# PanCam-C PanCam-T Pantel Pancode

Installation and Programming Manual

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# 1 Introduction

ITS offers a wide range of Access Control Door Phones for indoor and outdoor entry control. These solutions range from the simplest one button unit to the most sophisticated unit with a full keypad and built-in camera to monitor visitors at the entrance. All of ITS's Access Control Door Phones incorporate cutting edge technology providing a high quality speakerphone and a built in electric lock control. All ITS's Access Control Door Phones are easy to set-up, modern and durable in design and provide "plug and play" installation. This guide provides installation and programming instructions for the following products:

- PanCam Outdoor unit
- Pantel Outdoor unit
- Pantel Indoor unit
- Pancode Outdoor unit
- Pancode Indoor unit

# 1.1 PanCam

The PanCam unit is available in two versions: PanCam-C (with keypad) and PanCam-T (one button). Both are wall mounted access control door phones, connected to an analog port of a PBX or a Key Telephone System, with an internal black & white or color high-quality pinhole camera encased within the unit. It is also possible to connect an external camera. Both, PanCam-C and T, are compatible with most known telephone systems and PBX types.

# 1.1.1 General Features

The PanCam controls the camera, providing four different modes of operation:

- Always on
- Always off
- Powered by pressing any button
- Powered by pressing the call button

# 1.1.2 PanCam-C Features

The outdoor PanCam-C unit has the following features:

- Direct dialing to any extension
- Speed-dial to internal or external subscribers
- Automatic Busy & Disconnect Cadence Detection
- Door opening from any extension
- Programmable day and night destinations

- Two different operation modes, standard/speed-dial
- High quality speaker phone with volume control
- Entry access code
- Work in conjunction with card readers and security devices
- Simple to operate and program
- Smart looking durable design
- Internal black & white or color high-quality pinhole camera

# 1.1.3 PanCam-T Features

The outdoor PanCam-T unit has the following features:

- Dialing to a pre-defined extension/subscriber
- Door opening from any extension
- Programmable day and night destinations
- Automatic Busy & Disconnect Cadence Detection
- Designed for wall mounting
- Works in conjunction with card readers and security devices
- Hands free intercom
- Simple to operate and program
- Internal black & white or color high-quality pinhole camera

# 1.1.4 PanCam Physical Description

The following figure describes both units.



The front panel of the PanCam-T unit incorporates a speaker, microphone, and Call button. The PanCam-C unit also features a keypad. The front panel is attached to the wall using a bracket and screws.

The PanCam units are hardwired units powered by an external 12V AC transformer, which is provided in the package. Optionally, you may use a 12-24V DC adapter.

# 1.2 Pantel

The Pantel is a wall mounted access control door phone, which is connected to an analog port of a PBX or a Key Telephone System. The Pantel is compatible with most known telephone systems and PBX types.

With the press of a button, the Pantel dials a pre-defined extension number of up to 20 digits, allowing a conversation to take place and then enables the dialed party to open the door for the caller by pressing touch tone digit(s).

The Pantel is available in either an aluminum unit for outdoor installation, which is weather and vandal resistant, or a plastic unit for indoor installation.

# 1.2.1 Features

The outdoor and indoor Pantel units have the following features:

- Dialing to a pre-defined extension/subscriber
- Door opening from any extension
- Programmable day and night destinations
- Automatic Busy & Disconnect Cadence Detection (outdoor unit only)
- Designed for wall mounting
- Works in conjunction with card readers and security devices
- Hands free intercom
- Simple to operate and program
- Outdoor or indoor installation



# 1.2.2 Physical Description

Figure 1-2. Pantel Front Panel

The front panel of the Pantel unit incorporates a speaker, microphone, and Call button. The front panel is attached to the wall using a bracket and screws.

The Pantel unit is a hardwired unit powered by an external 12V AC transformer, which is provided in the package. Optionally, you may use a 12-24V DC adapter. (For outdoor unit only.)

# 1.3 Pancode

The Pancode is a smart wall mounted access control door phone that is connected to an analog port of a PBX or a Key Telephone System, allowing door entry control.

The Pancode is available in either an aluminum unit for outdoor installation, which is weather and vandal resistant, or a plastic unit for indoor installation.

# 1.3.1 Features

The outdoor and indoor Pancode units have the following features:

- Direct dialing to any extension
- Entry access code
- Speed-dial to internal or external subscribers
- Automatic Busy & Disconnect Cadence Detection (outdoor unit only)

#### Introduction

- Door opening from any extension
- Programmable day and night destinations
- Two different operation modes, standard/speed-dial
- High quality speaker phone with volume control
- Outdoor or indoor installation
- Work in conjunction with card readers and security devices
- Simple to operate and program
- Smart looking durable design

# 1.3.2 Physical Description



Indoor Unit

Outdoor Unit

Figure 1-3. Pancode Front Panel

The front panel of the Pancode unit incorporates a speaker, microphone, and keypad. The front panel is attached to the wall using a bracket and screws.

The Pancode unit is a hardwired unit powered by an external 12V AC transformer, which is provided in the package. Optionally, you may use a 12-24V DC adapter (For outdoor unit only.).

# 2 Installation

The PanCam/Pantel/Pancode is mounted to the installation bracket provided; this mounting bracket should be installed with the arms of the bracket positioned at the bottom.





Outdoor Unit Bracket

Indoor Unit Bracket

Figure 2-1. Installation brackets

# To Install the PanCam/Pantel/Pancode wall bracket

- 1. Measure and mark the location on the wall where the holes will be drilled for the mounting bracket.
- 2. Drill the holes and insert the wall anchors into the holes. The wall anchors should be flush with the wall.
- 3. Attach the mounting bracket using the wall screws provided.

# 2.1 Installation Instructions

# 2.1.1 PanCam

Power (9V DC) is provided to the camera via an extended connector in the PanCam. The camera is activated, once the relevant instruction is given (e.g. push on the call button, etc.).

#### Caution

To avoid damage to the camera, make sure to connect the correct polarity to the connector (see Figure 2-2).

Camera connector 12V DC -	-	-12V
		+12V

Figure 2-2. Camera connector

### 2.1.2 PanCam Schematic setup

The following pictures show the schematic setup of the PanCam unit.



Figure 2-3. PanCam Schematic setup

The video signal is independent and connected directly to third-party video equipment (e.g. a video recorder, multiplexer, PC, etc.).

The unit is connected to the PBX as an analog extension.

The unit powers the Door Lock and the Camera.

# 2.1.3 Pantel/Pancode

The Pantel/Pancode can be installed as the individual access control or can be used with adjacent access-control devices, such as card reading devices. For more information on adjacent access-control device installation, see section 2.2, *Adjacent Access-Control Device*.

A 12V AC external power supply is included with the Pantel/Pancode unit. A 12 to 24V DC/1.6A power adapter, which provides a quieter door-lock action, can also power the Pantel/Pancode. The power adapter should not be located farther than 10m (30ft) from the Pantel/Pancode.

The following figure shows the terminal locations on the wire connector provided with the Pantel/Pancode. This connector is attached at the base of the internal component. All wiring to the Pantel/Pancode is attached to the wire connector.

The Pantel/Pancode supports bypass switch installation. This allows opening the door with a hardwired switch. A bypass switch should be connect to the SW and /SW terminals.

	~12V
Power Supply —	~12V
Normally	N.C.
Open/Closed —	CMN
Outputs	N.O.
Door Lock	DLR
Relay	~DLR
	/DLR
Switch	SW
Terminals	/SW
Phone -	LINE
Line/Extension	LINE

Figure 2-4. Connector Wiring

The wiring connector is a screw connector type. In order to attach a wire you must insert the stripped end of the wire into

Note: For installations of powered-unlocked-state, use DLR and ~DLR. For installations of powered-locked-state, use /DLR and ~DLR (this is recommended for safety purposes in an emergency situation).

the proper terminal and tighten the terminal screw. This will crimp the wire connection.

#### Caution

To avoid damage to the Pantel/Pancode, the power supply should be turned off prior to connecting wires to the Pantel/Pancode unit.

## To Install the Pantel/Pancode

- 1. Remove the cover from the Pantel/Pancode unit and disconnect the wire connector, found at the base of the internal component.
- Connect the two 12V lead wires from the 12V AC power adapter (or the 12-24V DC adapter), one to each of the "~12V" terminals.
- 3. Connect the two PBX extension wires, one to each of the "LINE" terminals.
- Connect the door-lock relay wires to the "DLR" and "~DLR" terminals

If the door-lock relay is a powered-locked-state type lock, connect the door-lock relay wires to the "/**DLR**" and "**~DLR**" terminals.

- 5. If a push button switch is used, connect the push button wires to the "**SW**" and the "**/SW**" terminals.
- 6. Plug the wire connector to the base of the Pantel/Pancode inner component.
- 7. Place the Pantel/Pancode onto the mounting bracket.
- 8. Switch on the power to the 12V adapter.

After installation, you can now program the Pantel/Pancode unit. For details on programming, see section 3, *Programming*.

# 2.2 Adjacent Access Control Device

This section describes adding an access-control device to an existing Pantel/Pancode, and adding a Pantel/Pancode to an existing access-control device. The key difference between these two installations is which Access-control device controls the door lock relay.

# 2.2.1 Adding an Access Control Device to the Pantel/Pancode

When activated, the access-control triggers the Pantel/Pancode "SW" terminal, which activates the door-lock relay and opens the door.

For this type of installation, the access-control device "N.O." output wires are connected to the Pantel/Pancode Switch terminals (see Figure 2-5.)



Figure 2-5. Pantel/Pancode - Controlling Lock Relay

# 2.2.2 Adding Pantel/Pancode to an Access Control Device

The access-control device opens the door when the Pantel/Pancode triggers the access-control device. For this installation, the access-control device bypass "**Switch**" wires are connected to the "**N.O.**" and "**CMN**" terminals of the Pantel/Pancode. The door-lock relay wires are connected to the access-control device (see Figure 2-6.)



Figure 2-6. Access Control - Controlling Lock Relay

# 2.3 Connection Schematic

The Pantel/Pancode offers multiple wiring options.

• **Option 1:** For use with an external device, which requires the Pancode to be set up as "Normally Closed"

- **Option 2:** For use with an external device, which requires the Pancode to be set up as "Normally Open"
- **Option 3:** For use with powered-unlocked-state lock relay (most common)
- **Option 4:** For use with powered-locked-state lock relay (recommended for safety purposes in an

(recommended for safety purposes in an emergency situation)

The following schematic diagram shows the wiring plan for these four options.



#### PanCam/Pantel/Pancode Circuit (PCB Side)



# 2.4 Volume Control

The volume of the PanCam/Pantel/Pancode speaker can be adjusted using the volume controller located on the unit's back panel.

After installing the unit, test the volume. In case it is too low/high, remove the unit from the mounting bracket and adjust the volume using a small screwdriver.

# **3** Programming

Programming can be done from any telephone or extension on the PBX, using keypad DTMF tones. The following programming functions are discussed in this section:

- programming functions are discussed in this section:
  - Day/Night Mode Selection
  - Entering Programming ModeResetting the PanCam/Pantel/Pancode

# 3.1 Day/Night Mode Selection

Day and Night mode specify which of the programmed destination numbers, Day or Night number, will be called when the  $\triangle$  Call button is pressed. The operator can manually change the Day/Night mode.

# To Change the Day/Night Mode

- 1. Dial the PanCam/Pantel/Pancode line/extension from any touch-tone telephone.
- 2. Wait until the PanCam/Pantel/Pancode answers and beeps.
- Enter \*80 for Day Mode
  -or enter \*81 for Night Mode.

# 3.2 Entering Programming Mode

*Note:* You will hear a confirmation tone every time you enter a programming command.

# **To Enter Programming Mode**

- 1. Dial the PanCam/Pantel/Pancode line/extension from any touch-tone telephone.
- 2. Wait until the PanCam/Pantel/Pancode answers and beeps.
- 3. Dial \*900.
- 4. Enter the Programming Access Password (default password is 1234).

# <u>To Exit Programming Mode</u>

• Dial \*900

–or–

if no dialing occurs within 45 seconds, the program mode automatically exits.

#### 3.3 **Resetting the PanCam/Pantel/Pancode**

Resetting the PanCam/Pantel/Pancode will automatically change the parameters in the unit to the manufacturers default.

# To Reset the Unit

- Enter programming mode (see section 3.2, *Entering* 1. Programming Mode).
- 2. Dial \*151.
- A confirmation tone will be heard. 3
- 4. Exit programming mode.

### To Reset the Unit in "speed dial" mode (only **PanCam-C and Pancode**)

1.	Enter programming mode (see section 3.2,
	Entering Programming Mode).
2.	Dial *152.
3.	A confirmation tone will be heard.

4. Exit programming mode.

#### 3.4 **PanCam-T/Pantel Setup and Operation**

The following table contains programming functions, which can be accessed in the programming mode for Setup and operation.

OPERATION	COMMAND	DEFAU Γ
Day, Night	*360 + X + DN + #	Day = 0
destination	where:	Night $= 0$
numbers	X = 1; Day destination	
	X = 2; Night destination	
	DN = Up to 20 digits.	
	For special character	
	input, see section 3.6	
	Entering Special	
	Characters DTMF, on	
	page 21.	
Delete the	*360 + X + #	
destination	where:	
assignments	X = 1; Day destination	
-	X = 2; Night destination	

#### **PBX Parameter Commands**

Programming

OPERATION	COMMAND	DEFAU] Г
*For Pantel	*371 + X + YYYY	
Indoor ONLY:	where:	
Busy off/on time	X = 1; off time setup	500 msec
cadence setups for	X = 2; on time setup	500 msec
disconnecting the	YYYY = Cadence in	
line when the	step of 20 milliseconds	
destination is busy	_	
Digit(s) to open	*441 +XXXX + #	8
the door from any	where:	
extension	XXXX = Digits (0-9)	
	Note: Up to 4 digits	
Time between	*460 + X	2 (400ms)
DTMF's	where:	
	X = 1-9	
	(each step is 200 msec)	
Maximum time	*462 + XX	45 sec
for the line to be	XX = Seconds (10-99)	
opened (sec)	00 = Unlimited	
Door opening	*464 + X	3 sec
time limit (sec)	X = Seconds (1-9)	
Change the	*600 + New password	1234
system	(must be 4 digits).	
administrator's	Warning: Do not use *	
password	or # keys	
*For PanCam-T	*620 + X	0
Camera	X = 0 camera always	
instructions	off	
	X = 1 camera always on	
	X = 2 camera powered	
	when call button is	
	pressed	

### PanCam-C/Pancode Setup

The PanCam-C/Pancode can work in two modes of operation: Standard and Speed-dial.

In Standard mode, which is the default, the keypad requires direct dialing of extensions and numbers.

In Speed-Dial mode, keys 1-9 can be assigned destination phone numbers. When a key is pressed, the assigned destination number is dialed.

# 3.4.1 Selecting the Mode of Operation

#### To Set the PanCam-C/Pancode Operation Mode

1.	Dial the PanCam-C/Pancode line/extension from any
	touch-tone telephone.
2.	Wait until the PanCam-C/Pancode answers and
	beeps.
3.	Dial *900.
4.	Enter the Programming Access Password (default
	password is 1234.)
5.	For Standard Mode, dial *151 (See 3.5.2 for
	programming)
	-or-
	for Speed-Dial Mode, dial *152 (See 3.5.3 for
	programming).
Note:	After selecting the mode of operation by using *151 or
	*152, the unit will reset to default values for
	each mode.

# 3.4.2 Standard Setup

The following table contains programming functions, which can be accessed in the programming mode for Standard Setup operation.

OPERATIO]	COMMAND	DEFAU T
The Day/Night	*360 + X + DN + #	Day = 0
DN will be	where:	Night $= 0$
dialed when the	X = 1 Day	Error =
Call button	X = 2 Night	No
is pressed.	X = 3 Error	default
respective to	Destination number (DN) =	
Day/Night	Up to 20 digits, including	
mode. The	*,#, Pause, and A-D	
Error DN is	characters. For special	
dialed after	character input, see section	
receiving three	3.6 Entering Special	
invalid Access	Characters DTMF, on page	
Code entries in	21.	
a row		

#### **PBX Parameter Commands**

OPERATIO]	COMMAND	DEFAU T
Delete a	*360 + X + #	
destination	where:	
number	X = 1 Day	
assigned to	X = 2 Night	
Day, Night, or	X = 3 Error	
Error DNs.		
This command		
must be entered		
separately for		
each X value		
Programming	*170 + prefix-digit(s) + #	No
the prefix-	Maximum 4 digits	default
digit(s) for	(Do Not use * or # as prefix	
PBX	digit)	
extensions	-	
dialing. When	To cancel this operation,	
input to the	enter:	
PanCam-C/	*170 + #	
Pancode begins		
with these		
digits, the		
PanCam-C/		
Pancode will		
process them as		
extension		
dialing		
Pancode Indoor	*371	
only		
Digit(s) to open	*441 +XXXX + #	8
the door from	where:	
any extension	XXXX= Digits (0-9)	
	Note: Up to 4 digits.	

OPERATIO!	COMMAND	DEFAU T
Changing the	*442 + (New Access Code)	9876
Opening door	Access Codes can be up to	
Access Code	four numeric digits. If the	
	New Access Code is less	
	than four numeric digits,	
	press the # following the	
	entry of the digits.	
	Allowable characters are 0	
	through 9. Do not use the *	
	or # keys.	
	Note: The access code	
	cannot begin with the same	
	prefix digits as PBX	
Time between	*4(0 · X	2 (400)
DTME's	$*400 + \Lambda$	2 (400)
DIMF 8	$\mathbf{V} = 1.0$	
	A = 1-9 (each step is 200 msec)	
Conversation	*462 + XX	15 590
time limit (sec)	where:	45 300
unie mint (see)	XX = Seconds (10-99)	
	00 = Unlimited	
Door opening	*464 + X	3 sec
time limit (sec)	where:	
	X=Number of seconds(1-9)	
Changing the	*600 + (new password)	1234
programming	Programming access	
password	password must be four	
	numeric digits. Allowable	
	characters are 0 through 9.	
	Do not use the * or # keys.	
*For	*620 + X	0
PanCam-C	X = 0 camera always off	
Camera	X = 1 camera always on	
instructions	X = 2 camera powered	
	when call button is pressed	

# 3.4.3 Speed-Dial Setup

The following table contains programming functions, which can be accessed in the programming mode for Speed-Dial mode operation.

OPERATION	COMMAND	DEFAU Г
Assigning a Speed-dial destination number. This command must be entered separately for each X value	*120 + X + DN + # X = a digit 1 through 9 DN = Destination number (DN) = Up to 20 digits, including *, #, Pause, and A-D characters. For special character input, see section 3.6 <i>Entering Special</i> <i>Characters DTMF</i> .	No default
Cancelling a Speed-dial destination number. This command must be entered separately for each X value	* <b>120 + X + #</b> X = a digit 1 through 9	No default
Assigning Destination Numbers (DN) to Day, Night and Error. This command must be entered separately for each X value. The Day/Night DN will be dialed when the Call button is pressed, respective to Day/Night mode. The Error DN is dialed after receiving three invalid Access Code entries in a row	*360 + X + DN + # where: X = 1 Day X = 2 Night X = 3 Error Destination number (DN) = Up to 20 digits, including *, #, Pause, and A-D characters. For special character input, see section 3.6 Entering Special Characters DTMF.	Day = 0 Night = 0 Error = No default

# **PBX Parameter Commands**

OPERATION	COMMAND	DEFAU] Γ
Delete a	*360 + X + #	
destination	where:	
number assigned	X = 1 Day	
to Day, Night, or	X = 2 Night	
Error DNs. This	X = 3 Error	
command must be		
entered separately		
for each X value		
For Pancode	*371	
Indoor only		
Defining the	*441 + XXXX + #	8
digit(s) to open	XXXX= Digits (0-9)	
the door from any	Note: Up to 4 digits	
extension		
Changing the	*442 + 0XXX+#	0123
Opening door	0XXX = New Access	
Access Code	Code up to four digits.	
	The first digit of the	
	access code in Speed-	
	dial mode must be 0.	
	If the new access code	
	is less than four	
	numeric digits, press the	
	# key following entry of	
	the digits. The	
	allowable characters are	
	0 through 9. Do not use	
<b>TC</b> 1 (	the * or # keys.	100
Time between	*460 + X	400
DIMF's	where:	
	X = 1-9	
	(each step is 200 msec)	45
Conversation time	<b>*402 + XX</b> <b>VV</b> = Seconds (10,00)	45 sec
mint (sec)	AA = Seconds (10-99) OO = Unlimited	
Deerenaning	00 - 0 minimized	2
time limit (see)	$^{*}404 \pm \Lambda$ VV - Number of	5 sec
time mint (sec)	AA = Number OI	
	seconds (1-9)	

Programming

OPERATION	COMMAND	DEFAU] ſ
Changing the	*600 + (new password)	1234
programming	Programming access	
password	passwords must be four	
	numeric digits. The	
	allowable characters are	
	0 through 9. Do not use	
	the * or # keys.	
	4.680 77	0
*For PanCam-C	*620 + X	0
*For PanCam-C Camera	* <b>620 + X</b> X = 0 camera always	0
*For PanCam-C Camera instructions	*620 + X X = 0 camera always off	0
*For PanCam-C Camera instructions	*620 + X X = 0 camera always off X = 1 camera always on	0
*For PanCam-C Camera instructions	*620 + X X = 0 camera always off X = 1 camera always on X = 2 camera powered	0
*For PanCam-C Camera instructions	*620 + X X = 0 camera always off X = 1 camera always on X = 2 camera powered when call button is	0
*For PanCam-C Camera instructions	*620 + X X = 0 camera always off X = 1 camera always on X = 2 camera powered when call button is pressed	0
*For PanCam-C Camera instructions	*620 + X X = 0 camera always off X = 1 camera always on X = 2 camera powered when call button is pressed X = 3 powered by any	0

# 3.5 Entering Special Characters DTMF

Special characters can be entered using the keypad. The following table shows the corresponding keypad entries needed for DTMF of special characters.

DTMF CHA	NUMBER TO DIAL
Digits 0-9	0-9
*	**
Pause	*1, indicates a 1 second pause
#	*4
А	*5
В	*6
С	*7
D	*8

# 4 Specifications

# 4.1 General Specifications

Power Supply (External)	12V AC@1.6A (supplied with unit) 12-24V DC@1.6A (optional)			
Line Voltage	24-72V DC			
DC Leakage	< 10 ?A			
On-Hook Insulation (Resistance Between Line Terminal and Ground)	0-100V DC > 5M? 100-200 V DC > 30 K? 500V AC/50Hz > 20K? 100V AC/25Hz > 100K?			
Ring Capacitor	0.47 ?F ±10%			
<b>On-Hook Impedance</b>	@50V DC, 40V AC/25Hz>3000?			
Ring Detect	27-100 V AC/16-60 Hz			
DC Resistance (Off-Hook)	24-66V DC @ 20-100mA 350?			
Impedance (Off-Hook)	300-3400Hz 500-700?			
Imbalance Ratio	300-3400Hz > 46dB			
Return Loss	300-3400Hz > 18dB			
Current During Break	<700 ?A			
DTMF Transmission: Frequency Tolerance Frequency Level (High) Frequency Level (Low)	±1.5% -6 to -8dBm -8 to -10dBm			
Inter-Digit Pause Time	70-80ms			
Relay Switching Current	2A max			
Dimensions Outdoor Unit Indoor Unit	19.4cm x 10.2cm 18.5cm x 9.5cm			
Operating Temperature	Outdoor: -20% to +50% Indoor: 20% to +35%			

# 4.2 Camera Specifications

# 4.2.1 Black and White

Model no.	MK-03261C			
Image Sensor Device	1/3" interline transfer CCD			
Image Sensor Area	4.8mm x 3.6mm			
Horizontal Frequency	15.625KHz			
Vertical Frequency	50Hz			
Total Pixels	542(H) x 582(V)			
Scanning System	625 lines, 50 fields/sec CCIR			
Resolution	420 TVL horizontal			
Minimum Illumination	0.5 Lux at F2.0			
Electronic Shutter	Auto Electronic Shutter 1/50 to 1/100000 sec. Continual			
S/N Ratio	Better than 48 dB			
Video Signal Output	1.0Vp-p composite video signal at 75 ohm load			
Gamma Correction	0.45			
Gain Control	Auto Gain Control			
Power Supply	12V DC ±10% 1.2W			
Lens & View Angle	5.5 mm F5.5 / 60°			
<b>Operating Temperature</b>	-20°C to 55°C			
Operating Humidity	Within 85% RH			
Dimensions	32(W) x 32(H) x 18(D)			
Flick Less Shutter	Option on board			
Mirror Function	Option on board			
Scanning System	Interlace/non-interlace switchable on board			
Pin1: White	Video			
Pin 2: Black	GND			

# 4.2.2 Color

Model no.	MTV-54K0PI		
TV System	PAL		
Image Sensor	<sup>1</sup> /4-inch CCD Image Sensor		
CCD Total Pixels	542(H) x 586(V)		
Scanning System	625 lines, 50 fields/sec		
SYNC System	Internal		
Minimum Illumination	0.5 Lux F1.2 5600°K		
Resolution	380 TVL/470 TVL (Enhanced)		
S/N Ratio	52dB (MIN)/60dB(TYP) (AGC OFF)		
White Balance	ATW/AWB/FIX (Zero color rolling)		
White Balance Range	AWB, ATW(320010000°K) /FIX(3299°K)/		
Auto Iris	A.E.S.		
Electronic Shutter	1/50-1/120000 sec.		
Video Output	1.0Vp-p composite video signal at 75 ohm		
Gamma Correction	0.45		
Mirror Function	Optional		
Digital Zoom (2X)	Optional		
Gain Control	AGC		
Power Supply	12V DC 85mA		
Lens & View Angle	$45^\circ > 0.7 \text{ mm}$		
<b>Operating Temperature</b>	-20°C to 50°C		
<b>Operating Humidity</b> PanCam/Pantel/Pancode Installation	Within 85% RH and Programming Manual 23		

Dimensions	32(W) x 32(H) x 19.5(D) mm
Pin 1: Red	+ 12V
Pin 2: Black	GND
Pin 3: White	Video
Pin 4: Black	GND

	PanCam		Pancode		Pantel	
	PanCam-C	PanCam-T	Outdoor	Indoor	Outdoor	Indoor
Installation	Outdoor	Outdoor	Outdoor	Indoor	Outdoor	Indoor
Case Type	Aluminum	Aluminum	Aluminum	Plastic	Aluminum	Plastic
Entry Access Code	Yes	N/A	Yes	Yes	N/A	N/A
Internal Door Opening Code from Any Extension	Yes	Yes	Yes	Yes	Yes	Yes
Day/Night Mode	Yes	Yes	Yes	Yes	Yes	Yes
Direct Dialing to any Extension	Yes	N/A	Yes	Yes	N/A	N/A
Busy and Disconnect Detection	Auto	Auto	Auto	No	Auto	Manual
Speed Dial Mode	Yes	N/A	Yes	Yes	N/A	N/A
16 DTMF Character Support	Yes	Yes	Yes	Yes	Yes	Yes
High Quality Speakerphone	Yes	Yes	Yes	Yes	Yes	Yes
Volume Control	Yes	Yes	Yes	Yes	Yes	Yes
Vandal Resistant	Yes	Yes	Yes	No	Yes	No
Supports 12V AC/DC	Yes	Yes	Yes	Yes	Yes	Yes
Supports 24V DC	Yes	Yes	Yes	No	Yes	No

# **5** Feature Overview