

# **OPERATIONS MANUAL**

for a

## **Model 55**

## **RM-LP Extender**

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**Due to design changes and device availability, the information and data presented in this manual are subject to possible change without prior notice.**

# Table of Contents

<b>1. INTRODUCTION .....</b>	<b>3</b>
<b>2. MODEL 55 SPECIFICATIONS: .....</b>	<b>4</b>
<b>3. OPERATION .....</b>	<b>5</b>
3.1 MODEL 55 BASE .....	5
3.2 MODEL 55 CAM.....	7
3.3 RS-422 CABLE .....	7
3.4 205025400 CAMERA INTERFACE CABLE.....	8
<b>4. TROUBLE SHOOTING .....</b>	<b>9</b>
4.1 NO RCU FUNCTIONS .....	10
4.2 TECHNICAL SUPPORT.....	10
4.3 RMA PROCEDURE.....	10

## 1. INTRODUCTION

The Model 55 is designed to enhance the operation of the RM-LP55U, RM-LP57U or RM-LP25U remote camera control unit (RCU) when used on JVC professional video cameras. This device operates with any JVC camera with the RM-LP55U RCU interface. The Model 55 uses a simple four-wire bi-directional RS-422 interface to extend the operating distance from 15 feet to up to 2000 feet between the RCU and the remote camera. The Model 55 allows one to concurrently perform RCU functions on up to four (4) cameras at a time. This equipment can operate remote fixed camera stations or cameras on JVC or ESI pan and tilt systems. On pan and tilt systems the pan and tilt controller controls the lens functions on the camera, the RCU performs the balance of the camera settings. Operation of the RCU does not interfere with commands from the pan and tilt system. On fixed camera systems the RCU controls all functions on the camera and the iris functions of the lens.

The Model 55 consists of the “Base” chassis at the control room side of a camera system and small “Cam” module at each of the remote cameras, and associated cables. When used in a system with a DPT 130 pan & tilt heads, the Model 55 CAM units are not required. On systems with DPT-130 pan and tilt heads, the interface cable can be plugged directly into the DPT-130. The cable interface between the remote chassis and the camera module is a single four conductor twenty-six gauge, non-shielded cable to each camera station. The base chassis is provided with an A/C power adapter. The camera modules obtain power from their respective cameras.

## 2. MODEL 55 SPECIFICATIONS:

### SPECIFICATIONS, MODEL 55 BASE

ESI Part Number: .....	2050270
Operating Environment:.....	Indoor
Temperature: .....	32 – 104 F
Physical Characteristics:	
Overall Length .....	5.0 inches
Width .....	4.0 inches
Height.....	1.5 inches
Finish.....	Textured, JVC Gray
Material .....	.062", Aluminum
Weight.....	0.75 Pounds
Mounting.....	Rubber Feet, Supplied
Power .....	12 VDC, 4A, Supplied
Max Distance to Cam Module .....	2000 Feet

### SPECIFICATIONS, MODEL 55 CAM MODULE

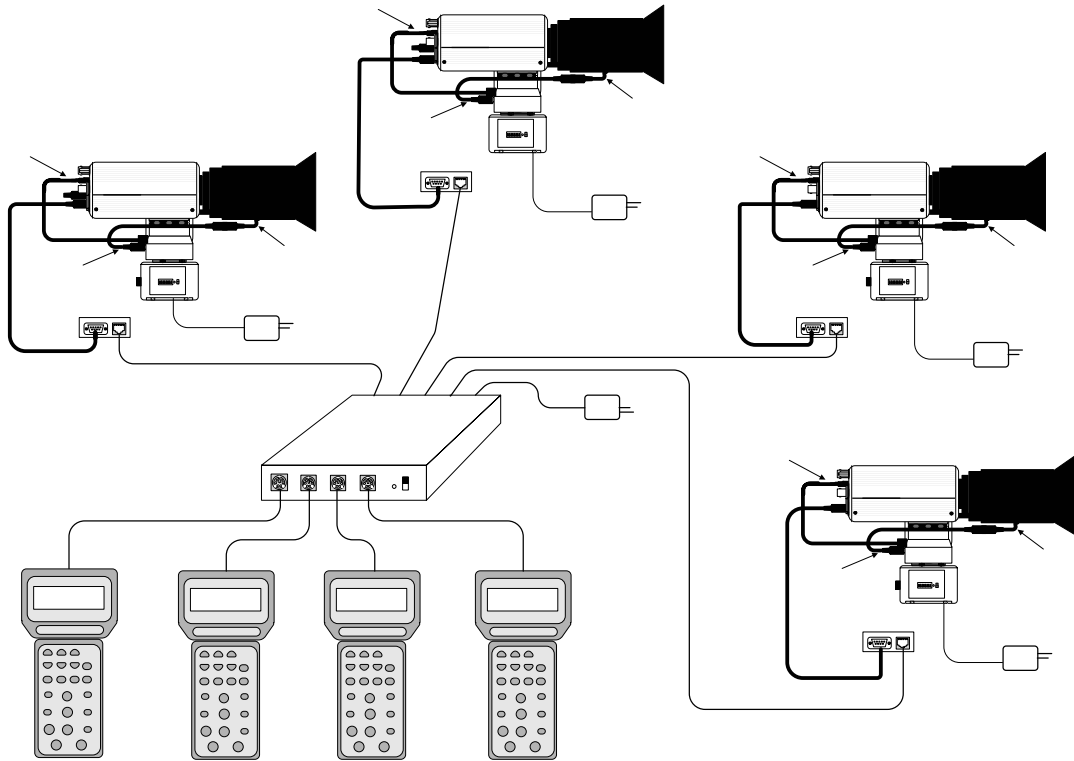
ESI Part Number: .....	2050260
Operating Environment:.....	Indoor
Temperature: .....	23 – 104 F
Required Power & Control Cable: .....	2050254, Supplied
Physical Characteristics:	
Overall Length .....	2.3 inches
Width .....	2.4 inches
Height.....	1.0 inch
Finish.....	Textured, Bone
Material .....	Plastic
Weight.....	0.2 Pounds
Mounting.....	Supplied, Velcro, VHB Tape

### 3. OPERATION

This section describes the operation of the Model 55 BASE and Model 55 CAM. In a system consisting of KY-F560U cameras both the Model 55 BASE and the Model 55 CAM are required. If the DPT 130 Pan & Tilt head is used only the Model 55 BASE is required since the functionality of the Model 55 CAM is built into the DPT 130.

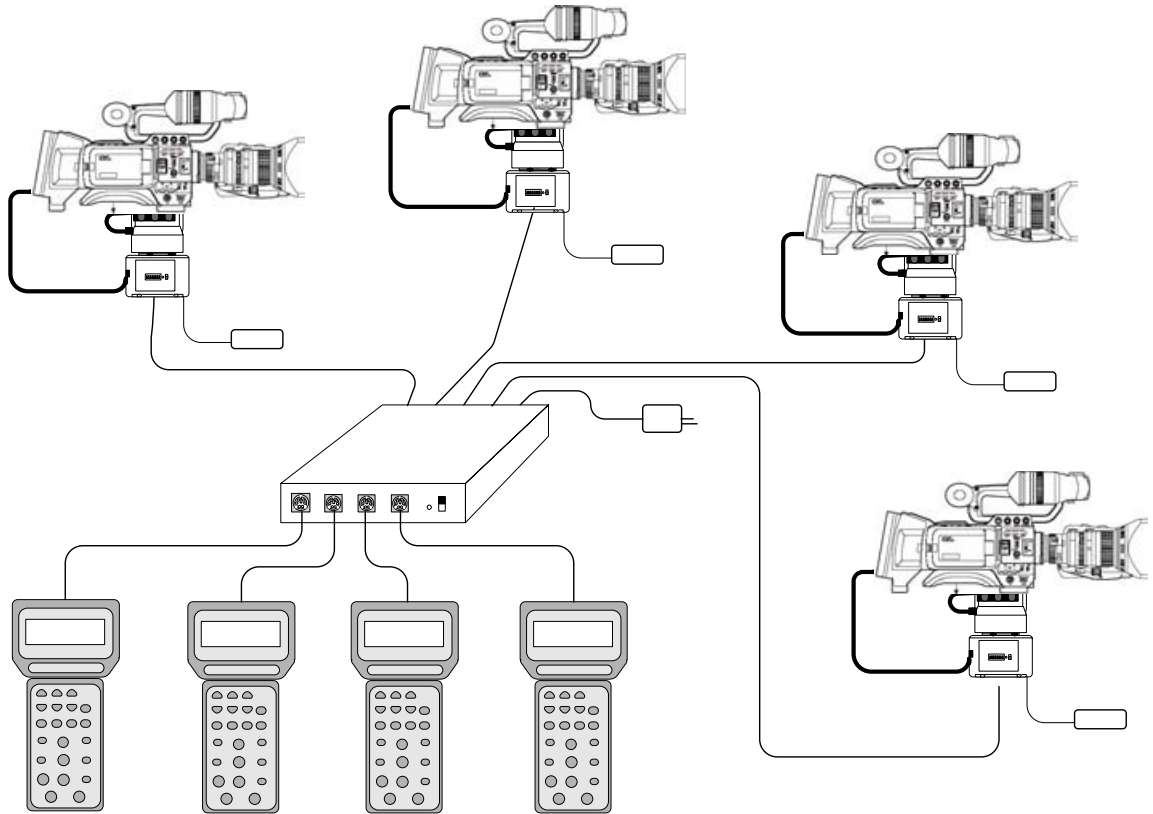
#### 3.1 MODEL 55 BASE

The Model 55 BASE has the ability to interface to four separate RM-LP55U remote control units. Each of the RM-LP55Us will plug into a separate 6 pin mini-DIN connector. These locations are shown as CAM1 thru CAM4 on the front of the Model 55 BASE. On the rear of the Model 55 BASE there are four corresponding RJ-11 connectors also labeled as CAM1 –CAM4. An RS-422 cable is used to interface between the RJ-11 connector on the rear of Model 55 BASE and the RJ-11 connector located on the Model 55 CAM. A typical KY-F560U four camera system is shown below.

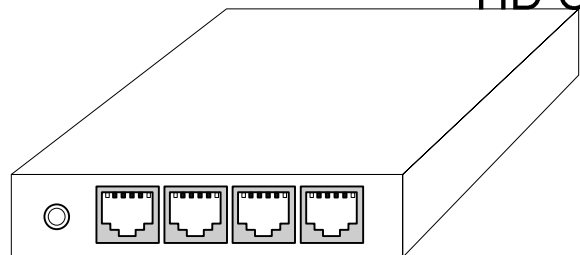
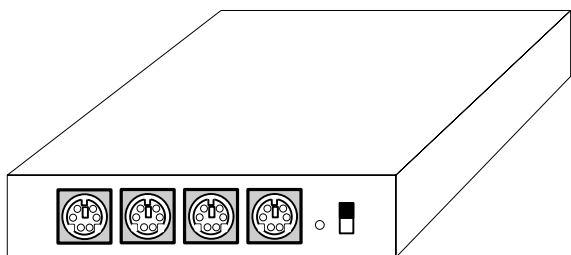


Power is supplied to the Model 55 BASE via a furnished +12 VDC power supply, ESI P/N 2070208.

If the pan & tilt heads are DPT 130 heads, no Model 55 CAM would be required since the Model 55 CAM capabilities are built into the DPT 130. The same system as above is shown with DPT 130 pan & tilt heads. An ESI P/N 0960522 cable interfaces the DPT 130 9 pin D connector to the camera "REMOTE" connector



The Model 55 BASE outline drawing is shown below:

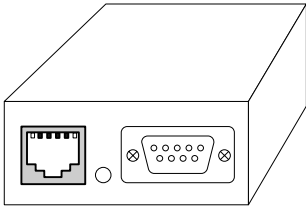


JVC GY-HD2  
HD Camera

### 3.2 MODEL 55 CAM

In applications where a DPT 130 is not used, the Model 55 CAM must be used as the interface between the Model 55 BASE and the camera. An RS-422 cable ESI part number 096037900-xxx is used as the interface between the Model 55 Base and the Model 55 CAM.

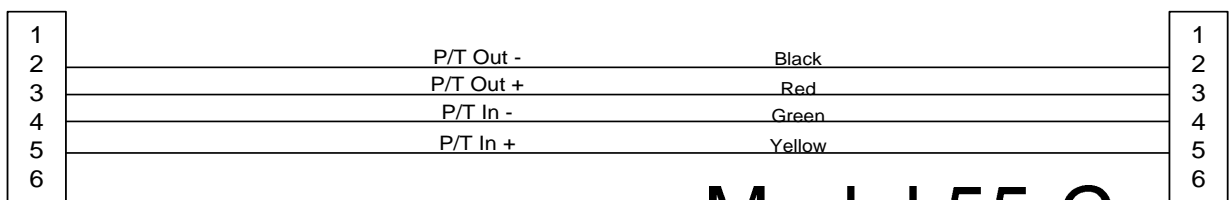
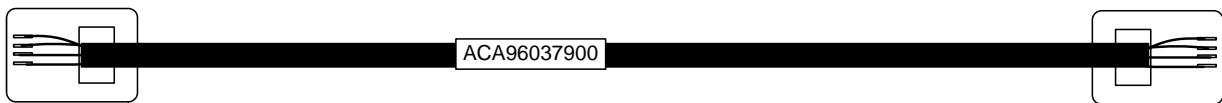
The Model 55 CAM is shown below:



In addition, the Model 55 CAM has a 9 pin D connector for interfacing to the camera “REMOTE” connector. The cable between the Model 55 CAM and the camera is an ESI part number 2050254.

### 3.3 RS-422 CABLE

RS-422 signal format is a balanced four wire interface. The signals are transmit plus, transmit minus, receive plus, and receive minus. This interface is typically 26 AWG wire with a distance limitation of 2000 feet. This cable is used to interface between the Model 55 Base and the DPT 130 directly or to the Model 55 CAM. The ESI part number is 096037900-xxx where xxx is the length in feet between the Model 55 BASE and the DPT 130 or the Model 55 CAM. The RS-422 cable is shown below.

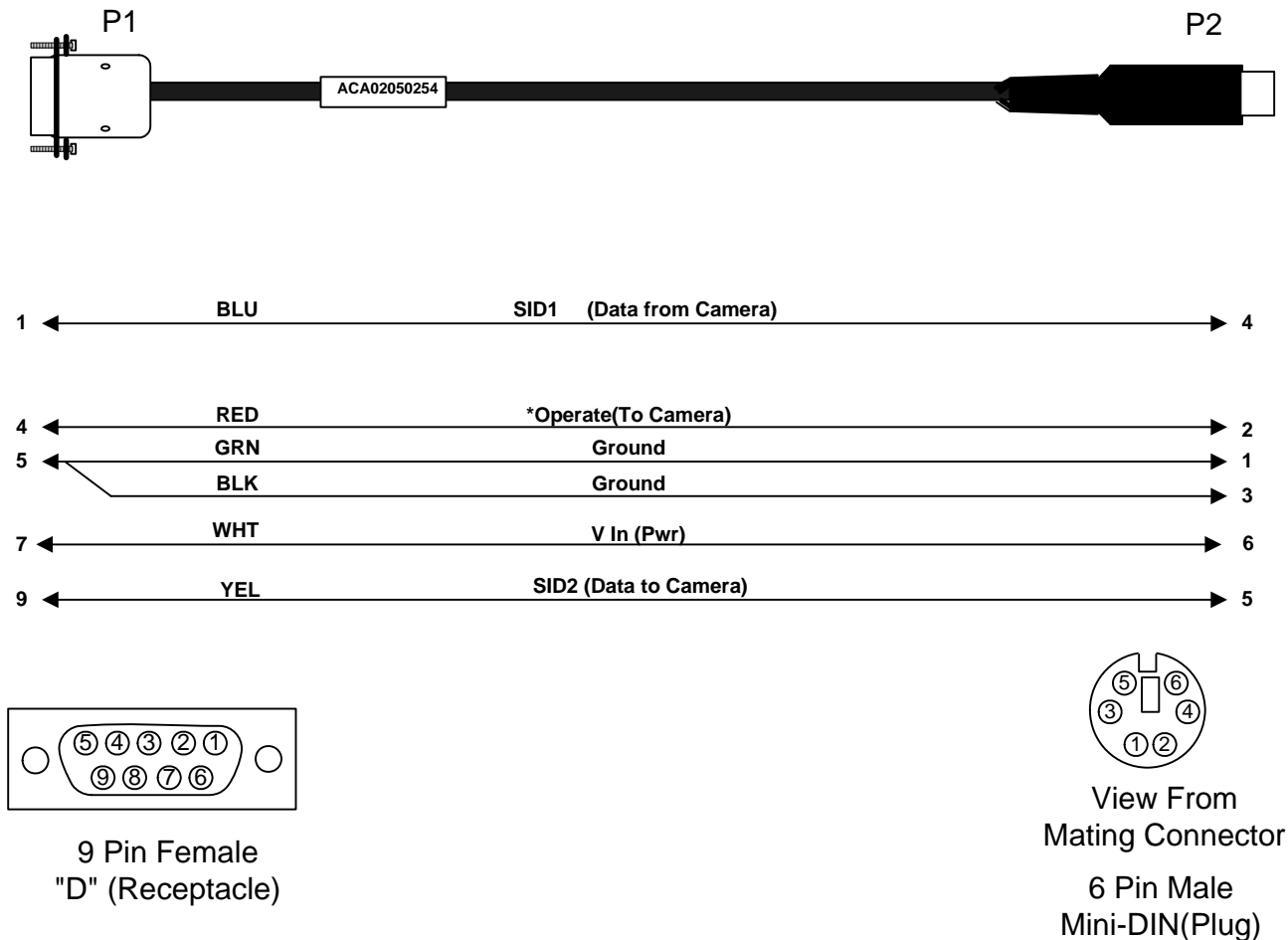


# Model 55-Cam

### 3.4 2050254 CAMERA INTERFACE CABLE

When using a Model 55 CAM the 2050254 cable is required as the interface cable between the Model 55 CAM and the camera. The camera interface cable has a female 9 pin D connector on one end of the cable that plugs into the Model 55 CAM. The other end of the cable has a male 6 pin mini-DIN connector for plugging into the “REMOTE” connector of the camera.

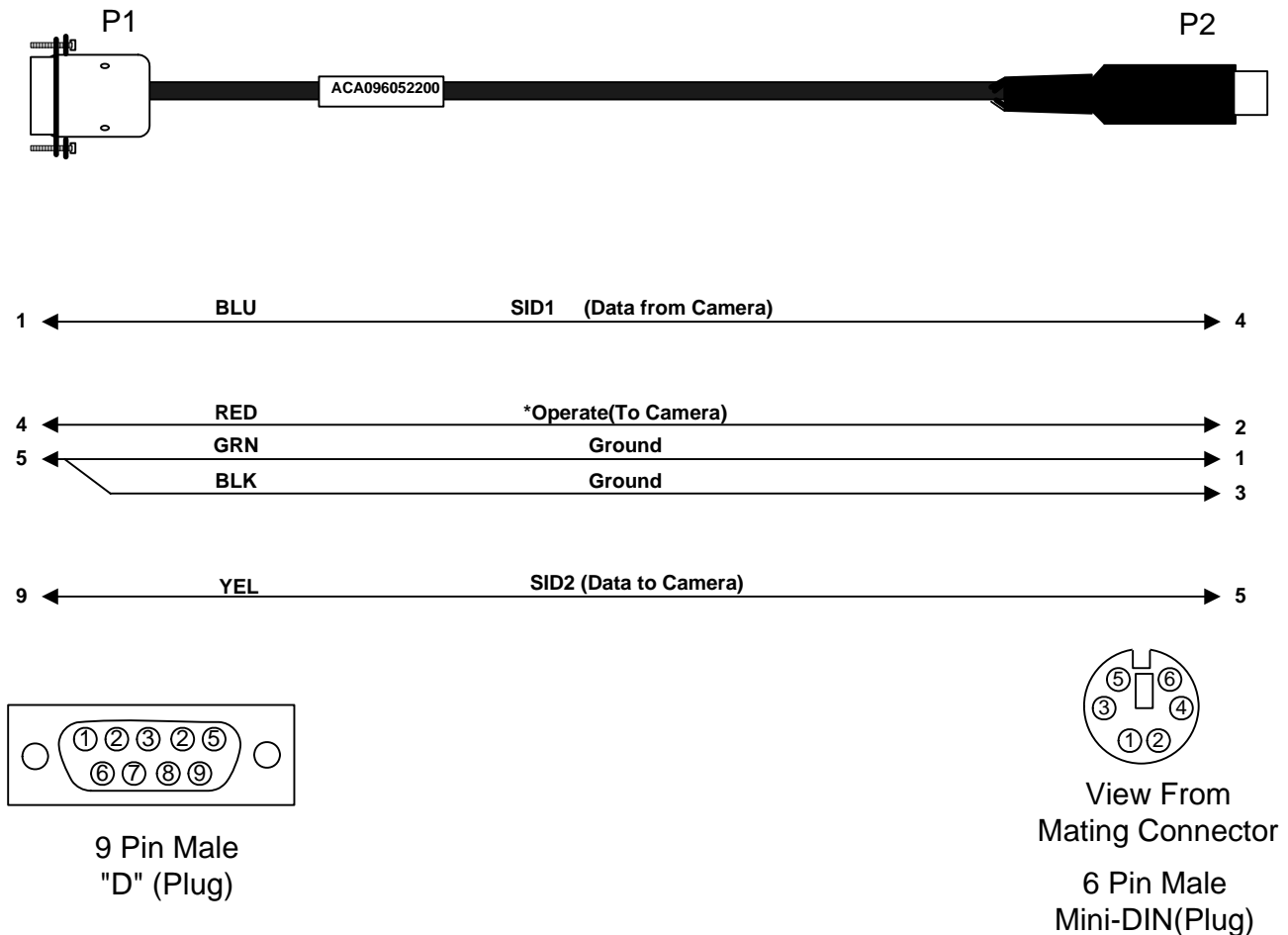
Below is a drawing of the 2050254 cable.



### 3.5 0960522 CAMERA INTERFACE CABLE

When using a DPT 130 with the built in Model 55 CAM capability, a different interface cable is required. This cable is an ESI P/N 096052200 cable. The camera interface cable has a male 9 pin D connector on one end of the cable that plugs into the DPT 130. The other end of the cable has a male 6 pin mini-DIN connector for plugging into the “REMOTE” connector of the camera.

Below is a drawing of the 0960522 cable.



## 4. TROUBLE SHOOTING

### 4.1 NO RCU FUNCTIONS

When Using a Model 55 CAM

- Verify the Model 55 BASE interface cable ESI P/N 0960379-xxx is plugged into the Model 55 CAM RJ-11 connector
- Verify RM-LP55 is plugged into the proper channel of the Model 55 Base.
- Verify the Model 55 Base power switch is on and the RM-LP55 power switch is on.
- Verify Model 55 cable (P/N: 2050254) is attached to “REMOTE” connector on the camera. Inspect the rubber boot on the six-pin mini-DIN connector; insure that boot did not slide down barrel of connector preventing a good connection. Verify cable end with 9 pin D- is connected to Model 55 CAM..

When using a DPT 130 with a built-in Model 55 CAM capability:

- Verify the Model 55 BASE interface cable ESI P/N 0960379-xxx is plugged into the DPT 130 connector labeled “RCU IN”
- Verify RM-LP55 is plugged into the proper channel of the Model 55 Base.
- Verify the Model 55 Base power switch is on and the RM-LP55 power switch is on.
- Verify Model 55 cable (P/N: 0960522) is attached to “REMOTE” connector on the camera. Inspect the rubber boot on the six-pin mini-DIN connector; insure that boot did not slide down barrel of connector preventing a good connection. Verify cable end with 9 pin D- is connected to “RS232/LDCC” connector on base of the DPT 130 pan and tilt.

### 4.2 TECHNICAL SUPPORT

For technical assistance call (321) 956-0095 or go to web site at [esi-inc.com](http://esi-inc.com).

### 4.3 RMA PROCEDURE

Prior to returning equipment for service, please call 321-956-0095 for an RMA number. Please note the RMA number on the shipping label and enclose the following:

- Document describing the problem
- Return address and point of contact address and phone number information

Ship to:

Electronic Systems Integration, Inc.  
1055 South John Rodes Blvd.  
West Melbourne, FL 32904  
Attention: Service Dept