# Communications Multiplexer Controller (CMC)

✦SPERRY

- 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.
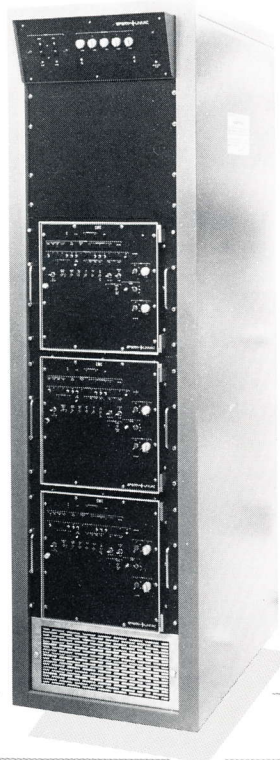
F e a t u r e s

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:
Contained 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 — $15\frac{3}{4}$ inches
Width — 19 inches
Depth — 26 inches
Weight of drawer — 125 pounds
Temperature: +60° F to 90° F
Humidity: 20% to 80%

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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

CMC INTERCONNECTION DIAGRAM