

LTC 8560 Series, LTC 8562 Series, LTC 8563/20



Security Systems

EN | Instruction Manual
Economical Single
Channel On-site
Receiver/Drivers

BOSCH

Important Safeguards

1. **Read, Follow, and Retain Instructions** - All safety and operating instructions should be read and followed before operating the unit. Retain instructions for future reference.
2. **Heed Warnings** - Adhere to all warnings on the unit and in the operating instructions.
3. **Attachments** - Attachments not recommended by the product manufacturer should not be used, as they may cause hazards.
4. **Installation Cautions** - Do not place this unit on an unstable stand, tripod, bracket, or mount. The unit may fall, causing serious injury to a person and serious damage to the unit. Use only manufacturer-recommended accessories, or those sold with the product. Mount the unit per the manufacturer's instructions. Appliance and cart combination should be moved with care. Quick stops, excessive force, or uneven surfaces may cause the appliance and cart combination to overturn.
5. **Cleaning** - Unplug the unit from the outlet before cleaning. Follow any instructions provided with the unit. Generally, using a damp cloth for cleaning is sufficient. Do not use liquid cleaners or aerosol cleaners.
6. **Servicing** - Do not attempt to service this unit yourself. Opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
7. **Damage Requiring Service** - Unplug the unit from the main AC power source and refer servicing to qualified service personnel under the following conditions:
 - When the power supply cord or plug is damaged.
 - If liquid has been spilled or an object has fallen into the unit.
 - If the unit has been exposed to water and/or inclement weather (rain, snow, etc.).
 - If the unit does not operate normally, when following the operating instructions. Adjust only those controls specified in the operating instructions. Improper adjustment of other controls may result in damage, and require extensive work by a qualified technician to restore the unit to normal operation.
 - If the unit has been dropped or the cabinet damaged.
 - If the unit exhibits a distinct change in performance, this indicates that service is needed.
8. **Replacement Parts** - When replacement parts are required, the service technician should use replacement parts specified by the manufacturer or that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electrical shock or other hazards.
9. **Safety Check** - Upon completion of servicing or repairs to the unit, ask the service technician to perform safety checks to ensure proper operating condition.
10. **Power Sources** - Operate the unit only from the type of power source indicated on the label. If unsure of the type of power supply to use, contact your dealer or local power company.
 - For units intended to operate from battery power, refer to the operating instructions.
 - For units intended to operate **with External Power Supplies**, use only the recommended approved power supplies.
 - For units intended to operate with a limited power source, this power source must comply with EN60950. Substitutions may damage the unit or cause fire or shock.
 - For units intended to operate at 24 VAC, normal input voltage is **24 VAC**. Voltage applied to the unit's power input should not exceed 30 VAC. User-supplied wiring, from the 24 VAC supply to unit, must be in compliance with electrical codes (Class 2 power levels). Do not ground the 24 VAC supply at the terminals or at the unit's power supply terminals.
11. **Coax Grounding** - If an outside cable system is connected to the unit, ensure that the cable system is grounded. U.S.A. models only - Section 810 of the National Electrical Code, ANSI/NFPA No.70, provides information regarding proper grounding of the mount and supporting structure, grounding of the coax to a discharge unit, size of grounding conductors, location of discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.
12. **Grounding or Polarization** - This unit may be equipped with a polarized alternating current line plug (a plug with one blade wider than the other). This safety feature allows the plug to fit into the power outlet in only one way. If unable to insert the plug fully into the outlet, try reversing the plug. If the plug still fails to fit, contact an electrician to arrange replacement of the obsolete outlet. Do not defeat the safety purpose of the polarized plug. Alternately, this unit may be equipped with a 3-wire grounding plug (a plug with a third pin, for grounding). This safety feature allows the plug to fit into a grounding power outlet only. If unable to insert the plug into the outlet, contact an electrician to arrange replacement of the obsolete outlet. Do not defeat the safety purpose of the grounding plug.
13. **Lightning** - For added protection during a lightning storm, or when this unit is left unattended and unused for long periods of time, unplug the unit from the wall outlet and disconnect the cable system. This will prevent damage to the unit due to lightning and power line surges.

For Indoor Product

1. **Water and Moisture** - Do not use this unit near water - for example, in a wet basement, in an unprotected outdoor installation or in any area classified as a wet location.
2. **Object and Liquid Entry** - Never push objects of any kind into this unit through openings, as they may touch dangerous voltage points or short out parts that could result in a fire or electrical shock. Never spill liquid of any kind on the unit.
3. **Power Cord and Power Cord Protection** - For units intended to operate with 230VAC, 50Hz, the input and output power cord must comply with the latest versions of IEC Publication 227 or IEC Publication 245.
Power supply cords should be routed so they are not likely to be walked on or pinched. Pay particular attention to location of cords and plugs, convenience receptacles, and the point of exit from the appliance.
4. **Overloading** - Do not overload outlets and extension cords; this can result in a risk of fire or electrical shock.

For Outdoor Product

Power Lines - An outdoor system should not be located in the vicinity of overhead power lines, electric lights or power circuits, or where it may contact such power lines or circuits. When installing an outdoor system, extreme care should be taken to keep from touching power lines or circuits, as this contact might be fatal. U.S.A. models only - refer to the National Electrical Code Article 820 regarding installation of CATV systems.

For Rack-Mount Product

1. **Ventilation** - This unit should not be placed in a built-in installation or rack, unless proper ventilation is provided, or the manufacturer's instructions have been adhered to. The equipment must not exceed its maximum operating temperature requirements.
2. **Mechanical Loading** - Mounting of the equipment in a rack shall be such that a hazardous condition is not achieved due to uneven mechanical loading.

Cover Removal



WARNING: Removal of the cover should only be performed by qualified service personnel - not user serviceable. The unit should always be unplugged before removing the cover and remain unplugged while the cover is removed.

24VAC Units

Do not exceed 30VAC input. Voltage applied to the unit's power input should not exceed 30VAC. Normal input voltage is 24VAC. User supplied wiring from 24VAC supply to unit must be in compliance with electrical codes (Class 2 power levels). Do not ground 24VAC supply at power supply terminals or at unit's power supply terminals.



This equipment is to be isolated from the mains supply by a limited power source as specified in EN60950.

220-240V, 50Hz Power Cords

220-240V, 50Hz power cords, input and output, must comply with the latest versions of IEC Publication 227 or IEC Publication 245.

Safety Precautions



CAUTION

RISK OF ELECTRIC SHOCK. DO NOT OPEN!



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



This symbol indicates the presence of uninsulated "dangerous voltage" within the product's enclosure. This may constitute a risk of electric shock.



The user should consult the operating and maintenance (servicing) instructions in the literature accompanying the appliance.



Attention: Installation should be performed by qualified service personnel only in accordance with the National Electrical Code or applicable local codes.



Power Disconnect. Units with or without ON-OFF switches have power supplied to the unit whenever the power cord is inserted into the power source; however, the unit is operational only when the ON-OFF switch is in the ON position. The power cord is the main power disconnect for all units.

FCC & ICES INFORMATION

(U.S.A. and Canadian Models Only)

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:







- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules and ICES-003 of Industry Canada. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:







- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer, or an experienced radio/TV technician for help.

Intentional or unintentional changes or modifications, not expressly approved by the party responsible for compliance, shall not be made. Any such changes or modifications could void the user's authority to operate the equipment. The user may find the following booklet, prepared by the Federal Communications Commission, helpful: How to Identify and Resolve Radio-TV Interference Problems. This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.




Sécurité

	ATTENTION RISQUE D'ÉLECTROCUTION. NE PAS OUVRIR !	
<p>ATTENTION : POUR ÉVITER TOUT RISQUE D'ÉLECTROCUTION, N'ESSAYEZ PAS DE RETIRER LE CAPOT (OU LE PANNEAU ARRIÈRE). CET APPAREIL NE CONTIENT AUCUN COMPOSANT SUSCEPTIBLE D'ÊTRE RÉPARÉ PAR L'UTILISATEUR. CONFIEZ LA RÉPARATION DE L'APPAREIL À DU PERSONNEL QUALIFIÉ.</p>		
	<p>Ce symbole signale que le produit renferme une « tension potentiellement dangereuse » non isolée susceptible de provoquer une électrocution.</p>	
	<p>Ce symbole invite l'utilisateur à consulter les instructions d'utilisation et d'entretien (dépannage) reprises dans la documentation qui accompagne l'appareil.</p>	
	<p>Attention : l'installation doit exclusivement être réalisée par du personnel qualifié, conformément au code national d'électricité américain (NEC) ou au code d'électricité local en vigueur.</p>	
	<p>Coupage de l'alimentation. Qu'ils soient pourvus ou non d'un commutateur ON/OFF, tous les appareils reçoivent de l'énergie une fois le cordon branché sur la source d'alimentation. Toutefois, l'appareil ne fonctionne réellement que lorsque le commutateur est réglé sur ON. Le débranchement du cordon d'alimentation permet de couper l'alimentation des appareils.</p>	

Sicherheitshinweise

	VORSICHT ELEKTRISCHE SPANNUNG. NICHT ÖFFNEN!	
<p>VORSICHT: UM EINEN ELEKTRISCHEN SCHLAG ZU VERMEIDEN, IST DIE ABDECKUNG (ODER RÜCKSEITE) NICHT ZU ENTFERNEN. ES BEFINDEN SICH KEINE TEILE IN DIESEM BEREICH, DIE VOM BENUTZER GEWARTET WERDEN KÖNNEN. LASSEN SIE WARTUNGSARBEITEN NUR VON QUALIFIZIERTEM WARTUNGSPERSONAL AUSFÜHREN.</p>		
	<p>Das Symbol macht auf nicht isolierte „gefährliche Spannung“ im Gehäuse aufmerksam. Dies kann zu einem elektrischen Schlag führen.</p>	
	<p>Der Benutzer sollte sich ausführlich über Anweisungen für die Bedienung und Instandhaltung (Wartung) in den begleitenden Unterlagen informieren.</p>	
	<p>Achtung! Die Installation sollte nur von qualifiziertem Kundendienstpersonal gemäß jeweils zutreffender Elektrovorschriften ausgeführt werden.</p>	
	<p>Unterbrechung des Netzanschlusses. Geräte mit oder ohne Netzschalter haben Spannung am Gerät anliegen, sobald der Netzstecker in die Steckdose gesteckt wird. Das Gerät ist jedoch nur betriebsbereit, wenn der Netzschalter (EIN/AUS) auf EIN steht. Wenn das Netzkabel aus der Steckdose gezogen wird, ist die Spannungszuführung zum Gerät vollkommen unterbrochen.</p>	

Precauciones de Seguridad

	ATTENZIONE PERICOLO DI SCOSSA ELETTRICA. NON APRIRE.	
<p>PRECAUCIÓN: PARA DISMINUIR EL RIESGO DE DESCARGA ELÉCTRICA, NO RETIRE LA CUBIERTA (NI LA PARTE POSTERIOR). NO EXISTEN PIEZAS DE RECAMBIO EN EL INTERIOR DEL EQUIPO. EL PERSONAL DE SERVICIO CUALIFICADO SE ENCARGA DE REALIZAR LAS REPARACIONES.</p>		
	<p>Este símbolo indica que existen puntos de tensión peligrosos sin aislamiento dentro de la cubierta de la unidad. Estos puntos pueden constituir un riesgo de descarga eléctrica.</p>	
	<p>El usuario debe consultar las instrucciones de funcionamiento y mantenimiento (reparación) en la documentación que se suministra con el aparato.</p>	
	<p>Atención: la instalación la debe realizar únicamente personal cualificado de conformidad con el National Electric Code o las normas aplicables en su país.</p>	
	<p>Desconexión de la alimentación. Las unidades con o sin interruptores de encendido/apagado reciben alimentación eléctrica siempre que el cable de alimentación esté conectado a la fuente de alimentación. Sin embargo, la unidad sólo funciona cuando el interruptor está en la posición de encendido. El cable de alimentación es la principal fuente de desconexión de todas las unidades.</p>	

Veiligheidsmaatregelen

	VOORZICHTIG GEVAAR VOOR ELEKTRISCHE SCHOK. NIET OPENEN!	
<p>VOORZICHTIG: OPEN DE BEHUIZING OF DE ACHTERKANT VAN HET APPARAAT NIET. ZO VERMINDERT U HET RISICO OP ELEKTRISCHE SCHOKKEN. IN HET APPARAAT BEVINDEN ZICH GEEN ONDERDELEN DIE U ZELF KUNT REPAREREN. LAAT SERVICE EN ONDERHOUD UITVOEREN DOOR GEKwalificeerd personeel.</p>		
	<p>Dit symbool geeft aan dat er binnen in het apparaat ongeïsoleerde, gevaarlijke spanning aanwezig is die mogelijk elektrische schokken kan veroorzaken.</p>	
	<p>De gebruiker dient de bedienings- en onderhoudsvoorschriften te raadplegen in de documentatie die werd meegeleverd met het apparaat.</p>	
	<p>Attentie: het apparaat mag alleen door gekwalificeerd personeel worden geïnstalleerd. De installatie dient in overeenstemming met de nationale elektrische richtlijnen of de van toepassing zijnde lokale richtlijnen te worden uitgevoerd.</p>	
	<p>Spanning uitschakelen. Apparatuur met of zonder aan-uitschakelaar staat onder spanning zolang de stekker is aangesloten op de wandcontactdoos. De apparatuur is uitsluitend in werking als de aan-uitschakelaar aan staat. Het netsnoer is de "hoofdschakelaar" voor alle apparatuur.</p>	

Medidas de Segurança

	CUIDADO RISCO DE CHOQUE ELÉCTRICO. NÃO ABRIR!	
<p>CUIDADO: PARA REDUZIR O RISCO DE CHOQUE ELÉCTRICO, NÃO RETIRE A TAMPA (OU A PARTE POSTERIOR). NO INTERIOR, NÃO EXISTEM PEÇAS QUE POSSAM SER REPARADAS PELO UTILIZADOR. REMETA A ASSISTÊNCIA PARA OS TÉCNICOS QUALIFICADOS.</p>		
	<p>Este símbolo indica a presença de "tensão perigosa" não isolada dentro da estrutura do produto, o que pode constituir risco de choque eléctrico.</p>	
	<p>O utilizador deve consultar as instruções de funcionamento e manutenção (assistência) nos documentos que acompanham o aparelho.</p>	
	<p>Atenção: a instalação deve ser executada apenas por técnicos qualificados da assistência, de acordo com o código eléctrico nacional ou os códigos locais aplicáveis.</p>	
	<p>Corte de corrente. As unidades com ou sem interruptores ON-OFF (ligar/desligar) recebem corrente sempre que o fio de alimentação está introduzido na fonte de alimentação; contudo, a unidade apenas está operacional quando o interruptor ON-OFF está na posição ON. O fio de alimentação destina-se a desligar a corrente em todas as unidades.</p>	

Sicurezza

	ATTENZIONE PERICOLO DI SCOSSE ELETTRICHE. NON APRIRE.	
<p>ATTENZIONE: PER RIDURRE IL RISCHIO DI SCOSSE ELETTRICHE NON RIMUOVERE LA COPERTURA (O IL PANNELLO POSTERIORE). L'UNITÀ NON CONTIENE COMPONENTI INTERNI RIPARABILI DALL'UTENTE. PER QUALSIASI INTERVENTO, RIVOLGERSI A PERSONALE TECNICO QUALIFICATO.</p>		
	<p>Questo simbolo indica la presenza di "tensione pericolosa" non isolata all'interno del contenitore del prodotto. Ciò comporta un potenziale rischio di scosse elettriche.</p>	
	<p>Si consiglia di consultare le istruzioni operative e di manutenzione (interventi tecnici) contenute nella documentazione fornita con il dispositivo.</p>	
	<p>Attenzione: l'installazione deve essere effettuata esclusivamente da personale tecnico qualificato in conformità con il National Electrical Code o con le normative locali vigenti.</p>	
	<p>Scollegamento dell'alimentazione. Le unità dotate o sprovviste di interruttori ON-OFF vengono alimentate quando si inserisce il cavo nella presa dell'alimentazione. L'unità è tuttavia in funzione solo quando l'interruttore ON-OFF si trova nella posizione ON. Il cavo di alimentazione costituisce il dispositivo di scollegamento dell'alimentazione principale per tutte le unità.</p>	

Zasady Bezpieczeństwa







	UWAGA NIEBEZPIECZEŃSTWO PORAŻENIA PRĄDEM ELEKTRYCZNYM. NIE OTWIERAĆ!	
<p>PRZESTROGA: ABY ZMNIJSZYĆ RYZYKO PORAŻENIA ELEKTRYCZNEGO, NIE NALEŻY ZDEJMOWAĆ POKRYWY GÓRNEJ (ani tylnej). WEWNĄTRZ URZĄDZENIA NIE MA ŻADNYCH ELEMENTÓW, KTÓRE MOGĄ BYĆ NAPRAWIANE SAMODZIELNIE PRZEZ UŻYTKOWNIKA. SERWIS NALEŻY ZLECAĆ WYKwalifikowanym pracownikom obsługi.</p>		
	<p>Ten symbol wskazuje na obecność nieizolowanego „niebezpiecznego napięcia” we wnętrzu urządzenia. Napięcie to grozi porażeniem elektrycznym.</p>	
	<p>Użytkownik powinien zapoznać się z instrukcjami obsługi i konserwacji (serwisu), zamieszczonymi w dokumentacji towarzyszącej urządzeniu.</p>	
	<p>Uwaga: Instalacja może być wykonywana wyłącznie przez wykwalifikowanych pracowników obsługi, zgodnie z zasadami kodeksu National Electrical Code lub innych obowiązujących norm.</p>	
	<p>Odlaczanie zasilania. Niezależnie od wyposażenia w wyłącznik zasilania, prąd do urządzenia jest doprowadzany zawsze, gdy przewód zasilania jest podłączony do źródła zasilania; jednak urządzenie działa tylko wtedy, gdy wyłącznik zasilania jest włączony. Przewód zasilania jest głównym wyłącznikiem zasilania we wszystkich urządzeniach.</p>	

Table of Contents

Important Safeguards	2
FCC Information	3
1 UNPACKING	7
2 SERVICE	7
3 DESCRIPTION	7
3.1 Power	7
4 INSTALLATION	7
4.1 Bench Setup	7
4.2 Preparing the Enclosure	8
4.3 Setting Option Switches	8
4.4 Lens Speed Table	9
4.5 Lens Polarity	9
4.6 RS-232 Baud Rate	9
4.7 Auto Speed	9
4.8 Lens Speed	9
4.9 Lens Voltage	9
4.10 Site Address	9
4.11 Field Setup	9
4.12 Connecting Line Power	10
4.13 LTC 8563/20 AC Supply Wiring Guide	10
4.14 Connecting Biphase Signal Cable	11
4.15 Connecting the RS-232 Signal Cable	11
4.16 Connecting the Lens Motor	12
4.17 Connecting Pan/Tilt	12
4.18 Power Up Operation	14
5 LOCAL TEST OPERATION	13
6 ADDITIONAL FUNCTIONS	13
6.1 Dither	13
6.2 Camera Command Pass-Through	13
7 SUMMARY OF PIN ASSIGNMENTS	14
7.1 Biphase Signal	14
7.2 RS-232 Port	14
7.3 Lens	14
7.4 Pan/Tilt	14
7.5 Auxiliary AC Supply Output	14
8 ILLUSTRATIONS	15

1 UNPACKING

Unpack carefully. This is electronic equipment and should be handled carefully.

Check for the following items:

- LTC 8560 Series, LTC 8562 Series, or LTC 8563/20 Receiver/Driver.

If any items appear to have been damaged during shipping, contact the shipper. If any items are missing, notify your Bosch Security Systems, Inc. Sales Representative or Customer Service Representative.

The shipping carton is the safest container in which the unit may be transported. Save it for possible future use.

2 SERVICE

If the unit ever needs repair service, the customer should contact the nearest Bosch Security Systems, Inc. Service Center for authorization to return and shipping instructions.

Service Centers

USA

Phone: 800-366-2283 or 717-735-6638
fax: 800-366-1329 or 717-735-6639

CCTV Spare Parts

Phone: 800-894-5215 or 408-956-3853 or 3854
fax: 408-957-3198
e-mail: BoschCCTVparts@ca.slr.com

Canada

Phone: 514-738-2434

Europe, Middle East & Asia Pacific Region

Phone: 32-1-440-0711

For additional information, see

www.boschsecuritysystems.com.

NOTE: Grounded wrist straps must be worn and proper ESD safety precautions observed when handling the electrostatic-sensitive printed circuit boards.

3 DESCRIPTION

The LTC 8560 Series and LTC 8563 On-site Receiver/Drivers are control data decoder units and motor drivers for pan/tilt units and zoom lenses. These receiver/drivers are used in conjunction with the Allegiant® Series Microprocessor-based Switcher/Controller Systems.

03.1 Power

Model No.	Rated Voltage ¹	Voltage Range	Pan/Tilt and Auxiliary Supply
LTC 8560/60 ²	120 VAC, 50/60 Hz	100 to 130	120 VAC, 50/60 Hz
LTC 8562/60 ^{3,5}	120 VAC, 50/60 Hz	100 to 130	24 VAC, 50/60 Hz
LTC 8562/50 ^{4,5}	220–240 VAC, 50/60 Hz	198 to 264	24 VAC, 50/60 Hz
LTC 8560/50 ²	220–240 VAC, 50/60 Hz	198 to 264	220–240 VAC, 50/60 Hz
LTC 8563/20 ²	24 VAC, 50/60 Hz	20 to 28	24 VAC, 50/60 Hz

¹Power (all models): 15 W at rated voltage (not including pan/tilt).

²Fuse protected at 2 A.

³Fuse protected at 1 A.

⁴Fuse protected at 0.4 A.

⁵For the LTC 8562/60 and LTC 8562/50, the maximum total current output, including pan/tilt output and auxiliary supply output, is 2 A.

4 INSTALLATION

All units are 50/60 Hz line frequency compatible. All units have low voltage DC lens drivers (6 or 12 volts selectable) for focus, zoom, and iris with adjustable speed.

4.1 Bench Setup

NOTE: Some of the setup may be done at an electronics workbench prior to installation, making field installation easier, especially at inaccessible locations.

Before starting, read this document to get an understanding of what is to be done.

NOTE: Inside the lid of the receiver/driver is a summary wiring guide which may aid in the installation.

On a suitable workbench, which has a neutral static work top, open the receiver/driver unit and remove 1 spare fuse attached to the chassis (either T1A fuse for the LTC 8562/60; T2A fuse for LTC 8560/60, LTC 8560/50, and LTC 8563/20; or T0.4A fuse for the LTC 8562/50).



CAUTION: Be sure to observe all safety measures for static control when working with this unit while out of its enclosure. Otherwise, static damage may result.

4.2 Preparing the Enclosure

When performing the following steps, it is suggested that the internal parts be removed from the enclosure. This is made easy by removing the metal frame that all components are attached to:

1. On a flat surface, open the box.
2. Carefully remove the unit from the box.
3. Place the base of the unit on the bench face up with the circuit board showing. Use a Phillips screwdriver to remove the four corner screws.
4. Using the thumb and forefinger of both hands, reach down on the right and left sides of the unit and lift out by the metal.



CAUTION: Do not handle the unit by the circuit board, because this may result in physical damage to the unit.

5. Using a hole saw or punch, make holes through the enclosure suitable to the specific installation of the unit. Install through the holes the proper types of glands or conduit connectors to maintain weatherproof integrity of the box (see Instructions for Installation of Conduit and Grounding of Equipment in Nonmetallic Enclosures provided with the enclosure).



ATTENTION: Holes for power and pan/tilt connections should be located along the lower half of the enclosure base. Holes for lens and signal connections should be located along the upper half of the enclosure base. This should be done so the power and pan/tilt cables can be separated from the lens and signal cables.

6. Before reinstalling the unit in the plastic enclosure, refer to the section about pan/tilt voltage selection.
7. Refit the metal frame by following the procedure in Step 4 followed by Step 3. Make sure the mounting screws are tight, the metal frame does not move, and the door opens and closes properly.

4.3 Setting Option Switches

Three 4-position DIP switches are located on the main printed circuit board. Each switch is numbered and the OFF side is indicated. Using these switches, the options described below and in the following sections may be selected. If the receiver/driver has been in operation and a switch is changed, the main AC power should be turned off for 10 seconds then turned on to reset the unit.

DIP Switch	Function	On	Off
S102			
#1	---	---	---
#2	Lens Polarity	Reverse	Normal
#3	---	---	---
#4	---	---	---
S103			
#1	---	---	---
#2	---	---	---
#3	---	---	---
#4	RS-232 Baud	9600	4800
S104			
#1	AutoSpeed	Enable	Disable
#2	Lens Speed 1	(See Table)	
#3	Lens Speed 2	(See Table)	
#4	Lens Voltage	12 Volt	6 Volt

4.4 Lens Speed Table

Lens Speed 1	Lens Speed 2	Lens Speed	Voltage (6 V/12 V Setting)
(S104, #2)	(S104, #3)		
Off	Off	Slowest	4 V/8 V
On	Off	:	5.5 V/11 V
Off	On	:	6.5 V/13 V
On	On	Fastest	8 V/16 V

4.5 Lens Polarity (S102, #2)

To accommodate different manufacturers of motorized lenses, the receiver/driver lens driver polarity can be reversed. This provides the capability to coordinate all zoom lenses so that each moves in the same direction as long as the same control position is activated by system operators. The following table shows the lens voltage polarity for ON and OFF positions of S102, #2.

	S102, #2 ON	S102, #2 OFF
Zoom In	–Volts	+Volts
Zoom Out	+Volts	–Volts
Focus Far	+Volts	–Volts
Focus Near	–Volts	+Volts
Iris Open	–Volts	+Volts
Iris Close	+Volts	–Volts

Using the data that accompanies the lens used at this camera location, determine which selection accepts the lens and set the switch accordingly.

4.6 RS-232 Baud Rate (S103, #4)

This switch is used to select the baud rate of the RS-232 port. The OFF position selects 4800 baud, while the ON position selects 9600 baud.

4.7 Auto Speed (S104, #1)

AutoSpeed provides variable lens speed operation. The lens speed starts slow and increases as the lens control is held on. The speed resets to slow when the lens control is released.

4.8 Lens Speed (S104, #2 & #3)

The lens speed switches provide for a fixed lens speed, slow or fast. The lens speed can be set by referring to the Lens Speed Table.

4.9 Lens Voltage (S104, #4)

This setting allows the use of lenses with a nominal voltage of either 6 volts or 12 volts. Set this switch OFF for 6 volt lens types and ON for 12 volt lens types.

4.10 Site Address

The control signal, which is distributed to the receiver/driver, is common to all such devices. The code contains an address for each instruction. Several devices can be connected to the same code wire, making installation and modification simple. Each remote device on the common signal must be set with a unique address.

Follow this procedure to set the site address:

1. Locate the four digit thumbwheel switch on the top of the receiver/driver printed circuit board.
2. Dial the number of the camera at this site. This number should match the camera number that you select from the keyboard.

4.11 Field Setup

To reduce the chance of external interference, minimize the cost of wire, and avoid excessive voltage losses in the multiconductor cables, the receiver/driver should be located as close to the pan/tilt as possible. This also allows for convenient use of the local test features. The receiver/driver should be mounted in a secure place out of direct sunlight. Holes should be punched in the bottom half of the box and fitted with parts compatible with the type of installation.

After the cables have been pulled into this box, refer to the following sections for the specific hookup.

4.12 Connecting Line Power

Connection of power to this unit is a simple matter requiring no special tools. Make sure that the wire has been properly inserted inside the unit through an acceptable gland or fitting to maintain weatherproof integrity of the box. See the enclosed recommended instructions sheet.

Recommended wire size is 2.5 mm² (14 AWG) minimum for all models except LTC 8563/20.

See the LTC 8563/20 AC Supply Wiring Guide. Use all proper precautions when installing the line voltage cable to the device.

Refer to the following procedure for line power installation.



CAUTION: Before proceeding, be sure to disconnect the live power from the cable to be installed into the receiver/driver. Be sure that the receiver/driver is of the proper line voltage type for line power being used.

1. Prepare the line and neutral wires by stripping 1/4-inch from each wire.
2. Locate the grey 2 wire cage-clamp connector marked with N and L on the bottom of the unit.
3. Connect the ground wire to the screw marked with ground symbol.
4. Connect the neutral wire to the cage-clamp marked N by inserting a flat blade screwdriver in the slot on top and pushing in to open the clamp. Then insert the stripped wire on the slide and remove the screwdriver to close the clamp.
5. Connect the line wire to the cage-clamp marked L as described above.

4.13 LTC 8563/20 AC Supply Wiring Guide

Wire Size		0.5 A Load		1 A Load		1.5 A Load		2 A Load	
mm ²	AWG	m	ft	m	ft	m	ft	m	ft
0.5	20	30	100	20	70	15	50	12	40
1.0	18	50	150	30	100	25	75	20	70
1.5	16	80	260	50	150	40	130	30	100
2.5	14	130	420	90	290	60	200	50	150
4.0	12	200	650	140	460	110	350	90	290

Table is based on a nominal 24 VAC source with a 10% drop in voltage due to cable loss.

4.14 Connecting Biphase Signal Cable

The biphase signal cable is used to provide the instructions to the unit. It is a common signal to all devices, so no care must be taken to identify its origin. Be sure to connect the plus and minus phases correctly or the device will not work.



CAUTION: Do not install the signal cable through the same conduit or glands used for Class 1 input or output power. Use 1 mm² (18 AWG) shielded twisted pair which meets UL Style 2092 requirements (Belden 8760, or equivalent).

Locate connector J121, BIPHASE, and proceed with the following steps.

1. Prepare the end of the signal cable, properly identifying the plus and minus phases.
2. Connect the plus phase to the connector terminal 1 labeled SIGNAL + on the signal-in terminal block.
3. Connect the minus phase to the connector terminal 2 labeled SIGNAL – on the signal-in terminal block.
4. Connect the shielding ground of the cable to terminal 3 on the signal-in terminal block.

NOTE: There is no electrical connection made to the receiver/driver of the signal shield. This should be grounded at the signal source only. This connection is provided as a matter of convenience only and can be ignored if desired.

If the signal is to end here, confirm that the supplied termination resistor is installed as prescribed below.

1. One end of the supplied 100 ohm resistor (or equivalent resistance) to terminal 4 of the signal-in terminal block.
2. The other end of the resistor to terminal 5 of the same connector.

The signal may pass through this on-site receiver/driver to another one in a hookup known as a daisy chain. If this is the case, the termination resistor is used only on the last on-site receiver and a signal cable is hooked up as follows between the devices:

1. Connect one wire of the approved type signal cable to terminal 4 of the signal-in terminal block. Note that this color wire is the SIGNAL + for the next device.
2. Connect the other wire to terminal 5 of the signal-in terminal block. Note that this color wire is the SIGNAL – for the next device.
3. Connect the shields of each of the cables by inserting them both into terminal 3 of the terminal block.

Continue to install the next on-site receiver.

Remember to terminate the last device in the daisy chain.

When the signals are properly connected and the unit is powered, a green LED labeled RECEIVE will light as code is received. This LED indicates receiving activity and lights, if code is received by this device, regardless of the destination address of the code.

4.15 Connecting the RS-232 Signal Cable



CAUTION: Do not install the signal cable through the same conduit or glands used for Class 1 input or output power. Use cable suitable for RS-232 type signals.

Locate connector J116, RS-232 Port, and proceed with the following steps.

1. Prepare the end of the signal cable, properly identifying the transmit and signal ground lines.
2. Connect the transmit line to the connector terminal 1, labeled RXD, on the terminal block.
3. Connect the signal ground line to terminal 4 on the signal-in terminal block. The shield of the cable should be left unconnected at the receiver/driver.

4. If the signal is to run to another receiver/driver #2, connect the RXD input of receiver/driver #2 to the LOOP output, terminal 3 in the terminal block of receiver/driver #1. Connect terminal 4, GND, the signal ground of the two receiver/drivers together. Connect the cable shield at receiver/driver #1 to terminal 4, GND. Do not connect the shield at receiver/driver #2.

The TXD terminal (terminal 2) is typically not used and should remain unconnected unless otherwise instructed to do so.

4.16 Connecting Lens Motor

Locate connector J105, LENS DRIVE for the lens, and follow the steps below to wire the motorized lens.

1. Prepare the ends of the cables by stripping about 1/4-inch of insulation from the ends.
2. Connect the lens ground cable to conductor 4 on terminal strip, J105.
3. Connect the lens zoom cable to conductor 1 on terminal strip, J105.
4. Connect the lens focus cable to conductor 2 on terminal strip, J105.
5. Connect the lens iris cable to conductor 3 on terminal strip, J105.

NOTE: The receiver/driver has a two voltage lens drive power supply: ± 6 VDC and ± 12 VDC. The unit is shipped in the ± 6 VDC mode. To change to ± 12 VDC, select the ON position for DIP Switch S104, #4.



CAUTION: Be sure to consult the lens manual before making this change, or damage to the lens or the receiver/driver or both may result.

4.17 Connecting Pan/Tilt

NOTE: For the LTC 8562/60 and LTC 8562/50, the maximum total current output, including Pan/Tilt output and Auxiliary Supply output, is 2 A.

The pan/tilt head is connected via two terminal strips, one 6 position for pan/tilt functions, J406, P&T OUTPUT, and a separate 2 position strip for the motor returns, J401, P&T COMMON. Locate these parts on the receiver/driver chassis, as well as their mates.



CAUTION: Be sure the receiver/driver unit has been selected with the proper pan/tilt voltages, or damage to the unit or the pan/tilt or both may occur.

1. Prepare the ends of cables by stripping about 1/4-inch of insulation from the ends.
2. Connect the pan-right wire to conductor 1 on terminal strip, J406.
3. Connect the pan-left wire to conductor 2 on terminal strip, J406.
4. Connect the tilt-up wire to conductor 3 on terminal strip, J406.
5. Connect the tilt-down wire to conductor 4 on terminal strip, J406.

4.18 Power Up Operation



CAUTION: The receiver/driver performs a calibration test which operates the pan/tilt and zoom lens motors when AC power is first applied to the unit. Ensure that movement of the pan/tilt during this power-on test will not cause damage or create a hazardous condition before applying AC power to the unit.

If it is necessary to prevent movement of the pan/tilt/zoom at this time, the calibration test may be bypassed by pressing the local test button while applying the AC power.

5 LOCAL TEST OPERATION

In order to simplify installation and testing, a Local Test push button is provided so the receiver/driver can be checked without having to receive commands from the system.

Locate the four digit thumbwheel switch, ADDRESS, and the small test push button switch next to the thumbwheel switch, LOCAL TEST, on the main printed circuit board. Follow these steps:

1. Note the location address that may be on the thumbwheel switches. This number should be written down so it can be reentered when finished with the local test procedure.
2. From the table below, enter the desired number of the function you wish to test, using the digital thumbwheel switches.
3. Push the local test push button to activate test as selected.
4. Release push button and repeat steps 2 and 3 if additional tests are desired.
5. Be sure to set the thumbwheel switches back to their original address number so that this device can be properly activated by the system.

Thumbwheel No.	Function
0000	Calibration Test/Reset
0001	Pan Right
0002	Pan Left
0003	Tilt Down
0004	Tilt Up
0005	Zoom Out
0006	Zoom In
0007	Focus Near
0008	Focus Far
0009	Iris Close
0010	Iris Open

NOTE: These tests may be done at an electronics workbench to test the receiver/driver as well as the pan/tilt device prior to installation. However, since most installations require field cabling, this procedure is also useful to the field installer.

6 ADDITIONAL FUNCTIONS

6.1 Dither

Since low light level cameras may be prone to image burning, this unit has a function, called Dither, which moves the pan head right and left automatically.

Approximately every two minutes, if the unit has not been accessed for a function, the pan head is moved for 0.5 second, always reversing from its last dither so the same scene is maintained.

This function is controlled from the system keyboard by using the auxiliary 5 command. Auxiliary 5 ON activates the function, while auxiliary 5 OFF deactivates it. Immediately upon activation of dither, the pan motor goes through the dither movements to indicate that dither has been activated.

6.2 Camera Command Pass-Through

This Receiver/Driver allows biphase commands to be Passed-through to the camera via the RS-232 TX port, allowing Aux commands to be entered at the keyboard to alter certain camera parameters. The LTC 0600 or the LTC 0500 Series cameras need to be addressed to 1 minus the address of the receiver/driver, then physically wired from the RS-232 port of the camera to the RS-232 TX port of the Receiver/Driver. For example, if the Receiver/Driver is set to address 02, the camera needs to be addressed as 01. This camera secondary addressing is accomplished via PC software (LTC 0650).

7 SUMMARY OF PIN ASSIGNMENTS

7.1 Biphase Signal

Five conductor terminal block, J121, is on the right side of the top, main printed circuit board. Pin one is to the left side of the connector.

7.1.1 J121 – Biphase Signal

Pin No.	Signal Name	Remarks
1	+ Signal	Plus signal wire.
2	– Signal	Minus signal wire.
3	Shield	May connect shield here, also useful in daisy chaining for connecting two shields. No connection to PCB.
4	+ Signal	Plus signal to next in daisy chain or 91 ohm termination resistor (or equivalent resistance).
5	– Signal	Minus signal to next in daisy chain or 91 ohm termination resistor (or equivalent resistance).

7.2 RS-232 Port

Four conductor terminal block, J116, is to the left of the top, main printed circuit board. Pin one is to the left side of the connector.

7.2.1 J116 - RS-232 Port

Pin No.	Signal Name	Remarks
1	RXD	Receive signal (input).
2	TXD	Transmit signal (output).
3	LOOP	Buffered receive signal (output).
4	GND	Signal ground.

7.3 Lens

Lens Output:

For Zoom, Focus, and Manual-iris:

6 VDC or 12 VDC, 100 mA max.

Variable Speed 6 VDC Setting: 4 VDC to 8 VDC.

Variable Speed 12 VDC Setting: 8 VDC to 16 VDC.

Four conductor terminal block, J105, is in the middle of the top, main printed circuit board. Pin one is to the left side of the connector.

7.3.1 J105 - Lens Output

Pin No.	Signal Name	Remarks
1	Zoom	Connect to lens zoom motor wire.
2	Focus	Connect to lens focus motor wire.
3	Iris	Connect to lens iris motor wire.
4	Common	Connect to lens motor common wire.

7.4 Pan/Tilt

Pan/Tilt Output: 4 function for pan/tilt solid state drive with zero crossing turn-on; 1 A drive capability.

Six conductor terminal block, J406, and two conductor terminal block, J401, are found near the left hand side of the lower printed circuit board. Pin one is to the left side of connector.

7.4.1 J406 - P&T Output

Pin No.	Signal Name	Remarks
1	RIGHT	Connect to pan right control wire.
2	LEFT	Connect to pan left control wire.
3	UP	Connect to tilt up control wire.
4	DOWN	Connect to tilt down control wire.

7.4.2 J401 - P&T Common

Pin No.	Signal Name	Remarks
1	RETURN	Connect to pan/tilt motor return wire.
2	RETURN	Connect to pan/tilt motor return wire.

7.5 Auxiliary AC Supply Output

NOTE: For the LTC 8562/60 and LTC 8562/50, the maximum total current output, including Pan/Tilt output and Auxiliary Supply output, is 2 A.

Auxiliary AC Supply Output: Fuse-protected auxiliary AC supply. See Power under DESCRIPTION.

Two conductor terminal block, J402, is found in the middle of the lower printed circuit board. Pin one is to the left side of the connectors.

7.5.1 J402 - Auxiliary AC Supply

Pin No.	Signal Name	Remarks
1	SUPPLY	Auxiliary AC supply terminal.
2	RETURN	Auxiliary AC return terminal.

8 ILLUSTRATIONS

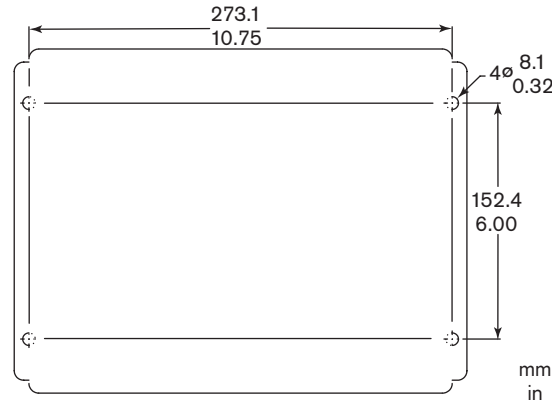
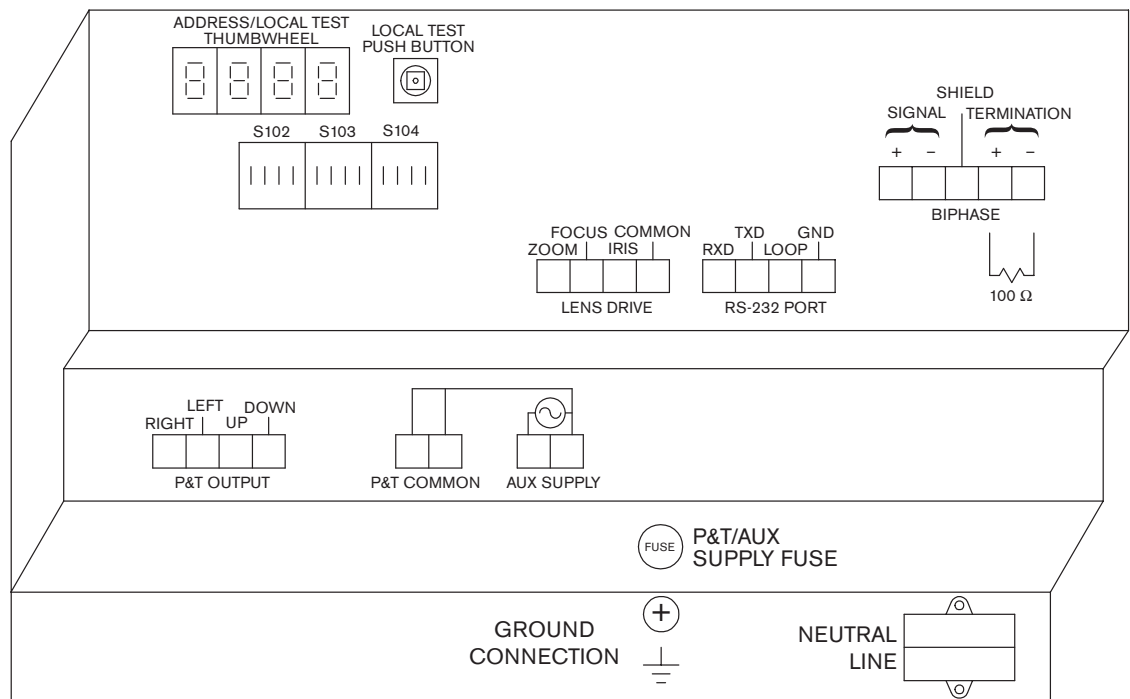


Figure 1 Mounting Hole Pattern



THUMBWHEEL SWITCH TEST CODES

0000	CALIBRATION
0001	PAN RIGHT
0002	PAN LEFT
0003	TILT DOWN
0004	TILT UP
0005	ZOOM OUT
0006	ZOOM IN
0007	FOCUS NEAR
0008	FOCUS FAR
0009	IRIS CLOSE
0010	IRIS OPEN

DIP SWITCH SETTINGS

#	FUNCTION	ON	OFF
S102	1 (NOT USED)		
	2 LENS POLARITY	REVERSE	NORMAL
	3 (NOT USED)		
	4 (NOT USED)		
S103	1 (NOT USED)		
	2 (NOT USED)		
	3 (NOT USED)		
	4 BAUD RATE	9600	4800
S104	1 AUTO SPEED	ENABLE	DISABLE
	2 LENS SPEED 1	SEE TABLE	→
	3 LENS SPEED 2	SEE TABLE	→
	4 LENS VOLTAGE	12 VOLT	6 VOLT

S104 2	S104 3	SPEED
OFF	OFF	SLOWEST
ON	OFF	⋮
OFF	ON	⋮
ON	ON	FASTEST

A.C. LINE SOURCE WIRE SIZE #14 AWG MINIMUM

Figure 2 This Label Appears Inside the Lid of the Unit.

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