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Opencockpits

Manual IRS B737 Panel IDC.

Index:

MANUAL IRS B737 PANEL IDC. 1
INDEX: 2
INTRODUCTION: 3
BKI TECHNOLOGY: 3
WIRING DIAGRAM: 3
IRS CONNECTOR DESCRIPTION: 4
INPUTS AND OUTPUTS DEFINITIONS: 5
LINKS OF INTEREST: ..... **¡ERROR! MARCADOR NO DEFINIDO.**

Introduction:

IRS panel of B737 after overhead with IDC connection and integrated backlight technology BKI. Made from a 6mm thick piece, with painted finish and professional engraving.

This panel is designed for direct connection to a Master card or input / output cards and the After Overhead IOCard PCB card, connected with 40-pin IDC cable.

The panel has the following operating elements:

- Rotary switches.
- Numeric keyboard.
- Display digits and dots.
- Backlight.

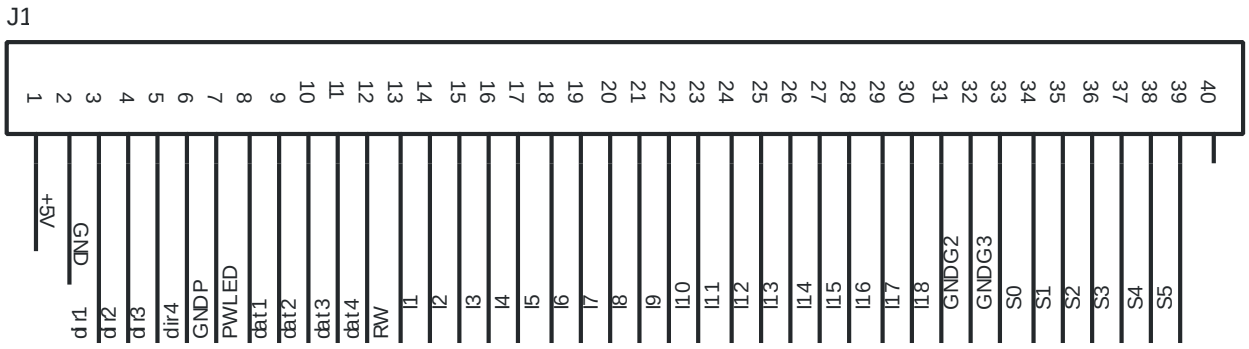
The panel is designed as a module that includes a display card and all the circuitry of inputs and outputs so you only have to connect to a Master either directly or with AFT IOCard.

BKI technology:

The BKI technology is similar to the original used in the original Boeing panels, it is embedded within the backlight panels, increasing the quality of the backlight and a significant drop in energy consumption and to avoid light pollution around the panels.

Connection diagram:

The IDC IRS B737's connector can be connected to any inputs and outputs card and AFT IOCard by IDC 40-pin connector (pay attention to the connection diagram).



The connection with Overhead After IOCard is direct with a flat cable 40-pin IDC. From IRS connector J1 to After card Overhead IOCard J5 connector.

For a connection without the After Overhead IOCard, follow the next table:

IRS Connector description:

The IRS is put into service with the following connections (from the panel to the Master).

40 PINS IRS CONNECTOR					
I/O	PIN	FUNCTION	I/O	PIN	FUNCTION
+5V	1	POSITIVE FOR PANEL to pin 1 of Master's J1	I8	21	KEY to a Master's input.
GND	2	GND PANEL to pin 2 of Master's J1	I9	22	KEY to a Master's input.
DIR1	3	DIGITS MANAGEMENT to pin 3 of Master's J1	I10	23	KEY to a Master's input.
DIR2	4	DIGITS MANAGEMENT to pin 4 of Master's J1	I11	24	KEY to a Master's input.
DIR3	5	DIGITS MANAGEMENT to pin 5 of Master's J1	I12	25	KEY to a Master's input.
DIR4	6	DIGITS MANAGEMENT to pin 6 of Master's J1	I13	26	TEST ROTARY DSPL SEL to a Master's input
GNDP	7	GND BACKLIGHT Not goes to Master's J1	I14	27	TK/GS ROTARY DSPL SEL to a Master's input
PWLED	8	POSITIVE BACKLIGHT Power feeding from 2.5 volts to 2.9 volts. Attention: more voltage may damage the backlight!	I15	28	PPOS ROTARY DSPL SEL to a Master's input
DAT1	9	DIGITS MANAGEMENT to pin 9 of Master's J1	I16	29	WIND ROTARY DSPL SEL to a Master's input
DAT2	10	DIGITS MANAGEMENT to pin 10 of Master's J1	I17	30	HDG/STS ROTARY DSPL SEL to a Master's input
DAT3	11	DIGITS MANAGEMENT to pin 11 of Master's J1	I18	31	L ROTARY DSPL to a Master's input
DAT4	12	DIGITS MANAGEMENT to pin 12 of Master's J1	GNDG2	32	GND INPUTS I1-I9 to Master's GND
RW	13	DIGITS MANAGEMENT to pin 13 of Master's J1	GNDG3	33	GND INPUTS I10-I18 to Master's GND
I1	14	KEY to a Master's input.	S0	34	RIGHT DOT OF LONGITUDE to a Master's output
I2	15	KEY to a Master's input.	S1	35	CENTRAL DOT OF LONGITUDE to a Master's output
I3	16	KEY to a Master's input.	S2	36	LEFT DOT OF LONGITUDE to a Master's output
I4	17	KEY to a Master's input.	S3	37	RIGHT DOT OF LATITUDE to a Master's output
I5	18	KEY to a Master's input.	S4	38	CENTRAL DOT OF LATITUDE to a Master's output
I6	19	KEY to a Master's input.	S5	39	LEFT DOT OF LATITUDE to a Master's output
I7	20	KEY to a Master's input.	-	40	-

USBDimcontrol card is recommended to manage the backlight.

Pins +5V, GND, DIR1-4, DAT1-4 & RW are connected to their respective pins of Master's J1 connector, rest of pins are connected to their respective inputs and outputs of Master card.

Inputs and Outputs Definitions:

To declare variables of input and output values in the table above will be used and the numbers assigned depend on the wiring board inputs and outputs: a IOCard AFT Overhead, Master, other cards, etc.

Definition of variables with the IOCard After card:

// OUTPUTS
// DIGITS
// IRS DIGITS FROM RIGHT TO LEFT LOOKING AT THE SCREEN
Var 700, name IRS_R_1, Link IOCARD_DISPLAY, DEVICE XX, Digit 1, Numbers 1
Var 702, name IRS_R_2, Link IOCARD_DISPLAY, DEVICE XX, Digit 2, Numbers 1
Var 704, name IRS_R_3, Link IOCARD_DISPLAY, DEVICE XX, Digit 3, Numbers 1
Var 706, name IRS_R_4, Link IOCARD_DISPLAY, DEVICE XX, Digit 4, Numbers 1
Var 708, name IRS_R_5, Link IOCARD_DISPLAY, DEVICE XX, Digit 5, Numbers 1
Var 710, name IRS_R_6, Link IOCARD_DISPLAY, DEVICE XX, Digit 6, Numbers 1
Var 712, name IRS_R_7, Link IOCARD_DISPLAY, DEVICE XX, Digit 7, Numbers 1
Var 714, name IRS_L_1, Link IOCARD_DISPLAY, DEVICE XX, Digit 9, Numbers 1
Var 716, name IRS_L_2, Link IOCARD_DISPLAY, DEVICE XX, Digit 10, Numbers 1
Var 718, name IRS_L_3, Link IOCARD_DISPLAY, DEVICE XX, Digit 11, Numbers 1
Var 720, name IRS_L_4, Link IOCARD_DISPLAY, DEVICE XX, Digit 12, Numbers 1
Var 722, name IRS_L_5, Link IOCARD_DISPLAY, DEVICE XX, Digit 13, Numbers 1
Var 724, name IRS_L_6, Link IOCARD_DISPLAY, DEVICE XX, Digit 14, Numbers 1

// IRS DISPLAY DOTS FROM RIGHT TO LEFT LOOKING AT THE SCREEN
Var 794, name IRS_DOT1R, Link IOCARD_OUT, DEVICE XX, Output 43 // RIGHT HALF DISPLAY: RIGHT DOT
Var 796, name IRS_DOT2R, Link IOCARD_OUT, DEVICE XX, Output 44 // RIGHT HALF DISPLAY: CENTER DOT
Var 798, name IRS_DOT3R, Link IOCARD_OUT, DEVICE XX, Output 45 // RIGHT HALF DISPLAY: LEFT DOT
Var 800, name IRS_DOT1L, Link IOCARD_OUT, DEVICE XX, Output 46 // LEFT HALF DISPLAY: RIGHT DOT
Var 802, name IRS_DOT2L, Link IOCARD_OUT, DEVICE XX, Output 47 // LEFT HALF DISPLAY: CENTER DOT
Var 804, name IRS_DOT3L, Link IOCARD_OUT, DEVICE XX, Output 48 // LEFT HALF DISPLAY: LEFT DOT

// IRS DISPLAY
Var 872, name IRS_TEST_I, Link IOCARD_SW, DEVICE XX, Input 48 // IRS TEST ROTARY SWITCH
Var 874, name IRS_TKGS_I, Link IOCARD_SW, DEVICE XX, Input 49 // IRS TK/GS ROTARY SWITCH
Var 876, name IRS_PPOS_I, Link IOCARD_SW, DEVICE XX, Input 50 // IRS PPOS ROTARY SWITCH
Var 878, name IRS_WIND_I, Link IOCARD_SW, DEVICE XX, Input 51 // IRS WIND ROTARY SWITCH
Var 880, name IRS_HDGSTS_I, Link IOCARD_SW, DEVICE XX, Input 52 // IRS HDG/STS ROTARY SWITCH
Var 882, name IRS_SYSL_I, Link IOCARD_SW, DEVICE XX, Input 53 // IRS SYS DISPLAY LEFT ROTARY SWITCH
Var 884, name IRS_KEY1_I, Link IOCARD_SW, DEVICE XX, Input 36 // IRS KEY 1 MOMENTARY SWITCH
Var 886, name IRS_KEY2_I, Link IOCARD_SW, DEVICE XX, Input 44 // IRS KEY 2N MOMENTARY SWITCH
Var 888, name IRS_KEY3_I, Link IOCARD_SW, DEVICE XX, Input 42 // IRS KEY 3 MOMENTARY SWITCH

Var 890, name IRS_KEY4_I, Link IOCARD_SW, DEVICE XX, Input 38 // IRS KEY 4W MOMENTARY SWITCH
Var 892, name IRS_KEY5_I, Link IOCARD_SW, DEVICE XX, Input 40 // IRS KEY 5H MOMENTARY SWITCH
Var 894, name IRS_KEY6_I, Link IOCARD_SW, DEVICE XX, Input 46 // IRS KEY 6E MOMENTARY SWITCH
Var 896, name IRS_KEY7_I, Link IOCARD_SW, DEVICE XX, Input 43 // IRS KEY 7 MOMENTARY SWITCH
Var 898, name IRS_KEY8_I, Link IOCARD_SW, DEVICE XX, Input 37 // IRS KEY 8S MOMENTARY SWITCH
Var 900, name IRS_KEY9_I, Link IOCARD_SW, DEVICE XX, Input 45 // IRS KEY 9 MOMENTARY SWITCH
Var 902, name IRS_KEYENT_I, Link IOCARD_SW, DEVICE XX, Input 47 // IRS KEY ENT MOMENTARY SWITCH
Var 904, name IRS_KEY0_I, Link IOCARD_SW, DEVICE XX, Input 39 // IRS KEY 0 MOMENTARY SWITCH
Var 906, name IRS_KEYCLR_I, Link IOCARD_SW, DEVICE XX, Input 41 // IRS KEY CLR MOMENTARY SWITCH

// IRS MODE
Var 908, name IRS_LOFF_I, Link IOCARD_SW, DEVICE XX, Input 72 // IRS LEFT OFF ROTARY SWITCH
Var 910, name IRS_LALIGN_I, Link IOCARD_SW, DEVICE XX, Input 73 // IRS LEFT ALIGN ROTARY SWITCH
Var 912, name IRS_LNAV_I, Link IOCARD_SW, DEVICE XX, Input 74 // IRS LEFT NAV ROTARY SWITCH
Var 914, name IRS_LATT_I, Link IOCARD_SW, DEVICE XX, Input 75 // IRS LEFT ATT ROTARY SWITCH
Var 916, name IRS_ROFF_I, Link IOCARD_SW, DEVICE XX, Input 76 // IRS RIGHT OFF ROTARY SWITCH
Var 918, name IRS_RALIGN_I, Link IOCARD_SW, DEVICE XX, Input 77 // IRS RIGHT ALIGN ROTARY SWITCH
Var 920, name IRS_RNAV_I, Link IOCARD_SW, DEVICE XX, Input 78 // IRS RIGHT NAV ROTARY SWITCH
Var 922, name IRS_RATT_I, Link IOCARD_SW, DEVICE XX, Input 79 // IRS RIGHT ATT ROTARY SWITCH

In the downloads tab of IRS panel on our web shop are available scripts for some add-ons that have the IRS operative.

With this purpose we end this manual and you are kindly invited to read the other Opencockpits items and the SIOC software manuals. Thank you for trusting us.

Links of interest:

Support zone for customers:

http://www.opencockpits.com/catalog/info/