



## COMMUNICATION CONTROL AND MONITORING STATION (CCMS)

Thales Canada, Systems Division’s Communication Control and Monitoring System (CCMS) provides remote control and monitoring capability for radio communications equipment and associated hardware such as modems, audio matrix switches, RF switches, voice and data terminal equipment, etc.

The CCMS is a stand-alone, WindowsNT-based client-server system, which can be used in practically any naval communication system. Additional hardware interfaces can be installed in the CCMS computer to accommodate additional radio circuits.

Background polling tasks performed by the CCMS, present the operator with virtually immediate notification of equipment fault or failure, such capability being limited only by the ability of the equipment to determine and report its own “health” through BITE (Built-in-

Test-Equipment). The ability to conduct preliminary diagnostics and trouble-shooting makes corrective maintenance more efficient and cost-effective.

The CCMS’ performance is achieved using an audio matrix switch, which allows versatile interconnection of communication assets as required. While in practice, any remotely-controllable switch can be incorporated in the communications system to be controlled and monitored, the switch which Thales Canada, Systems Division uses is physically compact, yet modular (in building blocks of 31 inputs and 16 outputs). The remote control feature of the switch allows the system to automatically reconfigure a circuit in the event of equipment failure. This feature greatly enhances the robustness of the system.

Using a database of communication and equipment setup plans, the CCMS controls parameters for the following equipment:

- LF/MF/HF Communications Receivers;
- Pre-selectors and Power Post-selectors;
- Exciters and Power Amplifiers;
- UHF Transceivers and Receivers;
- Modems and Demodulators;
- Audio Matrix Switch; and
- Antenna Couplers and RF Switch.

The CCMS' main functions are:

- **COMPLAN:** This button displays the COMPLAN form, which allows the operator to create and edit COMPLANs, as well as install a COMPLAN that is to be used by the system. The operator can also access the Setup Plans form directly to specify the equipment parameters when configuring a channel. Each COMPLAN can have several pages (i.e., channels) and the system can manage up to ten different COMPLANs;
- **Setup Plan:** This button displays the Setup Plan form, which lets the operator specify and manage several circuits' equipment settings. The system can manage up to one hundred different Setup Plans;
- **Channel Summary:** This button displays a summary of all the channels available in the active COMPLAN. The list allows the operator to activate and deactivate individual channels (lines) within that COMPLAN. The operator can also tweak the parameters (e.g., frequencies, power levels, etc.) for any active channel;
- **Channel Status:** This button displays the current status of all active channels in the

system. The display is updated in real-time and lets the operator know if a channel is idle, receiving, transmitting, waiting, etc.;

- **Log:** This button display a series of items that relates to the CCMS' on-line and off-line logs, which keep track of important events in the system. From these items, the current or any old log can be viewed or printed, log reports can be generated using powerful filtering parameters, and on-line logs can be archived to an off-line storage medium;
- **Config:** This button allows the operator to view and/or change any of the configurable parameters that the MPS controls;
- **MPS:** This button allows the operator to switch from the CCMS Main Menu to the MPS Main Menu; and
- **Exit:** This button allows the operator to exit the system.

The Main section displays a diagram of the system's equipment and their inter-connections. The information on the screen shows the status of the HWCIs (Hardware Configuration Items) and of the active channels through the use of coloured lines and boxes. The display is updated in real-time and the operator can, at a glance, establish the current state of the system. The operator can select a specific piece of equipment to display additional status information.

The **STATUS** section displays information on the screen that summarizes the current status of the CCMS system and of the selected equipment. The status of any piece of remote equipment can be changed (Available/Unavailable), so that a BITE test can be performed. The current alarms count for both systems are located at the bottom of the section. The alarms are displayed by double clicking on the LED.

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