Communications Multiplexer Controller (CMC)

- Microprogrammed serial communications multiplexer
- Common processor interface for serial data links
- Allows multiple data link types and speeds simultaneously
- Up to 96 simplex serial channels in one 19" equipment rack (3CMCs)
- Serial data interfaces include EIA-STD-RS232C or MIL-STD-188C
- Duplex operation is achieved by using adjacent simplex adapters
- Operates with two Input/Output Processors (IOP's) on demand control basis
- Internal hardware diagnostics in firmware.
Features

General

Multiplexes any combination of up to 32 serial interface adapters to either of two Sperry Univac Input/Output Processors (IOP's)
Microprocessor management of processor interface and multiplexing functions via a firmware operational program in PROM
CMC is composed of the following:

- Input/output boards containing line drivers and receivers to interface with IOP's
- Memory and computer select boards containing microcode memory and selection circuitry. (Microcode memory consists of 2K of ROM (burned in) and 1K of RAM.)
- Microcontroller board for microprogram control. (AMD* 2900 series microprocessor)
- Adapter Select, Test and Control Board for adapter requests, priority and test message ROM's
- Adapter boards, each containing standardized plug-in facilities for adapter (serial) channels. These combinations are send/receive for duplex links or send/send, receive/receive for multiple simplex links. Up to 32 adapters in a CMC
- 16-bit parallel bi-directional data bus, 4-bit adapter request bus and 8 bit control and address bus.

Power supply
CMC is transparent to data flow and operates under IOP control via external function commands
Sophisticated internal diagnostic in firmware for testing basic CMC boards and all plug-in adapters
Diagnostic control is either from IOP or CMC maintenance panel
Diagnostic results provided to the IOP by interrupt status (maintenance panel readout)
Capable of back-to-back, down-link testing

Input/Output

Processor interface:
Two type A parallel channels (32 bit parallel interface with 30 data bits plus 2 parity bits), Sperry Univac specification SB 10205
Operates in Externally Specified Index (ESI) mode
Maximum I/O rate is 55K words/sec over one channel to one IOP

Serial interfaces:
- Contains on adapter boards 2 simplex serial channels per board
- 32 simplex channels, 16 duplex channels, or any mixture
- Adapter boards are pluggable and field installed
- EIA-STD-RS232C and MIL-STD-188C
- Up to 9600 bits per second
- Synchronous or asynchronous

Currently available adapter types:
- Sensor Receiver And Processor Adapter (SRAPA) — 2 per board
- Radar Receiver Adapter (RRA) — 2 per board
- Interfacility Communications Transmitter/Receiver Adapter (ICTA/ICRA) — 1 pair per board
- Model 40 Teletypewriter Transmitter/Receiver Adapter (M40TA/M40RA) — 1 pair per board
- Communications Transmitter/Receiver Adapter (CIDIN) — 1 pair per board

Physical

- Voltage — 120 VAC, single phase
- Frequency — 60 Hz
- Power — Maximum 500 watts with full complement of interface adapters
- Size of Drawer (mounts in 19 inch equipment rack FA-8380): Height — 15½ inches Width — 19 inches Depth — 26 inches
- Weight of drawer — 125 pounds
- Temperature: +60° F to 90° F
- Humidity: 20% to 80%

*Trademark of Advanced Micro Devices

Applications

- Air Traffic Control Communication Link
  Digitized radar inputs
  Digitized beacon inputs
  Flight plan data exchange with ARTCC
  Local or remote communication terminals
  Remote display
  Ground to ground message communication

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