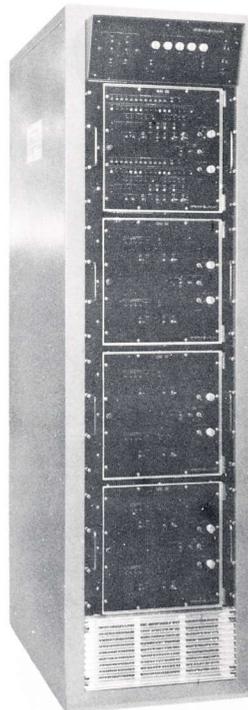


## INTERFACE BUFFER ADAPTER AND GENERATOR (IBAG)

FAA TYPE FA-8363

■ Provides system interface between Input/Output Processor's (IOP's) and the Plan View Display's (PVD's – FAA Type FA-7912) ■ Micro Processor located in each I/O Module (IOM) controls all IOP-PVD Communications utilizing 4096 words of PROM for operational use and 4096 words of PROM for diagnostic use ■ Processes all data, status and command information from switches, keyboard and trackball between PVD and IOP on input ■ Generates random symbols, tabular data and line data for presentation on the face of the CRT in the PVD ■ Drives one to six displays from one or two dual channel I/O sections ■ Allows two processors to communicate simultaneously with their assigned display channels ■ Provides for full display system redundancy ■ Improved system reliability ■ Compactness for improved weight, space and power requirements.



### APPLICATIONS

- Air Traffic Control Centers
- Interfaces with PVD displays (all-digital mode)

## FUNCTIONAL CHARACTERISTICS

Interface Buffer Adapter and Generator (IBAG) is composed of one or two Input Output Modules (IOM) in one Input Output Drawer (IOD) and up to three Display Drawers (DD). Each DD interfaces with one or two Display Modules (DM). An IBAG may interface with up to six Plan View Displays (PVD) in a maximum IBAG configuration.

### INPUT/OUTPUT MODULES (IOM)

Provides system interface between IOP's and PVD's  
Each IOM can operate with two IOP channels and a maximum of six display modules

Dual channel redundancy

2 parallel I/O channels per IOM (SB 10205)

32 bit interface (30 data bits plus 2 parity)

Maximum I/O rate of 420K (30 bit words) per sec

Each IOM is composed of the following sub-modules:

Display Buffer Control (DBC) — Consists of a Microprogrammed Controller (MPC) for operational and diagnostic use. The DBC has overall control of the other sub-modules, taking data from Channel Control (CC) and, if needed, manipulating the data and sending it to the Display Modules or the Console Input/Output (CIO).

Channel Control (CC) — Contains I/O circuits to interface with the IOP and the internal data bus. All data is buffered between the data bus and the IOP.

Processor Input Control (PIC) — Accepts data from the Console Input Output (CIO) or the Refresh Buffer Memory (RBM) and transmits the data to the IOP.

Console Input Output (CIO) — Accepts data from the console switches, trackball and keyboard and transfers this data to the PIC upon command. It generates control signals to drive the console and controls some indicators on the PVD.

Option of one or two Input Output Modules per cabinet for redundancy.

### DISPLAY MODULES (DM)

Buffering and control for one PVD  
Interfaces console switches and indicators  
Provides data path to each IOM

Each display modules is composed of following sub-modules:

Refresh Buffer Memory (RBM) — Contains storage for a maximum of 8192 words of data, each containing 30 data bits and two parity bits. It refreshes the VGAC at a cycle time of 1.2 microseconds or less.

Vector Generator and Control (VGAC) — Accepts words from the RBM and generates the appropriate signals to cause a presentation on the PVD. The VGAC accepts commands from the IOM for control.

Option of one to six display modules per cabinet.

## PHYSICAL CONSTRUCTION

### CABINET DESIGN

19" equipment rack (FAA Type FA-8380)  
Contains an Input Output Drawer (IOD) and a maximum of 3 Display Drawers (DD)

### DRAWER DESIGN

Input Output Drawer (IOD)  
Two IOM maintenance control panels  
Space for one or two IOM's  
Separate power supply per IOM  
Blower  
Slide for rack mounting  
Size: 19 inches wide, 16 inches high, and 25 inches deep

Display Drawer (DD)  
Two DM maintenance control panels  
Space for one or two DM's  
Separate power supply per DM  
Blower  
Slides for rack mounting  
Size: 19 inches wide, 16 inches high, and 25 inches deep

## PHYSICAL CHARACTERISTICS

Primary Power  
120 VAC, single phase, 60 Hz  
5 KVA maximum power (2 IOM's and 6 DM's)  
Heat dissipated approximately 17,000 btu/hr  
Operating temperature +60°F to 90°F (intake air)  
Operating relative humidity — 20-80%  
Working shadow is 24 inches wide by 90 inches deep (service area)  
Weight — 900 pounds for 6 display version  
Temperature protection circuitry