

WMGTM - Administrator! Messaging Switch

UCC Port

Series: Wireless Messaging System

System Version: Two-Way 3.0

One-Way 1.08

Software Version: 3.3.7

Administration

Issue Date: January 1999

6880492G23-C



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MOTOROLA

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This equipment, model D/240SC-T1, uses the following Facility Interface Codes (FIC) and Service Order Codes (SOC) codes:

- FIC–
 - 04DU9-BN
 - 04DU9-DN
 - 04DU9-1KN
 - 04DU9-1SN
- SOC–
 - 6.0N

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 - f. Cosmetic damages;
 - g. Damages caused by external electrical stress;
 - h. Lightning;

- i. Accidental damage;
- j. Negligence, neglect, mishandling, abuse or misuse;
- k. Force Majeure; and
- l. Damage caused by Shipper(s).

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7. If an item of PSG infrastructure equipment malfunctions or fails in normal use within the Warranty Period:
 - a. The Customer shall promptly notify the Motorola Paging One-Call-Support Center at 1-800-520-PAGE (7243) as to the problem and provide the serial number of the defective item. Motorola shall, at its option, either resolve the problem over the telephone or issue a Return Authorization Number to the Customer. The Customer shall, at its cost, ship the item to the Motorola Paging One-Call-Support Center location designated at the time the Return Authorization Number is issued;
 - b. The Return Authorization Number must be shown on the label attached to each returned item. A description of the fault must accompany each returned item. The returned item must be properly packed, and the insurance and shipping charges prepaid;
 - c. Motorola shall either repair or replace the returned item. The replacement item may be new or refurbished. When refurbished, it shall be equivalent to new in operation. When a returned item is replaced by Motorola, the returned item shall become the property of Motorola;
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 - e. Motorola shall, at its cost, ship the repaired or replaced item to the Customer. If the Customer has requested Express Shipping, the Customer shall pay Motorola an expedite fee; and
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3. This Warranty specifically excludes any and all software products from any source. PSG software products are the subject of the PSG Software Maintenance Program, addressed separately.
4. This Warranty shall commence 30 days after the date of shipment of the PSG infrastructure equipment.
5. The term of Warranty for all PSG infrastructure equipment is one (1) year parts and labor.

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 - a. The equipment or any part of it NOT having been installed, modified, adapted, repaired, maintained, transported or relocated in accordance with Motorola technical specifications and instructions;
 - b. Storage not conforming to the Shipping, Receiving, and Installation section of the applicable Motorola Equipment Manual;
 - c. Environmental characteristics not conforming to the applicable Motorola Equipment Manual;
 - d. Nonconformance with the Equipment Operating Instructions in the applicable Motorola Equipment Manual;
 - e. External causes including, without limitation, use in conjunction with incompatible equipment, unless such use was with or under Motorola's prior written consent;
 - f. Cosmetic damages;
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 - j. Negligence, neglect, mishandling, abuse, or misuse;

- k. Force Majeure; and
- l. Damage caused by Shipper(s).

Return of Equipment

- 8. If an item of PSG infrastructure equipment malfunctions or fails in normal use within the Warranty Period:
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 - b. The Return Authorization Number must be shown on the label attached to each returned item. A description of the fault must accompany each returned item. The returned item must be properly packed, and the insurance and shipping charges prepaid;
 - c. Motorola shall either repair or replace the returned item. The replacement item may be new or refurbished. When refurbished, it shall be equivalent to new in operation. When a returned item is replaced by Motorola, the returned item shall become the property of Motorola;
 - d. Subject to all the terms of this Warranty, part availability and the clearance of Customs, Motorola shall complete the repair or exchange of Motorola-manufactured equipment returned under Warranty within fifteen (15) working days of receipt of the equipment;
 - e. Motorola shall, at its cost, ship the repaired or replaced item to the Customer. If the Customer has requested Express Shipping, the Customer shall pay Motorola an expedite fee; and
 - f. Equipment which is repaired or replaced by Motorola shall be free of defects in material and workmanship for the remainder of the original Warranty, or for 90 days from the date of repair or replacement, whichever is longer. All other terms of this Warranty shall apply to such repairs or replacements.

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WMG-Administrator! Messaging Switch UCC Port Administration

About this Document

This document describes how to configure the WMG™-Administrator! messaging switch (WMG MS), Universal Communications Controller (UCC) Ports from the Wireless Message Gateway-Control Center and contains the procedures for monitoring the UCC Port functions for the WMG-Administrator! messaging switch. The UCC subsystem provides the local processing and housing for the system trunk and voice processing and data ports.

Audience

This manual is intended for individuals with an extensive knowledge of messaging systems, UNIX®, and telecommunications which qualifies them for managing WMG MS telephony configurations.

Related Publications

The following publications are related to the WMG-Administrator! Messaging Switch:

- *WMG-Administrator! Messaging Switch Administration*, Motorola part number 6880492G21
- *WMG-Administrator! Messaging Switch Subscriber Database*, Motorola part number 6880492G22
- *WMG-Administrator! Messaging Switch Hardware Installation*, Motorola part number 6880493G52
- *WMG-Administrator! Messaging Switch Software Installation*, Motorola part number 6880493G51
- *WMG-Administrator! Messaging Switch Signaling System 7 Administration*, Motorola part number 6880492G09

Conventions

The following conventions are used in this manual (see Table 1):

Table 1: Conventions and Command Syntax (Sheet 1 of 2)

When you see...	It means...
Type: yes	- You enter the text indicated.
<Return> <Control+O>	- Press the key specified. - The plus sign indicates to hold down the first key and press the second key.
Ok button	- Place the pointer on the button specified and click the left mouse button.

Table 1: Conventions and Command Syntax (Sheet 2 of 2)

When you see...	It means...
File pull-down menu	- Select the specified option from the pull down menu.
File>New	- Select the specified sequence of pull-down menu options.
Confirm changes (Y/N)	- You do nothing, the change in font Indicates information the system provides.

WMG-Administrator! Messaging Switch Overview

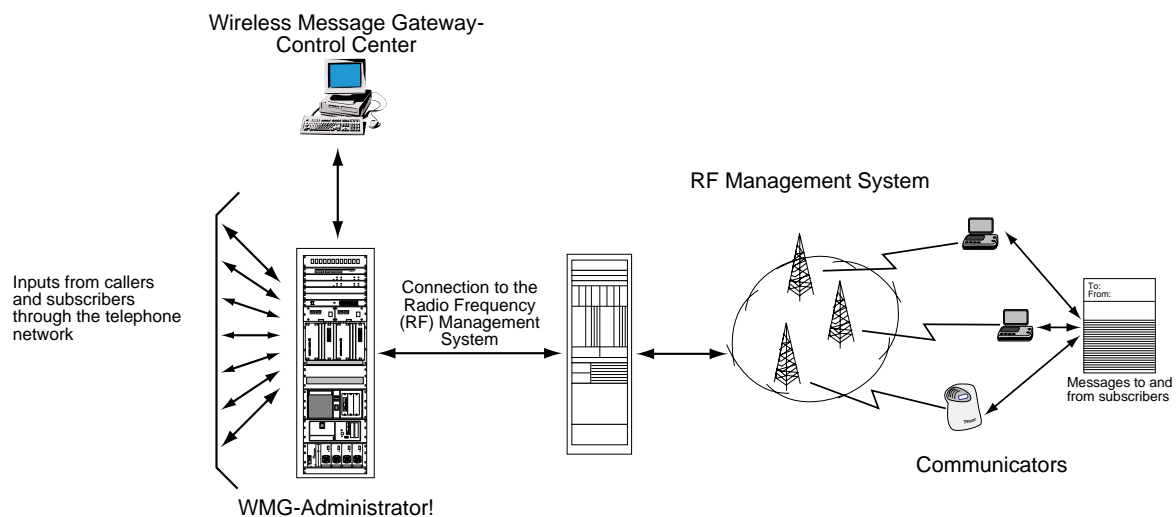
The WMG is designed for the advanced messaging industry. The WMG maintains the subscriber database, receives message inputs, forward messages to the RF-Conductor![™] for transmission on the local RF network, sends the message over the Wide Area Network (WAN) to a remote messaging switch for processing, and manages information such as voice mail services. The modular WMG architecture is designed to meet these needs—today and as technology evolves.

As an integral element in the messaging network, the WMG provides the following functions:

- Multi-frequency FLEX[™] roaming protocol.
- One-way numeric and character display messaging
- Two-way numeric and character display messaging
- Integrated voice and messaging mail boxes
- Detailed subscriber database
- Sophisticated Graphical User Interface (GUI)
- Statistics and alarm information

The WMG, with the addition of the return path, offers several messaging applications requiring increased message processing, file storage (voice mail and direct message storage), system availability, and networking capabilities of the system. The modular WMG architecture can be upgraded as the demand for system resources increases.

Callers and subscribers access the system over the Public Switched Telephone Network (PSTN). Each WMG is connected to other elements in the Wireless Messaging System by a network of land lines, satellite links, or radio links (see Figure 1).



202-01SRH

Figure 1: The WMG-Administrator! MS and the Wireless Messaging System

WMG MS Subsystems

The WMG MS is comprised of four major subsystems. All are based on industry-standard communication and interface protocols and standards. The four subsystems are:

- Universal Communications Controller (UCC)
- Central Processor (CP)
- Operations and Maintenance Center (OMC)
- File Server (FS)

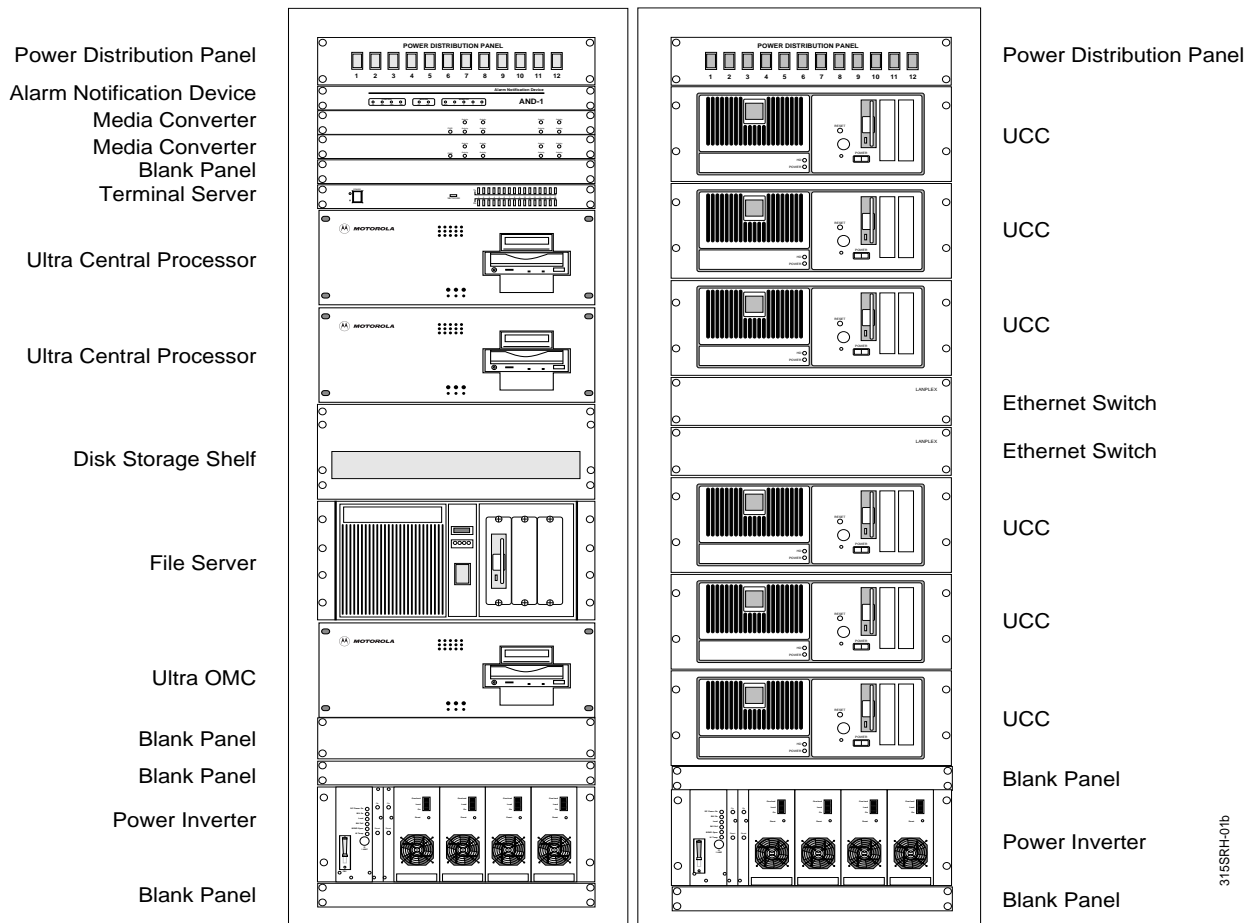
A UCC is an interface to the Messaging Center and the PSTN. The CP maintains the subscriber database, messaging, and routing functions. The OMC provides an operator interface called the Wireless Message Gateway–Control Center. The OMC also provides the WMG MS interface to the Network Management System (NMS).

Hardware Layout

Designed for modular growth, the WMG MS functions are combined in two or more cabinets depending on capacity needs. Figure 2 shows a typical system, the first cabinet houses the CP, OMC, and File Server. The second cabinet houses up to five (for DC configurations) or six (for AC configurations) UCCs and ethernet switches. The third through eleventh cabinets contain only UCCs (seven in the DC configuration, eight in the AC configuration) and are configured as necessary to accommodate up to 32 UCCs.

The WMG MS also includes the following peripheral devices:

- Terminal servers
- Ethernet switches
- Intelligent alarm panels
- Media converters
- Printers
- Color monitor



315SRH-01b

Figure 2: WMG MS Two-Cabinet Configuration

UCC Function

Each Universal Communications Controller (UCC) acts as the system interface to the Public Switched Telephone Network (PSTN). The UCC subsystem provides the local processing and housing for the system trunk and voice processing and data ports. UCCs are added as customer T1, E1, or SS7 span requirements grow. A single WMG can support up to 32 T1 or E1 spans. The UCC can support up to three T1 or E1 telephone Network Interface Cards (NIC), or one SS7 DCI card per chassis. Each T1 and E1 board also provides 24 kbps of Adaptive Differential Pulse Code Modulation (ADPCM) compression for the WMG's integrated voice mail capability.

The UCC is an independent computer consisting of a 13-slot passive backplane with ten ISA slots, two PCI slots, and a Pentium 166 MHz CPU with 256 KB cache and an onboard Small Computer Systems Interface (SCSI) controller. It has one 3 1/2 inch, 1.44MB floppy drive, one 1.2 GB hard drive, and 64 MB of RAM. The UCC contains specialized boards to provide functionality. The way that the UCC is populated is largely determined by the requirements and subsequent configuration of the system.

Each UCC has two Ethernet NICs for communications with the CP and the FS, and up to five Universal Application Processor (UAP) boards. The UAP boards perform digital signal processing (DSP) of voice compression for InFLEXion voice messaging and dial-up modem operations for Telocator Alphanumeric Protocol (TAP) paging input. Each UAP supports up to eight simultaneous calls in any combination of voice compression and TAP modem input. The DCI boards provide the physical link to the signaling system 7 (SS7) network for WMG configurations incorporating SS7 capability.

Wireless Message Gateway–Control Center

The WMG–Control Center is the graphical user interface that system operators use to manage WMG MS operations such as system configurations, statistics, alarms, classes of service, and subscriber administration (see Figure 3).

The access levels—what an operator can and cannot configure—are controlled by operator permissions. Operator permissions are determined by login IDs and are stored in the database.

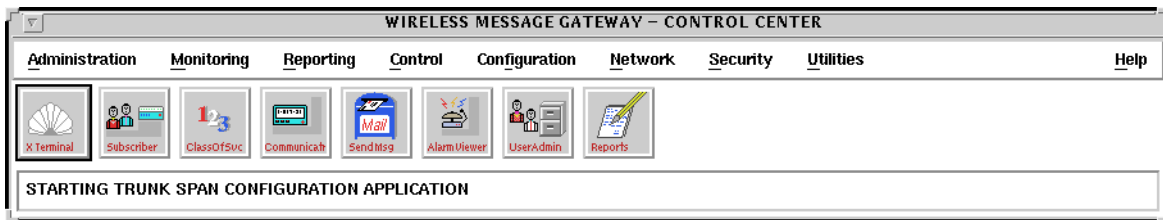


Figure 3: Wireless Message Gateway Control Center

From the WMG Control Center, users perform a variety of tasks (see Table 2):

Table 2: WMG Control Center Capabilities (Sheet 1 of 2)

Feature	Description
Statistics	The OMC collects statistics from each WMG subsystem: CP, UCC and OMC. The Statistics Viewer window displays the collected statistics. The format and content of the displays are operator configurable.
Alarms	Alarm conditions have assigned severity levels. On the receipt of an alarm, operators are alerted with visual indicators through the Alarm Viewer window. Alarms are stored in log files for later analysis.
Configuration	The operator can manage system configurations, operational service status and network and component parameters.
Defining Trunk Spans	The operator can display, create, modify and delete trunk span definitions.
Configuring Line Signals	The operator can display, create, modify and delete line signaling configurations for T1 and E1 channels.
Configuring Tones	The operator can display, create, modify and delete single and dual tone configuration files.

Table 2: WMG Control Center Capabilities (Sheet 2 of 2)

Feature	Description
Configuring Channels	The operator can display, create, modify and delete channel configuration files.
Controlling Channel Service	The operator can place channels in and out of service.
WMG User Permissions	The operator can display, add, modify, or delete the levels of database access for system operators.
Administering WMG Users	The operator can display, add, modify, or delete system operator definitions, using Unix system administration procedures.
Updating System Parameters	The operator can display and update system parameters, including configuration of numeric and text message formats.
Scheduling System Processes	The operator can display, create, modify and delete system process schedules.
Sending Test Pages	The operator can send and terminate test pages.
Defining Service Areas	The operator can define attributes of service areas. Each two-way subscriber can be registered in only one service area at any one time.
Defining Coverage Areas	The operator can define attributes of coverage areas. Each subscriber record includes a maximum of eight coverage areas in its definition.
Defining System Components	The operator can display, create, modify and delete system component definitions.
Controlling System Processes	The operator can start, stop and restart system processes.
Selecting Log Levels	The operator can view and change the log levels of system processes.
Managing Statistics	The operator can manage the system statistics displays.
Managing Alarms	The operator can view, acknowledge and clear WMG alarms.
Accessing an X-term Window	The operator can access an x-terminal window.
Accessing the Report Writer	The operator can access the IQ report writer application in order to create customized subscriber database reports.

Trunk Spans

A trunk span definition maps specific channels to a trunk group. Trunk groups are logical organizations of channels on a trunk span. Processes, such as statistics, are performed according to trunk groups and not trunk spans or channels. Therefore, trunk groups are determined by you so that you can organize the channels in a way that is meaningful to your system. You can organize your trunk groups by your networks, the geographical locations of your subscribers, or any other desired element. You must assign channels to a trunk group before you can configure channels.

Note: Trunk groups are shared by Universal Communications Controllers (UCCs). For example, trunk group 1 is the same trunk group for UCC 1 and UCC 2.

Every channel on a trunk span must be assigned to a trunk group.

Creating a Trunk Span

Every channel on a trunk span must be assigned to a trunk group. Create new trunk span definitions to assign a channel to a trunk group.

Note: You must have Trunk Configuration Add permission.

1. Select **Configuration>UCC>Trunk Spans** from the Wireless Message Gateway - Control Center window.

The Trunk Span Definition window appears (see Figure 4).

Figure 4: Trunk Span Definition Window

2. Type the UCC number for the UCC span you want to create in the **UCC Number** field. Valid values are 1 to 32.
3. Type the UCC trunk span number for the desired channels in the **Span Number** field. Valid values are 1 to 3.
4. Click **Find** to ensure that a trunk span definition for the specified UCC and trunk span does not already exist.
5. From the **Signal Type** pull-down menu, select **SS7** or **Non SS7**.
6. From the **Channel Type** pull-down menu, select **T1** or **E1**.
7. Type the desired trunk group number in the **Trunk Group** field for each channel. Valid values are 1 to 99.
8. Click **Add** to create the trunk span definition.

Displaying a Trunk Span Definition

Note: You must have *Trunk Configuration Display* permission.

1. Select **Configuration>UCC>Trunk Spans** from the Wireless Message Gateway - Control Center window.

The Trunk Span Definition window appears (see Figure 4).

2. Enter the UCC Number and the Span Number and Click **Find**.

If the trunk span definition exists, it appears. If not, a message is displayed and the **Add** button becomes active.

Modifying an Existing Trunk Span Definition

Note: You must have *Trunk Configuration Update permission*

1. Select **Configuration>UCC> Trunk Spans** from the Wireless Message Gateway - Control Center window.

The Trunk Span Definition window appears (see Figure 4).

2. Enter the UCC Number and Span Number and Click **Find**.

The configuration displays for the specified trunk span.

3. Make changes to the trunk span definition and Click **Update** (for screen details, see section, "Creating a Trunk Span").

The trunk span definition updates immediately.

Note: Do not change the signal type or channel type for the trunk span definition.

Deleting a Trunk Span Definition

Note: You must have *Trunk Configuration Delete permission*.

1. Select **Configuration>UCC> Trunk Spans** from the Wireless Message Gateway - Control Center window.

The Trunk Span Definition window appears (see Figure 4).

2. Enter the UCC Number and Span Number and Click **Find**.

The configuration parameters display for the specified trunk span.

3. Click **Delete**.

A Confirmation dialog box appears.

4. Click **OK** to delete the trunk span definition.

UCC Channel Configurations

A channel configuration provides the WMG MS with information on how each channel operates. This information includes the proper channel type, line signaling protocol, register signaling type, channel mode, and other configuration files used by a channel in the UCC.

Each UCC has a channel configuration file. Every channel in a UCC has a record in this file. Depending on your system needs, you can configure every channel in your system to have the same type of configuration or you can create various types of configurations.

Configuring UCC Channels

Every channel in the WMG MS must have a channel configuration file. To Create a Channel Configuration:

Note: You must have Channel Configuration Add permission.

1. Select **Configuration>UCC>Channels** from the Wireless Message Gateway - Control Center window.

The Channel Configuration window appears (see Figure 5).

Note: For E1-R2 signaling (non-SS7) configurations, the line signaling file must be a <filename>.cdp file. The tone definition file is not used.

For SS7 configurations, the line signaling is handled by SS7, and therefore is not used here.

Figure 5: Channel Configuration File Window

2. Type the number of the UCC file being created in the **UCC Number** field.
3. Type the UCC trunk span number in the **Span Number** field.
4. Type the number of the channel in the **Channel Number** field.
5. Click **Find** to ensure a configuration file does not already exist.
6. From the **Register Signal Type** pull-down menu, select from the following options:
 - For E1-R2 configurations—Select **Compelled** (backward tones that confirm receipt of register signaling).
 - For E1 channel bank configurations—Select **Non-Compelled**
 - For T1—Select **Non-Compelled**
 - For SS7—Select **Not-Applicable**

7. From the **Channel Mode** pull-down menu, select from the following options:
 - Inbound**—designates the channel for incoming calls only
 - Outbound**—use for outbound operator assisted paging (OOAP)
 - In/bound/Outbound**—currently not supported
8. From the **Channel Status** pull-down menu, select from the following options:
 - Active**—Specifies that the channel is available for use by the WMG MS when needed
 - Inactive**—Specifies that the channel is not available for use by the WMG MS
9. Type the prefix to add to the number received from your telephone network provider during call setup in the **Area Code Digits** field. This specifies the numbers that will be added to the front of the received number if your provider selects a prepend telcom type. This value is also used for roaming. It determines the Service Area you are calling from and will set the Service Area (Delivery Area) while roaming.
10. Type a name, up to 32 characters, for the area code in the **Area Code Name** field. Spaces are allowed.
11. Enter the name of the inbound line signaling configuration file to be used by the channel. This file provides the information necessary for the WMG MS to select and transmit inbound line signals. Enter the line signaling configuration file manually or to select:
 - a. Click **File Select** next to the **Inbound Line Signaling Configuration File** field to display a pop-up menu.
 - b. Select from the following options:
 - For E1-R2 configurations, select a predefined `<filename>.cdp` file (`cn.r2.i.cdp`).
 - For E1 channel bank configurations, select a channel bank file (for example, `channel_bank`).
 - For T1 configurations, select a T1 line signaling file (for example, `t1_linesig`).
 - For SS7, a line signaling file is not used.
 - c. Click **OK** to display the path information in the **Inbound Line Signaling Configuration File** field.

If an appropriate line signaling configuration file does not exist, create a new configuration file by clicking the **Line** button (for details see section, "Creating a T1 Line Signaling Configuration"). This applies to T1 configurations and E1 channel bank configurations only—E1-R2 configurations use predefined `<filename>.cdp` files. A line signaling file is not used for SS7 configurations.

12. Enter the name of the outbound line signaling configuration file to be used by the channel. This file provides the information necessary for the WMG MS to select and transmit outbound and line signals.
 - a. Click **File Select** next to the **Outbound Line Signaling Configuration File** field to display a pop-up menu.
 - b. Select from the following options:
 - For E1-R2 configurations, select a predefined `<filename>.cdp` file
 - For E1 channel bank configurations, select a channel bank file (for example, `channel_bank`).
 - For T1 configurations, select a T1 line signaling file (for example, `t1_linesig`)
 - For SS7, a line signaling file is not used.

- c. Click **OK** to display the path information in the **Outbound Line Signaling Configuration File** field.

If an appropriate line signaling configuration file does not exist, create a new configuration file by clicking the **Line** button (for details see section, "Creating a T1 Line Signaling Configuration"). This applies to T1 configurations and E1 channel bank configurations only—E1-R2 configurations use predefined `<filename>.cdp` files. A line signaling file is not used for SS7 configurations.

13. Enter the name manually of the tone configuration file to be used by the channel or select from a list. You can select DTMF (`std_DTMF`) or leave the Tone Configuration File field blank for T1 or E1 if DTMF is used in the Channel Control Script field. If the channel control script uses MFR1 or MF, then select MFR1 (`std_MFR1`).

Note: The tone configuration file is not used in E1-R2, E1 channel bank, T1 standard DTMF or SS7 configurations. The file applies to T1-R1 configurations only.

This file provides the information necessary for the WMG MS to transmit and receive register signaling tones.

- a. Click **File Select** next to the **Tone Configuration File** field to display a pop-up menu.
- b. Select the name of a tone configuration file.
- c. Click **OK** to display the path information in the **Tone Configuration File** field.

If an appropriate tone configuration file does not exist, create a new configuration file by clicking the **Tone** button; follow the directions in section, "To Create a Dual Frequency Tone Configuration:".

14. Select the name of the inbound channel control script to be used by the channel. This script provides the information necessary for the WMG MS to collect and transmit register signaling data, such as digits, during call setup.

Note: You can manually enter the name of a script in the Inbound Channel Control Script field, but we do not recommend it.

- a. Click **File Select** next to the **Inbound Channel Control Script** field to display a pop-up menu.
- b. Select the script based on your configuration. For example:
 - For E1-R2 configurations, select `r2_8_nop` or `r2_8_pre`
 - For E1 channel bank configurations, select `dtmf_0_imm_8_pin`
 - For T1 configurations, select `dtmf_0_imm_10_pin_t_mfr1_6pre`
 - For E1-SS7, select `ss7`
- c. Click **OK** to display the directory information in the **Inbound Channel Control Script** field.

15. Select the name of the inbound channel control script to be used by the channel. This script provides the information necessary for the WMG MS to collect and transmit register signaling data, such as digits, during call setup.

Note: You can manually enter the name of a script in the Outbound Channel Control Script field, but we do not recommend it.

- a. Click **File Select** next to the **Outbound Channel Control Script** field to display a pop-up menu.

- b. Select the script based on your configuration. For example:
 - For E1-R2 configurations, select `r2_8_nop` or `r2_8_pre`
 - For E1 channel bank configurations, select `dtmf_0_imm_8_pin`
 - For T1 configurations, select `dtmf_0_imm_10_pin_t_mfr1_6pre`
 - For E1-SS7, select `ss7`
 - c. Click **OK** to display the directory information in the **Outbound Channel Control Script** field.
16. Select the name of the default voice response script being used by the channel. This file provides the information necessary for the WMG MS to execute a voice response script after a call is answered. Enter the Default (9000) Voice Response Script manually or select from a list:
 - a. Click **File Select** next to the **Default Voice Response Script** field to display a pop-up menu.
 - b. Select the desired script or manually enter one.
 - c. Click **OK**. The system displays the directory information in the **Default Voice Response Script** field and the script is added.
17. Click **Add** to create the new channel configuration file.

Displaying a Channel Configuration

Note: You must have *Channel Configuration Display permission*.

Perform the following steps to display a channel configuration file:

1. Select **Configuration>UCC>Channels** from the Wireless Message Gateway - Control Center menu.

The Channel Configuration window appears (see Figure 5).
2. Type the UCC Number, the UCC trunk span number, and the Channel Number and Click **Find**.

If found, the configuration displays the channel.

Modifying a Channel Configuration

Note: You must have *Channel Configuration Update permission*.

1. Select **Configuration>UCC>Channels** from the Wireless Message Gateway - Control Center menu.

The Channel Configuration window appears (see Figure 5).
2. Type the UCC Number and the UCC trunk span number and Click **Find**.

If found, the configuration displays the channel.
3. Make changes to the configuration.
4. Click **Update**.

The channel configuration file updates.

Deleting a Channel Configuration

Note: You must have Channel Configuration Delete permission.

1. Select **Configuration>UCC>Channels** from the Wireless Message Gateway - Control Center window.
The Channel Configuration window appears (see Figure 5).
2. Type the UCC Number, the UCC trunk span number, and the channel number and Click **Find**.
If found, the configuration parameters display for the specified channel.
3. Click **Delete**.
A Confirmation dialog box appears.
4. Click **OK**.
The channel configuration file is deleted.

Copying a Channel Configuration

The Channel Configuration window allows you to copy channel configurations across a span, a UCC or between UCCs.

Note: You must have Channel Configuration Add permission.

1. Select **Configuration>UCC>Channels** from the Wireless Message Gateway - Control Center window.
The Channel Configuration window appears (see Figure 5).
2. Type the UCC Number, the UCC trunk span number, and the channel number and Click **Find**.
The configuration parameters display for the specified channel.
3. From the **Copy** pull down, select from channel, span, or UCC.

To copy a channel

Use this option to copy the current configuration in the window to all channels in the current span.

1. Select **Channel** from the **Copy** pull down menu.
2. If successful, a message appears saying `Copy Command Successful`.

To copy a Span

Use this option to copy the current span configuration to a selected span within that UCC.

1. Select **Span** from the **Copy** pull down menu.
The **Copy Span** window appears (see Figure 6).
2. Use the Slider Bar to select the destination span (from 1 to 3).
3. Click **OK**.
The span information is copied to the destination span.

To copy a UCC

Use this option to copy the current UCC or span configuration to a selected UCC and span.

1. Select **UCC** from the **Copy** pull down menu.
The **Copy UCC** window appears (see Figure 6).
2. Use the Slider Bar to select the destination UCC (from 1 to 32).
3. Use the Slider Bar to select the total spans (from 1 to 3).
4. Click **OK**.

The UCC and span information is copied from the current display to the destination UCC and total spans.

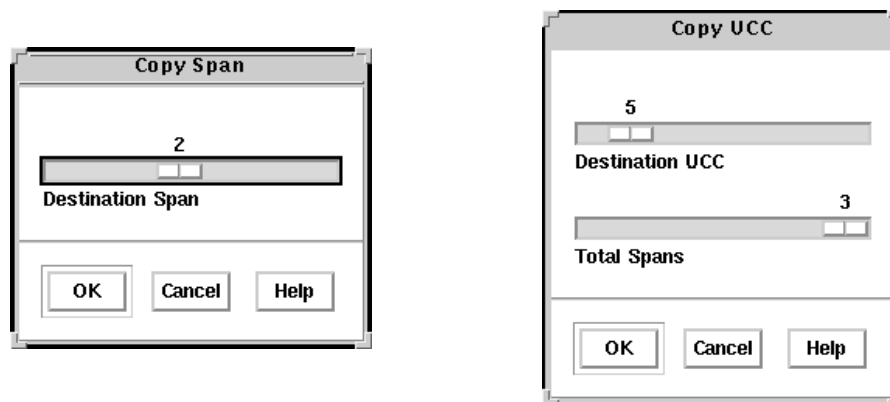


Figure 6: Channel Configuration—Copy Span and Copy UCC Windows

UCC Tones

This section describes how to work with tone configuration files. These procedures apply to T1 configurations and channel bank configurations only. E1-R2 signaling configurations have predefined tone definition files that cannot be modified.

Overview

A tone configuration file provides the information necessary for the WMG MS to transmit and receive register signaling tones used by a channel. Tones are configured by constructing tone generation templates consisting of tone definition parameters. A list of tone definition parameters and how each is used by the WMG MS and your telephone network provider is provided (see Table 3).

To detect calls properly, the UCC requires all tones be defined. If all tones are not configured or they are not configured correctly, error conditions can occur during system initialization or use.

If a tone definition file is not supplied, the default DTMF (dual tone multi-frequency) tones defined on the Dialogic boards in the UCC are used. This configuration is optimal in DTMF performance.

Note: Configuring tone definitions applies to T1 configurations and channel bank configurations only.

For E1-R2 configurations, tone definition files are predefined Dialogic files with a .cdp extension (Dialogic is the E1 board manufacturer). These .cdp files specify the tone configuration and cannot be modified. Therefore, for systems with E1-R2 configurations, the procedures in this section are not applicable.

Table 3: Tone Definition Parameters

Parameter	Single frequency inbound	Single frequency outbound	Dual frequency inbound	Dual frequency outbound
Frequency 1	X	X	X	X
Frequency 1 Deviation	X	X	X	X
Frequency 2			X	X
Frequency 2 Deviation			X	X
Amplitude 1		X		X
Amplitude 2				X
Duration		X		X

The WMG MS requires a tone identification (ID) number be assigned to each tone. The telephone network provider specifies the tone definition for each tone ID number. A list of tone ID numbers and their corresponding standard DTMF and MF-R1 digits or characters is provided (see Table 4). For each tone ID, use the corresponding digit or character.

Note: MF-R2 shown for reference purposes.

Table 4: Tone IDs and Corresponding Parameters

Tone ID Number	DTMF	MF-R1	MF-R2
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9
10	0	0	0
11	*	*	*
12	#	#	#
13	A	A	A
14	B	B	B
15	C	C	C
16	D	not used	D

Using Tone Configurations

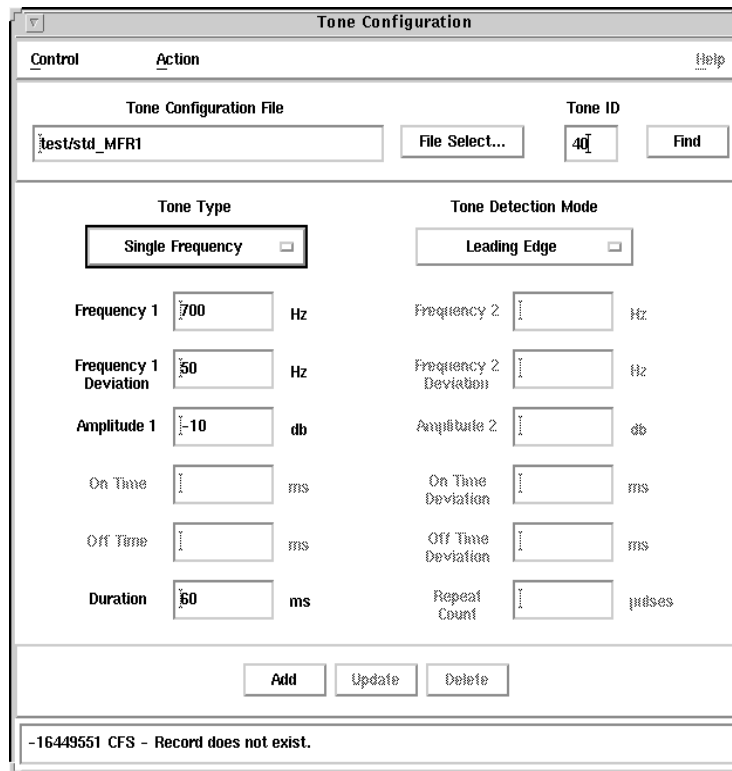
One of two types of tones are defined on a channel: single frequency and dual frequency. Your telephone network provider specifies the type of tone to use. A list of standard configurations for MF-R1, MF-R2, and DTMF tones is provided (see section, "Standard Tone Configurations").

To Create a Single Frequency Tone Configuration:

If an existing single frequency tone configuration file does not meet your needs, create a new single frequency tone configuration file. You must define all parameters according to the tone configuration guidelines determined by your telephone network provider.

Note: You must have *Tone Configuration Add* permission.

1. Select **Configuration>UCC>Tones** from the Wireless Message Gateway - Control Center window. The Tone Configuration window appears (see Figure 7).



Tone Configuration

Control Action Help

Tone Configuration File: test/std_MFR1 File Select... Tone ID: 40 Find

Tone Type: Single Frequency

Tone Detection Mode: Leading Edge

Frequency 1: 700 Hz
 Frequency 1 Deviation: 50 Hz
 Amplitude 1: -10 db

On Time: ms
 Off Time: ms
 Duration: 50 ms

Frequency 2: Hz
 Frequency 2 Deviation: Hz
 Amplitude 2: db
 On Time Deviation: ms
 Off Time Deviation: ms
 Repeat Count: pulses

Add Update Delete

-16449551 CFS - Record does not exist.

Figure 7: Creating a Single Frequency Tone Configuration File

2. Type the name of the single frequency tone configuration file to create in the **Tone Configuration File** field.
3. Type the tone ID number (range 1-40) of the single frequency tone in the **Tone ID Number** field (see Table 4).
4. Click **Find**.
A Confirmation dialog box appears.
5. Click **OK** to create the new file.
6. Select **Tone Type**> **Single Frequency**.
7. Select the tone detection mode from the **Tone Detection Mode** pull-down menu. Choose from the following options:

Leading Edge—The WMG MS detects the tone at the beginning (rising edge) of the tone frequency transmission.

Trailing Edge—The WMG MS detects the tone at the end (falling edge) of the tone frequency transmission.
8. Type the frequency of the tone in the **Frequency 1** field. Valid values are 200 to 4000 Hz in increments of 1 Hz. This parameter is the frequency required by your telephone network provider for the tone identified in Step 3.

9. Type the frequency deviation, in increments of 1 Hz, for the frequency in the **Frequency 1 Deviation** field. This parameter specifies how many hertz the frequency can vary from the value given in the **Frequency 1** field and still be recognized as the tone frequency. For example, if you type 3000 Hz in the **Frequency 1** field and 5 Hz in the **Frequency 1 Deviation** field, frequencies ranging from 2995 to 3005 Hz are recognized as 3000 Hz.
10. Type the amplitude of the frequency in the **Amplitude 1** field. Valid values are -40 to 0 db. This value defines the signal transmission strength of the frequency configuration.
11. Type the duration of the tone, in increments of 10 ms, in the **Duration** field. This value is the length of time the tone is transmitted to the telephone network provider. A value of -1 ms indicates an infinite duration.
12. Click **Add** to create the single frequency tone configuration file.

To Create a Dual Frequency Tone Configuration:

If an existing dual frequency tone configuration file does not meet your needs, create a new dual frequency tone configuration file. You must define all parameters according to the tone configuration guidelines determined by your telephone network provider.

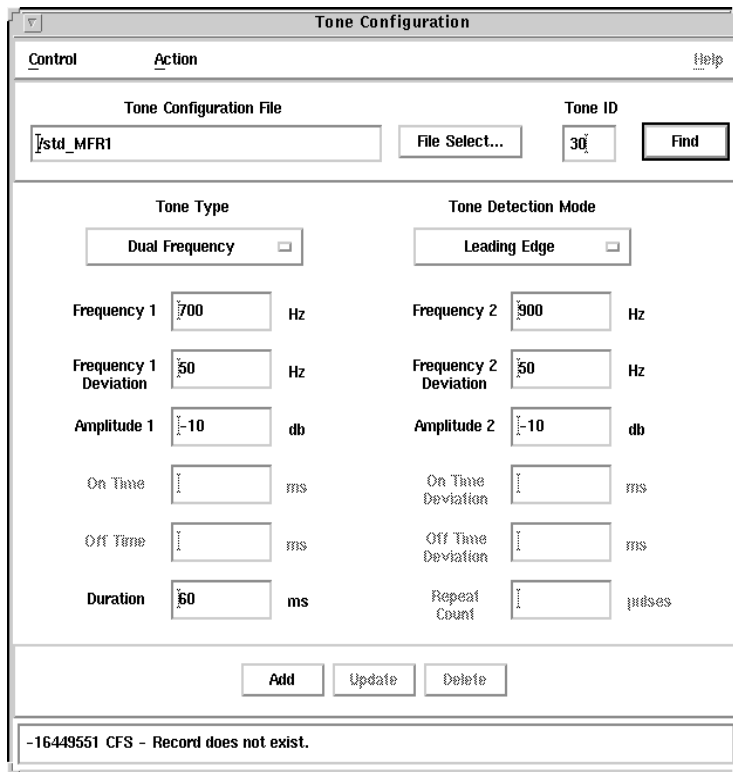
Note: To create a new tone configuration file, you must have *Tone Configuration Add* permission.

Only parameters that apply to dual frequency tones are described in the procedure below; therefore, some window elements are not discussed.

Perform the following steps to create a dual frequency tone configuration file:

13. Select **Configuration>UCC>Tones**.

The Tone Configuration window appears (see Figure 8).



The screenshot shows a 'Tone Configuration' dialog box with the following fields and values:

- Tone Configuration File:** tstd_MFR1
- Tone ID:** 30
- Tone Type:** Dual Frequency
- Tone Detection Mode:** Leading Edge
- Frequency 1:** 700 Hz
- Frequency 1 Deviation:** 50 Hz
- Amplitude 1:** -10 db
- Frequency 2:** 900 Hz
- Frequency 2 Deviation:** 50 Hz
- Amplitude 2:** -10 db
- On Time Deviation:** (empty)
- Off Time Deviation:** (empty)
- Duration:** 50 ms
- Repeat Count:** (empty)

Buttons: Add, Update, Delete

Status bar: -16449551 CFS - Record does not exist.

Figure 8: Creating a Dual Frequency Tone Configuration File

14. Type the name of the dual frequency tone configuration file to create in the **Tone Configuration File** field.
15. Type the tone ID number of the dual frequency tone in the **Tone ID Number** field (see Table 4).
16. Click **Find**.

A Confirmation dialog box appears.

17. Click **OK** to create the new file.
18. From the **Tone Type** pull-down menu, select **Dual Frequency**.
19. Select the tone detection mode from the **Tone Detection Mode** pull-down menu.

The following options are available:

Leading Edge—The WMG MS detects the tone at the beginning (rising edge) of the tone frequency transmission.

Trailing Edge—The WMG MS detects the tone at the end (falling edge) of the tone frequency transmission.

20. Type the first frequency of the tone in the **Frequency 1** field. Valid values are 200 to 4000 Hz in increments of 1 Hz. This parameter is the first tone frequency required by your telephone network provider for the tone identified in Step 15.

21. Type the frequency deviation, in increments of 1 Hz, for the first tone frequency in the **Frequency 1 Deviation** field. This parameter specifies how many hertz the first frequency can vary from the value given in the **Frequency 1** field and still be recognized as the first frequency. For example, if you type 2000 Hz in the **Frequency 1** field and 5 Hz in the **Frequency 1 Deviation** field, frequencies ranging from 1995 to 2005 Hz are recognized as 2000 Hz.
22. Type the amplitude of the first tone frequency in the **Amplitude 1** field. Valid values are -40 to 0 db. This voltage level defines the signal transmission strength of the first frequency.
23. Type the second frequency of the tone in the **Frequency 2** field. Valid values are 200 to 4000 Hz in increments of 1 Hz. This parameter is the second tone frequency required by your telephone network provider for the tone identified in Step 15.
24. Type the frequency deviation, in increments of 1 Hz, for the second tone frequency in the **Frequency 2 Deviation** field. This parameter specifies how many hertz the second frequency can vary from the value given in the **Frequency 2** field and still be recognized as the first frequency. For example, if you type 3000 Hz in the **Frequency 2** field and 5 Hz in the **Frequency 2 Deviation** field, frequencies ranging from 2995 to 3005 Hz are recognized as 3000 Hz.
25. Type the amplitude of the second tone frequency in the **Amplitude 2** field. Valid values are -40 to 0 db. This voltage level defines the signal transmission strength of the second tone frequency.
26. Type the duration of the tone, in increments of 10 ms, in the **Duration** field. This value is the length of time the tone is sent to the telephone network provider. A value of -1 ms indicates an infinite duration.
27. Click **Add** to create the dual frequency tone configuration file.

To Display a Tone Configuration:

Note: You must have *Tone Configuration Display* permission.

1. Select **Configuration>UCC>Tones** from the Wireless Message Gateway - Control Center window. The Tone Configuration window appears (see Figure 8).
2. Manually enter the file name or Click **File Select** to display a pop-up menu.
3. Select the desired name and Click **OK** to automatically display the path information in the **Tone Configuration File** field.
4. Type the tone ID number of the tone in the **Tone ID Number** field (see Table 4).
5. Click **Find**.

If found, the configuration parameters are displayed for the specified file.

To Modify a Tone Configuration:

Note: You must have *Tone Configuration Update* permission.

1. Select **Configuration>UCC>Tones** from the Wireless Message Gateway - Control Center window. The Tone Configuration window appears (see Figure 8).
2. Manually enter the name of the file or select the name of the tone configuration file to modify:
 - a. Click **File Select** to display a pop-up menu.
 - b. Select the name.

- c. Click **OK** to display the path information in the **Tone Configuration File** field.
3. Type the tone ID number of the frequency tone in the **Tone ID Number** field and Click **Find**.
If found, the configuration displays for the specified file.
4. Make any needed changes to the tone configuration parameters (For details on each configuration, see section, "To Create a Single Frequency Tone Configuration:". Also see section, "To Create a Dual Frequency Tone Configuration:").

Note: All parameters must be specified according to the tone configuration guidelines determined by your telephone network provider.

5. Click **Update** after completing the changes.
The tone configuration file is updated.

To Delete a Tone Configuration:

Note: You must have Tone Configuration Delete permission.

1. Select **Configuration>UCC>Tones** from the Wireless Message Gateway - Control Center window.
The Tone Configuration window appears (see Figure 8).
2. Enter the name of the tone or select from a list:
 - a. Click the **File Select** button to display a pop-up menu.
 - b. Select the name.
 - c. Click **OK** to display the path information in the **Tone Configuration File** field.
3. Type the tone ID number of the frequency tone in the **Tone ID Number** field, and Click **Find**.
If found, the configuration parameters display for the specified file.
4. Click **Delete**.
A Confirmation dialog box appears.
5. Click **OK**.
The tone configuration file is deleted.

Standard Tone Configurations

These tables provide a list of standard configurations for MF-R1, MF-R2, and DTMF tones (see Table 5, Table 6, and Table 7).

Table 5: Standard MF-R1 Tone Configurations

Tone ID	Frequency 1 (Hz)	Frequency 2 (Hz)	Tone length (ms)
1	700	900	60
2	700	1100	60
3	900	1100	60
4	700	1300	60
5	900	1300	60
6	1100	1300	60
7	700	1500	60
8	900	1500	60
9	1100	1500	60
0	1300	1500	60
*	1100	1700	100
#	1500	1700	60
A	900	1700	60
B	1300	1700	60
C	700	1700	60

Table 6: Standard DTMF Tone Configurations

Tone ID	Frequency 1 (Hz)	Frequency 2 (Hz)	Tone length (ms)
1	697	1209	100
2	697	1336	100
3	697	1477	100
4	770	1209	100
5	770	1336	100
6	770	1477	100
7	852	1209	100
8	852	1336	100
9	852	1477	100
0	941	1336	100
*	941	1209	100
#	941	1477	100
A	697	1633	100
B	770	1633	100
C	852	1633	100
D	941	1633	100

Table 7: Standard MF-R2 Tone Configurations

Tone ID	Frequency 1 (Hz)	Frequency 2 (Hz)	Tone length (ms)
1	697	1209	100
2	697	1336	100
3	697	1477	100
4	770	1209	100
5	770	1336	100
6	770	1477	100
7	852	1209	100
8	852	1336	100
9	852	1477	100
0	941	1336	100
*	941	1209	100
#	941	1477	100
A	697	1633	100
B	770	1633	100
C	852	1633	100
D	941	1633	100

Line Signaling for T1 and E1 Channels

This section describes how to work with line signaling configuration files for T1 and E1 channels. These procedures apply to T1 and channel bank configurations only. E1-R2 signaling configurations have predefined and cannot be modified.

Overview

A line signaling configuration file provides the information necessary for the WMG MS to select and transmit outbound and inbound line signals. This information includes line signaling definitions and timing data used on a channel. Received line signals are used in conjunction with current channel states to determine the outbound line signal being transmitted. When a received line signal changes, the WMG MS takes the new information and compares it to the information available in the line signaling configuration files to determine a match for the outbound line signal.

Line signals are defined by four line-signaling bits referred to as A, B, C, and D. A pattern is created by turning the bits On and Off. For each parameter, the line signaling bit must match the bit patterns specified by your telephone network provider.

A line signaling configuration file contains line signaling definitions and timing data used on a T1 or E1 channel. Each parameter in the file specifies the time or state of four line signaling bits. All four bits are required for each parameter even though they are not always used.

Only incoming call configurations are described in the following tasks for line signaling configurations. Therefore, some window elements are not discussed.

Note: Configuring line signaling applies to T1 and channel bank configurations only.

For E1-R2 configurations, line signaling files are predefined Dialogic files with a .cdp extension (Dialogic is the E1 board manufacturer). These .cdp files specify the line signaling and the tone configuration and cannot be modified. Therefore, for systems with E1-R2 configurations, the procedures in this section are not applicable.

Creating an E1 Line Signaling Configuration

1. Select **Configuration>UCC>Line Signaling** from the Wireless Message Gateway - Control Center window.

The Line Signaling Configuration window appears (see Figure 9).

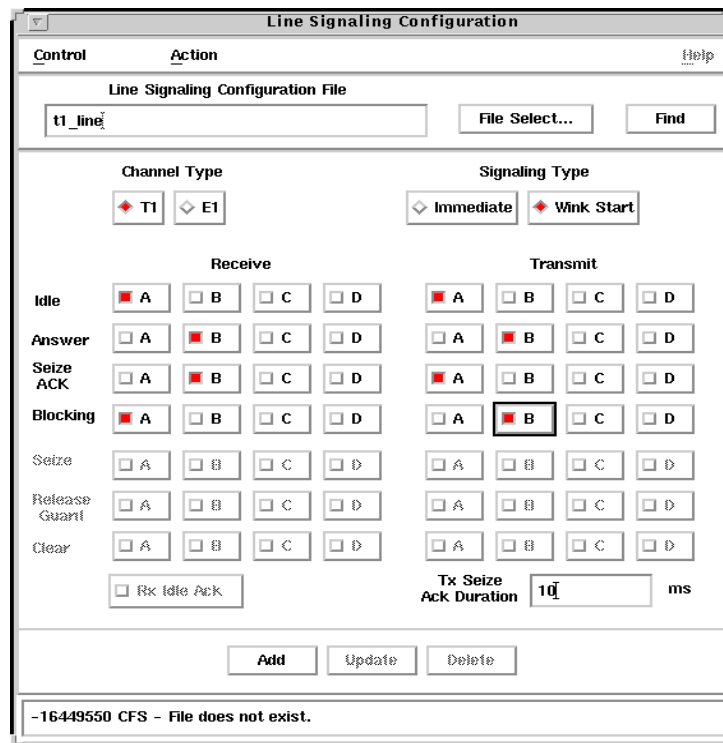


Figure 9: Creating an E1 Signaling Configuration File

2. Type the name of the E1 line signaling configuration file in the **Line Signaling Configuration File** field.
3. Click **Find**.
A Confirmation dialog box appears.
4. Click **OK** to create the new file.
5. Click **E1** in the **Channel Type** box.

Note: The default channel type is determined in the **System Parameters - Miscellaneous** window.

6. Select the appropriate On and Off bit pattern for the **Idle** options by clicking the A, B, C, and D **Receive** and **Transmit** buttons.

Receive—The telephone network provider sends this bit pattern to the WMG MS. The bit pattern specifies that the channel is free to initiate an outbound call to the provider or ready to receive a call.

Transmit—The WMG MS sends this bit pattern to the telephone network provider. The bit pattern specifies that the provider is free to initiate a call to the WMG MS.

Note: All **Receive** and **Transmit** bit patterns must be specified according to the line signaling bit patterns determined by your telephone network provider.

7. Select the appropriate On and Off bit pattern for the **Answer** options by clicking the A, B, C, and D **Receive** and **Transmit** buttons.

Receive—The telephone network provider sends this bit pattern to the WMG MS. The bit pattern specifies that a call is being received by the WMG MS.

Transmit—The WMG MS sends this bit pattern to the telephone network provider. The bit pattern specifies that the call was answered by the WMG MS or an outbound call is being made. This signal is sent after the WMG MS validates the register signaling data.

8. Select the appropriate On and Off bit pattern for the **Seize ACK** option by clicking the A, B, C, and D **Receive** and **Transmit** buttons.

Receive—The telephone network provider sends this bit pattern to the WMG MS.

Transmit—The WMG MS sends this bit pattern to the telephone network provider for a specified time period and notifies the provider that the WMG MS is ready to accept the register signaling data for validation. The provider then sends the data.

9. Select the appropriate On and Off bit pattern for the **Blocking** options by clicking the A, B, C, and D **Receive** and **Transmit** buttons.

Receive—The telephone network provider sends this bit pattern to the WMG MS. The bit pattern specifies that the channel cannot be used by the WMG MS to initiate an outbound call.

Transmit—The WMG MS sends this bit pattern to the telephone network provider. The bit pattern specifies that the channel cannot be used by the provider to initiate an inbound call.

10. Select the appropriate On and Off bit pattern for the **Seize** options by clicking the A, B, C, and D **Receive** and **Transmit** buttons.

Receive—The telephone network provider sends the bit pattern to the WMG MS. The bit pattern specifies the initiation an incoming call.

Transmit—The WMG MS sends this bit pattern to the telephone network provider. The bit pattern specifies the initiation an outbound call.

11. Select the appropriate On and Off bit pattern for the **Release Guard** options by clicking the A, B, C, and D **Receive** and **Transmit** buttons. This is sent prior to terminating a call.

12. Select the appropriate On and Off bit pattern for the **Clear** options by clicking the A, B, C, and D **Receive** and **Transmit** buttons.

Receive—The telephone network provider sends the bit pattern to the WMG MS. The bit pattern specifies the call has been terminated by the network provider.

Transmit—The WMG MS sends this bit pattern to the telephone network provider. The bit pattern specifies the call has been terminated by the network WMG MS.

Note: The Sieze, Release Guard, Clear and Rx Idle Ack options are not applicable to channel bank configurations.

13. Click **Add** to create the E1 line signaling configuration file.

Creating a T1 Line Signaling Configuration

You can create two types of configurations for a T1 line signal: immediate start and wink start. In an immediate start configuration, the telephone network provider sends register signaling data (for example, digits) immediately after an answer signal is sent. In a wink start configuration, the telephone network provider waits for an acknowledgment (ACK), or wink, transmission signal before sending the register signaling data.

Note: Using an immediate start or a wink start configuration is determined by your telephone network provider. This configuration file only serves to specify the timing and bit patterns of the line signal.

1. Select **Configuration>UCC>Line Signaling** from the Wireless Message Gateway - Control Center window.
2. The Line Signaling Configuration window appears (see Figure 10).

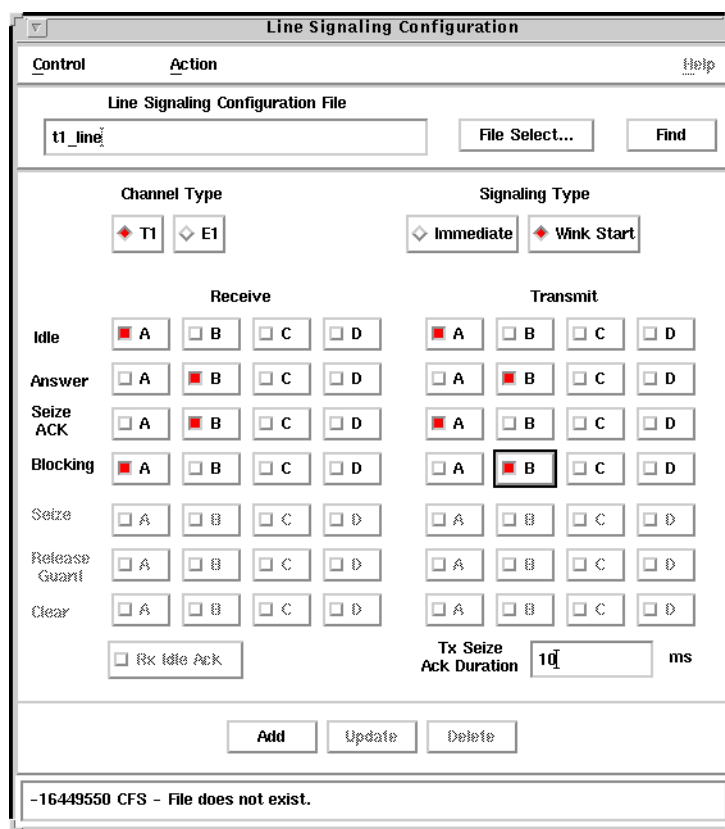


Figure 10: Creating a T1 Signaling Configuration File

3. Type the name of the T1 line signaling configuration file to create in the **Line Signaling Configuration File** field.
4. Click **Find**.
A Confirmation dialog box appears.
5. Click **OK** to create the new file.

6. Click **T1** in the **Channel Type** box.

Note: The default channel type is determined in the **System Parameters - Miscellaneous** window.

7. Click either **Immediate** or **Wink Start** in the Signaling Type box.
8. Select the appropriate On and Off bit pattern for the **Idle** options by clicking on the A and B **Receive** and **Transmit** buttons.

Receive—The telephone network provider sends this bit pattern to the WMG MS. The bit pattern specifies that the channel is free to initiate an outbound call to the provider or ready to receive a call.

Transmit—The WMG MS sends this bit pattern to the telephone network provider. The bit pattern specifies that the provider is free to initiate a call to the WMG MS.

Note: All **Receive** and **Transmit** bit patterns must be specified according to the line signaling bit patterns determined by your telephone network provider.

9. Select the appropriate On and Off bit pattern for the **Answer** options by clicking on the A and B **Receive** and **Transmit** buttons.

Receive—The telephone network provider sends this bit pattern to the WMG MS. The bit pattern specifies that a call is entering the WMG MS.

Transmit—The WMG MS sends this bit pattern to the telephone network provider. The bit pattern specifies that the call was answered by the WMG MS or an outbound call is being made. This signal is sent after the WMG MS validates the register signaling data.

10. Select the appropriate On and Off bit pattern for the **Blocking** options by clicking on the A and B **Receive** and **Transmit** buttons.

Receive—The telephone network provider sends this bit pattern to the WMG MS. The bit pattern specifies that the channel cannot be used by the WMG MS to initiate an outbound call.

Transmit—The WMG MS sends this bit pattern to the telephone network provider. The bit pattern specifies that the channel cannot be used by the provider to initiate an inbound call.

11. If you selected Wink Start for the Signaling Type, enter the number of milliseconds (ms) of the seize ACK-transmit signal in the **Tx Seize ACK Duration** field. If you selected Immediate, skip this step.

Note: The system rounds this number down to the nearest ten.

12. Click **Add** to create the configuration file.

Displaying a T1 or E1 Line Signaling Configuration

1. Select **Configuration>Line Signaling** from the Wireless Message Gateway - Control Center window.

The Line Signaling Configuration window appears (see Figure 10).

2. Manually enter, or select the name of the configuration file:
 - a. Click **File Select** to display a pop-up menu (see Figure 11).
 - b. Select the desired file name.

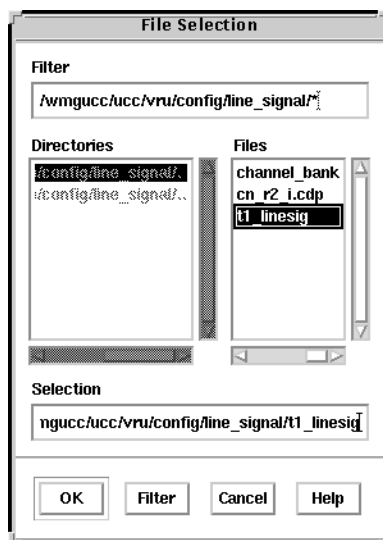


Figure 11: Line Signaling File Selection Pop-up Menu

- c. Click **OK**.

The Line Signaling Configuration window reappears with the Configuration file selected.

3. Click **Find**.

If found, the configuration displays for the specified file.

Note: If you select a .cdp file (the extension for E1-R2 configurations), the system displays a message that this Dialogic file cannot be viewed or edited. Select a file that does not end in the .cdp extension.

Modifying a T1 or E1 Line Signaling Configuration:

1. Select **Configuration>UCC>Line Signaling** from the Wireless Message Gateway - Control Center window.

The Line Signaling Configuration window appears (see Figure 9).

2. Enter the name of the line Signaling configuration file or select from a list:
 - a. Click **File Select** to display a pop-up menu
 - b. Select the line signaling configuration file.

Note: If you select a <filename>.cdp file (the extension for E1-R2 configurations), the system displays a message that this Dialogic file cannot be viewed or edited. Select a file that does not end in the .cdp extension.

- c. Click **OK** to display the path information in the **Line Signaling Configuration File** field.

3. Click **Find**.

If found, the configuration display for the specified file.

Note: If buttons are red, they are On.

4. Make changes to the line signaling bit patterns for each configuration.

Note: All Receive and Transmit bit patterns must be specified according to the line signaling bit patterns determined by your telephone network provider.

5. Click **Update** after completing the changes.
The line signaling configuration file updates.

Deleting a T1 or E1 Line Signaling Configuration

1. Select **Configuration>UCC>Line Signaling** from the Wireless Message Gateway - Control Center window.

The Line Signaling Configuration window appears (see Figure 9).

2. Enter the name of the line signaling configuration file or select from a list:
 - a. Click **File Select** to display a pop-up menu
 - b. Select the line signaling configuration file.
 - c. Click **OK** to display the path information in the **Line Signaling Configuration File** field.

Note: If you select a <filename>.cdp file (the extension for E1-R2 configurations), the system displays a message that this Dialogic file cannot be viewed or edited. Select a file that does not end in the .cdp extension.

3. Click **Find**.

If found, the configuration parameters display for the specified file.

4. Click **Delete**.

A Confirmation dialog box appears.

5. Click **OK**.

The line signaling configuration file is deleted.

Calling Line Identifier (CLI)

This section describes how to add, delete, and modify entries in the CLI translation table.

Overview

The Caller Line Identifier (CLI) is the telephone number of the caller. The WMG MS received the information from MF-R2 and SS7 telephone interfaces.

The WMG MS collects a CLI then:

- Translates the CLI into another number based on the channel of the span that receives the call. A translation table substitutes the new CLI for the received CLI. The new CLI identifies the caller of the message in the WMG MS.

Note: Your telephone network provider should give you the list of CLI translations.

- Adds the translated CLI (or collected CLI) to the body of the subscriber message. If the combined length of the message body and the CLI exceeds the limits defined for that subscriber, the message truncates according to the WMG MS system parameters.

When a caller telephones the WMG MS, the caller can deposit a message. However, the caller also has the option to select that the CLI be used as the caller message.

The WMG MS system parameters, based on the data status that is reported by the UCC, indicate when to use the CLI as the message.

You can configure the CLI formats for numeric and text messages by selecting **Configuration>System>Parameters** from the Wireless Message Gateway–Control Center window.

Using the CLI Translation Table

You can add, delete, and modify entries in the CLI translation table. The range of entries in the CLI translation table consists of pairs of CLI numbers and translated CLI numbers. The translation table has a maximum of 10,000 entries. The size of the CLI and the translated CLI has a maximum of 24 numeric digits each. You can import an ASCII file to populate the CLI translation table.

Adding an Entry to the CLI Translation Table:

Note: You must have *CLI Translations Add permission*.

Perform the following steps to add a CLI translation:

1. Select **Configuration>UCC>CLI Translations** from the Wireless Message Gateway–Control Center window.

The CLI Translation window appears (see Figure 12).

The screenshot shows a window titled "CLI Translation". At the top, there are tabs for "Control" and "Action", and a "Help" icon. Below this, there is a "Pre-Translation Digits" input field containing "1234567890" and a "Find" button. A "Translation Table" box contains a single entry: "3456789012 : 2109876543". Below the table is a "Post-Translation Digits" input field containing "2345678901". At the bottom, there are buttons for "Sync", "Add", "Update", and "Delete". A status bar at the very bottom displays "RECORD NOT FOUND".

Figure 12: The CLI Translation Table Window

The **Translation Table** box displays the current CLI translation entries. For each entry, the CLI that is received by your telephone network is displayed on the left. The CLI translation that is attached to the body of the subscriber message is displayed on the right.

Use the scroll bar to move up and down the translation table.

2. Type the CLI that is received by your telephone network in the **Pre-Translation Digits** field. This value is a 1 to 24 digit number.
3. Click **Find**. If the pre-translation is not found, the **Add** button becomes active.
4. Type the CLI that is attached to the body of the subscriber message in the **Post-Translation Digits** field. This value is a 1 to 24 digit number.
5. Click **Add**.

The **Translation Table** box displays the new CLI translation entry. The CLI that is received by your telephone network is displayed on the left. The CLI translation that is attached to the body of the subscriber message is displayed on the right.

Use the scroll bar to move up and down the translation table.

6. Repeat Step 2 through Step 5 as required.
7. Click **Sync**.

The WMG MS saves the CLI translation table, synchronizes the servers associated with it, exits.

If you attempt to exit without clicking **Sync**, the system displays a question window (see Figure 13). Click **OK** to synchronize, or click **Cancel** to exit without synchronizing the servers.

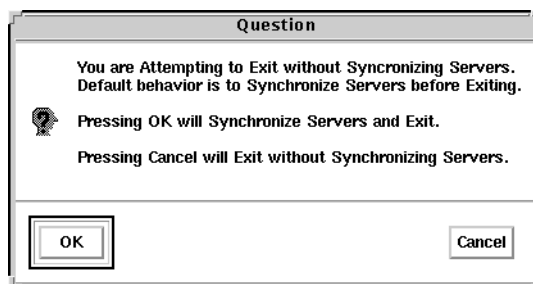


Figure 13: The CLI Synchronization Confirmation Window

To Display the CLI Translation Table:

1. Select **Configuration>UCC>CLI Translation** from the Wireless Message Gateway–Control Center window.

The CLI Translation window appears (see Figure 10).

Modifying a CLI Translation Entry

Note: You must have *CLI Translations Edit* permission.

1. Select **Configuration>UCC>CLI Translations** from the Wireless Message Gateway–Control Center window.

The CLI Translation window appears (see Figure 12).

2. Select the CLI entry in the **Translation Table** box.

The CLI translation entry is displayed in the **Pre-Translation Digits** field and the **Post-Translation Digits** field.

The **Translation Table** box displays the edited CLI entry. The CLI that is received by your telephone network is displayed on the left. The CLI translation that is attached to the body of the subscriber message is displayed on the right.

3. Make the desired change to the entry.
4. Click **Update**.
5. Click **Sync**.

The WMG MS saves the CLI translation table, synchronizes the servers associated with it, exits.

If you attempt to exit without clicking **Sync**, the system displays a question box. Click **OK** to synchronize, or click **Cancel** to exit without synchronizing the servers.

Deleting a CLI Translation Entry

Note: You must have *CLI Translations Delete* permission.

1. Select **Configuration>UCC>CLI Translations** from the Wireless Message Gateway–Control Center window.

The CLI Translation window appears (see Figure 12).

2. Select the CLI entry the **Translation Table** box. Select more than one entry at a time by dragging the mouse over the desired entries. To deselect an entry once you have selected it, click the entry again.
3. Click **Delete**.

A question box appears. Click **OK** to confirm. The entry is deleted from the **Translation Table** box.

4. Click **Sync**.

The WMG MS saves the CLI translation table, synchronizes the servers associated with it, exits.

If you attempt to exit without clicking **Sync**, the system displays a question box. Click **OK** to synchronize, or click **Cancel** to exit without synchronizing the servers.

UCC Languages

This section describes how to display and update languages used by each UCC. These are the languages heard by callers when calling into the WMG MS system.

Overview

Each UCC is configured to support up to four (4) different languages. Part of the configuration includes the designation of a default language. The default language is used when a language selected by the Storybook is not supported by the UCC (one of the four languages). A language consists of a set of all system voice (or text) prompts to support caller dialogs and a voice library used to perform enunciation.

Languages are selected and used by a script based on the language ID in the Subscriber's Storybook. If the language is present, then it is loaded and used. Otherwise, the default language is used.

When a caller first dials into the system, he or she is greeted in the language defined as the default language. Once the caller enters the desired Subscriber ID, the system prompts change to the language designated in the Subscriber Storybook language designation. The UCC plays prompt to the caller using one of the UCC's available language (Subscriber Storybook specified or UCC default). Each UCC can have a different set of languages. For a remote subscriber, the ISO code—a three-character string that represents an International recognized language (per ISO CD 639-2)—is transparent to the UCC since the WMG system translates the ISO code to the respective Language ID for the UCC. If a remote subscriber has an unknown language ID, the UCC at the local WMG (MS-I) will play the default prompt to the caller.

Displaying UCC languages

Note: You must be a valid WMG MS user and have UCC Languages Display permission.

1. Select **Configuration>UCC>Languages** from the Wireless Message Gateway–Control Center window.

The UCC Language window appears (see Figure 14).

Figure 14: The UCC Languages Window

2. Type the UCC number in the **UCC Number** field.
3. Click **Find**.

The languages assigned to the UCC are displayed in the **Selected Languages** box. The default language for the UCC is displayed in the **Default Language** field. The languages available in the system, as defined by the System Languages window, are listed in the Available Languages box.

Adding Languages to a UCC

Note: You must be a valid WMG MS user and have UCC Languages Update permission.

1. Select **Configuration>UCC>Languages** from the Wireless Message Gateway–Control Center window.

The UCC Language window appears (see Figure 14).

2. Type the UCC number in the **UCC Number** field and Click **Find**.

The languages currently assigned to the UCC are displayed in the **Selected Languages** box. The default language for the UCC is displayed in the **Default Language** field.

3. Click the language in the **Available Languages** box. Select more than one language at a time by clicking each language separately. Unselect a language by clicking the language again.
4. Click **Insert** to next to the **Available Languages** box to display the selected languages in the **Selected Languages** box.

Changing the Default Language

1. Display the UCC language.
2. Select the default language for the UCC:
 - a. Click the arrow next to the **Default Language** field to display a pop-up menu of the languages in the **Selected Languages** box.
 - b. Click the language to display it in the **Default Language** field and Click **Update**.

The UCC language assignment is updated in the WMG MS.

Deleting Languages from a UCC

Note: You must be a valid WMG MS user and have UCC Languages Update permission.

1. Select **Configuration>UCC>Languages** from the Wireless Message Gateway–Control Center window.

The UCC Language window appears (see Figure 14).
2. Type the UCC number in the **UCC Number** field and Click **Find**.

The languages currently assigned to the UCC are displayed in the **Selected Languages** box. The default language for the UCC is displayed in the **Default Language** field.
3. Click the language to be removed in the **Selected Languages** box. Select more than one language at a time by clicking each language separately. Unselect a language by clicking the language again.
4. Click **Remove** next to the **Selected Languages** box. The selected languages remove from the **Selected Language** box and displays in the **Available Languages** box.

Channel Service Control

This section describes how to place channels in service, out of service or inactive for an entire trunk span or channel-by-channel.

Overview

You can select the available channels you want the WMG MS to use through the channel service control. The UCC tells you the channels that are recognized by and available from the WMG MS.

Note: You must create trunk span definitions before updating channel service control.

Placing Channels In and Out of Service

To update the channel service control for a trunk span, you must have Control Channel Service Update permission. To place channels in service, out of service, or inactive:

1. Select **Control>Channels**.
The Channel Service window appears (see Figure 15).
2. Type the number of the UCC that houses the channels you want to modify in the **UCC Number** field. Valid values are 1 to 64.
3. Type the UCC trunk span number for the desired channels in the **Span Number** field. Valid values are 1 - 3.
4. Click **Find**.

The channel status displays for the specified trunk span.

There are three channel states: In Service, Out of Service and Inactive. These can be set all at once for the entire trunk span, or you can select channel states individually.

Note: For this release, channels can be set to **INS** (In Service) and **OOS** (Out of Service) from this window. Although the state cannot be set to inactive, if a channel is in the **INActive** state, it will be displayed as **INA** (in active).

The screenshot shows a window titled "Channel Service" with a "Control" tab. It features input fields for "UCC Number" and "Span Number" (both containing "1"), and a "Find" button. Below these are three radio buttons under "Set All Channels": "IN Service" (selected), "Out Of Service", and "INActive". A "Channel Status" table displays 30 channels in a 3x10 grid. The status of each channel is shown in a colored box: green for "INS", red for "INA", and yellow for "OOS".

1	2	3	4	5	6	7	8	9	10
INS	INS	INS	INA	INS	INA	INS	INS	INS	INS
INS	INS	INS	INS	INS	INS	OOS	INS	INS	INS
INS	OOS	INS	INS	INS	INS	INS	INS	INS	INS

At the bottom of the window is an "Update" button and a status bar that reads "RECORD HAS BEEN FOUND".

Figure 15: Updating Channel Service Control

5. Select the channels to place in service or out of service.
 - a. To Place all channels in service at once: Click the **In Service** button in the **Set All Channel** box. All channels display green with an **INS** abbreviation for each channel.
 - b. To Place all channels out of service at once: Click the **Out of Service** button in the **Set All Channel** box. All channels display yellow with an **OOS** abbreviation for each channel.
 - c. To select channels individually: In the **Channel Status** box, click the channel number for each channel to place it in service, out of service or inactive. Notice that the color and the abbreviation changes based on your selection.
6. Click **Update** to change the channel service control for the trunk span.

Monitoring Channels

Channel monitoring enables you to verify the channels are working correctly and to adjust them for high efficiency.

Overview

The system provides information about the channel status and the subscriber ID along with information such as line signaling and global variables. You can choose between monitoring a single channel or up to five channels at a time.

Accessing channel monitoring is done through the WMG Control Center. You use an x-terminal (xterm) window to access the control center.

Single Channel Monitoring

The Channel Monitoring function is not in the same menu tree as the other UCC functions. Since it part of system monitoring, you can find channel monitoring in the Monitoring menu.

Perform the following steps to monitor a single T1 or E1 channel:

1. Select **Monitoring>UCC Channels** from the Wireless Message Gateway - Control Center window.

The Channel Service xterm window appears (see Figure 16).

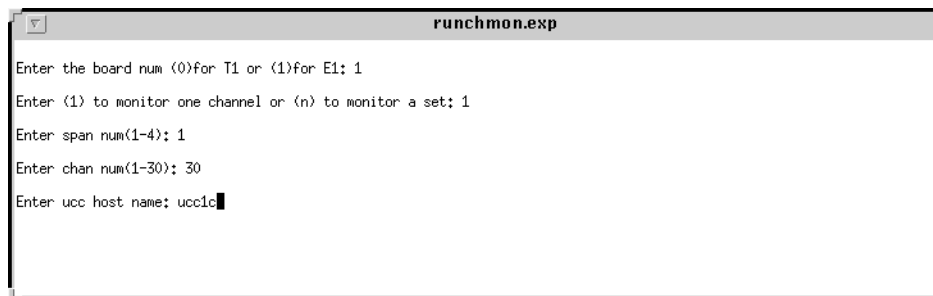


Figure 16: Channel Monitoring Xterm Window—Single Channel

2. Type 0 for T1 or 1 for E1 and press <Enter>.
3. Type 1 to monitor one channel and press<Enter>.
4. Type the UCC trunk span number (valid values are 1 to 4) for the desired channel and press <Enter>.
5. Type the channel number to monitor (valid values are 1to 24 for T1 and 1to 30 for E1) and press <Enter>.
6. Type the UCC host name and press <Enter>.

The single channel monitoring xterm window appears displaying data based on your entries (see Figure 17).

Note: Only one channel monitor per UCC can be open at a time.

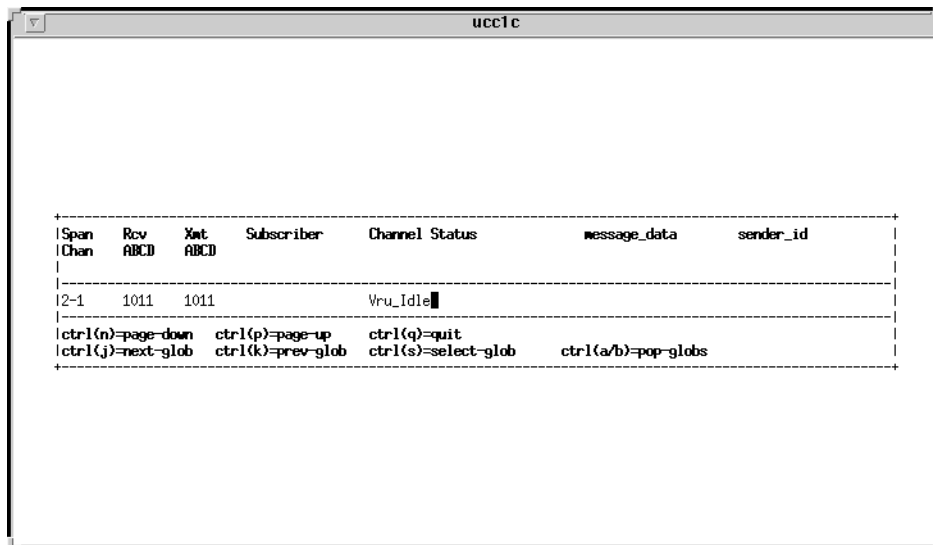


Figure 17: Single Channel Monitoring Xterm Window

The following fields are displayed in columns on the screen:

- Span/Chan: span and channel number
- Rcv-ABCD: Receive line signaling bits (2 bits for T1, 4 bits for E1)
- Xmt-ABCD: Transmit line signaling bits (2 bits for T1, 4 bits for E1)
- Subscriber: Subscriber number
- Channel Status: Channel status information
- Message Data: Global variable for message data that can be selected and monitored (default)
- Sender ID: Global variable of the sender ID that can be selected and monitored (default)

Note: Field values depend on the trunk span and channel number selected; all fields will not necessarily have values.

- Use the following control keys for these functions:
 - Main window:
 - <Ctrl+n>: Displays the next channel
 - <Ctrl+p>: Displays the previous channel
 - <Ctrl+a>: Displays pop-up window with global names
 - <Ctrl+b>: Displays pop-up window with global names displayed
 - <Ctrl+q>: Quits the program
 - <Ctrl+d>: Closes the xterm window
 - Global sub-window:
 - <Ctrl+n>: Within the pop-up window, displays next set of globals
 - <Ctrl+p>: Within the pop-up window, displays previous set of globals

- <Ctrl+j>: Moves the cursor to the next global in the list
- <Ctrl+k>: Moves the cursor to the previous global in the list
- <Ctrl+s>: Selects the global pointed by cursor to monitor
- <Ctrl+q>: Closes the window/screen

Note: To display the global sub-window, from the main window type <ctrl+a> for a list of global A variables; type <ctrl+b> for a list of global B variables (see Figure 18). Message Data and Sender ID global variables are the defaults.

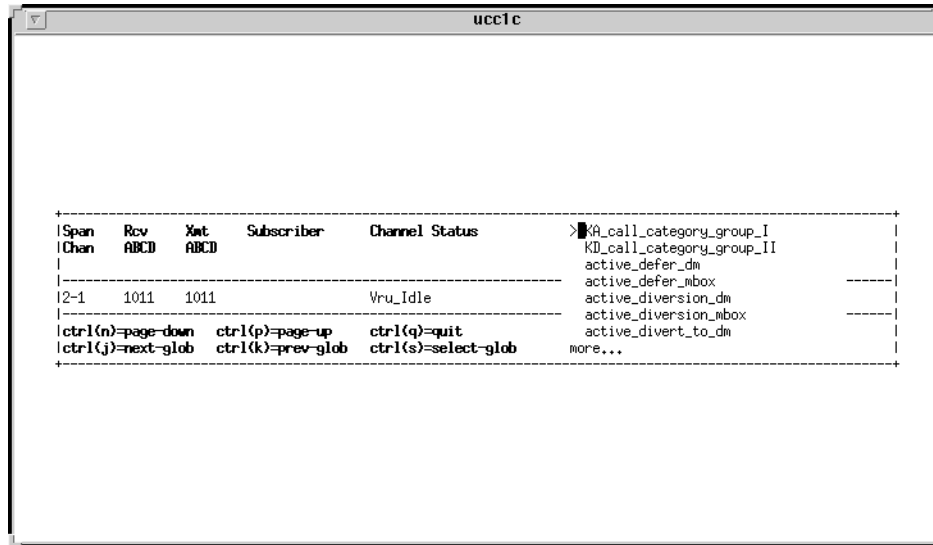


Figure 18: Global Sub-Window

8. To quit the main window, type <ctrl+q>.
The channel monitoring xterm window closes.

Multiple Channel Monitoring

The Channel Monitoring function is not in the same menu tree as the other UCC functions. Since it is part of system monitoring, you can find channel monitoring in the Monitoring menu.

Perform the following steps to monitor multiple T1 or E1 channels:

1. Select **Monitoring>UCC Channels** from the Wireless Message Gateway - Control Center window.

The Channel Service xterm window appears (see Figure 19).



Figure 19: Channel Monitoring Xterm Window—Multiple Channels

2. Type 0 for T1 or 1 for E1 and press <Enter>.
3. Type n to monitor multiple one or five channels and press <Enter>.
4. Type the UCC host name and press <Enter>.

The multiple channel monitoring xterm window appears displaying data based on your configuration (see Figure 20).

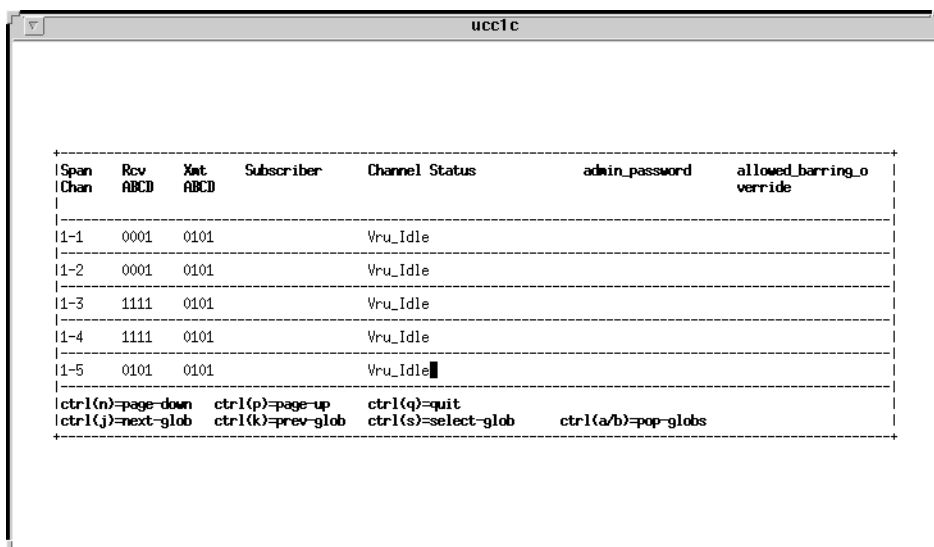


Figure 20: Multiple Channel Monitoring Xterm Window

The following fields are displayed in columns on the screen:

- Span/Chan: span and channel number
- Rcv-ABCD: Receive line signaling bits (2 bits for T1, 4 bits for E1)
- Xmt-ABCD: Transmit line signaling bits (2 bits for T1, 4 bits for E1)
- Subscriber: Subscriber number
- Channel Status: Channel status information
- Message Data: Global variable for message data that can be selected and monitored (default)
- Sender ID: Global variable of the sender ID that can be selected and monitored (default)

Note: Field values depend on the system configuration; all fields will not necessarily have values.

5. Use the following control keys for these functions:
 - Main Window:
 - <Ctrl+n>: Displays the next five channels
 - <Ctrl+p>: Displays the previous five channels
 - <Ctrl+a>: Displays pop-up window with global names
 - <Ctrl+b>: Displays pop-up window with global names displayed
 - <Ctrl+q>: Quits program
 - <Ctrl+d>: Closes window
 - Global sub-window:
 - <Ctrl+n>: Within the pop-up window, displays next set of globals
 - <Ctrl+p>: Within the pop-up window, displays previous set of globals
 - <Ctrl+j>: Moves the cursor to the next global in the list
 - <Ctrl+k>: Moves the cursor to the previous global in the list
 - <Ctrl+s>: Selects the global pointed by cursor to monitor
 - <Ctrl+q>: Closes the window/screen

Note: To display the global sub-window, from the main window type <ctrl+a> for a list of global A variables; type <ctrl+b> for a list of global B variables. Message Data and Sender ID global variables are available defaults (see Figure 21).

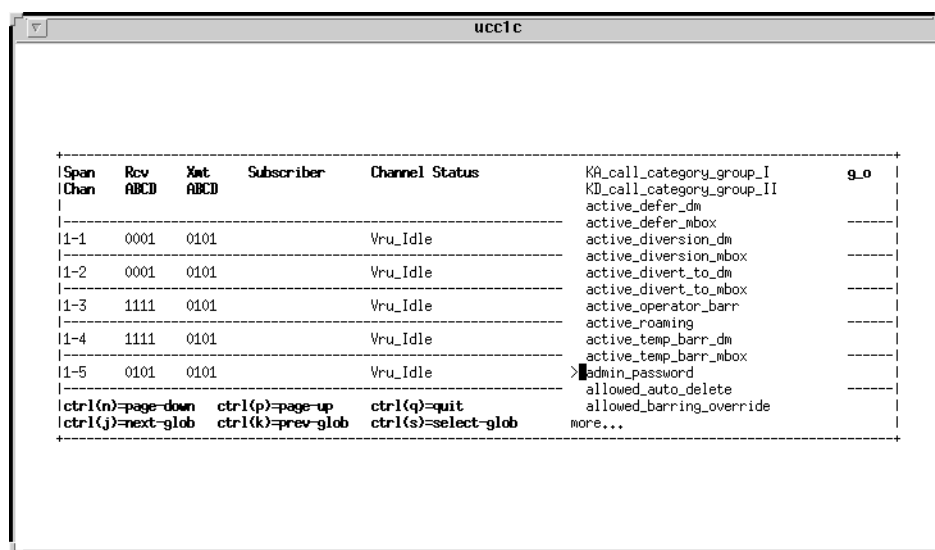
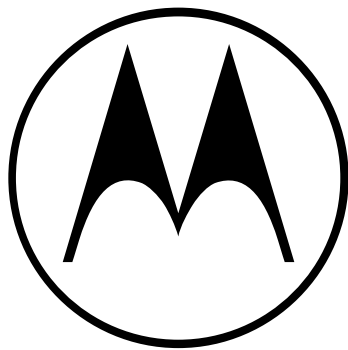


Figure 21: Global Sub-Window

6. To quit the main window, type <ctrl+q>.

The channel monitoring xterm window closes.



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