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Implement Cam instruction manual



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Additional cable lengths

5ME	<i>5m extension cable</i>	\$14.00
10ME	<i>10m extension cable</i>	\$16.00
15ME	<i>15m extension cable</i>	\$20.00
20ME	<i>20m extension cable</i>	\$25.00
10M/AS	<i>10m air seeder cable</i>	\$40.00
4-in-1	<i>4-in-1 KIT (10m)</i>	\$195.00
4-in-1	<i>4-in-1 KIT (15m)</i>	\$225.00
10M 4-in-1	<i>Additional 10m 4-in-1 extension</i>	\$75.00
15M 4-in-1	<i>Additional 15m 4-in-1 extension</i>	\$95.00

Additional Accessories

MAG-90#	<i>Magnetic base for implement camera. 90# pull</i>	\$22.50
RAM Bar Mount	<i>Mount, glass mount. Bar mount fits 1/2" to 1" bar</i>	\$63.95
Dust caps	<i>1 female & 1 male rubber cap for cable ends</i>	\$2.50
C2SYSMH	<i>Harness, main for 2 channel system only</i>	\$35.00
AST Gauge	<i>Air seeder tank gauge, numerical scale 10 cm increments (1 -5). Total length 60 cm</i>	\$10.65
CR2025	<i>Battery for monitor remote control (3-volt)</i>	\$2.50

Additional Antennas

ANT-WIMP	<i>Antenna, 2db antenna, swivel mount</i>	\$25.00
2db	<i>Antenna, 2db antenna, magnetic mount, 3m cable</i>	\$24.50
5db	<i>Antenna, 5db antenna, magnetic mount, 3m cable</i>	\$29.95

(Available products and prices are subject to change without notice)

Table of contents

Monitor installation guide- - - -	Page 4,5
Air Seeder cable installation- - -	Page 6
Setting up the circulate function	Page 7
Camera mounting guide- - - - -	Page 8
MAG-65# mounting instructions	Page 8
Auger mount instructions- - - -	Page 8
Wireless camera guide- - - - -	Page 9
Using the 4-in-1 system- - - - -	Page 10,11
Using the Quad box system- - -	Page 12
Using the Digital camera sender	Page 13
Quad camera system operation-	Page 14
Warranty coverage- - - - -	Page 15
Troubleshooting quick guide- - -	Page 16
Options and accessories- - - - -	Page 17
Additional camera options- - -	Page 17
Additional cable lengths- - - - -	Page 18
Additional accessories- - - - -	Page 18
Additional antennas- - - - -	Page 18

It is recommended that before fully installing your system in a vehicle, you test all the equipment by connecting everything together as it would be in the vehicle. Ensure all your equipment is working properly and has not been damaged during transport.

Thank you for purchasing your new Implement Camera System from Allen Leigh Security & Communications Ltd. You will get many years of use from this camera system if you maintain and care for it. All camera systems include a one-year limited warranty on parts and labor, and we guarantee it to work when installed correctly according to our recommendations.

Implement Camera Installation

When you receive your new implement camera system it should come with the following:

1. Operating instructions manual (1)
2. CCAMR infrared camera (with mounting hardware) (1)
3. Implement camera monitor (1)
4. Remote control (1)
5. Wiring harness (1)
6. 12-volt cigarette lighter adapter (1)
7. 12-volt wiring harness with inline fuse (1)
8. Monitor mounting bracket (with mounting hardware) (1)
9. Sun visor for monitor (1)
10. 10 meter implement camera cable (2)
11. 5 meter implement camera cable (2)

(This list of equipment is from a CQSYSIC (Quad camera system), other systems may vary slightly in equipment from the system listed above)



Options and Accessories

Straight out of the box your new implement camera system should provide you with the extra set of eyes you need to safely run your equipment, however if at some point in time you would like to add additional cameras, we offer options and accessories to help you get the most out of your new implement camera system.

Additional Camera Options

CCAMR-Standard	<i>Camera, Sony, 3.6 mm, 1/3" CCD, 420 Lines Resolution, 18 IR LEDs, c/w Bracket, 1-Year Warranty</i>	\$125.00 / Unit
CCAMW-Wide view	<i>Camera, Sony, 2.8 mm, 1/3" CCD, Wide, 420 Lines Resolution, 18 IR LEDs, c/w Bracket, 1-Year Warranty</i>	\$125.00 / Unit
CCAMZ-Zoom	<i>Camera, Sony, 3.6-6mm, 1/4" CCD, Zoom, 420 Lines Resolution, 18 IR LEDs, c/w Bracket, 1-Year Warranty</i>	\$125.00 / Unit
CCAMR WL	<i>Camera, Sony, 3.6mm, 1/3" CCD, White LED color Camera Regular Lens c/w Bracket, 1-Year Warranty</i>	\$150.00 / Unit
CCAMZ WL	<i>Camera, Sony, 6mm zoom lens, 1/3" CCD, White LED color Camera, c/w Bracket, 1-Year Warranty</i>	\$160.00 / Unit
WCCAMR	<i>Camera, Sony, 3.6mm lens, 1/3" CCD, 18IR LEDs, c/w Bracket, 1-Year Warranty (Comes in channels 1 thru 4)</i>	\$160.00 / Unit
WIFI CAMERA	<i>Camera, Sony, 6mm, 1/3" CCD, Zoom, 18 IR LEDs, c/w Bracket, 1-Year Warranty View your IP IMP camera from your smart phone, not requiring any WiFi in your yard</i>	\$425 / Unit

(Available products and prices are subject to change without notice)

Troubleshooting quick guide

Compiled below is a small troubleshooting guide. It is recommended that you read and understand it fully before operating your system. Please keep this instruction booklet for future reference.

Issue	Possible cause	Fix
Monitor will not turn on	Inadequate power, poor wiring install	Check power source and wiring harness. Ensure voltage is 12-volt DC, check that fuse is not blown
Monitor flickers or flashes on and off	Monitor is in the incorrect video mode	In the menu open the video option and ensure it is set to NTSC
	Inadequate power, poor wiring install, bad ground	Check power source and wiring harness. Ensure there are no cuts or breaks in any of the cables
Camera not showing up / turning on	Improper connection, bad wiring, camera failure	Check all wiring, visually inspect all cable and ends. Cameras can be connected directly to the monitor to ensure that the camera is functioning properly
Camera loses picture at night or low light	Infrared LED array may be damaged or failed	If possible, check voltage supply to monitor, should be at least 12v. Check camera in low light to see if LEDs turn on, if not then contact us.
Degradation of camera picture quality	Dirty camera lens, loose wiring connection, interference (wireless systems)	Visually inspect and clean camera, ensure that all connections are proper
Strange lines / digital artifacts on monitor	Loose wiring harness, monitor beginning to fail	Check power source and wiring harness. If monitor has failed, contact us.
	Monitor is in the incorrect video mode	In the menu, open the video option and ensure it is set to NTSC
Unable to switch between connected cameras	Connection may have come loose during vehicle operation	Ensure all cables are properly connected to each camera.
Monitor is difficult to see or doesn't illuminate	Backlight may need to be replaced, please send in.	Send the monitor in for maintenance by our technicians
Poor video quality (Wireless)	Interference from other electronics, low signal strength	Turn off all 2.4ghz electronics in area, consider looking into antenna

This is only a quick reference guide and may not cover all things that may arise from running your equipment. If you have questions or concerns do not hesitate to phone our toll free number (1-866-289-8164) between the hours of 8:30am-5pm CST Monday thru Friday.



These components will be what you need in order to install your new implement camera system. Any additional cameras you have ordered can be easily installed by connecting them to the wiring harness from the back of the monitor.

Start by first mounting your new implement monitor in the desired location using the included mounting bracket, alternatively if you purchased a RAM® mount, please install it at this time.

Once you have installed your monitor mounting bracket you must decide how to run power for your new implement camera system. Included with most kits is a 12-volt cigarette lighter adapter, this will work for most applications. Also included is a 12-volt wiring harness with inline fuse, this allows you to connect the system to any 12-volt DC power supply in the case that a cigarette lighter is unavailable.

After deciding the best way to run power to your new implement camera system and having mounted your monitor in the desired viewing position, it is now time to attach the main wiring harness to the back of your monitor. Both the 12-volt power and cameras will attach to this harness. It is advised you plug the 12-volt power in at this point in time to ensure you have adequate power to run the system.

Once you have the monitor mounted and the main wiring harness attached, it is time to run your implement camera cables to your desired viewing location. It is advised that you run your cables as securely as possible keeping them away from moving parts as they may damage your cables. After you have run your implement camera cables to the locations you wish to view, you can mount your infrared implement cameras using the hardware provided or with the optional magnetic base (sold separately).

Implement cameras are plugged into the White, Blue, Yellow and Brown 4-pin connectors. (some systems may have fewer camera inputs or different colored connectors)

The colored wires that correspond to the camera inputs are used to trigger cameras remotely. This is done by applying 12-volts to them. (These wires are not used for most agricultural applications and do not need to be connected.)



Air Seeder Cable Installation

Depending on your application for this equipment, you may choose to install your new infrared implement camera on the inside of your air seeder tank.

The following instructions will help you correctly install your new equipment:

-Drill a 7/8 inch hole where you chose to mount your implement, (if the air seeder tank is too thick for the fittings to catch thread, consider boring a hole with a diameter greater than 1 1/2 inches in order to give the threads room to grab the locking nut).

-In order to protect the tank from rust, apply some paint or primer around the edge of the freshly drilled hole. Wait for it to fully dry before attempting to install the fitting.

-Insert the air seeder cable and fitting into your newly drilled hole.

-The rubber seal goes on the threads first, followed by the locking nut. Make sure it is tightened well, but not as tight as to shred the rubber seal.

-It is strongly recommended that you put some form of silicone sealant or paint around the hole in order to reinforce the seal. This will also give you higher degree of rust proofing.

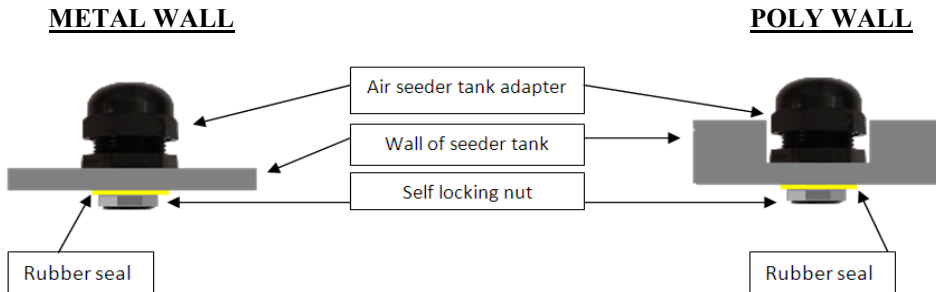


Diagram above shows a cross section of how an air seeder fitting should be attached to your tank, note the countersunk fitting on the right. This may aid in installation by allowing threads to grab the locking nut)

Warranty Coverage

All of our implement camera systems come with a one-year warranty that covers parts and manufacturer defects. The warranty **does not** cover the following:

-Acts of nature (This includes tornado, hail, voltage surges caused by lightning or improper wiring and flooding damage etc.).

-Improper use or installation of implement camera systems causing damage or improper functionality of camera or monitors.

-Abuse or mechanical damage resulting in system failure. This may include running over cables, cables getting caught in moving equipment such as PTO's or tires.

-Submersion in liquids of any sorts accidental or otherwise.

-User error resulting in equipment damage or failure.

While our implement camera systems have been designed to be weatherproof, it is advised that you remove and store your implement camera system while it is not in use. The optional Mag-65# mounting magnet offered by us makes installation and retrieval as simple as disconnecting the cord and pulling off the camera. It is also advised you store your monitor inside over the winter to avoid frost and moisture damage.

With proper care and maintenance you will get years of use from your implement camera system.

If you ever need to send your system in, please ensure that it is shipped properly with adequate packaging to protect it in transport. Failure to do so may result in warranty being voided.

Warranty replacement may be done with either new or refurbished units, all of these units are tested in house and meet our strictest specifications.

(Note: billing information is required if replacement units are sent)

Quad camera system operation

The CQSYS1C (Quad camera implement system) is the flagship of our implement camera fleet here at Allen Leigh. Featuring the ability to view multiple cameras at once using just one monitor, it is perfect for almost any application from seeding to harvest.



By hitting the button labeled “**MODE**” the monitor allows you to select how many cameras you wish to view on the screen at once. Depending on how many cameras you have connected to the CQSYS1C it will display a different amount of views on the screen. Alternatively if you wish to just view one camera, hit the button that is labeled “**MODE**” until only one camera is displayed and then hit the button labeled “**CAM**” until the camera you wish to view shows on the monitor. If a camera is not showing up on your display please check cables and connections to ensure you have proper connectivity.

(System may vary slightly in appearance from the unit in picture above)

Setting up the circulate function

Your new implement camera system, once properly installed, will provide you with the extra eyes you need in order to safely and efficiently run implement equipment.

Written below are instructions to allow you to access the circulate functionality on your implement camera system. What this function does is allow you to switch through your cameras at preset interval times of your choice with next to no user input once set up.

-Press the “**MENU**” in order to access the menu. Once inside the menu use the “+” and “-” buttons to navigate to the menu option titled “**CIRCULATE**” and press the “**MENU**” button to select it.

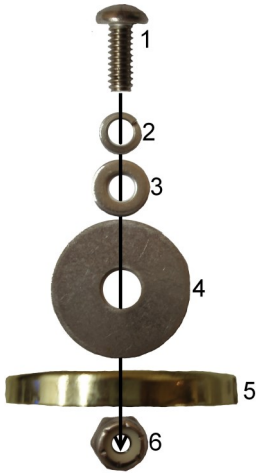
-Once inside the “**CIRCULATE**” menu, you should have the option to set the intervals in which the cameras will be viewed before the monitor switches to the next available camera. The user will be prompted “Camera 1 [5], Camera 2 [5]” and so on. The user must select the camera they wish to set the interval time on using the “+” or “-” buttons. Once the user has selected the camera they wish to modify the interval time on, they can do so by pressing the “**MENU**” button. The number within the [brackets] is the measurement in seconds in which the camera will be viewed before it switches to the next available camera.

-In order to start circulate mode on your monitor you must press and hold the “**MENU**” button for **5** seconds. This should flip the monitor into circulate mode allowing you to view different cameras with no user input. If you wish to exit circulate mode press the button labeled “**CAM**”. This should set the monitor back into normal mode.

(Note: Not all systems feature the circulate function, It has been tested fully on the C4SYS1C and CQSYS1C systems for functionality. We are currently looking into circulate functions for the C3SYS1C)

Camera mounting guide

Every application is unique and here at Allen Leigh Security & Communications Ltd. we completely understand this. To accommodate you better, we offer a wide variety of ways to mount your new implement cameras:



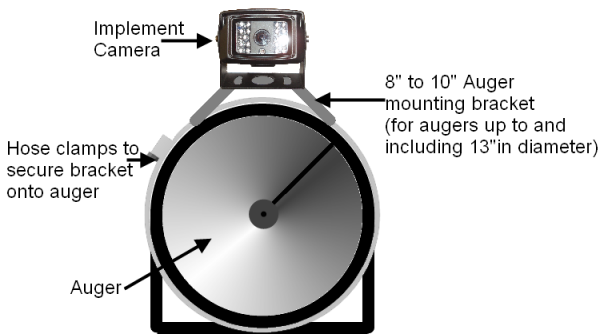
MAG-65# mounting instructions

The magnet mount was designed to secure an implement camera to your equipment using a very powerful 65 pound pull magnet. When properly installed your camera should not move. The screw (1), lock washer (2) and washers (3&4) should be assembled prior to placing the camera built in mount **between** the washer (4) and the magnet (5). Once assembled, tighten the locking nut (6) and install your camera on a flat magnetic surface. A flat surface is imperative to get a good hold with this style of mounting option.

Auger mount instructions

Depending on your unique application, you may find the need to mount your new implement camera onto an auger. Whether it be an auger on a combine or one you're using to transfer crops to bins, we offer an effective mounting solution:

(Pictured below is a diagram of how the mount works)



Hose clamps are wrapped around the auger, the auger mounting bracket is then secured with them. The camera is then attached to the auger mounting bracket providing an excellent hold. This will

allow you to properly monitor the loading of trucks & bins.

Using the Digital camera sender

The digital camera sender allows you to add wireless cameras to your otherwise wired system. This is especially good for situations where you need to see your equipment in another perspective, like unloading to a grain cart.



Press and hold the Pair button for 3 seconds on the receiver, then on the transmitter to pair the two together. Once paired, the lights should both be blue. The light will not appear or show red if not paired to another unit. This Female Aircraft Din connector on the transmitter (Tx) goes to your camera. There is a 12V DC male barrel connector that you will use to power your transmitter. The Male Aircraft Din connector on the receiver (Rx) gets plugged into one of your 4 connectors in your monitor harness.

(Note: Digital camera sender is not compatible with wireless monitor or wireless cameras)

Using the Quad box system

The quad box allows you to connect 4 cameras to 1 input on your implement camera monitor through aircraft din. By doing this you can add more than 4 cameras to your monitor. It does this by switching 4 camera inputs through a single output which you connect to your monitor using only a single camera input. This means with 4 quad boxes you can view up to 16 cameras with a single monitor!



All of your cameras plug into the top of the quad adapter box labeled Cam1, Cam 2, Cam 3, and Cam 4. There is a white block connector that goes to a DC male and female connector for power. The DC female connector from your monitor harness will plug into the male DC connector in this quad box. The remaining female DC connector will be to power both of the units. The harness plugged into the monitor slot will be plugged into 1 of the 4 camera inputs in your monitor harness. Example: (Blue, white, brown, or yellow). By doing this you will enable your monitor to have up to 16 cameras total plugged into one monitor with 3 more additional quad boxes. The input labeled “keyboard” on the quad box will be where you plug in the remote with the 4 camera buttons on it and the quad option. If you have audio on your cameras and your monitor you can use the audio out RCA port in the bottom of the quad box.

(Note: Fuse in power cable may need to be changed to a higher rating in order to handle running more cameras)

Wireless camera guide

For some applications running wires may not be practical. Thankfully we here at Allen Leigh Security & Communication Ltd. have realized this and offer an effective and affordable alternative to stringing wires through your equipment.



Our W4SYS1C system supports up to 4 infrared cameras capable of night vision. Powered by 12-24 VDC this system will easily tie into existing vehicle electrical systems or run off of automotive batteries. These cameras will transmit up to approximately 250 meters with a clear line of site and run on the 2.4Ghz frequency range. The wireless monitor has a 7 inch screen featuring a wide angle of viewing and high resolution. We recommend wired systems if possible for slightly better picture quality.

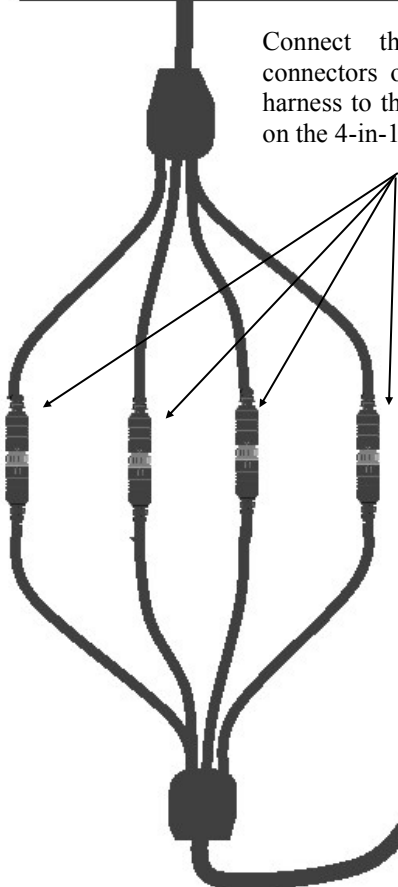
The wireless cameras are sold in channels 1 through 4 and must be on separate channels for the system to work properly. The 3.6mm lens on these cameras allow for very crisp & large images to be accurately portrayed both night and day on your wireless monitor. *(Cameras must be powered off 12-volt power, this could be a 12-volt battery)*

USING THE 4-in-1 SYSTEM

MONITOR



Connect the 4 camera connectors on the monitor harness to the 4 connectors on the 4-in-1 splitter.



10m 4-in-1 splitter cable runs through cab to the monitor.

Mount the 7 pin connector to vehicle near hitch. Now it can be easily connected or detached from the 4-in-1 extension cable.

10m or 15m 4-in-1 extension cable to run the length of the equipment i.e: cultivator

CAMERAS



Cameras are connected to the camera cables.

5m, 10m, 15m, 20m or air seeder cables are used to run each camera to the appropriate location on the implement.

4-in-1 combiner connects the camera cables at the implement.

4-in-1 extension cable is connected to the 4-in-1 combiner cable or at hitch of aircart.

5m (1m) 4-in-1 combiner cable connects cameras to the 4-in-1 cable on the implement.

(Diagram used is not to scale)