the user is ready to try the Excel based scripting rules, the user should save the Excel workbook, and then create an Excel tab delimited rules text file. To do this, the user should use Excel's "File->Save As..." option and specify a "text tab delimited" file type, e.g. filename XSCRULES.TXT. The name of this tab delimited text file must be specified in the scripting initialization file, SCRPTINI.INI, so that it drives the scripting message displays instead of the standard IWS table file, XSCRULES.TBL.

Nortel Networks strongly recommends that the user should normally not use Excel to edit the template file or the tab delimited text file. Only the Excel program should be used to edit the Excel workbook .XLS file.

The Excel "scripting rules" template is displayed in Figure 85. As mentioned previously, the template file provides data entry field prompting and entry field data validation to help the craftsperson with scripting rules datafill. Notice the data entry prompt in the following illustration, Figure 85.

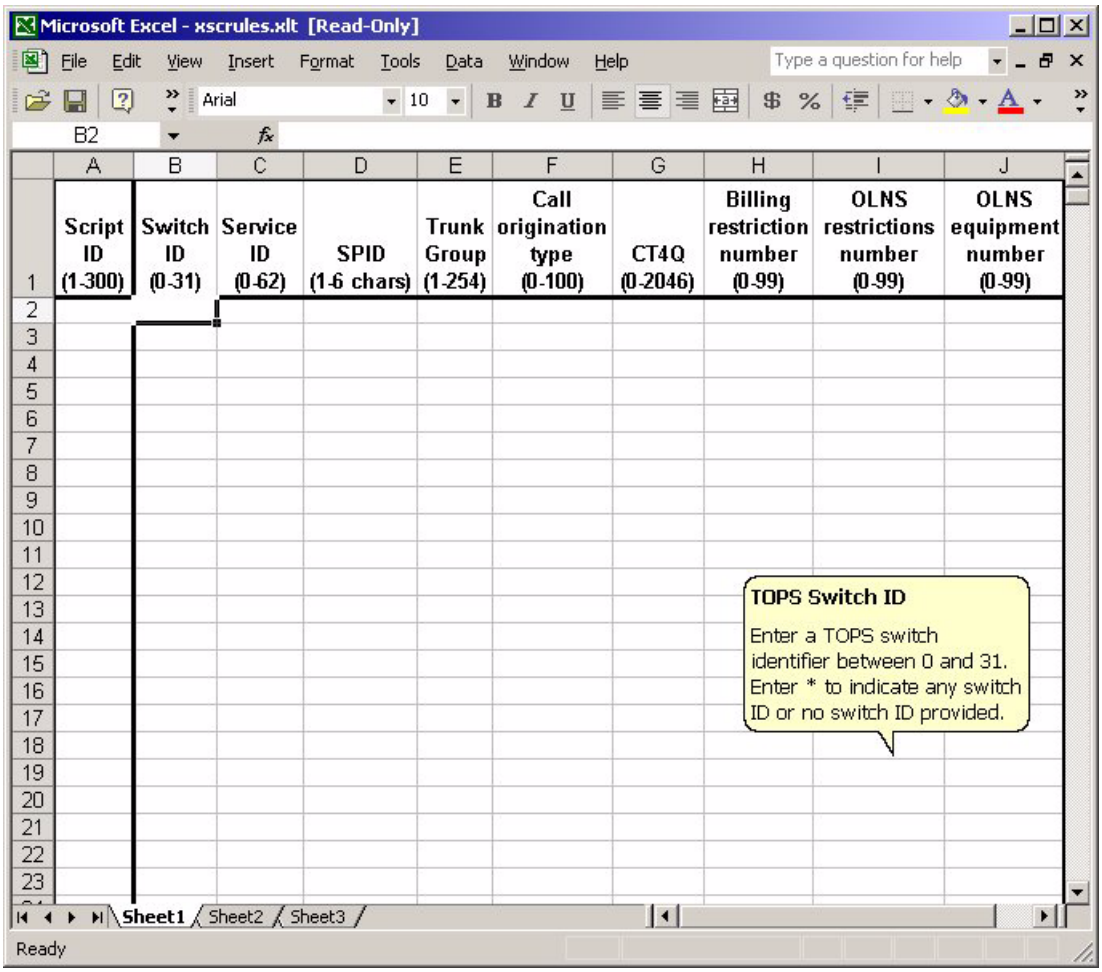

FIGURE 85. Excel scripting rules

As exemplified in Figure 85, each field in the Excel template provides applicable prompting that tells the user the correct range of valid entries. If the user enters in an invalid value, Excel will flag the error and suggest that the user enter a valid value or leave the field blank (see Figure 86).

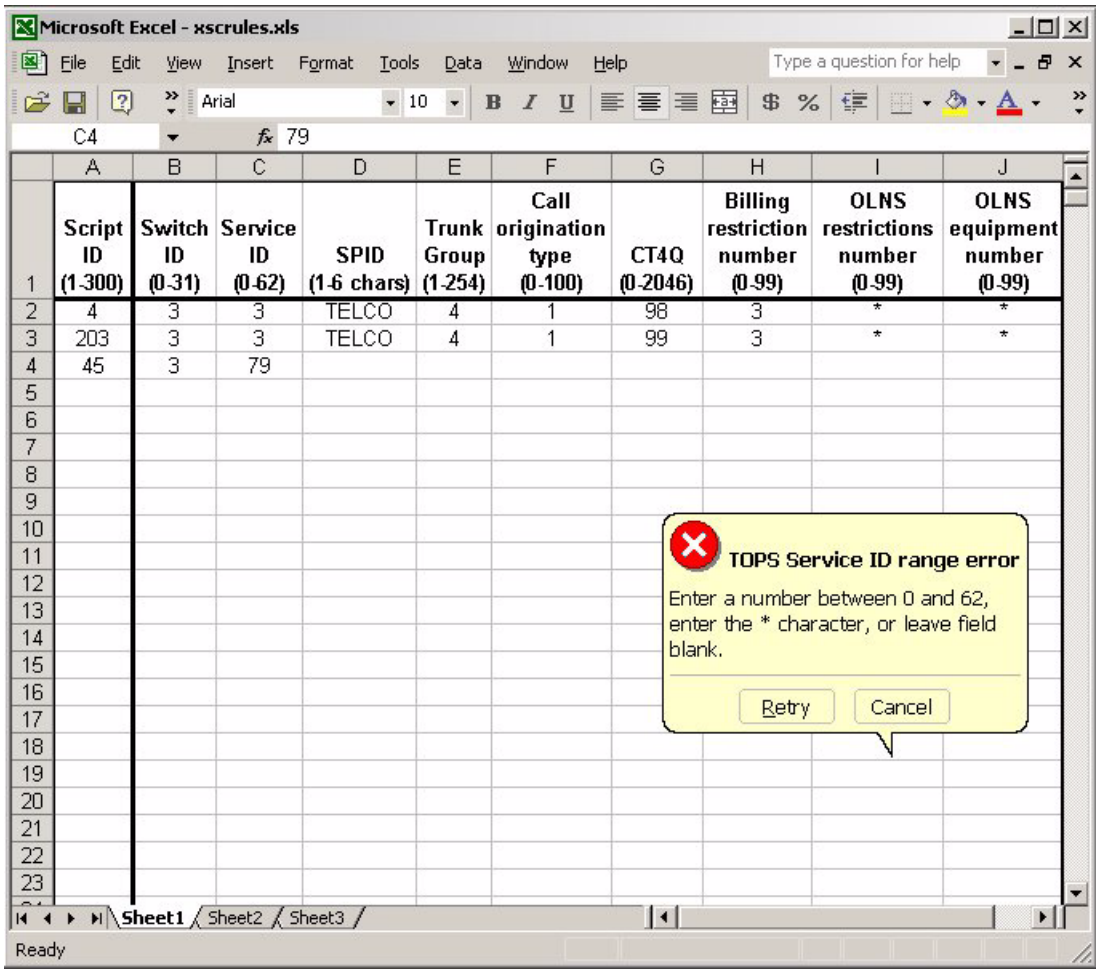

FIGURE 86. Error message

In Figure 86, the user has tried to enter ‘79’ in the TOPS Service ID field. Since valid field values are only 0 to 62, ‘*’, or empty, Excel generates the error banner explaining what the valid values are. The user is given the opportunity to retry the field entry or cancel the field entry.

24.4.5.4 Script messages datafill file

When Enhanced Scripting is enabled, the script messages file can take two forms. As with the rules file, an Excel version of the scripts datafill file is also provided. Also like the rules file, the SCRPTINI.INI file has a new parameter for designating the name of the script messages file.

24.4.5.5 SCRPTSCR.SCR - standard IWS form of script messages file

For enhanced scripting, the format of the script messages file, SCRPTSCR.SCR, can be exactly the same as used for standard scripting, and configuring this form of the script messages file is also exactly the same as used for standard scripting, i.e. a text editor is used to modify the datafill file.

24.4.5.6 SCRPTSCR.XLT - Excel form of script messages file

As with the rules datafill file, Enhanced Scripting provides a method for datafilling the script messages file based on using a Microsoft Excel template. This template has built in data validation to minimize user errors and field-prompting to help the user enter properly formed script information. To use this new type of IWS datafill for configuring the scripting messages, the user must have Microsoft Excel installed on the PC where the enhanced scripting datafill is to be configured. This PC does not have to be an IWS position. Nortel Networks verified that Excel 2002 (10.4109.3501 SR-1) and Excel 97 (SR-1) can be used for modifying the scripting messages file, but other versions of Excel should also work.

To configure the script messages datafill file, the user should start Excel and open the Nortel Networks supplied scripting messages template file. This file can be found on an IWS position at the following path C:\MPXBASE\TOOLS\TEMPLATE\SCRPTSCR.XLT. After opening the template with Excel, but before making any changes to the file, the user should immediately save the template as an Excel workbook, e.g. filename SCRPTSCR.XLS. To do this, the user should use Excel's "File->Save As..." option and specify "Microsoft Excel workbook" file type. This Excel workbook can then be edited. Up to a 300 script messages can be entered. Excel will automatically supply valid data entry prompts for each field. Excel will also perform automatic field validation as messages are entered. To speed up datafilling scripting messages, the user can use various Excel features such as cut and paste to duplicate and then modify script messages.

Once the user is ready to try the Excel based scripting rules, the user should save the Excel workbook, and then create an Excel tab delimited rules text file. To do this, the user should use Excel's "File->Save As..." option and specify a "text tab delimited" file type, e.g. filename SCRPTSCR.TXT. The name of this tab delimited text file must be specified in the script initialization file SCRPTINI.INI so that it drives script message display instead of the standard script messages file, SCRPTSCR.SCR.

Nortel Networks strongly recommends that the user normally not use Excel to edit the template file or the tab delimited text file. Only the Excel program should be used to edit the Excel workbook .XLS file.

Figure 87 shows the Excel template for script message entry. As mentioned previously, the template file provides data entry field prompting and entry field data validation to help the craftsperson with script messages datafill. Notice the data entry prompt in the following illustration.

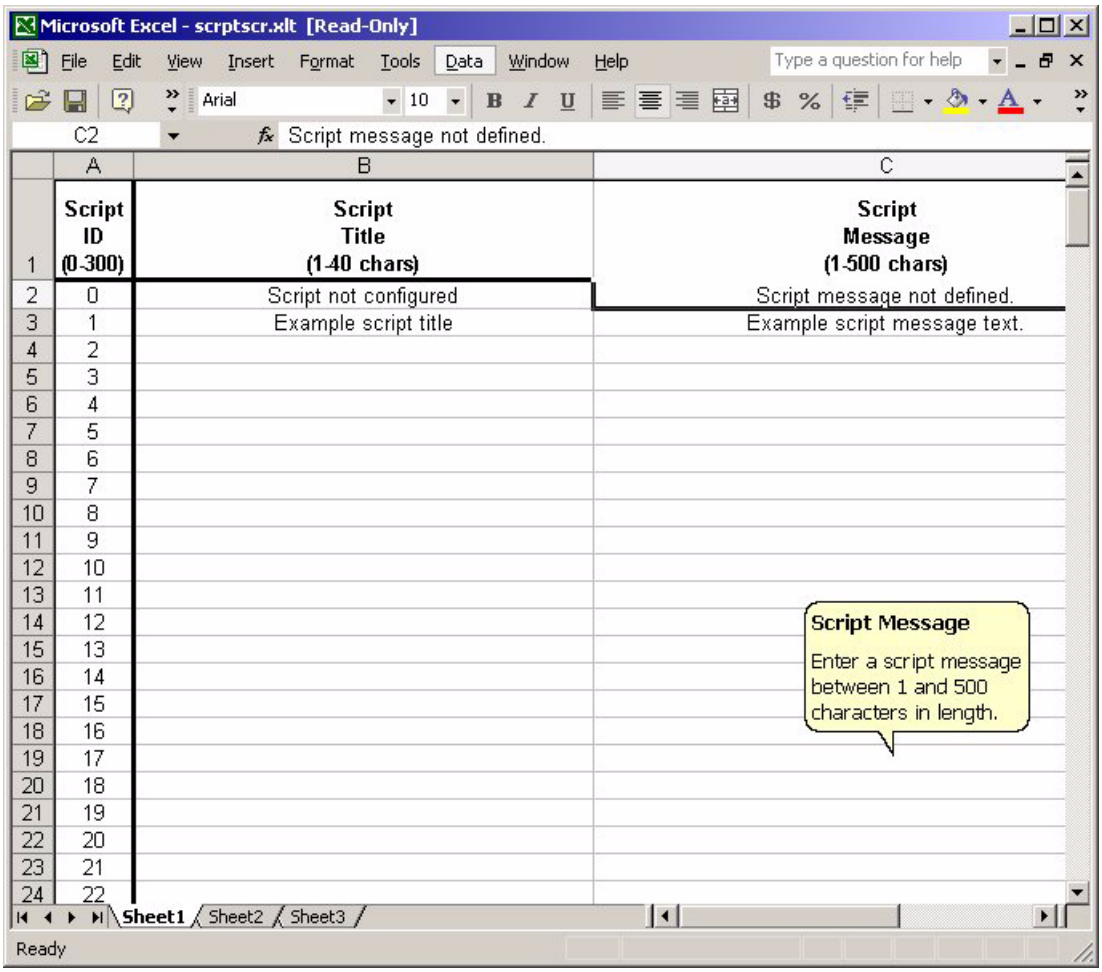

FIGURE 87. Script message entry template.

24.4.6 Debug datafill parameters for enhanced scripting

As mentioned previously, the scripting initialization file, SCRPTINI.INI, provides two new parameters that help with scripting datafill configuration and troubleshooting. Parameter “DebugDatafill” causes a list of the pertinent call information to be prepended to the script message in the script window. Thus for the current call the user can see what the call information is and use this information to create a valid script, or can determine why an expected script is not being displayed. Figure 88 shows a DA call with this scripting debug feature enabled. Notice the call information fields at the top of the script window. Also shown prepended to the top of script window message is information about the scripts file and rules file. This added information consists of the filename and the file type. The normal script message is at the bottom of the script window.

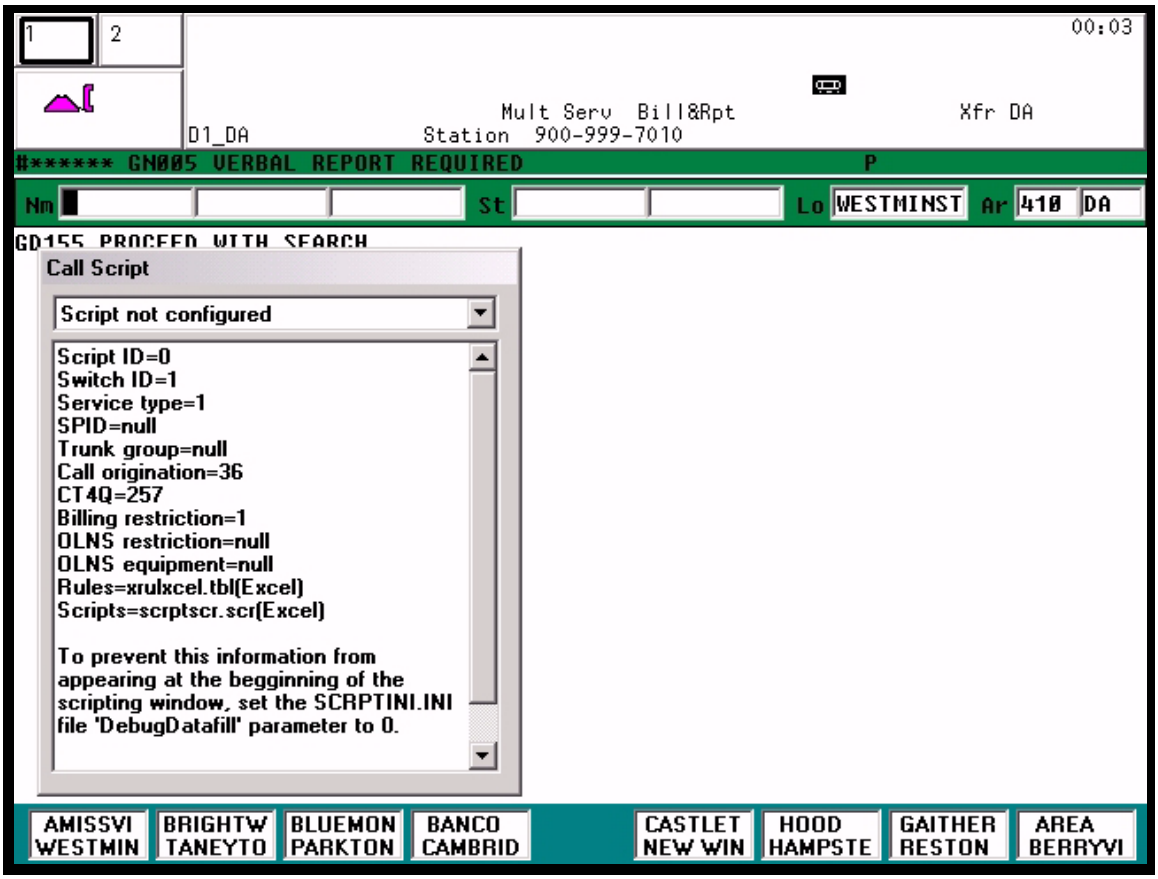

FIGURE 88. Enhanced scripting debugging information example.

The second debug parameter, “NoMatchLogs”, enables scripting debug logs. With this parameter enabled, a log will be generated if a script is referenced and the script message does not exist in the scripts datafill file, e.g. SCRPTSCR.SCR. An example of this log is as follows:

```
SC0003 2002 Jul 29 09:46:45.??  NTOA
SEQNO 0007:0006  POSID 17:2017  Cluster 00  IP Address 47.142.232.242
Log From File: scrptex.c(285)
Enhanced scripting was unable to find the referenced script. Script ID = 6.
```

A log is also generated for a call if there is no match found in the script rules file. This log can be very helpful especially if scripting datafill has been configured such that all calls are suppose to result in a match in the script rules file, and there is no completely wildcarded script rule. Since this log will only happen when there is a no match condition, it informs the craftsperson that there are calls arriving at positions with no scripts. To help with debugging, the log contains all the current call information so a rule and script message can be more easily setup to cover this type of call. Also the log contains information about the scripts file and rules file. This information consists of the filename and the file type. The user should note that enabling this feature could cause very many

IWS logs to be generated, as a log will be generated for every call that does not have a matching script rule. An example of this log is as follows:

```
SC0001 2002 Aug 06 10:56:35.??  NTDA
SEQNO 0073:0007  POSID 17:2017  Cluster 00  IP Address 47.142.232.242
Log From File: scrptex.c(264)
No matching script;
Script ID=0
Switch ID=1
Service type=1
SPID=null
Trunk group=null
Call origination=36
CT4Q=257
Billing restriction=1
OLNS restriction=null
OLNS equipment=null
Rules=xrulxcel.txt(Excel)
Scripts=scrptscr.txt(Excel)
```

25.0 Keyboard overview

This section describes the keys on the standard IWS keyboard, discussing them in three groups: the cluster keys, the QWERTY keys, and the softkeys. Figure 89 shows the standard IWS keyboard.

Keys not specifically discussed in this section are not used by the Base HMI application and can be defined through proper datafill of IWS position table XKBOARD to perform any available functionality.

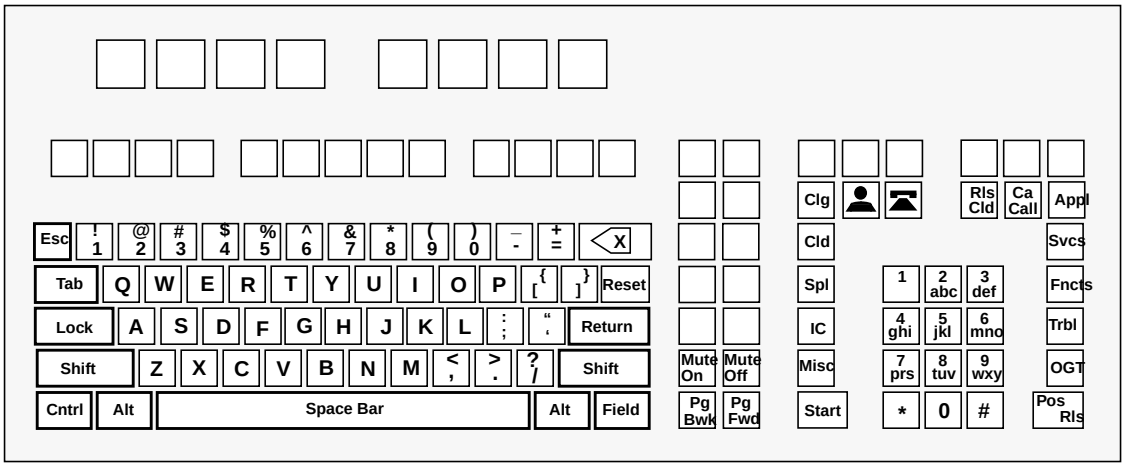

FIGURE 89. Standard TOPS IWS keyboard

25.1 QWERTY keys

Figure 90 shows the location of the QWERTY keys on the IWS keyboard. The QWERTY keys provide the operator with the standard typewriter keys.

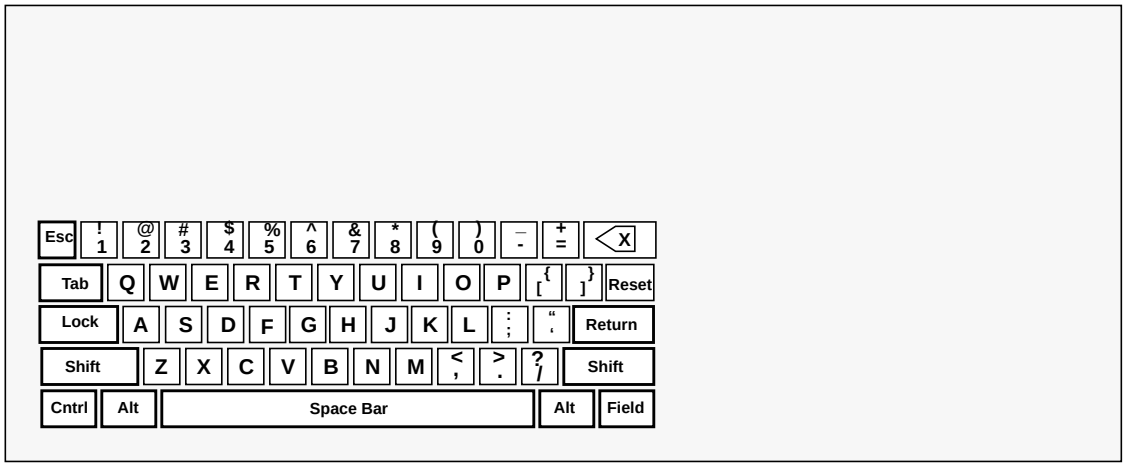

FIGURE 90. IWS QWERTY keys

25.2 Softkeys

Figure 91 shows the location of the IWS softkeys. The active application controls the function of these keys. The softkey label indicates the function currently associated with a softkey. The softkey labels are described for individual windows throughout the document.

If the softkey labels are displayed, but a particular softkey label is blank, no action is taken when that softkey is pressed.

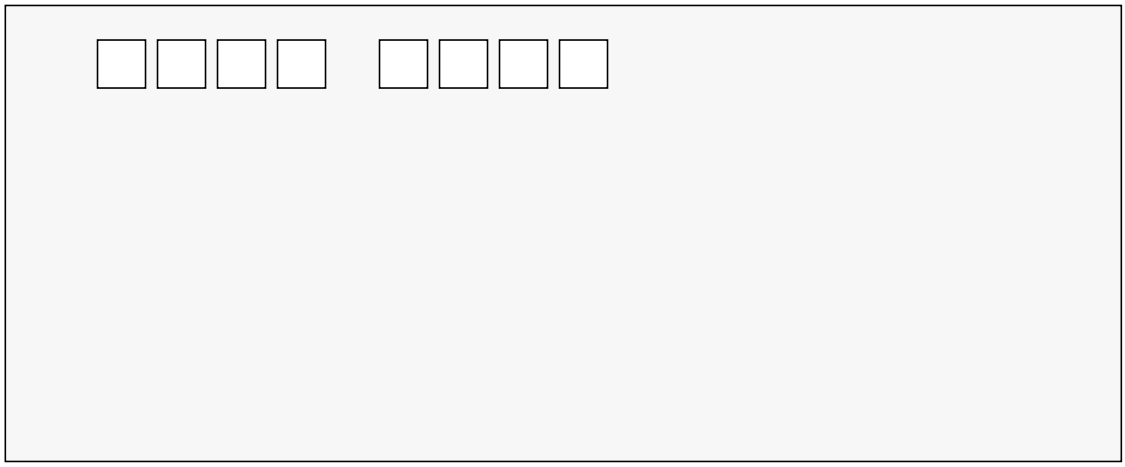

FIGURE 91. IWS softkeys

25.3 Cluster keys

The cluster keys are used to process calls. This group of keys includes call processing keys, menu control keys, class icon keys, and the numeric keypad. These keys must be datafilled in table XKBOARD for this functionality to be provided. Figure 92 shows the location of the cluster keys on the IWS keyboard.

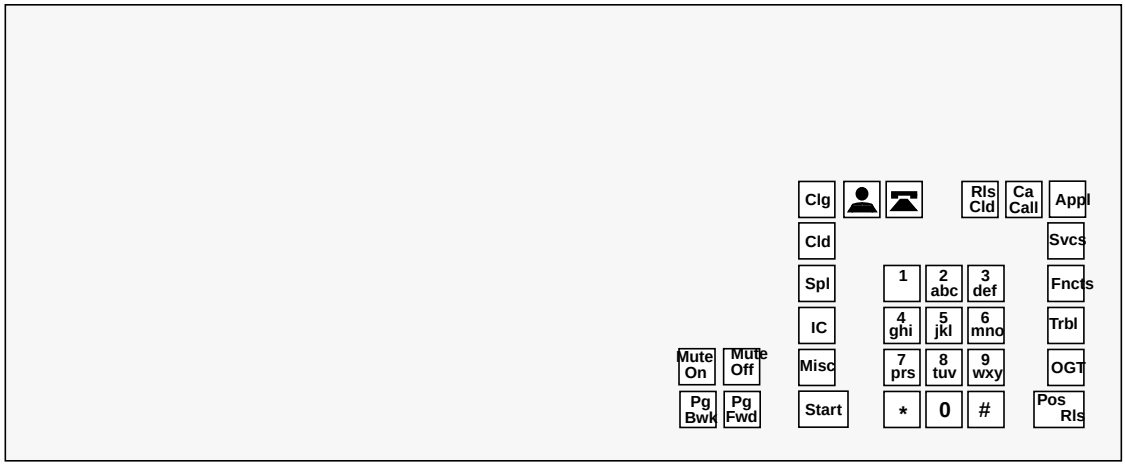

FIGURE 92. IWS call information keys

The call processing keys are listed below. These keys are application specific, and therefore can be used by any application.

- **Clg**
- **Cld**
- **Spl**
- **IC**
- **Misc**

The **Rls Cld** (release called), **Ca Call** (cancel call), **Pos Rls** (position release), numeric keys, and class icon keys are also application specific.

25.3.1 Menu control keys

These keys control the IWS menus. There are six menu keys: the **Fncts**, **Svcs**, **OGT**, **Appl, Trbl**, and **CT4Q** keys. The functionality of each is the same except for the menus they control.

The following paragraphs briefly describe each menu control key.

25.3.1.1 Fncts

The Functions key allows access to the functions menu, which lists all the available IWS functions.

25.3.1.2 Svcs

The Services key allows access to the services menu, which contains a list of services available at the IWS position.

25.3.1.3 OGT

The Outtrunks key allows access to the outtrunks menu, which contains a list of outtrunk events the operator may invoke.

25.3.1.4 Appl

The Applications key allows access to the applications menu, which contains a list of applications the operator can invoke.

25.3.1.5 Trbl

The Trouble key allows access to the trouble menu, which contains a list of trouble codes used by the operator to process trouble reports.

25.3.1.6 CT4Q

The Call Type for Queueing (CT4Q) key allows access to the CT4Q menu, which contains a list of CT4Qs to which the operator can transfer calls.

Note: Unlike the other menu keys, **CT4Q** does not have a pre-assigned key on the IWS keyboard. Before you can use it, you must choose one key to be the **CT4Q** key and then use the KeyBind tool to bind the CT4Q key action to that key. For information on using KeyBind, refer to *TOPS IWS RAMP and Provisioning User's Guide*, 297-2251-015.

25.3.2 Start key

The **Start** key is a data entry terminator used to invoke operator actions. By pressing it, the operator causes the keystrokes for call processing and system actions to be processed and reported to the DMS switch.

25.3.3 Paging keys

Two keys are used for paging forward and backward through menus.

25.3.3.1 Page Forward

This key pages forward through menus. When the end of a menu or multi-page list is encountered, paging forward has no effect.

25.3.3.2 Page Backward

This key pages backward through menus. When the top of a menu or multi-page list is encountered, paging backward has no effect.

25.3.4 Volume control keys

The volume control keys allow the operator to raise or lower the volume of the headset audio by as many as 16 dB above or below the initial default level (or by 5 dB, depending on how the limit is datafilled). The **Volume Up** and **Volume Down** keys must be included in the keyboard datafill file. By default, the key sequences **Shift** + **Page Forward** and **Shift** + **Page Backward** provide the volume up and volume down functionality, respectively.

The NTNX52CC (PCI bus) audio card supports a range of +/-16 dB in preset increments. The default increment size is 1 dB, but it can be changed to any size up to 6 dB, specified in .25 increments.

When an IWS position is initialized, its headset volume reverts to a predetermined default level, which is the starting point for the operator's volume adjustments. On all positions, this default is initially set at 0 dB. The service provider, however, can reset the default to any level within the company's specified volume adjustment range. If the default setting is changed, then at initialization the position reverts to the new volume level rather than to 0 dB, and the operator's subsequent volume adjustments are applied to that new default level.

If the operator logging in is the same one who last logged off, the position does not return to the default volume level but instead retains that operator's volume adjustment.

Changes to volume limits, default volume level, and increment size are made with the AUDTOOL application, through the AUDIOINI option on the PROVTOOL menu. For more information, refer to *TOPS IWS Audio Card Installation*, 297-2251-202.

25.3.4.1 Volume Up

When the operator presses **Volume Up** key, the volume of the headset audio is incrementally increased. Each time the key is pressed, the volume is increased another small increment until the maximum volume is reached. When the maximum volume is reached, further presses of this key have no effect.

25.3.4.2 Volume Down

The volume is incrementally decreased when the operator presses the **Volume Down** key. Each time the key is pressed, the volume is decreased another small increment until the minimum volume is reached. When the minimum volume is reached, further presses of this key have no effect.

25.3.4.3 Mute On

When the operator presses the **Mute On** key, the voice path from the position to both the calling and called parties is disconnected. The operator can still hear any connected party.

When the position is muted, the Pos/SA-IC Info Field also displays the audio state of the position if an NTNX52CC audio card is installed in the position. The following string is datafilled in BHMIMSA.LNG.

Audio Muted **String ID 0026**

Indicates to the operator that the voice path from the position to either the calling or the called parties, or both, has been disconnected.

25.3.4.4 Mute Off

When the operator presses the **Mute Off** key, the voice path from the position to both the calling and called parties is reconnected if it was previously disconnected. There is no effect if the voice path was not previously disconnected.

25.3.5 Unused Keys

Not all keys on the standard IWS keyboard are used by the Base HMI application. These keys can be redefined through proper datafill of table XKBOARD to provide functionality for other applications.

25.4 Key macros

Key macros link multiple key actions and perform them as a single keystroke. Key macros are similar to hot keys, but they provide more flexibility, because they can be created for any application that accepts keystrokes on the IWS position through the API/SDK. A key macro can be defined, for example, so that just one keystroke replaces those that otherwise

are necessary to invoke an action (for example, **Fncts**, 1, 1 [Notify], **Start**, 1, 0, **Start**). When you press the key that triggers a given key macro, you see in rapid succession the screen displays that an operator would see while pressing each key separately. The difference is that the screen displays occur very quickly.

Up to 25 keystrokes can be combined into a single macro, and up to 25 key macros can be defined.

KeyBind is used to set up and edit key macros for use on the IWS position. KeyBind is described in *TOPS IWS RAMP and Provisioning User's Guide*, 297-2251-015.

26.0 Call Information displays by IWS display library

The IWS display library provides displays for call-related information in the message/ status area. This library is provided as part of the IWS Software Development Kit for use by IWS applications that provide call handling to the operator. This library is installed with the base HMI application so that it is available for any application to use and must exist along with its associated language file, IDLMSA.LNG, for the proper functioning of the position.

The following paragraphs describe the call-related information displays made by the IWS display library. These displays appear only during call processing and only if the application handling the current call uses the IWS display library. Refer to associated application documentation to determine whether any application uses the IWS display library. If so, the following section describes the displays and the language file datafill for the displays. Please note that because the base HMI application does not handle calls it does not use this library and the displays described in this section do not appear when base HMI application specific windows are displayed.

The IWS display library displays call information in the MSA, which is described in section 4.1 on page 14. Figure 93 below shows the MSA fields that are used by the display library, including the transient field and the application message III, IV, and V fields. The bottom line of the MSA, which is composed of application message fields III, IV, and V, is expanded to show the seven display fields. The term display field refers to the subfields of the three MSA application message fields that the library uses. The transient field is not subdivided.

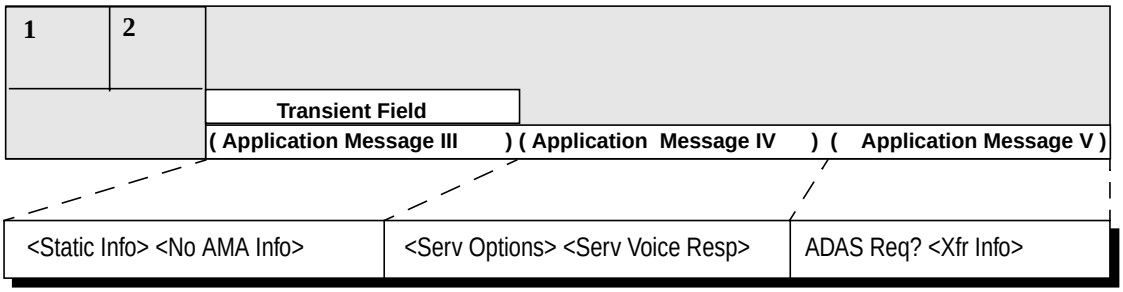

FIGURE 93. MSA fields used by IWS display library

The following sections describe the displays made by the IWS display library in each of the display fields. All text that is displayed in this window is displayed in one of the IWS fixed pitch 7x12 pixel fonts. The font is selected based on the value of the CharTranslate option in the MPXPARM.INI file. Text strings for the fields described in this section may be found in the IDLMSA.LNG file. The default strings and string IDs are listed below according to the display field in which they are shown.

26.1 Transient field

The transient field is used to display information temporarily about the call. The text displayed in this field is shown for approximately three seconds. The following text strings

from the display library that allows maximum field length of 15 characters, can be displayed in this field.

Gen AMA **string ID 0000**

Indicates that an AMA record has been generated.

Rls Calling **string ID 0001**

Indicates the dropping of the connection between the position and the calling telephone. This release display is shown as the result of the operator doing release calling keying. Also for trunk types that drop the connection when the calling telephone goes on-hook, this display is shown. An example of this type of trunk is an ISUP trunk.

Rls Called **string ID 0002**

Indicates the dropping of the connection between the position and the called telephone. This release display is shown as the result of the operator doing release called keying. Also for trunk types that drop the connection when the called telephone goes on-hook, this display is shown. An example of this type of trunk is an ISUP trunk.

Ring Calling **string ID 0003**

Identifies an attempt to re-ring an on-hook calling telephone or another operator on a back connection.

Ring Called **string ID 0004**

Identifies an attempt to re-ring an on-hook called telephone or another operator on a forward connection.

Coin Collect **string ID 0005**

Indicates an operator initiated request to collect coins at a coin telephone.

Coin Return **string ID 0006**

Indicates an operator initiated request to return coins at a coin telephone.

Denied **string ID 0007**

Indicates an operator initiated service change has been denied by the DMS switch.

Chg Adj: **string ID 0008**

When the label is displayed in conjunction with <charge adjust code>, this indicates a charge adjustment manually entered by an operator.

Charge adjust indicators are used to interpret the charge adjust code in terms of money (using local currency), minutes, or number of calls that are credited. The three charge adjust indicators are provided in the MPXPARM.INI file. If the charge adjust indicator information in the MPXPARM.INI file is invalid or the MPXPARM.INI file can not be found during the IWS display library initialization, the following default values are used:

- The Money parameter is the character “C.”

- The Minutes parameter is the character “M.”
- The Occurrences parameter is the character “T.”

Monetary values for the Charges Adjust display are formatted using information that is also provided in the MPXPARM.INI file. If the currency information in the MPXPARM.INI file is out of range or invalid or the MPXPARM.INI file can not be found during the IWS display library initialization, the following default values are used:

- The monetary symbol is displayed prior to the currency string.
- The monetary separator is displayed with two digits to the right in the currency string.
- The monetary separator is a decimal point (.).
- The monetary symbol is a dollar sign ($).

Refer to the *TOPS IWS Base Platform User’s Guide*, 297-2251-010, for charge adjust indicator information that is datafilled in the MPXPARM.INI file.

Charge adjust code can be displayed in the following formats:

Chg Adj: x hh:mm <Money><amount>
Chg Adj: x hh:mm <Minutes>nn
Chg Adj: x hh:mm <Occurrences>yy

where x indicates the charge adjust type
where hh:mm indicates the 24-hour clock time
where “<Money>” is the monetary charge adjust indicator
where “<amount>” indicates the monetary amount
where “<Minutes>” is the time charge adjust indicator
where nn indicates the number of minutes
where “<Occurrences>” is the occurrence charge adjust indicator
where yy indicates the number of occurrences

When the label is displayed in the error text color or displayed in the error text color in conjunction with <charge adjust code>, this indicates an invalid charge adjustment was made.

When the label is displayed in conjunction with the Confirmation of Cleared Condition string described later in this section, this indicates that the charge adjustment has been cleared by the operator.

N **string ID 0009**

When displayed in conjunction with up to four alpha characters, this label specifies a hotel guest’s name. If the name is invalid, it is displayed in the error text color. When the label is displayed in conjunction with the Confirmation of Cleared Condition string as described later in this section, this indicates that the hotel guest name has been cleared by the operator.

Lang: **string ID 0010**

This label, displayed in conjunction with either <calling language>, <called language> or both, indicates the language of the two parties. The text for calling language and called language come from table XLANG. The text for each language may be up to three characters.

Xfr **string ID 0011**

Indicates the transfer status of the call is set for call transfer. This text is only displayed if the queuing system in use is QMS.

When the label is displayed in conjunction with the Confirmation of Cleared Condition string as described later in this section, this indicates that the transfer status of the call has been changed from call transfer to no call transfer.

Trbl: **string ID 0012**

This label is displayed in conjunction with <trouble code> to identify the trouble report code entered in the trouble menu. When the label is displayed in the error text color or displayed in the error text color in conjunction with <trouble code>, this indicates an invalid trouble code entered.

When the label is displayed in conjunction with the Confirmation of Cleared Condition string as described later in this section, this indicates that the trouble report code has been cleared by the operator.

Valid called number

When the operator enters a new called directory number, it is sent to the DMS switch for validation. When it has been validated, formatted, and sent back to the position, it is displayed in the transient field.

Valid requested number

When the operator enters a new calling directory number, it is sent to the DMS switch for validation. When it has been validated, formatted, and sent back to the position, it is displayed in the transient field.

26.2 Static Info field

The Static Info Field is used to display call information messages received from the DMS switch. These messages remain visible until the end of the call or until the DMS switch sends updated information. The maximum string length for this field is 13 characters.

Cancel Call **string ID 0013**

Indicates that the operator has cancelled the call while the calling party is off-hook.

Ring Clg?? **string ID 0014**

Indicates an attempt to ring a calling line without a calling number.

Ring Cld?? **string ID 0015**

Indicates an attempt to ring a called line when no called number is in the system.

Coin Col?? **string ID 0016**

Indicates either an operator- or DMS switch-initiated coin collection attempt for a coin telephone connected to an End Office with a line method of coin control. The attempt failed due to a “no trunks available” condition.

Coin Ret?? **string ID 0017**

Indicates either an operator- or DMS switch-initiated coin return attempt for a coin telephone connected to an end office with line method of coin control, and the attempt failed due to a “no trunks available” condition.

Clock icon 

The display of the clock indicates to the operator that a query is in progress. When the clock icon is visible, the DMS switch limits the operations that can be performed by the operator.

Rtg Qry Fail **string ID 0018**

Indicates to the operator that the external rating query failed.

Rtg Not Att **string ID 0019**

Indicates to the operator that the external rating was not attempted due to network congestion.

26.3 No AMA Info field

The No AMA Info field is used to display billing information messages received from the DMS switch. These messages remain visible until the end of the call or until the DMS switch sends updated information. The maximum string length for this field is eight characters.

No AMA **string ID 0020**

Indicates that there is no charge for the call.

Tmg/Ca? **string ID 0021**

Indicates that timing or cancellation is required for the call.

26.4 Service Options field

The Service Options field is used to display information messages received from the DMS switch about the current service. These messages remain visible until the end of the call or until the DMS switch sends updated information. The maximum string length for this field is nine characters.

Call Comp **string ID 0022**

Indicates that the call completion option is valid for this service.

Mult Reqs **string ID 0023**

Indicates that the multiple requests option is valid for this service.

Mult Serv **string ID 0024**

Indicates that the call completion and the multiple requests option is valid for this service.

26.5 Service Voice Response field

The Service Voice Response field is used to display information messages received from the DMS switch about the reporting of listings. These messages remain visible until the end of the call or until the DMS switch sends updated information. The maximum string length for this field is eight characters.

Verb Rpt **string ID 0025**

Indicates that the automatic response unit (ARU) is not functioning; therefore, the operator must verbally quote the directory listing to the calling party.

Bill&Rpt **string ID 0026**

Indicates that communication on the database links is down; therefore, the operator must verbally quote the directory listing to the calling party and must manually bill for the call.

26.6 ADAS and No Automation field

The ADAS and No Automation field is used to display information messages received from the DMS switch regarding either of the following:

- any handling of the current call by Automated Directory Assistance Service (ADAS)
- the specification that the current call has not gone to any automated service, has gone directly to the operator, and cannot be handed off to an automated service

The ADAS message remains visible until the end of the call. The No Automation icon remains visible until the end of the call or until the operator selects the Allow Automation function for that call. The maximum string length for this field is four characters.

ADAS **string ID 0027**

Indicates that current call was handled by ADAS prior to arriving to the operator position.

No Automation icon 

Indicates that the current call cannot be handed off to an automated service.

26.7 Req? field

The Req? field is used to display information messages received from the DMS switch regarding requested number entry. These messages remain visible until the condition is cleared by the operator and the information is updated by the DMS switch. The maximum string length for this field is 4 characters.

Req? **string ID 0028**

Indicates that the requested number is either invalid or missing and required by the DMS switch for billing purposes.

26.8 Xfr Info field

This field relays call transfer information to the operator. These messages remain visible until the end of the call or until the DMS switch sends updated information. The maximum string length for this field is seven characters.

Xfr Err **string ID 0033**

Indicates that the request to transfer a call to another transfer queue failed.

26.9 Call arrival strings

The IWS display library also provides call arrival information text for any application to display within its application areas at any time. Refer to specific application documentation to determine whether the application makes uses of this call arrival information text from the IWS display library, where the displays are made, and how the information is formatted. The following table identifies the information provided in the call arrival information text and the source for the text. The datafill tables listed are IWS base application tables. Refer to the *TOPS IWS Base Platform User's Guide*, 297-2251-010, for descriptions of these tables.

TABLE 2. IWS display library call arrival information

Call arrival information	Source
Service type	XSERVS.TBL
Call type	XCLLORIG.TBL
Call arrival status	XCASTS.TBL
Reason for operator	IDLMSA.LNG
CT4Q	XCT4Q.TBL
Trunk group	XTGDSPL.TBL
Service provider ID (SPID)	Sent from the DMS switch
Calling DN	Sent from the DMS switch via Open Position Protocol
Restricted billing information	XRBLG.TBL or XDARBLG.TBL (whichever is appropriate based on datafill in XSERVS.TBL for the current service) or XOLNSEQP.TBL for OLNS calls.
OLNS restriction information	XOLNSRST.TBL

Reason for Operator The following strings identify Reason for Operator call origination information. The maximum string length for these strings is 10 characters.

Recall **string ID 0034**

Indicates a reason of coin flash recall in which a coin sent paid call recalls to the operator due to hook-flash by the calling subscriber.

Notify **string ID 0035**

Indicates a nonstandard notify time has expired and it is time to notify the call.

Overtime **string ID 0036**

Indicates a reason of coin overtime notify in which the operator collects the charges for the last period of conversation for a coin sent paid call.

DA-Rcl **string ID 0037**

Indicates that a Directory Assistance call has recalled to the operator.

T&C **string ID 0038**

Indicates a call that requested time and charge information during call setup has ended.

Trunk group/SPID Sources of information on the incoming trunk group and service provider identification (SPID) of a call are the XTGDSPL.TBL and the DMS switch respectively. The IWS display library obtains the text strings from these sources to display in the appropriate fields in the IWS Billing and NTDA applications. When the DisplayBoth parameter (in MPXPARM.INI file) is "ON," the display library checks the settings in the Priority parameter (in MPXPARM.INI file) to determine which text string to display in which field in each application. The IWS Billing application has Priority 1 and Priority 2 fields. NTDA has one field that displays the text strings that has the higher priority.

For more detail on trunk group and SPID displays, refer to the following documents: *TOPS IWS Base Platform User's Guide*, 297-2251-010, *TOPS IWS RAMP and Provisioning User's Guide*, 297-2251-015, *IWS Billing Application User Guide,* 297-2251-016, and *TOPS IWS NTDA Application Guide*, 297-2251-017.

26.10 Confirmation of Cleared Condition String

This string is displayed in the transient field in conjunction with other transient field display messages to indicate that the associated condition has been cleared by the operator. The maximum string length for this string is 10 characters.

cleared **string ID 0039**

Currently this string is appended to charge adjust, trouble code, hotel guest name, and QMS call transfer status display labels to indicate that the associated information has been cleared.

27.0 Data schema

This section discusses the format of the IWS base HMI application language datafill files, including any guidelines that the files follow.

For more detailed descriptions and rules about the position's datafill files, refer to *TOPS IWS Base Platform User's Guide*, 297-2251-010.

27.1 Language data files

Each window has language data files, which contain elements such as window title, field labels, and softkey labels.

Table 3 lists the language files required by the base HMI application.

TABLE 3. Language files

Window	Language File
Assigned activities window softkeys	AACTWSFK.LNG
Applications menu title/page	APPLMENU.LNG
Assigned activities window title/page	ASSGNACT.LNG
Base HMI message/status area	BHMIMSA.LNG
Internal booked call database	BKCALLDB.LNG
Internal booked call database soft-keys	BKCALLSK.LNG
CT4Q menu title/page	CT4QMENU.LNG
Functions menu title/page	FNCMENU.LNG
IC Query softkeys	ICQUSFK.LNG
IC window softkeys	ICSFK.LNG
IWS display library	IDLMSA.LNG
Logo window	LOGOTEXT.LNG
Logon window softkeys	LGNSFK.LNG
Logon window title/page	LOGON.LNG
Message editor	ME.LNG
Message editor softkeys	MESFY.LNG
Outtrunks menu title/page	OGTMENU.LNG
Operator administration softkeys	OPADMSFK.LNG
Operator profile window title/page	OPPRFLNG.LNG
Operator profile window softkeys	OPPRFSFK.LNG
Operator stats window title/page	OPRSTATS.LNG
Operator stats softkeys	OPRSTSFK.LNG
No Action reasons	PANOACT.LNG
Password window title/page	PASSWORD.LNG
Password window softkeys	PASSWSFK.LNG
Position message/status area	POSMSA.LNG

TABLE 3. Language files (Continued)

Window	Language File
Position profile window title/page	POSPRFLG.LNG
Position profile window softkeys	POSPRFSK.LNG
Service assistant softkeys	SASFK.LNG
Scripting window title	SCRPTLNG.LNG
Services menu	SVCSMENU.LNG
Trouble menu	TRBLMENU.LNG

Each language data file, as described in the appropriate sections in this document, contains the text strings that are assigned to specific string IDs. The content of each string may be changed as desired, up to the maximum string length for the string being changed.

The string IDs must be sequentially numbered, starting from 0. String IDs in language files are read consecutively up to the maximum expected string ID. If there are duplicate string IDs encountered as a language file is read, this is considered a fatal error condition. If an out of sequence string ID is encountered, an error message box is displayed to indicate the fatal condition. If the quoted text string is longer than the allowed field length, the string is truncated. This is not considered an error condition, thus no indication is given.

The default language data files provided with the IWS are English text. The content may be changed to reflect any desired language supported by the ANSI character set.

27.1.1 Language file format

Language datafill files follow guidelines with respect to format. For example, comments are denoted by a semicolon(;). Any text following a semicolon is not displayed and is disregarded by the position. Comments are used to define the fields and to give descriptions of the files. Following is an example version of the LOGON.LNG data file. The example illustrates the format of the language datafiles.

```
;+
; ------------------------------------------------------------------
;  Table: logon.lng
;  ------------------------------------------------------------------
;
;  Description:
;  ------------
;     This table supplies English language labels and messages for all
;       text displayed in the logon window.
;-
;
;String
;  ID              Text
;------    ------------------------------------------------------
;
; Logon Window Labels
;- max string length 10 characters
;

;
0000         "Id"
0001         "Password"
;
```

;
;

27.1.2 No Action reasons

No Action reasons indicate the reason that no action was taken by the DMS switch in response to an action request. The No Action reasons are displayed in the Transient field of the message/status area.

No Action reasons are defined in file PANOACT.LNG file.

In event of receiving an out of range no action reason from the DMS switch, the following message is displayed: OPP–Invalid No Action Reason. This message is not included in file PANOACT.LNG and cannot be translated.

Table 4 reflects a mapping of the integer values to the respective reasons.

TABLE 4. Sample No Action reasons table

Integer value	No Action reason
0	Nil No Action reason
1	AMA Verify In Progress
2	DN Type Not Domestic
3	Nil DN Connect Type
4	Non Nil DN Connect Type
5	Release Back Keyed
6	Back Party Connected With ANI
7	No DN Provided
8	Change Of Connected DN
9	Removal Of Valid Called DN
10	Removal Of Valid Calling DN
11	Change Of Valid Calling DN
12	Invalid For This Service
13	Call Already Interrupted
14	Not a BLV Connection
15	Overwriting Forward Connection
16	Invalid Country Code
17	Invalid For This Numbering Plan
18	Invalid Call Type
19	Billing Number Too Large
20	Carrier Not Present
21	Invalid Charge Request Info
22	Time Less Than Initial
23	Invalid For Inwards Call
24	Xfr IC Not Allowed
25	No Back Party

TABLE 4. Sample No Action reasons table (Continued)

Integer value	No Action reason
26	No Forward Party
27	Forward Party Present
28	Tone Repeat Failed
29	Third Number In Forward Port
30	Cancel Timing Failed
31	No More Handoffs Allowed
32	Handoff Not Allowed On Delay Call
33	Handoff Not Allowed On Free Call
34	Handoff Not Allowed On This Call
35	AABS Resource Failure
36	Invalid Automated System ID
37	Alternate Party Already Exists
38	Outpulsing Failed
39	Release Back Invalid
40	Function Invalid For Called
41	Invalid Position Number
42	Invalid Position State
43	Invalid Position Type
44	Missing Position Number
45	Marking Is Firm
46	Mark As Coin Invalid
47	ATC Trunk Origination
48	Call At Position
49	Call Cancelled
50	Call Not Billable
51	Carrier Number Too Large
52	Disallowed On Recall
53	Gen AMA Disallowed
54	Gen AMA Failure
55	Interlata Restricted
56	Invalid Feedback Type
57	Invalid Operator Action
58	Invalid Operator Number
59	Invalid Operator Type
60	Invalid Service Selection
61	Invalid Team Number
62	Login In Progress
63	Logout In Progress

TABLE 4. Sample No Action reasons table (Continued)

Integer value	No Action reason
64	Invalid Monitor Type
65	No Service Selection
66	OOC Call
67	Operator Already Monitored
68	Operator Not Logged On
69	BLV In Progress
70	Outpulse To Requested DN Invalid
71	Overwriting Forward Connection
72	Special Verify In Progress
73	Not A Coin Call
74	Class Charge Disallowed
75	Only Auto Collect Allowed
76	PCB And Dial Rate Invalid
77	PCB And Orig Type Invalid
78	Invalid Billing For Time And Charges
79	Class Charge In PCB
80	No Manual Rating Allowed
81	Special Verify In Forward Port
82	Invalid DN Type
83	Invalid Charge Adjust Info
84	Start Timing Failed
85	Position Release Disallowed
86	Invalid Call State For Cancel Timing
87	Invalid Billing For Cancel Timing
88	Invalid AMA Status
89	Invalid Loop State
90	Invalid Loop Number
91	Loop Is Idle
92	Loop Is Perm Held
93	Loop Is Temp Held
94	Loop Already Held
95	Loop Already Accessed
96	Monitor Type Invalid
97	Changing Type
98	Password Disallowed
99	Operator Number Range Failure
100	Invalid Outtrunk Index
101	Invalid For Asst/IC

TABLE 4. Sample No Action reasons table (Continued)

Integer value	No Action reason
102	Call ID Mismatch
103	Cannot Serve CAMA
104	No CAMA Calls
105	No Idle Loop
106	Invalid Service Number
107	Invalid Reference Code
108	Invalid Character Received
109	Timing Already Started
110	Invalid Dial Rate Status
111	Invalid Person Call Back Status
112	Invalid Network Action
113	Invalid Port
114	Block Calling In Effect
115	Calling Number Not Present
116	Invalid Billing For Block Calling
117	Fixed Duration Not Allowed
118	Invalid Fixed Duration Status
119	Not Allowed With Fixed Duration
120	Invalid Foreign Assistance Type
121	Invalid Text Start Position
122	Invalid Text Action
123	Invalid DACC Directory Number
124	Invalid for Non-QMS Position
125	Muted Notify Not Allowed
126	Invalid for Prepay Coin Call
127	Invalid Ticket Number Action
128	Invalid Foreign Calling Card
129	Invalid Trunk Type for TBI
130	TBI Active On Other Port
131	Invalid TBI State
132	Database Verification in Progress
133	Invalid for Externally Rated Call
134	Invalid for Country Direct
135	OSSAIN Inactive
136	Invalid Billing for OSSAIN
137	Connection in Progress
138	Invalid CT4Q for Transfer to OSSAIN
139	Call Cannot Transfer to OSSAIN

TABLE 4. Sample No Action reasons table (Continued)

Integer value	No Action reason
140	Operator Attachment Failed
141	Operator Attachment Disallowed
142	Disallowed during Attachment
143	Restricted Action
144	Invalid Assistance Request Type
145	Queue Full
146	Invalid Pos/Opr Number
147	Invalid Query List Type
148	Operator Not Accepting Calls
149	Operator is Monitoring
150	Not a North American Numbering Plan
151	Invalid for Local Number Portability

28.0 Installation procedures for Base HMI application

The Base HMI application is installed with the IWS base. See *TOPS IWS Base Platform User's Guide*, 297-2251-010, for installation details and processes. No separate installation steps are necessary.

28.1 Configuring the MPXINI.INI file

The Base HMI application must be included as a registering application in the MPXINI.INI file. However, it should **NOT** be the default registering application. An example is given below.

```
;
DefaultApplication= ntoa
Registering1= basehmi
Registering2=
Registering3=
;
```

Note that the registering application section shown above is only a subset of the initialization file MPXINI.INI

28.2 Configuring the BASE HMI color sets

As of IWS 17.1, the process for configuring the HMI color sets has changed. Please refer to *TOPS IWS Base Platform User's Guide*, 297-2251-010, for specific information on how color sets are configured.

29.0 Base HMI logs

The logs generated by the Base HMI application are sent to the IWS base log application. Refer to *TOPS IWS Base Platform User's Guide*, 297-2251-010, for specific information on the log report format and how to view the logs. A list of logs generated by the Base HMI application (BHMILOGS.DOC) may be found in the C:\MPXBASE directory.

30.0 Installation procedures for CASE application

The CASE application is installed with the IWS base application. See *TOPS IWS Base Platform User's Guide*, 297-2251-010, for installation details and processes. No separate installation steps are necessary.

30.1 Configuring the MPXINI.INI file

The CASE application needs to be added to the MPXINI.INI file as a registering application. However, it should **NOT** be the default registering application. An example is given below.

```
;
DefaultApplication= iwsntoa
Registering1= basehmi
Registering2= case
Registering3=
;
```

Note that the registering application section shown above is only a subset of the initialization file MPXINI.INI.

30.2 Adding the CASE application to the Applications menu

Add the following line to the XAPPL.TBL file:

```
;
;       Appl          Application     Appl         Extra Data
;       Num           Description     Tag          Indicator
;-------------------------------------------------------------------
;
        0           "CASE Application""IWSCASE"  N
;
```

Note that the number in the Appl Num field can be any number that is valid for the field. This is the number that will display in the Applications menu.

30.3 CASE application datafill

The CASE application requires two datafill language files. The table below lists the language files required by the CASE application.

Language file	Contents of file
CASESFKY.LNG	Contains softkey labels
CASEAPP.LNG	Contains window labels and display strings

31.0 Initialization/runtime errors

This section describes errors in the IWS Base HMI application that occur during the initialization or runtime and result in display of a Windows “Message Box.” These are errors that require immediate action to resolve the problem. Since a log might not be able to be created during initialization, this type of message is the only way to inform the user of a problem.

A message box can usually be cleared by pressing the space bar on the keyboard. Depending upon the nature of the error, initialization of the Base HMI application may or may not fail. Each message box description below contains information as to whether or not the error causing the message box display is fatal.

31.1 Message box data file location

A list of message boxes generated by the Base HMI application (BHMIMSGS.DOC) may be found in the C:\MPXBASE directory and may be viewed with the editor of your choice.

32.0 Microsoft Windows

The IWS Base HMI application is a Microsoft Windows application, and many of the features and capabilities of Microsoft Windows apply.

Note: The following Microsoft Windows functionality is not supported.

- **Alt + Tab** key combination, except in the logo window and logon window, if the ALTTAB environment variable is set to 1
- **Alt + Esc** key combination
- **Ctrl + Esc** key combination

For information on the purpose and means of enabling these key combinations, see *TOPS IWS Base Platform User's Guide*, 297-2251-010.

32.1 Mouse considerations

Remember that the use of a mouse is not recommended for the Base HMI Application. Whether the mouse is disabled or not, however, you should be aware of the following two special circumstances:

- If you are using a mouse with the base HMI application, you may experience a loss of focus. Clicking the mouse in certain areas causes the active window to gray out and lose focus. Softkeys do not respond, and any keyboard keystrokes associated with the window may be inactivated. To regain focus, move the cursor over the window where you were working and click the mouse.
- You should also be aware that it is possible to use the mouse to cut and paste.

32.2 Cursor

The cursor is a flashing bold vertical bar. The flashing rate can be adjusted under the Windows Desktop. Please refer to the Microsoft Windows user's guide for details.

32.3 Fonts

The IWS system uses several fixed and variable pitch fonts to display text information.

32.3.1 IWS fonts

The custom IWS font is a fixed pitch 7x12 pixel font is based upon the ANSI character set with the additions listed in Table 5.

TABLE 5. IWS font ANSI extensions

Hex value	Character displayed
x01	Left third of cassette icon
x02	Middle third of cassette icon
x03	Right third of cassette icon
x04	Left third of speaking operator icon
x05	Middle third of speaking operator icon
x06	Right third of speaking operator icon
x07	Left third of hand icon
x08	Middle third of hand icon
x09	Right third of hand icon
x0A	Left third of no hand icon
x0B	Middle third of no hand icon
x0C	Right third of no hand icon
x0D	First sixth of links problem encountered icon
x0E	Second sixth of links problem encountered icon
x0F	Third sixth of links problem encountered icon
x10	Fourth sixth of links problem encountered icon
x11	Fifth sixth of links problem encountered icon
x12	Last sixth of links problem encountered icon
x13	First half of no automation icon
x14	Second half of no automation icon
x1C	Left half of clock icon
x1D	Right half of clock icon
x86	Left half of envelope icon
x87	Right half of envelope icon

32.3.2 Microsoft Windows system font

Microsoft Windows system font is a variable-pitch font with an average character width of 7 pixels and a maximum character width of 14 pixels.

32.3.3 Microsoft Sans Serif font

Microsoft Sans Serif font is a variable pitch font with an average character width of 8 pixels and a maximum character width of 15 pixels. MS Sans Serif is also a derivative of the Helvetica font.

33.0 Document references

TOPS IWS Base Platform User's Guide, 297-2251-010

The IWS base consists of the hardware and software that make up the platform used for operator services applications such as directory assistance, intercept, and toll and assistance services.

This document describes the capabilities of the TOPS IWS base platform. It contains base hardware and software installation instructions for all applications, base tool usage, and data schema, system engineering, performance, maintenance, and other miscellaneous information. This document is intended for operating company personnel and Nortel Networks personnel who support TOPS IWS operations.

IWS Billing Application User Guide, 297-2251-016

This document provides a description of IWS billing in terms of the HMI it provides to the operator and the various call-related and system functionality employed by the operator. The document explains the display string datafill required for IWS billing displays, and the base datafill configuration required to run the application on the position. This document is intended for methods and training personnel, managers, and operating company personnel. Installation instructions for this application appear in *TOPS IWS Base Platform User's Guide*, 297-2251-010.

TOPS IWS NTDA Application Guide, 297-2251-017

This document describes the HMI and call-related system functionality of the NTDA application. The document explains the display string datafill required for NTDA displays, and the base datafill configuration required to run the application on the position. This document is intended for methods and training personnel, managers, and operating company personnel. Installation instructions for this application appear in *TOPS IWS Base Platform User's Guide*, 297-2251-010.

TOPS IWS Base Application Programmer's Interface, NIS Q231-1

The base application programmer's interface (API) consists of a set of common programmer guidelines (the API) and a set of software interfaces to the IWS base. The base API is implemented by the IWS base and is necessary for creating applications that run in an IWS system.

This document describes base API functions in detail. It is intended for application developers. It describes application registration, Windows DDE protocol, and interfaces used to exchange information about system events (such as operator logon, call begin, call end, and position maintenance commands) between the IWS base and the operator positions. It explains application requests to send OPP ActIDs to the DMS switch, to generate system logs, to create debug files, and to access datafill files. It also describes the DMS/gateway simulator API that is provided as part of the base API and that simulates the OPP DID/ActID interface.

TOPS IWS HMI Application Programmer's Interface, NIS Q232-1

The human-machine interface (HMI) application programmer's interface (API) provides software interfaces to applications to allow for a common user interface. It gives operators a common access environment across all applications in the position.

This document describes the HMI API. It explains the message/status area, the keyboard and softkeys, the display library, scripting capabilities, and the windows for the applications, functions, outtrunks, services, and trouble menus. It also describes the functional interfaces that allow access to these common windows.

Open Position Protocol

This document provides the functional description and interface specification for the interworking between the DMS switch and a position supporting a human operator. This is a licensed document which may be obtained through Nortel Networks.

34.0 Revisions

34.1 Revisions in Post-GA release 17.1

- The following datafill (INI, TBL, and LNG) files were added, altered, or deleted.
  - **New files:**

    ME.LNG
    MESFY.LNG
  - **Altered files:**

    none
  - **Deleted files:**

    none
- Updated SCRPTINI.INI example and clarified Enhanced Scripting functionality.
- Updated scripting cross-reference datafill file information regarding NTOA and NTDA.

34.2 Revisions in release 17.1

- The following datafill (INI, TBL, and LNG) files were added, altered, or deleted.
  - **New files:**

    none
  - **Altered files:**

    SCRPTINI.INI
    MPXINI.INI
    MPXNET.INI
    NTDAINI.INI
    HOSTS.TBL
    PDCALLD.LNG
  - **Deleted files:**

    none
- New information on Enhanced Scripting capability. provided further clarity between existing and enhanced scripting.
- IWS supports receiving a foreign requested directory number from the TOPS switch. Previously IWS could accept only domestic requested numbers.

34.3 Revisions in release 17.0

- The operating system for IWS has been upgraded from Windows 95 to Windows XP Professional.
- There are now fourteen IWS color sets. There are also new instructions for establishing and storing color sets. Instructions are available in the *TOPS IWS Base Platform User's Guide*, 297-2251-010.
- New Enhanced Scripting capability that allows various call parameters to drive the IWS script window display. Updates to the SCRIPTINI.INI format, new XSCRULES.TBL or XSCRULES.XLT, and new SCRPTCR.XLT.

34.4 Revisions in release 15.2

- The scripting window now can be made to display without automatically having keyboard focus in both NTDA and the IWS Billing application. This enhancement streamlines the number of keystrokes required from the operator. The scripting window displays at call arrival and is completely visible, but the cursor is located in the appropriate data entry field. The operator no longer has to press the **Start** key to remove the scripting window before handling the call. At any time during the call, the operator can return focus to the scripting window by pressing the **Display Script Window** key.
- Base HMI windows are enhanced with a more three-dimensional appearance in the message status area and the softkeys.
- IWS now supports changes in screen resolution, as illustrated in chapter 6.0, "Position profile window," and chapter 7.0, "Logon window."

34.5 Revisions in release 15.0

- No revisions in release 15.0

34.6 Revisions in release 14.0

- A new menu allows the operator to transfer certain calls to queues designated to handle calls of that type. The call type for queueing (CT4Q) menu window displays in the operator information window when the operator presses the **CT4Q** key on the IWS keyboard twice. Up to 2046 call types for queueing can be listed in the CT4Q menu.
- A new **CT4Q** key allows access to the new CT4Q menu. Before it can be used, the **CT4Q** key must be bound to a key on the IWS keyboard.
- New files CT4QMENU.LNG and XCT4QMNU.TBL support the operations of the CT4Q menu.

34.7 Revisions in release 13.0

- Before release 13.0, when operator positions were initialized, the headset volume automatically reverted to 0 dB, and the operators' own volume adjustments started from that level. In release 13, positions are still shipped with 0 dB as the default level for headset volume at initialization, but service providers can change the datafill for this option to any decibel level within the limits of the adjustment range. If a different level is set, then the operators' volume adjustments are applied to the new level. This feature allows service providers to accommodate varying noise conditions in their operator service centers.
- In chapter 31, "Microsoft Windows," in the section on fonts, the table showing all the ANSI extensions used for creating IWS icons has been updated.
- A new function has been added to the Functions menu: function 79, "Clear trigger profile."

34.8 Revisions in release 12.0

- Two new strings have been added to the CASEAPP.LNG file. The string "QCA" appears twice: once as a new title for the query results window, and once as a new alarm condition.
- A new string, "Qry QCA," has been added to the CASESFKY.LNG file. This is the label for a new softkey in the CASE application.
- A new string, "CA," has been added to the POSMSA.LNG file. This "calls-alerting" indicator displays when calls are waiting in designated alerting queues.
- QMSCASE has been enhanced to allow operating companies to designate "alerting" queues for high-priority calls such as assistance requests. When calls are waiting in an alerting queue, IWS provides a visual and audible alarm; the message "QCA" appears in the statistics and alarms window, and the audible alert sounds at the positions of all operators logged into that queue. In addition, by pressing the new **{Qry QCA}** softkey, operators with the appropriate query capabilities can see the new query results window, "QCA Queues."

34.9 Revisions in release 11.0

- The operating system for IWS has been upgraded from Windows 3.1 to Windows 95.
- The IWS color sets are now stored in the Windows 95 registry.
- An operating company can indicate that calls from a specific subscriber line do not arrive at an automated service (that all such calls go directly to an operator) and cannot be released to any automated service. If the subscriber requests that

an individual call be released to an automated service, the operator can use the new Allow Automation function to release that call to an automated service. (See pages 152 and 204.)

34.10 Revisions in release 10.0

- A change has been made to file XKBOARD.TBL for the following effect:
- While any menu is displayed, all the keystrokes made by the operator respond according to the key datafill for the application that had focus when the menu was activated.

34.11 Revisions in release 9.0

- Additional hardware requirements:
  - Printer with capabilities for bitmap printing, attached to the RAMP
  - Key cap label for the new screen capture key
- Additions to software
- A Print/Save Screen feature is added to all applications. The following changes are made for this new feature:
  - File XTROUBLE.TBL includes a new field (ScreenCapture)
  - IWS generic key set includes a new key (Screen capture)
- In file MPXPARM.INI, a new section, [Clock], is added with the following datafillable variables:
  - ClockDisplay, to provide optional display of the clock.
  - AdjustTime, to provide time adjustment for time zone difference. The range is +/- 12 hours.
  - CallTimerDisplay, to provide optional display of the timer.
- In file SCRPTINI.INI, in NTOA and NTDA sections, the following new datafillable variables are added:
  - RCPriority (NTOA section only)
  - SPIDPriority
  - CT4QPriority
  - COPriority
  - VisibleDuringCall (NTOA section only)
- The following new tables are added or altered:
  - XCOTHSD.TBL, to provide datafilling a threshold (in minutes and seconds) for each call type. The call timer feature uses this table.
  - XSPIDXSC.TBL is for scripting in the NTOA/NTOA Plus applications.
  - NTDASPID.TBL is for scripting in the NTDA application.
  - Table files CORGNTDA and CT4QNTDA have names changed to NTDACORG and NTDACT4Q, respectively.
- Enhancements to scripting are as follows:
  - SPID is an additional attribute. Up to 250 SPIDs can be used.

- The scripting hierarchies are datafillable (1–4 for NTOA/NTOA Plus, and 1–3 for NTDA)
- In NTOA/NTOA Plus, the operator can switch between the scripting window and the application window during call processing. This can be done by using the call processing keys and Script Window Display key.

34.12 Revisions in release 8.0

- All references to 2.93 were removed from the IWS setup utility because releases IWS 1.0 through 2.93 are no longer supported.
- The datafill patching process for upgrades was removed and replaced with a datafill preserve process. The upgrade strategy was changed so that release IWS 8.0 can be installed while preserving datafill previously loaded on an IWS terminal, and adding and changing only those datafill files that must be changed for proper system operation.
- The two files UNCHGTBL.TXT and PATCHTBL.TXT are not longer present in directory C:\MPXBASE\DATAFILL.
- New datafill tables XINFBSVC.TBL and XINFBRSN.TBL were added to the C:\MPXBASE\DATAFILL directory to support the IN Fallback feature.
- Release NTDA 8.0 software can be installed without first removing (uninstalling) previously loaded NTDA software.
- The two files TASKON.BAT and TASK.OFF have been added to replace the files UNLOCK.BAT and LOCK.BAT. The new files are in the C:\MPXBASE\TOOLS; directory. And for a RAMP, they are located in the C:\RAMP\INSTALL\MPXBASE directory.
- NTDA-MPXSetup displays were removed from the IWS software installation process.
- NTDA 8.0 applications files are placed in directory C:\IWSNTDA as opposed to directory C:\IWSNTDA\BIN for previous releases.

34.13 Revisions in release 7.0

- Added two new strings to the pending field of the MSA (which are datafilled in file POSMSA.LNG) to show that an operator is attached or released from an Operator Services Systems Advanced Intelligent Network (OSSAIN) simultaneous interaction call.
- Modified softkeys in Assigned Activities window and AACTWSFK.LNG documentation for the new “Enable Colorbl”/“Disable Colorbl” toggle softkey. Changed the colors of the permanent and temporary hold icons that appear in the loop status windows.

- Added LNP Info Called, LNP Info Calling, and LNP Info Special functions to the functions menu for LNP support. Added LNP query functionality to the existing clock icon located in the Message Status Area (MSA). Two new No Action Reasons (150-151) were added to the no action reason table as a result of feature LNP.
- Added a function, Calculate Est Chg, to the functions menu to facilitate calculating charges for feature estimate of call charges.
- Eliminated all README files.

34.14 Revisions in release 6.0

- Information has been added to this document covering the addition of the Customizable Message on the Logo Window.
- Logotext.lng was added to the Data Schema
- Added new chapter which discusses the new CASE application.
- Added new chapter in installation section to discuss installation of CASE application.
- Added modified strings to the SA/IC which are datafilled in the POSMSA.LNG file and are introduced with the QMSCASE development.
- Changed monitoring functionality so that a monitoring session is terminated when the monitored operator logs out.
- Added new functions to the Functions Menu chapter.
- Added new No Action Reasons (144-149) as a result of the QMS CASE feature.
- Added a new chapter which discusses the Scripting Window and Scripting related datafill.
- Obsoleted the Memo function from the Functions Menu.
- Added editing capabilities to the following functions:
  - Calling Party Name
  - Called Party Name
  - International

34.15 Revisions in release 5.0

- Addition of new No Action Reasons (133 and 134) added to the No Action DID: a new tuple is being added to table PANOACT.LNG.
- The log icon on the Logo screen has been changed to the RAMP icon.
- It has been noted in the IWS Display Library section and the Data Schema section that the IWS Display Library language file, IDLMSA.LNG, is required by the Base HMI application for proper functioning.

- The IDLMSA.LNG language file used by the IWS Display Library is changed to add string ID 39 “cleared” for confirmation of a cleared condition.
- Information has been added to this document covering additional displays of “Rls Calling” and “Rls Called.” The introduction into the network of new trunk types such as ISUP trunks causes these additional displays.

34.16 Revisions in release 4.1

- Addition of three new functions in the Functions Menu: General Assistance, Directed Assistance, and Paged Assistance.
- Addition of the IWS Display Library, which optionally provides call-related displays in the Message/Status Area for other applications.
- The IDLMSA.LNG language file used by the IWS Display Library is changed to remove string ID 0 ‘Invalid Service’ and all remaining display strings are renumbered.

34.17 Revisions in release 4

- Addition of new DMS Maintenance Busy icon on Logo Window that notifies the user when the DMS SWITCH has busied the Position.
- The Message/Status Area and SA/IC windows may now display non-standard characters which are included in the Microsoft Windows Latin II character sets. These ability to display these characters are controlled by a new option in the MPXPARM.INI file called CharTranslate.
- Addition of Memo function that is accessible from the Functions Menu.
- Addition of No Action Reason of “Database Verification in Progress” to support an external rating system that is unbundled from the TOPS switch.
- Addition of the Start CLG TBI, Stop CLG TBI, Start CLD TBI, & Stop CLD TBI functions that are accessible from the Functions Menu.
- Addition of No Action Reasons of “Invalid Trunk Type for TBI”, “TBI Active On Other Port”, & “Invalid TBI State” to support the manual toll break in feature.
- Addition of two new icons that appear in the MSA port status area. These icons represent subscriber busy and network congestion. These icons will appear only on networks utilizing R2 signalling (GOS only).

34.18 Revisions in release 2.93

- This is a new application that provides a general user interface from which other applications can run. As a result, OA is an independent application that is not required on the position.
- New Logo Window.

- New Logon/Logoff scheme.
- There is a datafillable flag in the MPXINI.INI file that determines whether or not the headset will affect logon to and logoff of the position.
- Audio card not required in position.
- Applications Menu which allows a user to access applications prior to and after logon. Allows access to external databases for administrative queries.
- Operator Administration Window displayed prior to logon. Allows the operator to access the Applications Menu, Position Profile Window, and proceed with logon to the DMS switch.
- Operator Profile Window displays DMS operator information. Accessed from the Assigned Activities Window after logon to the DMS switch.
- Position Profile Window displays information about the position and the applications that are running on the position. Accessed from the Operator Administration Window prior to logon to the DMS switch.
- Operator Profile Window displays DMS operator information. Accessed from the Assigned Activities Window after logon to the DMS switch.
- Restructuring of the Message/Status Area to allow more available display space for API compliant application.
  - Application Message Fields created to be used by other applications.
  - Maintenance messages and Logon Denied Messages displayed in Message/ Status Area.
  - SA/IC Pos State Field introduced to display the position state of the SA/IC.
- New Functions Menu Items. For more information on these functions, refer to “Functions menu” on page 135:
  - Quit Monitoring
  - Stop Bell
  - Calling Party Name
  - Called Party Name
  - Generate Ticket Number
  - Update Ticket Number
  - Muted Notify
  - Split/Join Operator
  - DTMF
  - Fixed Duration
  - International DA/Inward
- SA/IC Windows moved to the top of the screen. Call Information Window is only displayed when the OA application has focus. For example, if OA is used as the billing application, and a loop is active.
- Additions to the No Action Reason language file.
- New Message/Status Area language files:
  - BHMIMSA.LNG

  - POSMSA.LNG

- Other new language files:
  - PANOACT.LNG
  - POSPRFLG.LNG
  - POSPRFSK.LNG
  - OPADMSFK.LNG
  - OPPRFLNG.LNG
  - OPPRFSFK.LNG
  - APPLMENU.LNG
  - LGNSFK.LNG
  - SASFK.LNG
  - ICSFK.LNG
  - ICQUSFK.LNG
- Datafill files that were altered:
  - AACTWSFK.LNG
- Datafill files that were removed:
  - NTLOGO.LNG
  - XNOACTN.LNG
- SWERRs are not supported in release 2. All SWERRs were converted to LOGs.
- Additional functionality added to the headset based upon a datafillable option in the MPXINI.INI file. The option allows the user to specify whether or not they want the headset to drive logon to and logoff of the DMS switch.

35.0 List of terms

ABBS

See Automated Alternate Billing Service.

accessed loop (ACS)

The message ACS displays on the screen of the IC operator or CSE to indicate that a loop is accessed but has no calling or called party attached.

ACS

See accessed loop.

ACW

See assistance calls waiting.

ADAS

See Automated Directory Assistance Service.

AMA

See automatic message accounting.

American National Standards Institute (ANSI)

A standards-setting, non-governmental organization founded in 1918, which develops and publishes standards for transmission codes, protocols, and high-level languages for voluntary use in the United States. IWS fonts are based upon the ANSI character set, with some IWS-specific additions.

American Standard Code for Information Interchange (ASCII)

The standard coding method used by small computers to convert letters, numbers, punctuation, and control codes into digital format. There are 128 defined ASCII characters.

ANSI

See American National Standards Institute.

API

See application programmer's interface.

application programmer's interface (API)

A layer of TOPS IWS base software that provides an open interface enabling applications from different vendors to communicate with system software.

ARU

See audio response unit.

ASCII

See American Standard Code for Information Interchange.

assistance calls waiting (ACW)

The message ACW displays in the MSA to indicate that there are assistance requests in the SA or IC assistance queue.

audio response unit (ARU)

A device that translates computer output into spoken voice by providing synthesized voice responses to dual-tone multi-frequency signaling input.

Automated Alternate Billing Service (AABS)

A feature that allows automated completion of calling card, collect, and third-number calls using voice recognition technology and prompt generation to communicate with the calling and billed parties.

Automated Directory Assistance Service (ADAS)

A software program that automates the initial request of directory assistance (DA) call processing. ADAS greets the subscriber and elicits the locality and the name of the needed listing. The call then goes to the operator, and the recorded information is played back. By involving the operator only after the name and listing have been received, ADAS saves time during the caller and operator interaction.

automatic message accounting (AMA)

An automatic recording system that documents all the necessary billing data of subscriber-dialed long distance calls.

average work time (AWT)

The time in seconds required to handle the average call. AWT includes all operator unavailable time.

AWT

See average work time.

call type for queueing (CT4Q)

Part of a system for organizing and assigning call queues. Instead of mapping call origination types directly to a call queue, table QMSTOPS provides a CT4Q. A series of tables then refine the CT4Qs to allow the traffic office to divide incoming traffic into separately manageable categories based on different call attributes, according to office-specific criteria.

called party (CLD)

The end user who receives a call.

calling party (CLG)

The end user who originates a call.

calls deflected (CD)

The message `CD` displays in the MSA to indicate that calls are being deflected from one or more queues.

calls waiting (CW)

The message `CW` displays in the MSA to indicate that calls are queued waiting for service.

CAMA

See centralized automatic message accounting.

CASE

See Customer Assistance Service Enhancements.

CBT

See computer-based training.

CD

See calls deflected.

centralized automatic message accounting (CAMA)

The billing system for long distance calls. In this system, a central facility for a number of exchanges records call details.

CLD

See called party.

CLG

See calling party.

computer-based training (CBT)

A system that allows operators to train at an IWS workstation.

controlled traffic (CT)

The message CT displays in the MSA to indicate that controlled traffic mode is active.

CSE

See customer service expert.

CT

See controlled traffic.

CT4Q

See call type for queueing.

Customer Assistance Service Enhancements (CASE)

A registering application installed with IWS base software. CASE works with QMSCASE switch software to combine the functionality of traditional service assistants and in-charge operators with that of general operators. Depending on switch datafill, CASE allows operators to handle calls and also to view team statistics and office alarms and query additional queue and statistical information.

customer service expert (CSE)

A class of operators who can assist other operators, even completing their calls, as their primary task and optionally serve subscriber-initiated operator traffic as their secondary task.

CW

See calls waiting.

DA

See directory assistance.

Digital Multiplex System (DMS)

The Nortel central office switching system in which all external signals are converted to digital data and stored in assigned time slots. Switching is performed by reassigning the original time slots.

directory assistance (DA)

A service that allows a caller to ask an operator to look up information from a telephone listing database.

directory number (DN)

The number that indicates the station of a subscriber. A DN normally consists of a three-digit central office code and a four-digit station number.

Disk Operating System (DOS)
An operating system for computer systems that use disks and diskettes for auxiliary storage of programs and data.

DMS
See Digital Multiplex System.

DN
See directory number.

DOS
See Disk Operating System.

DTMF
See dual-tone multifrequency.

dual-tone multifrequency (DTMF)
A signaling method that uses a push button or touchtone dial to send out a sound consisting of two discrete tones, one high frequency and one low frequency. These tones are picked up and interpreted by telephone switches.

file transfer protocol (FTP)
A protocol used to transfer files, such as load files and patch files, across the Ethernet local area network facility.

FTP
See file transfer protocol.

Global Operator Services (GOS)
Operator Services features specific to the international market.

GOS
See Global Operator Services.

HMI
See human machine interface.

human machine interface (HMI)
The keyboard input and response displays used by the operator or service provider personnel to communicate with IWS positions.

IC
See in-charge operator or position

in-charge (IC) operator or position
The person using the TOPS IWS position to assist operators and monitor the operator team, or the position used by the IC operator.

Integrated Services Digital Network User Part (ISUP)
A Common Channel Signaling 7 (CCS7) message-based signaling protocol that acts as a transport carrier for ISDN services. The ISUP provides the functionality in a CCS7 network for voice and data services.

Intelligent Workstation (IWS)
The Nortel Networks programmable operator workstation for traditional and non-traditional operator services.

ISUP

See Integrated Services Digital Network User Part.

IWS

See Intelligent Workstation.

LAN

See local area network.

LNP

See local number portability.

local area network (LAN)

A short-distance data communications network that permits the connection and communication of multiple computers and peripherals under some form of standard control.

local number portability (LNP)

A feature that enables customers to retain directory numbers when they change locations, service providers, or services.

make busy (MB)

The message `MB` displays to indicate that the operator position is in the Made Busy state of not accepting calls (that is, the position is in the Occupied, Position Busy, or Calls Withheld state).

MB

See make busy.

message/status area (MSA)

A window on the TOPS IWS screen that is used to relay system, service, and application-specific information to the operator.

MSA

See message/status area.

OC

See occupied.

occupied (OC)

The message `OC` displays in the IC window to identify the number of occupied positions.

OD

See out of order.

OIA

See Open Information Access.

OGT

See outgoing trunk.

ONI

See operator number identification.

Open Information Access (OIA)
The TOPS IWS application that provides reference data such as emergency number information, rate and route information, phraseology, and city name through an external database.

Open Position Protocol (OPP)
The protocol required to facilitate communication between a TOPS switch and an OPP-compatible terminal, such as the TOPS IWS.

operator number identification (ONI)
A feature that brings an operator into the circuit to check the calling number when a subscriber has direct-dialed a long distance call.

Operator Reference Database (ORDB)
An external database implementing the OIAGPROT specification and interacting with the TOPS IWS OIA application to provide the operator with access to various types of reference data.

operator service center (OSC)
The location where operators work at TOPS IWS workstations.

Operator Services System Advanced Intelligent Network (OSSAIN)
A generic switch-to-service node (SN) interface that allows SNs to control switch functionality associated with operator services.

OPP
See Open Position Protocol.

ORDB
See Operator Reference Database.

OSC
See operator service center.

OSSAIN
See Operator Services System Advanced Intelligent Network.

outgoing trunk (OGT)
A trunk used for calls going out to a distant toll center.

out of order (OD)
The message OD displays to indicate that a position is out of order (which includes the Maintenance Busy state).

PC
See personal computer.

personal computer (PC)
A small computer designed for an individual user and based on microprocessor technology. PCs have computational capability and can be programmed to perform user-determined functions. PCs are commonly linked together to form a network.

QCA
See QMS calls alerting.

QCD

See QMS calls deflected.

QCQ

See QMS calls in queue.

QCW

See QMS calls waiting.

QMS

See Queue Management System.

QMSCASE

See Queue Management System Customer Assistance Service Enhancements.

QMS calls alerting (QCA)

The message QCA displays in the CASE application window to indicate that a designated alarming queue has more requests waiting than allowed.

QMS calls deflected (QCD)

The message QCD displays in the CASE application window to indicate that calls are being deflected from one or more QMS queues.

QMS calls in queue (QCQ)

The message QCQ displays in the CASE application window to indicate that calls are waiting in QMS queues for which no operators are logged on.

QMS calls waiting (QCW)

The message QCW displays in the CASE application window to indicate that the number of calls to be handled is greater than the calls-waiting-on threshold value in one or more QMS queues.

QFADS TTY

See QMS force administration data system teletypewriter.

QMS force administration data system teletypewriter (QFADS TTY)

A teletypewriter located in the force management center of a TOPS office with QMS. The TTY provides a printed record of force management statistics for each traffic office. The TTY also serves as an input/output terminal for various commands and reports.

QMS traffic administration data system teletypewriter (QTADS TTY)

A teletypewriter located in each traffic office of a TOPS office with QMS. The TTY provides a printed record of force management statistics for the traffic office and serves as an input/output terminal for various commands and reports.

QTADS TTY

See QMS Traffic Administration Data System (QTADS).

Queue Management System (QMS)

A software package that provides enhanced capabilities for the managing of call queues.

Queue Management System Customer Assistance Service Enhancements (QMSCASE)

A registering application, installed with IWS base software, which allows an operating company to combine the functionality of traditional service assistants and in-charge operators with that of general operators.

RAMP

See remote access maintenance position.

RAO

See revenue accounting office.

remote access maintenance position (RAMP)

An IWS position that performs maintenance on other IWS positions to which it is connected. The RAMP functionality is intended for use by operating company personnel at customer sites and Nortel Networks personnel who provide support for IWS operations.

revenue accounting office (RAO)

A telephone company center that uses computers for billing-related data processing, including functions such as the receipt and processing of AMA data and the preparation of a subscriber's bill.

SA

See service assistant.

service assistant (SA)

The person using the TOPS IWS assistance position to help general operators solve problems with their calls.

service node (SN)

An external device that interacts with the DMS switch to provide functionality such as OSSAIN.

service provider identifier (SPID)

A code that uniquely identifies the service provider. A SPID can apply to the calling number, called number, billed number, or requested number. The service provider identifier is sent from the DMS switch and displays in the MSA.

SN

See service node.

SPID

See service provider identifier.

ST

See study data.

study data (ST)

The message ST displays in the study field of the MSA to indicate that study mode is active and that operators are assigned to study registers in the DMS switch.

T&C

See time and charges.

TBI

See toll break-in.

TCP

See Transfer Control Protocol.

time and charges (T&C)

A report the operator gives the subscriber on the length and cost of a toll call.

toll break-in (TBI)

The operator's interruption of a toll call to speak to either the called or the calling party.

TOPS

See Traffic Operator Position System.

Traffic Operator Position System (TOPS)

The Nortel Networks traffic operator position system, consisting of a DMS switch and peripherals such as the IWS workstation.

Transmission Control Protocol (TCP)

A connection-oriented protocol that is part of the TCP/IP suite of protocols. TCP adds reliability through sequencing, timeouts, and retransmissions. It provides acknowledgments and checks for missing, out-of-sequence, and duplicated packets.

UCP

See unoccupied positions with a call in progress.

unoccupied positions with a call in progress (UCP)

The message UCP displays in the IC window to show the IC operator how many positions are unoccupied with a call in progress.

36.0 Index

S

T

V

W

DMS-100 Family

TOPS IWS

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