EAGLE
PAN TILT SYSTEMS
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Into focus

PT-MFA
Multi Function Adapter
Installation and Operations Manual

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EAGLE
PT-MFA

Version 4
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Designed and Manufactured by
Display Devices Inc.
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The PT-MFA multi function adapter allows multiple additional features with EAGLE™ pan tilt systems. It has eight programmable relay closures, an RS-232 serial control output, and a configurable serial/digital/analog input port.

PRECAUTIONARY STATEMENT

Please read all of the following documentation before attempting the installation and configuration of these systems. If any of the instructions are unclear to you, call your servicing dealer or Hitachi <u>before</u> proceeding for clarification. Failure to correctly configure and install these systems may cause damage to the equipment, and will void the warranties. Please make sure before connecting or disconnecting any cables that the power supplies are turned OFF.

WARRANTY

Hitachi Denshi America, Ltd. warrants to the original customer that each unit shall be free from malfunction due to defective workmanship or component failure for a period of ONE YEAR from the original date of delivery to the customer. For service under the warranty period, return authorization must be obtained before returning the product. This warranty does not apply to finish or appearance items, to malfunction due to abuse or operation in violation of published operating specifications, or to failures caused by improper connections, modifications, alterations, or other unauthorized repairs. This warranty does not cover labor or shipping costs for removal and/or reinstallation of equipment under warranty. Under no circumstances shall Hitachi Denshi America, Ltd. or Display Devices, Inc., their owners or employees be liable to you for any special damages, including any lost profits, lost savings, or other incidental or consequential damages, or for any claim by any other party.

OPERATIONS

The PT-MFA system allows the user to have remote control relay closure and serial switcher control when used in conjunction with the PT-C or PT-TSC2 touch screen controller, or with custom user written software using the Eagle™ control protocol. The eight relays may be configured by the user for normally open, normally closed, toggling, or momentary closures. They are rated at up to 120 VAC, 10A. THE RELAYS ARE NOT INTENDED TO BE USED IN DIRECT CLOSURE OF HIGH VOLTAGE CIRCUITS. They are to be used for switching of contactor units that in turn switch the high voltage circuit on and off. They should not be used for direct connection of screen or drape motors, lighting fixtures, etc.

The serial switcher control output can be custom configured for your system by Eagle™ to provide simple video switching controlled by the PT-TSC controller. When a user calls up a camera/pan-tilt combination via the controller, the router output is automatically switched to that camera. For example, when you press "CAMERA, 2" the PT-MFA sends a serial command string to the video switch to send INPUT 2 to the video out of the switch. This can only be done with a custom program written by Eagle™ for your specific switcher protocol.

PHOTO 1: REAR PANEL OF PT-MFA

CONNECTIONS

Connect the PT-MFA to the RS-485 network via the supplied DB-9 female connector. You can hook the PT-MFA to the network in a star configuration or in parallel with the the pan tilt heads. Use the supplied 12VDC transformer to power the PT-MFA. Turn on power with the ON/OFF switch. The POWER LED on the front will blink twice and then stay lit.

DB-9 male connector RS-485 network
PIN 1--NO CONTACT
PIN 2--RS 485 LINE 1
PIN 3--RS 485 LINE 2
PIN 4--NO CONTACT
PIN 5--RS 485 GROUND
PINS 6-9--NOT USED

Connect the relay output contacts to your equipment via the supplied detachable screw terminal blocks; each relay output has one pair of contacts. The relays may be configured for normally open, normally closed, momentary contact, or toggling open / closed. Configuration of the relays is done by using the Eagle™ PT-PCS Windows®-based software program. This software can be downloaded from the Eagle website at http://www.eaglepantilt.com. Once the software is installed and started, click on the icon of the eagle on the opening screen to access the PT-MFA configuration area.

ADDRESSING

Addressing of the PT-MFA is accomplished using a PT-C or PT-TSC2 controller, or the Eagle™ software. It is done in a similar manner to the address setting of a pan

tilt head, where the PT-MFA needs to be the only unit powered up on the comm line. Make sure that the PT-MFA is powered ON, and all other accessories are powered OFF. Select CAMERA, 0 (to talk to all heads at any address) if using the TSC touchscreen control, or CAMERA, ALL if using a PT-C.

PT-TSC2: Choose FUNCTION, Set Head Address. The screen will prompt you to enter the address you wish to set in the PT-MFA. Enter the number now, followed by ENTER. If using the PT-C controller, hit FUNCTION, 11; at the prompt, enter the address number you want it to be set to.
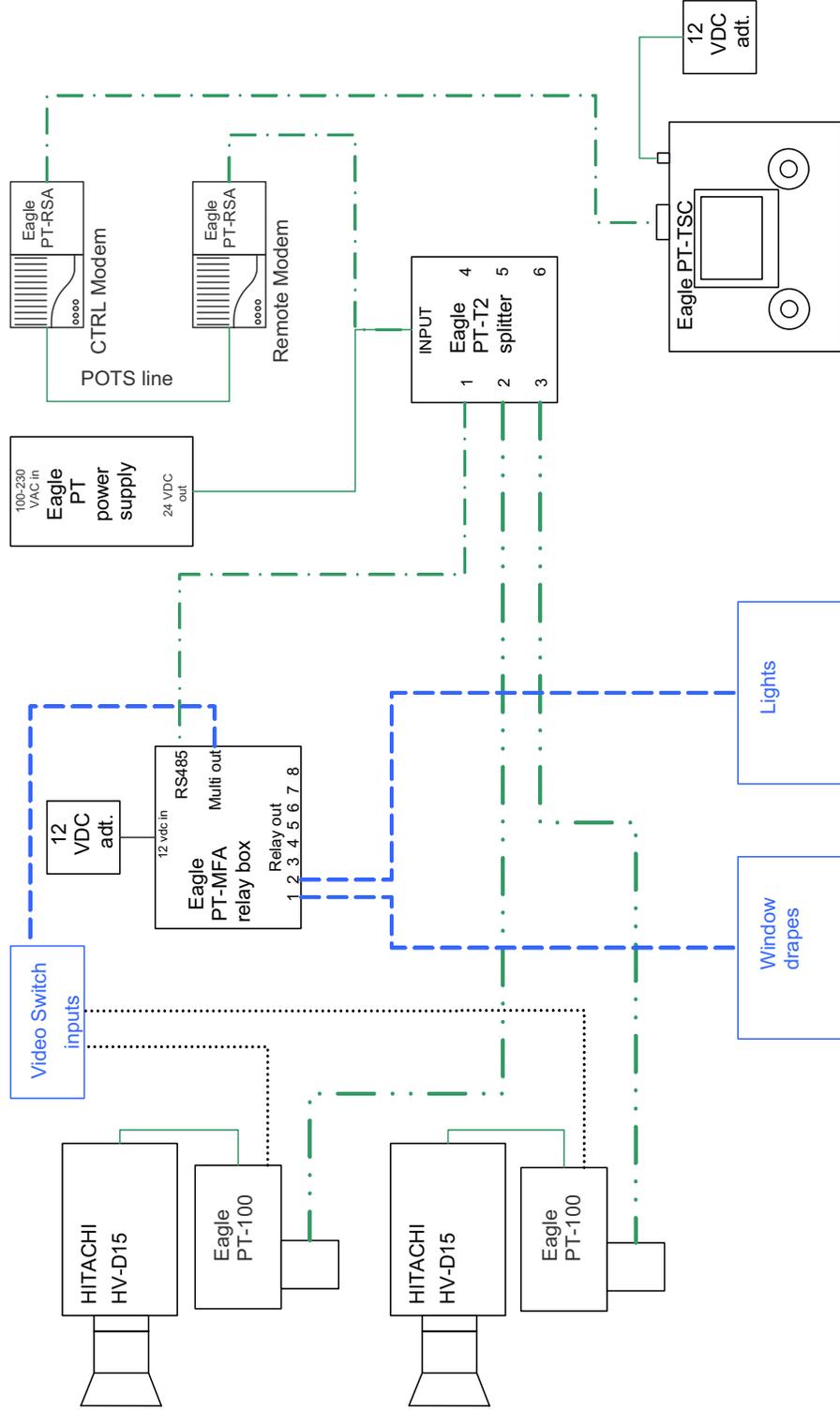
RS 485 TERMINATION

In a system where the PT-MFA is used in combination with a pan-tilt head, RS485 termination should be set to OFF (Jumper J1 open); this is the factory default setting. If you are using the PT-MFA in a standalone mode (without a pan-tilt head) the lid must be removed and RS485 termination should be set to ON (Jumper J1 closed).

USAGE OF PT-MFA

The PT-MFA can be controlled from either the PT-TSC2 or PT-C controllers. If using the PT-TSC2 touch screen controller, simply press the button on the PT-TSC main page labeled RELAY CONTROL. This will jump to a sub page where you can open, close, toggle, or sequence relays. Pressing the OPEN RELAY button will bring up a keypad; enter in the number of the relay you wish to open, 1 through 8. The process works the same way for closing and toggling relays as well.

If using the PT-C controller, the PT-MFA is controlled by a combination of keystrokes. Pressing the OPT B button will bring up the LCD display "Relay Function". Enter the number of the function, 1 for OPEN, 2 for CLOSE, or 3 for TOGGLE; then enter the number of the relay you wish to control, 1 through 8. It will then actuate the command you have selected on the selected relay of the PT-MFA. The LCD display will automatically clear after the relay number is chosen.

EAGLE PAN TILT SYSTEM DRAWING
FOR KUSA-TV
KOA RADIO REMOTE VIEWING APP.
BY EAGLE PAN TILT SYSTEMS

12 VDC adt.

Eagle PT-TSC

Eagle PT-RSA
CTRL Modem

Eagle PT-RSA
Remote Modem

POTS line

INPUT
Eagle PT-T2 splitter
1 2 3 4 5 6

100-230 VAC in
Eagle PT power supply
24 VDC out

Lights

RS485
Multi out
12 vdc in
Eagle PT-MFA relay box
Relay out
1 2 3 4 5 6 7 8

12 VDC adt.

Window drapes

Video Switch inputs

HITACHI HV-D15

Eagle PT-100

HITACHI HV-D15

Eagle PT-100

LEGEND

RS485 Control only
RS485 & Power
Relay wiring