KALATEL

an interlogix company

Calibur Kalatel KA2 ProBridge

Product Overview
& Installation Manual

Warning!

To prevent fire and electronic shock, do not expose this product to rain or moisture.

The lightning flash with the arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the products enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point, within an equilateral triangle, is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

Caution!

To prevent electric shock, do not remove cover. No user serviceable components inside. Refer servicing to qualified service personnel.

Caution! Electrostatic-Sensitive Device!

Use proper CMOS and MOSFET handing precautions, including approved grounded wrists straps, etc., to avoid damage to this unit or its internal components, from electric discharge.

Warning!

This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions in this manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to subpart J of part 15 of FCC rules which are designed to provide reasonable protection against such interference when operated in a commercial environment. This equipment has also been tested and found to comply with the requirements for a CE Class A device and TUV safety standards.

Operation of this equipment in a residential area may cause interference, in which case the user is required to take all measures that are necessary, at the user's expense, to correct the interference.

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1 KA2 ProBridge

1.1 Kalatel KA2 ProBridge Description

The Kalatel CBR-PB2-KA2 is a specific ProBridge unit for interfacing the DVMRe family of digital video multiplex/recorders to Kalatel PTZ Cyberdomes where local keyboard control is not already provided via a CBR-KB3 or KTD-405 keypad.

The CBR-PB2-KA2 combines into a single unit the services of both a CBR-PB2-KAL and a KTD-410 previously required for all Cyberdome installations. Due to all services being provided via a single unit this new configuration is less expensive and easier to install.

1.2 Compatibility

The CBR-PB2-KA2 is compatible with all Calibur by Kalatel systems equipped with RS-485 network capabilities except installations with a CBR-KB1 Keypad.

Compatible units include the Calibur DVMRe digital video units and various Calibur Multiplexer models. Please check the specifications of the particular Calibur product for RS-485 network support.

Kalatel Components:

(1) CBR-PB2-KA2 ProBridge. This product includes:

- (1) CBR-PB2-KA2 ProBridge unit.
- (1) P/N 4310-0034: RJ45 to RJ45 cable. Connects the ProBridge to RS-485 Network. This cable is 6' in length.
- (1) P/N 4310-0032A Cable from PB2 to Receiver/Dome
- (1) P/N 4010-0007: 12VDC 120VAC Power Supply or
  (1) P/N 4010-0008: 12VDC 220VAC Power Supply.
- (1) P/N 0150-0217A: Product Overview and Installation Manual.

1.3 Installation Environment

Power: Ensure that the installation site's AC power is stable and within the rated voltage of the external power supply. If the site's AC power is likely to have spikes or dips, use power line conditioning or an Uninterruptible Power Supply.

Temperature: Observe the unit's ambient temperature specifications when choosing a location for the unit. Extremes of heat or cold beyond the specified operating temperature limits may cause the unit to fail. Do not install this unit on top of other hot equipment.

Moisture: Do not expose the unit to rain or moisture. Moisture can damage internal components. Do not install this unit near sources of water.

RS485 Limitations: Total length of the RS-485 network is limited to 3000'.

1.4 Power

The ProBridge is furnished with a power supply (110 or 240 VAC). Do not use any other power supply with this product. The manufacturer accepts no responsibility for damage caused by the use of any other power supply.

Make sure installation is complete and all connections are made before applying power to the unit.

4310-0007 120VAC Power Supply

Power Supply Input
Voltage: 120 Volt AC **Tolerance:** ±10% **Frequency:** 60 Hz
Power Supply Output
Voltage: 12 Volt DC **Current:** 110mA **Power:** 1.3 Watts **Connector:** 2.1mm female barrel. Center Positive

4310-0008 220VAC Power Supply

Power Supply Input
Voltage: 220 Volt AC **Tolerance:** ±10% **Frequency:** 50 Hz
Power Supply Output
Voltage: 12 Volt DC **Current:** 110mA **Power:** 1.3 Watts **Connector:** 2.1mm female barrel. Center Positive

1.5 Installation Steps Summary

Carefully and completely read the manuals for each piece of equipment before attempting to install and connect this equipment.

Before you start connecting telemetry and other optional accessory equipment to your system, make sure that all, power, video, VCR, and monitor connections are completed, and everything is working correctly.

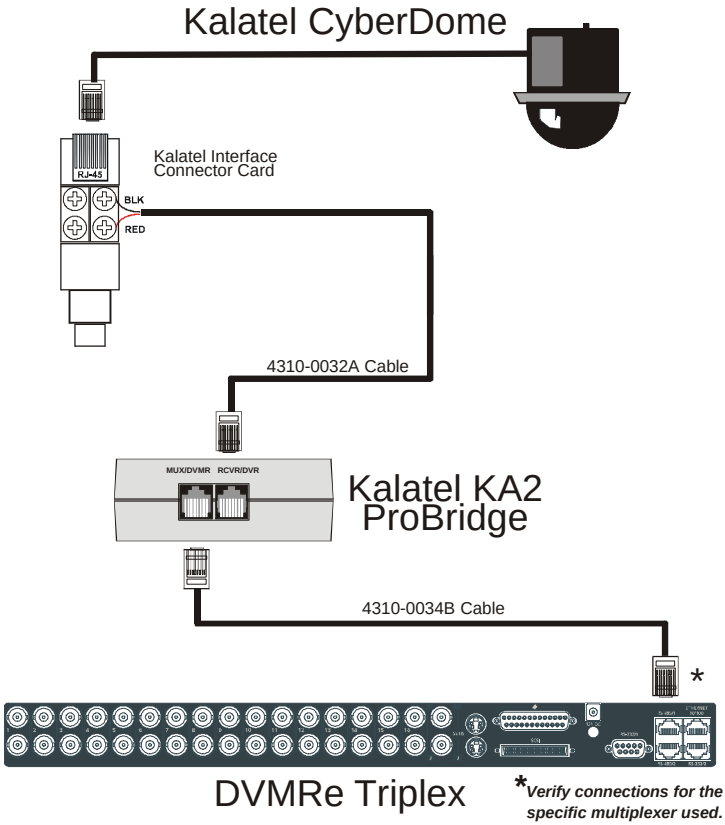
Wire the telemetry equipment according to that unit's installation instruction. Use the internal diagnostic testing capabilities of the telemetry receiver to verify that the power and connections to the lens and motors are correct, and function properly.

Using the Diagram on the following page, connect the equipment in the following order:

1. Connect the CBR-PB2-KA2 to the Calibur unit (Multiplexer, DVMRe, Triplex) via RS-485 port using the RJ-45 to RJ-45 cable. The maximum total distance allowed on the RS-485 data line (without signal amplification or modems) is 3,000 feet (1,000 meters). A 100-ohm terminator is required at each end of the RS-485 line.
2. Supply power to the Calibur unit first and the CBR-PB2-KA2 second using the supplied AC to 12 VDC adapter. Via the Setup Menus for the Calibur unit set the RS-485 network address to the appropriate number (see the Appendix for RS-485 addressing).
3. Using the provided Cable connect from the ProBridge RCVR/DRVR port to the Kalatel PTZ Interface card provided with the Cyberdome. See the receiver's (PTZ) installation manual for more detailed wiring instructions.
4. Set the ID addresses for the Receivers and Domes according to the table later in this manual.
5. Via a networked connected PC with WaveReader software, connect to the DVMRe unit and confirm proper control and operation of the PTZ unit.

1.6 Connection Diagrams

This drawing depicts one Cyberdome connected via an RS485/422 network to a Calibur Triplex unit that provides remote PTZ control over Ethernet via WaveReader software.



NOTE

If remote PTZ control over Ethernet is to be provided with DVMRe Multiplexed Digital Recorder, one CBR-PB2-PTZ ProBridge unit is required in addition to the CBR-PB2-KA2 unit referenced within this document.

NOTE

If remote PTZ control over Ethernet is to be provided with a DVMRe Triplex Digital Recording unit, only the CBR-PB2-KA2 ProBridge unit referenced in this document is required.

2 Cable Specifications

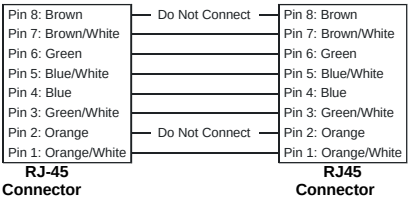
ProBridge to Calibur Unit Cable (RS-485)

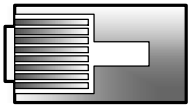
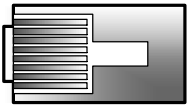
Part Number : 4310-0034B

Communication Type: RS-485

Connector Type: RJ-45 ,RJ-45

Cable Required: 5 Foot RJ-45 to RJ-45 Triplex RS485 Cable (Supplied). Connects ProBridge to Triplex.



RJ-45 Connector	RJ-45 Connector
	

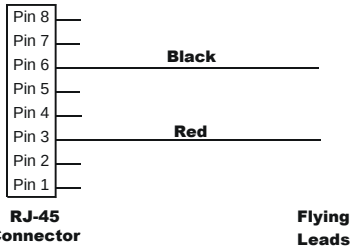
ProBridge Unit to Dome/PTZ Receiver (RS-485)

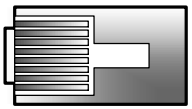
Part Number : 4310-0032A Cable

Communication Type: RS-485

Connector Type: RJ45, Terminals

Cable Required: 6 Foot RJ45 to Flying Leads RS422 Cable (Supplied). Connects ProBridge to J-Box



RJ-45 Connector	Flying Leads
	

3 Troubleshooting

If you are unable to verify control of the PTZ camera, please do the following:

1. Check that each device is properly powered.
2. Check that all cables and cable connections are correct
3. If the interface still does not work correctly contact Tech Support.

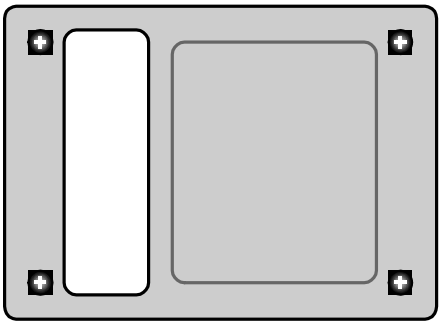
4 Unit Settings

4.1 Configuring ProBridge Jumpers

The unit ships from the factory with the correct settings for most applications and should not require the installer to open the unit and change the jumper settings. However, for trouble shooting purposes we have included the default jumper settings.

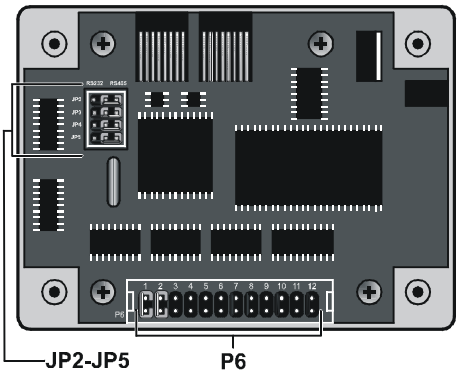
Opening The ProBridge

Place the ProBridge unit face down. Using a small Phillips screwdriver, carefully remove the screws located near each corner of the unit. Once the screws have been removed, lift the cover to detach.



Identifying The Jumpers

With the cover removed, orient the unit as shown here. There are two sets of configurable jumpers. One set, located on the left side of the board, controls how the unit communicates (JP2, JP3, JP4 and JP5). The other set, located at the bottom of the board (P6, twelve pin header) determines specific configuration elements for equipment interfacing.



ProBridge Circuit Board

Default Jumper Settings

The default jumper settings are listed below:

PIN #	DEFAULT STATUS
JP2	RS485 Position
JP3	RS485 Position
JP4	RS485 Position
JP5	RS485 Position
P6 Pin 1	Installed
P6 Pin 2	Installed
P6 Pin 3	Not Installed
P6 Pin 4	Not Installed
P6 Pin 5	Not Installed
P6 Pin 6	Not Installed
P6 Pin 7	Not Installed
P6 Pin 8	Not Installed
P6 Pin 9	Not Installed
P6 Pin 10	Not Installed
P6 Pin 11	Not Installed
P6 Pin 12	**See Bulleted items**

- No Jumper Installed: Straight Preset Mapping, i.e. Preset 1 is Preset 01 on Dome.
- Jumper Installed: Offset Preset Mapping, i.e. Preset1 is Preset 00 on Dome.

5 Specifications

Physical	
Housing	Plastic enclosure.
Dimensions (W x L x H)	1.5 **x** 4.4 **x** 3.3 in. (38 **x** 112 **x** 84 mm)
Nominal Weight	4.8 oz (136 g)
Shipping Weight	1 lb (453 g) packaged, including the external AC power supply and manual.
Color	Light gray.

Environmental	
Temperature	0 to 40 °C, operating.
Relative Humidity	90%, non-condensing.

Electrical	
AC Power	External AC power supply included.
Voltage Range:	110 to 240 VAC ± 10%
Current:	200 mA
DC Power	DC jack, positive center.
Power Supply Voltage:	12 VDC
Current:	110 mA
Power:	1.3 W

All specifications are subject to change without notice. Kalatel believes that all specifications are correct, however no liability is assumed for omissions or errors.

6 Appendix

6.1 RS-485 Addressing and Connections

The Kalatel ProBridge (CBR-PB2) is not an addressable device and requires no user settings. The device simply acts as an interpreter, translating the remote telemetry commands into a format useable by the P/T/Z controller.

Each camera input, whether a fixed camera or a Pan/Tilt/Zoom (P/T/Z) unit, is connected to a Calibur unit input. The Calibur unit has an RS-485 network address, and so does the P/T/Z camera receiver. This address determines when the telemetry receiver responds to commands sent over the RS-485 data line. Consult the PTZ installation manual for specific instructions on setting these addresses.

The CBR-PB2-KA2 can be used in conjunction with multiple Calibur units, multiple Cyberdomes (or Receiver/Drivers) with one or more keypads controlling the domes and the Calibur units. Since the ProBridge unit is a terminated device, care should be used when using this unit in a mixed application. The ProBridge (CBR-PB2-KA2 must be on the end of the RS-485 line. Please contact Kalatel Technical Support for design assistance.

The Calibur addresses are set in the range from 1 to 512, as are camera numbers connected to the Calibur unit. The receiver's address range is from 0 to 511. The setting of the telemetry receiver's address can easily be determined using the following table:

Calibur Unit Address	Camera Range	Receiver Address Range
01	1-32	00-31
02	33-64	32-63
03	65-96	64-95
04	97-128	96-127
05	129-160	128-159
06	161-192	160-191
07	193-224	192-223
08	225-256	224-255
:	:	:
16	481-512	480-511

When more than eight Calibur units are installed, use the following formula:

Telemetry Receiver Address = 32 x (Multiplexer ID - 1) + Camera Number - 1

In other words, telemetry receiver units connected to the inputs of the first Calibur have addresses of 0 to 31. The receivers connected to the second Calibur have addresses of 32 to 63, and so forth.

The RS-485 network is a multi-drop wiring configuration of maximum length 3,000 feet (1000 meters). RJ-45 cable and RJ-45 connectors are used for most hookups (see the installation/connection diagram). Some equipment manufactured by Kalatel may use flying leads, terminal blocks, or other types of connections.

Most units have looping RS-485 network connectors. Either socket can be used. Do not use third-party RS-485 equipment without first consulting Kalatel Technical Support for information on compatibility with other Kalatel equipment.

RS-485 Wire Specification
#24 AWG, twisted pair with shield (2-wire).
Less than 16 pF per foot, nominal.
Less than 25 ohms per 100 foot, nominal.
2-wire: Belden 9842
4-wire: Belden 9844

CAMERA INPUT NUMBER ON CALIBUR UNIT	CALIBUR UNIT RS485 ADDRESSES							
	1	2	3	4	5	6	7	16
1	0	32	64	96	128	160	192	480
2	1	33	65	97	129	161	193	481
3	2	34	66	98	130	162	194	482
4	3	35	67	99	131	163	195	483
5	4	36	68	100	132	164	196	484
6	5	37	69	101	133	165	197	485
7	6	38	70	102	134	166	198	486
8	7	39	71	103	135	167	199	487
9	8	40	72	104	136	168	200	488
10	9	41	73	105	137	169	201	489
11	10	42	74	106	138	170	202	490
12	11	43	75	107	139	171	203	491
13	12	44	76	108	140	172	204	492
14	13	45	77	109	141	173	205	493
15	14	46	78	110	142	174	206	494
16	15	47	79	111	143	175	207	495
17	16	48	80	112	144	176	208	496
18	17	49	81	113	145	177	209	497
19	18	50	82	114	146	178	210	498
20	19	51	83	115	147	179	211	499
21	20	52	84	116	148	180	212	500
22	21	53	85	117	149	181	213	501
23	22	54	86	118	150	182	214	502
24	23	55	87	119	151	183	215	503
25	24	56	88	120	152	184	216	504
26	25	57	89	121	153	185	217	505
27	26	58	90	122	154	186	218	506
28	27	59	91	123	155	187	219	507
29	28	60	92	124	156	188	220	508
30	29	61	93	125	157	189	221	509
31	30	62	94	126	158	190	222	510
32	31	63	95	127	159	191	223	511

CyberDome Addressing

Camera Inputs 17-32 are not available on DVMRe and DVMRe Triplex units. Dome addresses, for those inputs are not useable.

Using Calibur Keypads

Keyboards (CBR-KB3/J and KTD-405) are typically used to provide initial configuration of the Kalatel PTZ unit for setting PTZ addresses and presets. Please refer to the installation manual for the respective keyboard for setup and use with Kalatel PTZ units.

In some specific cases keyboards may be used in conjunction with the CBR-PB2-KA2 units where multiple Calibur units are being controlled via one or more local Keyboard. Available keyboards are only involved when an RS-485 is configured with CBR-KB2/J, CBR-KB3/J and KTD-405 Keyboards. Please contact Technical Support for additional instructions concerning these special installations.

7 Warranty and Service

7.1 Factory Service

If the unit requires factory service, contact the dealer who supplied the unit to you for the correct procedures on returning the unit to the factory or the nearest factory service center.

If the dealer is not available, contact the manufacturer of the unit as detailed below and request a Return Material Authorization number (RMA). The unit's serial number must be provided before an RMA number can be issued. Units returned to the factory for service must have freight and insurance prepaid, and must show the RMA number clearly on all shipping documents. The failure symptoms must be clearly described by the operator and enclosed with the unit together with a copy of the original supplier's invoice. Failure to comply with these instructions will delay service of the unit, and may result in the unit not being accepted by the Repair Center.

Factory Address

Kalatel
Attention: Repair Center
3197-C Airport Loop Drive
Costa Mesa, CA 92626
United States of America
Telephone: 800-343-3358 (7:00 AM to 4:30 PM, Pacific Time)
In Oregon: 541-754-9133
Fax: 541-754-7162 (24 hours a day)

For warranty information, see the following page.

7.2 Warranty

Kalatel warrants all of its equipment for three years from the date of purchase. This warranty covers any defects in materials and workmanship. Equipment failures that are due to improper installation, modification, abuse, or acts of nature will not be covered by this warranty. The repair department will evaluate all equipment returned for repair to determine warranty coverage. The Tech Support Manager will resolve any questions that may arise during evaluation to make a final determination.

Note: The three-year warranty does not apply to the following products:
MobileView® and the monitor CRT, which carry a 12-month warranty from the date of purchase.

The warranty specifically covers any defects in material and workmanship and does not cover equipment that has been abused, damaged, or modified.

For all warranty repairs, Kalatel will cover all costs, including parts, labor, and shipping. Repaired equipment will be returned via the same method of shipment in which it was received. If a customer requests a faster return shipment, the difference will be charged.

For all non-warranty repairs, the customer will be billed for parts, labor, and shipping. Labor will be billed in half-hour increments.

Note: Customers requesting an estimate prior to repair will be notified by phone. If they cannot be reached, they will be notified by fax. If we are unable to reach the contact person for repair authorization after one phone attempt and two fax attempts, the equipment will be returned without being repaired. We will hold equipment no longer than two weeks.

Advance Replacement Policy

When an advance replacement is required, we will send the customer replacement equipment from our stock and receive the returned product in exchange. The received equipment will be evaluated and the repair department will determine whether it is a warranty replacement. If it is non-warranty, see our repair policy above for details. The following guidelines will be used for all advance replacements:

- Fewer than 45 days from purchase, Kalatel will replace the product with new equipment.
- From 45 days to 1 year from purchase, Kalatel will replace the product with refurbished equipment.
- From 1 year to 3 years from purchase, the product must be sent in for repair. Advance replacements will be sent for a fee of $100.

If you have questions about this policy, please contact Kalatel's RMA Department at 800-469-1676.