MD302X

###### MD302X is an improvement mod for MSFS default MD302 unit (aka AS1000 backup). Currently, it adds a one-hour battery that allows the unit to work in case of an electrical failure.

## Installation

Simply unpack the MD302X folder into your Community folder, usually in “%appdata%\Microsoft Flight Simulator\Packages\Community”.

## Description

MD302X adds a one-hour battery to power the unit in case of an electrical failure. Since there is no way to startup or shutdown the unit currently, it starts up and shuts down as following:

When the airspeed is less than 40 knots (indicating that the airplane is on the ground):

If electricity is available, the unit will work normally.

If no electricity is available, the unit will shut down automatically after 60 seconds.

When the airspeed is higher than 40 knots (indicating that the airplane is flying):

If electricity is available, the unit will work normally.

If no electricity is available, the unit will work on the internal battery until it’s depleted. Expect ~1 hour of run time.

Whenever electricity is back and the internal battery isn’t fully charged, it will be charged until it’s full. The charging time should be around 30 minutes for a fully depleted battery.

## Brightness Control

By default, the unit brightness can’t be changed. This section is for mod developers only who want to make the unit brightness adjustable.

Since the default unit brightness isn’t coupled to the panel light knob, the brightness must be set manually by fetching the panel light knob value and setting the emissive property of the unit in the airplane interior file. Below is an example for DA62, which has 2 displays: attitude on one screen, and speed and altitude on another one.

For airplanes that have one display (attitude, altitude, and speed in one display), use one component with ID GLASS\_COCKPIT\_Screen\_AttitudeSpeed\_Text and node AttitudeSpeedDisplay (or however it’s named in the airplane module). Change the other data as required (e.g., setting the light potentiometer index to the panel light knob).

It’s important to use the ASOBO\_GT\_Material\_Emissive\_Code template instead of ASOBO\_GT\_Emissive\_Gauge, as the latter will set the brightness to zero when no electricity is available, which will shut down the unit regardless of the battery status.

        <Component ID="GLASS\_COCKPIT">

            <Component ID="GLASS\_COCKPIT\_Screen\_Attitude\_Text" Node="AttitudeDisplay">

                <UseTemplate Name="ASOBO\_GT\_Material\_Emissive\_Code">

                    <EMISSIVE\_CODE>(A:LIGHT POTENTIOMETER:3, Percent over 100) 0.3 \* 1 0.02 - \* 0.02 +</EMISSIVE\_CODE>

                </UseTemplate>

            </Component>

            <Component ID="GLASS\_COCKPIT\_Screen\_Speed\_Text" Node="SpeedDisplay">

                <UseTemplate Name="ASOBO\_GT\_Material\_Emissive\_Code">

                    <EMISSIVE\_CODE>(A:LIGHT POTENTIOMETER:3, Percent over 100) 0.3 \* 1 0.02 - \* 0.02 +</EMISSIVE\_CODE>

                </UseTemplate>

            </Component>

        </Component>

## About

This mod is open source under the GPLv3 license. The source code can be found on the [GitHub repository](https://github.com/abdullah-radwan/MD302X). Any contributes are welcomed.

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