



# M2100

Playout/Iris Automation

**user guide**

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# I OVERVIEW

The M2100 protocol emulation has been designed to provide basic automation control of the eyeheight **Playout** and **Iris** systems. As M2100 protocol is widely used this provides a simple to use interface to many automation systems for which this protocol is available. For comprehensive control of the **Playout** and **Iris** systems, it is recommended that eyeheight PresTX protocol be used. PresTX protocol provides control of features not available using the M2100 protocol such as audio lead/lag.

## I.1 Physical hardware

M2100 protocol is implemented using an eyeheight DG-9 “dongle”. The DG-9 is a general-purpose stand-alone piece of hardware, which interfaces the RS232, COM port on a computer to the eyeheight I-Bus. The eyeheight I-Bus is the network across which all eyeheight genetics products communicate.

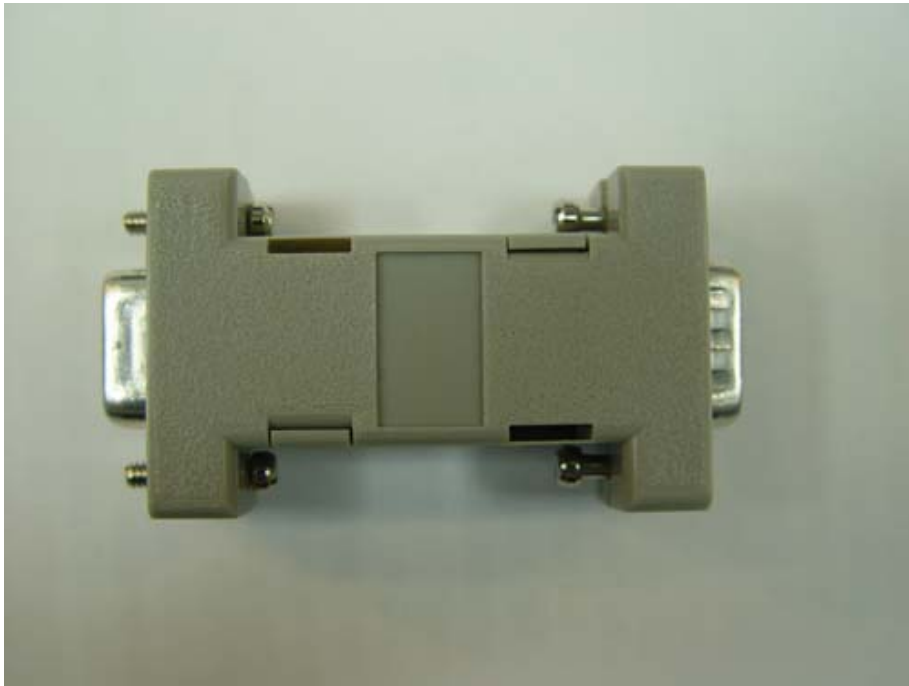


Figure 1-1 DG-9 Dongle.

## I.2 Connecting an automation system.

### I.2.1 Automation only systems.

For systems, which are, only to be controlled by automation, that is to say that they have no form of manual control panel, there is no need to network the channels together. Each channel can work independently but still within a multi channel transmission environment. In such cases, the control system wiring is shown below.

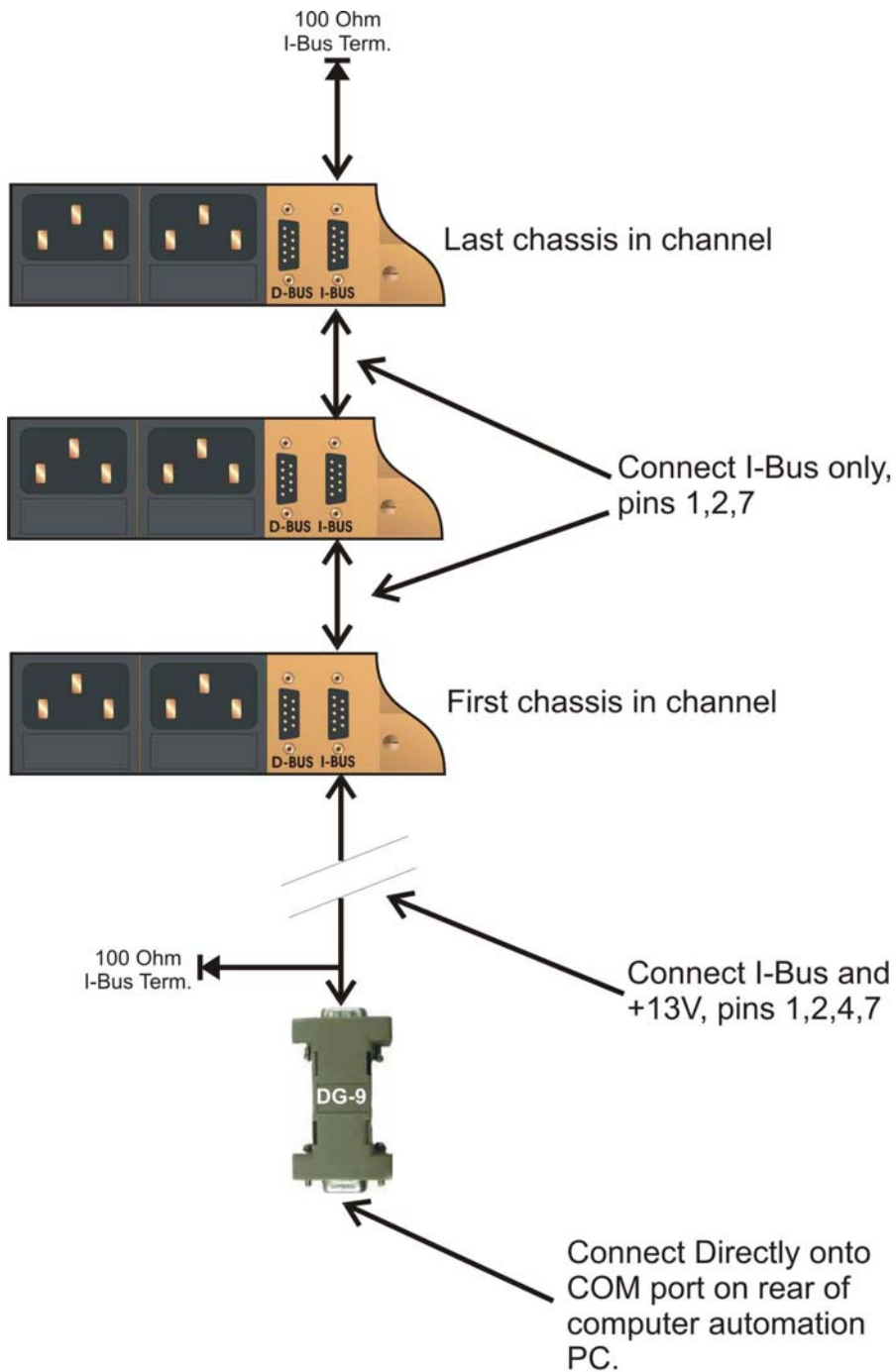


Figure 1-2 Control wiring for an automation system with no manual control panels.

### 1.2.2 Automation systems with dedicated manual control panels.

For single channel systems with a dedicated control panel the situation is similar to the above but with a single manual panel included powered from the first chassis.

I-Bus function	First payout	Further payout	payout control	DG-9 RS232
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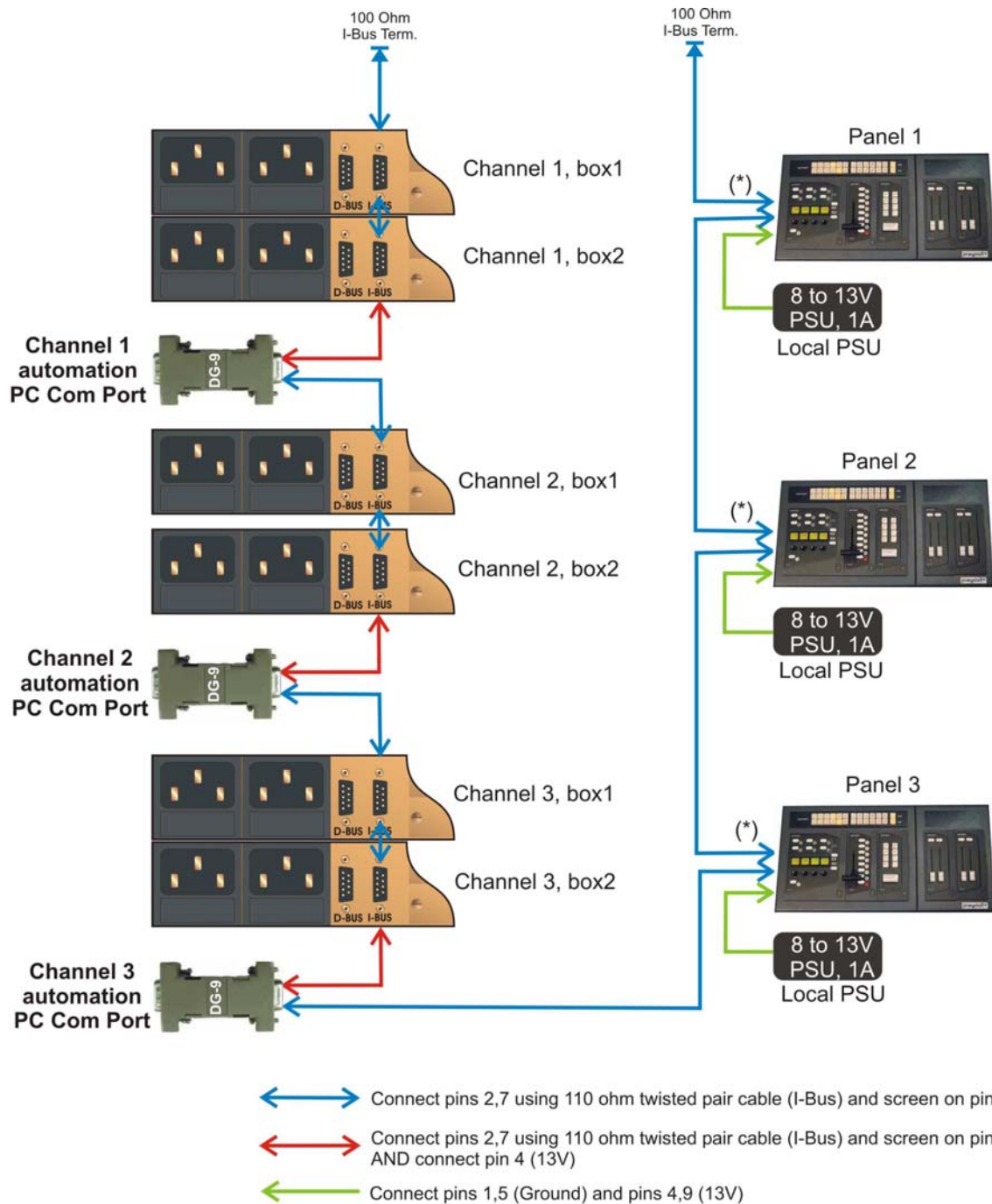
of 9W D-type	processor chassis	1RU chassis	panel (several modules)	→I-bus dongle.
Ground	1,5	1,5	1,5	1,5
I-Bus-	2	2	2	2
Not Used	3	-	-	-
+13V	4,9	-	4,9	4,9
I-Bus+	7	7	7	7

### **I.2.3 Multi channel automation with panel sharing.**

For multi channel operation with panel sharing all the processor channels, the panels and the DG-9 RS232→I-bus dongles need to be on the same network. In this situation, it is important to take care of the power connections correctly.

Below is shown a typical wiring system. This shows a three channel, three-panel multi-channel arrangement. Each panel can be assigned to any channel. The channels in this example consist of two 1RU chassis.

Notice here that each dongle has its power supply provided from the channel relevant to that dongle. The other point is that a local PSU is supplied for each panel. Otherwise, the I-Bus loops through ALL components and is terminated with 100 ohm resistor at each end of the network.



(\*) Note The panel can actually consist of multiple connections because each module has a 9W connector. In this case EVERY connector will require the connections shown. If the TB-10 and TB-11 tubs (as shown in the picture) are present, then each Tub has a single 9W D-type, the modules being pre-wired.

Figure 1-3 Control wiring for an automation system with manual control panels.

## I.2.4 Setting up the DG-9 dongle for M2100 automation.

For M2100 there is no AU-2 automation interface card. The DG-9 does the M2100 translation automatically. To do this the dongle must be set for M2100 protocol as shown below. The dongle MUST be software version 1.8 or later.

Can-bus baud rate	100000
RS232 baud rate	38400
Basic mode	RS232 to I-BUS
Specific Mode	M2100
Destination card location	DON'T CARE
From location	DON'T SET
Filter Range	Don't care
Filtering mode	Set=standard
Broadcast messages	Stop
PresTX Channel	1→8 *

(\*) Note1. Set the channel number here, from channel 1 to channel 8.

All of this will be set up by pressing the M2100 tab at the bottom of the screen on the dongleSetup application EXCEPT the PresTX channel number, which must be set by the user. The channel number will default to channel 1 when the “M2100 Eyeheight” tab is pressed. When the user is finished hit the “Set Data” tab and exit the program. The dongle will require a power recycle also.

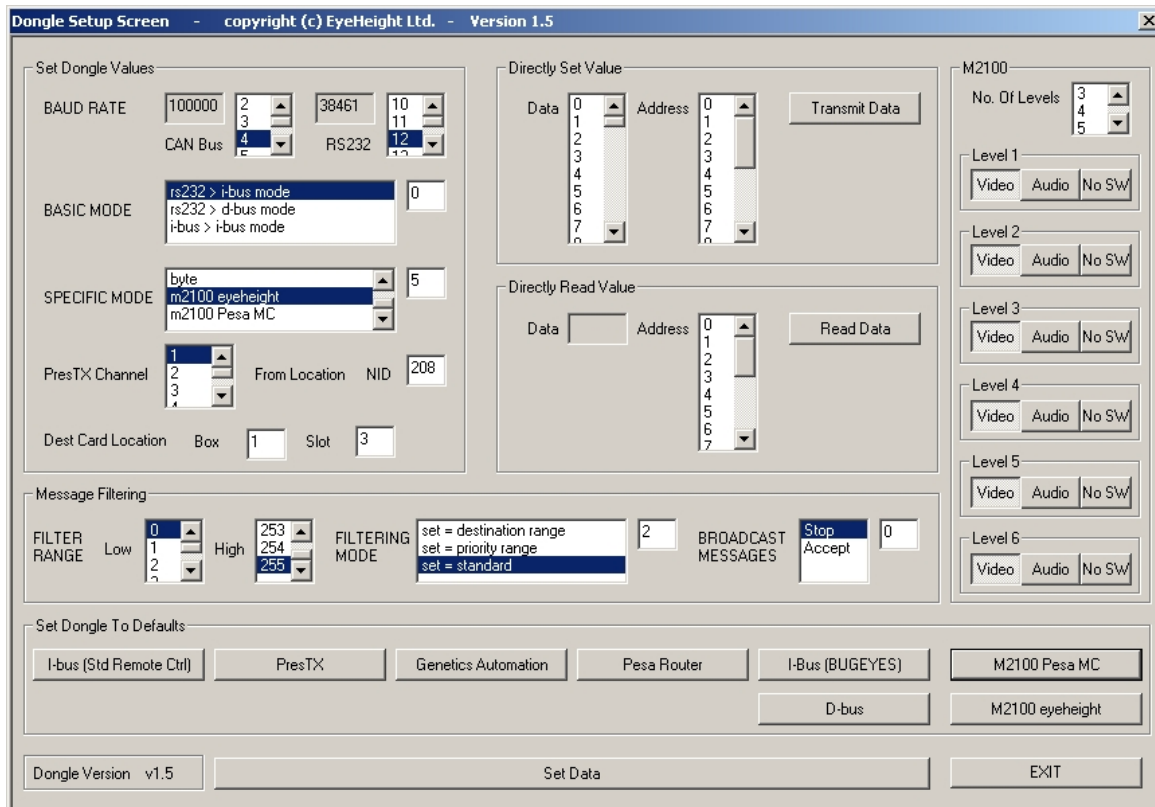


Figure 1-4 Dongle set-up application for M2100, eyeheight, channel 1.

### I.2.5 Setting up the DG-9 dongle for Pesa Router operation.

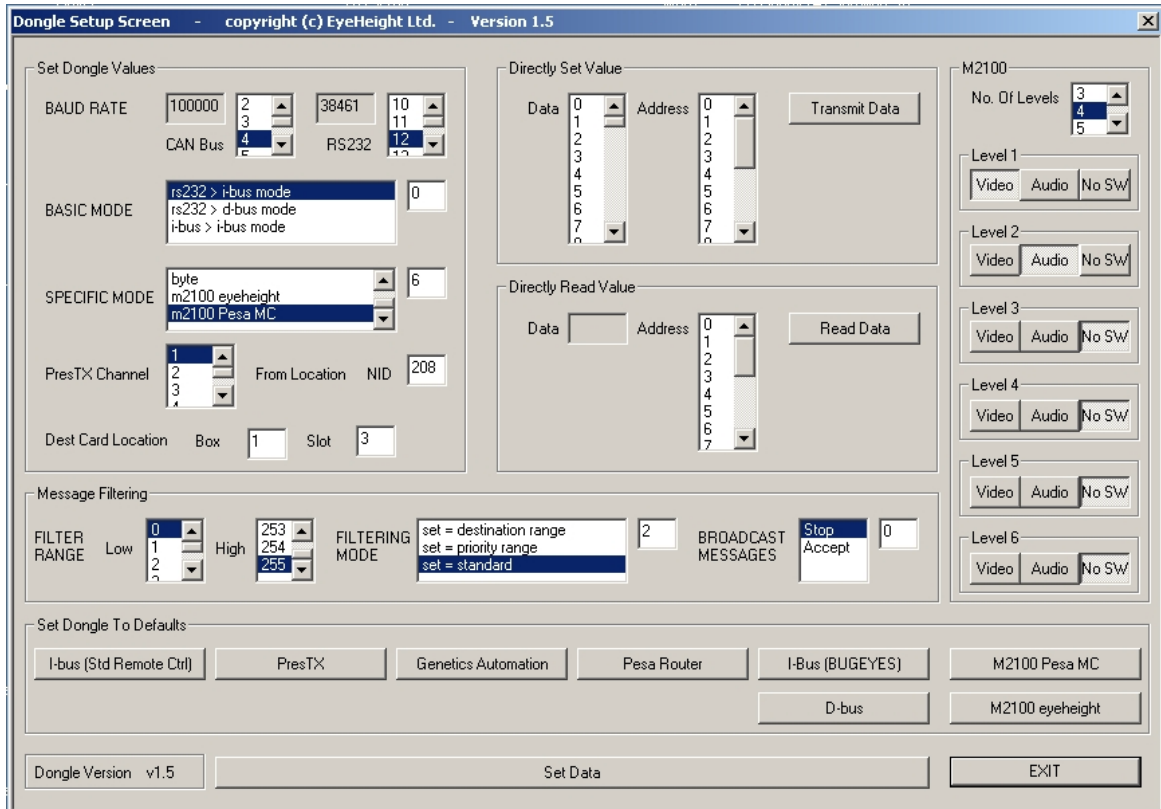
The “M2100 Eyeheight” setting tab will configure the M2100 protocol to talk to the eyeheight VX-5 and AVX-5 program-preset bus. If the user uses the “M2100 Pesa MC” tab, then the dongle pre-configures to operate a Pesa router. There are a number of settings on the dongle relevant to the set-up of the Pesa router.

The default setting of the Pesa router is:

- 4 Levels

- Level1=Video
- Level2=Audio
- Level3=No Switch
- Level4=No Switch

The user can adjust these settings to suit the router. Once the settings have been adjusted hit the “Set Data” tab and exit the program. The dongle will require a power recycle also.



**Figure 1-5 Dongle set-up application for M2100, Pesa, channel 1**

## 2 Protocol

The eyeheight M2100 protocol conversion is a sub-set of the full M2100 protocol. The following table lists the commands and queries implemented. The Serial COM port configuration is 38.4K baud, 8 bits, 1 stop bit, no parity. The baud rate can be changed, if required, using the DongleSetup application, (RS232 baud rate). The DG-9 RS232 serial buffers are 70 characters deep. It is unwise to send single command strings beyond this length. It is best to split them into smaller command strings and use the M2100 ACK, NAK to control serial flow.

Command Names	Command	Query
TX_NEXT	Implemented	Implemented
TX_START	The Start Video bit will start video and audio. Other bits are not used.	Illegal
TX_TYPE	Implemented. The eyeheight unit also has a "Hold" time, which must be set manually.	Implemented.
TX_RATE	Implemented. Maximum rate is 125 Frames.	Implemented.
TX_STAT	Illegal	Not Implemented
TX_STAT2	Illegal	Not Implemented
XPT_TAKE	Implemented. The eyeheight unit only has 12 source buttons.	Implemented. The emulation does not, however keep track of manual x-point takes.
BREAK_AWAY	Not Implemented	Not Implemented
OVER_SELECT	Implemented. The system only responds to the <over select> byte. This causes Voice-Overs to activate and deactivate.	Implemented. The <over select> byte is the only relevant information returned.
OVER_RATIO	Implemented. Always sets up Voice-Over 1. VO2,3,4 are not selectable.	Not Implemented
KEY_MOD	Implemented, However the <b>Playout</b> unit does not have borders or shadows. Squeeze is also not available.	Not Implemented
KEY_ENABLE	Implemented. Keyer 4 is the eyeheight Bug unit. No squeeze.	Implemented.
KEY_STAT	Implemented. (No	Implemented. (No

	squeeze)	squeeze)
AUTO_STAT		Implemented.
ALL_STOP	Not Implemented	Not Implemented
PREROLL	Not Implemented	Not Implemented
CONFIG_PREROLL	Not Implemented	Not Implemented
REMAINING_TIME	Not Implemented	Not Implemented
SYSTEM_STAT	Not Implemented	Not Implemented
SYSTEM_CONFIG	Not Implemented	Not Implemented
XPT_AUDIO_MODE	Not Implemented	Not Implemented
ERROR_STAT	Illegal	Implemented, apart from <offending data> and <Argument number>
PROTO_VER	Illegal	Implemented.
WIPE_SEL	Implemented.	Not Implemented
SUBSCRIBE	Not Implemented	Not Implemented
SUBSCR_PRETRANS	Not Implemented	Not Implemented
SUBSCR_HOLD	Not Implemented	Not Implemented
GPI	Not Implemented	Not Implemented