



R0000180

IMC-2e Controller Instruction Sheet

2017/05/10

This document defines the connections and operation of the MIT IMC-2e Controller with serial and Local Area Network (LAN) interfaces.

1.0 Inputs

1.1 Digital Inputs

The unit has 12 optically-isolated inputs and 12 corresponding manual activation buttons on the front panel. Inputs 1 through 7 are general purpose, defined by the user programming. See section 6 "Programming IMC-2e Controller".

Inputs 8 through 12 are predefined with the following functions:

- Input #8: Flat Format
- Input #9: Scope Format
- Input #10: Dimmer Up
- Input #11: Dimmer Down
- Input #12: Fire Alarm / Emergency Stop

There is also a reset button located at the right end of the panel that may be accessed with a toothpick, paper clip, meter test probe or the like. This will re-initialize the unit the same as if power has been cycled.

1.2 Power Input

The unit is supplied with 12VDC power from an AC wall-mounted adapter, included with the unit.

2.0 Outputs

16 output relays are provided. The output relays each have the C, NO, and NC terminals brought out. There are no commoning connections to these terminals internally, any bussing together must be done externally by the user. Each relay has an LED on the front panel associated with it that indicates the status of the relay. See Appendix A for the assignment these outputs as programmed for your specific unit.

3.0 Serial I/O

A standard subminiature DE9 connector is provided for serial communication. If you are interfacing via RS232 to a D-cinema server, see the Appendix for programming information required.

4.0 LAN I/O

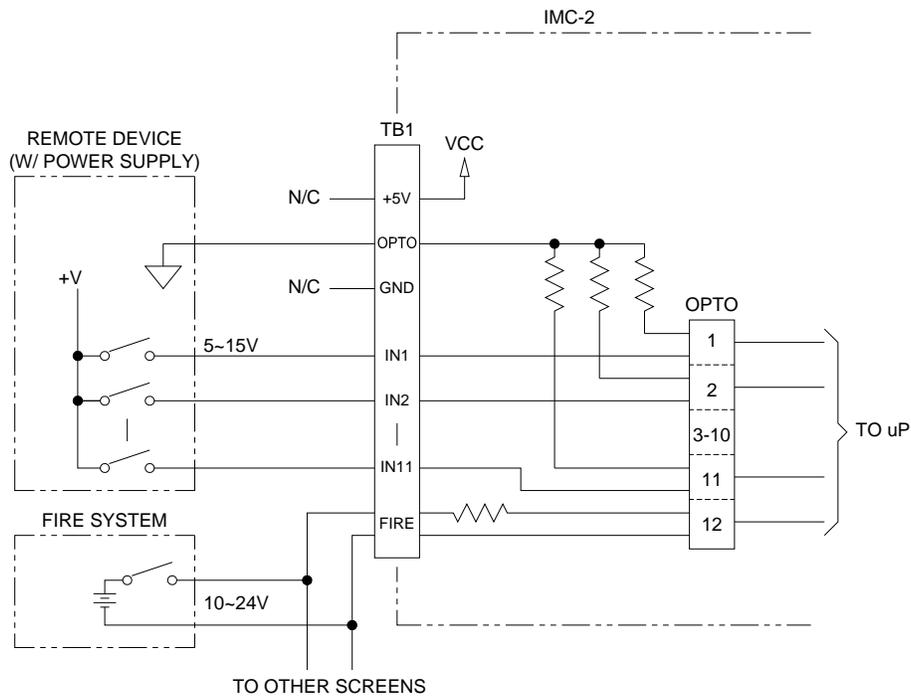
An RJ45 connector is provided for network communication. You may connect to this input with a web browser by typing the IP address shown on the label on the unit.

5.0 External Connection to inputs

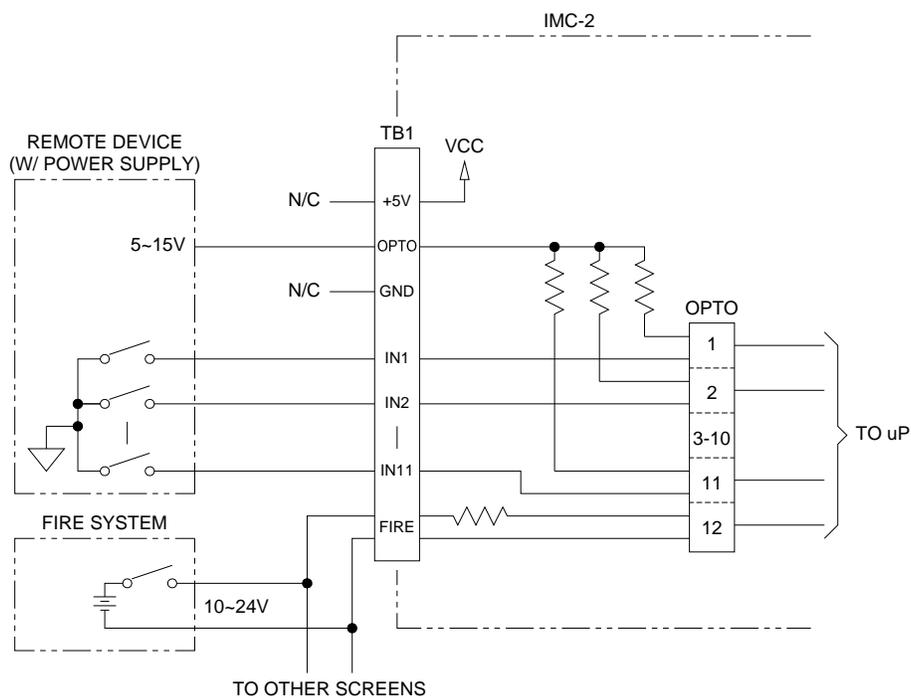
Inputs 1 through 11 are commoned together and are designed to detect voltages of 5V to about 15V, AC or DC. The Fire Alarm / Emergency input is isolated from the other inputs on the IMC and is designed for slightly higher voltage, 10V-24V AC or DC to correspond with the voltages of typical fire panels. Regardless of the connection scheme used for inputs 1-11, the Fire Alarm input must have its own connections to both pins on the terminal block.

Figure 1 shows the preferred way to connect a remote device to the optical-isolated inputs 1-11. The method avoids any power connection between the remote device and the IMC-2, reducing the likelihood of ground loops or hums. The inputs on the IMC-2 are bi-directional, so pulses of either polarity are acceptable. The method of Figure 1 is only available with remote equipment having its own source of power. A +5V source is provided on

the IMC input terminal block for connecting external inputs that are “dry contacts” only. For remote equipment with dry contacts use the connection shown in Figure 2.



1a: Remote Output is Active-high



1b: Remote Output is Active-low

FIGURE 1: INPUT DETAIL, EXTERNAL DEVICE
(preferred to maintain isolation)

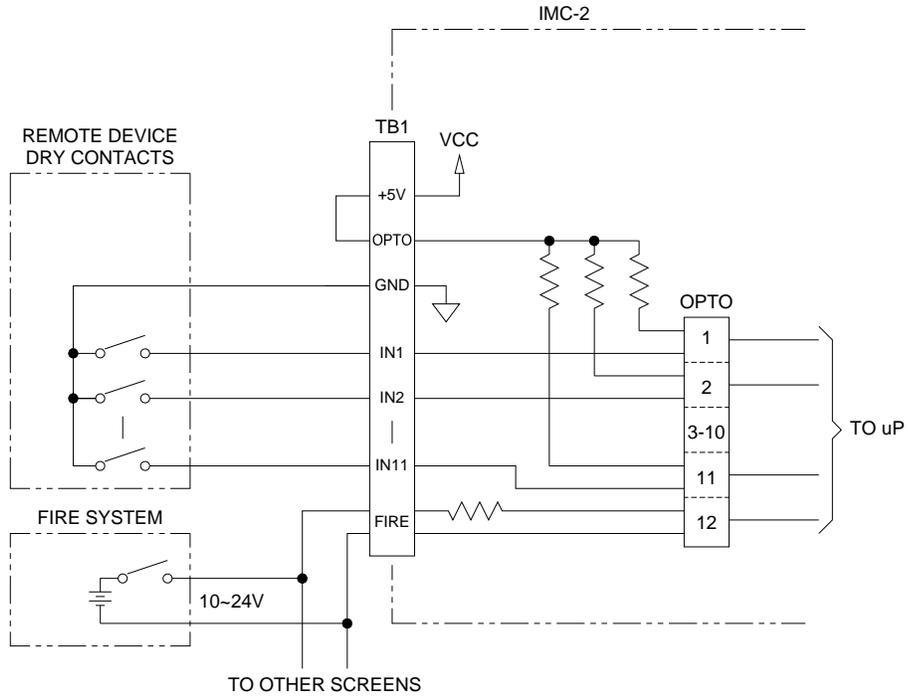


FIGURE 2: INPUT DETAIL, REMOTE SWITCHING DEVICE
 (Ext. device has dry contacts. It will **not** be isolated from the IMC-2)

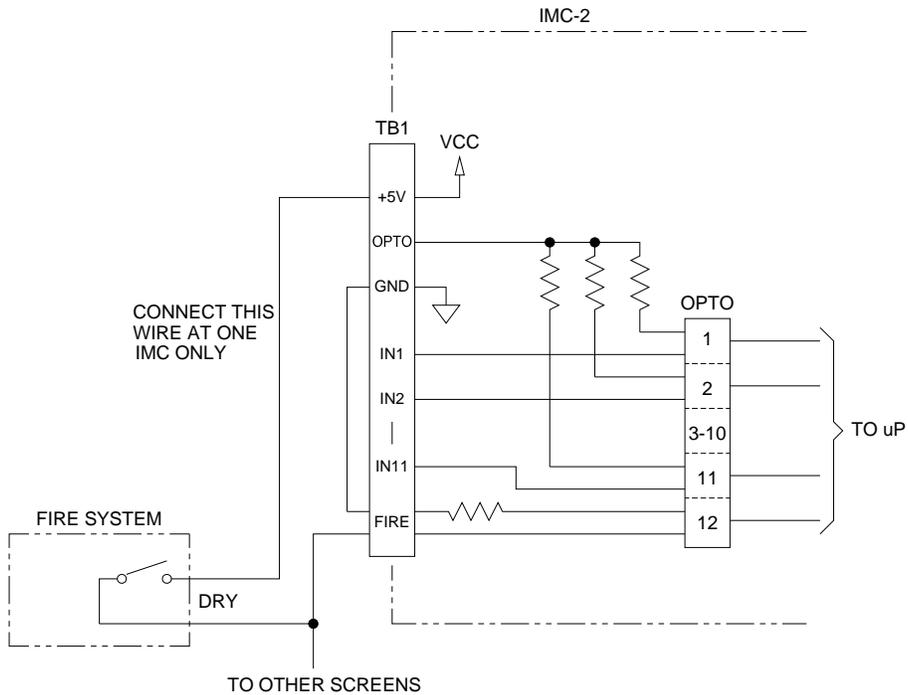


FIGURE 3: INPUT DETAIL, FIRE SYSTEM WITH DRY CONTACTS

6. Programming IMC-2e Controller.

The User can program the IMC-2e Controller using a web-browser as follows.

1. Establish TCP/IP connection to the Host Address. Use IP address from the label on unit. Port Number is always 23.



FIGURE 4: Log In Screen

2. Type in "admin" for both username and password and click **Login**, the Matrix page will display as shown in Figure 5.

BTN	CMD	LABEL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	RS232
1	1	Start		1				1		on	1								C01
2	2	Feature			1			1		on	1								
3	3	Credits		1						on									
4	4	End	1						1	off		1							1.C00
5		Player Start																	8
6		Preshow Start							20,1	off	20,1								
7		Preshow End								off		1							8
FLAT	6	Mask Flat				2													
SCOPE	5	Mask Scope					2												
UP	c	Dimmer Up	1																
DOWN	a	Dimmer Down			1														
STOP		Fire	1							off		1							9C01
A	GPO1												5						
B	GPO2													5					
C	GPO3														5				
D	GPO4															1			
E	GPO5																1		
F	GPO6																	1	
Q	Curtain Close											1							
R	Curtain Open												1						
b	Dimmer Mid			1															
d	Preshow On									on									
e	Preshow Off									off									
f	Audio Digital							1											
g	Audio Analog								1										

Update IMC2 Cancel Backup Restore Factory

status: okay

FIGURE 5: Matrix Page

The Programming matrix consists of 20 columns as follows:

Column	Description
1 (BTN)	These are the front panel buttons.
2 (CMD)	These are the RS-232 commands sent to activate the action in that row.
3 (LABEL)	The first 12 labels are the silk-screened names on the front panel. Names may be changed as desired by the user.
4 to 19	These columns are numbered 1 to 16 representing the 16 output relays.
20 (RS232)	Characters in this column will be output on the Serial port upon activating the associated command or button.

The buttons at the bottom of page enables user to Update changes, Cancel changes, Backup setting, Restore previous backed-up settings, and Reset to Factory defaults.

Clicking on the HELP tab will display the Help page shown in Figure 6.

IMC2

192.168.10.101

MOVING IMAGE TECHNOLOGIES Build 8.4.0 Web 0.0.8

IMC2

[Matrix](#) [Help](#)

To command the IMC2 via the LAN connection do the following:

1. Establish a TCP/IP connection to the Host Address
2. Port Number: 23

How to modify the matrix tab:

1. Each row defines how the 16 relays are pulsed.
2. BTN defines front panel buttons.
3. CMD defines the single-char command to use via rs232 or telnet.
4. LABEL is for user convenience.
5. Turn set a relay on or off, type in 'on' or 'off'
6. To delay an on or off, enter a number between 1 and 250 (seconds), then 'on' or 'off'
7. To pulse a relay, enter a number for pulse between 1 and 120 (seconds).
8. To delay before pulsing, enter a delay between 1 and 250 (seconds), comma, then pulse.
9. RS232 defines the chars that will be printed via rs232.
10. To delay before printing, enter a delay between 1 and 250 (seconds), comma, then chars.
11. The 12 front panel buttons map to rows 1 to 12 in the matrix.

BTN	CMD	LABEL	1	2	3	4	16	RS232
1	a	Start The Show	2	1,1		5,on	off	2,HI

The example row above does the following:

1. Immediately pulses relay 1 once for 2 seconds.
2. After a 1 second delay, pulses relay 2 once for 1 second.
3. Output relay 3 does nothing.
4. After a 5 second delay, turns relay 4 on.
5. Immediately turns off relay 16.
6. After a 2 second delay, prints 'HI' to the rs232 port.
7. Telnet or RS232 command 'a' triggers the above actions.
8. Input button 1 will trigger these actions

status: okay

FIGURE 6: Help Page

Appendix: INTERFACING TO A DOLBY SERVER via the serial port

1. Cable type required

D-9 to D-9 serial, crossover (null modem)

2. Dolby Show Store Serial Port Settings:

Data Rate: 9600
Data Bits: 8
Parity: None
Stop Bits: 1
Flow Control: None

3. Dolby Show Store Setup Procedure:

Select 'Auditorium' and check 'Serial Control' in the Dolby Show Manager to activate serial tab/control. Commands are entered with a backslash (\) followed by the hex value of the ASCII character. The resulting ASCII character then appears in the field below. (example: to output the ASCII character "1" you enter '\31', and it then appears as '1' in the field below)

The following settings must be entered in The Dolby Show Store Show Manager to provide the functions needed.

Dolby Show Manager OUTPUT:

<u>Command</u>	<u>Text/Description</u>
\31:	Cue-1 - Show Start
\32:	Cue-2 - Feature Start
\33:	Cue-3 - CREDITS
\34:	Cue-4 - Show End
\35:	Cue-5 - Masking SCOPE
\36:	Cue-6 - Masking FLAT

GPIO Functions (Wired to Pulse Barco GPIO 37 pin Connector)

<u>Command</u>	<u>Text/Description</u>
\41:	GPIO-1 - Flat Macro
\42:	GPIO-2 - Scope Macro
\43:	GPIO-3
\44:	GPIO-4
\45:	GPIO-5
\46:	GPIO-6 - Fire Alarm Activate

Dolby Show Manager INPUT:

<u>Command</u>	<u>Text/Description</u>
\39:	Player Stop
\38:	Player Start
\37:	Player Pause

Dolby Show Store Serial Command Settings:

Termination: \0D
Reset: (Blank) Leave Blank