

Kramer Electronics, Ltd.



USER MANUAL

Model:

Cobra DA9

1:9 CAT 5 Distributor

Contents

1	Introduction	1
2	Getting Started	1
3	Overview	2
4	Setup and Installation	3
4.1	Making the Connections	3
5	Solutions to Common Problems	4
6	Technical Specifications	5

Figures

Figure 1: Transmitter to Receiver Connections	3
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Tables

Table 1: T568B CAT 5 PINOUT	5
Table 2: Technical Specifications of the Cobra DA9	5

1 Introduction

Welcome to Kramer Electronics (since 1981): a world of unique, creative and affordable solutions to the infinite range of problems that confront the video, audio and presentation professional on a daily basis. In recent years, we have redesigned and upgraded most of our line, making the best even better! Our 500-plus different models now appear in 8 Groups¹, which are clearly defined by function.

Congratulations on purchasing your Kramer **Cobra DA9 1:9 CAT 5 Distributor**. The Kramer **Cobra** Series System extends video signals over ordinary CAT 5e cable. All models use a transmitter-to-receiver setup.

This manual covers the **Cobra DA9 1:9 CAT 5 Distributor**. A Kramer **Cobra** transmitter unit as well as Kramer **Cobra** receiver units are required for operation. Contact technical support for help.

The package includes the **Cobra DA9 1:9 CAT 5 Distributor**, a ground wire, an external power supply (100–250 VAC, 50–60 Hz, autosensing) with cord, and this user manual².

The Kramer **Cobra** series products are not compatible with Kramer non-**Cobra** series products.

2 Getting Started

We recommend that you:

- Unpack the equipment carefully and save the original box and packaging materials for possible future shipment
- Review the contents of this user manual
- Use Kramer high performance high resolution cables³. You may also need CAT 5 cable

1 GROUP 1: Distribution Amplifiers; GROUP 2: Video and Audio Switchers, Matrix Switchers and Controllers; GROUP 3: Video, Audio, VGA/XGA Processors; GROUP 4: Interfaces and Sync Processors; GROUP 5: Twisted Pair Interfaces; GROUP 6: Accessories and Rack Adapters; GROUP 7: Scan Converters and Sealers; and GROUP 8: Cables and Connectors

2 Download up-to-date Kramer user manuals from the Internet at this URL: <http://www.kramerelectronics.com>

3 The complete list of Kramer cables is on our Web site at <http://www.kramerelectronics.com>

3 Overview

Our Kramer **Cobra** series products are compatible with CAT 5/5e/6 data cabling as well as skew free CAT 5/5e cabling manufactured for video applications. Note that some skew free CAT 5 is specific to a particular vendor and is not compatible with our products. Ensure any skew free CAT 5 cable is non-proprietary prior to purchase / installation.

We recommend using our Kramer **Cobra** ultra low skew cable—**BC-HDTP** (solid bulk) or **BCP-HDTP** (solid plenum bulk)—available in lengths of 700' (210m) and 1300' (390m).

CAT 6 cable, due to the manufacture method, can exhibit much greater skew than standard CAT 5/5e and may require skew compensation beyond what the standard product offers. Contact Kramer Electronics for assistance.

CAT 5/5e/6 cabling for this product must be pinned to the TIA-EIA T568B wiring specification (see appendix A). We also highly recommend that all CAT 5 cables be pre-terminated and tested. Cables terminated on-site or in an existing infrastructure should be tested before use to ensure compliance with the TIA-EIA T568B specification. Using incorrectly terminated CAT 5 cables can damage this product.

Achieving the best performance means:

- Connecting only good quality connection cables, thus avoiding interference, deterioration in signal quality due to poor matching, and elevated noise levels (often associated with low quality cables)
- Avoiding interference from neighboring electrical appliances that may adversely influence signal quality and positioning your **Cobra DA9** in a location free from moisture and away from excessive sunlight and dust



Caution – No operator-serviceable parts inside unit.

Warning – Use only the Kramer Electronics input power wall adapter that is provided with this unit¹.

Warning – Disconnect power and unplug unit from wall before installing or removing device or servicing unit.

Warning –This equipment is not intended for, nor does it support, distribution through an Ethernet network. Do not connect these devices to any sort of networking or telecommunications equipment!

¹ For example: model number AD2512C, part number 2535-000251

4 Setup and Installation

The **Cobra DA9** utilizes industry standard CAT 5 cabling to connect a **Cobra** transmitter and receivers. Additional **Cobra DA9** distribution amplifiers may be cascaded via the UTP Loop output or any other output if necessary.

4.1 Making the Connections

Figure 1 shows how to connect the **Cobra DA9** distribution amplifier.

1. Connect the RJ-45 cable from a **Cobra** transmitter unit or other **Cobra DA9** distribution amplifier into the port labeled UTP IN.
2. Connect RJ-45 cables from **Cobra** receiver units into the ports labeled OUTPUTS.
3. The port labeled UTP Loop may be used to cascade to other **Cobra DA9** distribution amplifiers or can be used with a **Cobra** receiver.
4. Connect the power supply to the unit.
5. Connect the supplied ground cable to the rear gold thumbscrew and the other end to a suitable earth ground. The grounding is required in instances where LCD monitors are used that do not provide a ground via the DC power adapter. Failure to connect the ground cable may result in loss of video signals.

With regard to connecting the cables:

- We recommend mounting and connecting all cabling to the **Cobra DA9 Video / RS-232 Transmitter** components before applying power.
- Be sure that the CAT 5 cable you intend to use has been tested to comply with the T568B wiring specification (see Appendix A).

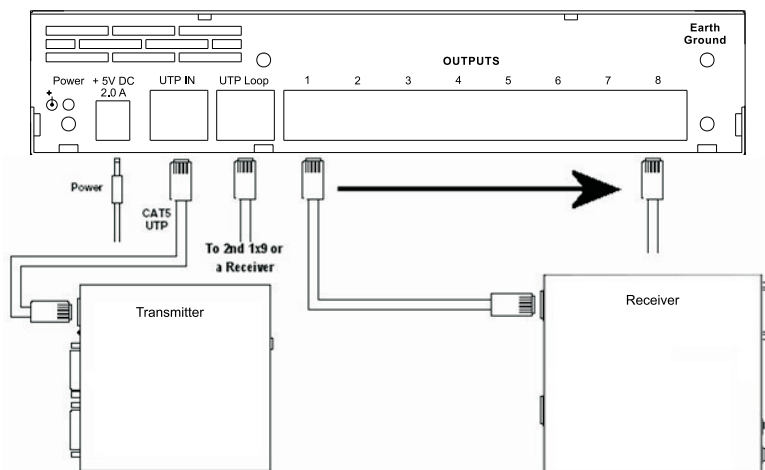


Figure 1: Transmitter to Receiver Connections

5 Solutions to Common Problems

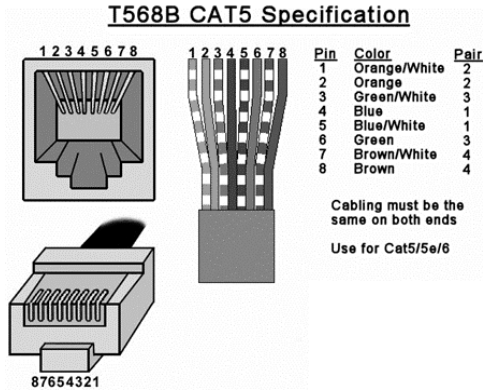
In most cases, nearly every issue with the **Cobra** series can be resolved by checking the CAT 5 termination and making sure that it's pinned to the TIA/EIA 568B wiring specification. However, there may be other problems that cause the system to not perform as it is designed. Below are solutions to the most common installation errors.

Reference the appropriate user manual for the transmitter and receiver in use for issues specific to these units.

Problem:	No video signal at the transmitter local port or at the receiver.
Solution:	<p>Check that both units are powered.</p> <p>Ensure receiver EQ adjustment is set correctly.</p> <p>Make sure the CAT 5 cable is terminated correctly per the TIA/EIA 568B wiring specification.</p> <p>Is the display device powered on and functioning?</p> <p>Check to ensure display settings (resolution, refresh rate, and so on) are compatible with input signal.</p>
Problem:	Poor audio quality.
Solution:	<p>Powered speakers are required. Make sure speaker power is ON.</p> <p>Check input source levels from the source device. Make sure the audio source is not overdriven or underdriven.</p> <p>Audio is summed left and right for "A" versions. If using a single channel, both audio inputs must be connected at the transmitter end for full audio gain. Audio is line level.</p> <p>SA serial//audio units support full stereo line level. A high frequency noise may be heard if the CAT 5 cable from the transmitter is disconnected, or the transmitter is not powered up. This is normal and will disappear once a complete link connection is made.</p>
Problem:	Serial communication doesn't work correctly.
Solution:	<p>Are the serial devices connected properly? Are the serial parameters correct for source/destination devices?</p> <p>When using RS-232 transmitters or receivers in daisy chains, CAT 5 switches or Cobra DA9, or Multi-output transmitters, the serial signal is a unidirectionally broadcast mode only.</p>

Appendix A Cabling Pinouts

Table 1: T568B CAT 5 PINOUT



6 Technical Specifications

Table 2: Technical Specifications¹ of the Cobra DA9

CABLE REQUIRED:	Between transmitter and receiver(s): Category 5 shielded or unshielded twisted pair (STP or UTP)
VIDEO COMPATIBILITY:	RGBHV, RGsB, composite (NTSC, PAL), component, HDTV, Y/C, YUV, s-video
AUDIO COMPATIBILITY:	Line-level combined L and R, stereo, or SPDIF digital, transmitter/receiver-dependent
SERIAL COMPATIBILITY:	Uni-directional RS-232 (simplex), DC to 115k baud
COMPLIANCE:	CE; FCC Class A, IC Class A
VIDEO SUPPORT:	Transparent to users—transmitter/receiver dependent.
RESOLUTION AND REFRESH RATE:	1920 x 1200 @ 60 Hz receiver dependent
TRANSMISSION:	Transparent to users (automatic, no delay).
MAXIMUM DISTANCE:	Total end to end, from source device to farthest destination device, over good CAT 5 cable (assuming source outputs signal at normal strength) receiver dependent: Up to 1300 ft. (396m) all resolutions.
CONNECTORS:	(1) RJ-45 input, (9) RJ-45 output; (1) rear-mounted power inlet; max number of 9D tiers = 3
TOLERANCE:	Operating: 32 to 104°F (0 to 40°C); Storage: -4 to +140°F (-20 to +60°C).
HUMIDITY TOLERANCE:	Up to 80% noncondensing
OPERATING / STORAGE TEMP.:	0 to 40°C / -20 to 60°C
ENCLOSURE:	Steel (powder-coated Galvanneal, for corrosion protection)
POWER:	From utility-power (mains) outlet to power inlet, through detachable external power supply: Input: 100 to 250 VAC@ 50 or 60 Hz (autosensing); Output: 5V regulated, + 3%, < 1.75A; Consumption: 12 watts maximum
SIZE:	1.75" H x 8.1" W x 6.5" D (4.45 x 21 x 16.5 cm)
WEIGHT:	2.2 lb. (1.0 kg)

¹ Specifications are subject to change without notice

LIMITED WARRANTY

Kramer Electronics (hereafter *Kramer*) warrants this product free from defects in material and workmanship under the following terms.

HOW LONG IS THE WARRANTY

Labor and parts are warranted for three years from the date of the first customer purchase.

WHO IS PROTECTED?

Only the first purchase customer may enforce this warranty.

WHAT IS COVERED AND WHAT IS NOT COVERED

Except as below, this warranty covers all defects in material or workmanship in this product. The following are not covered by the warranty:

1. Any product which is not distributed by Kramer, or which is not purchased from an authorized Kramer dealer. If you are uncertain as to whether a dealer is authorized, please contact Kramer at one of the agents listed in the Web site www.kramerelectronics.com.
2. Any product, on which the serial number has been defaced, modified or removed.
3. Damage, deterioration or malfunction resulting from:
 - i) Accident, misuse, abuse, neglect, fire, water, lightning or other acts of nature
 - ii) Product modification, or failure to follow instructions supplied with the product
 - iii) Repair or attempted repair by anyone not authorized by Kramer
 - iv) Any shipment of the product (claims must be presented to the carrier)
 - v) Removal or installation of the product
 - vi) Any other cause, which does not relate to a product defect
 - vii) Cartons, equipment enclosures, cables or accessories used in conjunction with the product

WHAT WE WILL PAY FOR AND WHAT WE WILL NOT PAY FOR

We will pay labor and material expenses for covered items. We will not pay for the following:

1. Removal or installations charges.
2. Costs of initial technical adjustments (set-up), including adjustment of user controls or programming. These costs are the responsibility of the Kramer dealer from whom the product was purchased.
3. Shipping charges.

HOW YOU CAN GET WARRANTY SERVICE

1. To obtain service on your product, you must take or ship it prepaid to any authorized Kramer service center.
2. Whenever warranty service is required, the original dated invoice (or a copy) must be presented as proof of warranty coverage, and should be included in any shipment of the product. Please also include in any mailing a contact name, company, address, and a description of the problem(s).
3. For the name of the nearest Kramer authorized service center, consult your authorized dealer.

LIMITATION OF IMPLIED WARRANTIES

All implied warranties, including warranties of merchantability and fitness for a particular purpose, are limited in duration to the length of this warranty.

EXCLUSION OF DAMAGES

The liability of Kramer for any effective products is limited to the repair or replacement of the product at our option. Kramer shall not be liable for:

1. Damage to other property caused by defects in this product, damages based upon inconvenience, loss of use of the product, loss of time, commercial loss; or:
2. Any other damages, whether incidental, consequential or otherwise. Some countries may not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights, which vary from place to place.

NOTE: All products returned to Kramer for service must have prior approval. This may be obtained from your dealer.

This equipment has been tested to determine compliance with the requirements of:

- EN-50081: "Electromagnetic compatibility (EMC);
generic emission standard.
Part 1: Residential, commercial and light industry"
- EN-50082: "Electromagnetic compatibility (EMC) generic immunity standard.
Part 1: Residential, commercial and light industry environment".
- CFR-47: FCC Rules and Regulations:
Part 15: "Radio frequency devices
Subpart B Unintentional radiators"

CAUTION!

- ☒ Servicing the machines can only be done by an authorized Kramer technician. Any user who makes changes or modifications to the unit without the expressed approval of the manufacturer will void user authority to operate the equipment.
- ☒ Use the supplied DC power supply to feed power to the machine.
- ☒ Please use recommended interconnection cables to connect the machine to other components.



For the latest information on our products and a list of Kramer distributors, visit our Web site: www.kramerelectronics.com, where updates to this user manual may be found. We welcome your questions, comments and feedback.



Caution

Safety Warning:

Disconnect the unit from the power supply before opening/servicing.



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