



MISSION CRITICAL SYSTEMS DESIGNER, INTEGRATOR AND OPERATOR

# SAF 3000 MULTIFUNCTION TERMINAL



## PRESENTATION

The new generation of **"SAF 3000"** equipments developed by CS (Communication and Systems) company includes an Operator Position mainly composed of a Multifunction Terminal (MFT).

Designed with a logical and user-friendly architecture and provided with a tactile screen, the MFT allows the operator to use the voice processing functions and the radio, telephone and intercom commands that are necessary to operate air traffic control missions. It allows the following types of communication :

- Air controllers with aircraft radio communication,
- Operators with external correspondents using telephone links,
- Operators with internal correspondents using intercom links.

These communications are mainly related to voice transmission but may include data transmission (commands and signalling).

The MFT is designed to be installed in a rack, in a console, on a telescopic base or laid on a desk.

Any Aircraft in controlled airspace is handled by an Air Traffic Control centre. The controllers perform their mission using radar, radio and telephone services.

The controller communicates with the pilot using radio and with the other controllers using telephone and intercom.

The controller necessary equipments are all grouped on a control desk called Operator Position (OP). These equipments allow to :

- Set the communications with the other air controllers of local centre or adjacent centres,
- Select the necessary transceivers to communicate with the aircrafts according to the controlled airspace zones.



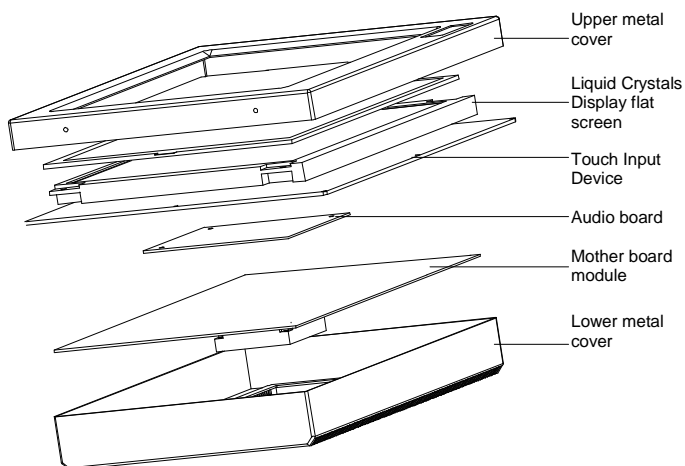
# SAF 3000 MULTIFUNCTION TERMINAL

## FUNCTIONALITY

- The MFT function consist of the interface between the operator and the communication system, mainly composed of a radio and telephone switch. The MFT is connected to the switch through an Ethernet network.
- The MFT control and interface an audio module in charge of all the devices needed by controllers (headsets, microphone, PTT, etc.).
- Radio, telephone and intercom configuration related to the MFT Human Machine Interface (HMI) is loaded automatically from a supervision terminal called PGS (Poste de Gestion et de Supervision), through the Ethernet network. The PGS is in charge to store all parameters according to the configuration defined by the user.
- Thanks to its modular design, the HMI can be easily modified to match user needs:
  - graphic objects,
  - reorganization of the display areas, the elements in each area, the colours and the fonts.

## COMPONENTS

- black metal cover treated against corrosion.
- 12" colour TFT (Thin Film Transistor) flat screen using Liquid Crystals Display (LCD) technology.
- Anti glare Touch Input Device based on 6-wires resistive technology, seal-mounted on the MFT front panel..
- Dedicated area located at the right bottom of the front panel, including:
  - 2 brightness control buttons,
  - 1 On/Off button,
  - 1 light indicator of MFT state.
- Audio board for interfacing the audio module.



- Mother board module (PC compatible) providing the necessary connections and performing the following features:
  - Touch Input Device control,
  - Communications with the radio and telephone switch,
  - Audio interface,
  - Power supply,
  - Temperature control
- No internal hard disk is used. The programs are stored on a flash disk.

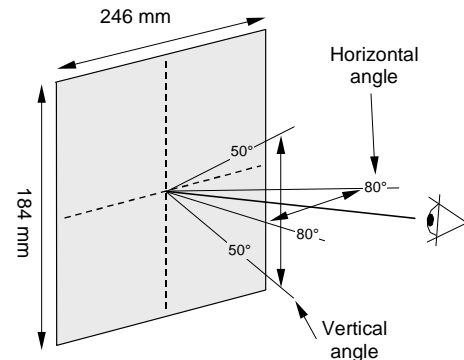
## CHARACTERISTICS

### Power supply and consumption

- 24V DC or 230V AC using an external AC/DC converter.
- Consumption : < 30 W
- Protection by fuse accessible from rear side

### Display

- Size : 12 inches
- Back-lighting : fluorescent tube (cold cathode)
- Display area : 246 x 184 mm
- Number of pixels : 800 x 600 (SVGA)
- Luminance : 300 cd/m<sup>2</sup>
- Contrast : 300:1
- Viewing angles :
  - horizontal: ±80°
  - vertical : ±50°



- Matrix type : TFT a-Si
- Number of colours : 262 144
- Pixel pitch : 0,3075 x 0,3075 mm
- Pixels arrangement : RGB vertical strip

### Environmental constraints

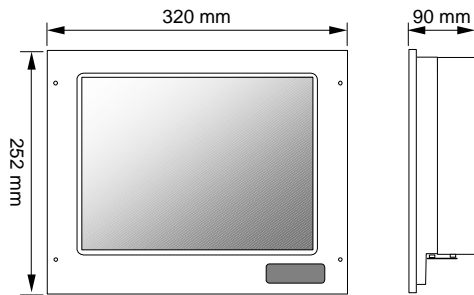
- Temperature :
  - Operation : 5°C to 50°C
  - Storage / Transport : -25°C to +70°C
  - Internal temperature digital sensor
- EMC : EN 55022 class B, EN 61000
- Electrical safety : EN 60950
- Vibrations : 2g from 5 to 500Hz (en utilisation)
- Shocks : 10g / 11ms



# SAF 3000 MULTIFUNCTION TERMINAL

## Physical data

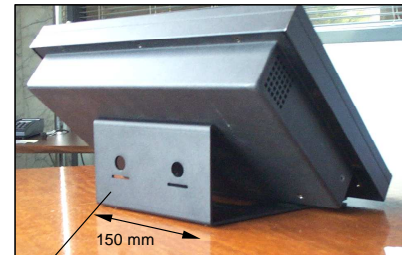
- External dimensions :
  - Length : 320 mm
  - Width : 252 mm
  - Depth : 90 mm
- Weight :
  - MFT : 4 kg
  - AC/DC converter : 0,6 Kg



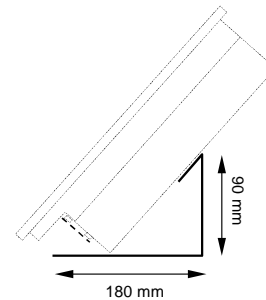
## OPTIONS

### Desk Foot Base

- When the MFT is placed on a desk, a foot base can be fixed on its rear side. The screen is then turned 45° from horizontal plane for the most comfortable view by the controller.

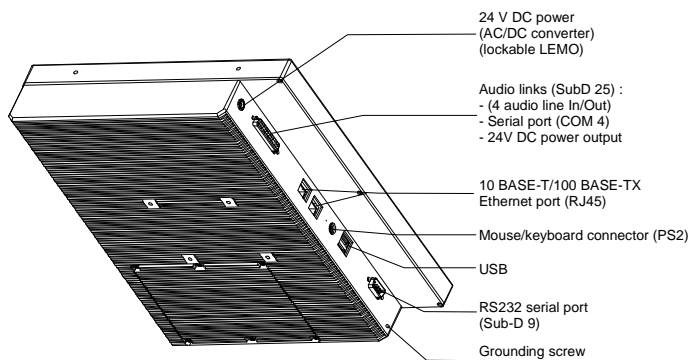


Foot base

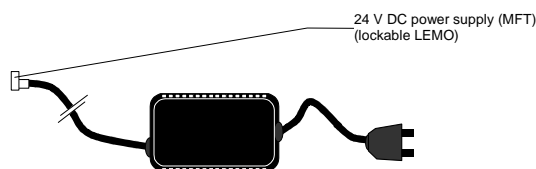


## CONNECTORS

### MFT REAR PANEL



### AC/DC CONVERTER



### Telescopic arm

- For highly improved ergonomics, the MFT can be fixed on a telescopic arm, allowing the following adjustments :
  - Height up to 508 mm,
  - Distance,
  - Angle.
- The chosen technology increases the screen stability that is especially important for tactile applications. It can be fixed on an horizontal or vertical plane.

