

SYSTEM DESCRIPTION for P4466/7/8 Video Transmitter Variants

EDD703778AA

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1 INTRODUCTION

This document provides an overview of the Thermal Camera types P4466 / P4467 / P4468 with particular attention to the video transmission variants designated /T2

This is an option available on all camera variants which provides an FCC part 90 compliant video transmission from the camera to a remote receiving unit, with 2 channels available at 2458MHz and 2474MHz

The camera variants are as follows:

Variant	Imaging Core Type	Spot Temp
P4466/T2	ASI (Raytheon AS2000)	No
P4466/S/T2	ASI (Raytheon AS2000)	Yes
P4467/T2	BST (Raytheon 200D)	No
P4467/S/T2	BST (Raytheon 200D)	Yes
P4468/T2	VOx (BAE SIM 205)	No

The spot temperature option, designated by /S in the part number, is offered on P4466 and P4467 where a spot temperature measurement module is fitted. This is not required on P4468.

2 SPECIFICATION

Refer DAS700567AN for camera specification

3 FUNCTIONAL DESCRIPTION

3.1 CAMERA

These cameras are handheld, battery-powered devices that contain a video camera which is sensitive to heat. Each camera contains an imager core and common power supply and secondary processing / control electronics.

The resulting image of the heat scene together with generated data is displayed to the user on an LCD screen at the rear. In addition the video signal to the display is made available to the user on a BNC connector and this signal is also the input used for the video transmitter option.

A connection for serial communications is also present enabling the user to control various camera functions via an RS232 protocol from a computer.

The following clock rates are present in the cameras:

Variant	Clock Use	Frequency (MHz)
P4466/T2	Video Clock	6.137
P4466/S/T2	Video Clock	6.137
P4467/T2	Video Clock	6.07
P4467/S/T2	Video Clock	6.07
P4468/T2	Video Clock	12.273
All	Microcontroller Clock	20.0
All	Colour Subcarrier * 4 (NTSC)	14.318
All	3V3 SMPS	1.40

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Variant	Clock Use	Frequency (MHz)
All	10.6V SMPS	0.5
P4466/T2	3V SMPS	1.25
P4466/S/T2	3V SMPS	1.25

3.2 VIDEO TRANSMITTER FUNCTIONS

The video transmitter in camera variants /T2 is a module MicroTek Part number 2.4 TA-90-2-TAB Supplied by MicroTek Electronics, PO Box 3464, San Clemente, California CA92674, USA
The modules are approved under FCC ID JRR24TA-90IR

The module is mounted on Front PCB DAS700673AA, this board mounts into the case front. See also drawing DAS700673AD circuit diagram of Front PCB.

The video input for the transmitter comes from a video line driver in the camera assembly.

The module is supplied with a regulated 10.6V which is switched to turn the transmitter on. This is under the control of the camera microcontroller. Switching the transmitter on is achieved by a push button on the camera or by serial command.

Channel selection on the transmitter is achieved by pulling the control line to the 0V line, this is under control of the camera microcontroller. The selection may be made by holding the button as the transmitter is turned on, at which point the channel selection cycles through the options, or by serial command.

The RF output of the transmitter is via a 3dB attenuator, a lead of conformable co-axial cable to a sealed SMA connector mounted in the case. The antenna supplied with the transmitter is fitted to this, and is therefore outside the case volume and screening.

Also present on the Front PCB are the external connections to the front of the camera (BNC video, RS232, ambient temperature) and the optional spot temperature module. Connection to the rest of the camera is by way of a 16 way flat flexible cable.

3.3 VIDEO TRANSMITTER MODULE and ANTENNA

This is a bought complete item without any user adjustment facilities. Refer to module data in FCC grant JRR24TA-90IR

DOCUMENT AMENDMENT RECORD

Issue	Issue Date	Change Request	Reasons for Change
1	19 Aug 2003	411/7952	First Issue

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