FOXBORO®

PSS 21H-4D2 B4

I/A Series® Hardware
Modular Industrial Console

Modular Industrial Consoles (MICs) provide flexible mounting arrangements of I/A Series system components. They allow you to configure centralized or distributed control centers tailored to the functional requirements of each interaction point in the plant. The modular console furniture described herein can incorporate a mixture of equipment – console displays, input devices, processors, Fieldbus Modules, and data storage devices. Alternately, only display-specific equipment can be incorporated.

Modular Industrial Consoles (MICs) consist of a series of bays with optional tabletop and interior space for equipment storage, either directly joined together, or indirectly linked with a variety of spacers or worksurfaces.

MICs are ideal for supporting powerful multi-screen, real-time display software interactions. This combination allows console resources to be allocated optimally to meet changing day-to-day needs. Multi-screen consoles enable comprehensive handling of more plant information in a co-ordinated fashion.

Invensys™

Product Specifications

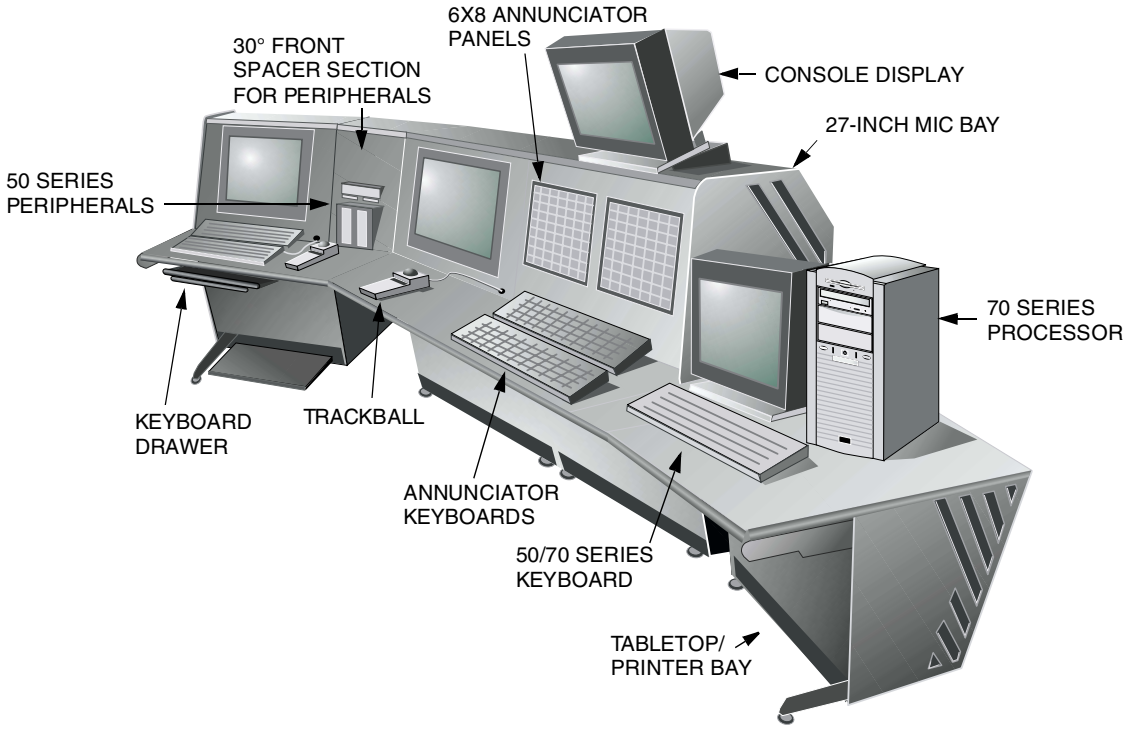


Figure 1. MIC Bays and Spacer Module

MODULAR INDUSTRIAL CONSOLE ARRANGEMENTS

The I/A Series System Configurator allows a highly flexible, graphical packaging configuration of console equipment. Individual sections are joined on site to provide a customized configuration using standard components.

This modular approach to consoles offers you combinations of single-screen and multi-screen real-time display software interactions as required at a given console. Refer to PSS 21S-2B1 B3, Human Interface Software for additional information.

The console is available with an empty bay configuration. You can mount ancillary equipment in the middle front section and in the rear section (per Figure 2).

The top section platform optionally permits the installation of a standard display, other custom displays, or printers.

Individual console display options (touchscreen, mouse, keyboards, and trackball) apply as described in PSS 21H-4D1 B3, Workstation Components. There are, however, specific allocations for mounting equipment within configurations.

MIC Bay Module

The full bay unit, the basic MIC, is designed to accommodate a complete range of I/A Series system equipment. The unit can house workstation displays, processors, data storage devices, GCIO, and peripheral devices. In addition to most of the I/A Series system equipment, the full bay can also house a wide variety of customer equipment.

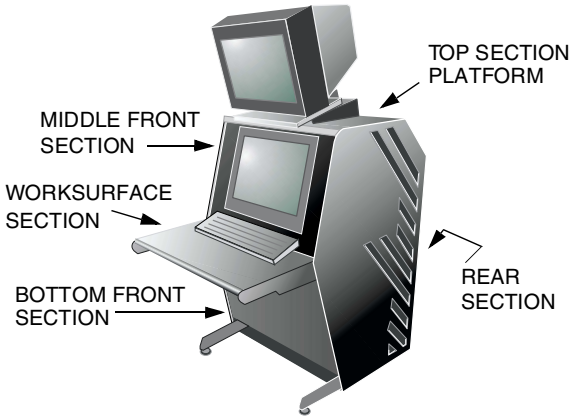


Figure 2. MIC Full Bay (Module)

Top Section Platform

The top section platform of a bay accommodates a 21-inch workstation display for 50 Series and 70 Series processors. Alternately, the top section can be empty or contain a platform suitable for addition of

other displays, printer, or similar equipment.

The use of a touchscreen on the top section as a primary means of interaction is recommended for backup purposes only. The 21-inch displays installed in this location are optimally positioned to be viewed only from the seated position; if you need to interact with the 21-inch display via touchscreen, it can be installed in the middle front section.

Middle Front Section

The middle front section accommodates the 21-inch display. This location is ideal for touchscreen as a primary means of interaction.

Alternately, the middle front section can be specified to accommodate one or two annunciator/panel or annunciator/numeric keyboards for convenient access (refer to PSS 21H-4E1 B4). You can also specify a blank middle front section, which enables the MIC to have cutouts in this panel for switches, a telephone, and so on.

MIC Worksurface Section

This table section is an ergonomically designed writing surface available in a variety of configurations. The individual surfaces of each console bay join to form a continuous tabletop. The tabletop is designed to have the fewest number of seams. Each tabletop section provides room for up to two free-standing keyboards or one keyboard and one mouse, or trackball. Free-standing keyboards can be alphanumeric or annunciator, annunciator/numeric types. A quick connect/disconnect keyboard connector is provided on each console bay for the alphanumeric keyboard. This connector allows the keyboard to be attached or removed as required, on-line. Multiple free-standing annunciator, annunciator/numeric keyboards can be daisy-chained together.

Bottom Front Section

The bottom front section comprises the area below the tabletop. A removable cover conceals a junction box which provides power to the console. Access to the circuit breaker supporting this junction box is available from the front of the console without removing the front panel.

Rear Section

The rear of the console has standard 483 mm (19 in) rack mounting rails providing upper and lower 6U sections. The upper rear section can accommodate one of the following equipment configurations:

- One or two, free-standing 50 Series Model 51, Style B processors, mounted on a shelf
- One or two, free standing 50 Series Model 51, Style D processors, mounted on a shelf
- An I/A Series 1x8 mounting structure for X- and Z-Modules
- A 19-inch Modular Mounting Structure (MMS) for 50 Series Model 50/51 Style A processors and 50 Series data storage devices.

The lower rear section can accommodate one of the following equipment configurations:

- One or two, free-standing 50 Series Model 51, Style B,C,D, or E processors
- One or two, free-standing 70 Series processors
- An I/A Series 1x8 Mounting Structure for X- and Z-Modules
- A 19-inch Modular Mounting Structure for 50 Series Model 50/51 Style A processors and 50 Series data storage devices.

The 19-inch Modular Mounting Structure has a dedicated power strip for the 50 Series devices used in the MMS. The power strip receives its main power from a junction box, and its backup ac power through an optional ac transfer switch (refer to PSS 21H-5F1 B3). Each of the 50 Series devices also has an individual circuit breaker located at the rear of the unit. This highly flexible approach allows system and workstation electronics to be either centralized within the MIC, or remotely distributed among other I/A Series enclosures to suit your preferences.

The entire MIC rear section (both upper and lower portions) can accommodate one of the following equipment configurations:

- One 50 Series Model 51, Style D processor and up to four 50 Series data storage devices
- One 50 Series Model 51, Style E processor and 50 Series data storage devices
- Up to two 70 Series processors.

A fan assembly, which is mounted at the top of the rear section, is used when the two 1x8 Mounting Structures, the 50 Series Model 51, Style D or E processors, or 70 Series processors are installed.

Alternately, the upper and lower rear sections can accommodate user-supplied, rack-mounted equipment.

Each 1x8 Mounting Structure has its own junction box and power supplies. Circuit breakers and transient protection are included within each junction box. When housed within a Modular Industrial Console, mounting structures can contain power modules, X- and Z-Modules (such as control processors, communications processors, and so on), as well as data storage devices.

A DIN rail is included for mounting Fieldbus Module (FBM) termination assemblies. FBM(s) can be accommodated in the optional 1x8 Mounting Structure when used with personal workstations. This allows cost-effective, self-contained single bay control configurations.

MIC Spacer Modules

The spacer section is available in two main types:

- 30° spacer section
  - for peripherals, or
  - for minitowers, or
  - for a flat worksurface
- 14-inch straight section
  - for peripherals, or
  - for minitowers, or
  - for a flat worksurface.

Multiple bays can be connected with these straight or 30° spacer modules between bays. These spacers provide an area for smaller pieces of equipment, such as diskette drives, allowing easy operator access for loading and unloading diskettes and tape cartridges.

The 30° spacer section is available in three equipment-specific forms. The first form can accommodate data storage devices for removable media access. This 30° spacer section can house definable combinations of up to four 50 Series diskette drives, 6x8 annunciator panel streaming tape drives, CD-ROMs, or hard disk drives. The second form can accommodate processors in minitower form, such as the 70 Series processors. The third form is a tabletop surface employed to connect two bays and supply an additional work surface.

The 14-inch straight section is available in three equipment specific forms, which are similar in function to the 30° spacer sections. The first form can house stacks of up to four 50 Series data storage devices, such as diskette drives, streaming tape drives, CD-ROMs, hard disk drives, or 6x8 annunciator panels.

The second form provides a housing for processors in minitower form, such as the 70 Series processor. The third form provides a flat 14-inch tabletop workspace.

A blank spacer front panel can also be used in certain spacer sections wherever panel-mounted data storage is not desired. This panel can be used for mounting other custom devices, such as, telephones or switches.

The devices permitted in the MIC are determined by the host application processor. If data storage devices are to be mounted in a 30° spacer section, the associated application processor must be located in one of the adjacent console bays.

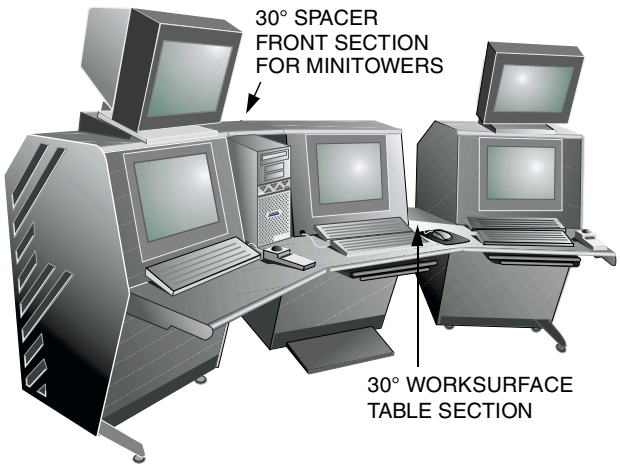


Figure 3. MIC Spacer Modules

MIC Tabletop/Printer Module

The tabletop/printer bay can extend an existing desktop, or be used in combination with other MIC full bays (see above). It is typically used at one end of an MIC (Figure 1) as a worksurface or printer bay. It can support other desktop-mounted devices as well as printers. The lower portion can be configured with a shelf or rails for mounting equipment.

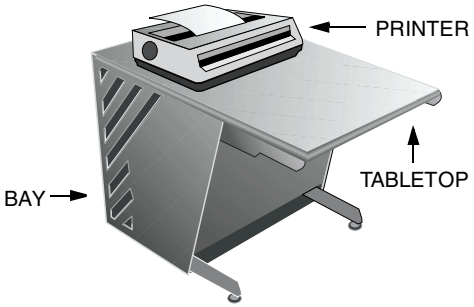


Figure 4. Tabletop/Printer Bay (Module)

Free-Standing Table

The table provides a flat working surface for mounting printers, processors, display, and any other customer-supplied equipment. It is well-suited as a central worksurface in a control room environment.

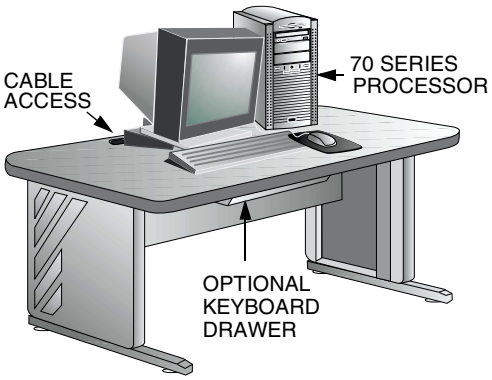


Figure 5. Free-Standing Table

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature
0 to 40°C (32 to 104°F)[a]
0 to 30°C (32 to 86°F)[b]
0 to 35°C (32 to 95°F)[c]

Storage Temperature
–40 to +70°C (–40 to +158°F)

Relative Humidity
5 to 95% (noncondensing)[d]

Contamination Class
Empty 21-inch console display bay – Class G3 (Harsh) as defined in ISA Standard S71.04
Console bays with peripherals – Class G1 (Mild) as defined in ISA Standard S71.04.

(a) For Modular Industrial Console without 50 Series and 70 Series processors.
(b) For Modular Industrial Console with 50 Series and 70 Series processors.
(c) For Modular Industrial Console with two 1x8 MMSs installed.
(d) For Modular Industrial Console only. Refer to the appropriate Product Specification Sheets (PSSs) for incorporated equipment specifications.

PHYSICAL SPECIFICATIONS

Mounting
Floor

Single Full Bay
94.5 kg (210 lb) maximum (empty)

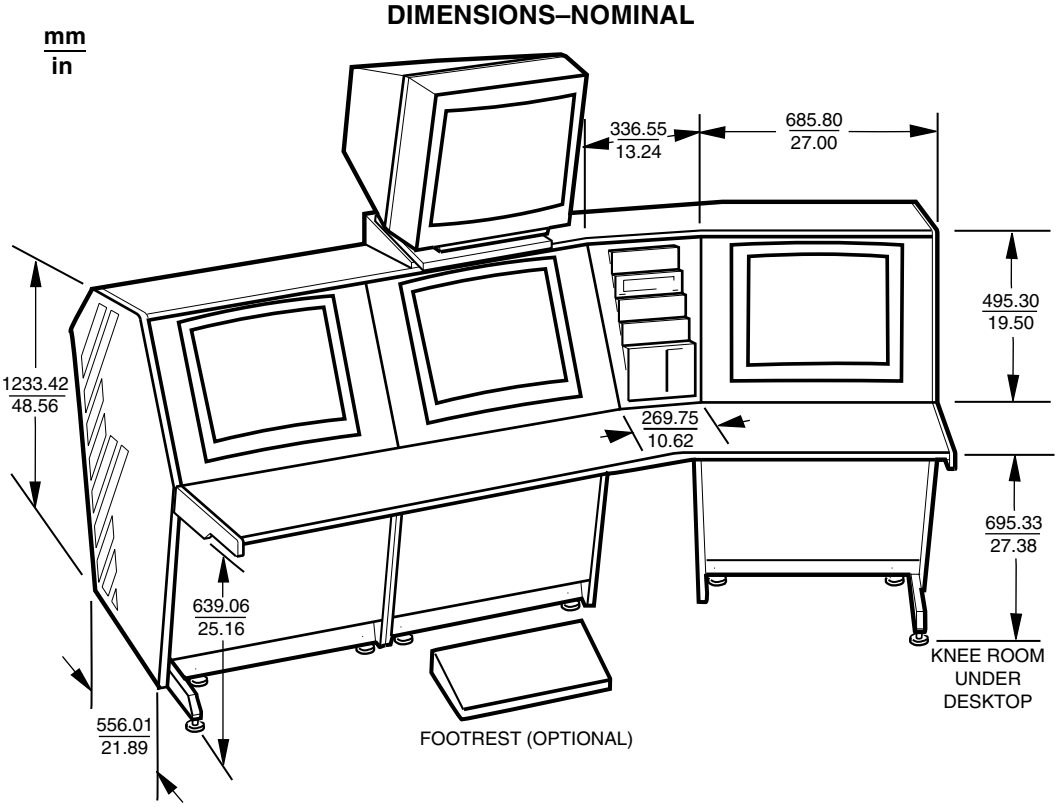
Tabletop Printer Bay
34 kg (75 lb)

14-Inch Straight Spacer Section
4.5 kg (10 lb)

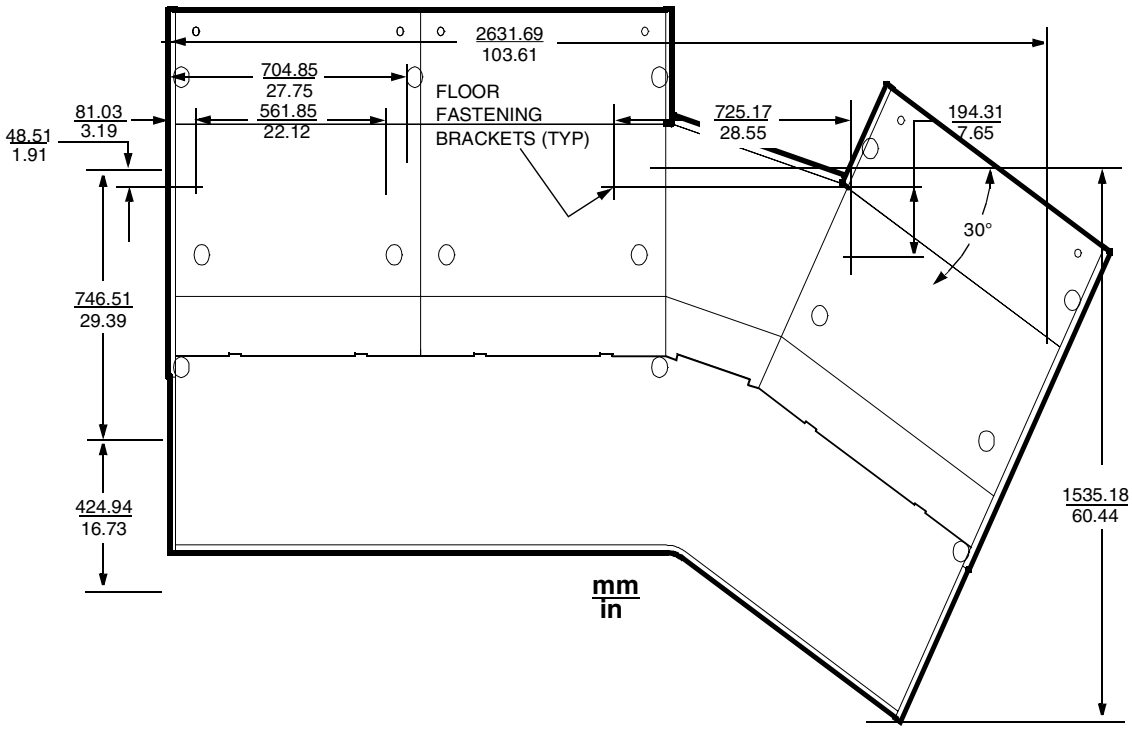
27-Inch Straight Section
9 kg (20 lb)

30° Spacer Section
11 kg (25 lb) (empty); 20 kg (45 lb) (with panel-mounted data storage devices).

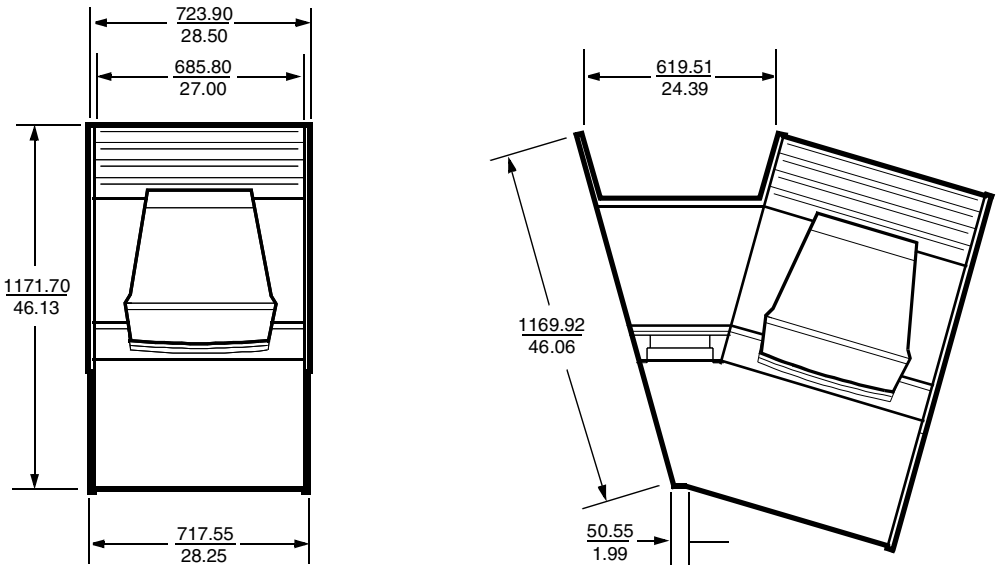
DIMENSIONS–NOMINAL



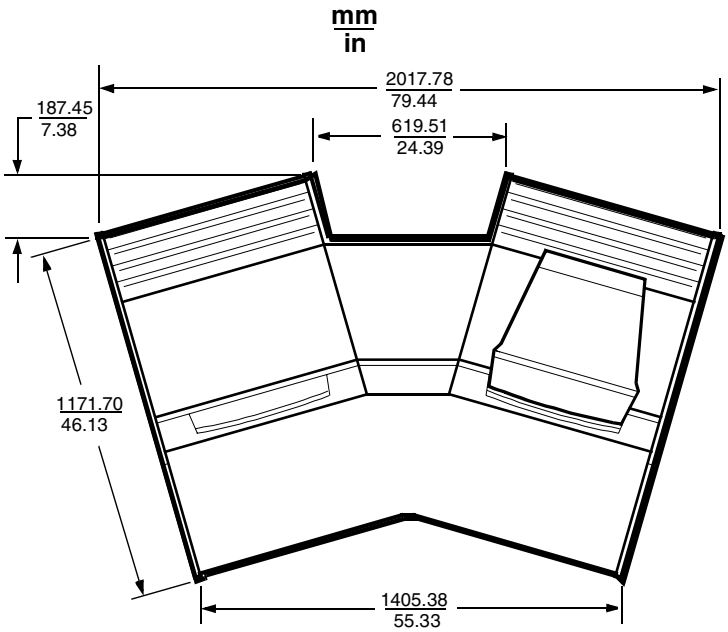
DIMENSIONS–NOMINAL
TOP VIEW
THREE BAYS AND SINGLE 30° SPACER
FOOTPRINT WITH BOLT DOWN PATTERN



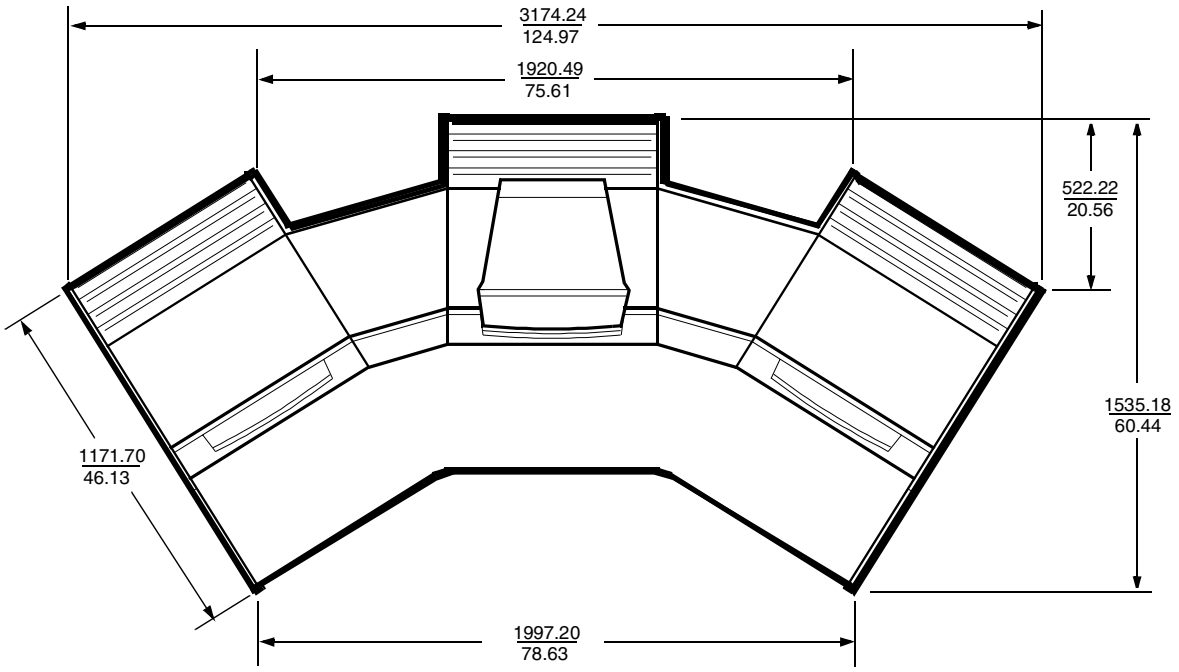
TOP VIEW
SINGLE BAY AND 30° SPACER



DIMENSIONS–NOMINAL
TOP VIEW
DOUBLE BAY WITH 30° SPACER



TOP VIEW
TRIPLE BAY WITH TWO 30° SPACERS



DIMENSIONS–NOMINAL

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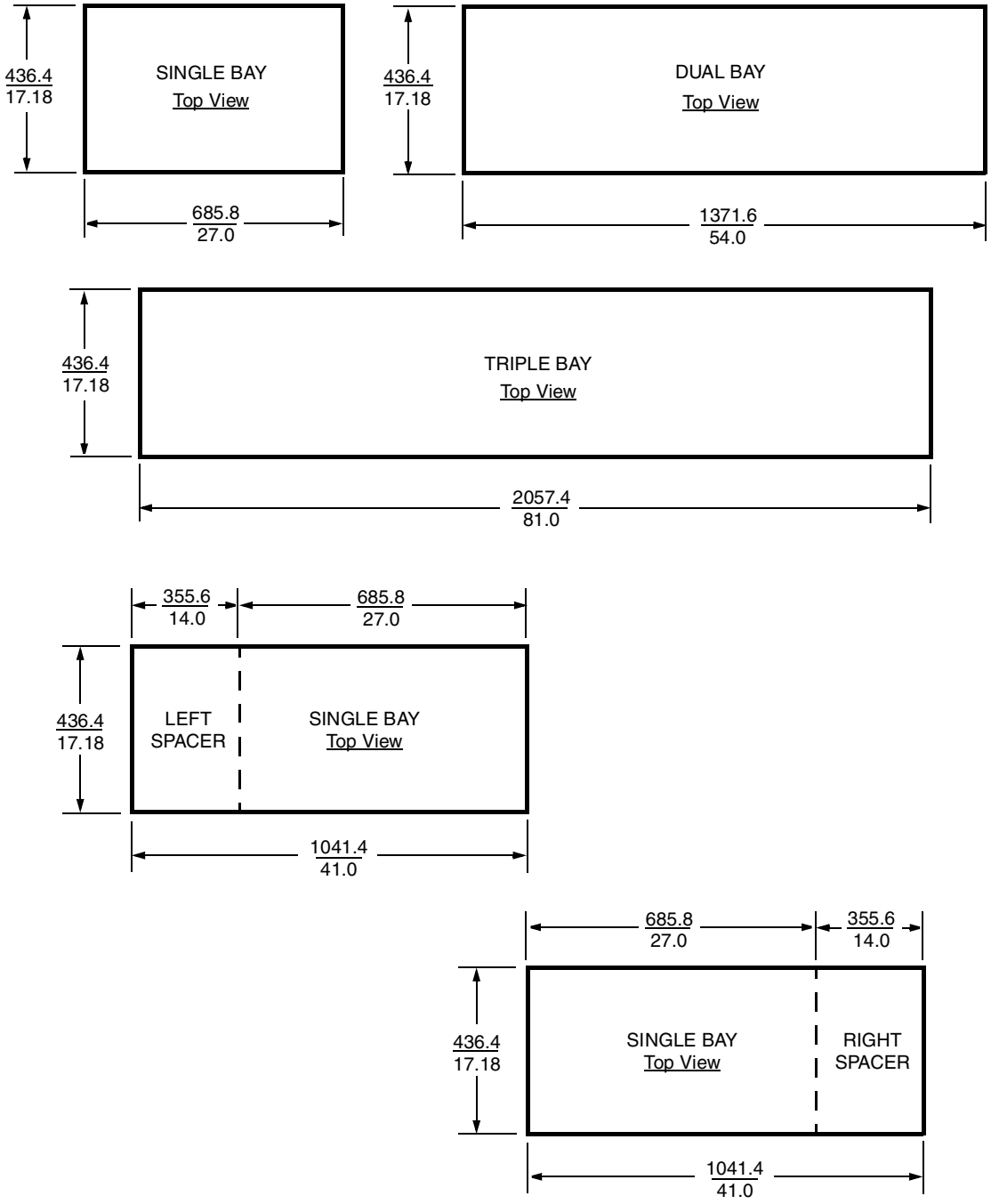
MIC Worksurfaces



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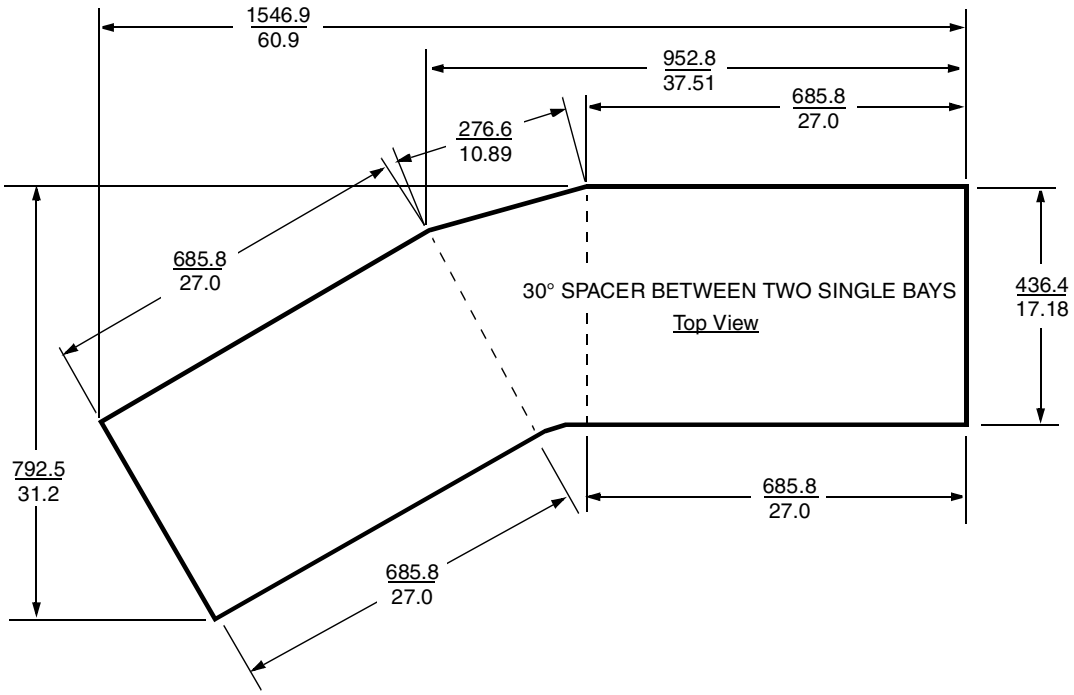
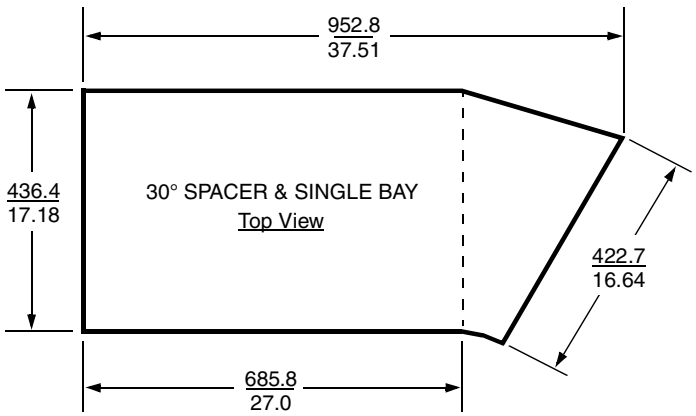
MIC Worksurfaces





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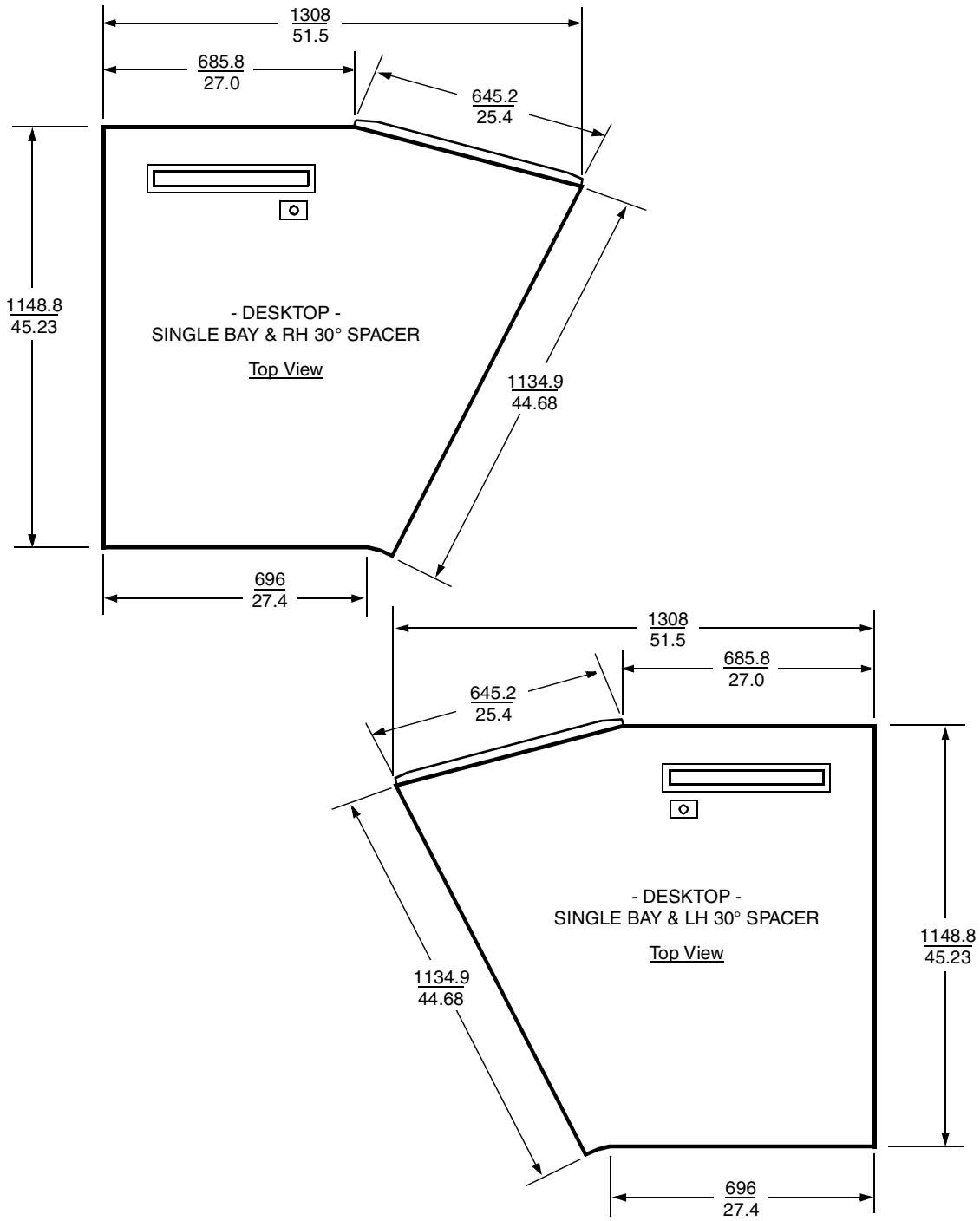
Worksurfaces For Desktop/Printer Bays



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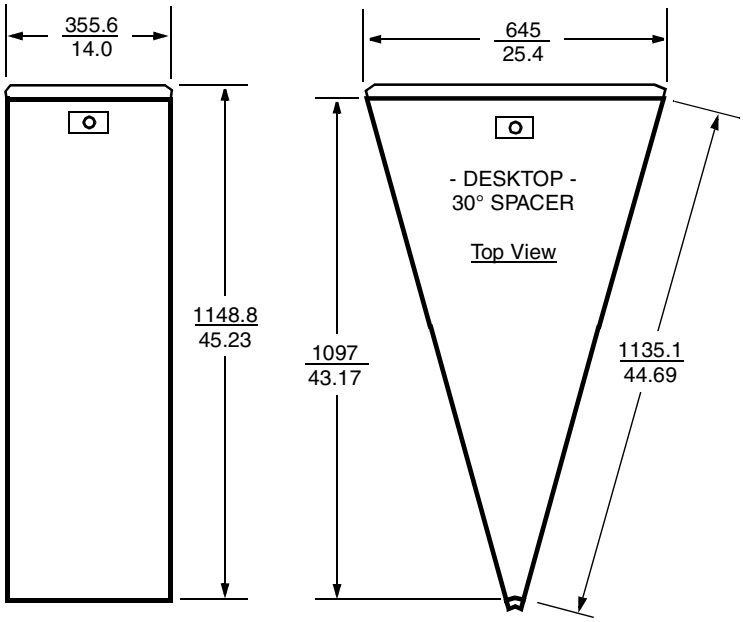
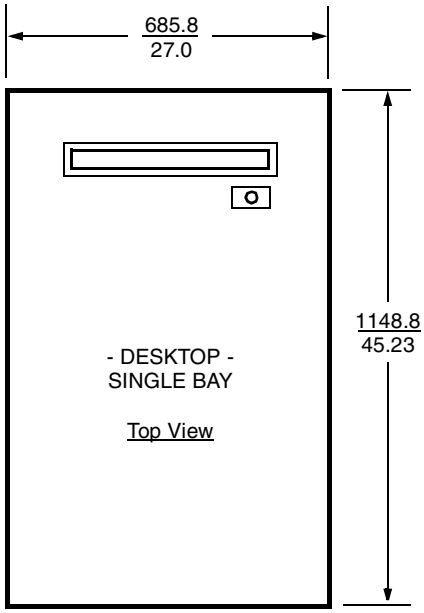
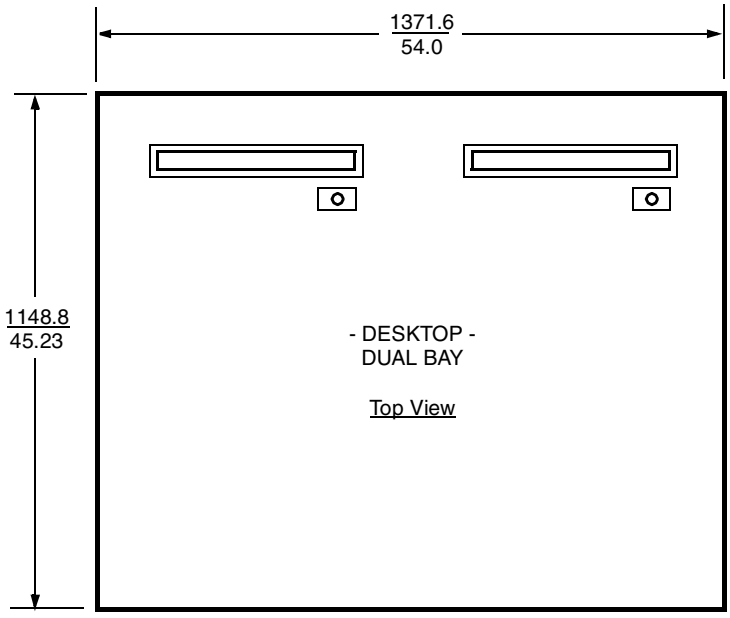
Worksurfaces For Spacer Modules



Worksurface for Desktop/Printer Bay





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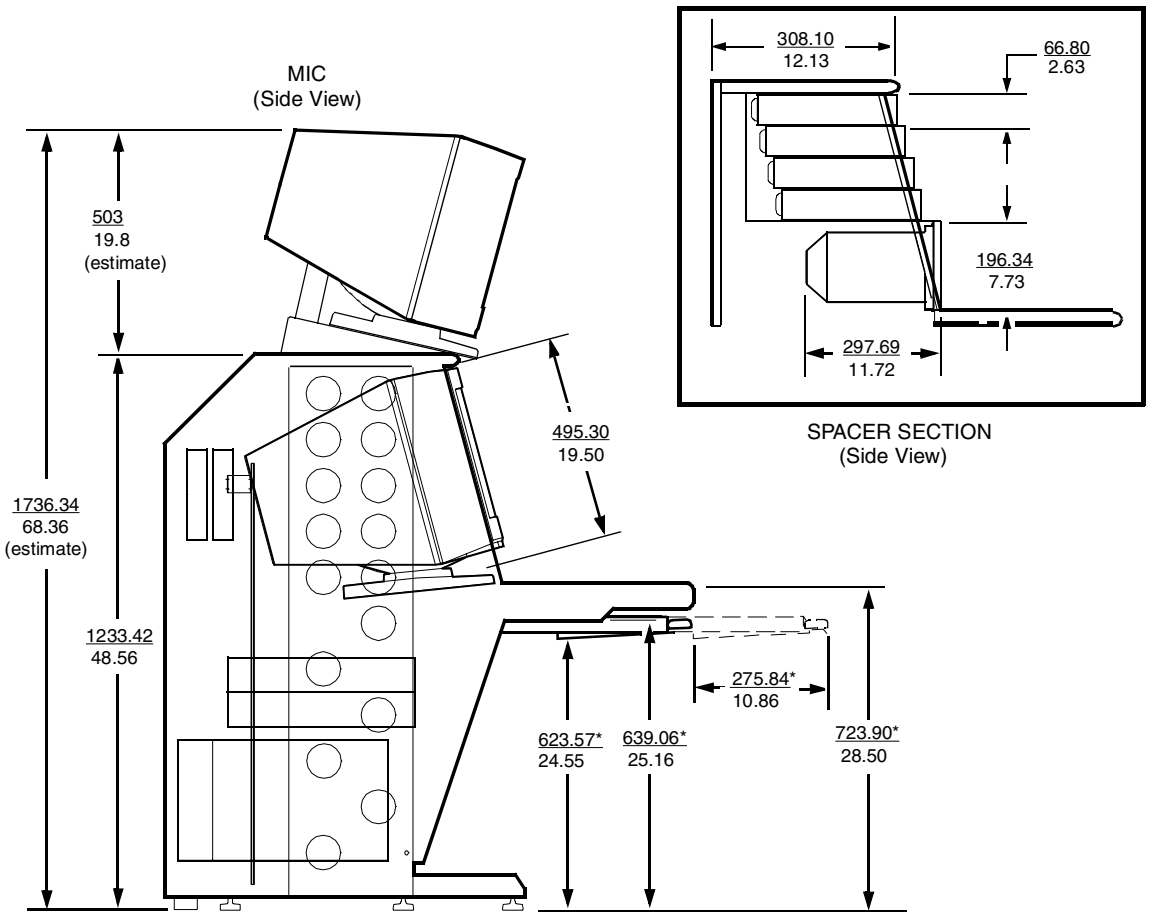

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