

Model AR-500 Trans•View

Color Image Facsimile System

(PRELIMINARY EDITION - REFERENCE ONLY)

Instruction Manual

AOR, Ltd.
Communication Products & Systems

Model AR-500 TransView

Color Image Facsimile System

(DECLASSIFIED EDITION - APPROVED ONLY)

Instruction Manual

AGF, Ltd.

Communications Products Division

Scanned by J2JPRR (a.k.a. P4032661) on 7/1/2011

FCC NOTICE

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, had cause interference to radio communications. This equipment has been tested and found to well exceed the limit for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. If this equipment does cause interference to radio or television reception, which you can determine by turning the equipment off and on, try to correct the interference by one or more of the following measures:

- Move the computing device away from the receiver being interfered with.
- Relocate the computing device with respect to the receiver.
- Re-orient the receiving antenna.
- Plug the computing device into a different AC outlet so that the computing device and receiver are on different branch circuits.
- Disconnect and remove any I/O cables that are not being used.
(Unterminated I/O cables are a potential source of high RF emission levels.)

If you need additional help, consult your dealer or ask for assistance from the manufacturer. You may also find the following booklet helpful : " How to Identify and Resolve Radio-TV Interference Problems. " This booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402, Stock No. 004-000-00345-4.

AR-500 Instruction Manual
© 1993 AOR, Ltd. Tokyo Japan
by T. Totsuka Consulting Group, Ltd. Torrance, California
All Rights Reserved.

Trademarks

*AOR is a registered trademark of AOR, Ltd.
Trans View is a trademark of AOR, Ltd.*

1. SPECIFICATIONS

□ Product	AR-500 Still Image Color Facsimile System
□ Operating Mode	AOR original SCFM format and protocol Color 48, 72 second mode Black & White 24, 36 second mode
□ Video Input / Output	PAL Asynchronous 4fs sampling / 75Ω 1V p-p
□ Decoder Input	0dBs (+10dBs to -30dBs)
□ Encoder Output	0dBs
□ Image Memory	1 Frame (Maximum 4 by optional memory.)
□ Modulation	VCO modulation by DSP
□ Demodulation	Arctangent Angle demodulation by DSP
□ Color Decoding	Digitally processed by DSP
□ Processor	TMS-320 16-bit DSP
□ COM. port	: DE-9S for expansion and Interface to PC or Special mouse for drawing
□ Power Requirement	DC 13.8V ± 1.5V at minimum 500 mA. 350 mA for typical power consumption.
□ Dimensions	140 x 40 x 215 mm - 5.5 x 1.5 x 8.5 inch
□ Weight	950 grams (1.5 lb.)
□ Accessories Supplied	DC power cord, 5pin DIN plug, 8pin Radio plug, VIDEO cable and Instruction Manual.

AOR, Ltd. reserves the right to discontinue products and changes specifications at any time without incurring any obligations to incorporate new features in products previously sold.

1. SPECIFICATIONS

1) Power	100 W (300 W surge) Class 2, Double Insulated System
2) Operating modes	100 W output (230 V) for normal and portable 100 W-40 W (230 V) for normal Power > 100 W (230 V) for normal and portable
3) Motor type / Size (mm)	IMB - asynchronous 40 rotating / 100 / 100 mm
4) Motor speed	1400 rpm (1420 rpm)
5) Motor load (kg)	0.6 kg
6) Weight (kg)	1.4 kg (max) (with optional accessories)
7) Material	ABS (main body) and PP
8) Drive connection	4-wire system (4-wire connection for 230 V)
9) Drive technology	Digitally controlled by DSP
10) Voltage	100-230 V AC 50 Hz
11) ICHC and efficiency (%)	100 W for operation with efficiency > 40% in operation (normal for drawing)
12) Drive displacement	100 W (230 V) 1.2 L for normal and 100 W 200 W for typical normal (normal)
13) Dimensions	100 x 100 x 100 mm, 1.2 x 1.2 x 1.2 mm
14) Weight	1.4 kg (max)
15) Accessories included	100 W power cord (230 V) and 100 W power plug (100 W) and 100 W power cord

100 W, 100 W (230 V) 1.2 L for normal and 100 W 200 W for typical normal (normal) and 100 W (230 V) 1.2 L for normal and 100 W 200 W for typical normal (normal)

2. INTRODUCTION

2-1. GENERAL DESCRIPTION

AOR model AR-500 **Trans•View** is the latest addition to the AOR's growing family of Imaging Communication Products.

The **Trans•View** has been designed for the two-way video communications. It is capable of transmit and receive full-color, television-quality still images, over **standard** analog radio, telephone and cellular lines.

The **Trans•View** is ideal for Business, Commercial and Professional users. For example; In advertising agencies and manufacturing firms who need to transmit and receive high-quality, high-resolution pictures, diagrams, engineering drawings, etc., without regard to time and distance constrains.

The **Trans•View** is also ideal for the public safety, military, security and news/broadcast applications where traditional video transmission for a distant point are impossible. Since the **Trans•View** can easily be adapted to an existing voice grade circuit, including land mobile radio, maritime radio, airborne radio, long distance SSB radio and even through satellite link.

The **Trans•View** is using advanced DSP Technology to offer superior picture quality and extremely simple operation. Intelligent design of the unit allows stand alone operation. No PCs are absolutely necessary. It's DC operation and compact size allows even mobile operation.

Extra fine and standard resolutions are provided for both full color and Black & White operation. Image frame memory, Telephone line interface, Built-in Microphone relay, Computer interface, DAT compatible recorder jack, Monitor speaker, Rugged metal case, DC operation are all standard features of the **Trans•View**.

2-2. EQUIPMENT LIST

AR-500 Trans•View

At least two AR-500s are needed. One for originating station and the one for distant station. The unit is designed to run DC 13.8V power source so that you may need to hock-up car battery for mobile use.

2 INTRODUCTION

2-1 GENERAL DESCRIPTION

ACE model AC-501 TreeFlow is the latest addition to the ACE's growing family of Frequency Conversion Systems.

The TreeFlow system is designed for the two-way voice communication. It is capable of hybrid and remote full-time, bidirectionally all bridges and standard analog radio, telephone or satellite line.

The TreeFlow is used for Marine, Commercial and Professional uses. For example in advertising agencies and manufacturing firms who need to expand their mobile capability. Maintenance systems, diagnosis, engineering drawings, etc., which depend on time and distance sensitive.

The TreeFlow is also used for the public safety, within security and non-authorized operations where traditional radio communication is a better job. It can be used for: from the TreeFlow can easily be adapted to an existing analog radio system, including base mobile radio, mobile radio, vehicle radio, long distance SC radio and even foreign satellite link.

The TreeFlow is also advanced DSP technology to offer superior digital quality and extremely sharp spectrum, frequency design of the unit does not affect the spectrum. No PC is absolutely necessary. In DC operation compact size about even mobile operation.

Also for this standard check list we covered at least for voice and data (with exception). Ingec Name manual, Telephone line interface, built-in microphone relay, Computer interface, DC conversion security, power speaker, rugged metal case. DC operation are of standard features of the TreeFlow.

2-2 EQUIPMENT LIST

AC-501 TreeFlow

A complete kit for use is included. One for receiving station and the one for direct station. The unit is designed to suit DC, USB power source so that you may need to find a power supply for portable use.

MEDIA EQUIPMENT

In addition to the AR-500 and power supply, the **media** is needed.

Typical media for the **Trans•View** is a standard telephone line or radio equipment such as transceiver, transmitter or receiver. The **Trans•View** is not a media sensitive equipment thus Cellular phone, IMTS and satellite link can be used.

For an one-way image distribution by radio wave, you may replace receiving side to a conventional scanners or receivers.

IMAGE CAPTURE DEVICE

A commercially-available image capturing device namely; camcorder, electronic camera, Video tape recorder, Image scanner or VCR etc. The device must have video output for connection. The **Trans•View** is also designed to accept a Black & White device, such as CCD camera, Infrared camera or low light camera that has compatible video output.

IMAGE DISPLAY DEVICE

A commercially-available image display device namely; TV, TV monitor, Video Printer or a flat-panel LCD monitor, etc. The device must have video input.

2-3. APPLICATIONS

As a result of extensive market research, AOR found that **Trans•View** has application beyond commercial use. Potential **Trans•View** application include distant learning, presentation, remote consultation, experts extension, design exchange, concept exchange, field service assessment- maintenance, remote surveillance, remote security and news gatherings.

In Medical Emergency application when the system is tied to existing telephone or cellular phone, the **Trans•View** could be used as a part of remote treatment by allowing doctors to see and discuss special procedures and / or pharmaceutical updates etc., as part of second option remote consultations.

In Field Engineering / Construction / Manufacturing, the **Trans•View** would allow for the image transmission from a remote site, or can be exchange of engineering drawings, blueprints, parts and components, and proto type models.

MEDIA ELEMENT

It connects to the USB port and power supply, the media is loaded.

Special media for the TransView is a dedicated computer that is made especially built as for a desktop computer or notebook. The TransView is not a mobile media equipment for Cellar phone, still, and available for use by user.

For an example image illustration for mobile phone, see this option creating job for a computer-based system at research.

IMAGE CAPTURE DEVICE

A commercially-available image capturing device normally connected, external camera. When used together, image capture is YCC also. The device must have video output for connection. The TransView is also designed to accept a video & still camera, such as CCD camera. Please contact us for full details for this capability in the next.

IMAGE DISPLAY DEVICE

A commercially-available image display device normally TV, 5" monitor, Active Matrix or a large panel LCD monitor, etc. The device must have standard

2-3. APPLICATIONS

At a least of automatic letter search, a CR based that TransView has capabilities beyond conventional one. Mostly TransView application feature device testing, production, image construction, object extraction, image exchange, image exchange. Not some themselves. Applications, speed, available, image search and image printing.

In which the camera construction when the camera is not working, separate it camera system. The TransView could be used as a part of vehicle mounted by allowing camera to see and show good pictures and I'll provide a computer etc. as part of second application-computer.

In Real Engineering Construction / Manufacturing, the TransView provides the 3D image treatment that is useful etc. it can be technique of engineering drawings, assembly, parts and components, and parts list sheets.

For the Security and Military use, when the low right camera is connected, the still image from the remote site can be obtained just like a picture taken by surveillance camera.

The figure 1 and table 1 shows typical combination of the **Trans•View** and associated video equipment list.

3. INSTALLATION

3-1. GENERAL

Before you can perform " Operational Test "; which follows in this section, you will have to properly connect your **Trans•View** to an image capture device and image display device. In addition, you will have to connect the **Trans•View** to your media equipment such as telephone line, radio transceiver, etc.

It is beyond the scope of this manual to show you how to connect your **Trans•View** to every kind of media equipment. It does however, provide you with information for common media equipments. If your particular equipment is not listed, you can probably adapt the information that is presented to suit your needs. The supplied information is based on the connection to public telephone line and radio equipment as a guide line of system setup.

3-2. CAPTURE DEVICE

Refer to Figure 2 while you read the information. The **Trans•View** can accept only the video device that is complied with NTSC (National Television Standard Committee) composite video format. Video devices such as video camera, camcorder sold in the United States are comply with this format. Connect Video output to the **VIDEO IN** jack of the front panel using shielded cable with RCA plugs on both end.

3-3. DISPLAY DEVICE

Depending upon your system layout, you can connect Image display device to the **VIDEO OUT** jack of the rear panel. The display device must have composite video input. For two-way video communication, you will need to connect display device to this jack on both stations.

For the Security and Safety use, when the Test Eye camera is connected, the still image for the remote display can be obtained, but the actual image taken by the camera is hidden.

See Figure 1 and Table 1. About special construction of the TestEye and special test video equipment etc.

3. INSTALLATION

3-1. GENERAL

Before you use product "Construction Test", please follow the following. You will have to properly connect your TestEye to an image capture device and image display device. In addition, you will have to connect the TestEye to your video equipment such as telecamera line, video transmission, etc.

It is beyond the scope of this manual to show you how to connect your TestEye to your kind of remote equipment. It does, however, provide you with information by common video equipment. If your particular equipment is not listed, you can probably adapt the connection that is provided in all our video cables. The correct information is listed on the connection to video equipment line and video equipment as a guideline of system setup.

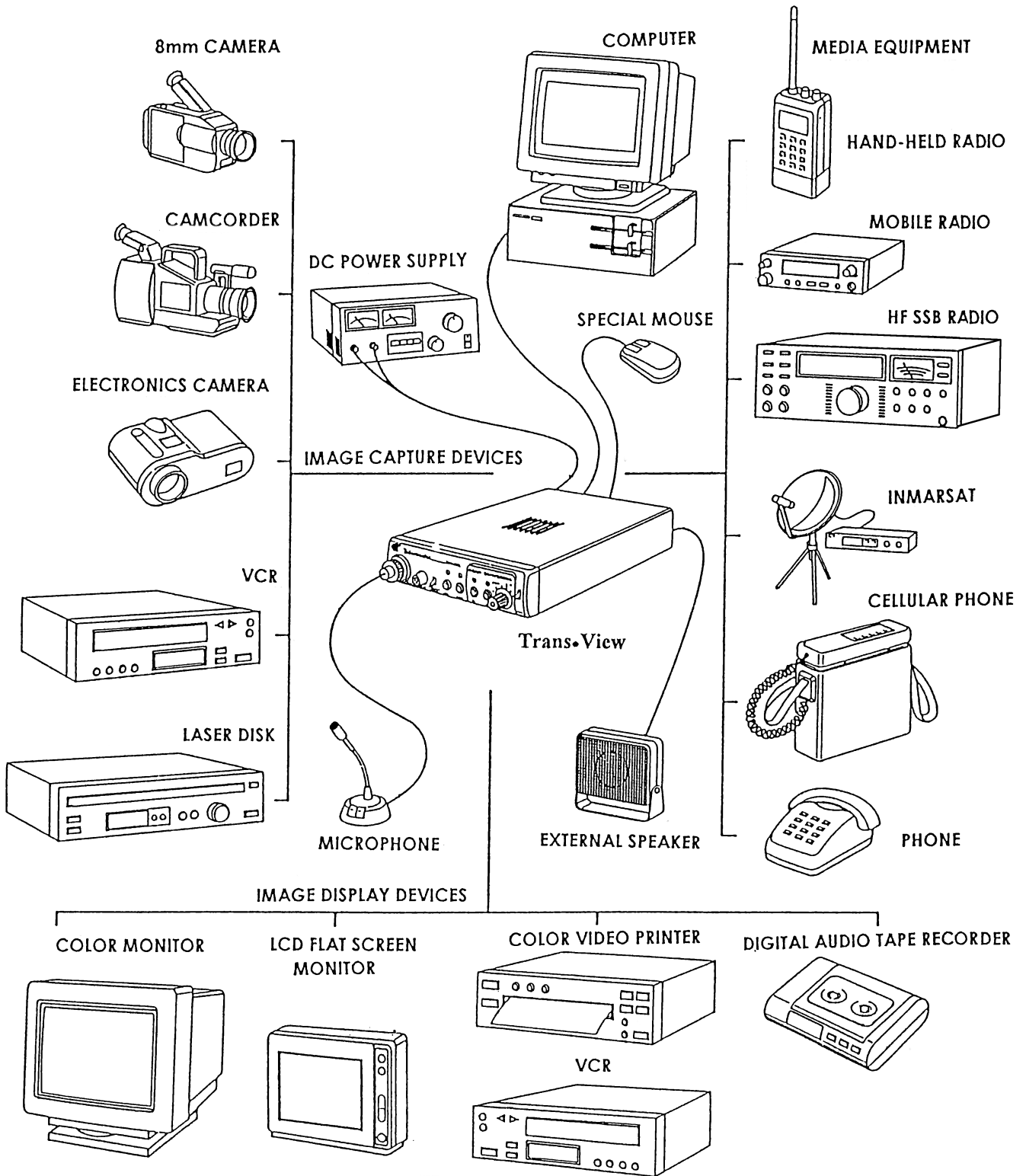
3-2. CAMERA DEVICE

Refer to Figure 2 and the you need the information. The TestEye can accept only the video device that is connected with VCC. Existing standard standard Composite composite video format. Video device can be used (green, standard and Y). The other types are not supported. Connect video output to the VIDEO IN port of the first panel using standard cable with BNC plug on both ends.

3-3. DISPLAY DEVICE

Depending on your video format, you can connect image display device to the VIDEO OUT of the TestEye. The display device that have composite video input. The feature video connection, you will need to connect video device to the TestEye's output.

Figure 1
EQUIPMENT SETUP



**Table 1
EQUIPMENT LIST**

Equipment List	Special Note	MOD.
SOURCE IMAGE		
Composite Video Camera	Need to have NTSC color Video format	1
Camcorder	VIDEO output is required.	1
8mm Video	VIDEO output is required.	1
Electronic Camera	VIDEO output is required.	1
VCR	Can be used to send pre-recorded image.	1
DAT	Can be used to send pre-recorded image.	1
Laser Disk	Check copyright law. (Private use only.)	1
DISPLAY & LOCAL MONITOR		
Monitor TV	VIDEO input is required. (Monitor local image.)	1
Flat LCD Display	VIDEO input is required. (Monitor local image.)	1
Video Printer	Print incoming image.	1
RECORDING		
VCR	Record image from a distant station.	1
DAT (Digital Audio Tape)	Record image from a distant station.	1
MEDIA		
Mobile Radio	Ideal for short range.	2
Hand-held radio	Ideal for field use.	2
HF SSB Transceiver	Ideal for long distance.	2
INMARSAT-C	International maritime phone.	2
Cellular Phone	To access public telephone link.	2
IMTS Phone	To access public telephone line.	2
Telephone	To access public telephone line.	1
Receiver / Scanner	To receive broadcasted image.	1
ACCESSORY		
PC	Image enhancement	2
Mouse	Add drawing to the image.	2
Super imposer	Add characters or other effects to the image.	2
Video Tiller	Add characters or other effects to the image.	2

MOD : This column indicate the level of interfacing.

1- Almost no modifications are required.

2- Must provide interface cable and level adjustment.

Table 1 EQUIPMENT LIST

Assessment No.	Description	QTY
GENERAL EQUIP		
Computer/Printer/Scanner	Based on Survey/IT/ other major demand	1
Chair/Desk	ASST based & required	1
Power/View	ASST based & required	1
Electronic/Internet	ASST based & required	1
Tool	Construction tools as per the demand/requirement	1
Cell	For the need of mobile phone/communication	1
Label/Tag	ASST/Requirement based on the demand	1
OFFICE & GENERAL UTILITY		
Projector	ASST based & required (ASST/other demand)	1
Photocopy Machine	ASST based & required (ASST/other demand)	1
Other Utility	Per the demand/requirement	1
STATIONERY		
Pen	Based on demand/requirement	1
Ball Point/Marker/Stamp	Based on demand/requirement	1
OTHER		
Security Guard	Security Guard based	1
Food/Refreshment	Security Guard use	1
Water/Refreshment	Security Guard use	1
Handkerchief	Handkerchief/requirement based	1
Table/Chair	For security guard/refreshment use	1
IT/Printer	For security guard/refreshment use	1
Telephone	For security guard/refreshment use	1
Refrigerator/Generator	For security guard/refreshment use	1
LABORATORY		
IT	ASST/Requirement based	1
Water	For laboratory use/refreshment	1
Handkerchief	For laboratory use/refreshment	1
Other Utility	For laboratory use/refreshment	1

NOTE: The above information is for the information.

1. Based on demand/requirement per the need.

2. For the purpose of information only and not for requirement.

3-4. PUBLIC TELEPHONE LINE CONNECTION

You can use **TEL** and **LINE** modular jacks to connect **Trans•View** to a public telephone line.

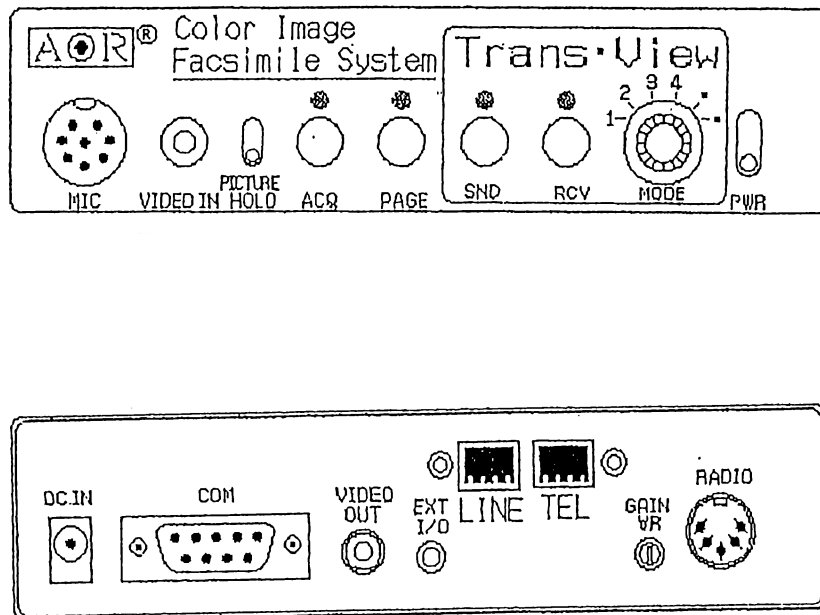
Connect telephone set to the **TEL** and connect telephone line to the **LINE** using cables with modular type plugs.

3-5. RADIO CONNECTIONS

You can use the **RADIO** jack to connect radio equipment such as transceiver.

The front panel **MIC** jack is provided for a connection of microphone. You may connect hand-held microphone to this jack if you want to use your radio for both voice and video transmission. Microphone circuit is disabled when the **Trans•View** is transmitting video signal.

Figure 2
Front & Rear Panel



3-4. PUBLIC TELEPHONE LINE CONNECTION

You can use the RL 2400 (see model 3474 in manual) base for to connect base for to public telephone line.

Connect telephone set to the RL 2400 external telephone line by the 2400 ring center with outside telephone.

3-5. RADIO CONNECTIONS

You can use the 8400 base to connect radio equipment as follows:

The RL 2400 base has 4 jacks for a connection of microphone. You may connect business telephone in the RL 2400 and want to use base radio for both voice and video transmission. Microphone circuit is disabled when the base for a handset is plugged in.

Figure 3
Front & Side View



Figure 2-1 shows the connections for the **RADIO** jack. A DIN connector that fits this jack is provided. You will have to use high quality shielded cable to make radio cable.

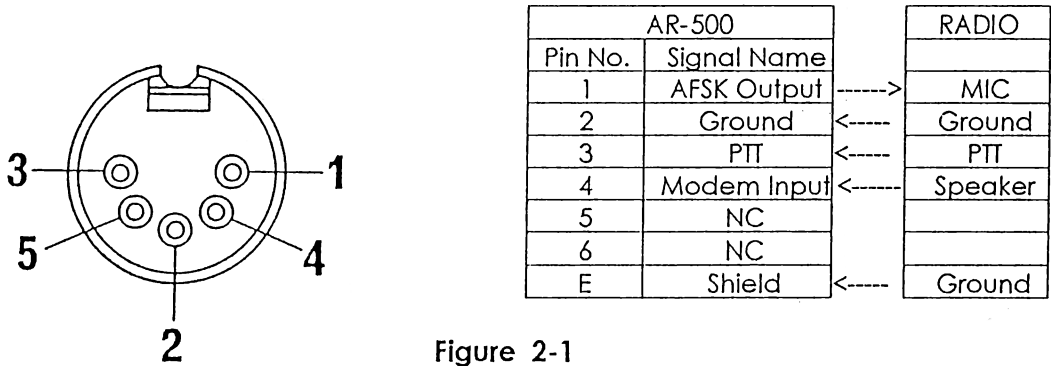
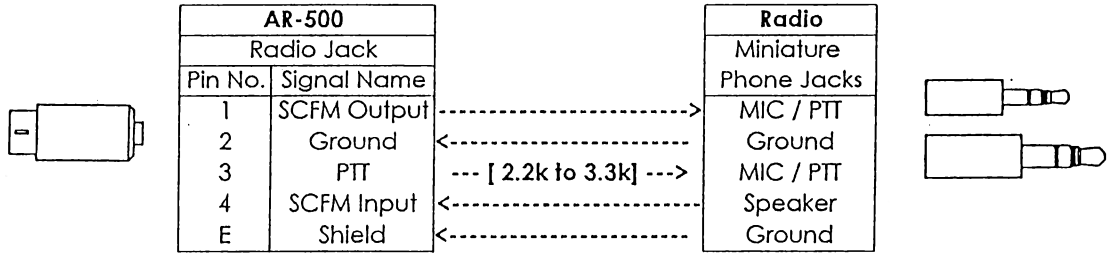


Figure 2-1
DIN connector

Most of the portable hand-held transceivers and mobile transceivers should work with the **Trans•View** with no special modifications.

Typical portable transceiver connections



Typical mobile transceiver connections

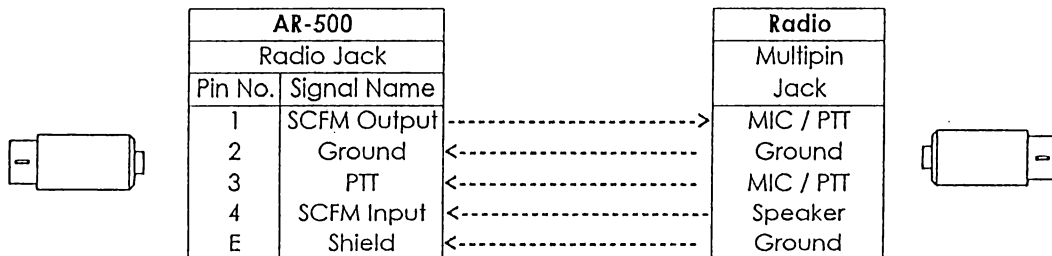


Figure 2-1 shows the connector for the 94880 pack. A 10k resistor (R1) is the pull-up provided. This will have to be high quality checked data to make sure it's stable.

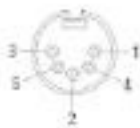


Figure 2-1
10k resistor

Most of the possible forbidden hardware and mode hardware should work with the above view with no special restrictions.

Hardware pack for 94880 connector



Hardware pack for 94880 connector

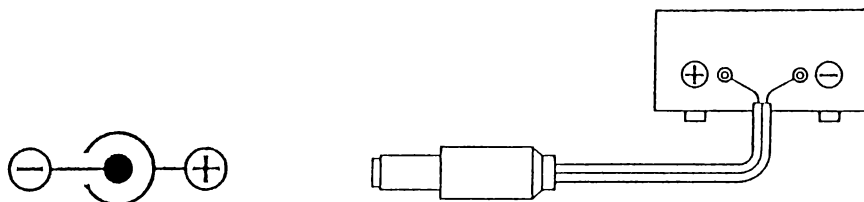


Figure 2-1

3.5 POWER SOURCE

To power your **Trans•View**, you will either need an external power supply or a battery. An external power supply must be able to provide 10 to 13.8 VDC at 500mA. The black/red power cord which comes with the **Trans•View** can be used to connect the power source. Refer to Figure 3.

Figure 3
DC POWER SOURCE



4. OPERATION

This section describes operational tests you can perform to make sure your **Trans•View** is connected and operating properly. This section also describes the function of each controls, indicators and jacks. Refer to figure 2.

4-1. OPERATIONAL TESTS AND ADJUSTMENT

TELEPHONE EQUIPMENT

PRELIMINARY TEST - ACQUIRE IMAGE

Make sure you have the **Trans•View** connected to a suitable power source. Also make sure you have the **Trans•View** connected to your telephone line, video capturing device and video display device as described in the "INSTALLATION" section of this manual.

1. Turn the **POWER** switch ON. Some LEDs may light briefly and then extinguish. If the **PICTURE HOLD** switch is OFF (Down), the **RX LED** should light.

3.6 POWER SOURCE

To power your TestFree, you will either need an external power source or a battery. An external power source must be able to provide 12 to 128 VDC up to 500mA. The included power cord which comes with the TestFree can be used to connect to a power source. Refer to Figure 3.

Figure 3:
AC POWER SOURCE



4. OPERATION

Do not use devices connected with the unit unless you have read and TestFree is connected and operating properly. The user can observe the function of each control indicator provided. Refer to Figure 3.

4-1. OPERATIONAL TESTS AND ADJUSTMENT

TESTING EQUIPMENT

PRELIMINARY TEST - AC POWER SOURCE

With the TestFree connected to a suitable power source. Add water and the TestFree connected to your telephone line, when operating device and when display device is displayed in the "INSTALLATION" section of the manual.

1. Turn the POWER switch ON. Some LEDs may light briefly and then extinguish if the ELECTRICAL SWITCH (ON) (OFF) - THE ELECTRICAL SWITCH.

2. If the **PICTURE HOLD** switch is not an OFF position, turn this switch downward.
3. Push **ACQ** switch once. The **ACQ LED** start blinking. If the video camera is connected, you will see the picture from the monitor screen. If no picture is seen from the screen, you must check your video source. (If you use camcorder as a video source, make sure that the camera is recording.)
4. Push **ACQ** switch once again. The **ACQ LED** stop blinking and may light. As soon as image from the camera is acquired by the **Trans•View**, this LED may extinguish and at the same time, you will see the still picture on the monitor TV.
5. If you wish to acquire different picture, do the above procedure 3 and 4.
6. Turn **PICTURE HOLD** switch to ON (Upward).
7. Push **ACQ** switch as described in 3.
8. Push **ACQ** once again as described in 4.
9. Push **ACQ** once again so that you can see the live picture from the camera. Once you push **ACQ** toggles between local live picture and the still picture in the **Trans•View's** video memory.

PRELIMINARY TEST - IMAGE TRANSMISSION & RECEPTION

To proceed this test, you may need other set of **Trans•View**.

1. Acquire image as described previous section.
2. Select transmission mode by **MODE** selector. Refer to Table 2 of each function.
3. Place a phone call to establish voice communication with the other end. Once voice communication is established, place your telephone handset away from the **Trans•View**. If your telephone equipment has mute switch, push it to mute the background noise.
4. Push **TX** switch momentary to start transmission. The **TX LED** will lit to indicate that the AR-500 is transmitting captured image. If you need to stop transmission, push the **RX** switch. This will force the **Trans•View** to stop transmitting.
4. At the distant station, first answer the phone call and place telephone handset away from the **Trans•View**, once the unit start receiving the image, the **RX LED** start brinks. This indicate that the unit is receiving image and at the same time the picture can be screen.

2. If the **PC200** video output is not in full motion, let the switch down.
3. Push **ACQ** when asked. The **ACQ** will need timing. If the video camera is connected, you will see the picture from the monitor screen. If no picture is seen from the screen, you must check your video source. (Do not let customer do a reset until you are sure that the camera is working.)
4. Push **ACQ** when prompted. The **ACQ** will stop taking over the light. It will do steps from the camera is isolated by the **FreeFlow**. The **ACQ** will relinquish control of the wire that you will use the off button on the remote TV.
5. If you wish to compare different profiles, do the above procedure 3 and 4.
6. Turn **PC200** back system back to speed 2.
7. Push **ACQ** when as described in 2.
8. Push **ACQ** when as described in 4.
9. Push **ACQ** when as described that you can see the live picture from the camera. Once you push **ACQ** happens between hand the picture and the off picture to the **FreeFlow**'s video camera.

FREEFLOW III - H440 WIRELESS A RECEIVING

To proceed to the test you must read the part of **FreeFlow**:

1. Antenna scope is receiving power is as follows:
2. Select transmitter mode by **MORE** button. Refer to Table 2 of user manual.
3. Make a phone call to receive voice communication with the other end. Once voice communication is established, press your telephone number once from the **FreeFlow**. If your telephone equipment is not in a cellular, push 9 to make the telephone tone.
4. Push **OK** when prompted to start transmission. The **TX** will do to include but the **TX** will be interrupting captured image. If you want to stop transmission, push the **OK** button. The off from the **FreeFlow** to stop transmitting.
5. At the other station, but covered, the phone call will please telephone equipment from the **FreeFlow**, press the call that recording the image for **TX** will do to take. The picture that the call transmitting image next of the screen that the picture can be seen.

5. Turn **PWR** switch to OFF. It will erase the image in the **Trans•View**.

RADIO EQUIPMENT

Operation through the radio equipment is almost same as the operation using telephone line. It is important that the radio link should be free from the noise to ensure highest quality picture transmission and reception. Be sure that the both transmit and receive station has same mode switch setting.

TABLE 2
Mode Switch

Mode Switch	Mode	Function
1	Black & White 24 second	For Black & White camera format. Transmit/Receive still image on 24 seconds. Standard Resolution : Approx. . 240 lines.
2	Black & White 36 second	For Black & White camera format. Transmit/Receive still image on 36 seconds. High Resolution : Approx. 480 lines.
3	Color 48 second	For Color camera format. Transmit/Receive still image on 48 seconds. Standard Resolution : Approx. 240 lines.
4	Color 72 second	For Color camera format. Transmit/Receive still image on 72 seconds. High Resolution : Approx. 480 lines.
.	OEM Mode	Not used. For future use.
.	OEM Mode	Not used. For future use.

4-2. SUMMARY OF CONTROLS

FRONT PANEL

PICTURE HOLD

Picture Hold switch

Activate and De-activate over drawn function by new image. If this switch is HOLD position, **Trans•View** will not capture new image.

ACQ	:	ACQUIRE SWITCH has two functions. When ; PICTURE HOLD - ON (UP) ACQ switch toggles between LOCAL IMAGE from the attached camera and IMAGE on the VIDEO MEMORY. PICTURE HOLD - OFF (DOWN) When acquiring the image, push this switch momentary to monitor the picture from camera. To capture the image, push this switch again.
PAGE	:	Page switch If an optional video memory is installed, push this switch page name the image in the memory. You can advance the page number from 1 to 4 repeatedly. No effect when no extra memory is installed.
TX	:	TRANSMIT SWITCH Push this switch momentary to transmit the captured image in the memory.
RX	:	RECEIVE SWITCH has two functions. Forced TX STOP : Push this switch momentary to stop transmission. Forced Receive : Push this switch to start reception on the mode selected by MODE switch.
MODE	:	MODE SWITCH - Refer to Table 2.
PWR	:	POWER On/Off If the PICTURE HOLD is off (DOWN) RX LED will lit when power is applied to Trans•View .
MIC		Connection for external microphone for voice communication.
VIDEO IN		Connect video camera, camcorder etc.

BACK PANEL

DC IN		Connect DC power source. Need DC 13.8V at minimum 500mA power supply. Use supplied Black/Red code to connect the power supply.
COM.	:	Communication Port for future expansion and options.
VIDEO OUT		Connect Video monitor, LCD display etc.
EXT. I/O	:	Auxiliary modulator and demodulator input/output port. Refer to section 5 of this manual.
EXT. SP		Connect External Speaker. When speaker is connected to this jack, internal speaker is disconnected. Use GAIN VR to adjust audio level.
LINE / TEL		Connect Telephone set and telephone line. Connect Telephone to TEL and telephone line to LINE using modular plug. Since Trans•View does not provide NCU (auto answer) functions, you must connect and answer the phone manually. Trans•View only support manual transmission and reception.
GAIN VR		Use to adjust the monitoring audio level.
RADIO		Provided for a connection to radio equipment. Refer to the section 3-4 of this manual.

4-3. ADJUSTMENTS

To optimize the performance of the **Trans•View**, some adjustments are needed. One adjustment you can do easily is the **GAIN VR** located on the back panel.

This control changes output from the internal monitor speaker or external speaker if it is connected.

If you need to adjust the monitor sound level, use this control. If your picture contains some noise, increase your radio's volume slightly and adjust this control for a comfortable monitoring level. Some controls and jumpers are inside of the **Trans•View**. Refer to figure 4-1 the location of controls and jumpers.

BACK PANEL

DC14	Disconnect power source. Turn DC 14 off if it is not the power supply. Do not plug. Buffered probe is used to connect the power supply.
COM	Connect ground lead for future expansion and options.
VIDEO OUT	Connect video monitor, 100-ohm cable.
DC 10	Audio interface and impedance handling port. Refer to section 3 of the manual.
DC 10	Connect ground speaker. When speaker is connected to the bus, internal speaker is disconnected. See COM 10 to adjust volume level.
LINE IN	Connect telephone set and telephone line. Connect telephone to DC 10 and telephone line to LINE IN port module (e.g., Intel Time/Line card not provided) (also connect) for data, volume control and power for phone module. Time/Line wire copper shield for noise and coupling.
DC 10	See to adjust the recording volume.
DC 10	Reserved for optional remote equipment. Refer to the section 3 of the manual.

4.3. ADJUSTMENTS

To obtain the best accuracy of the threshold, some adjustments are needed. One adjustment you can do before the **COM 10** mounted on the board panel.

The system changes output level for internal speaker or external speaker (if applicable).

If you need to adjust the threshold level, use the volume. If you prefer constant noise value, increase your volume value slightly and adjust the output for a comfortable monitoring level. Some controls need jumpers and holes of the Main/Line. Refer to figure 4-7 the location of volume and jumpers.

To access the main circuit board, be sure to disconnect all cables and power from the **Trans•View**. Remove 4 screws from the bottom of the unit. Then carefully remove the cabinet.

MODULATION LEVEL : Volume pot (VR-1) is provided to adjust the output level to your radio equipment.

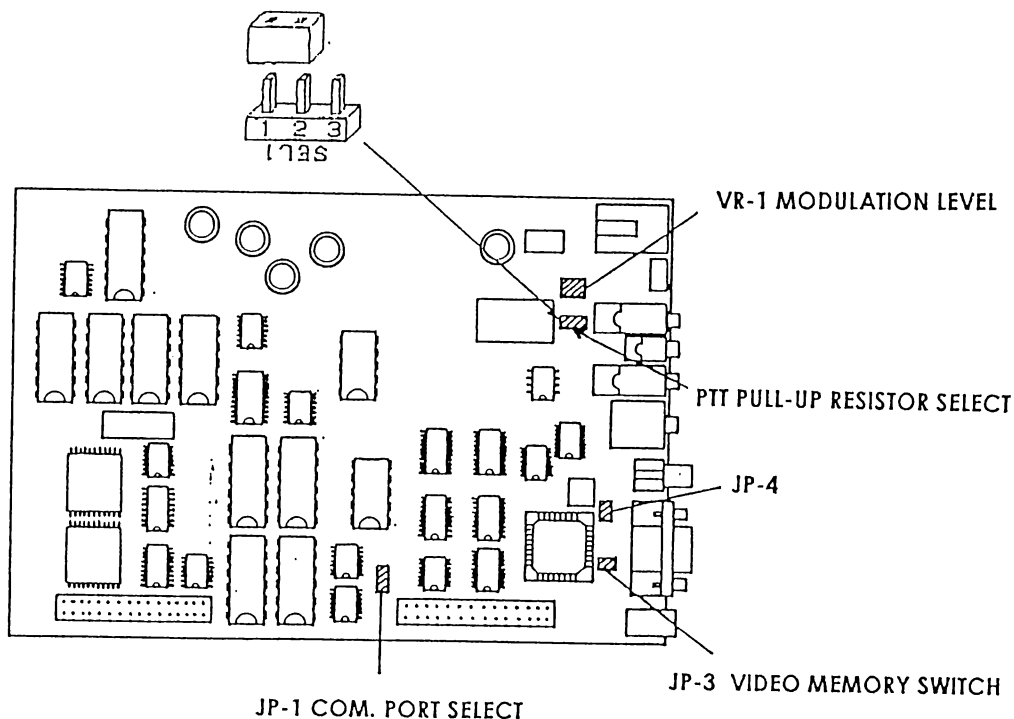
If the radio equipment does not provide you with the microphone gain control, use this volume pot to increase/decrease the output to your radio equipment.

COM. PORT SELECT : JP-1 selects the usage of DE-9S connector located on the back panel. When the jumper is removed, the port is for the connection to PC. The factory default is for a connection of optional serial mouse for drawing on the captured image.

SERIAL LEVEL SELECT : JP-4 is provided for a serial level selector. No need to change the setting.

OPTIONAL VIDEO MEMORY : JP-3 is provided for an optional video memory. No need to change the setting. Refer to the instruction comes with an optional video memory.

Figure 4-1
Control and Jumpers



To ensure the most ideal sound, be sure to disconnect all cables and wires from the Texas Instruments 4-speaker system before adjusting the level. Then carefully remove the covers:

WORKER LINE: Working on the left side is required to adjust the output level to your audio equipment.

If the radio equipment does not provide you with the maximum gain control, use the volume control to increase the output level to give better enjoyment.

COM. PORT INJECT: It is located on the right side of the front console located on the back cover. After the proper adjustment, the port is for the connection to PC. The factory default is for a connection or opening when you are drawing on the output mode.

MEDIA LEVEL INJECT: It is provided for a media level indicator. No need to change the setting.

SPECIAL VIDEO ADJUST: It is provided for an optional video receiver. No need to change the setting. Refer to the instruction manual with the optional accessories.

Figure 4-1
Control and Function



4-4. OPERATION USING EXTERNAL MICROPHONE Two-Way radio Application

The **Trans•View** has a built-in microphone relay. This means that you can use your radio equipment for both voice and video transmitter. If the microphone is connected to the **Trans•View**, you will see the following result.

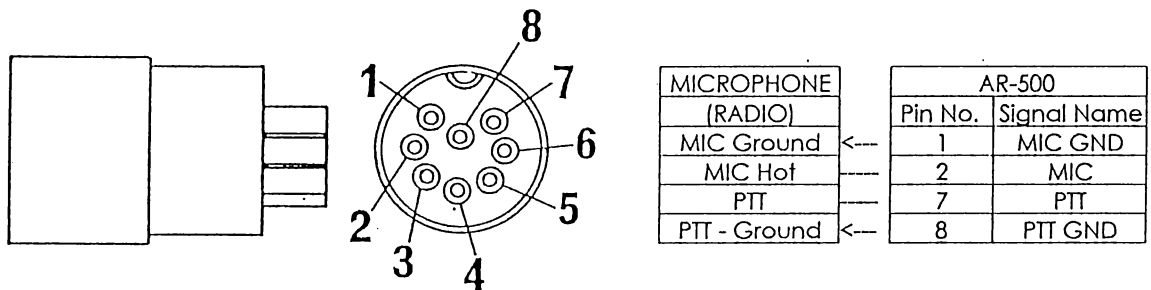
Trans•View is Off Normal voice operation.

Trans•View is On Normal voice operation when AR-500 is not transmitting.

Trans•View is TX When **Trans•View** is transmitting, microphone is disabled until video transmission is completed.

Note: When TX switch is pressed during the voice transmission, the **Trans•View** overrides the voice operation, and picture is being transmitted.

Figure 4-2 Microphone Connection



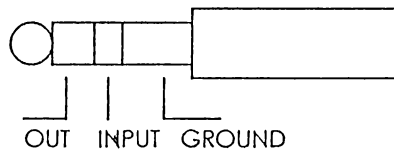
5. EXTENDED OPERATION & APPLICATIONS

EXT. I/O JACK

EXT. I/O jack is provided to connect high quality recording equipment, such as DAT and MD. Typical application is first recording receiving signal from the receiver, then apply the signal to produce the picture.

Reversely, you may record the picture through this jack and then apply the signal to your transmitter for transmission.

Use miniature stereo plug supplied with **Trans•View** to furnish EXT. I/O cable. Use high quality shield cable when you furnish the cable.



4.4. OPERATION USING EXTERNAL MICROPHONE Two-Way Radio Application

The Two-Way radio is a dual microphone setup. The design that you may use your radio equipment for both voice microphone operation. If the microphone is connected to the Two-Way you will use the following setup:

Two-Way to TR - Internal voice operation.

Two-Way to CH - Internal voice operation when all 200's are terminated.

Two-Way to CH - When Two-Way is terminated, microphone substitution of voice terminal is completed.

Note: When TR switch is closed using the voice formation, the Two-Way overrules the voice operation, and allows using the handset.

Figure 4-28 Impedance Converter



5. EXTENDED OPERATION & APPLICATIONS

LINE JACK

The LINE JACK is provided to connect high quality recording equipment to CH 10 or 11 and CH 1. Look at applications 5 for recording, mixing signal lines the receiver. For details for setup to provide the picture.

Normally you may record the picture through the jack and have audio the signal to your receiver for transmission.

The receiver when you connect with Two-Way to term-200, will continue through quality audio cable when you keep the cable.



FIGURE 4-29

MEMORY MODULE (OPTION) - P/N EM-3S

This option allows to store receiving (transmitting) image up to 4 frames. If the memory is installed, you can page the frame by PAGE switch on the front panel.

MOUSE (OPTION) - MM-100

This option allows to add lines, drawing on the image. Mouse unit is connected to 9-pin jack on the back panel.

APPLICATION

Figures 5-1 to 5-4 shows typical application on the **Trans•View** with different types of media equipment.

Figure 5-1 shows typical set-up with two-way radio equipment. Since the **Trans•View** uses in-band of voice signal, the radio can be a conventional two-way radio, trunked radio, VHF marine radio and more.

Figure 5-2 shows **Trans•View** uses as an color FAX alternative. If the VIDEO PRINTER is connected instead of TV monitor at receiving side, the printer prints video image taken by remote station.

Figure 5-3 shows **Trans•View** connected to telephone line. The operation of phone line is the same as cellular operation. First make a phone call and send a picture to a distant station.

6. IN CASE OF DIFFICULTY

Your **Trans•View** was thoroughly checked at the factory to make sure it operates properly prior to shipment. In most case, any problem you experience with the unit will be external (wiring or configuration, etc.). The following "Troubleshooting Guide" should help you determine several common problems.

□ SYNCHRONIZATION ERROR

Although, the **Trans•View** has an AFC circuit to compensate frequency error, you must tune your receiver within +/- 100 Hz. (When using SSB mode.)

Also you must check whether the signal contains outside noise. Some noise will appear on the displayed image but heavier noise causes the synchronization error.

The system cannot be used normally. Please check the following points. If the system is restored, you can enjoy the features by the TV included in the installation kit.

MONITOR SYSTEM

MAL-100

The system does not work properly. Please check the following points. If the system is restored, you can enjoy the features by the TV included in the installation kit.

REPLACEMENT

Figure 3-1 to 3-4 show typical connections of the TrueView with different types of audio equipment.

Figure 3-1 shows typical set-up with two-way audio equipment. When the TrueView can be kind of voice agent. The table can be a conventional two-way audio equipment. All stereo audio equipment.

Figure 3-2 shows TrueView can connect with FM stereo. If the PCDD (PCDD) is a connected external TV. Instead of receiving data, the video signal will be taken by external video.

Figure 3-3 shows TrueView connected to telephone line. The operation of phone line is the same as usual connection. The video signal will not be taken by phone line in this case.

A. IN CASE OF DIFFICULTY

Your TrueView was thoroughly checked at the factory to make sure it operates properly prior to shipment. In most cases, the solution you experience with the unit will be external wiring or faulty audio, video, or following "Troubleshooting Guide" should resolve the problem. Please contact your dealer.

1. TROUBLESHOOTING

Although the TrueView has an ARC cable to compensate frequency with external video equipment within EDMS, after using EDMS (see 1).

Always read about whether the signal controls of this unit. Some items will appear on the manual (page 3-4) to make some errors for troubleshooting with.

□ AUTOMATIC START

When using SSB mode, be sure that the receiver is tuned to proper frequency. Also make sure that the received signal does not contain heavy outside noise. Check that the PICTURE HOLD switch is OFF (Down) position.

□ NO PICTURE

When you apply the power to the **Trans•View**, you will see the plain gray screen if the local monitor is connected. Be sure that the Camera's power is on. If you use a Camcorder as a camera, be sure that the camcorder is recording position.

TECHNICAL NOTE :

The format using **Trans•View** is an SCFM. The picture is converted to the audio signal between 1,500 Hz and 2,300 Hz with synchronization signal of 1,200 Hz.

Always check your receiver's frequency when operating by SSB mode. Use FM mode if you checkup the system.

SERVICE INFORMATION

If for any reason that service is required, please contact your dealer where the unit was purchased from. If you have difficulty in obtaining service from your local dealer, please contact us direct.

Please include full explanation of the trouble or symptoms together with the detail of associated equipment.

AOR, Ltd.
2-6-4 Misuji, Taito-Ku, Tokyo 110 Japan

Telephone : 81-3-3865-1681
Facsimile : 81-3-3865-1697

Attention : Customer Service Department

Figure 5-1 Trans•View for TWO-WAY Radio

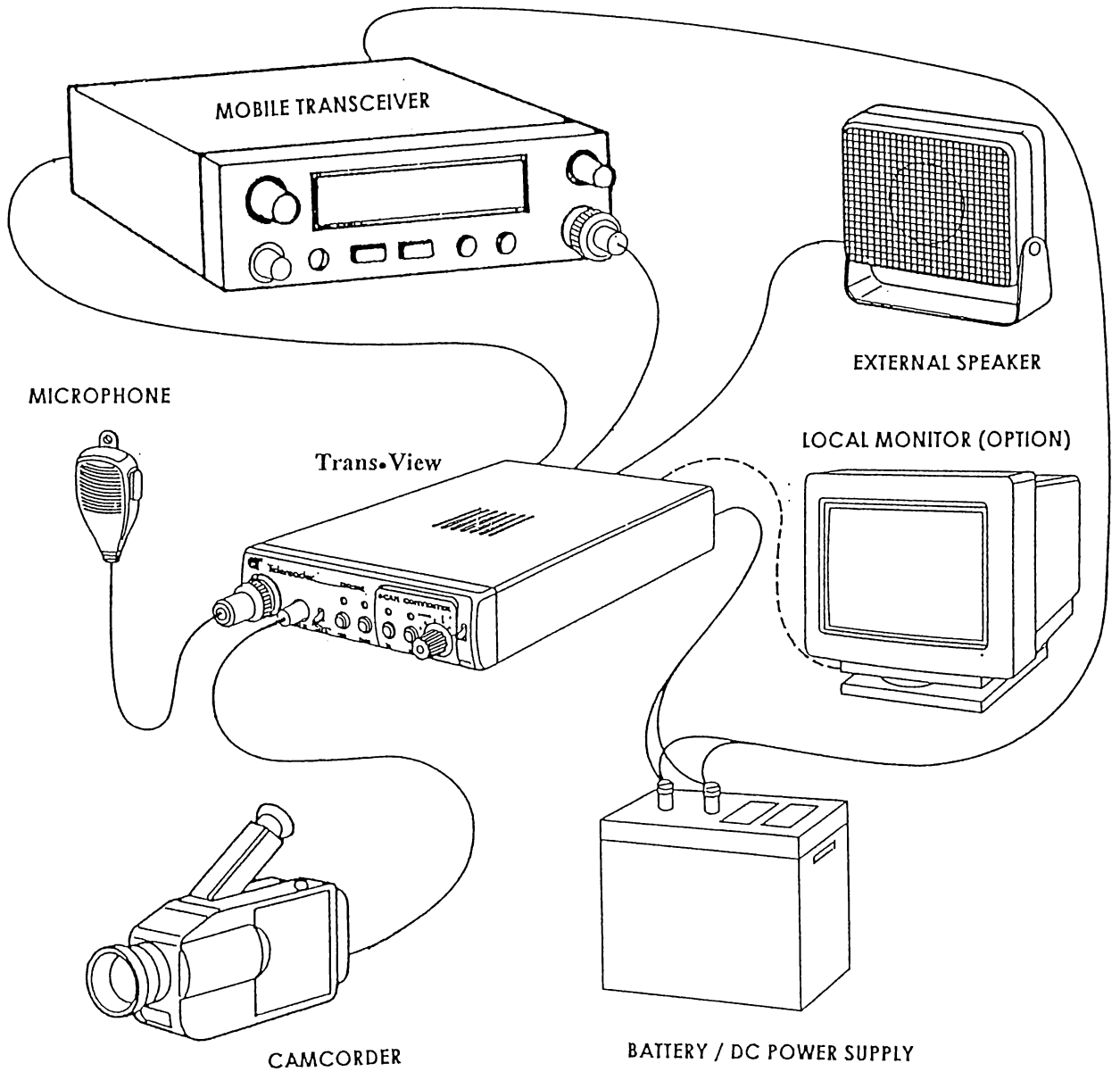


Figure 2-1. Typical Home (PC) Network

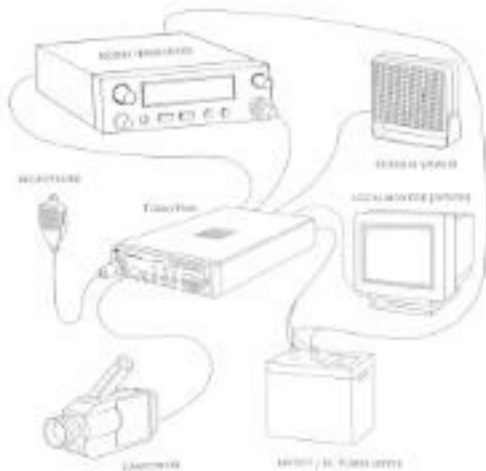


Figure 5-3 Trans•View for TELEPHONE operation

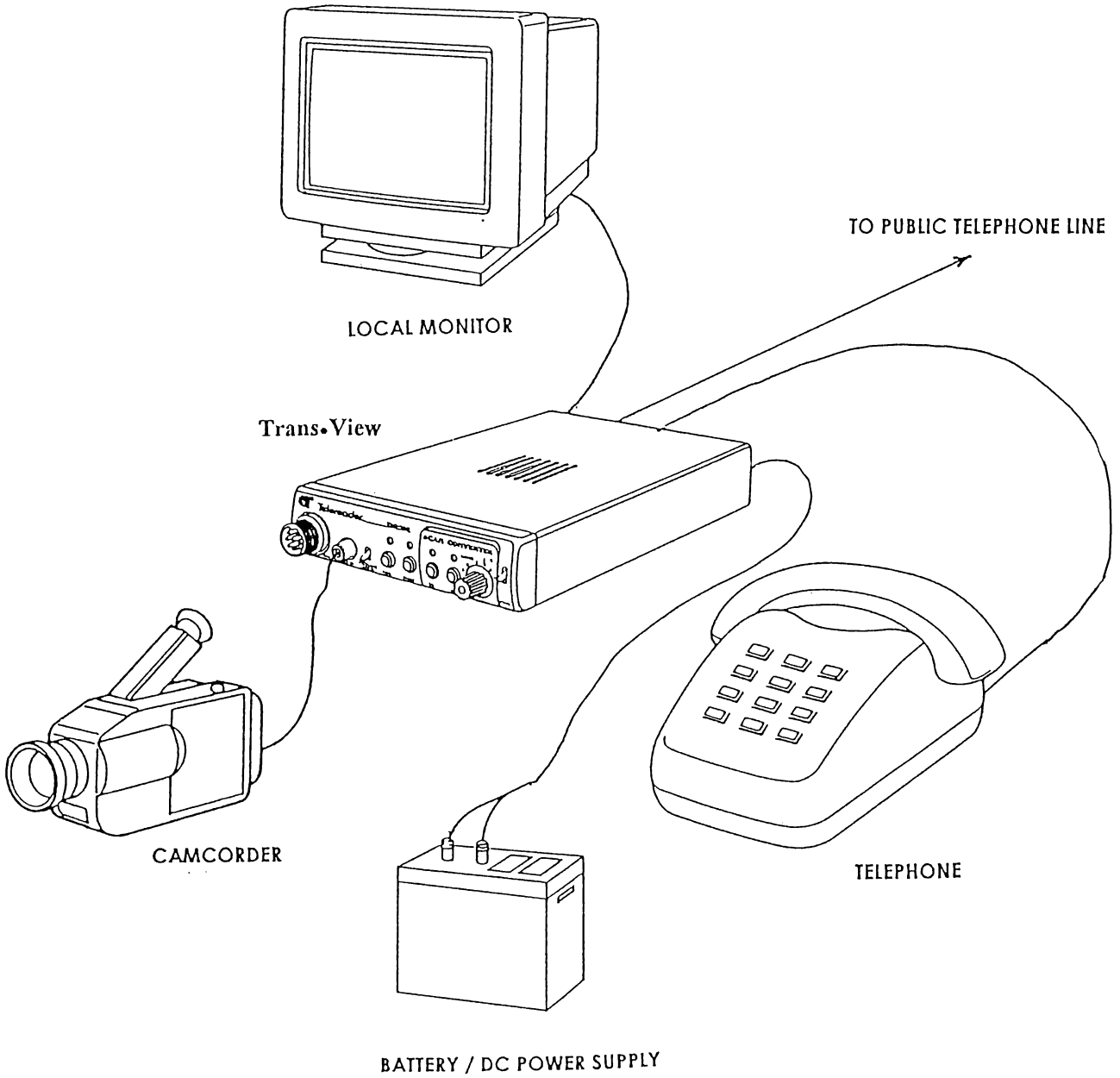
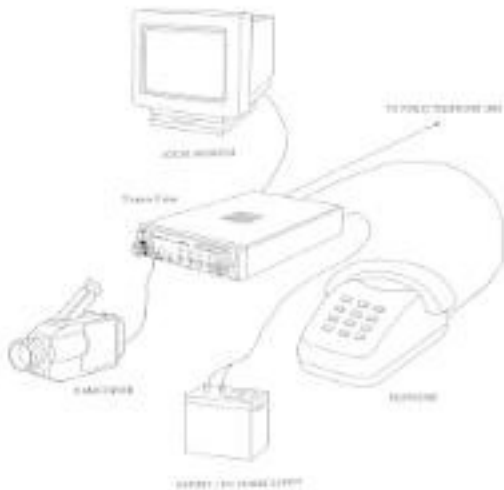


Figure 3-3 TransView for 100Base-TX operation



AR-500 Trans•View Instruction Manual
©1994 AOR, Ltd.

Printed In Japan

AR500GE.WPS.CENTURY GOTHIC.1293

© 2002 The McGraw-Hill Companies
All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of The McGraw-Hill Companies, Inc.

0-07-054438-1

ISBN 0-07-054438-1