



MCC 7500 IP Logging Recorder Specification Sheet

Overview

The MCC 7500 IP Logging Recorder and Archiving Interface Server provides a mission critical IP-based digital logging solution for ASTRO® 25 trunking systems. The solution, a collaborative effort between Motorola and NICE® Systems Inc, was designed to work with the MCC 7500 Dispatch Console and is the only fully integrated and certified IP radio recording and replay solution for Motorola's ASTRO® 25 network. The seamless integration with Motorola's IP infrastructure coupled with the advanced solution application for scenario reconstruction and analysis, helps improve productivity and provides insight from citizen interactions for public safety agencies.

Integrated Digital Recording

Key to the value and strength of the Motorola MCC 7500 IP logging recorder solution is its integration and certification with the Motorola ASTRO® 25 network. The product resides on the radio system's IP network enabling the logging solution to provide more than just audio recording. Valuable data associated with each call including radio ID, Alias, and talk group is captured. In addition, tasks or events performed by the dispatcher such as emergency alarms, supergroup patches, changing tactical/normal selection on a talkgroup are presented as graphical icons in the Scenario Replay™ application.

The MCC 7500 IP logging solution is fully digital. Audio is recorded in its native vocoded format and the recorder stores it in the same form in which it was passed through the radio system. This eliminates degradation, allowing for optimal audio quality.

The addition of secure capability to the dispatch console and the archiving interface server provides true end to end encryption, providing a high degree of security for public safety customers.

Radio voice messages remain encrypted the entire time they are being transported between the dispatch console and the two-way radio.

Integration with the ASTRO 25 system also enables agency partitioning. This partitioning allows control and access over what each agency (e.g. Police, Fire, Public Works) in a communication system is able to playback.

The MCC 7500 IP logging solution provides the flexibility of centralized and/or distributed logging of conventional and trunked radio audio, associated radio call information and certain radio system events.

The MCC 7500 IP Logging Recorder solution consists of the following:

Archiving Interface Server (AIS) – The AIS is the interface between the radio system and the logging recorder solution. This allows calls on the radio system to be recorded along with call related information on the logging recorder. The AIS monitors identified resources, passes call-control information to the logging recorder, and redirects audio for those monitored channels to the logging recorder. It is comprised of a personal computer with a Motorola voice or secure card installed. An AIS is required for each logging recorder used in a system.

MCC 7500 IP Logging Recorder – The logging recorder server stores the captured audio and data received from the Archiving Interface Server (AIS). The system administrator specifies which talkgroups, conventional channels, etc. are recorded by the recording system. The AIS passes call control information and vocoded audio packets associated with radio calls to the recorder system for storage and retrieval.

In an IP environment, there are no longer dedicated analog outputs for each channel being recorded. Instead, the audio and call control information associated with a call is sent across the IP network to the recorder. To take maximum advantage of this architecture, the recorder is specified in terms of the number of simultaneous transmissions it can record instead of the number of channels it can record. The recorders have the same capacity as the Archiving Interface Server (AIS), and can handle up to 120 simultaneous calls. The simultaneous call capacity of a recorder includes all the trunked talkgroups and conventional channels being recorded. Recorded audio and data is written to a DVD-RAM for archiving purposes.

Type of radio calls recorded includes:

- Announcement Group Calls
- Site-wide Group Calls
- Talk Group Calls
- Analog and Digital Conventional Calls via Digital Conventional Channel Gateway
- Emergency on Trunking/Digital Conventional

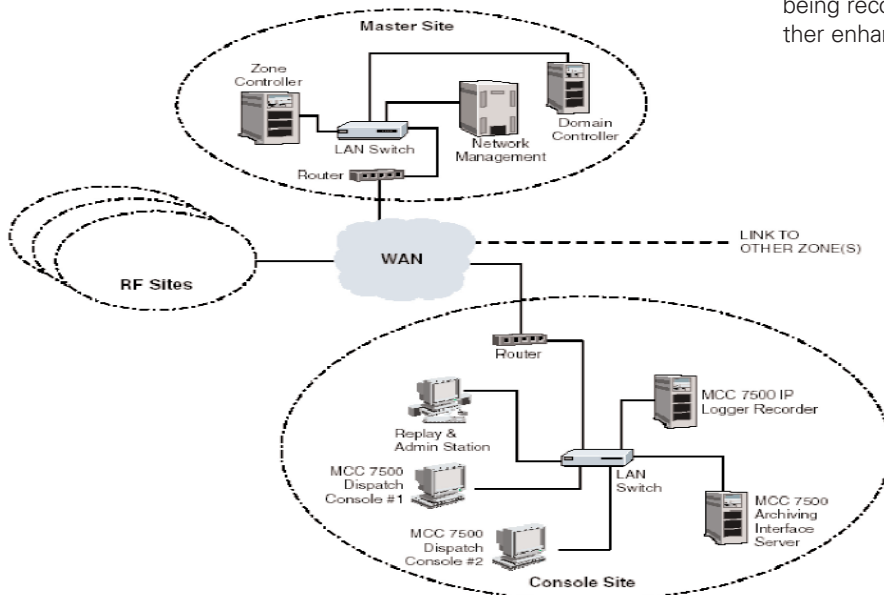
Information collected with each recorded call includes:

- Date and time stamp
- Type of call with ID and Alias (if applicable) e.g. Talkgroup name
- Unit ID of the device originating the call
- Unit ID alias of the device originating the call
- Site ID where the call originated
- Zone ID where the call originated
- Secure on non-secure call designation

Dispatcher-initiated events recorded include:

- Call Alert
- Emergency Alarm
- Emergency Acknowledge & Knockdown
- Repeat Control
- Resource Status
- Talk Group Priority Status
- Main/Alt Status
- Frequency Control

Replay Workstation – The replay workstation is comprised of a personal computer where the Scenario Relay software application resides. It is at the replay station where the recorded audio is devocoded, converted to analog, and sent to a speaker. Because the replay station supports all the vocoders used in the radio system and uses the same error mitigation techniques as the MCC 7500 dispatch console, the audio being played back has the same level of audio quality as at the MCC 7500 dispatch console. A call can be saved on a replay station either as a complete call (audio and any information associated with the call) or as a simple .wav file. A replay user account can be configured with access rights to the radio resources being recorded by the logging system which further enhances agency partitioning functionality.



Scenario Relay™ Application – Audio and events which have been recorded by the logging recorder(s) are accessed on the replay workstation via the Scenario Replay application. A state-of-the-art multiple channel search and replay tool, Scenario Replay is used across the MCC 7500 IP Logging Recorder, NiceLog®, and NiceCall® Focus III platforms providing the ability to seamlessly retrieve audio and/or data from radio and telephony communications. Scenario Replay's most powerful facility is its ability to recreate the communications around an incident, just as they happened. Presented in a graphical time view, the search results can be broken down by individual channels, talk groups, or unit ID's. Filters are the key to this simple, yet powerful, call and data retrieval. Within each filter, multiple criteria including date and time ranges, single or multiple Radio ID's or Alias', single or multiple Talk Group ID's or Alias', or even Multi-group (Patch/Multiselect) can be selected to refine searches. The system then searches the calls on the logging recorder server retrieving the appropriate call audio and data. Once retrieved, replay controls enable play, pause, stop, skip forwards or backwards, variation of replay speed, Automatic Gain Control, play markers to isolate a specific section, and a variety of other options can be used to analyze the calls and data. For a more detailed analysis or for evidential purposes, scenarios may be output to electronic files as either .wav or complete scenarios. With its intuitive GUI, powerful filtering capabilities, and file output capabilities, users get the information they need for analysis, investigation, and evidence both quickly and easily.

Scenario Replay Highlights:

- Information is presented using pre-configured views ordered by **Resource Alias, Individual Alias or Unit ID** (Console or Radio).
- Replay permissions are controlled by user accounts that limit the user to replaying calls on authorized resources.
- System-wide view of all calls, either list or graphical view, with call transmission information, to provide maximum flexibility.
- Multiple advanced search criteria using any database field and numerous logical operators to drastically reduce search times.

Administrator Application – The logging recorders and replay workstations used in the logging sub-system are configured and managed by a common administration application called NICE Administrator. This application allows configuration of all system resources, Users, User replay security, Loggers and CLS databases and resides on the replay workstation.

The system administrator can control the following:

- Talk groups and conventional resources recorded
- Secure and non-secure calls recorded
- Prioritizing talkgroups and conventional resources used in determining which calls to shed when capacity limits are exceeded
- Assigning access rights for replay station user accounts
- Various operational characteristics of the recorders

The screenshot displays the Scenario Replay application interface. At the top, there is a search panel with fields for 'From' (09 September, 2003) and 'To' (10 September, 2003), along with a 'Search Duration' dropdown and a 'Search' button. Below the search panel is a 'Transmission List' table with columns for ChannelNumber, Duration, and StartTime. The table lists several transmissions, with the last one selected. To the right of the list is a 'Properties' window showing details for the selected transmission, such as ChannelName, Duration, and RadioAlias. The main part of the interface is a graphical timeline view for 'Wed, Sep 10, 2003', showing call activity as blue bars across a time axis from 14:14 to 14:22. A legend on the left lists various talk groups and their corresponding colors.

ChannelNumber	Duration	StartTime
16	50	9/10/2003 2:16:25 PM
5	70	9/10/2003 2:16:25 PM
6	100	9/10/2003 2:16:25 PM
4	50	9/10/2003 2:16:25 PM
3	60	9/10/2003 2:16:25 PM
9	50	9/10/2003 2:16:25 PM
160	9/10/2003 2:16:25 PM	
16	70	9/10/2003 2:16:30 PM
15	80	9/10/2003 2:16:30 PM
14	50	9/10/2003 2:16:31 PM
4	390	9/10/2003 2:16:31 PM

Property	Value
ChannelName	4
ChannelNumber	390
Duration	No Value
EndTime	0098
Frequency	No Value
RadioAlias	00
RadioCallType	25822
RadioID	9/10/2003 2:16:31 PM
StartTime	CRIMINAL JUSTICE ACADEMY TRACK 2
TalkGroupAlias	1033
TalkGroupID	

DATA SHEET

MCC 7500 IP LOGGING RECORDER

Specifications

The MCC 7500 IP Logging Recorder utilizes a Dual-Core Intel® Xeon® Processor server with three logical drives in a RAID 5 array configuration providing up to 75,000 on-line channel hours, dual DVD-RAM drives, hot plug redundant fan, redundant power supply, and Windows™ 2003 R2 Server. It is scalable to add capacity with the purchase of additional call licenses.

MCC 7500 IP Logging Recorders:

TT1092	30 Simultaneous Call Audio and Event Archiving Recorder
TT1094	120 Simultaneous Call Audio and Event Archiving Recorder
TT04554	10 Simultaneous Call Capacity Increase (Up To 120 Simultaneous Call Max)

MCC 7500 IP Logging Recorder Resiliency Features & Options

Audio Archiving Devices:

DVD-RAM (IDE) 2 x Panasonic DVD-RAM SW-9574_C - 4.7 GB (ship standard)

NiceCLS™ Backup Devices:

HP DAT72 DDS5 Tape Drive

MCC 7500 IP Logging Recorder Playback Workstations:

DDN8463	Playback Workstation (no LCD)
DDN8663	Playback Workstation w/ 17" LCD Display, Keyboard, and Mouse
DDN9588	Vista Playback Workstation (no LCD)
DDN9589	Vista Playback Workstation w/ 17" LCD Display, Keyboard, and Mouse

Note: ASTRO 25 release 7.7 or later systems support only Vista replay station

Vocoder Algorithms Supported

Different vocoder formats are used; IMBE (4.8 kb/s) in ASTRO 25 systems 7.5 or earlier and AMBE+2 in 7.6 and later, ACELP (5.1 kb/s) in Dimetra® systems and G728 (16 kb/s) for conventional calls.

Technical Specifications*

	IP Recorder HP ML370 G5	Replay Workstation HP XW4600
Height	8.63"	17.7"
Width	17.5"	6.7"
Depth	26.5"	18.0"
Weight (Typical Config)	59-68lbs	33lbs
Range Line Voltage	90 to 264 VAC	90 to 264 VAC
Rated Input Voltage	100 to 240 VAC	100 to 240 VAC
Rated Input Frequency	47 to 63 Hz	50 to 60 Hz
Rated Input Current	10A to 4.8A	7.4A
Rated Input Power	1001W (100 VAC)	460 Watt Continuous
BTU Rating	3,420 BTU/HR	2,415.4 BTU/HR (Max)
Steady State Power (Power Supply)	775W	460W (continuous) Auto-ranging
Max Peak Power (Power Supply)	775W	460W (continuous) Auto-ranging
Temperature Range (Operating)	41° to 95° F	40° to 95° F
Relative Humidity (Operating)	5% to 95%	8% to 85%

*Specifications are subject to change. Go to www.motorola.com/dispatch for the most up-to-date specifications.



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