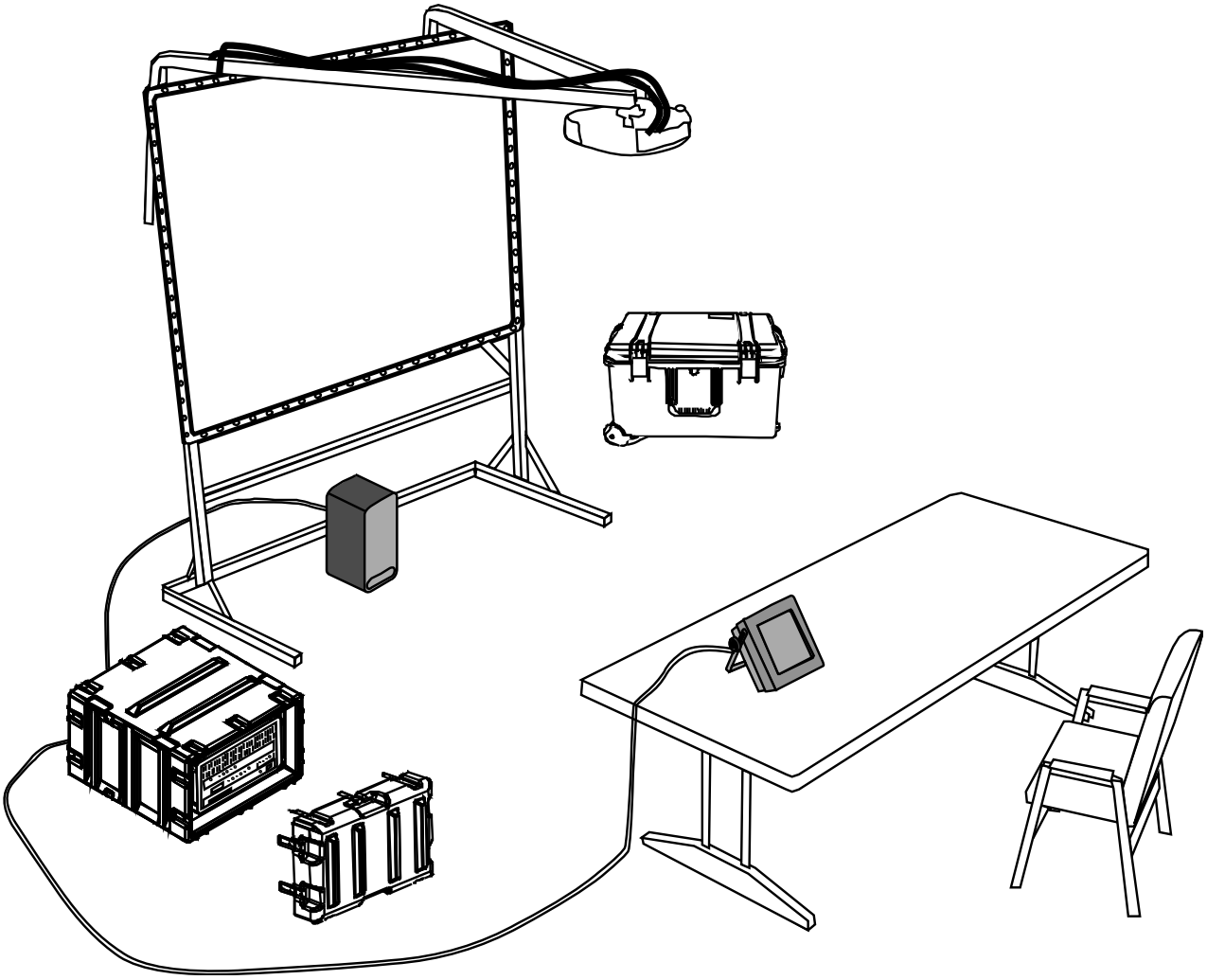
TM 95263 00

TECHNICAL MANUAL

OPERATOR AND FIELD MAINTENANCE MANUAL

FOR

Audio-Visual Component System (AVCS)



DHS SYSTEMS LLC

ISO 9001: 2000 Registered Quality Management System

Fax: 845-365-2114

Hotline: 800-977-3647

Web: **www.drash.com**

Email: drash@drash.com

DHS MANUAL PART NUMBER 95263 00

18 SEP 2008

5 SAFETY STEPS TO FOLLOW IF SOMEONE IS THE VICTIM OF ELECTRICAL SHOCK.

1. SEND FOR HELP AS SOON AS POSSIBLE.

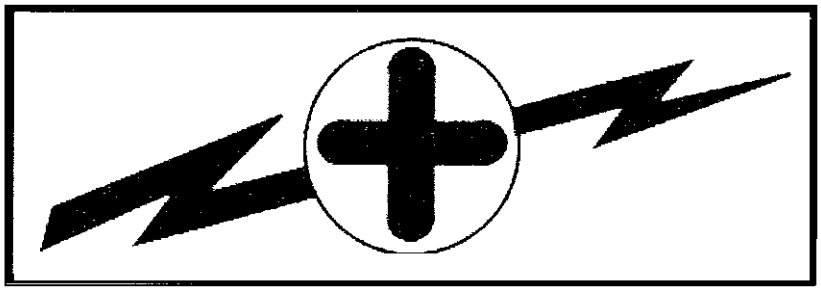
2. DO NOT TRY TO PULL OR GRAB THE INDIVIDUAL.

3. IF POSSIBLE, TURN OFF THE ELECTRICAL POWER.

4. IF YOU CANNOT TURN OFF THE ELECTRICAL POWER, PULL, PUSH OR LIFT THE PERSON TO SAFETY USING A DRY WOODEN POLE, OR A DRY ROPE, OR SOME OTHER INSULATING MATERIAL.

5. AFTER THE INJURED PERSON IS FREE OF CONTACT WITH THE SOURCE OF ELECTRICAL SHOCK, MOVE THE PERSON A SHORT DISTANCE AWAY AND IMMEDIATELY START ARTIFICIAL RESUSCITATION.

WARNING



HIGH VOLTAGE

is used in operation of this equipment.

DEATH ON CONTACT

may result if personnel fail to observe safety precautions.

Never work on electronic equipment unless there is another person nearby who is familiar with operation and hazards of the equipment and who is competent in administering first aid. When operators aid the technician, the technician must warn operators about dangerous areas.

When possible, shut off power supply to equipment before beginning work on equipment. Take particular care to ground every capacitor that could potentially store a dangerous electrical charge. Turn off power when working inside equipment. Always ground every part of equipment before touching it.

Be careful to not contact high-voltage connections or 115 VAC input connections when installing or operating equipment.

Whenever the nature of operation permits, keep one hand away from equipment to reduce hazard of current flowing through the body.

WARNING: Do not be misled by the term “low voltage.” Under adverse conditions, potentials as low as 50 volts may cause death.

For Artificial Respiration, refer to FM 4-25.11.

ELECTRICAL HAZARD

Under adverse conditions, voltage used in this equipment can cause death or serious injury. Observe the following safety precautions:

GROUND THE EQUIPMENT Before connecting primary power cables; connect grounding cable from ground lug on power control box to earth ground. Do not remove grounding cable until signal cables and primary power cables have been disconnected and generator has been shut down.

AVOID THE POWER INPUT Be careful not to contact 115 VAC input connections when installing or servicing equipment.

DO NOT SERVICE ALONE Never work on equipment unless there is another person nearby who is familiar with operation and hazards of equipment and who can administer first aid.

USE ONLY ONE HAND Whenever possible, use only one hand to service equipment. Keep other hand away to reduce hazard of current flowing through vital organs of the body.

WARNING

BURN HAZARD

Equipment may be hot to touch. Allow unit to cool before handling or use gloves when handling. Failure to observe this warning can result in serious injury.

WARNING

HEAVY EQUIPMENT

Improperly lifting or carrying heavy equipment can result in serious injury or death. Refer to the following weight limits as guidelines:

Handling Function	One-Person Max. Lift	Two-Person Max. Lift	Two-Person Max. Lift (Male Only)
Lift object from floor and place it on surface not greater than 5 feet above floor.	37 lb.	74 lb.	112 lb.
Lift object from floor and place it on surface not greater than 3 feet above floor.	44 lb.	88 lb.	174 lb.
Carry object 33 feet or less.	42 lb.	84 lb.	164 lb.

WARNING

HIGH VOLTAGE Is produced when this unit is in operation. Death or severe burns may result if personnel fail to observe safety precautions.

WARNING

Do not operate the AVCS until the ground terminal stud has been connected to a suitable ground.

WARNING

Remove all rings, watches, and other jewelry when performing maintenance on this equipment. Secure all loose fitting clothing to prevent from being caught in moving or rotating parts. Death or loss of limb may result.

WARNING

Do not attempt to service or otherwise make any adjustments, connections or reconnection of wires or cables until AVCS is shut down and completely de-energized. Death or severe burns may result.

WARNING

Trichlorotrifluoroethane, trichloroethane, and similar chemical solvents threaten public health and the environment by destroying ozone in earth's upper atmosphere. Use only nonhazardous cleaning material such as clean cloth, water, and mild detergent.

INSERT LATEST CHANGED PAGES/WORK PACKAGES. DESTROY SUPERSEDED DATA.

LIST OF EFFECTIVE PAGES/WORK PACKAGES

NOTE: The portion of text affected by the changes is indicated by a vertical line in the outer margins of the page. Changes to illustrations are indicated by miniature pointing hands. Changes to wiring diagrams are indicated by shaded areas.

Dates of issue for original and changed pages/work packages are:

Original: 19 SEPTEMBER 2008

TOTAL NUMBER OF PAGES FOR FRONT AND REAR MATTER IS 135 AND TOTAL NUMBER OF WORK PACKAGES IS 59 CONSISTING OF THE FOLLOWING:

Page/WP No.	* Change No.	Page/WP No.	* Change No.
Cover-1	0	Chp 5 title page	0
Cover-2 blank	0	WP 0017 00 (2 pgs)	0
a – j	0	WP 0018 00 (2 pgs)	0
A-B	0		
i – vii	0		
viii blank	0		
Chp 1 title page	0		
WP 0001 00 (6 pgs)	0		
WP 0002 00 (10 pgs)	0		
WP 0003 00 (2 pgs)	0		
Chp 2 title page	0		
WP 0004 00 (8 pgs)	0		
WP 0005 00 (36 pgs)	0		
WP 0006 00 (4 pgs)	0		
WP 0007 00 (10 pgs)	0		
WP 0008 00 (2 pgs)	0		
WP 0009 00 (2 pgs)	0		
Chp 3 title page	0		
WP 0010 00 (4 pgs)	0		
WP 0011 00 (12 pgs)	0		
WP 0012 00 (2 pgs)	0		
Chp 4 title page	0		
WP 0013 00 (14 pgs)	0		
WP 0014 00 (16 pgs)	0		
WP 0015 00 (16 pgs)			
WP 0016 00 (16 pgs)			

* Zero in this column indicates an original page or work package.

TECHNICAL MANUAL

OPERATOR AND UNIT SUPPORT MAINTENANCE MANUAL

FOR

Audio Video Component System

TABLE OF CONTENTS

HOW TO USE THIS MANUAL

PURPOSE AND SCOPE

This technical manual provides Operator and Unit level maintenance information for the Audio Video Component System (AVCS). The information includes equipment description and theory of operation, operator instructions, troubleshooting procedures, maintenance and testing procedures, and supporting data including Repair Parts and Special Tools List (RPSTL) for identifying and ordering repair parts.

ARRANGEMENT, IDENTIFICATION AND LOCATION OF FRONT MATTER, REAR MATTER, CHAPTERS, AND WORK PACKAGES

This manual is composed of front matter, chapters containing Work Packages (WPs), appendixes, and rear matter. These areas are described in greater detail in the following paragraphs.

Front Matter

The front matter includes such items as the Warning Summary, List of Effective Pages/WPs, Table of Contents, and How to Use This Manual.

Chapters and WPs

The WPs contain information pertinent to the performance of specific tasks. Each WP is maintained as a separate entity. The WPs are grouped into chapters based on overall content. WPs are arranged in numerical sequence regardless of chapter division. The chapter divisions and the WPs contained within the chapters are listed in the Table of Contents. The contents of each chapter are outlined briefly in the following paragraphs.

Chapter 1 - General Information, Equipment Descriptions, and Theory of Operation. This chapter provides general and descriptive information concerning the equipment. Theory of Operation appropriate to the maintenance level covered is also provided.

Chapter 2 - Operator Instructions. This chapter provides a description and location of the controls, indicators, and connectors on each piece of equipment used in the AVCS-Mini. It also contains a description and location of the decals and data plates for each piece of equipment and operation under usual and unusual conditions.

Chapter 3 - Operator Troubleshooting Procedures. This chapter provides operational checkout and troubleshooting procedures appropriate to the maintenance level covered.

Chapter 4 – Operator Maintenance Procedures. This chapter provides troubleshooting/fault isolation procedures appropriate to the maintenance level covered.

Chapter 5 – Field Troubleshooting Procedures. This chapter provides troubleshooting/fault isolation procedures appropriate to the maintenance level covered.

Chapter 6 – Field Maintenance Procedures. This chapter provides maintenance procedures appropriate to the maintenance level covered.

Chapter 7 – Parts Information. This chapter provides information on the Repair Parts and Special Tools List (RPSTL). This chapter also contains the national stock number list and part number list. The RPSTL is used to support the maintenance actions in Chapters 4 and 6.

Chapter 8 - Destruction Procedures to Prevent Enemy Use. This chapter provides information on how to damage the TMSS-MED to prevent usage by the enemy.

Chapter 9 - Supporting Information. Included are a list of reference material, the Maintenance Allocation Chart (MAC) which identifies maintenance actions and their maintenance levels, Components of End Item (COEI) list, Basic Issue Items (BII) list, Additional Authorization List (AAL), and Expendable and Durable Items list.

Rear Matter

The rear matter includes an alphabetical index and copies of the DHS Systems LLC form for recommending improvements to this manual.

Identifying WPs

Each WP is identified by a six-digit number. The first four digits are assigned sequentially. The last two digits, if other than 00 (01, 02, 03, etc.), indicate WP revision level. WPs are revised due to equipment configuration differences, support equipment differences, or other similar situations. For example:

- WP 0005 00 might cover installation of a cable on a basic unit.
- WP 0005 01 might cover installation of the same cable on a differently configured unit.
- Installation of an alternate handle in place of the original handle, requiring a different procedure.
- Installation of the handle using an alternate technique or different tools.
- Installation of the handle using alternate fasteners.

Locating WPs

There are two ways to locate a WP when the number is not known, using the Table of Contents in the manual's front matter and using the Index in the manual's rear matter.

Locating a WP in the Table of Contents

First determine the category of the WP subject and then find the appropriate chapter in the Table of Contents. Scan the WP titles in that chapter until the WP subject matter is found. In the example below, it is desired to locate the PMCS for the Operator (shaded). PMCS falls into the category of maintenance. Go to the Table of Contents and find the chapter titled "Operator Maintenance Instructions." (Make sure the chapter applies to the appropriate maintenance level). Scan the WP titles within that chapter until "PMCS" is found, and follow the leader line to find the WP number.

TABLE OF CONTENTS

WP CONTENT AND PRESENTATION

The content and the presentation techniques used in the WPs vary according to the material covered.

Common Features

In all cases, the WP title is placed at the top of the page immediately below the manual and WP number and is set off by horizontal lines as shown below.

TM 95263 00	0002 00
GENERAL INFORMATION, EQUIPMENT DESCRIPTION, AND THEORY OF OPERATION AVCS EQUIPMENT DESCRIPTION AND DATA	

On the second and subsequent pages of the WP, the manual and WP number is repeated.
The page number is placed at the bottom of the page and consists of the WP number and a sequential number denoting the page within the WP as shown below.

0002 00-1

Paragraphs are not numbered.

Primary paragraphs are denoted by headings set in **BOLD UPPER CASE (CAPITAL)** type.
Secondary and lower-level paragraphs are denoted by headings set in Bold Upper and Lower Case type. These paragraphs always relate to and are subordinate to the most recent primary paragraph heading.

Figures and tables (excluding the RPSTL) are numbered sequentially within each WP starting with numeral 1

CHAPTER 1

GENERAL INFORMATION, EQUIPMENT DESCRIPTION, AND THEORY OF OPERATION FOR AVCS (MINI)

GENERAL INFORMATION, EQUIPMENT DESCRIPTION, AND THEORY OF OPERATION
AVCS (MINI)
GENERAL INFORMATION

SCOPE

This Operators' and Maintenance Manual provides instructions and procedures for setup, operation, teardown, maintenance, and repair of the Digital Command and Control Equipment (AVCS) components.

The AVCS (Mini) is an audio-video component system (AVCS) designed to support the modern Command Post (CP). This system and its supporting components allows the commander and staff to view the Common Operational Picture (COP), directly monitor various feeds, and display additional information simultaneously to gain situational awareness.

A typical configuration of the AVCS (Mini) is shown in Figure 1.

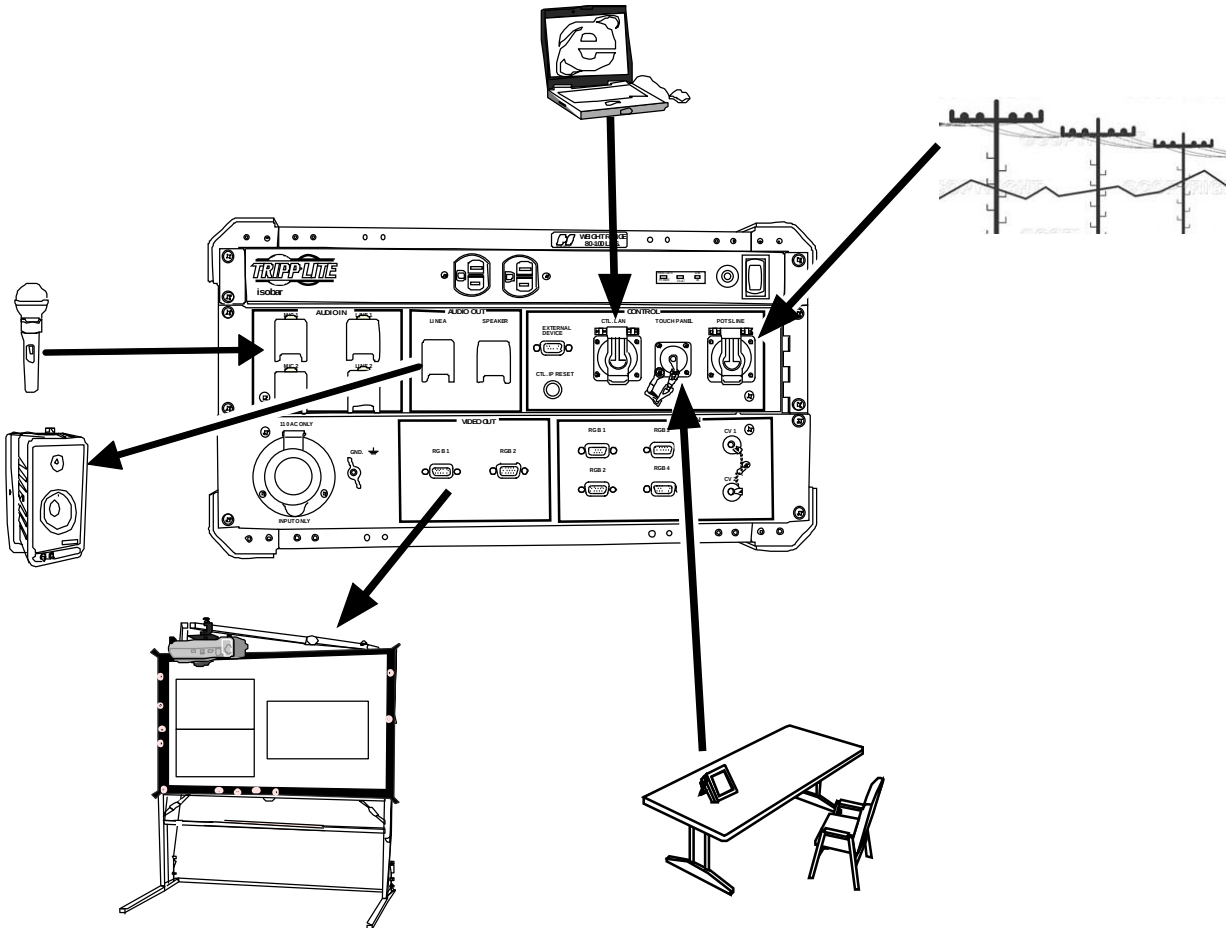


Figure 1. Typical AVCS(Mini) Configuration.

CONSOLIDATED INDEX OF ARMY PUBLICATIONS AND BLANK FORMS

Refer to the latest issue of DA PAM 25-30 to determine whether there are new editions, changes, or additional publications pertaining to the equipment.

MAINTENANCE FORMS, RECORDS, AND REPORTS

1. Reports of Maintenance and unsatisfactory Equipment. DA PAM 750-8. The Army Maintenance Management System (TAMMS) Users Manual, prescribes the DA forms and procedures used for equipment maintenance. Air Force personnel use AFR 66-1 for reporting maintenance and TO-00-35D54 for reporting unsatisfactory equipment. Navy personnel report maintenance performed utilizing the Maintenance Data Collection Subsystem (MDCS) in accordance with OPNAVINST 4790.2, Volume 3 and unsatisfactory material/conditions in accordance with OPNAVINST 4790.2, Volume 2, chapter 17. Marine Corps maintains forms and procedures as prescribed by TM 4700-15/1

2. Reporting of Item and Packaging Discrepancies. Fill out and forward SF 364, Supply Discrepancy Report (SDR)as prescribed in AR 735-11-2/DLAR 4140.55/SECNABINST 4355.18/AFR 400-54/MCO 4430.3J.

3. Reporting Transportation Discrepancies. Fill out and forward SF 361, Transportation Discrepancy Report (TDR), as prescribed in AR 55-38/NAVSUPINST 6410.33C/AFR 75-18/MCO P4610.19D/DLAR 4500.15.

REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR)

If the equipment needs improvement, let us know. Submit an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design or performance. Put it on an SF 368, Product Quality Deficiency Report (PQDR). Mail it to: Technical Publications, DHS Systems, 33 Kings Highway, Orangeburg, New York 10962-1802. We'll send you a reply.

CORROSION PREVENTION AND CONTROL (CPC)

Corrosion Prevention and Control (CPC) of Army material is a continuing concern. It is important that any corrosion problems with the AVCS be reported so that the problem can be corrected and improvements can be made to prevent future problems.

While corrosion is typically associated with rusting of metal, it can also include deterioration of other types of materials, such as rubber and plastic. Unusual cracking, softening, swelling, or breaking of these materials may be considered a corrosion problem.

If a corrosion problem is identified, it shall be reported using SF 368, PQDR. Use of key words such as "corrosion," "rust," "deterioration," or "cracking" ensures the information is identified as a CPC problem.

The form should be submitted to: Technical Publications, DHS Systems, 33 Kings Highway, Orangeburg, New York 10962-1802. We'll send you a reply.

OZONE DEPLETING SUBSTANCES (ODS)

In accordance with Executive Order 12856, other public laws, DoD policy, and Army policy, the use of ODS has been banned for all new acquisitions. Operation and maintenance of the AVCS do not require the use of ODS.

DESTRUCTION OF ARMY MATERIAL TO PREVENT ENEMY USE

Procedures to destroy this equipment to prevent enemy use are in accordance with TM 750-244-2, Procedures for Destruction of Electronic Material to Prevent Enemy Use.

PREPARATION FOR STORAGE OR SHIPMENT

Place items in administrative storage for short periods of time when a shortage of maintenance resources exist. It should be possible to place items in a state of mission readiness either within 24 hours or within the time frame that the directing authority may determine. Keep appropriate maintenance records during storage.

Prior to placing the equipment in administrative storage, Army activities perform Preventative Maintenance Checks and Services (PMCS), complete Equipment Serviceability Criteria (ESC) evaluations, correct shortcomings and deficiencies, and complete all Modification Work Orders (MWO). When removing Items from administrative storage, the operator performs PMCS to ensure operational readiness.

Inside storage is preferred for items selected for administrative storage. If inside storage is not available, use trucks, vans, or other containers

WARRANTY INFORMATION

The AVCS has a limited 1 year warranty, with the following exceptions

- Deployable Command & Control Equipment (AVCS) Cables: 30 days
- Deployable Command & Control Equipment (AVCS) Lamps and Bulbs: 500 Hours/ 90 Days
- Deployable Command & Control Equipment (AVCS) Touch Panels: 90 Days

The warranty starts on the date found in block 23 of DA Form 2408-9, Equipment Control Record. If no DA 2408-9 is available, the date will be the recorded date of shipment of the equipment from the factory. Report all defects to the supervisor, who takes appropriate action.

NOMENCLATURE CROSS-REFERENCE LIST

Common names and/or abbreviations are used in the manual to make a procedure easier to read. Table 1 matches the official nomenclatures with the common names

Table 1. Nomenclature Cross-Reference List.

OFFICIAL NOMENCLATURE	COMMON NAME (PART NUMBER)
Bayonet Neill-Concelman Connector	BNC Connector
HD-15 Connector	VGA Connector RGBHV
Digital Command and Control Equipment	AVCS
Command Post	CP
Preventive Maintenance Checks and Services	PMCS

LIST OF ABBREVIATIONS/ACRONYMS

Abbreviation/Acronym	Name
AC	Alternating Current
AVSC	Audio/Video Switching Case
BII	Basic Issue Items
BTU	British Thermal Unit
CAGEC	Commercial and Government Entity Code
CB	Circuit Breaker
CCS	Command Center System
COEI	Components of End Item
COP	Common Operational Picture
COTS	Commercial Off The Shelf
CP	Command Post
CPC	Corrosion Prevention and Control
D	Depot
AVCS	Digital Command and Control Equipment
DMR	Depot Mobilization Requirements
DS	Direct Support
EIR	Equipment Improvement Recommendations
ESC	Equipment Serviceability Criteria
FGC	Functional Group Code
FM	Field Manual
FO	Foldouts
GS	General Support
HCP	Hardness Critical Procedures
HDBK	Handbook
HMMWV	High Mobility Multi-Purpose Wheeled Vehicle
HVAC	Heating, Ventilating and Air Conditioning
I/O	Input/Output
LED	Light Emitting Diode
MAC	Maintenance Allocation Chart
MOS	Military Occupational Specialties
MWO	Modification Work Order
NBC	Nuclear, Biological, and Chemical
NSN	National Stock Number
ODS	Ozone Depleting Substances
PDP	Power Distribution Panel
PMCS	Preventive Maintenance Checks and Services
PQDR	Product Quality Deficiency Report
PSI	Pounds per Square Inch
P/N	Part Number
QA	Quality Assurance
RPSTL	Repair Parts and Special Tools List
SDR	Supply Discrepancy Report
SIMPL	Symbol Intensive Master Programming Language
SMR	Source, Maintenance and Recoverability
SOP	Standing Operating Procedure
TAMMS	Army Maintenance Management System
TB	Troubleshooting
TDR	Transportation Discrepancy Report
TMDE	Test, Measurement, and Diagnostic Equipment
TMSS	Trailer Mounted Support System
U/I	Unit of Issue
UPS	Uninterruptible Power Supply
VAC	Voltage, Alternating Current
WP	Work Package

QUALITY OF MATERIAL

Material used for replacement, repair, or modification must meet requirements of this Operator and Unit Maintenance Manual. If quality of material requirements is not stated in this Operator and Unit Maintenance Manual, material must meet the requirements of drawings, standards, specifications, or approved engineering change proposals applicable to subject equipment.

SAFETY, CARE, AND HANDLING

To prevent personal injury and damage to equipment, obey the following general rules and precautions:

1. Become familiar with warnings and cautions listed in front of this manual.

   a. Warnings – Present circumstances or procedures which, if not strictly adhered to, may cause injury or death.
   b. Cautions – Present circumstances which can cause damage to equipment or loss of mission.

2. Recognize equipment may require at least a two-person carry. Follow number of lifter/requirements in safety marking (labels or stencils) and caution statements in Technical Documentation. No rights are conveyed except as indicated in the legend on the cover of this document.

3. Ensure all power is turned off before starting any removal task.

4. Do not touch connector terminals with any tool, bare hands, or dirty cloth. Tools damage the connector. Dirt or sweat will cause corrosion.

5. Before touching any electrical component, discharge static electricity by touching a metal chassis or cabinet.. A static discharge to an electrical component can destroy internal circuits.

6. Know where emergency equipment is located. Read instructions on fire extinguisher label.

7. Ensure hands are clean before working on equipment.

NUCLEAR HARDNESS

There are no Hardness Critical Procedures (HCP) in this manual.

CALIBRATION

All equipment requiring calibration shall be done in accordance with TB 43-180.

END OF WORK PACKAGE

GENERAL INFORMATION, EQUIPMENT DESCRIPTION, AND THEORY OF OPERATION
DC2E (MINI)
EQUIPMENT DESCRIPTION AND DATA

EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES

Characteristics, Capabilities and Features

The DC2E (MINI) system consists of communication components mounted in a rugged case that allows for easy transport. The 4-window processor will accept either two composite video inputs and two RGBHV inputs, or four RGBHV inputs simultaneously. The 4-window processor is capable of routing video inputs into four independent display windows. The audio mixer will accept up to two microphone level inputs and two line level inputs, providing two line level audio outputs, with one designated as a speaker output for the supplied speaker. User interface is conducted with either the included touch panel or through an Ethernet based web page control device such as a laptop.

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS

The following subparagraphs describe and illustrate the major components within each transit case.

Audio/Video Switching Case

The Switching Case contains the components that provide an interface between various audio and video communications equipment. The AVSC Switching Case is a rugged, lightweight, durable, shock-resistant, waterproof, dustproof, rotomolded case that allows for maximum airflow around equipment.

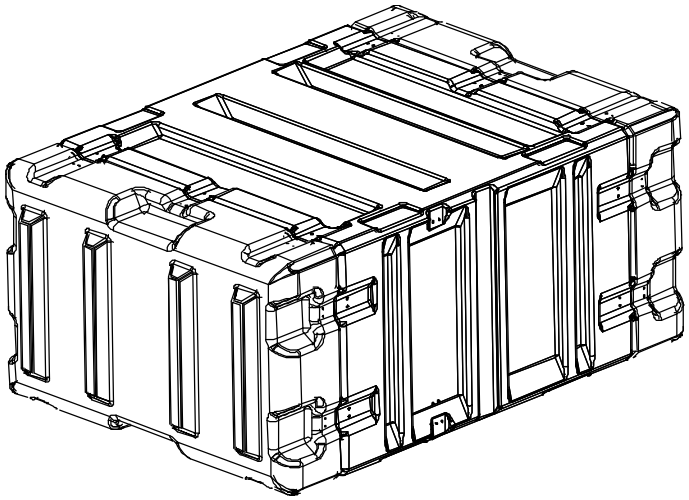


Figure 1. Audio/Video Switching Case, Exterior.

AVSC, Front

The front of the AVSC allows access to the display screens for the control processor (Figure 2, Item 1), audio mixer (Figure 2, Item 2) and window processor (Figure 2, Item 3). The DC2E Mini System is designed to operate while the front AVSC panel is sealed.

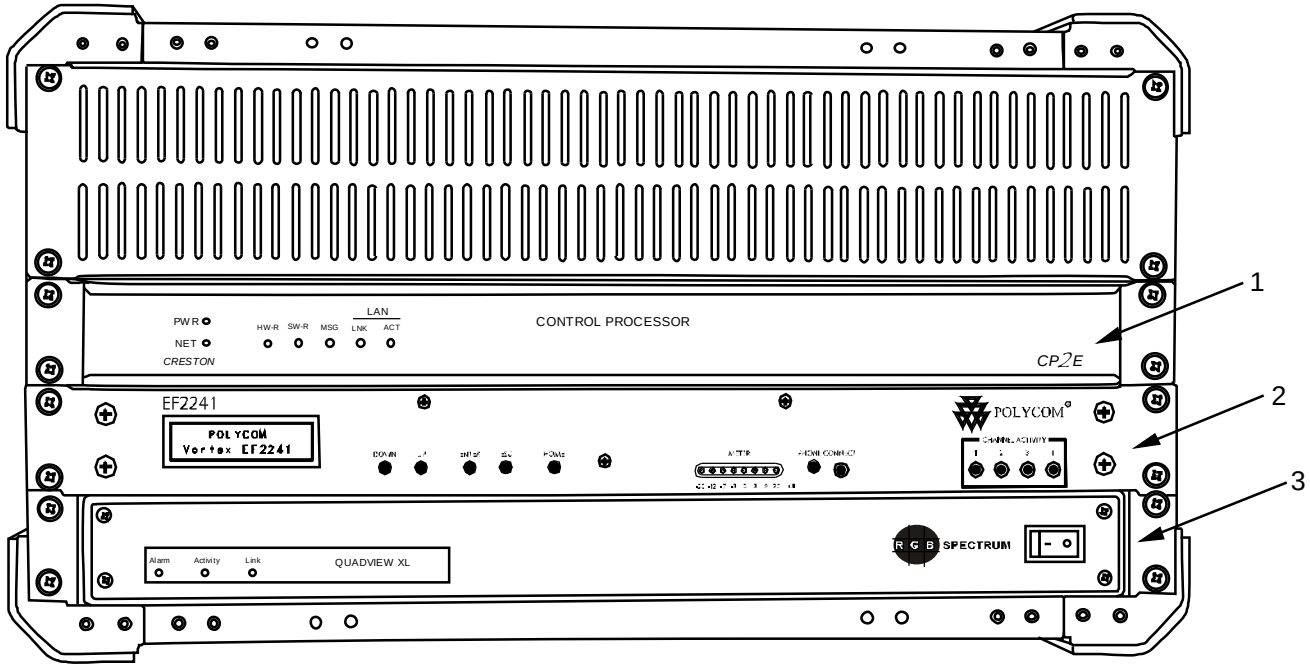


Figure 2. Audio/Video Switching Case, Front.

AVSC, Rear

The rear of the AVSC (Figure 3) allows access to accessory power outlets and all component connections.

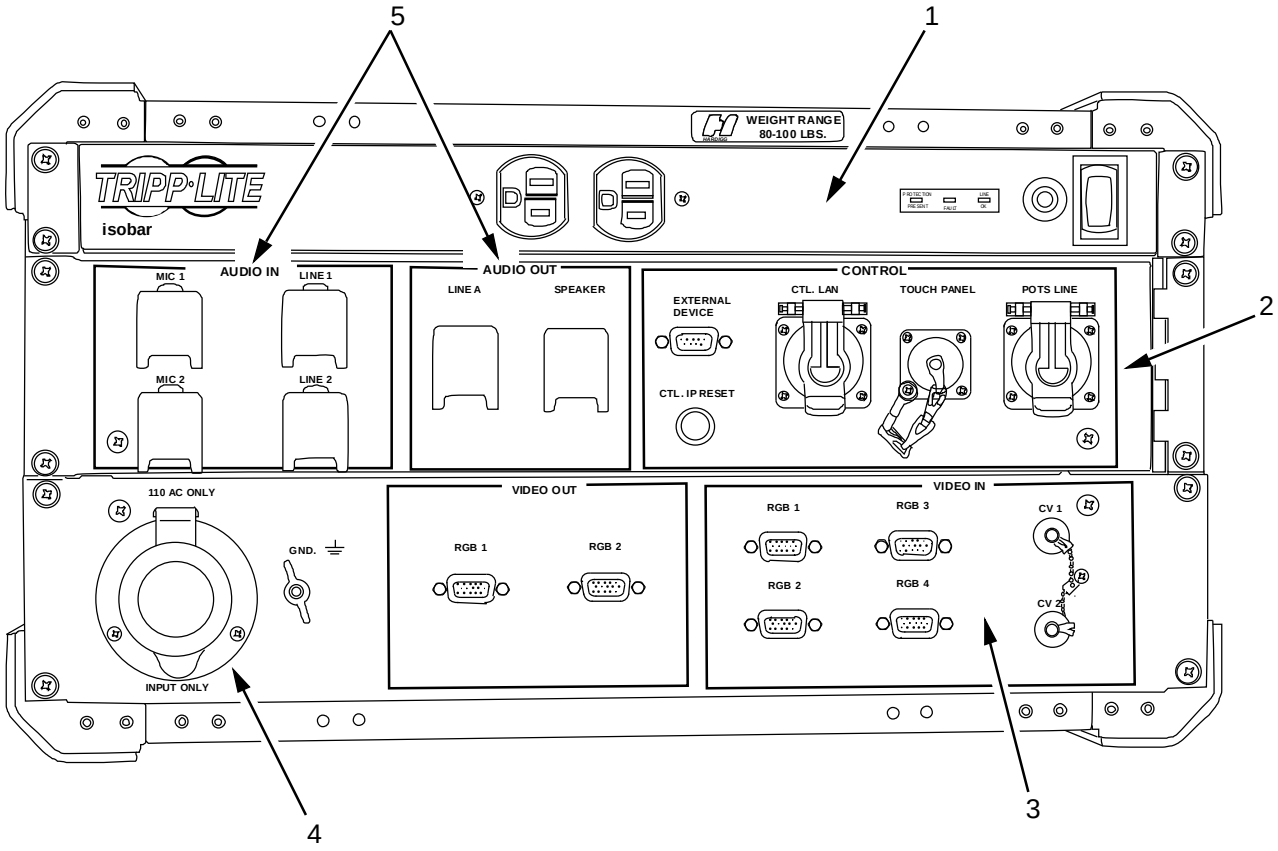


Figure 3. Audio/ Video Switching Case, Rear.

The power panel (Figure 3, Item 1) provides main power switch and accessory AC power outlets.

The control panel (Figure 3, Item 2) provides one Plain Old Telephone Service (POTS) connection for analog telephone line input; one Local Area Network (LAN) connection; one quick disconnect to attach the touch panel cable; one serial connection for use with an external device; and one Internet Protocol (IP) Reset button which resets the IP address of the system to the default IP.

The video input panel (Figure 3, Item 3) provides two composite video inputs for use with standard video inputs such as DVD players, satellite receivers or any other video source providing a composite signal; and four HD15 inputs for direct connections to computers, VTC CODEC or other high resolution video sources. The video output panel provides two HD15 output connectors for direct connection to display systems such as LCD, plasma display screens, VTC CODECs, or any other high resolution recorder/monitor.

The AC power connection panel (Figure 3, Item 4) provides power to the entire DC2E Mini System and the system grounding lug.

The audio panel (Figure 3, Item 5) supplies two microphone level inputs; two line level audio inputs; and two line level outputs, one of which are designated for use with the supplied speaker.

ANCILLARY EQUIPMENT TRANSPORT CASE

The Ancillary Equipment Transport Case (Figure 4) transports one touch panel, one audio speaker, and associated cables.

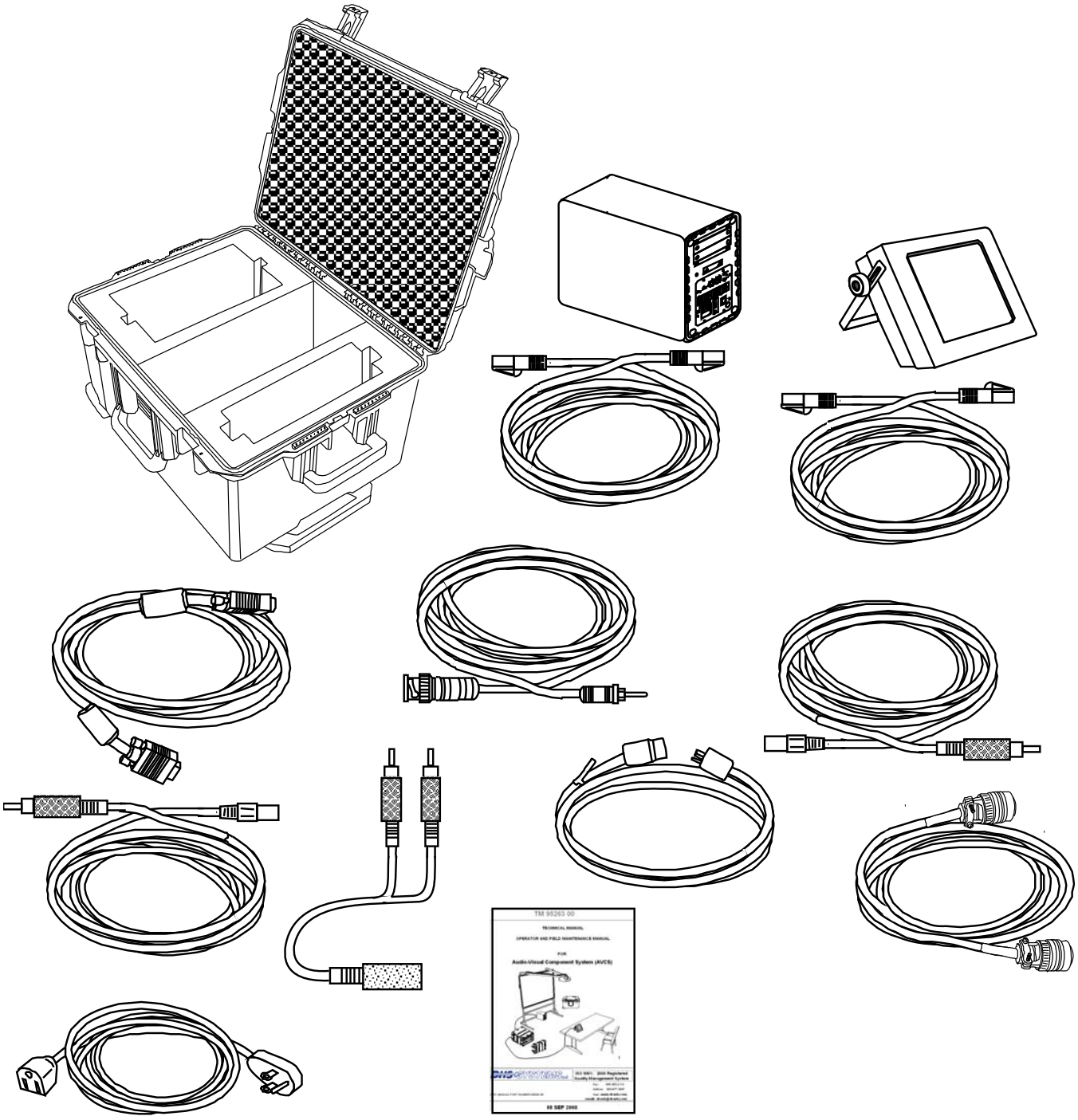


Figure 4: DC2E Ancillary Equipment Case

EQUIPMENT DATA

Audio/ Video Switching Case

Specifications:

Dimensions (stowed for transport)	40.4” L x 27” W x 16.6" H
	(103 cm L x 69 cm W x 42 cm H)
Weight	115 lbs
	52 kg
Input Operating Voltage	120VAC
Power Consumption (system only)	.6 amps/ 72 watts/ 120v AC
Operating Temperature (average)	41°F - 113°F
	5°C - 45°C
Operating Humidity (average)	10% - 90%

Ancillary Equipment Transport Case

Specifications:

Dimensions (stowed for transport)	24” L x 20.5” W x 15" H
	(61 cm L x 52 cm W x 38 cm H)
Weight	54 lbs
	25 kg

END OF WORK PACKAGE

GENERAL INFORMATION, EQUIPMENT DESCRIPTION, AND THEORY OF OPERATION
AVCS (MINI)
THEORY OF OPERATION

GENERAL

The following paragraphs identify the theory of operation for the AVCS (Mini). The AVCS (Mini) system consists of video and audio components designed to support various operations center operations by displaying various type of video signals and amplifying audio signals.

AUDIO OVERVIEW

The audio components amplify both local and external sources buy using digital mixing technology located in the AVSC.

VIDEO OVERVIEW

The video processor combines incoming analog video feeds and composite sources into video windows on a single display device. Video is output using two mirrored analog HD15 connectors.

CONTROL PROCESSOR

The control processor provides unified control of the system components using a single GUI (Graphical User Interface). It translates the user button presses from the touch panel into commands the equipment can understand. It allows for the ease of use by making complex commands as easy as the press of a button.

OPERATIONAL CONTROL

The AVCS (Mini) can be controlled in one of two ways. The standard control interface is the supplied touch panel display that is connected directly to the unit using the included cable. In the absence of the touch panel, a laptop may be connected using a network connection to operate the system via Internet Explorer (IEx). Note that other browsers are not recommended and may not support the AVCS features.

END OF WORK PACKAGE

CHAPTER 2

OPERATOR INSTRUCTIONS FOR AVCS (MINI)

OPERATOR INSTRUCTIONS
AVCS (MINI)
DESCRIPTION AND USE OF OPERATOR CONTROLS, INDICATORS, AND CONNECTORS

GENERAL

This work package contains illustrations that show the location of each control, indicator, and connector used for the operation of the AVCS (Mini). Each control, indicator, and connector is labeled as it appears on the equipment in the transit cases. Tables identify the callout numbers, item name (based on panel markings), and functional description.

AVCS (FRONT)

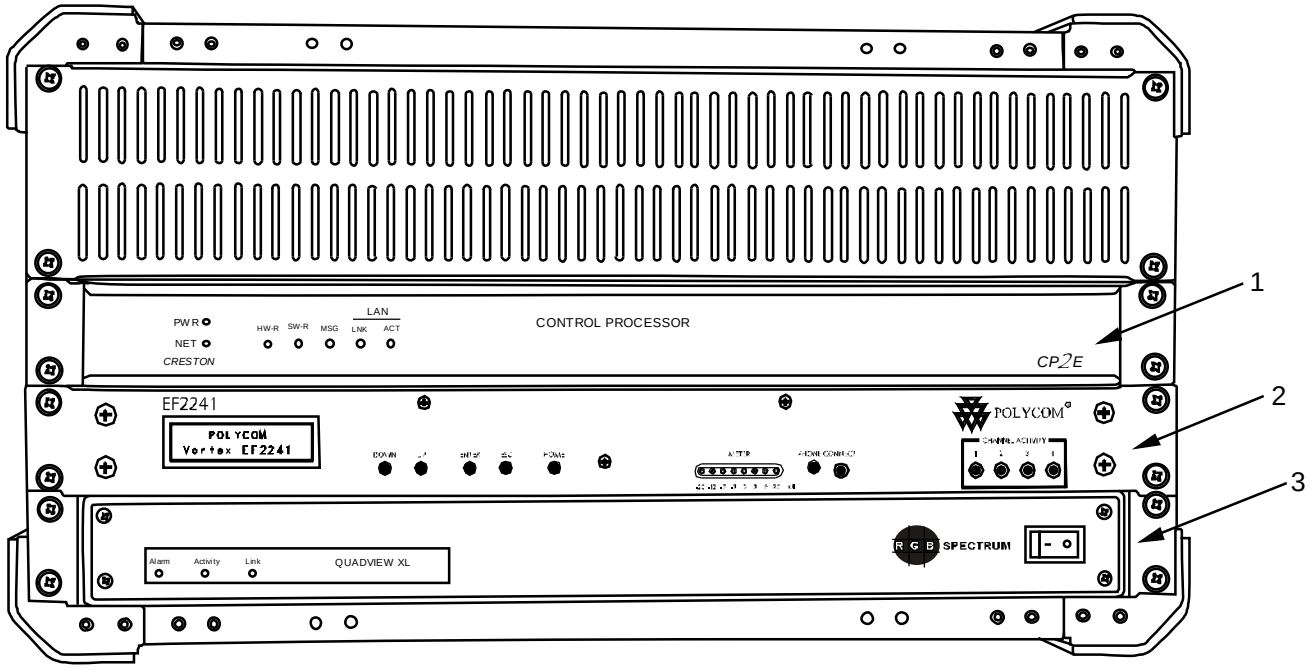


Figure 1. AVCS (Front).

Table 1. AVCS (Front) Controls, Indicators and Connectors.

ITEM	CONTROLS, INDICATORS, AND CONNECTORS	FUNCTION
1	Control Processor	Along with the touch panel, provides unified control of the system components using a single GUI.
2	Audio Mixer	Allows multiple audio sources to be mixed together into a single audio signal.
3	Window Processor	Allows the user to display up to four images on a single display or output.

AVCS (FRONT) (cont)
Control Processor

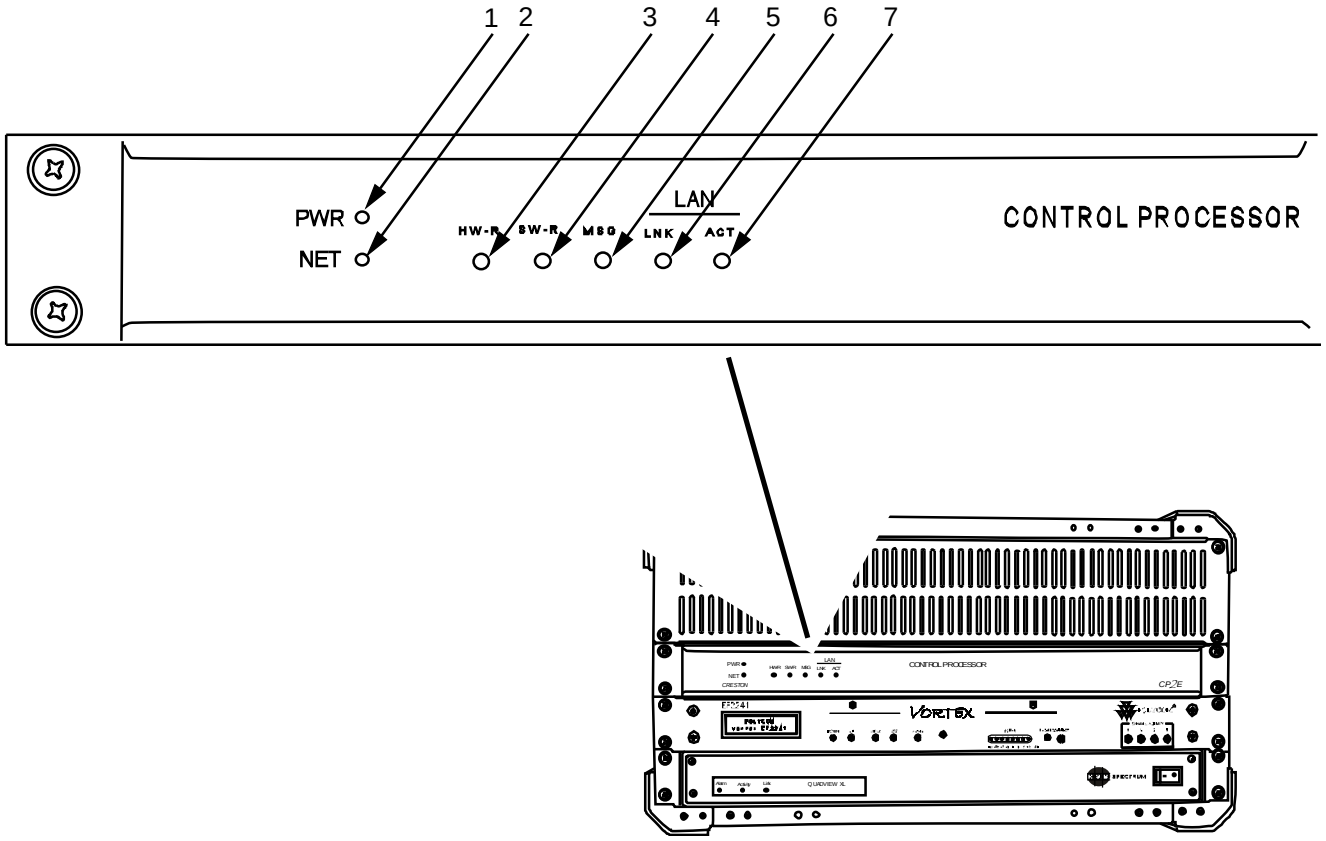


Figure 2. Control Processor (Front).

Table 2. Control Processor (Front) Controls, Indicators and Connectors.

ITEM	CONTROLS, INDICATORS, AND CONNECTORS	FUNCTION
1	PWR Indicator Light (Green)	Indicates power to the unit.
2	NET Indicator Light (Amber)	Indicates activity within system and Touch Panel.
3	HW-R Button	Performs system reset. (hardware)
4	SW-R Button	Performs system reset. (software)
5	MSG	N/A
6	LAN LNK A Indicator Light (Red)	Indicates connection to external network.
7	LAN ACT A Indicator Light (Red)	Indicates communication activity with external network.

AVCS (FRONT) (cont)
Audio Mixer

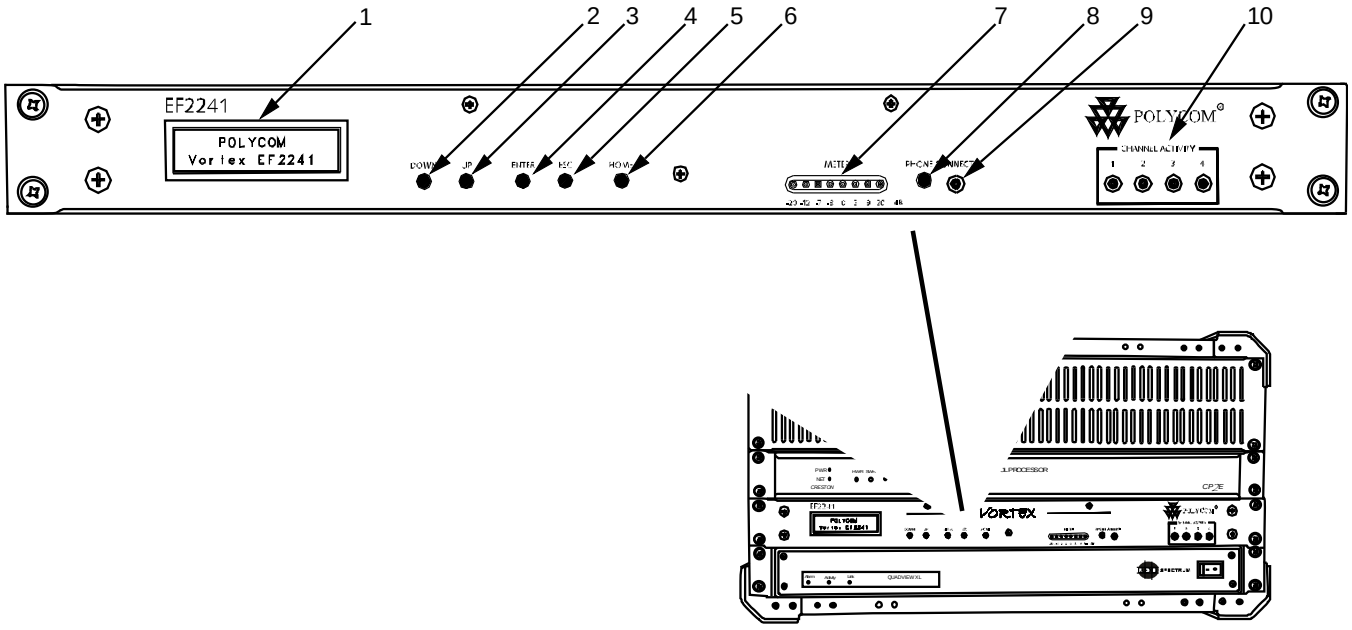


Figure 3. Audio Mixer (Front).

Table 3. Vortex Audio Mixer (Front) Controls, Indicators and Connectors.

ITEM	CONTROLS, INDICATORS, AND CONNECTORS	FUNCTION
1	Display	Displays service contact phone number, and menu items.
2	DOWN Button	Scrolls backward through menu items.
3	UP Button	Scrolls forward through menu items.
4	ENTER Button	Selects menu item.
5	ESC Button	Returns to the next highest level of menus.
6	HOME Button	Returns to the top of menu structure.
7	METER Indicator Lights	Indicates audio levels between -20 and +20 db.
8	PHONE CONNECT Button	Connects/ disconnects phone line.
9	PHONE CONNECT Indicator Light (Green/ Amber/ Red)	Indicates active phone line connection.
10	CHANNEL ACTIVITY Indicator Light (Green)	Indicates gating activity of the MIC/Line channel inputs.

AVCS (FRONT) (cont)
Window Processor

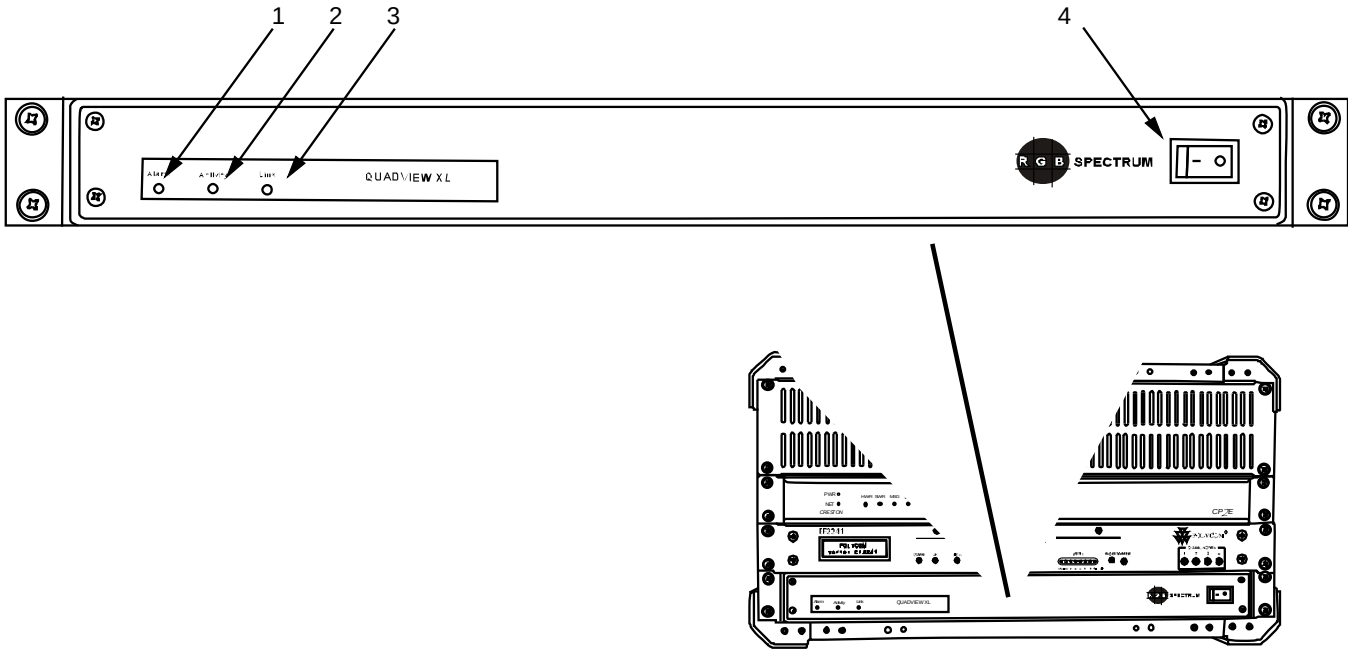


Figure 4. Window Processor (Front).

Table 4. Window Processor (Front) Controls, Indicators and Connectors.

ITEM	CONTROLS, INDICATORS, AND CONNECTORS	FUNCTION
1	ALARM Indicator Light (Amber)	Indicates system error, or internal electronics have exceeded the maximum internal temperature of 140°F/ 60ºC. When illuminated, device reset is required. Powering off device is recommended.
2	ACTIVITY Indicator Light (Green)	N/A
3	LINK Indicator Light (Green)	N/A
4	POWER Switch and Indicator	Provides power to system and indicates system power on.

AVCS (REAR)

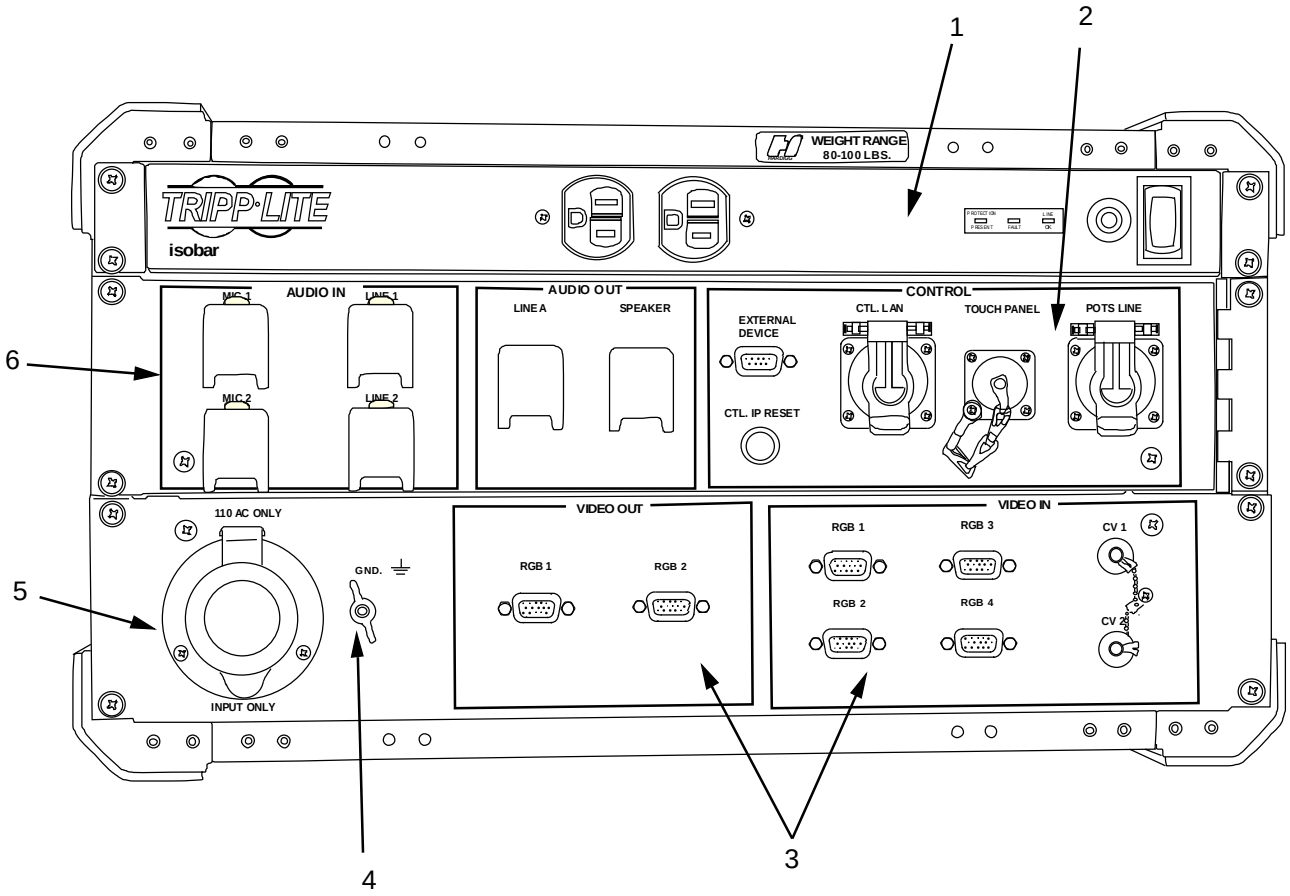


Figure 5. AVCS Rear Panel Controls, Indicators and Connectors.

Table 5. AVCS Rear Panel Controls, Indicators and Connectors.

ITEM	CONTROLS, INDICATORS, AND CONNECTORS	FUNCTION
1	Power Strip	Provides power to system.
2	Control Group	Provides communication ports for devices, Touch Panel and POTS line.
3	Video In/Out Group	Provides input and output video connections.
4	GROUND Lug	Connects the AVCS to ground cable.
5	110 VAC Power Input 60Hz	Provides connector for power source.
6	Audio In/Out Group	Provides input and output audio connections.

AVCS (REAR) (Cont.)
Power Panel

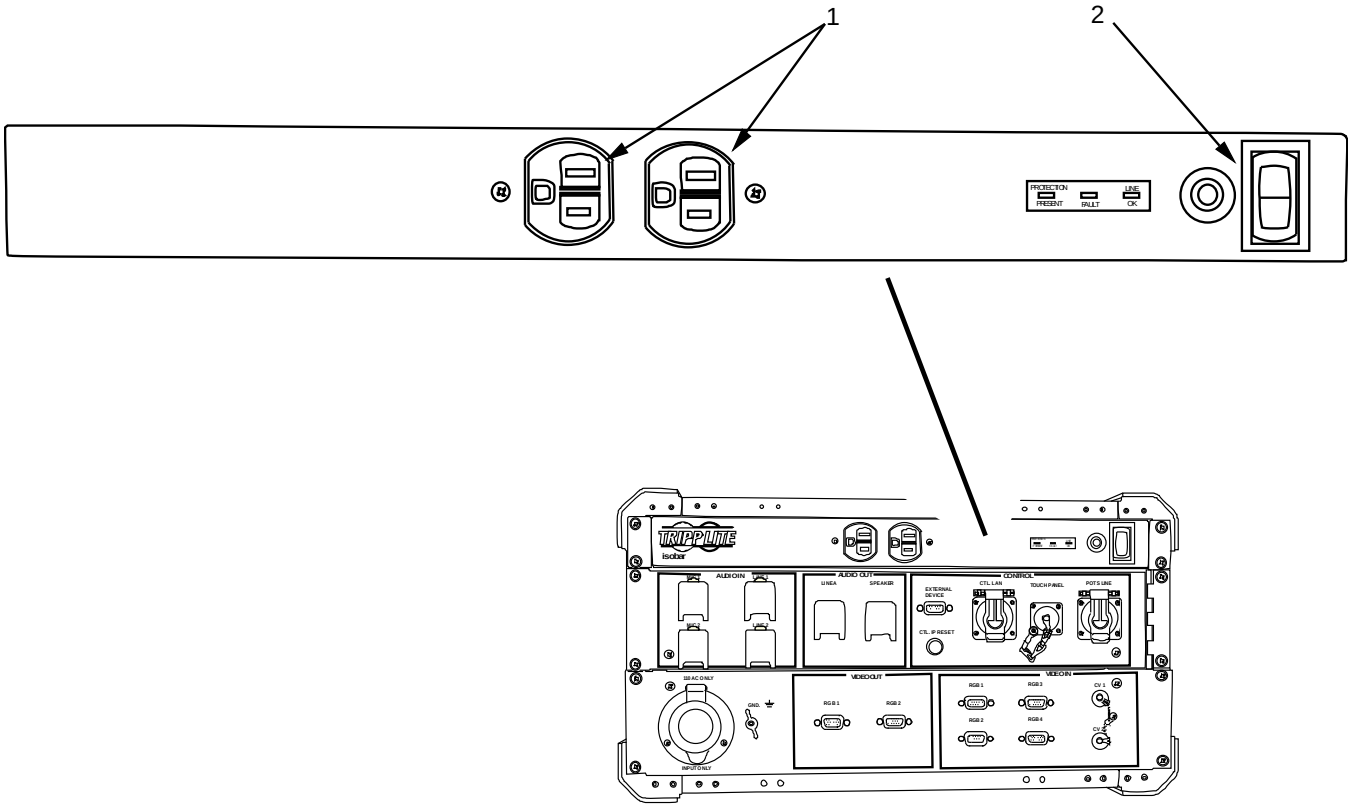


Figure 6. AVCS (Rear) Power Panel.

Table 6. AVCS (Rear) Controls, Indicators and Connectors.

ITEM	CONTROLS, INDICATORS, AND CONNECTORS	FUNCTION
1	Power Outlets	Provides power connections for accessory components.
2	Auxiliary Power Switch	Provides power to internal system components.

AVCS (REAR) (Cont.)
Audio IN Panel

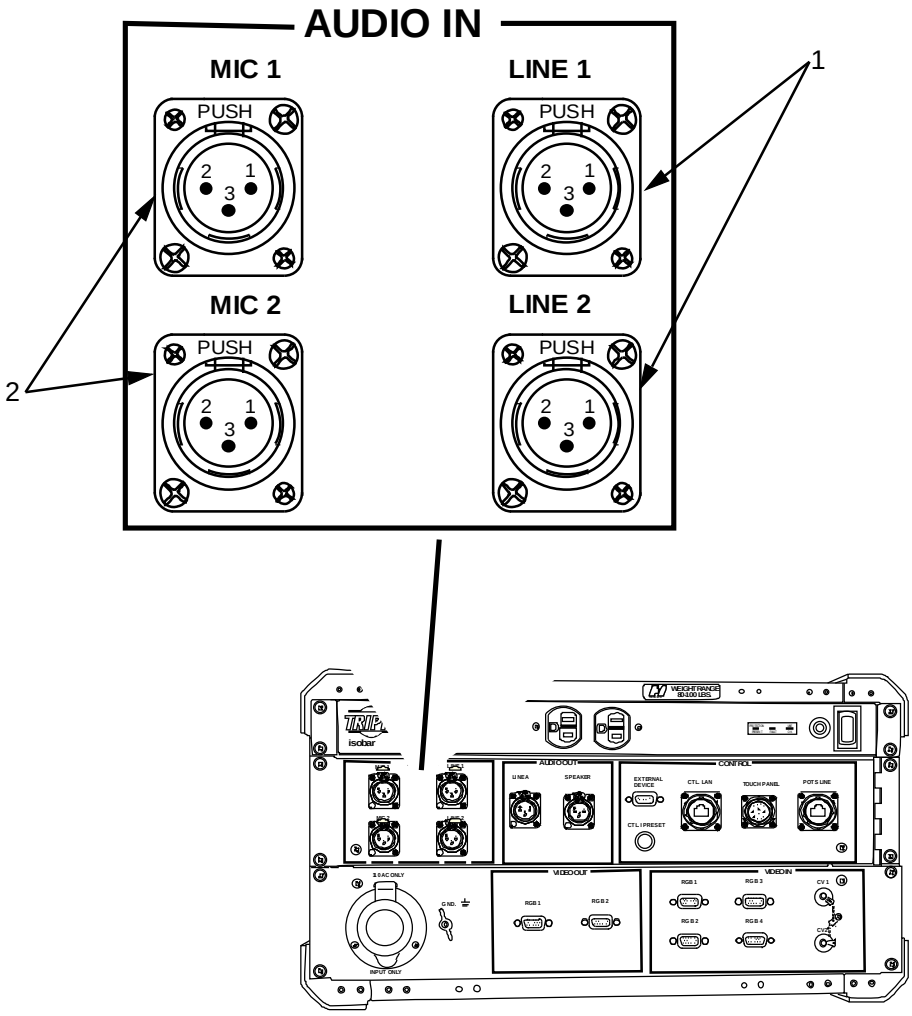


Figure 7. AVCS (Rear) Audio Input Panel.

Table 7 AVCS (Rear) Controls, Indicators and Connectors.

ITEM	CONTROLS, INDICATORS, AND CONNECTORS	FUNCTION
1	Line 1/ Line 2 (XLR)	Provides connection for audio line level input cables.
2	MIC 1/ MIC 2 (XLR)	Provides connection for microphones.

AVCS (REAR) (Cont.)
Audio Panel (Cont.)

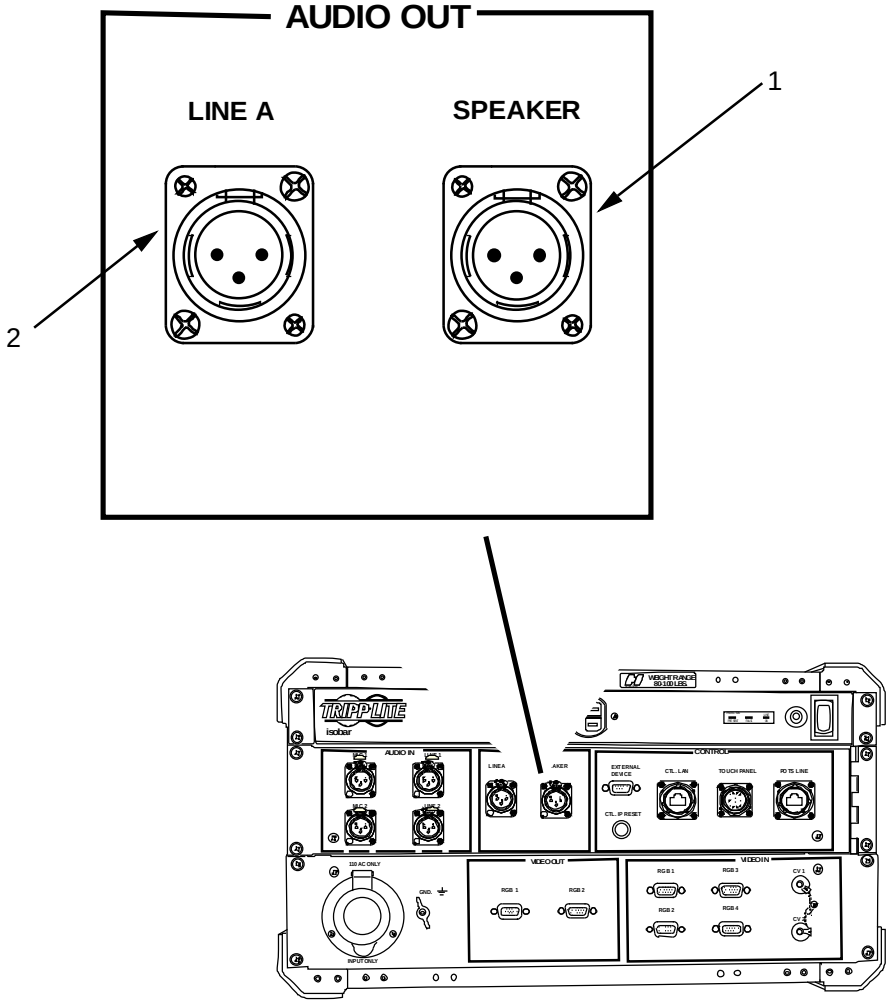


Figure 8. AVCS (Rear) Audio Output Panel.

Table 8. AVCS (Rear) Controls, Indicators and Connectors.

ITEM	CONTROLS, INDICATORS, AND CONNECTORS	FUNCTION
1	Speaker (XLR)	Provides connection for included speaker.
2	LINE A (XLR)	Provides connection for an additional audio component (line level).

AVCS (REAR) (Cont.)
Control Panel

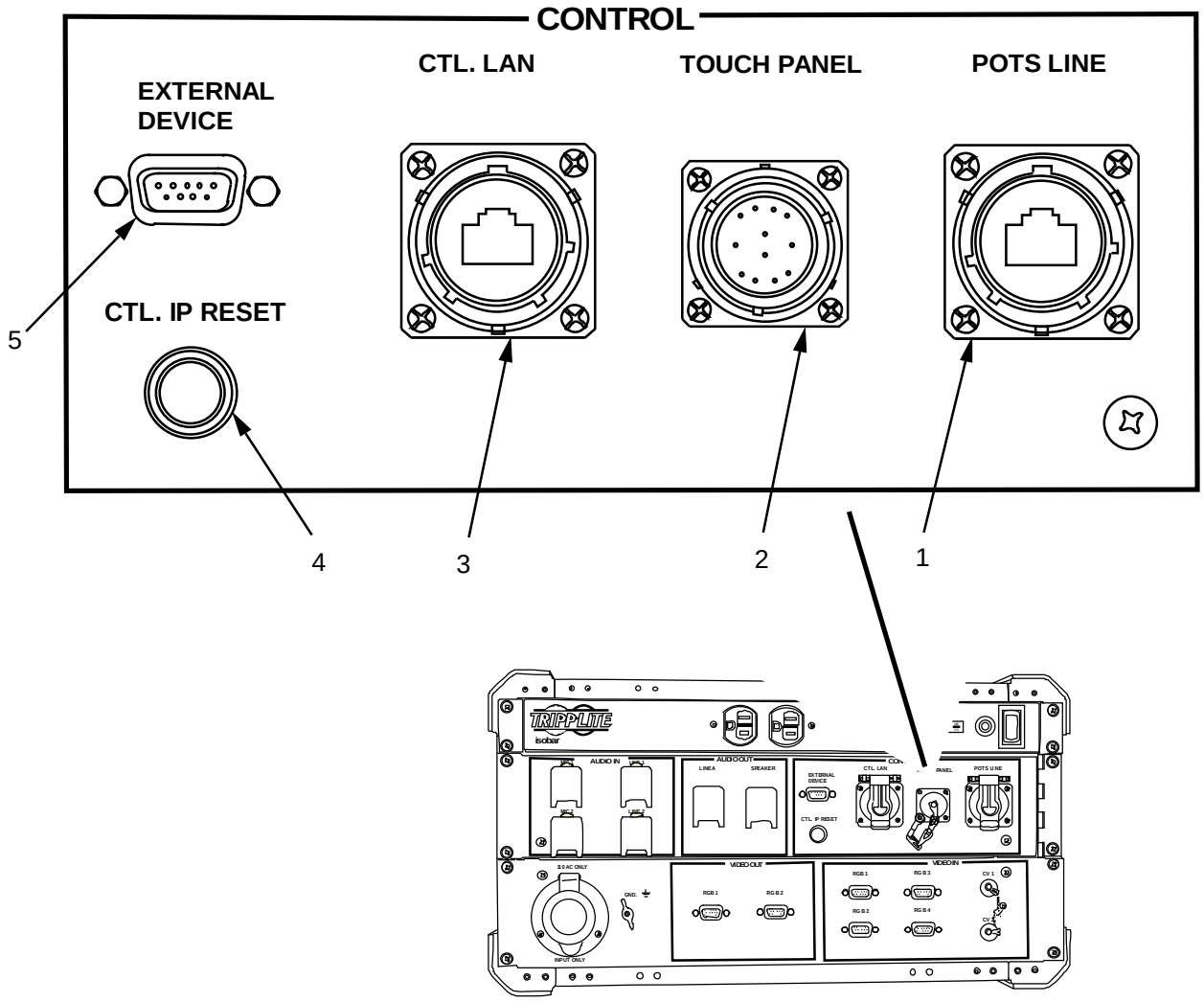


Figure 9. AVCS (Rear) Control Panel.

Table 9. AVCS (Rear) Controls, Indicators and Connectors.

ITEM	CONTROLS, INDICATORS, AND CONNECTORS	FUNCTION
1	POTS Line (RJ11)	Provides connection for teleconferencing.
2	Touch Panel Connector	Provides connection for touch panel controller.
3	CTL LAN (RJ45)	Provides connection for local area network.
4	CTL IP Reset Button (red)	Rests IP address of control system to default address. (192.168.2.200) Press and hold for 5 seconds to reset.
5	External Device (DB9)	Provides RS232/444/485 serial connection to control future programmable devices.

AVCS (REAR) (Cont.)
Video Input Panel

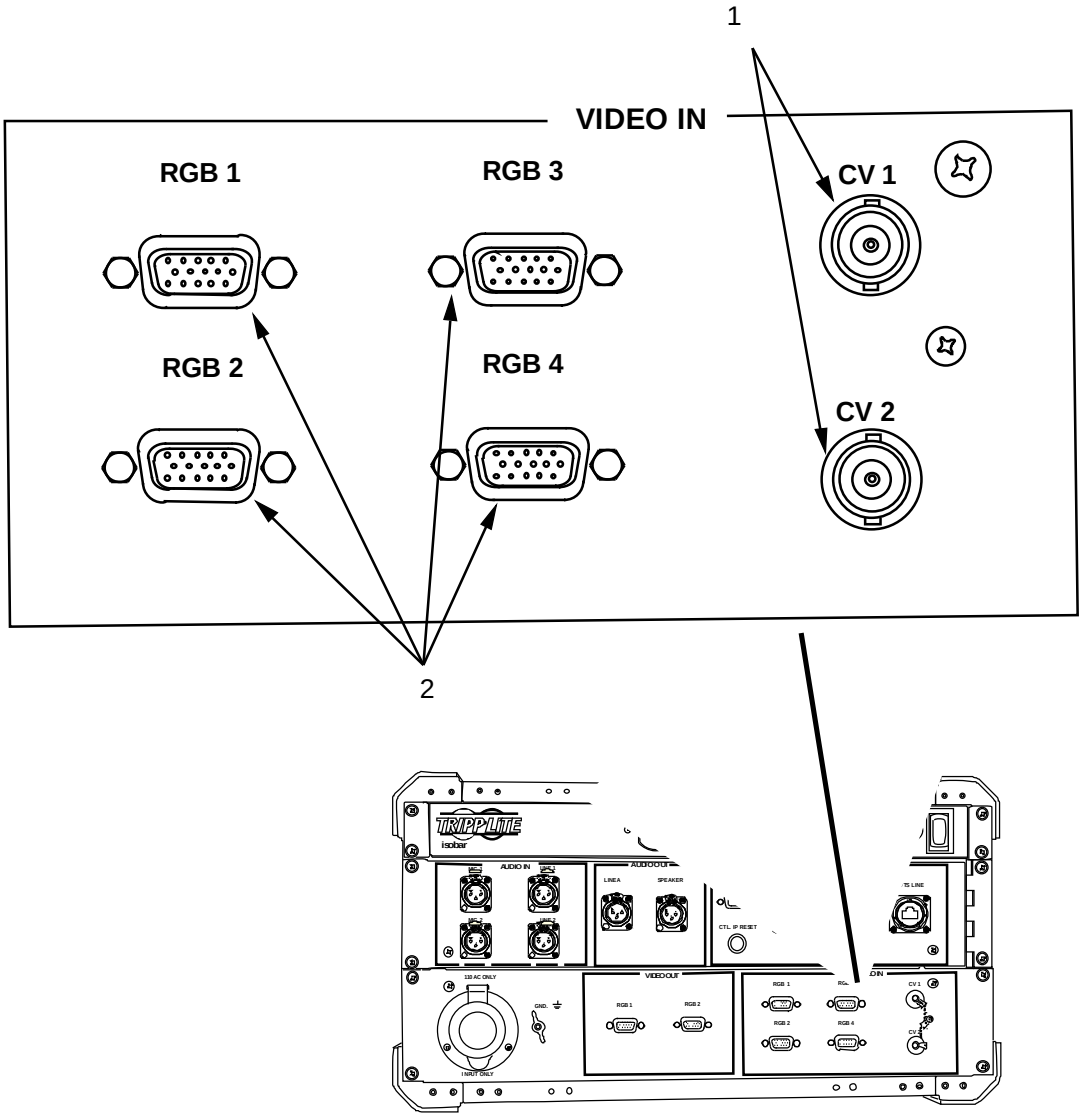


Figure 10. AVCS (Rear) Video Input Panel.

Table 10. AVCS (Rear) Controls, Indicators and Connectors.

ITEM	CONTROLS, INDICATORS, AND CONNECTORS	FUNCTION
1	CV1/CV2 (BNC)	Provides connection from composite video sources. NTSC/PAL/SECAM compatible.
2	RGB 1/RGB 2/RGB3/RGB4(HD-15)	Provides connection from analog computer video sources. RGBHV/RGSB/RGBS.

AVCS (REAR) (Cont.)
Video Output Panel

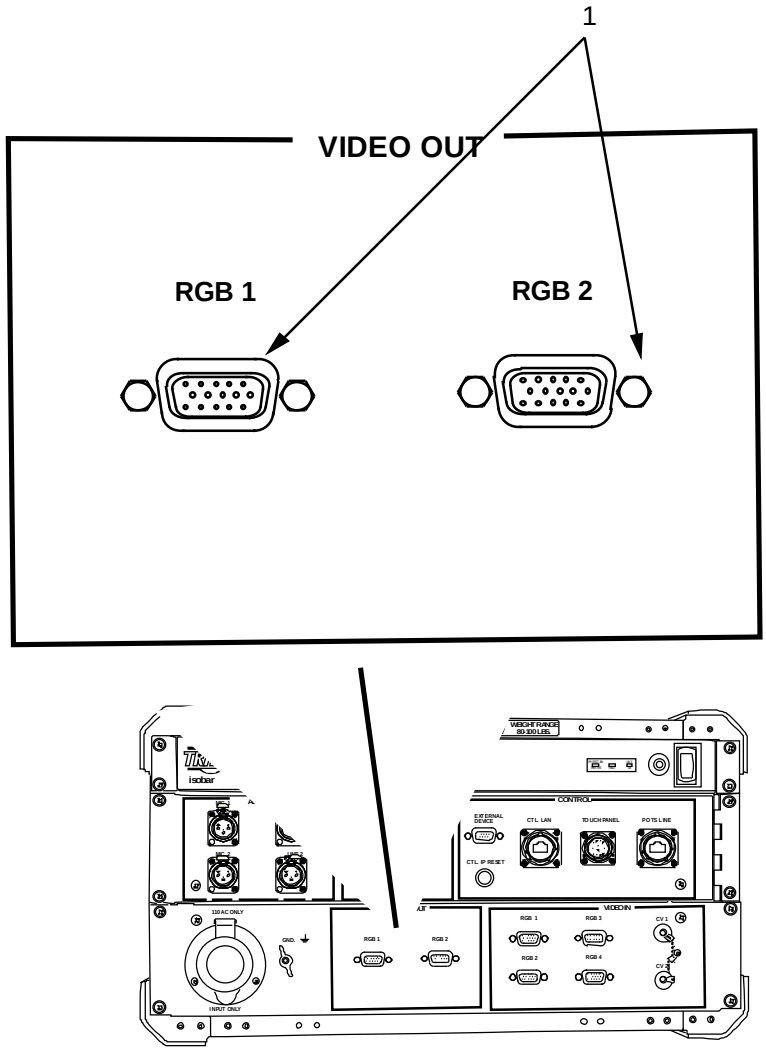


Figure 11. AVCS (Rear) Video Out Panel.

Table 11. AVCS (Rear) Controls, Indicators and Connectors.

ITEM	CONTROLS, INDICATORS, AND CONNECTORS	FUNCTION
1	RGB 1/RGB 2 (HD-15)	Provides connection for individual video display device. (Both outputs show same image - mirrored display).

SPEAKER (Front)

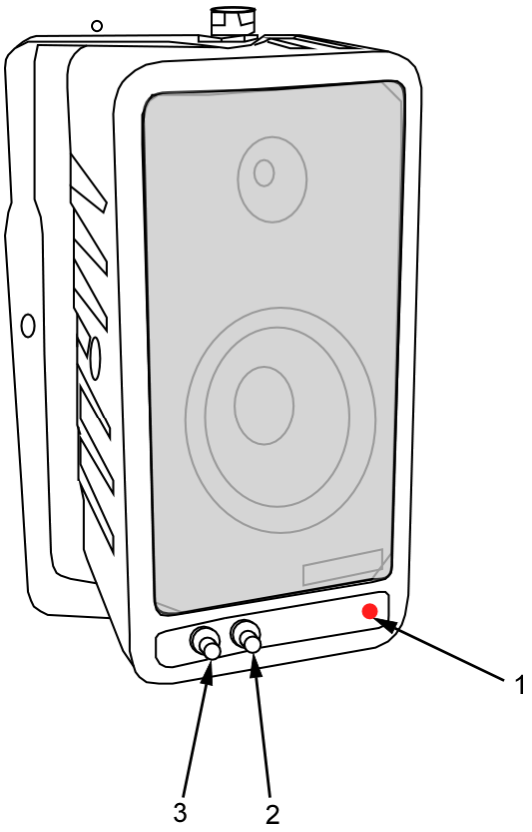


Figure 12. Audio Speaker (Front).

Table 12. Speaker Controls, Indicators and Connectors.

ITEM	CONTROLS, INDICATORS, AND CONNECTORS	FUNCTION
1	Power Indicator Light (Green)	Indicates power to speaker.
2	Tone Control Dial	Controls speaker output tone.
3	Volume Control Dial	Controls speaker volume output.

SPEAKER (Rear)

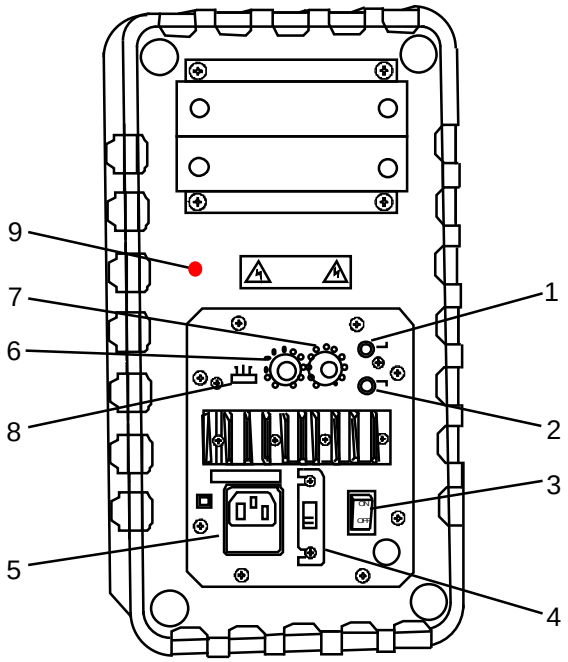


Figure 13. Audio Speaker (Rear).

Table 13. Speaker Controls, Indicators and Connectors.

ITEM	CONTROLS, INDICATORS, AND CONNECTORS	FUNCTION
1	LINE IN (RCA)	Provides connection to speaker audio input from the AV System.
2	LINE OUT (RCA)	Provides connection to daisy chain audio to additional speakers. (If available).
3	Power Switch	Provides power to speaker.
4	230V/115V Selector Switch (Red)	Provides adjustment for proper voltage.
5	Power Connector	Connection for operational power.
6	MICROPHONE LEVEL Dial	Controls input level from connected microphone.
7	LINE IN LEVEL Dial	Controls input level for audio connected to LINE IN connector.
8	Audio Switch (OFF, AUTO, ON)	Controls audio output. (Recommend ON or AUTO) Auto position detects audio presence on inputs to automatically control muting.
9	MIC INPUT	Provides input for microphone (if available).

TOUCH PANEL (Rear)

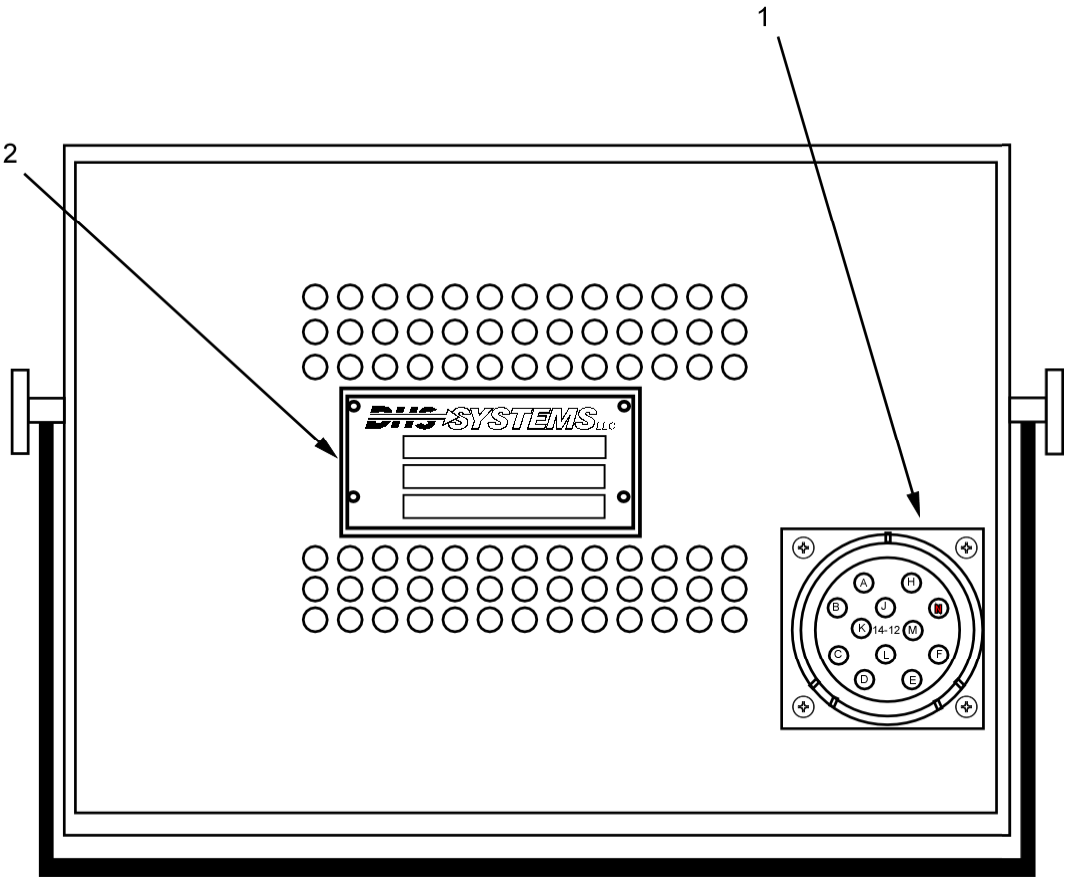


Figure 14. Touch Panel (Rear).

Table 14. Touch Panel Controls, Indicators and Connectors.

ITEM	CONTROLS, INDICATORS, AND CONNECTORS	FUNCTION
1	Touch Panel Connector	Provides power and data connection to AV System.
2	System Data Plate	Provides Part & Serial Number.

TOUCH PANEL (Front)

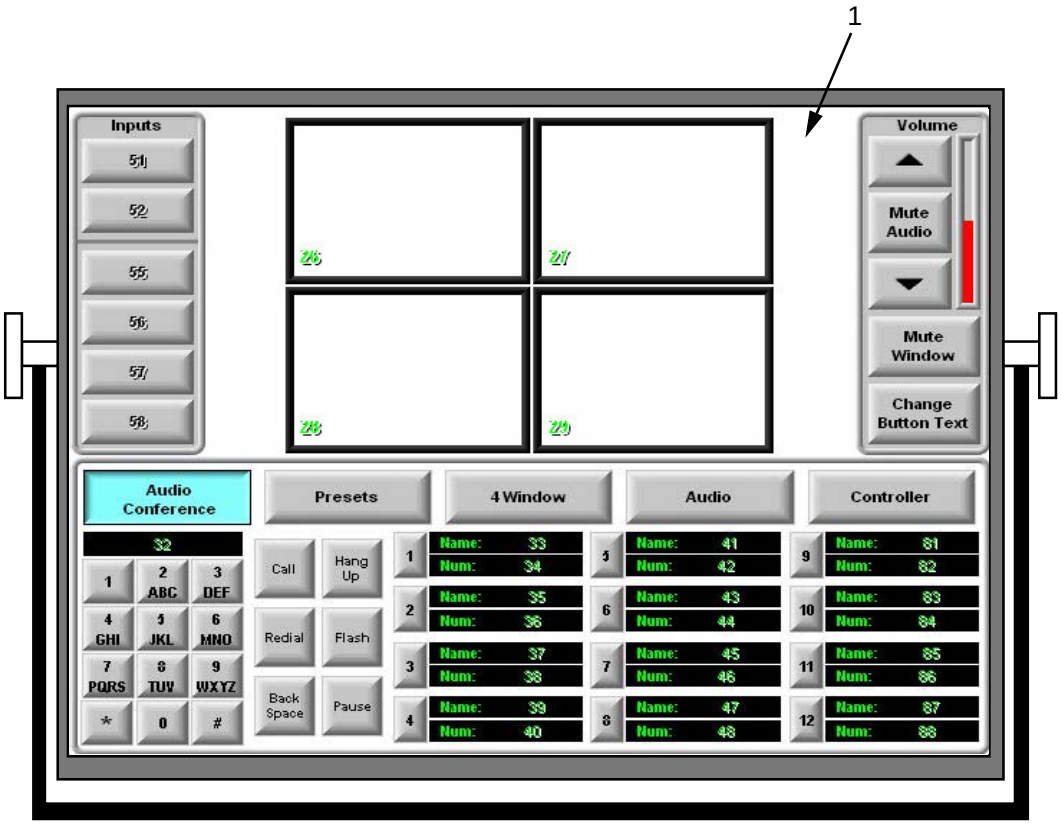


Figure 15. Front of Touch Panel.

Table 15. Touch Panel, Front, Controls, Indicators and Connectors.

ITEM	CONTROLS, INDICATORS, AND CONNECTORS	FUNCTION
1	Touch Panel	Touch desired controls on panel to operate AV System.

END OF WORK PACKAGE

OPERATOR INSTRUCTIONS
AVCS (MINI)
SET-UP PROCEDURES

GENERAL

The following WP details the assembly of the AVCS (MINI) system.

This system provides the flexibility to connect whatever devices will best support the mission of the unit. The commander should make an assessment of the current mission prior to set-up and determine what input and output devices are to be used. This WP will address the individual connections and procedures for general set-up.

SITE REQUIREMENTS

To ensure minimal problems and good operation of AVCS (MINI), ensure that area is:

- Dry
- Level with adequate room AVCS (MINI) and all associated equipment
- Free of items that would cause physical interference with setting up the AVCS (MINI)

INITIAL ADJUSTMENTS, CHECKS, AND SELF TEST

Conduct a thorough inventory of all components and a complete PMCS before assembling the AVCS (MINI) System.

PREPARATION AND SET-UP OF THE AVCS (MINI)

Perform all PMCS procedures before setting up the AVCS (MINI) equipment IAW the procedures in WP 0019.

Tent Requirements and Setup

Procedures for tent power, lighting, grounding and setup can be found in the technical manual that is applicable to the model of tent, power source, and ground source being used and will not be addressed in this manual unless it specifically applies to the setup of the AVCS (MINI).

Grounding Requirements

It is necessary to ground the AVCS (MINI) and any ancillary equipment to the power source. The ground connection is made during set-up procedures for the system. DO NOT remove the ground until instructed to do so to prevent damage to sensitive equipment.

Power Requirements and Setup

The AVCS (MINI) requires 110VAC power from a power distribution box or other power supply. This manual will address set-up procedures for a standard 110VAC power source as normal operating procedures. All power connections will be addressed as part of the AVCS (MINI) set-up.

Preparation for Set-up of the AVCS (MINI)

The initial set-up procedures for the AVCS (MINI) require two personnel due to the weight of the system. Once the transit case is positioned, all other tasks may be done by a single individual. Refer to Equipment Description and Data (WP 0002) for AVCS (MINI) system dimensions and weights.

WARNING

When performing the following procedures, ensure all cables are organized in such a way to minimize personnel tripping hazard.

The AVCS (MINI) weighs in excess of 100 pounds and requires a 2 person lift. Improperly lifting or carrying heavy equipment can result in serious injury.

If necessary, refer to Description and Use of Operator Controls, Indicators and Connectors (WP 0004) for location and description of the items being used.

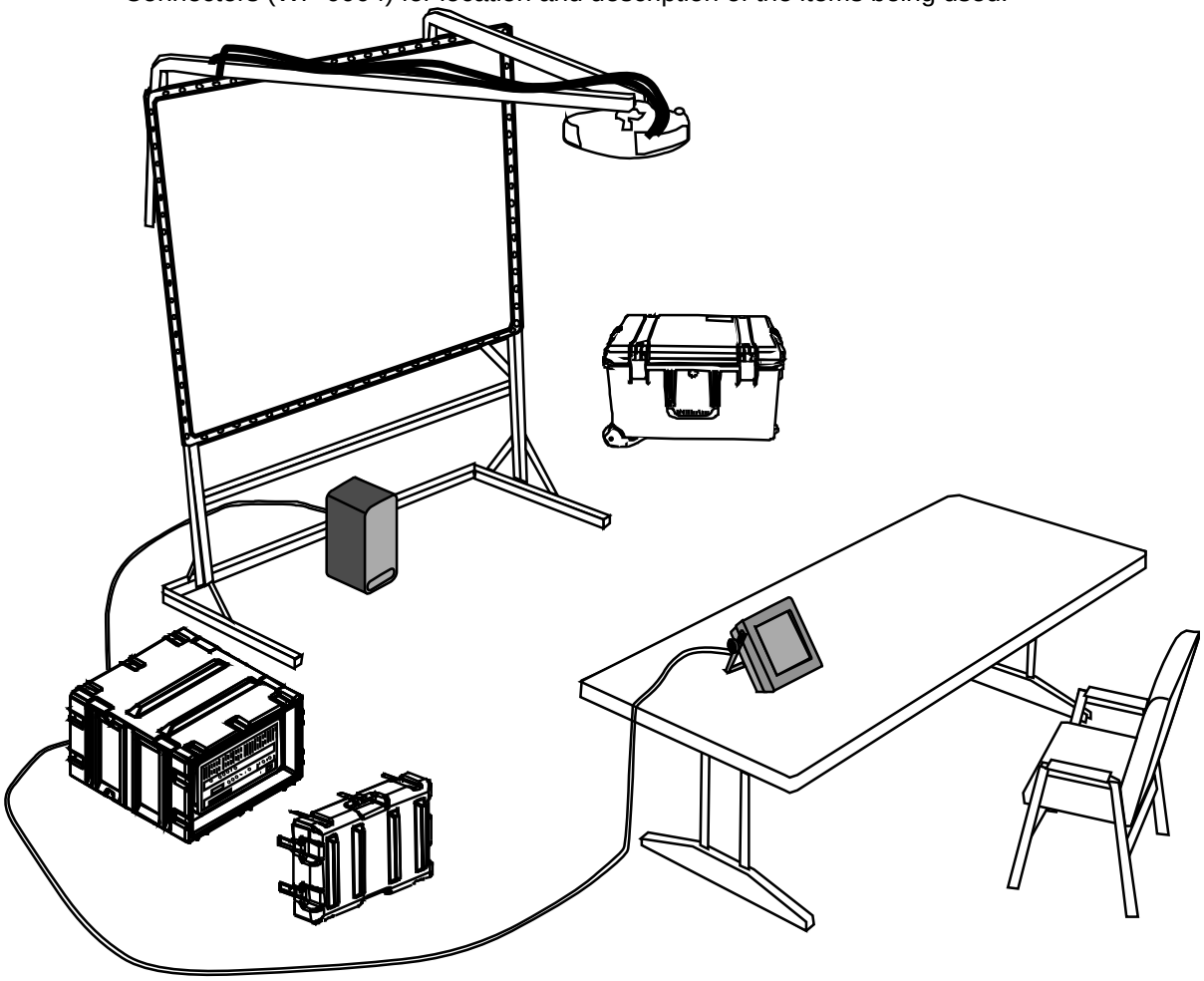


Figure 1. Typical Setup of AVCS (MINI).

1. Carefully remove two transit cases from transport vehicle and set in approximate locations inside operating facility.

2. Inspect exterior of both transit cases IAW operator PMCS (WP 0015). Verify there is no physical damage.

END OF TASK

Position and Set-up of the AVCS (MINI)

CAUTION

The AVCS (MINI) transit caser is a two person lift.

1. Lay the AVCS (MINI) transit case on its back.

2. Turn all twist locks three-quarters turn to release the front cover (Figure 2, Item 1) from AVCS (MINI) transit case and remove from the main case (Figure 2, Item 2).

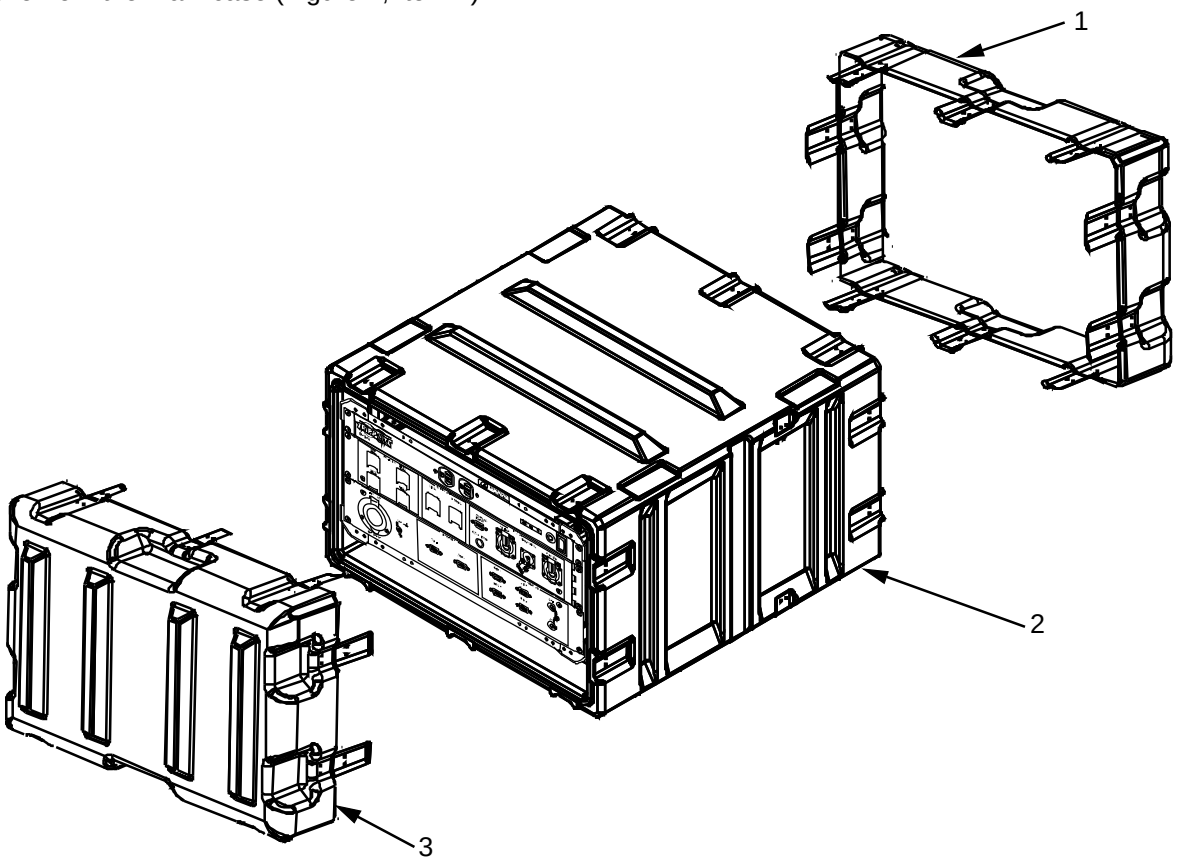


Figure 2. AVCS (MINI) Transit Case with Twist Locks.

3. Lift the AVCS (MINI) transit case into a standing position.

NOTE

The position of the AVCS (MINI) is determined by the components being connected to it. The control panel cable is 25' in length. Position the case so all components can be connected without cables interfering with traffic through the operations center.

4. Move the AVCS (MINI) into its setup location.

5. Release the twist locks on the rear cover (Figure 2, Item 3) and remove from the main case.

6. Realign all twist locks and press down on the clasps to flatten locks against the case.

7. Locate the power cable for the AVCS (MINI) in the ancillary equipment case.

NOTE

Do not connect the power supply to an active power source until the ground has been properly established and all accessory devices have been attached to the AVCS (MINI) main body.

8. Lift the rubber dust cover off of the power connector, located on the bottom right side of the rear of the AVCS (MINI), and insert the female end of the power cable into it. Do not connect the power source at this time.

9. Remove the thumbscrew from the ground connector and attach a ground cable from the AVCS (MINI) to the GENSET or other power source ground. Replace the thumbscrew and tighten.

10. Remove the touch panel (Figure 3, Item 2) from the ancillary equipment case and position it at the operator's station.

11. Unwind the power cable (Figure 3, Item 1) and route to the AVCS (MINI) so that the cable does not interfere with traffic flow in the operations area.

NOTE

If possible, utilize wire tracks to prevent personnel from tripping on the wire and causing damage to the touch panel or injury to personnel.

12. Remove dust cover from the touch panel connector (Figure 3, Item 3) on the rear of the AVCS (MINI).

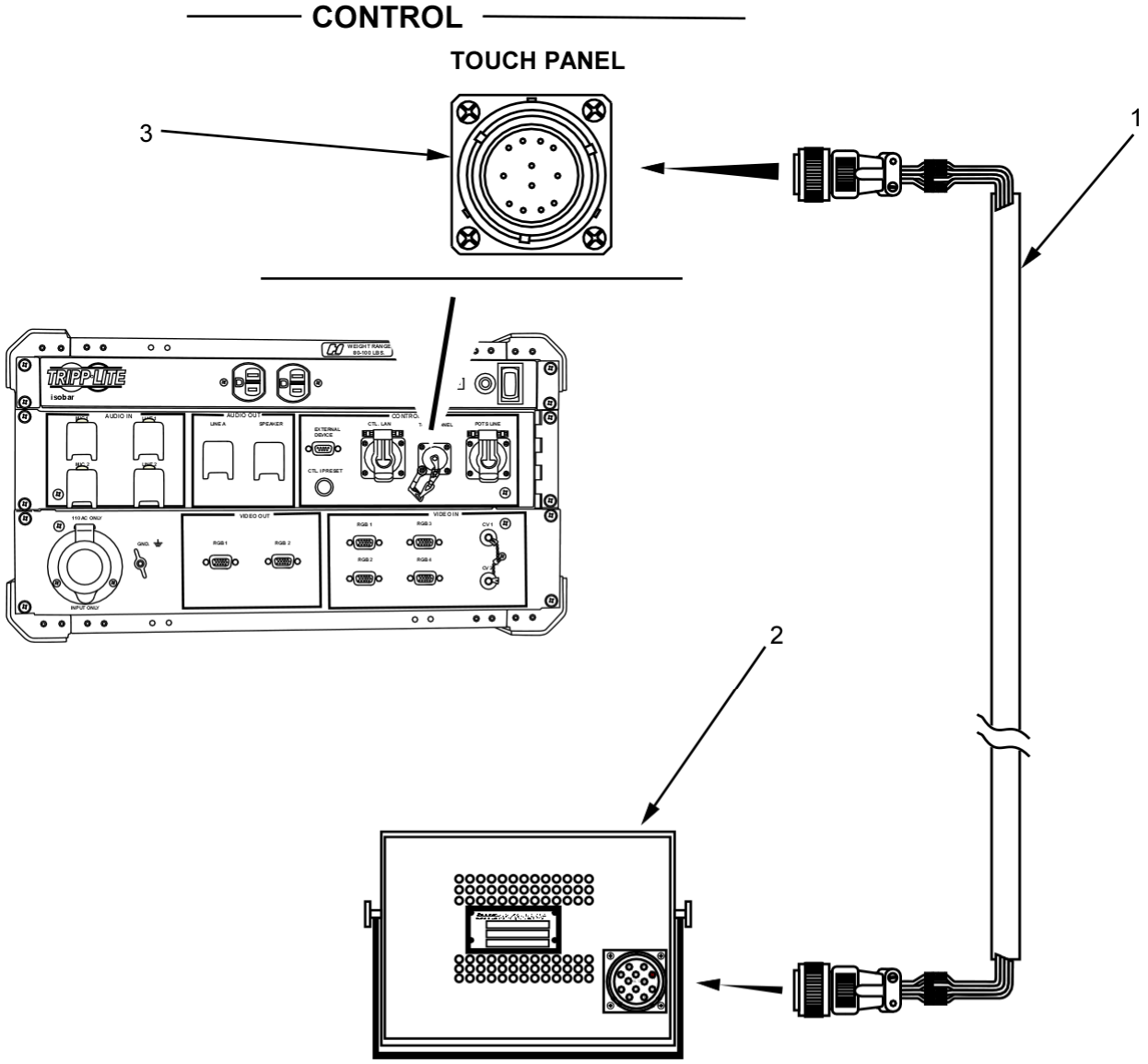


Figure 3. Control Panel Connector and Cable Connection for Touch Panel.

13. Connect cable to connector and lock into place by rotating locking ring clockwise.

END OF TASK

SET-UP AND CONNECT AUDIO INPUT DEVICES

Available Devices

Audio input can be achieved through various devices. The system will accept two analog microphone inputs and two analog line inputs. The system will attach to any audio device which has a line level audio output. An adapter cable may be required. These devices include, but are not limited to, the following:

- Audio MIC Input
  - o Hand Held Microphone
  - o Table top Microphone
  - o Wireless Microphone
- Audio Line Input
  - o Lap Top Computer
  - o DVD/CD player
  - o Satellite Receiver
  - o VTC CODEC

NOTE

If using a microphone for input use the connector(s) marked 'MIC', if using a line audio input device, such as a computer or satellite receiver, use the connector(s) marked 'LINE". A microphone is not provided with the AVCS (MINI) system.

1. Identify the type and amount of analog audio input devices that will be used.
2. Position the audio input device in its desired location.
3. If necessary, select the appropriate audio adaptor from the ancillary equipment case and connect it to the RCA jacks on the XLR audio cable provided with the system. An adapter or adapter cable may be required as there are several types of microphone and line level audio connectors.
4. Connect an XLR audio cable from a suitable audio output device to either AUDIO IN LINE A or LINE B (Figure 4, Item 1).
5. Connect an XLR audio cable from a microphone to either AUDIO IN MIC 1 or MIC 2 (Figure 4, Item 2).
6. Route the XLR audio cable so that it does not interfere with the traffic flow in the area.

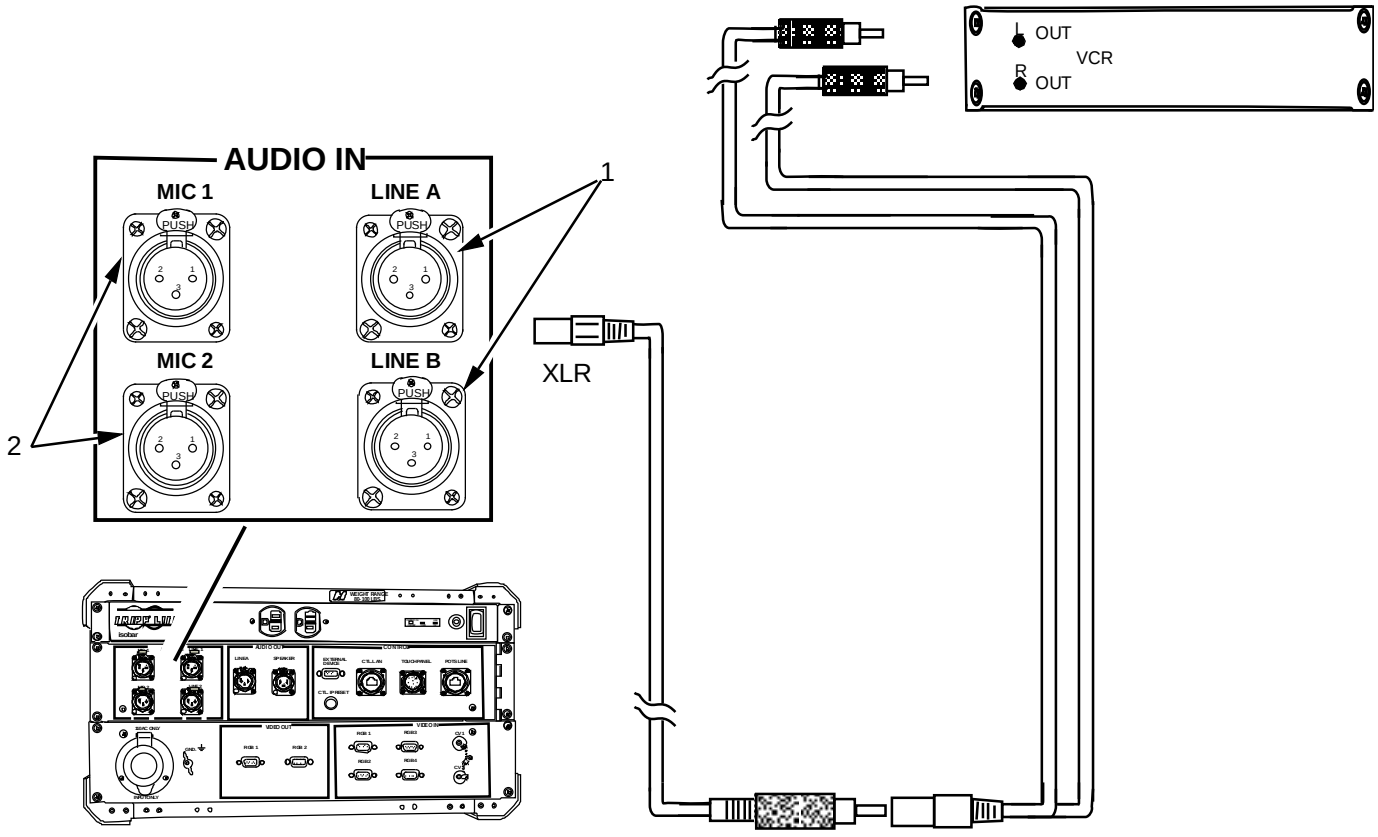


Figure 4. AUDIO IN connectors.

4. Route the XLR audio cable so that it does not interfere with the traffic flow in the area.

NOTE

If using a microphone for input use the connector(s) marked ‘MIC’, if using a line audio input device, such as a computer or satellite receiver, use the connector(s) marked ‘LINE”.

5. Identify the appropriate XLR connector on the rear of the AVCS (MINI) in the section marked ‘AUDIO IN’.

6. Remove the dust cover from the XLR connector on the AVCS (MINI).

7. Align the XLR connector on the cable with the connector and press in until it clicks.

8. Repeat steps 1 through 7 for each additional input device.

END OF TASK

SETUP AND CONNECT AUDIO OUTPUT DEVICES

Speaker Set-Up Instructions

The AVCS (MINI)'s audio feed can be connected to various audio devices. The system provides two XLR audio output connectors. One of the connectors is designated for the included speaker. The additional XLR connector is intended for use as an audio line out feed. The system will attach to any audio device which has a line level audio input. Using adaptors, devices with different configurations of line level audio connectors can also be connected. These devices include, but are not limited to, the following:

- Audio Speaker Output
  - o APS 25 Powered Amplified Speaker (included)
  - o COTS speaker systems
- Audio Line Output
  - o Laptop Computer
  - o CD/ tape recorder
  - o Remote Amplified speakers
  - o Audio Amplifier
  - o Radio Systems
  - o VTC CODEC

NOTE

These are industry standard line level audio outputs. An audio amplifier is required for connecting speakers without a built-in amplifier.

1. Locate the speaker in the ancillary equipment case.

2. Position the speaker (Figure 5, Item 1) in the desired location.

3. Obtain one XLR cable (Figure 5, Item 2) and connect the RCA jack end into the LINE IN jack on the speaker.

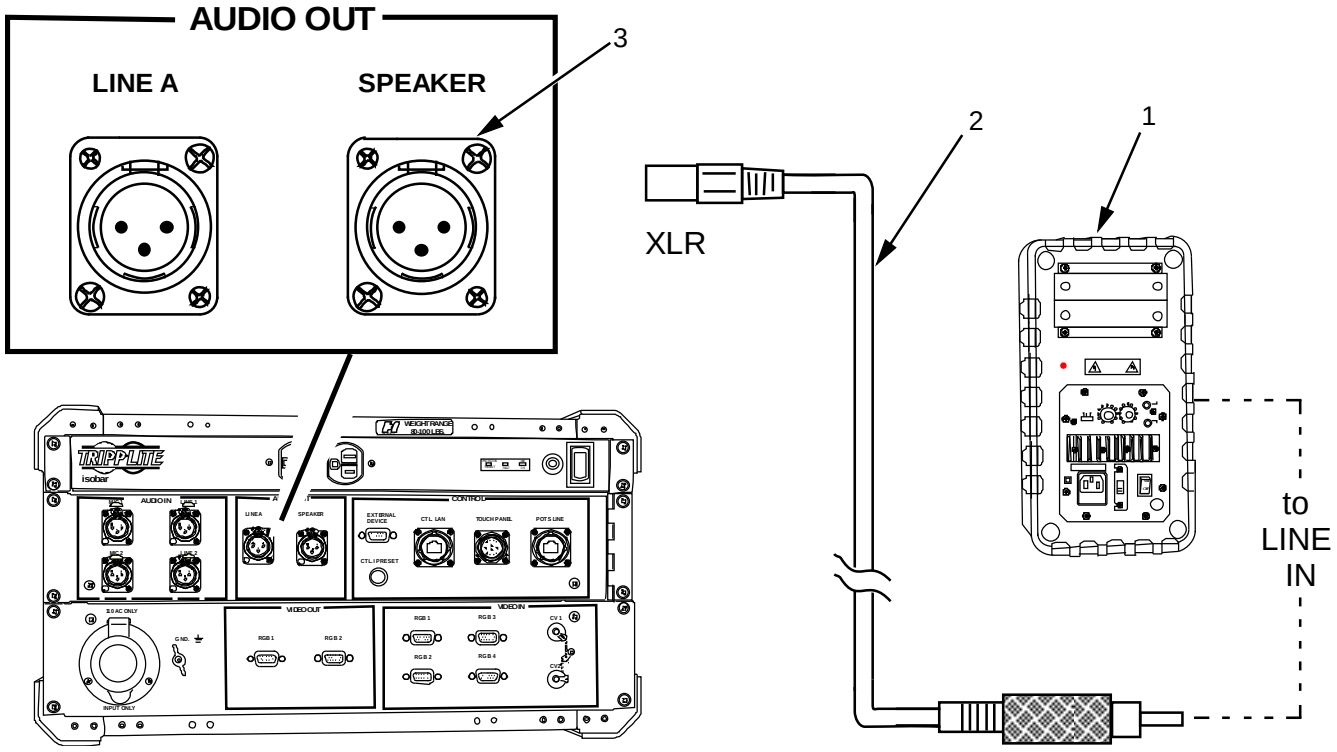


Figure 5. AVCS (MINI) AUDIO Output Connection.

4. Route the XLR cable so that it does not interfere with the flow of traffic in the Command Center.

5. Remove the dust cover from the XLR connector on the AUDIO OUT panel located on the rear of the AVCS (MINI). Insert the XLR connection into the connector labeled SPEAKER (Figure 5, Item 3) and press to lock into place.

END OF TASK

Auxiliary Audio Equipment Set-Up Instructions

A Video Cassette Recorder (VCR) with analog audio output capability can be used with the AVCS (MINI) for audio monitoring.

1. Position the audio monitoring device in the desired location.

2. If necessary, select the appropriate audio adaptor or adaptor cable and route it so that it does not interfere with the traffic flow in the area.

3. Obtain one XLR cable (Figure 6, Item 2) from the ancillary equipment case.

4. Remove the dust cover from the LINE A connector on the AUDIO OUT panel.

6. Align the XLR connector on the cable to the LINE A connector and press in until it clicks.

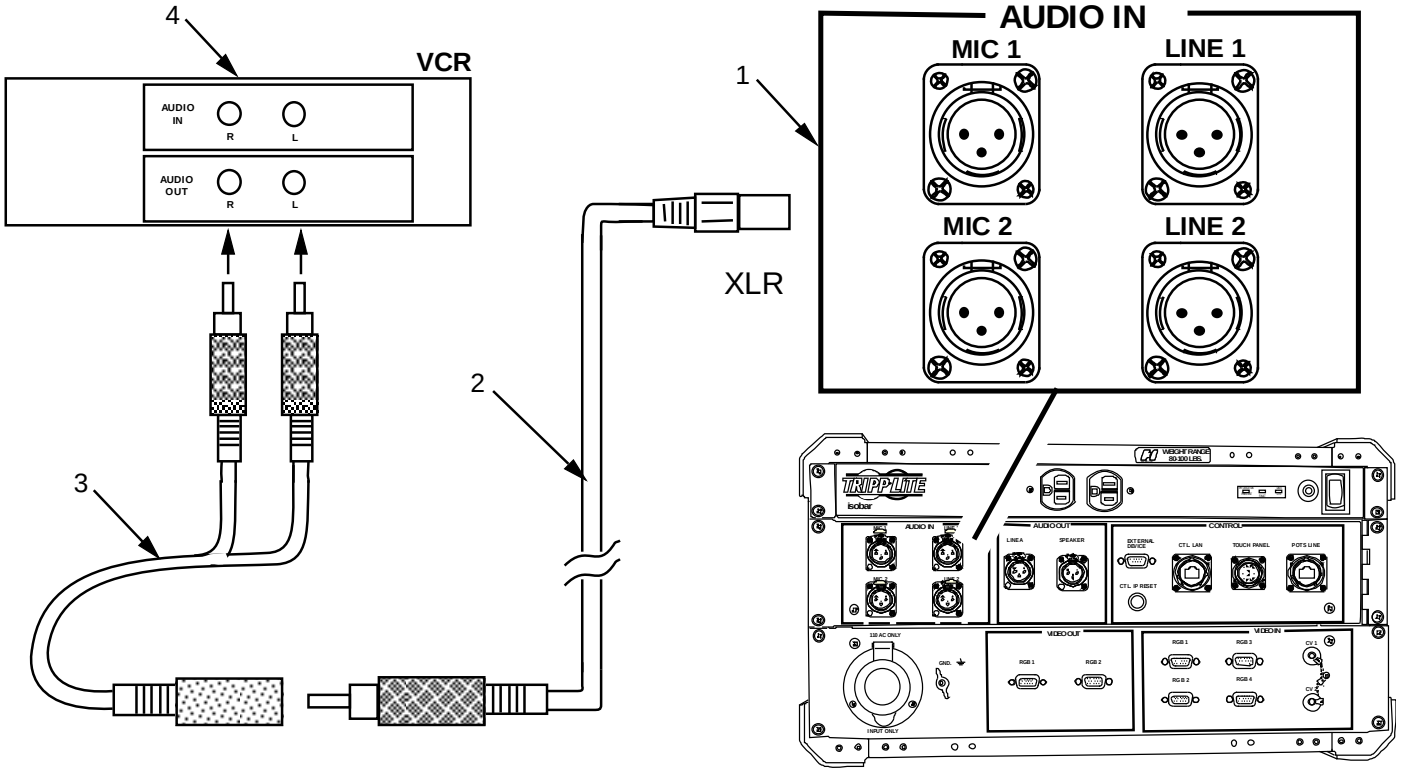


Figure 6. Connect Aux Equipment to AVCS (MINI) System.

END OF TASK

SETUP AND CONNECT VIDEO INPUT DEVICES

Available Devices

Video input can be connected to various devices. The system will accept two composite video inputs and four RGBHV (computer) inputs. The system will attach directly to any video source device which has a composite (coaxial) style connector or a HD-15 VGA connector. Devices with an RCA video jack can also be connected using the adaptor cable included with the system. These devices include, but are not limited to, the following:

- Composite Input
  - o DVD/VCR Player
  - o Satellite Receiver
  - o Remote Camera
- RGBHV Input
  - o Laptop Computer
  - o VTC CODEC

Composite Device Setup Instructions

The AVCS (MINI) is capable of monitoring two separate composite video inputs at the same time.

1. Identify the type of composite video input device to be used and position the device (Figure 7, Item 3) in desired location.

2. Connect the cable (Figure 7, Item 1) to the video output on the VCR. If using a device with an RCA jack, use the BNC to RCA adaptor cable located in the ancillary equipment case or an appropriate adaptor.

3. Route the cable so that it does not interfere with the flow of traffic through the Command Center.

4. Remove the dust covers from either composite input connector (Figure 7, Item 2) located on the VIDEO IN panel of the AVCS (MINI).

5. Insert the cable into the connector and twist clockwise to lock into place

6. If connecting two devices to the AVCS (MINI), repeat steps 1 through 6 for the additional device.

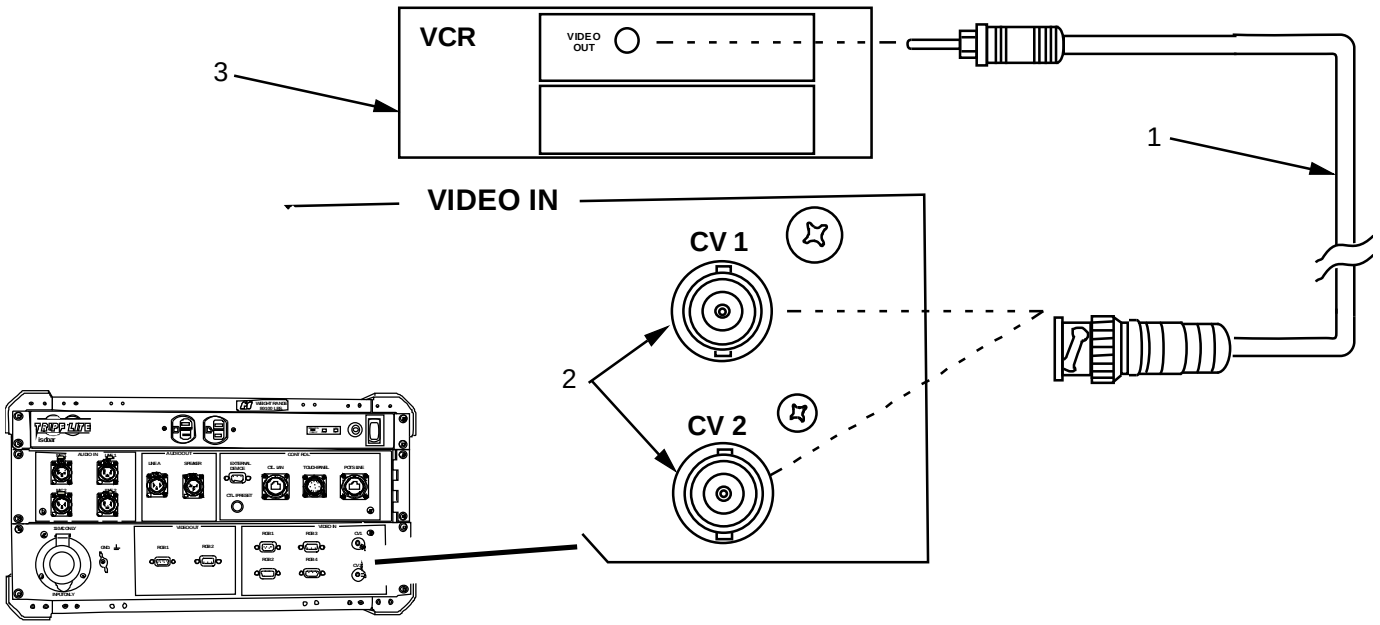


Figure 7. Connect Video Input Equipment to AVCS (MINI) System.

SETUP AND ATTACH VIDEO OUTPUT DEVICES

RGBHV Device Setup Instructions

1. Identify the RGBHV input device (Figure 8, Item 1) to be used and position in its desired location.

2. Connect the HD-15 cable (Figure 8, Item 2) to the video output on the RGBHV device.

3. Route the cable so that it does not interfere with the flow of traffic through the Command Center.

4. Insert the cable connection into the RGB 1 or RGB 2 (Figure 8, Item 1) connector and tighten down the two screw locks to hold it in place.

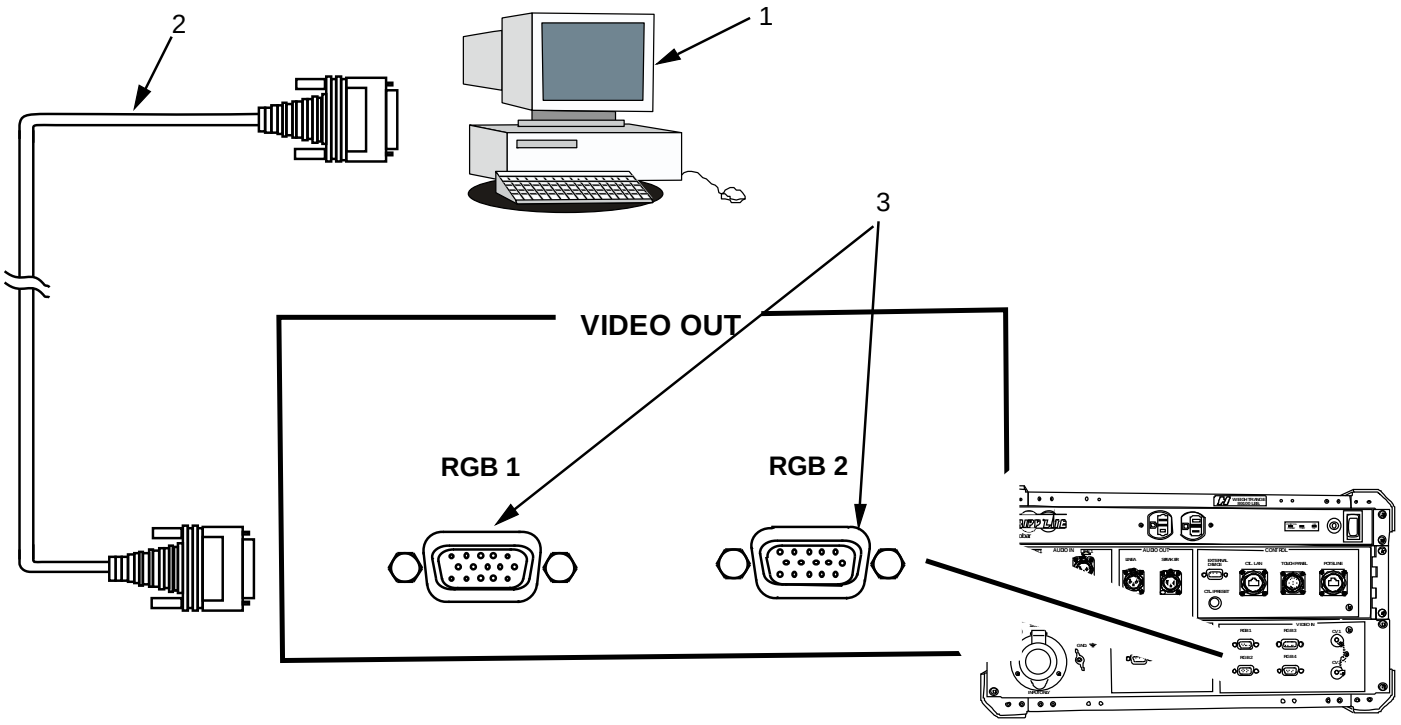


Figure 8. Connect Video Output Devices to AVCS (MINI) System.

END OF TASK

The AVCS (MINI) has two HD-15F connectors for attaching to local video display systems or recorders.

Local Video Display Set up

1. Setup the local display system IAW instructions in the appropriate TM. If using DRASH/DC2E SXGA+ Projection System, refer to TM95235.

2. Connect the HD-15 cable (Figure 9, Item 2) to the local display system (Figure 9, Item 1) video input connector.

3. Route the cable from the local display to the AVSL so that it does not interfere with the flow of traffic through the Command Center to the DC2E (MINI) AVSC.

4. Select a VIDEO OUT HD-15 connector on the rear of the AVSC and remove the dust cover.

5. Insert the cable connection into the RGB 1 or RGB 2 (Figure 9, Item 3) connector and tighten down the two screw locks to hold it in place.

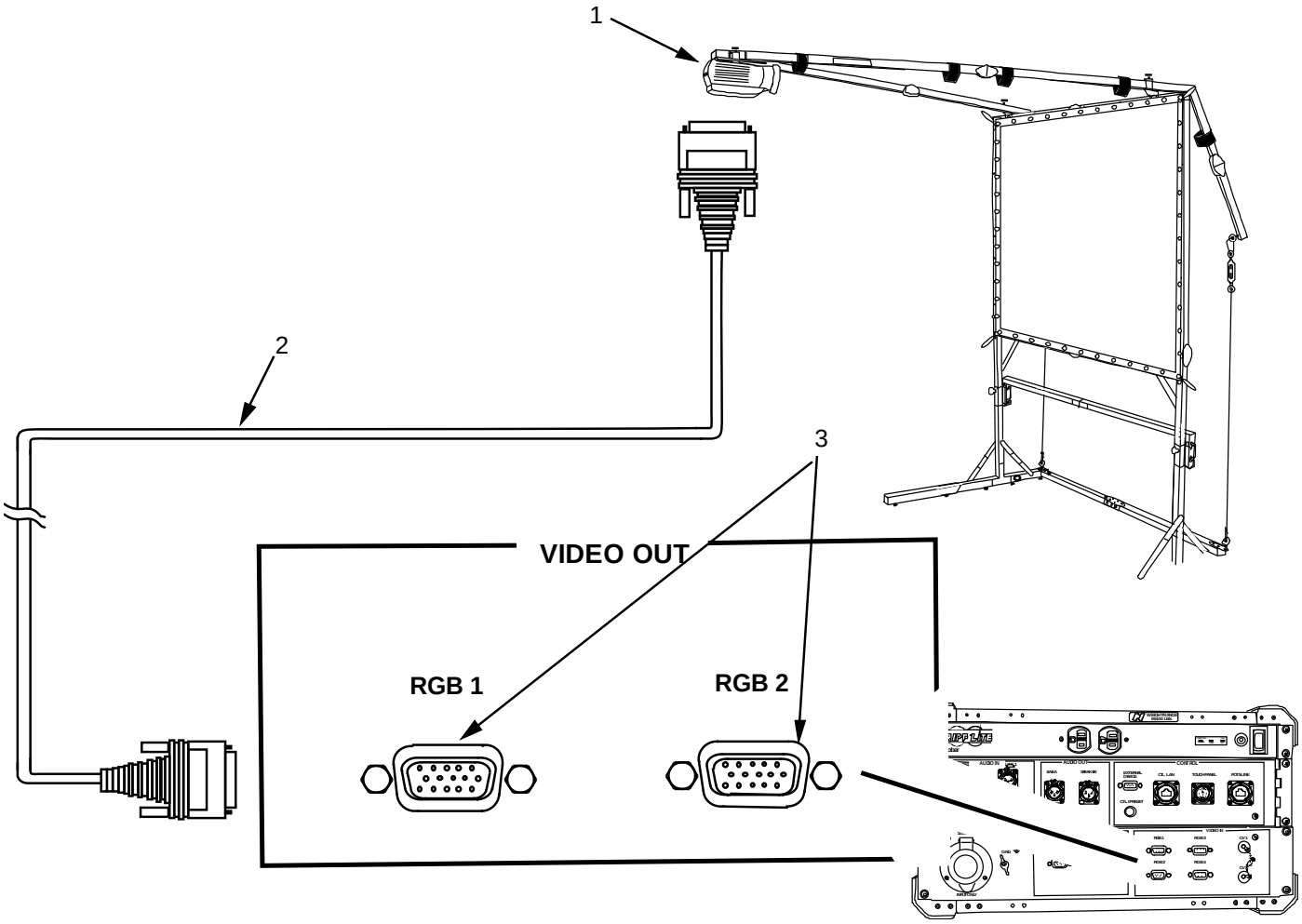


Figure 9. Connect Video Projector to AVCS (MINI) System.

END OF TASK

OPTIONAL PROCEDURE

Connect LAN Cable to AVCS MINI

1. Locate the LAN cable (Figure 10, Item 2) in the Ancillary Case to connect the AVCS system (Figure 10, Item 3) to a local area network (Figure 10, Item 1). Once connected to the local network, the AVCS system can be controlled through a computer running Internet Explorer.

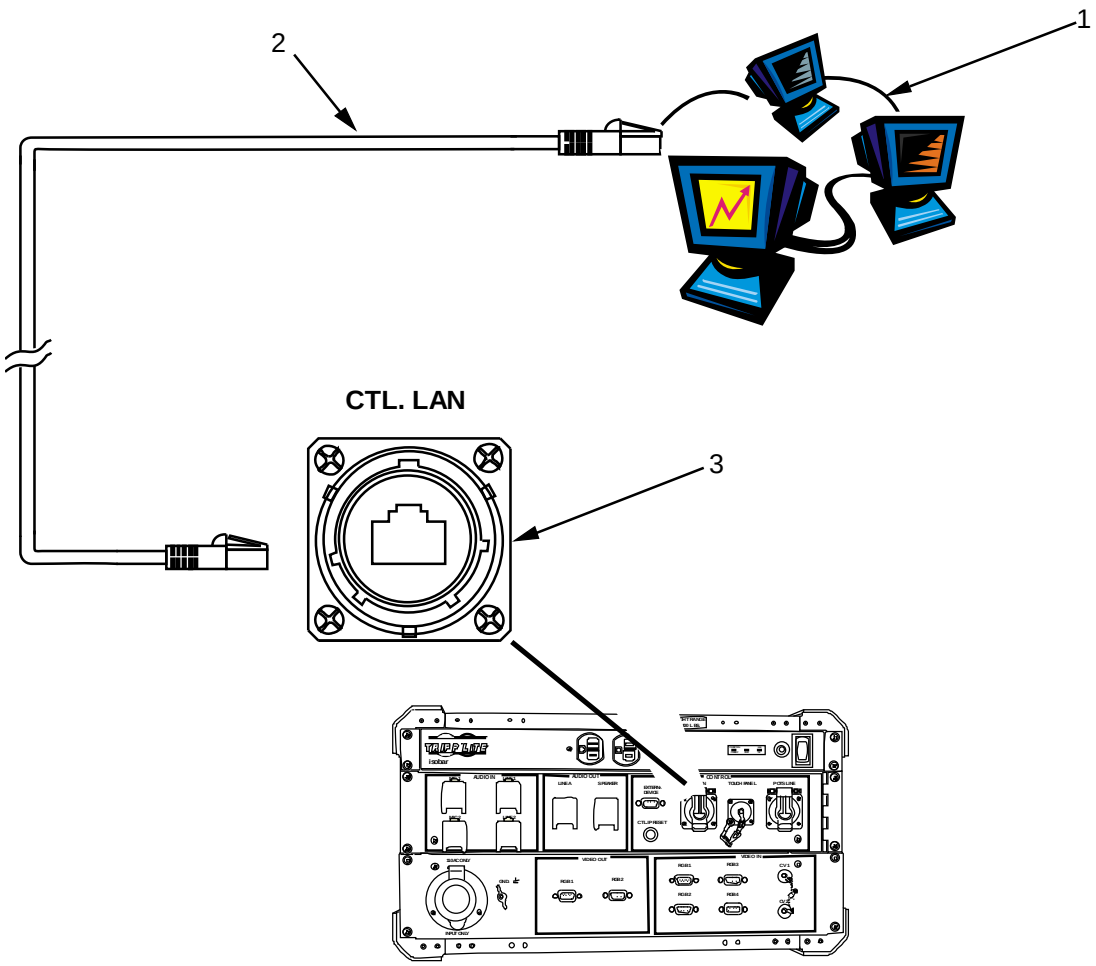


Figure 10. Connect Local Area Network (LAN) Device to AVCS (MINI) System.

Connect AVCS (MINI) Power Cable and Ground Lead

WARNING

GROUND THE EQUIPMENT

Before connecting primary power cables, connect grounding cable from ground lug on power control box to earth ground. Do not remove grounding cable until signal cables and primary power cables have been disconnected and Genset has been shut down.

Refer to “Earth Grounding and Bonding Pamphlet”, CECOM TR-98-6, Oct 1998 for more detailed information on grounding procedures.

Note that a ground lead is not provided with the AVCS (MINI).

1. Attach one end of ground lead to ground lug (Figure 11, Item 1) on rear of AVCS.
2. Connect opposite end of ground wire to suitable grounding point.
3. Locate the AVCS (MINI) power supply cable from the Ancillary Equipment Case.
2. Identify the power connector (Figure 11, Item 2) on the Left Bottom Rear of the AVCS (MINI) and remove the dust cover.
3. Insert the female connector on the power cord into the AVCS (MINI) power connector.
4. Plug the 110VAC power connector into a 110VAC power source.

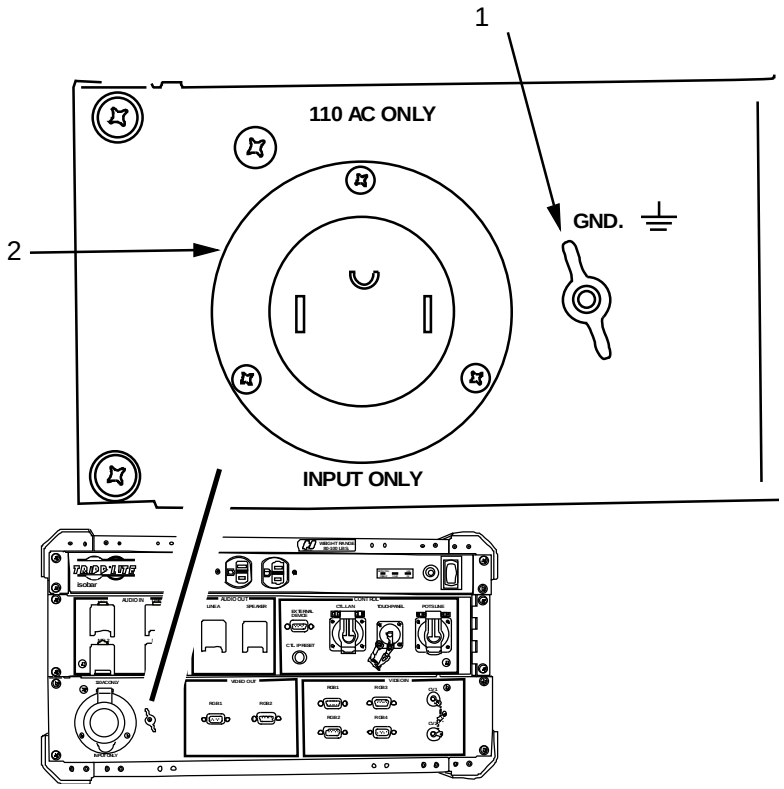


Figure 11. Connect AVCS (MINI) System Power Cable and Ground Lead.

END OF TASK

Speaker Adjustment

The Speaker should already be out of the Ancillary Case and partially setup (see SETUP AND CONNECT AUDIO OUTPUT DEVICES).

1. On the speaker's rear panel, set the LINE IN LEVEL (LIL) to the desired level by rotating the LIL dial clockwise. The recommended level is 75% of Max. If not using a directly connected microphone, set the microphone level to MIN to prevent additional noise.

2. If using a direct connection Microphone, set the MICROPHONE LEVEL to 50% by rotating the MICROPHONE LEVEL dial clockwise.

3. Activate the Microphone and speak into it. Adjust the MICROPHONE LEVEL to desired level.

NOTE

Extremely important to have the correct voltage selected. Damage to the equipment may occur if incorrectly selected. Power input is fused. Fuse door is located below AC power input connector.

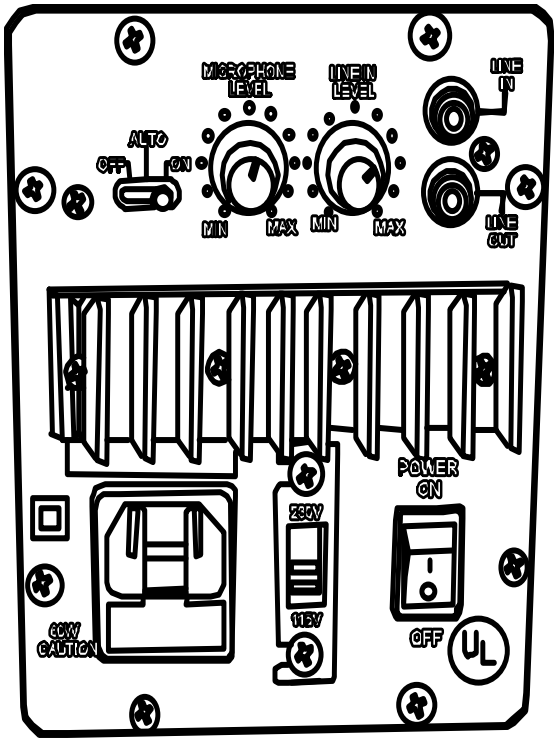


Figure 11. Speaker Setup.

END OF TASK

END OF WORK PACKAGE

OPERATOR INSTRUCTIONS
AVCS (MINI)
OPERATIONS UNDER USUAL CONDITIONS

GENERAL

The following WP details initial power-up and operational procedures for the AVCS (MINI) system. Once all the audio and video equipment have been connected, the AVCS (MINI) operating system will allow the operator to either operate using a predetermined configuration or set up a custom configuration for the mission at hand. This WP will address the individual operational screens and procedures for configuring the system and placing it into operation.

INITIAL ADJUSTMENTS, CHECKS, AND SELF TEST

Prior to starting the AVCS (MINI) system a thorough inspection of all peripheral devices should be made to ensure proper connection and setup. No additional adjustments, checks or self-tests are required.

POWER UP SYSTEM

NOTE

Each individual component in the AVCS (MINI) system can be controlled by their respective onboard switches and controls. The Touch Panel overrides these inputs. The systems work on a “Last Order Received” principle when deciding between the Touch Panel inputs and on-board switching inputs.

Power Up AV System

NOTE

During the boot-up process, the system will ignore any touch panel input. While the system is booting, a progress bar will indicate boot-up progress as well as display a notice that the system is booting up.

1. Set the Main Power supply ON/OFF switch (Figure 1, Item 1), located on the top right rear of the AVSC, to '**ON**'. Ensure the Secondary Power Supply Switch (Figure 1, Item 2) always remains in the '**ON**' position.

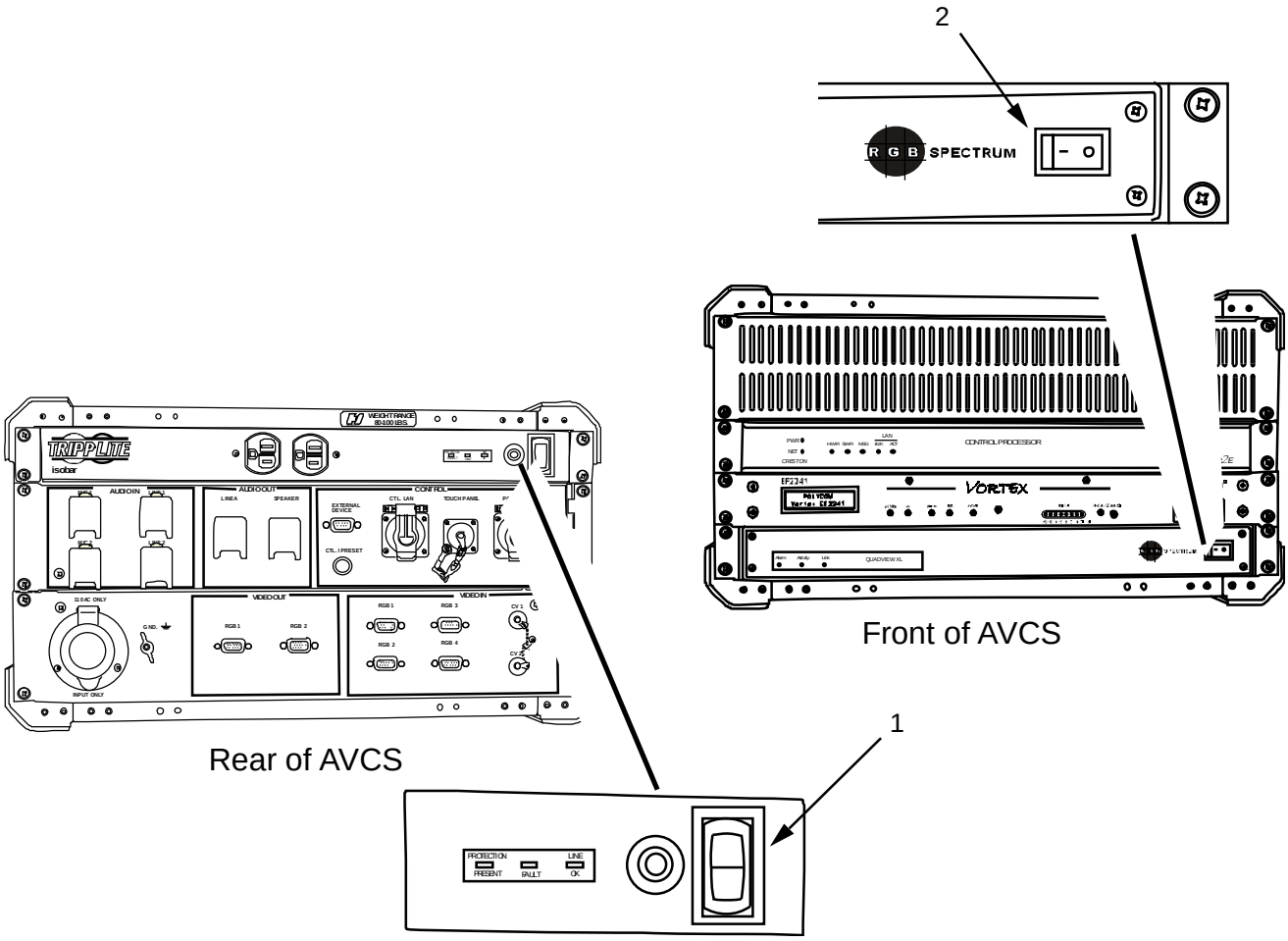


Figure 1: Main and Secondary Power Supply Switches.

2. Verify the speaker voltage select switch on the rear of speaker is set to the proper voltage. Set the Speaker POWER On/Off switch to '**ON**'.

3. Power up all peripheral audio/video input devices according to their respective TM's.

4. Power up all peripheral audio/video output devices according to their respective TM's.

5. Observe the “Progress Bar” (Figure 2) showing completion.

Figure 2. Startup Progress Bar.

After the system is completely booted it will display the main page. On the main page you will see the video feed controls as well as the Audio Conference sub page.

6. Wait for “Main Page” to show on the Control Panel (Figure 3). Select “Touch here to continue” on the Start Page (see Figure 3).

Figure 3. Start Page.

4. If this is the initial power up of the system or if the system has been reset the Software License page will appear. After reviewing the license, select the **I Agree** button to continue startup.

AVCS Main Display

After the system is completely booted, it will default to the Main Display page **(Figure 4)**. **The Main Display page is shown with callouts indicating the five main functional AVCS Control Groups.**

On the start page you will see the DRASH splash screen as well as the Audio Conference sub page. This page also displays the current audio volume level, video mute status and any assigned labels to the Input buttons.

Item	AVCS Control Group	Description
1.	**AVCS Input Control Group**	Six Input buttons have user settable text fields. User may assign a source name for each button to keep track of what source is where. The first two buttons are for composite video inputs. The remaining four buttons are tied to RGB video inputs.
2.	Splash Screen/Main Display	The AVCS starts with a Splash Screen showing the OEM logo. During normal operation, the Main Display will change according to system usage.
3.	AVCS Audio Control Group	Volume controls determine the audio level on the output labeled "Speaker." The "**Mute Audio**" button enables/disables all AVCS audio outputs. The "Mute Window" button blanks the video output. The "Change Button Text" allows customizing all of the AVCS configurable button labels.
4.	AVCS System Control Group	Five System Control buttons navigate to specific sub-screens containing functional controls for AVCS system components. Note that these five control buttons will be discussed in more depth throughout this Work Package.
5.	AVCS Component Control/Status Display	This lower section of the Main Display changes according to which System Control mode the user has selected.

Table 2. Parts of the Main Display Window.

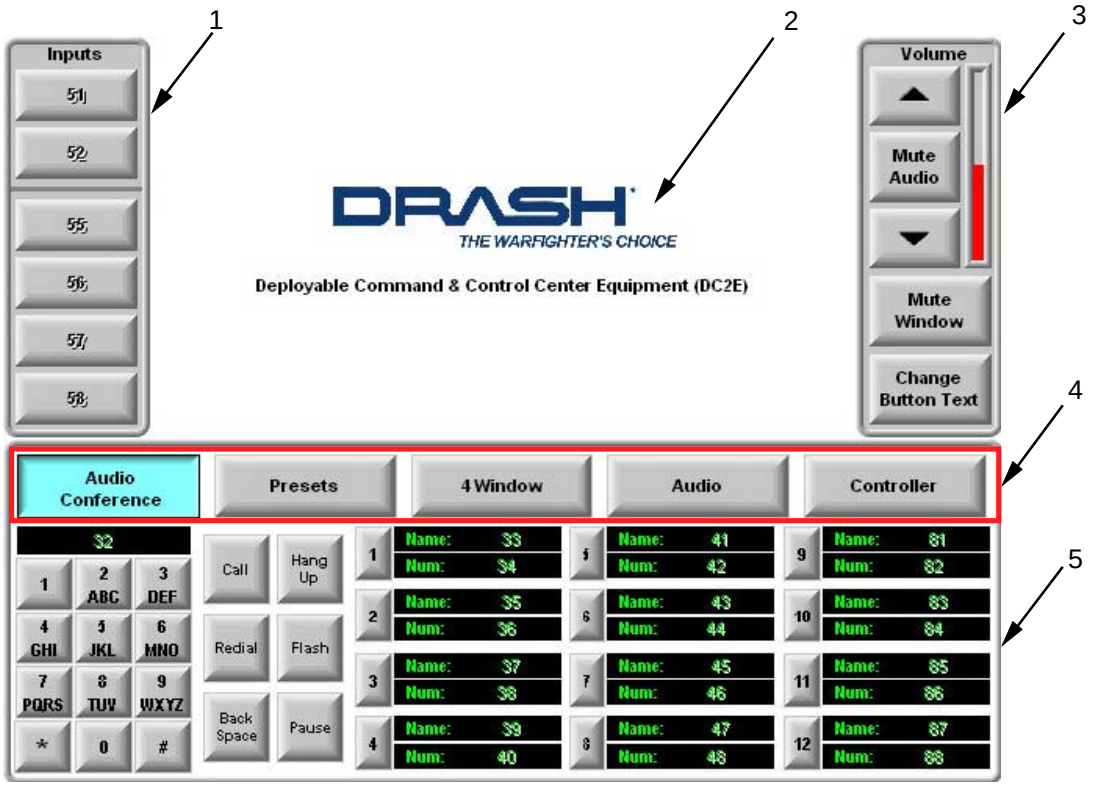


Figure 4. AVCS Main Display.

OPERATE THE AVCS

Recall Presets

The AVCS (MINI) stores four Presets in its internal flash memory. The Preset contains all the information needed to restore the system to a predetermined setup. These presets will remain after the system has been shut down. Setting up and labeling Presets is addressed later in this WP.

1. Select the Preset button (Figure 5, Item 1) to access the Preset Control Group.

Figure 5. Select Preset Control Group.

3. The Main Display page will change to show four Preset control buttons shown in Figure 6.

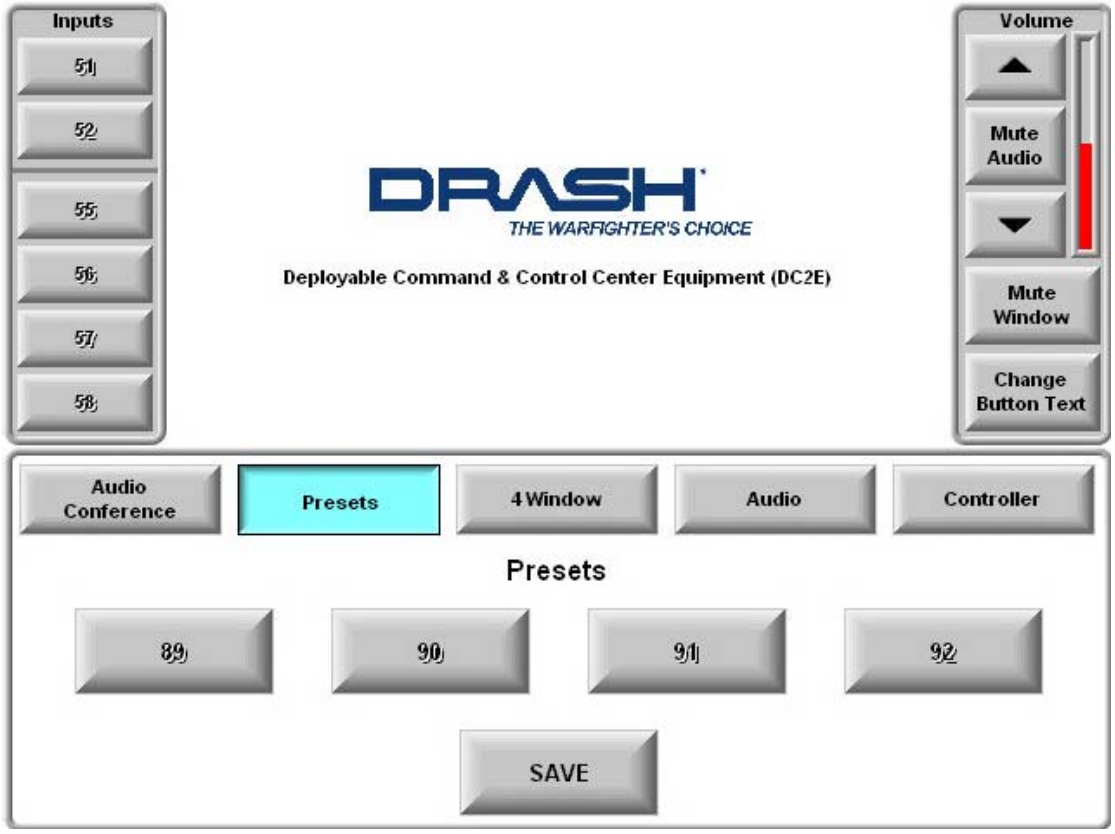


Figure 6. Preset Screen.

4. To view or change individual Presets, press the **preset button** coinciding to the desired Preset desired.

5. The Main Display will display a Wait message while the AVCS retrieves the specific Preset settings

6. Observe the Control Panel has reverted to the Main Setup Page (Figure 4). Note that adjusting presets is covered in back of this Work Package.

END OF TASK

Window Feed Routing

1. Identify which Video Input devices are to be fed through the 4 Window processor.

2. Locate and press the **4 Window** button (Figure 7, Item 1).

3. Observe the 4 Window control configuration displays (Figure 7).

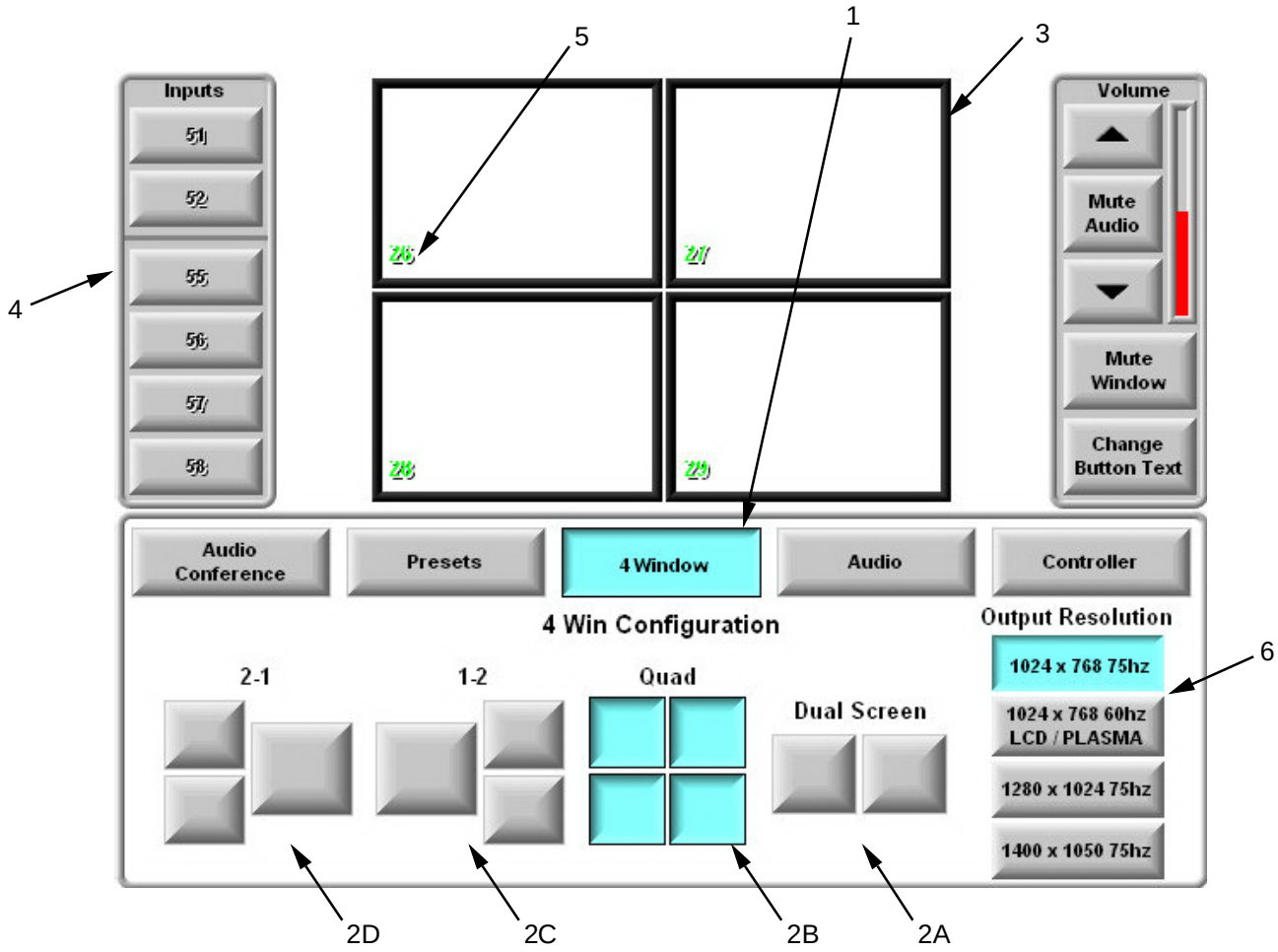


Figure 7. 4-Window Configuration Page.

4. There are four possible ways to display video on the Main Display. Locate and press a button title corresponding to the configuration display desired (Figure 7, Item 2A, 2B, 2C, or 2D). From the choices described below, select which screen display configuration is to be used.

Item #	Button Title	Main Display Appearance
2A	Dual Screen	Two quarter pane displays.
2B	Quad	Four quarter pane displays.
2C	1-2	One half pane on left and two quarter pane displays on right.
2D	2-1	Two quarter pane displays on left and one half pane display on right.

Table 2. Main Display Window Configurations.

5. Observe a line representation of the configuration will display in the control panel video display area (Figure 7, Item 3).

6. To identify which Video Source will be displayed in each of the four quadrants, locate and press one of the Video Source INPUTS button (Figure 7, Item 4). The button will appear darkened to indicate it is selected.

7. Press the center of the window (Figure 7, Item 3) in the video display area corresponding to the desired location of the video output.

8. The label of the INPUT source is displayed in the bottom left (Figure 7, Item 5) of the corresponding window and the video feed shows in the window.

9. Repeat steps six through eight for each display window.

Not all video monitors operate at the same screen resolution. Choose the best Output Resolution for the display devices connected to the video output of the AVCS:

10. Locate and press the Output Resolution button (Figure 7, Item 6) to set the AVCS video output resolution. The button will appear darkened to indicate it is selected.

11. To view a video input full screen on the connected display device, press and hold the desired video window for 3 seconds.

12. To exit from full-screen mode, touch the video screen.

END OF TASK

Composite Video Scaling

NOTE

The Scaler page allows the user to set the scaled resolution of the connected low resolution signals from the composite video inputs.

1. Locate and press the button for the resolution that will provide the best signal for the main video monitor being used to monitor the composite video inputs.

2. Select the desired resolution button until button is darkened.

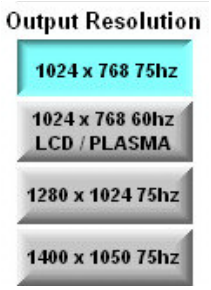


Figure 8. Scaler Controls.

END OF TASK

Audio Set Up

Set Master Volume

The master volume control is located on the top right of the main page titled 'Volume.' It controls the overall output volume level through the rear I/O panel connector labeled SPEAKER.

1. Locate the **Volume** control on the upper right corner of the main screen (Figure 9, Item 1).

2. Press and hold the **Up Arrow** button (Figure 9, Item 2) to raise the output volume to the desired level.

3. Locate and press the **Mute Audio** button (Figure 9, Item 3) to mute all audio output through the rear I/O panel connector labeled SPEAKER.

4. Press and hold the **Down Arrow** button (Figure 9, Item 4) to lower the output volume to the desired level.

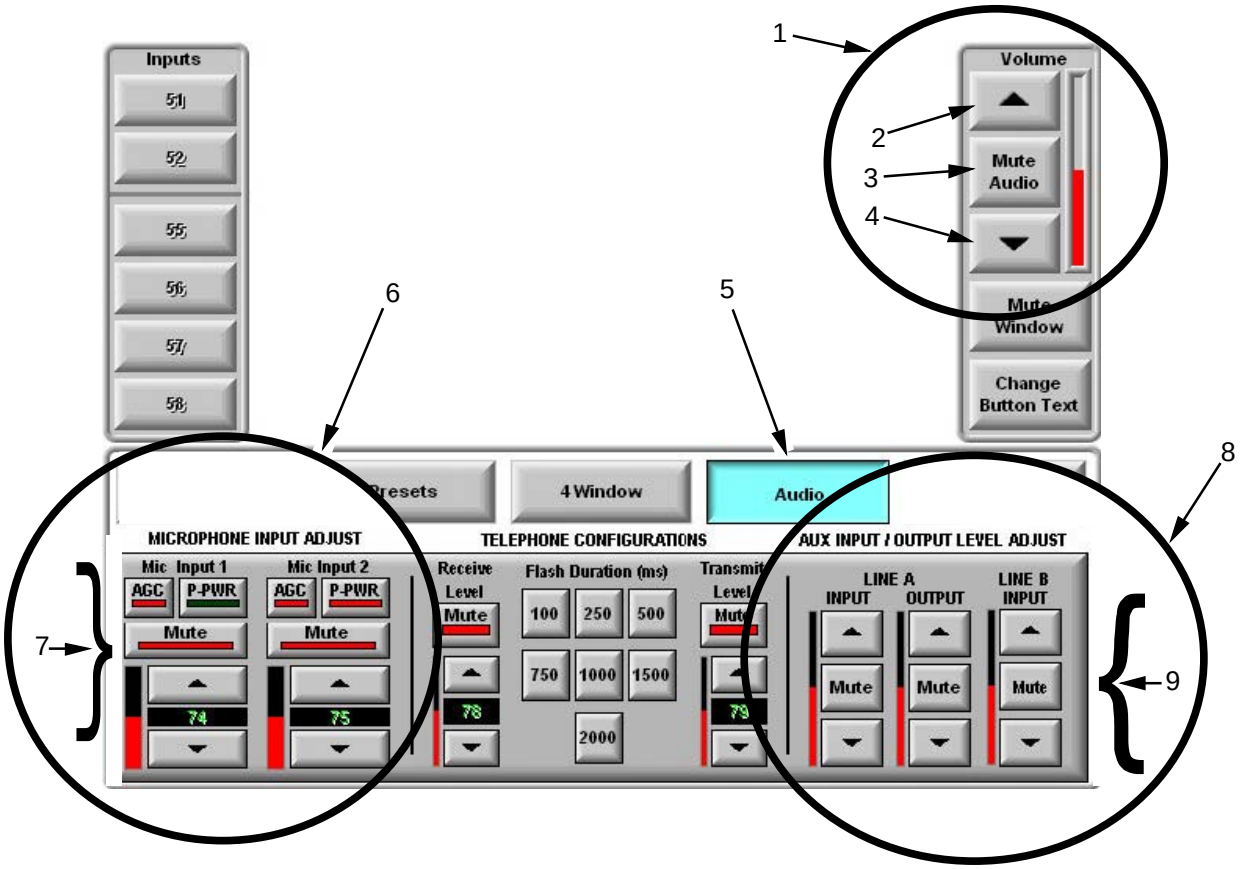


Figure 9. Audio Control Panel.

Set Audio Input Volume

1. Locate and press the **Audio** button (Figure 9, Item 5) to access the Audio Panel.

Each MIC input has four controls associated with it on the Audio Panel. The controls include automatic gain control AGC), phantom power (P-PWR), mute, and input volume.

2. Locate the two MIC Input controls (Figure 9, Item 6) on the lower left side of the Audio Panel

3. Identify the **MIC Input 1** Control (Figure 9, Item 7) located on the bottom left of the Audio Panel.

4. Press **AGC** to activate the Automatic Gain Control to keep the incoming audio level at a defined level, i.e., if the input signal level drops below a predefined level, the AVCS Mixer will increase the gain, if the signal raises higher than the preset level, the AVCS Mixer will attenuate the input signal.

NOTE

Phantom voltage refers to low voltage DC power supplied from the mixer to the microphone through the XLR cable to operate.

5. Press **P-PWR** button to activate the microphone if the microphone requires “Phantom Voltage,” to provide the microphone with 24VDC. The current audio level is displayed to the user in two ways. The analog indicator shows the current level in relation to the total level swing, the numeric shows the level in dB.

6. Speak into the microphone to test the input level.

7. Select the MIC Input 1 **Up Arrow** button to raise the audio level of the microphone. Select the MIC Input 1 **Down Arrow** button to lower the microphone’s audio level.

8. To suppress all input from the microphone, press the MIC Input 1 **Mute** button. The microphone is muted when the red status bar is showing. Press again to reactivate the microphone.

9. Repeat steps three through eight for **MIC Input 2**.

Set Line Input Level

1. Identify the AUX INPUT/OUTPUT LEVEL ADJUST section on the lower right side of Audio panel (Figure 9, Item 8).

2. Start the line audio feed connected to LINE A input to test the input level.

3. Press and hold the **Up Arrow** button (Figure 9, Item 9) to raise the audio feed level. Press and hold the **Down Arrow** button to lower the audio feed level.

4. To suppress all input from the audio feed, press the Channel A **Mute** button (Figure 9, Item 9). The feed is muted when the red status bar is showing. Press again to reactivate the channel feed.

5. Repeat steps two through four for CHANNEL B INPUT.

Set Line Output Level

1. Identify the AUX INPUT/OUTPUT LEVEL ADJUST section on the lower right side of Audio page (Figure 9, Item 8).

2. Start a line audio feed to test the output level. Activate the speaker or audio monitor connected to OUTPUT CHANNEL A.

3. Press and hold the **Up Arrow** button (Figure 9, Item 9) to raise the audio feed level. Press and hold the **Down Arrow** button to lower the audio feed level.

4. To suppress all output from Channel A, press the Channel A **Mute** button (Figure 9, Item 9). The feed is muted when the status bar is red. Press again to activate the channel feed.

END OF TASK

Audio Conferencing

When the AVCS (MINI) finishes its start-up procedures, the first page that will be displayed after start-up is the Audio Conference page. Prior to initiating an Audio Conference, the AVCS (MIMI) should have the following basic parameters set. Refer to Work Package WP 0005, Setup Procedures, for details on connecting a phone line.

Pre Audio Conference Setup

The audio conference application receives its audio feed from the Audio inputs. Any active audio inputs will be channeled through the conferencing application to the other party. The operator needs to mute any unwanted MIC or line inputs when conducting the conference.

1. Refer to "Audio Setup Instructions" earlier in this Work Package to select the Microphone or Line input to be used for the conference. Mute all other audio inputs IAW the instructions in the Audio Setup section of this WP.

2. Select the **Audio** button (see Figure 10, Item 1) to access the Audio Control Panel.

3. Adjust the telephone configuration using the Telephone Configuration controls in the center of the Audio Display panel (Figure 10, Item 2).

   - Set the level for the incoming audio by pressing and holding the **Receive Level** arrow button (Figure 10, Item 5) to the desired level. Press to engage the **Mute** button located below the Receive Level to suppress the audio input. Press again to disengage.

   - Set the level for the outgoing audio by pressing and holding the **Transmit Level** arrow button (Figure 10, Item 3) to the desired level. Press to engage the **Mute** button located below the **Receive Level** to suppress the audio output level. Press again to disengage.

NOTE

Flash is a button on a telephone that simulates a quick off-hook/on-hook/off-hook cycle. Usually the functional equivalent of quickly hanging up and lifting the receiver on a middle 20th century cradle phone. On analog phone connections, this method can be used to signal the telephone exchange to do something. Usually it is used to indicate a request for voice conferencing or for call waiting. Some phone exchanges require a longer flash duration to register a hang up.

   - Set the Flash duration by pressing and releasing the desired Flash Duration button (Figure 10, Item 4). The default flash duration is 500 ms and should only be changed if necessary.

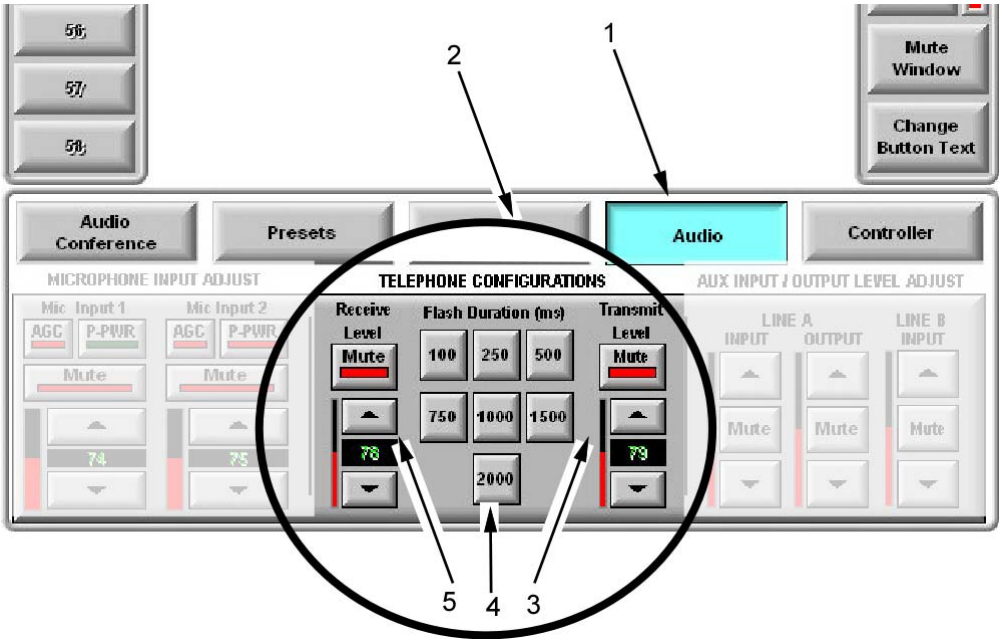


Figure 10. Audio Control Panel.

Initiate an Audio Conference

1. Press and hold the **Audio Conference** button (Figure 11, Item 1) to access the Audio Conference panel and the necessary controls to run the audio conference.

2. Type in the phone number to be called, or press the number button coinciding to a stored preset. Refer to Table 3 for special keys.

Table 3. Call Key Functions.

Call Key	Function		Call Key	Function
1 – 9	Normal dial keys		Redial	Redials last call made
Pause	Enters a 5 second pause in the dialing		Hang Up	Disconnects Call
Back Space	Removes last entered numeric character		Flash	See note on previous page
Call	Connects the call using the number entered			

3. Select the **CALL** button once the phone number has been correctly input.

4. Conduct the teleconference, if using three way calling, execute the call IAW the phone service provider's instructions using the Flash button to signal the request.

5. When the teleconference is finished, press Hang Up button to disconnect the call.

NOTE

User must manually Press the **Hang Up** button after each teleconference call. The system will NOT hang up even if the remote end has disconnected.

6. Reactivate any audio inputs desired IAW the steps in the Audio Setup section of this work package.

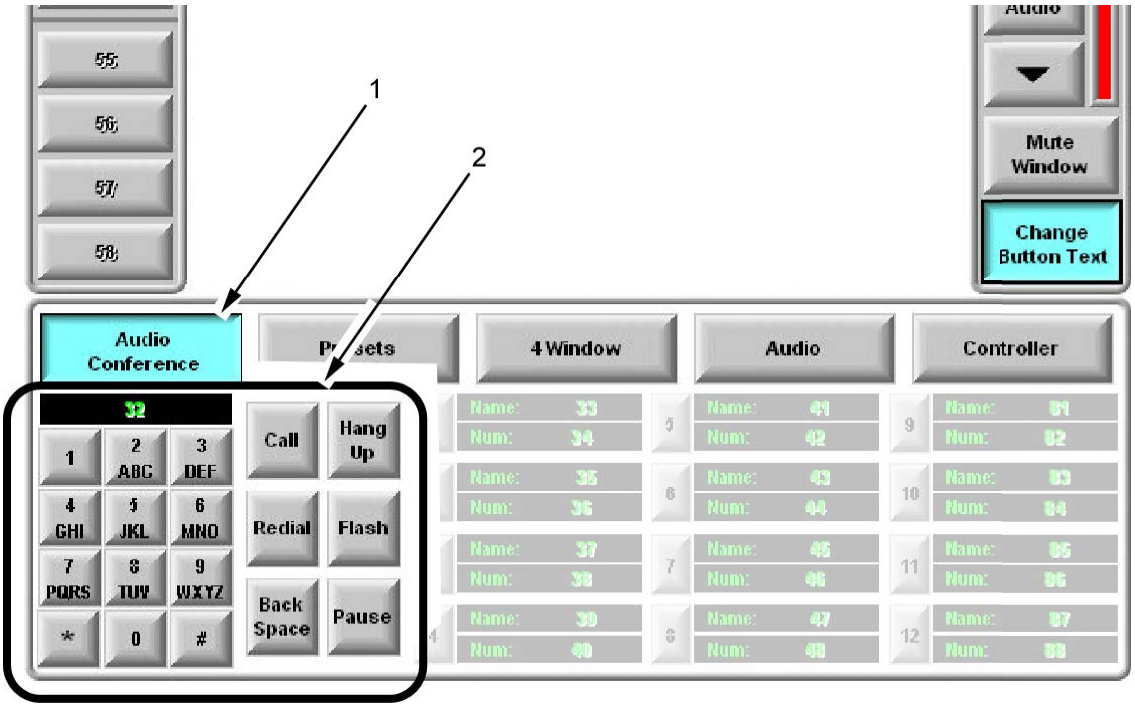


Figure 11. Audio Conference Function Panel.

END OF TASK

Saving Teleconference Presets

Frequently dialed numbers may be saved as teleconference presets. The user can save the number in the number field and a name in the name field

1. Press the **Audio Conference** button (Figure 12, Item 1) to activate the Audio Conference page.

2. Press the **Change Button Text** button (Figure 12, Item 2) located on the center right of the control panel screen. The onscreen keyboard will be displayed in the middle of the main page.

3. Press the **Name:** field (Figure 12, Item 3), for the preset you are setting, to select the field. Type the name using the onscreen keyboard. Press the **Save** button (Figure 12, Item 5).

NOTE

All changed text will default back if 'Save' (Figure 12, Item 5) is not pressed before exiting.

4. Press the **Exit** button (Figure 12, Item 6) on the onscreen keyboard to close the keyboard page.

5. Press the **Num:** field and enter the appropriate telephone number.

6. Press the **Save** button.

7. Repeat steps 3 through 6 for all **Name:** and **Num:** fields that are being entered.

NOTE

For the number field, enter only the numbers with **Pauses** (Figure 12, Item 5). Do not use dashes.

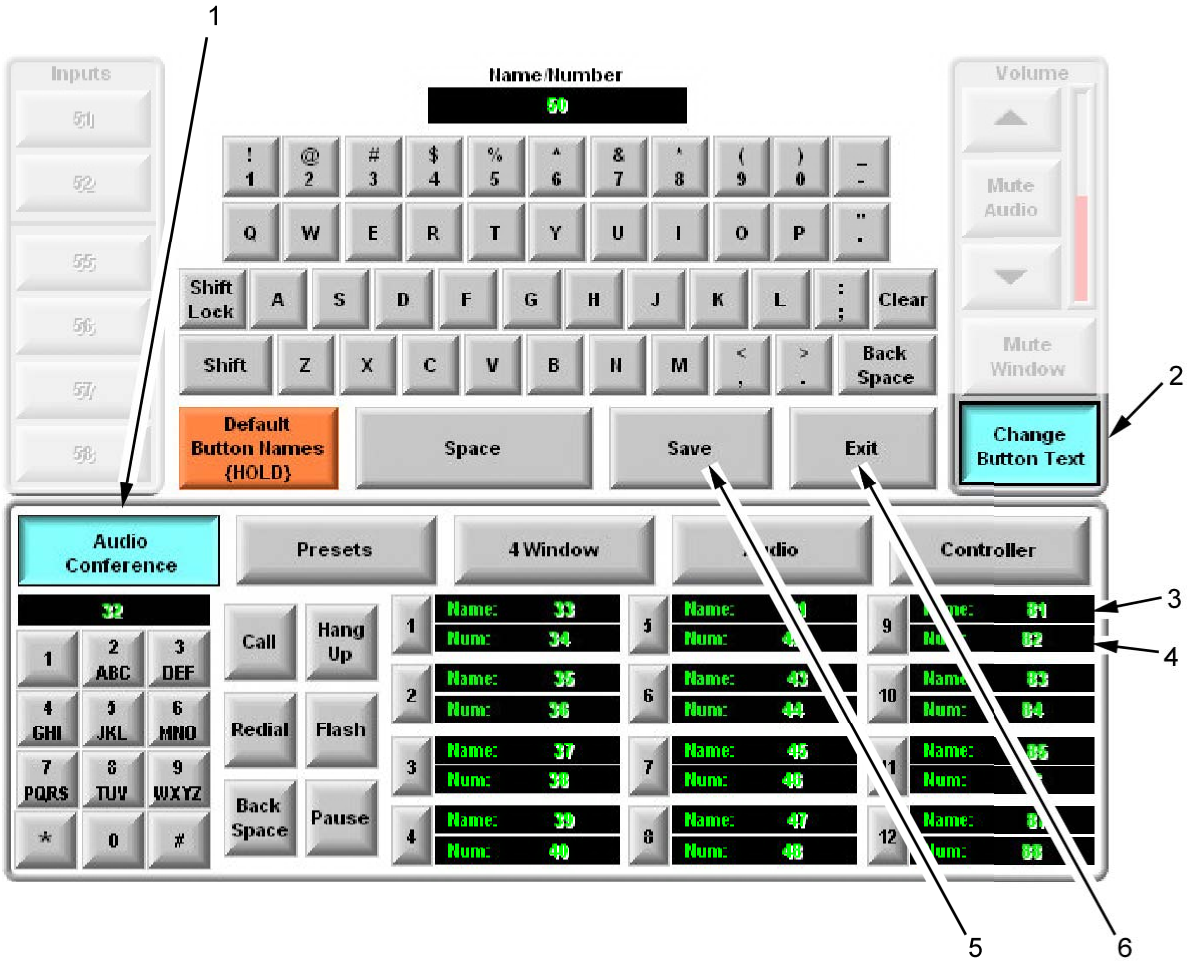


Figure 12: Teleconference Preset Fields.

END OF TASK

Controller Functions

The **Controller** Panel shows the AVCS control system IP information. This page also allows the user to change the IP, subnet and default router values to match the local network.

Retrieve System Information

1. Select the **Controller** button (Figure 13, Item 1) to access the Controller Panel.

When the Controller Panel appears, the current Controller Configuration information (Figure 13, Item 2) is displayed in the lower left corner of the AVCS window.

NOTE

The System Info page lists the major system devices with associated part numbers.

2. Select the **System Info** button (Figure 13, Item 3) to display the system information. Observe the System Info displayed in the center of the main display (Figure 13, Item 4). Note these numbers match the labels on the front left side of each piece of equipment.

3. Select the **Return** button (Figure 13, Item 1) to exit System Info and return to the Controller Page.

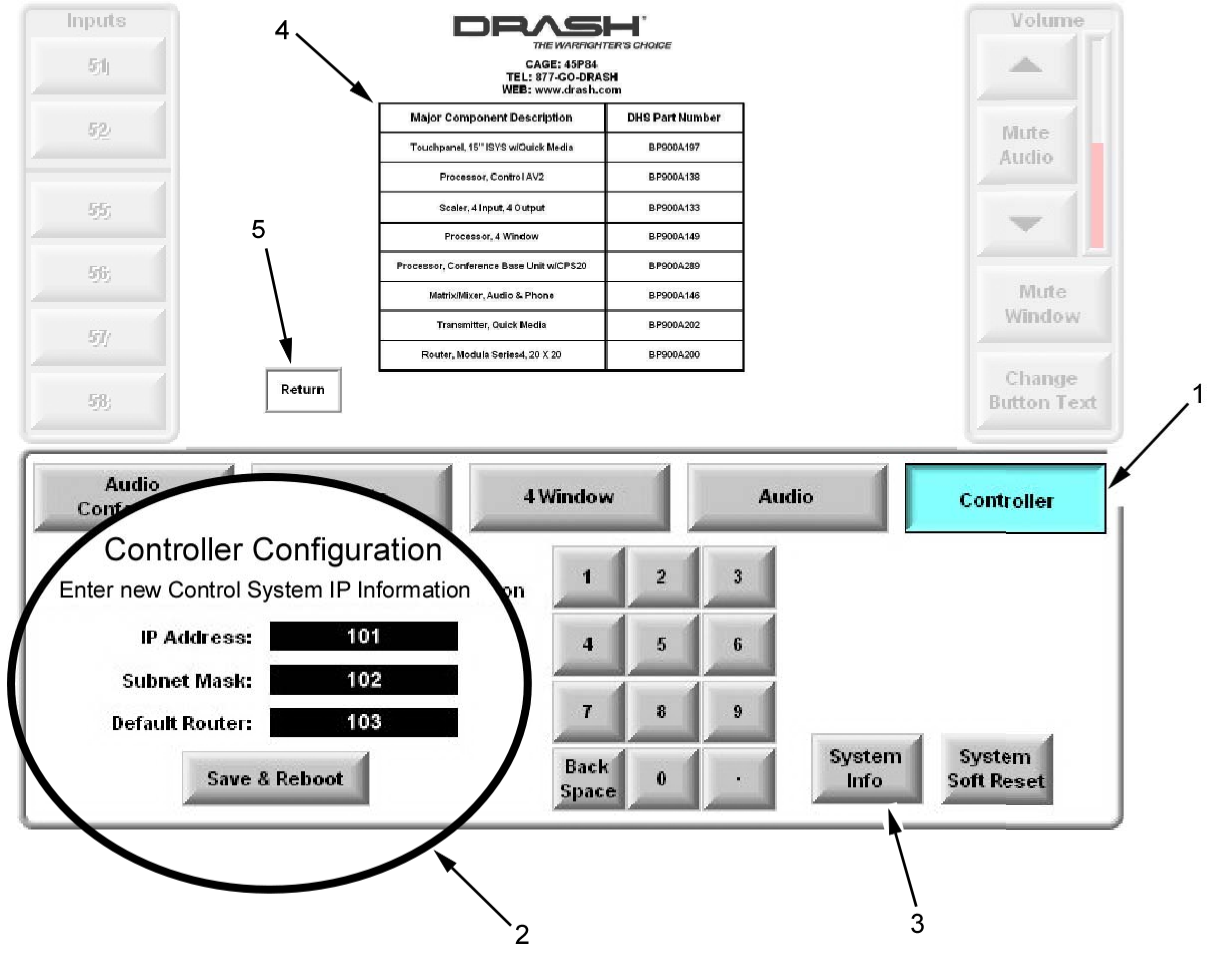


Figure 13. AVCS Controller Panel and System Information.

Configure AVCS (MINI) IP

1. Press and release the **Controller** button (Figure 14, Item 1) to access the Controller Panel.
2. Locate the Configuration windows (Figure 14, Item 2) on the left side of the Controller Panel.
3. Press the IP Address display box (Figure 14, Item 3) to access IP number.
4. Use the numeric touch pad (Figure 14, Item 6) in the center of the Controller Panel to type in new IP address.
5. Use the Back Space button to back up and retype if you make a mistake while typing the address.
6. Repeat steps three through five to enter the Subnet Mask (Figure 14, Item 4) and Default Router (Figure 21, Item 5) addresses if desired.
7. Press the Save & Reboot button (Figure 14, Item 7). The system will prompt (Figure 14, Item 8) for confirmation to reboot. Press the Yes button (Figure 14, Item 9) to reboot. Press the No button to cancel the reboot and the new addresses will not be initialized.
8. if proceeding with Yes, to Save & Reboot, press the Controller button (Figure 1, Item 1) after the AVCS reboots to access the Controller Panel and verify the new addresses are correct.

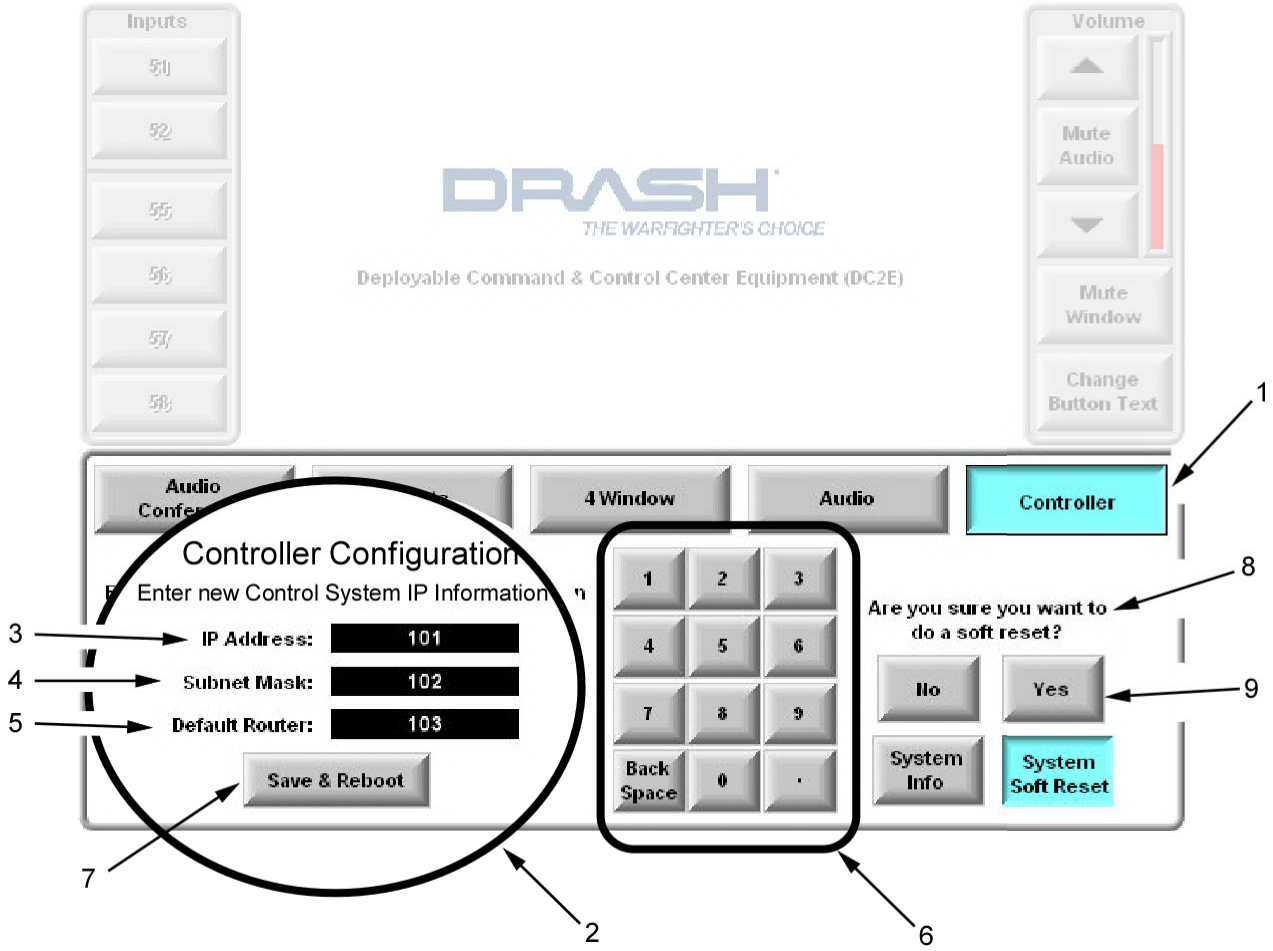


Figure 14. Access & Modify System Information.

END OF TASK

System Soft Reset

CAUTION

The AVCS (MINI) maintains all user-entered information in flash memory. Changes to the Controller page will be saved until a manual System reset has been initialized. Once reset, the addresses will revert to the default settings. The System Soft Reset will reload the software only, the manual system reset will restart all components.

1. Press the **Controller** button (Figure 15, Item 1) to access the Controller Panel.
2. Press and hold the **System Soft Reset** button (Figure 15, Item 2) to initialize an AVCS system software reset.
3. Observe the “ARE YOU SURE YOU WANT TO SOFT RESET?” prompt (Figure 15, Item 3).

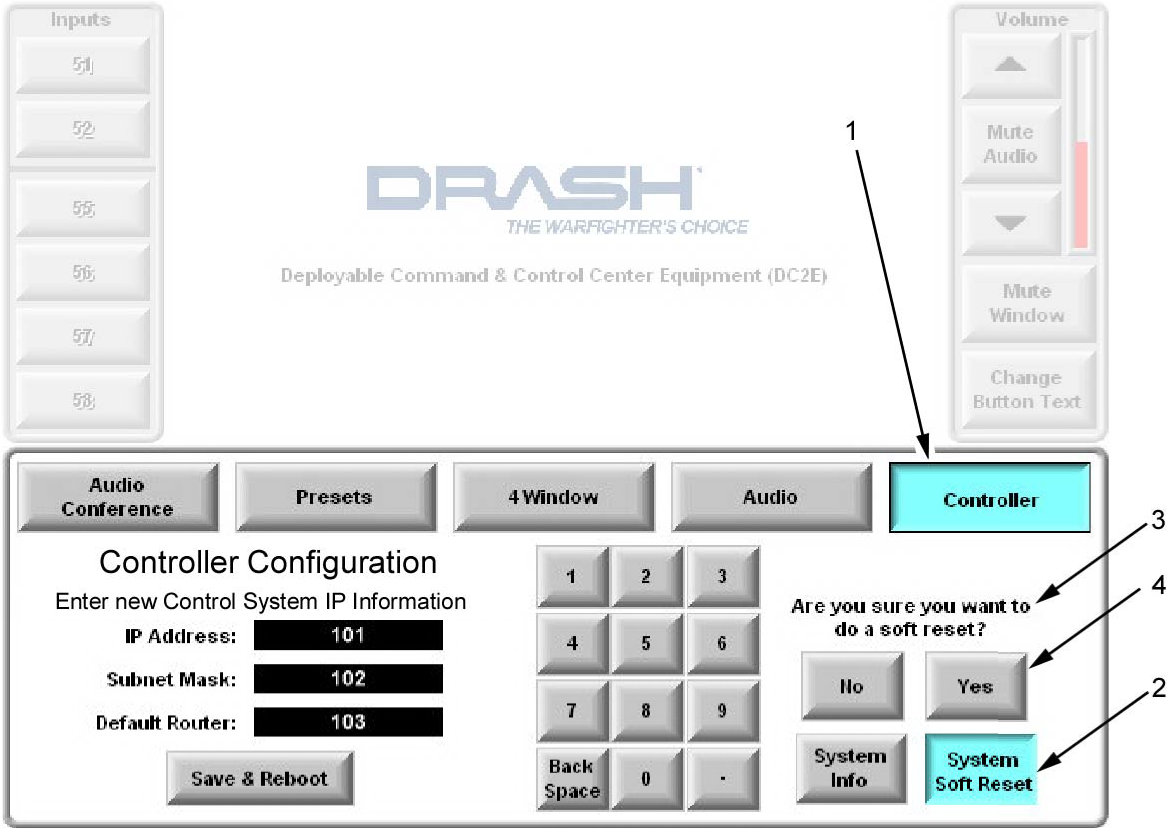


Figure 15: Confirmation for Soft Reset.

4. Press the **Yes** button (Figure 15, Item 4) to initiate the AVCS system software reset. The system will reset itself to initial settings. Select the **No** button to cancel the reset.

END OF TASK

Changing Video Input Button Labels

Users can change the labels for certain buttons including Preset labels, Video Input labels, and Audio Conference Speed Dial entries.

1. Press the **Change Button Text** button (Figure 16, Item 1) to activate the onscreen keyboard (Figure 16, Item 2). The keyboard will be displayed in the center top of the screen.

2. Press the video input button (Figure 16, Item 8) that is to be changed. The current label on the selected button will be displayed in the text box (Figure 16, Item 3) of the onscreen keyboard.

3. Press the Clear button (Figure 16, Item 4) to erase the text or press the Back Space button (Figure 16, Item 5) to erase one character at a time.

4. Enter the new name using the onscreen keyboard.

NOTE

If the **Save** button is not pressed, the text will revert back to the original text when the 'Exit' button is pressed.

5. Press the Save button (Figure 16, Item 6) to save the new Video Input text.

6. Observe the Video Input button label (Figure 16, Item 8) changes to the new text.

7. Repeat steps two through six for all labels that are to be changed.

8. Press the Exit button to exit the onscreen keyboard.

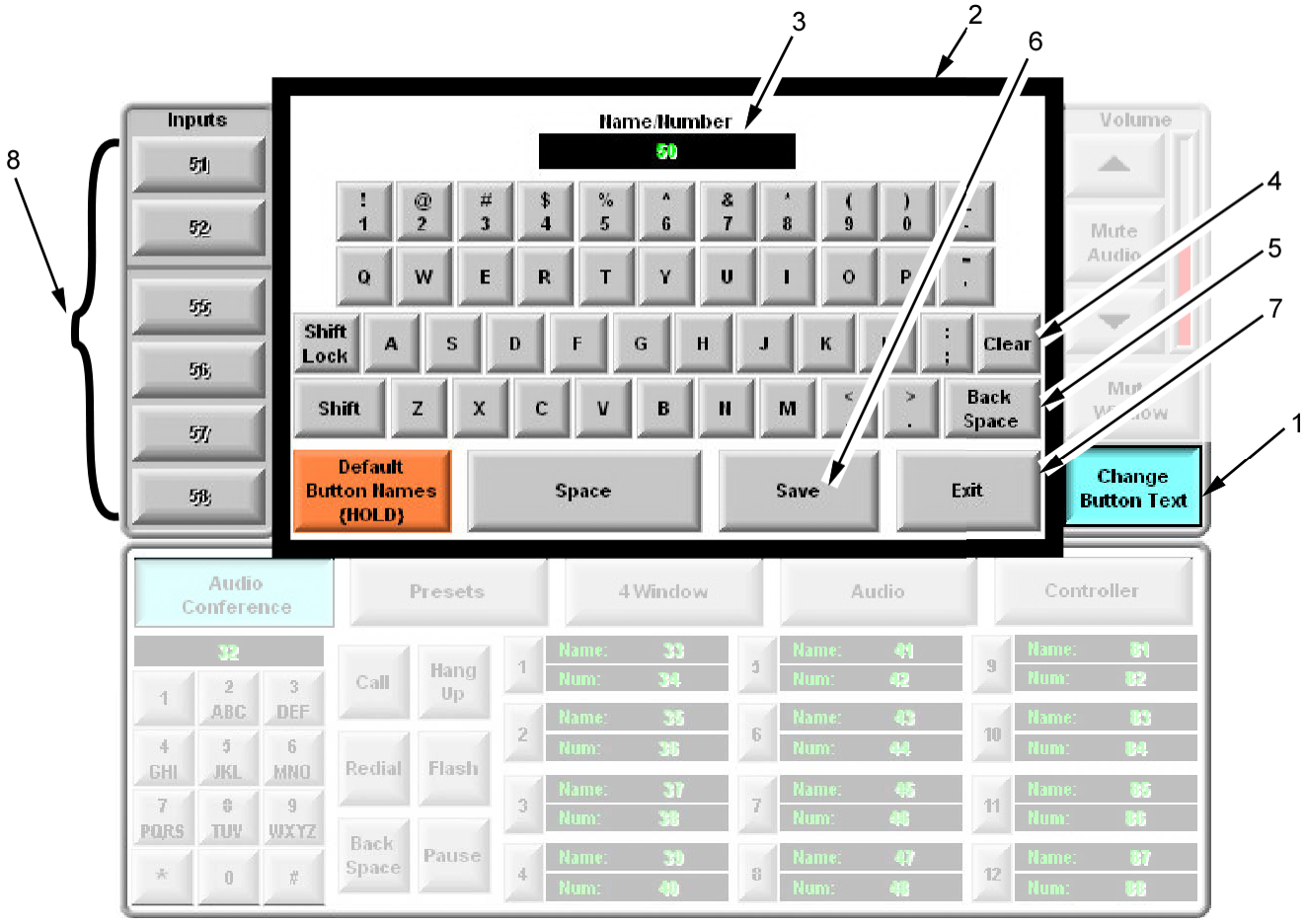


Figure 16: Change Video Input Labels.

END OF TASK

Change the Preset Button Text

1. Press the **Change Button Text** button (Figure 17, Item 1) to activate the onscreen keyboard (Figure 17, Item 2). The keyboard will be displayed in the center top of the screen.

2. Press the Presets Button (Figure 17, Item 3) to access the preset page.

3. Press the Preset button (Figure 17, Item 4) that is to be changed. The current label on the selected button will be displayed in the text box (Figure 17, Item 5) of the onscreen keyboard.

4. Press the Clear button (Figure 17, Item 6) to erase the text or Select the Back Space button (Figure 17, Item 7) to erase one character at a time.

5. Enter the new name using the onscreen keyboard.

NOTE

If the **Save** Button is not pressed, the button text will revert back to the original text when the **Exit** button is pressed.

6. Press the Save button (Figure 17, Item 8) to save the new label.

7. Observe that the button label changes to the new text.

8. Repeat steps three through seven for all labels that are to be changed

9. Select the Exit button (Figure 17, Item 9) to shut down the onscreen keyboard.

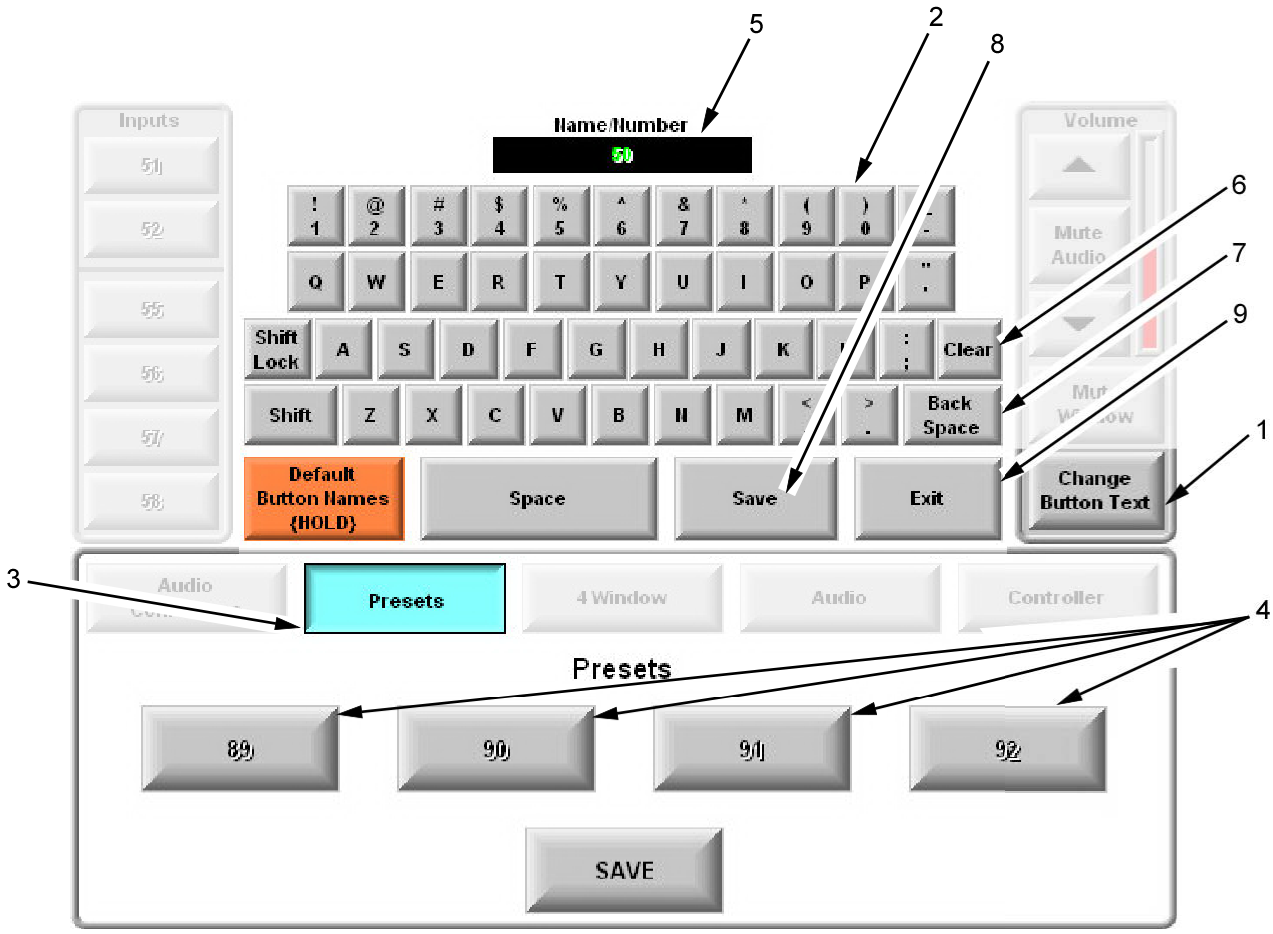


Figure 17. Change Preset Button Text.

END OF TASK

Restore Default Button Text

NOTE

Once button labels have been changed, the changes will stay active until they are reset or renamed. The user can reset all of the labels at one time.

1. Select **Change Button Text** button (Figure 18, Item 1) to activate the onscreen keyboard (Figure 18, Item 2).

2. The keyboard will be displayed in the center of the screen.

2. Select and hold the Default Button Names (HOLD) button (Figure 18, Item 3) for five seconds.

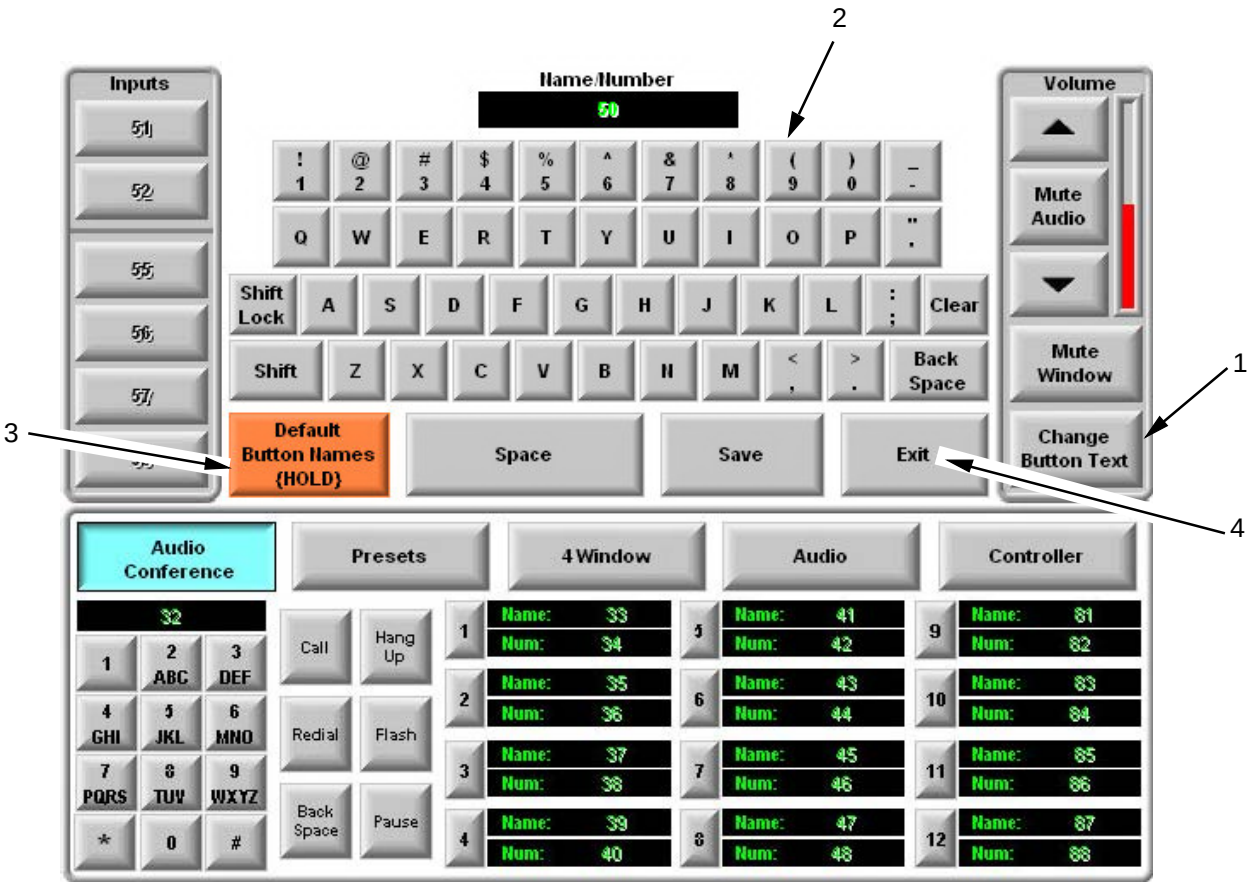


Figure 18. Restore Default Text.

3. While the system is resetting to the default labels, the Drash logo page (Figure 19) will be displayed and the user will be locked out of the system while the system labels reset. When the process if finished the main setup page will be displayed allowing the user to continue setting up the system.

Figure 19. DRASH Logo Page.

Save Presets

NOTE

The operator has the ability to save four presets into the memory that include the 4 Window configuration, the Video feed routing, and the audio settings.

1. Set up all audio and video feeds IAW the steps in this WP.
2. Select the Presets Button (Figure 20, Item 1) to access the Presets page (Figure 20).
3. Select the SAVE button (Figure 20, Item 3) on the bottom of the Presets pages (Figure 20).
4. Select the desired Preset Button (Figure 20, Item 2). If the user does not make a Preset selection within the five seconds, the save function will time out.

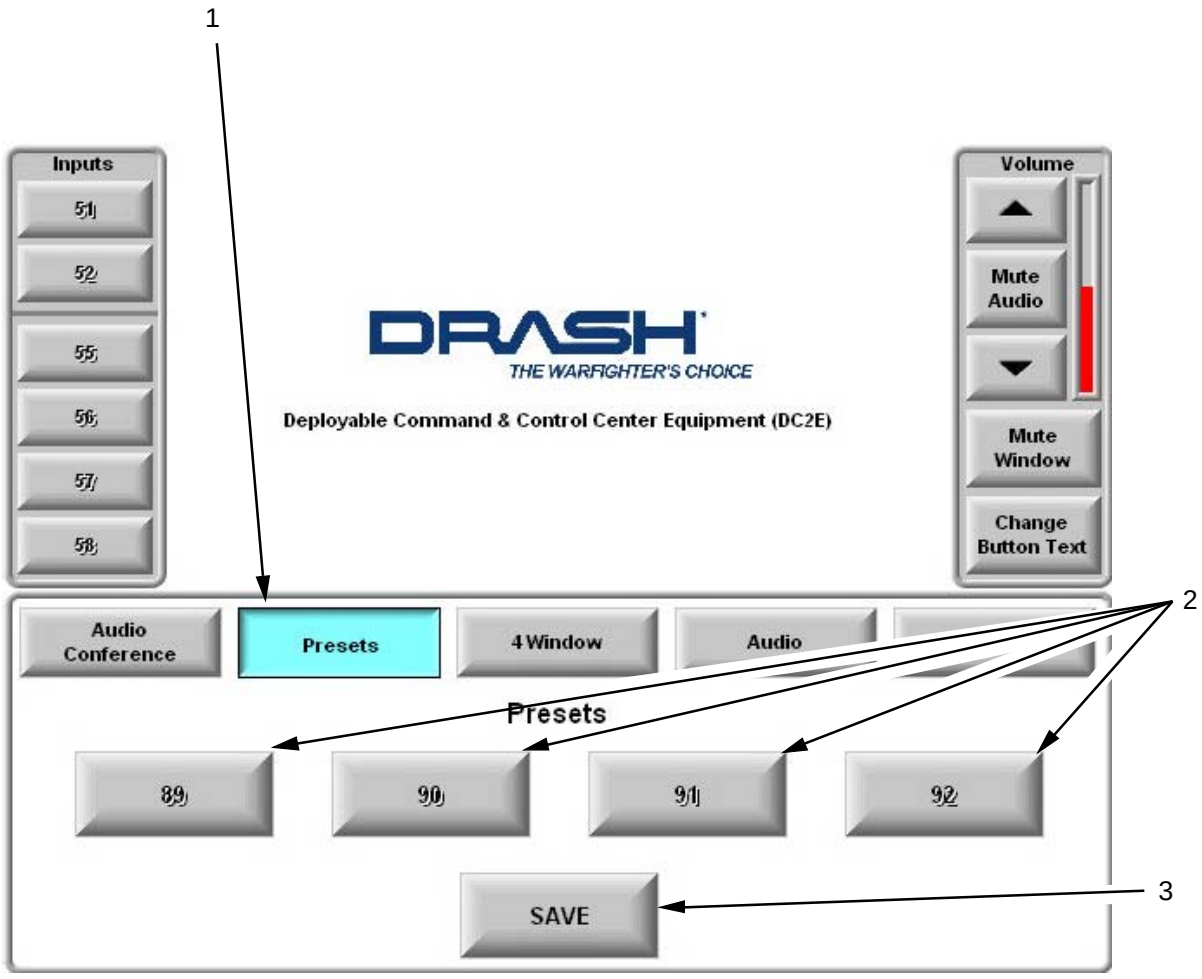


Figure 20: Presets Page.

END OF TASK

SHUTDOWN AND PREPARE FOR TRANSPORT

The following procedures details powering down and storing the AVCS (MINI) system.

NOTE

The AVCS (MINI) maintains all operational information and instructions on a flash memory card. There are no shut down procedures necessary for the system software.

If the AVCS (MINI) is supplying power to a projector, ensure that the projector has been shut down IAW manufacturers' instructions prior to turning off the AVCS (MINI) System.

Power Down AVCS (MINI) System

1. Power down all peripheral equipment connected to the AVCS (MINI) IAW the appropriate Technical Manual.

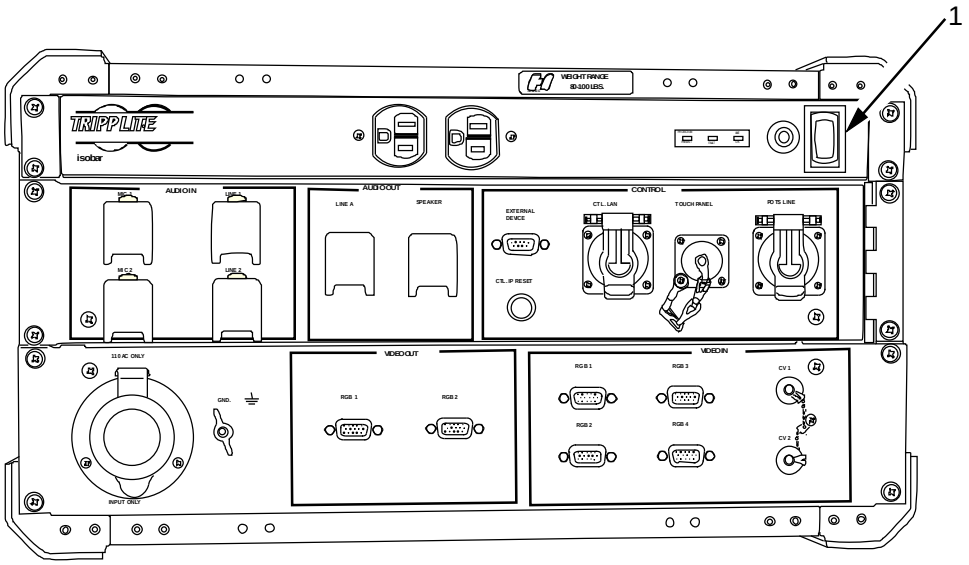


Figure 21. Main Power Supply Switch.

NOTE

Do not turn off the RGB spectrum 4-Window Processor Power Switch on the front of the AVCS system.

2. Set the Main Power supply ON/OFF switch (Figure 21, Item 1), located on the top right rear of the AVCS (MINI), to 'OFF'.

Disassemble and Store the Ancillary Equipment Included with the AVCS (MINI)

The AVCS (MINI) is stored in two transit cases. The first case houses the AVCS (MINI) System and the second case houses all ancillary equipment.

1. Retrieve the ancillary equipment transport case from its storage position.

2. Open the cover of ancillary equipment transport case.

Disconnect and Store the Speaker

1. Turn of power supply to Speaker system and unplug from power source.

2. Unplug power cable from rear of speaker.

3. Unplug RCA cable from rear of speaker.

4. Store Speaker in appropriate section of the ancillary equipment transport case.

5. Roll and store the speaker-to-speaker cable in the large storage section of the ancillary equipment transport case.

END OF TASK

Disconnect and Store the Touch Panel

1. Remove the Touch Panel cable from the AVCS (MINI) rear panel by rotating the locking ring counterclockwise until it releases and then separate the cable from the AVCS (MINI) connector.

2. Remove the Touch Panel cable from the AVCS (MINI) Touch Panel by rotating the locking ring counterclockwise until it releases and then separate the cable from the Touch Panel.

3. Store the Touch Panel and cable in the ancillary equipment transport case in its designated compartment.

END OF TASK

Disconnect and Store the AVCS (MINI)

1. Disconnect the AVCS (MINI) power cable from the power source.

2. Remove the power cable from the bottom of the AVCS (MINI) and store in the ancillary equipment transport case main storage compartment.

3. Loosen the ground cable terminal lug and remove the ground cable from the AVCS (MINI). Replace the ground cable terminal lug and store the ground cable in the ancillary equipment transport case.

4. Remove any HD-15 cables connected to the back of the AVCS (MINI) but turning the locking screws counter clockwise until the connectors are released. Roll cables and store in either their respective component transit cases or in the main section of the ancillary equipment transport case.

5. If used, disconnect any co-axial cables from the AVCS (MINI) rear panel by rotating their locking rings counter clockwise to unlock and removing from the BNC connector. Roll cables and store in either their respective component transit cases are in the main section of the ancillary equipment transport case.

6. If used, disconnect any XLR input cables from the AVCS (MINI) rear panel, by pressing the locking tab in on the panel to release the connector, and pull away from the XLR connector. Roll cables and store in either their respective component transit cases are in the main section of the ancillary equipment transport case.

7. If used, disconnect any XLR output cables from the AVCS (MINI) rear panel, by pressing down on the locking tab on the cable to release the connector, and remove from the XLR connector. Roll cables and store in either their respective component transit cases or in the main section of the ancillary equipment transport case.

8. Replace any dust covers that were removed during use.

9. Position the front cover on the front of the AVCS (MINI).

10. Press all locking tabs into position so that the ends latch.
11. Twist all locking levers clockwise to tighten down the latches
12. Press all levers flat to secure.
14. Using two personnel, rotate the AVCS (MINI) so that it is sitting on the front cover.
15. Place the rear cover into position on the rear of the AVCS (MINI).
16. Twist all locking levers clockwise to tighten down the latches
17. Press all levers flat to secure.

END OF TASK

Secure the Ancillary Equipment Transport Case

NOTE

The main power cable for the AVCS (MINI) and all additional cables used to operated the AVCS (MINI) are stored in the ancillary equipment transport case.

1. Close the lid of the ancillary case.
2. Lift all locking tabs into position so that the ends latch.
3. Twist all locking levers clockwise to tighten down the latches.
4. Press all levers flat to secure.

END OF TASK

END OF WORK PACKAGE

OPERATOR INSTRUCTIONS
AVCS (MINI)
OPERATIONS UNDER UNUSUAL CONDITIONS

GENERAL

The following WP covers operating the AVCS (MINI) system under unusual conditions. Refer to WP 0004 for description and use of Operator Controls, Indicators, and Connectors for more information about location and function of controls, indicators, and connectors.

SECURITY MEASURES FOR ELECTRONIC DATA

Follow the security measures described in AR 380-19, Information System security, to control access to classified electronic data. For the AVCS components, follow the procedures described in the current version of the User Security Manual/Standard Operating Procedure (USM/SOP).

UNUSUAL ENVIRONMENT/WEATHER

The AVCS (MINI) is designed to operate in an environmentally controlled area. There are no procedures for operating in extreme weather conditions.

ALTERNATE CONTROL INTERFACE

In the absence of the touch panel, a laptop can be used as a substitute control interface by entering the Control System IP address into Internet Explorer.

END OF WORK PACKAGE

OPERATOR INSTRUCTIONS
AVCS (MINI)
EMERGENCY PROCEDURES

GENERAL

The following WP covers Emergency Procedures for the AVCS (MINI) system. Refer to WP 0004 for description and use of Operator Controls, Indicators, and Connectors for more information about location and function of controls, indicators, and connectors.

SECURITY MEASURES FOR ELECTRONIC DATA

Follow the security measures described in AR 380-19, Information System security, to control access to classified electronic data. For the AVCS components, follow the procedures described in the current version of the User Security Manual/Standard Operating Procedure (USM/SOP).

EMERGENCY PROCEDURES

Operating AVCS (MINI) Without Surge Suppressor

The AVCS (MINI) is equipped with a self-sacrificing Surge Suppressor. In the case of an overloading voltage surge, the surge suppressor will trip prior to equipment being damaged. The self-sacrificing section of the Surge Suppressor is single use only and the surge suppressor must be replaced. Please contact your authorized DHS Service Representative for repair.

END OF WORK PACKAGE

OPERATOR INSTRUCTIONS
AVCS (MINI)
EQUIPMENT STORAGE PLAN

GENERAL

Refer to Components of End Item (COEI), Work Package 00017 for illustrations and tables identifying and addressing the storage location for all equipment included with the AVCS (MINI).

END OF WORK PACKAGE

CHAPTER 3

OPERATOR TROUBLESHOOTING PROCEDURES FOR AVCS (MINI)

OPERATOR TROUBLESHOOTING PROCEDURES
AVCS (SMALL)
OPERATOR TROUBLESHOOTING INDEX

GENERAL

This WP contains a troubleshooting index of conditions/indications that may develop during maintenance or operation. Maintenance is limited to those failures that may be repaired at the operator level. The troubleshooting index identifies the condition/indication, followed by a column that identifies the work package and page(s) where troubleshooting procedures(s) may be found. These inspections and corrective actions should be performed in the order listed. The index is provided to assist in the quick location of a problem. The manual cannot list all condition/indications that may occur. If a condition or indication is encountered that is not listed or cannot be corrected by the corrective actions provided, notify the supervisor.

TROUBLESHOOTING INDEX

The most important step in troubleshooting is recognizing the conditions/indications and combination of conditions/indications. Use the corrective action for a given condition/ indication in the order listed. If the first repair attempt is unsuccessful, proceed to the next recommended corrective action to resolve the problem. If a fault is encountered that is not listed or that cannot be corrected by the corrective actions provided, notify the supervisor.

Except for the equipment in Table 1, refer to appropriate technical manual(s) for any accessory equipment. Table 1 is provided as a tool to maintain equipment in good operating condition and ready for its primary mission.

WARNING

High voltage and amperage present at electrical connections. Use caution when connecting and disconnecting any electrical connection to prevent injury to personnel and damage to equipment.

AC voltage (110/120 VAC), and current sufficient to cause serious injury or death is present at electrical connections. Ensure power is disconnected before entering the AVCS.

CAUTION

If the AVCS (MINI) suddenly loses power, ensure the main power circuit breaker is turned off prior to reapplying power to the system. The sudden power surge may damage internal circuitry or burn out the self-sacrificing power strip.

ITEM	CONDITION/ INDICATION	WP
	AUDIO	
1	No Audio Output	WP 0011-0
2	Incorrect Audio Output	WP 0011-0
3	Poor Audio Quality Output	WP 0011-0
	AUDIO CONFERENCE	
1	Can Not Dial Number/ No Dial Tone	WP 0011-0
2	Can Not Hear Other Caller	WP 0011-0
3	Caller Can Not Hear Operator	WP 0011-0
4	Presets Will Not Save	WP 0011-0
5	Call Will Not Disconnect	WP 0011-0
	VIDEO	
1	No Direct Video Feed From Source Available	WP 0012-0
2	No Direct Video Feed Output	WP 0012-0
3	No Composite Video Feed	WP 0012-0
4	No 4 Window Configuration. Video Feed Can be Channeled Directly to Output	WP 0012-0
5	Poor Quality Video Feed on Video Monitors	WP 0012-0
6	Can Not Access Full Screen Mode on the Touch Panel	WP 0012-0
7	Presets Not Saved After System Shut Down	WP 0012-0
	DATA	
1	Control Panel Inop	WP 0012-0
2	Control Panel Functions Non-Operational	WP 0012-0
	POWER	
1	No Power To Entire System	WP 0012-0
2	No Power to Individual Components	WP 0012-0

END OF WORK PACKAGE

OPERATOR TROUBLESHOOTING PROCEDURES
AVCS (MINI)
AUDIO TROUBLESHOOTING PROCEDURES

INITIAL SETUP:

References
WP 0005

TROUBLESHOOTING PROCEDURES

This work package contains general information for troubleshooting the AVCS (MINI) Audio Feed by user level qualified personnel. A qualified person is one who is familiar with this manual, the operation of the AVCS (MINI) and the hazards involved in its operation and maintenance. The work package provides a systematic approach to locating and correcting malfunction of the AVCS (MINI). Each section is arranged according to the condition/indication of a problem. The corrective action items have been arranged in order of complexity, with the simpler actions listed first. Note that troubleshooting causes and actions beyond the scope of operator level qualified personnel are not included in the WP. If a course of action does not present itself, contact your supervisor.

The most important step of troubleshooting is to gather as much first-hand information as possible from the personnel who were present when the problem or failure occurred. Information as to how long the AVCS (MINI) has been operating, what systems were connected, whether any protective equipment or devices functioned, etc., can also help isolate a problem. Note that if in any doubt about how to proceed, contact your supervisor before taking action.

WARNING

Tools, equipment, clothing and your body must be kept clear of all electrical connections, while power is applied to the system

Voltage sources, in addition to being an electrical shock hazard, may also potentially produce serious burns. Care should be exercised when using hand tools around exposed power connectors. Never let tools bridge two terminals.

If the circuit breaker does not stay in the ON position when energized, DO NOT attempt to energize repeatedly. This could cause damage to the surge protector or other components. Instead, investigate and identify the cause of the problem. Correct the situation before attempting to energize breaker again.

To avoid electrical shock and damage to the equipment, ensure the power cable is disconnected at the power source before removing or replacing any cables.

Table 11-1 Operator Troubleshooting – Audio

ITEM	CONDITION/INDICATION	POSSIBLE MALFUNCTION	CORRECTIVE ACTION
1	No Audio Output	Audio Output Volume too Low or Muted	Access Control Panel. Check Main Audio Output 'Mute Audio' button on right side on control panel. If shadowed, the button has been activated. Press to release and test system. Check Main Audio Output volume level. Check indication bar on right of mute/volume adjust buttons. If below 70% raise to 70% and test. Access the Audio Window on the Control Panel by pressing the 'Audio' Button Check the 'Mute' button on the OUTPUT on the bottom right of the panel. If set, press to release and test system Check OUTPUT volume levels. Check indication bar on right of mute/volume adjust buttons. If below 70% raise to 70% and test.
		Audio Input Volume too Low or muted	Access Audio Window on Control Panel by pressing the 'Audio' button. Check the corresponding Input 'Mute' button is not activated. If activated, reset to on and test system Check corresponding Input volume level. Check indication bar next to mute/volume adjust buttons. If below 70% raise to 70% and test system If phantom voltage is required for microphone to operate ensure 'P-PWR' button is pressed on corresponding Microphone Input. If not set, activate and test system
		Cables misconnected	Check microphone/line feed connection. Inspect cables and connectors for damage, if damaged replace cables Check Speaker/ line output connected properly. Inspect cables and connectors for damage, if damaged replace cables.
		Speaker inoperable	Ensure power to speaker Check speaker turned on, switch on if necessary Check wires properly attached to speaker IAW WP 0005 instruction Check speaker volume properly set, adjust if necessary

Table 11-1 Operator Troubleshooting – Audio - Cont

ITEM	CONDITION/INDICATION	POSSIBLE MALFUNCTION	CORRECTIVE ACTION
2	Incorrect Audio Output	Cables misconnected	Check microphone/line feed connection. Inspect cables for proper connection. Inspect cables and connectors for damage, if damaged replace cables.
			Check Speaker/ line output connected properly. Inspect cables and connectors for damage, if damaged replace cables.
		Incorrect settings on Control Panel Notify Service Maintenance	Access the Audio Panel. Ensure volume on desired input line is turned to at least 70%
3	Poor Audio Quality Output	Incorrect settings on Control Panel	Check volume settings on each Input and ensure that they are set correctly
			Check person speaking position to microphone, If individual is moving around, ensure the Automatic Gain Control (AGC) button is selected on the appropriate input.
		Incorrect Speaker Adjustments	Check volume on Speaker. Ensure speaker volume is set approximately 70%. Adjust as necessary.
			Check tone adjustment on Speaker. Center adjustment, test and adjust as necessary.

END OF TASK

Table 11-2 Operator Troubleshooting – Audio Conference

ITEM	CONDITION/INDICATION	POSSIBLE MALFUNCTION	CORRECTIVE ACTION
1	Can Not Dial Number/ No Dial Tone	Phone jack not active	Test Phone Jack to ensure it is connected to phone system
		Cable damaged or not connected properly	Check phone/ line output connected properly. Inspect cables and connectors for damage, if damaged replace cables.
			Notify Service Maintenance
2	Can Not Hear Other Caller	Receive Level Muted or set too low	Access Audio Control Page
			Check Receive Level 'Mute' button on Audio. If shadowed, the button has been activated. Press to release and test system.
			Check Receive Level volume level. Check indication bar on left of mute/volume adjust buttons. If below 70% raise to 70% and test.
		Master Volume Muted or too low	Check Main Audio Output 'Mute Audio' button on right side on control panel. If shadowed, the button has been activated. Press to release and test system.
			Check Main Audio Output volume level. Check indication bar on right of mute/volume adjust buttons. If below 70% raise to 70% and test.
		Cable damaged or not connected properly	Check speaker/ line output connected properly. Inspect cables and connectors for damage, if damaged replace cables.
			If connector is damaged notify service maintenance
			Connect Speaker to different Output and test. If no audio feed is available notify Service Maintenance
		Speaker inoperable	Ensure power to speaker
			Check speaker turned on, switch on if necessary
			Check wires properly attached to speaker IAW WP 0005 instruction
			Check speaker volume properly set, adjust if necessary
			Notify Service Maintenance

Table 11-2 Operator Troubleshooting – Audio Conference Cont

ITEM	CONDITION/INDICATION	POSSIBLE MALFUNCTION	CORRECTIVE ACTION
3	Caller Can Not Hear Operator	Transmit Level Muted or set too low	Access Audio Control Page Check Transmit Level 'Mute' button on Audio. If shadowed, the button has been activated. Press to release and test system. Check Transmit Level volume level. Check indication bar on left of mute/volume adjust buttons. If below 70% raise to 70% and test.
		Audio Input Volume too Low or muted	Access Audio Window on Control Panel by pressing the 'Audio' button. Check the corresponding Input 'Mute' button is not activated. If activated, reset to on and test system Check corresponding Input volume level. Check indication bar next to mute/volume adjust buttons. If below 70% raise to 70% and test system
		Cable damaged or not connected properly	Check microphone/line feed connection. Inspect cables and connectors for damage, if damaged replace cables Check phone/ line output connected properly. Inspect cables and connectors for damage, if damaged replace cables.
		Microphone not working	Switch microphone and cable and test system. If system works properly replace microphone and cable.
		Microphone requires power	Check microphone user's manual for required phantom voltage. If phantom voltage is required for microphone to operate ensure 'P-PWR' button is pressed on corresponding Microphone Input. If not set, activate and test system
		Notify Service Maintenance	
4	Presets Will Not Save	Notify Service Maintenance	
5	Call will not disconnect	Flash Duration not set properly	Access Audio panel Increase Flash Duration one setting. Test System. If not long enough repeat, until system will hang up when FLASH button is pressed.
		Notify Service Maintenance	

END OF TASK

END OF WORK PACKAGE

OPERATOR TROUBLESHOOTING PROCEDURES
AVCS (MINI)
VIDEO TROUBLESHOOTING PROCEDURES

INITIAL SETUP:

References
WP 0005

TROUBLESHOOTING PROCEDURES

This work package contains general information for troubleshooting the AVCS (MINI) Video Channels by operator level qualified personnel. A qualified person is one who is familiar with this manual, the operation of the AVCS (MINI) and the hazards involved in its operation and maintenance. The work package provides a systematic approach to locating and correcting malfunction of the AVCS (MINI). Each section is arranged according to the condition/indication of a problem. The corrective action items have been arranged in order of complexity, with the simpler actions listed first. Note that troubleshooting causes and actions beyond the scope of operator level qualified personnel are not included in the WP. If a course of action does not present itself, contact your supervisor.

The most important step of troubleshooting is to gather as much first-hand information as possible from the personnel who were present when the problem or failure occurred. Information as to how long the AVCS (MINI) has been operating, what systems were connected, whether any protective equipment or devices functioned, etc., can also help isolate a problem. Note that if in any doubt about how to proceed, contact your supervisor before taking action.

WARNING

Tools, equipment, clothing and your body must be kept clear of all electrical connections, while power is applied to the system

Voltage sources, in addition to being an electrical shock hazard, may also potentially produce serious burns. Care should be exercised when using hand tools around exposed power connectors. Never let tools bridge two terminals.

If the circuit breaker does not stay in the ON position when energized, DO NOT attempt to energize repeatedly. This could cause damage to the surge protector or other components. Instead, investigate and identify the cause of the problem. Correct the situation before attempting to energize breaker again.

To avoid electrical shock and damage to the equipment, ensure the power cable is disconnected at the power source before removing or replacing any cables.

Table 12 - 1 Operating Troubleshooting - Video

ITEM	CONDITION/INDICATION	POSSIBLE MALFUNCTION	CORRECTIVE ACTION
1	No Direct Video Feed from Source available	Video Source not active.	Troubleshoot video source IAW app. TM
		No video feed selected	Ensure video feed is set up IAW WP 0005
		Cables not properly attached or unserviceable	Check input cables for serviceability. If unserviceable replace cables
			Ensure cables are plugged into the proper input
			Notify Service Maintenance
2	No Direct Video Feed Output	No video feed selected	Ensure video feed is set up IAW WP 0005 and 0006
		Mute Video button selected	Access Control Panel.
			Check Mute Video button on left side of control panel is not selected. If selected, deselect button and test system
		Correct Video throughput not set up	Access Control Panel.
			Select Video Input feed and Video Output feed. Check that video feed shows on Control Panel center window. If no feed is visible, check video source
			Check video OUTPUT for desired video is selected
		Cables not properly attached or unserviceable	Check output cables for serviceability. If unserviceable replace cables
			Ensure cables are plugged into the proper output
			Ensure that 4-window configuration and output resolution have been selected

Table 12 - 1 Operating Troubleshooting – Video - Cont

ITEM	CONDITION/INDICATION	POSSIBLE MALFUNCTION	CORRECTIVE ACTION
3	No 4 Window Configuration.	4 Window Processor Unserviceable	Check 4 Window Processor power switch is set to "ON'. If power switch is 'OFF" set to 'ON'
			Check 4 Window Processor power light is lit, if not lit, notify Service Maintenance
		Notify Service Maintenance	
4	Poor quality video feed on video monitors	Output Resolution not properly set	Check recommended resolution for monitor connected to video output
			Access 4 Window panel on the control panel.
			Select Output resolution and retest system
		Video cables not connected properly or damaged	Check cables for damage, loose connections or corrosion on connectors. Replace cables if necessary
5	Poor quality video feed on video monitors - Cont	Rear Connectors on AVCS damaged or not functioning properly	Inspect connectors on rear of AVCS. If connectors are damaged notify service maintenance
			Remove cable can connect to different connectors. Test system. If feed operates properly notify service maintenance
6	Can not access Full Screen Mode on the Touch Panel	Touch Panel Malfunctioning	Shut Down system, restart and retest
7	Presets not saved after system shut down	Notify Service Maintenance	

END OF TASK

Table 12 - 2 Operating Troubleshooting - Data

ITEM	CONDITION/INDICATION	POSSIBLE MALFUNCTION	CORRECTIVE ACTION
1	Control Panel Inoperative	Control Panel not connected properly or damaged	Check cable connection on rear of AVCS. Inspect cables and connectors for damage, if damaged replace cables. Disconnect Control panel and access AVCS using external computer connection. If AVCS operates normally, continue mission, notify service maintenance
		Control Panel unserviceable	
		Control Processor MSG indicator light lit NOTE: the MSG light does not always mean there is a problem. The MSG light indicates that something has been written to the processor's log file.	Turn off power to system and restart. Test system operation
		Notify Service Maintenance	
2	Control Panel functions Non-operational	System needs to be reset	Turn off power to system and restart. Test system operation
		Notify Service Maintenance	

END OF TASK

Table 12 - 3 Operating Troubleshooting - Power

Item	Condition/Indication	Possible Malfunction	Corrective Action
1	No power to entire system	Check power source	Ensure power source is providing 110VAC at 60HZ. Correct if necessary
		Check power cable connection	Inspect cables and connectors for damage, if damaged replace cables.
		Power switched off	Check Power switch is set to 'ON'
		Notify Service Maintenance	
2	No power to individual components	Power switched off	Check Power switch is set to 'ON'
		Individual components power switch turned off	Check individual components and insure all power switches are set to ON
		Notify Service Maintenance	

END OF TASK

END OF WORK PACKAGE

CHAPTER 4

OPERATOR MAINTENANCE INSTRUCTIONS FOR AVCS (MINI)

OPERATOR MAINTENANCE PROCEDURES
AVCS (MINI)
SERVICE UPON RECEIPT

INITIAL SETUP:

Personnel Required:	References
Two	WP 00

GENERAL

The following procedures are required to be performed by the operator in order to prepare the AVCS and its contents for use.

SITE SELECTION

To ensure minimal problems with set-up of the AVCS (MINI) and good operation of equipment being used in conjunction with it, ensure area is:

Dry and environmentally controlled
Protected area to run cables from AVSC to ancillary equipment

AVCS REQUIREMENTS

The AVCS (MINI) requires 110 VAC of surge protected power to operate.

SERVICE UPON RECEIPT

Inspect each system component for damage incurred during shipment. If any damage is visible, notify supervisor. Report the damage on SF361, Transportation Discrepancy Report. Check the equipment against the packing slip to see if the shipment is complete. Report all discrepancies in accordance with applicable service instructions.

Once all covers are removed, inspect the system and each piece of ancillary equipment. Inspect all connectors, cables, and loose pieces of equipment located in the boxes. Refer to PMCS before placing the equipment into service.

INSTALLATION INSTRUCTIONS

The AVCS requires some assembly to place into operation. To set up the AVCS (MINI) refer to WP 0005 of this TM for setup and power up procedures.

PRELIMINARY SERVICING OF EQUIPMENT

WARNING

When working on the AVCS (MINI), do not operate the equipment is the case or equipment shows signs of moisture or water intrusion. Electrical shock can cause personnel injury or death and may result in damage to equipment.

Do not apply power in the system is not properly grounded to the power source. Electrical shock can cause personnel injury or death and may result in damage to equipment.
The AVCS (MINI) does not require a preliminary service. Daily checks are addressed in the PMCS tables located in WP 0015 of this TM.

END OF WORK PACKAGE

OPERATOR MAINTENANCE INSTRUCTIONS
AVCS (MINI)
PMCS INTRODUCTION

GENERAL

This Work Package provides data necessary to keep the AVCS (MINI) operational ready. PMCS are performed to keep the trailer and shelter in operational condition. The checks are used to find, correct, and report problems. Personnel trained on the equipment are required to perform the tasks as indicated in Operator PMCS (WP 0015), Table 1. PMCS are performed by the operator each time the equipment is operated.

WARNINGS AND CAUTIONS

Special attention should be paid to the WARNINGS and CAUTIONS appearing in the operator PMCS table. A WARNING means someone could be injured. A CAUTION means equipment could be damaged.

EXPLANATION OF TABLE ENTRIES

Item Number – Numbers in this column are for reference. When completing DA Form 2404/ DA Form 5988E (Equipment Inspection and Maintenance Worksheet), include the item number for the check/service indicating a fault. Item numbers appear in the order in which the checks/services are performed for the interval listed.

Interval – This column indicates when a procedure must be performed (i.e., Before, During, or After an operation).

Item to Be Checked or Serviced – This Column identifies the item that is to be checked or serviced.

Procedure – This column describes the procedure that must be followed to ensure that the equipment is capable of performing its intended mission.

Equipment Not Ready/Available If – This column lists conditions that make the AVCS (MINI) not fully mission capable. If the problem can be fixed using the troubleshooting procedures and/or maintenance procedures in this manual, do so. If not, document the items not able to be fixed on DA Form 2404/DA Form 5988E for operator maintenance. For further information on how to use this form, see DA PAM 750-8. Be sure to observe and annotate all special circumstances that appear/occur.

NOTE

Perform weekly as well as before PMCS if you are the assigned operator but have not operated the equipment since the last weekly inspection, or if you are operating the equipment for the first time.

If the equipment must be kept in continuous operation, only perform those procedures that will not disturb operation. Complete checks and services when the equipment is shut down.

END OF WORK PACKAGE

OPERATOR MAINTENANCE INSTRUCTIONS
AVCS (MINI)
SERVICE – PMCS

INITIAL SETUP:

References
WP

Table 1. Operator Preventive Maintenance checks and Services.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED AVCS	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
1	**BEFORE**	AVCS Case	1. Inspect case for cracks, damaged, loose or missing hardware. 2. Inspect case interior for moisture or dirt. Clean and dry as necessary.	Case interior shows signs of moisture or equipment excessively dirty
2	**BEFORE**	AVCS Front	1. Inspect all components for proper mounting, moisture or debris. 2. Inspect components for damage, loose or missing hardware. 3. Inspect components. Check operation of lights and switches. 4. Inspect components. Check component screens for cracks, damage and proper operation.	Equipment not properly mounted. Switches or lights unserviceable.
3	**BEFORE**	AVCS Rear	1. Inspect rear panels. Check for damaged, loose or missing hardware 2. Inspect Surge Protector. Check Circuit breaker not tripped. Check switches for free movement. Check 110VAC connectors for debris, clear if necessary. Ensure power supply is proper level. 3. Inspect Ground connector. Check AVCS is properly grounded to the ground and power source. 3. Inspect the cable connections. Ensure all cables are connected securely to the appropriate connection on the AVCS.	Circuit breaker on surge protector will not stay set. Damage to power connector. Moisture in connector AVCS not properly grounded Cables have exposed wiring, or connectors broken

4	**BEFORE**	Control Panel	1. Inspect panel screen. Check panel screen for damage. 2. Inspect cabling. Check panel cable for cuts tears or exposed wiring. Check connector pins for proper placement, bent pins and burs.	Panel screen cracked or unserviceable Cable wiring exposed or pins broken or bent.
5	**BEFORE**	AP 25 Speaker	1. Inspect Speaker Case. Check case for loose, damaged or missing hardware. 2. Ensure all cables are serviceable and connected securely to the correct connection on the Speaker.	
6	**BEFORE**	Cables	1. Inspect all miscellaneous cables. Check cables for damage or exposed wiring. Ensure all cables are serviceable and connected securely to the appropriate equipment.	Wiring exposed. Connectors unserviceable.
7	**DURING**	Case	1. Inspect case for excessive dust buildup or moisture inside the case. 2. Inspect case ground connection for proper connection. 3. Inspect Cable connections to ensure that they are securely connected to the AVCS. Warning Do not disconnect any cables from the system while the unit is powered up. Possibility of electrical shock or damage to equipment exists. 4. Inspect cooling fans. Check sides of Video Mixer for fan operation and excessive dust buildup. 5. Inspect on-board warning lights. Check component face plates for warning lights. 6. Check video feed on all video input and output channels. Check operation of quad view. 7. Check audio feed on all audio input and output devices.	Moisture present inside case Damaged cable attached to system Fan non-operational or clogged with dust Warning light on, on an active system No video feed passing through the video switch
		Ancillary Devices		
8	**DURING**	Speaker	1. Check speakers for sound quality, adjust as necessary 2. Check speaker connections too ensure proper seating.	No sound coming from speakers

9	**DURING**	Control Panel	1. Check Control panel for proper operation. Run control panel through all screens to ensure proper operation of the touch screen	Control panel not functioning. Can use computer interface in its place
			2. Check vents on rear of control panel for debris, clean as necessary with a damp cloth.	
			3. Check all audio feed Inputs and Outputs for proper switching	No audio feeds passing through mixer
			4. Check all video feed Inputs and Outputs for proper switching	No video feeds passing through mixer
			5. Check Quad Screen view for proper video feed switching	
			6. If available, initiate call using onboard dialer, check for proper connection	
			2. Check all switches and knobs are complete and function normally.	
		Ancillary Devices		
14	**AFTER**	Speakers	1. Check connections on Speaker. Remove all cables, check pins for damage or debris, clean as necessary. Check dust covers to ensure proper seating	
			2. Check all cables for damaged connections or wiring. Wipe down cables with a damp rag to remove dirt. Use compressed air to clean out connectors as necessary.	Cables non-mission capable if pins are damaged or wiring is exposed or broken
15	**AFTER**	Control Panel	1. Inspect Control Panel. Check screen and case for damage. Clean screen with anti-static computer screen wipes.	Control panel screen cracked or broken
			2. Check cable for damaged connections or wiring. Wipe down cables with a damp rag to remove dirt. Use compressed air to clean out connectors as necessary.	Cables non-mission capable if pins are damaged or wiring is exposed or broken
16	**AFTER**	Cables	1. Check all cables for damaged connections or wiring. Wipe down cables with a damp rag to remove dirt. Use compressed air to clean out connectors as necessary.	Cables non-mission capable if pins are damaged or wiring is exposed or broken

END OF WORK PACKAGE

OPERATOR MAINTENANCE INSTRUCTIONS
AVCS (MINI)
CLEANING THE AVCS EQUIPMENT

GENERAL

This work package provides information needed by the Operator when performing the following services to the AVCS system. They consist of

- Cleaning the AVSC
- Cleaning the Cables
- Cleaning the Control Panel
- Cleaning the Speakers

WARNING

Voltage sources, in addition to being an electrical shock hazard, may also potentially produce serious burns. Care should be exercised when using water around exposed power connections. Ensure that all power to the system has been shut off before disassembling and cleaning the components of the AVCS (MINI).

CAUTION

The touch panel screen on the Control panel is sensitive to touch and should not be cleaned with other than cleaning solutions approved for cleaning computer LCD screens. Damage to the screen may result

Use of a damp cloth is authorized for cleaning the case and cables but care should be exercised to ensure that water does not get into the connection of the cables or the electrical components. Damage to the components may result from water, if water gets into the connections, blow the connections out with compressed air, or allow to air dry before connecting back to equipment.

CLEANING THE AVSC

INITIAL SETUP:

Tools and Special Tools
Damp Cloth
Stiff Bristled Brush

Materials/Parts	**Equipment Condition**
Water	Equipment Powered Down
De-natured Alcohol	Power Source Disconnected

WARNING

Voltage sources, in addition to being an electrical shock hazard, may also potentially produce serious burns. Care should be exercised when using water around exposed power connections. Ensure that all power to the system has been shut off before disassembling and cleaning the components of the AVCS (MINI).

C**AUTION**

Use of a damp cloth is authorized for cleaning the case and cables but care should be exercised to ensure that water does not get into the connection of the cables or the electrical components. Damage to the components may result from water, if water gets into the connections, blow the connections out with compressed air, or allow to air dry before connecting back to equipment.

SERVICE

1. Verify that the AVCS (Mini) has been shut down and the power source has been disconnected.

2. Disconnect all cables attached to the AVSC.

3. Clean off any severe dirt or mud from the outer case using a stiff bristled brush.

4. Use a vacuum or compressed air to remove any loose debris from inside the AVSC case.

5. Clean the outer surface of the case and the interior surface of the case using a damp cloth. Use care not to get any water on the face of the electrical components.

6. Dry any excess water from the inside of the case using a lint free cloth.

7. Clean the face and rear of electrical components using Electronic Anti-Static/Alcohol Free Cleaning Wipes.

8. Clean out the connectors on the rear of the AVSC using compressed air to blow out any debris.

CAUTION

Do not use any water to clean out the connectors. Water can cause corrosion or rust preventing the connectors from making a proper connection.

9. Ensure the dust covers seal properly.

END OF TASK

CLEANING THE ANCILLARY CASE

INITIAL SETUP:

Tools and Special Tools
Damp Cloth
Stiff Bristled Brush

Materials/Parts	Equipment Condition
Water	Equipment Powered Down
De-natured Alcohol	Power Source Disconnected

CAUTION

Use of a damp cloth is authorized for cleaning the case and cables but care should be exercised to ensure that water does not get into the connection of the cables or the electrical components. Damage to the components may result from water, if water gets into the connections, blow the connections out with compressed air, or allow to air dry before connecting back to equipment.

SERVICE

1. Clean off any severe dirt or mud from the outer case using a stiff bristled brush.
2. Use a vacuum or compressed air to remove any loose debris from inside the ancillary case.
3. Clean the outer surface of the case and the interior surface of the case with a damp cloth.
4. Dry any excess water from the inside of the case using a lint free cloth.

END OF TASK

CLEANING THE AVCS (MINI) CABLES

INITIAL SETUP:

Tools and Special Tools
Sponge/Rag/paper towels

References

Materials/Parts
Water
De-natured Alcohol
Cable Ties

Equipment Condition
Equipment Powered Down
Power Source Disconnected

WARNING

Voltage sources, in addition to being an electrical shock hazard, may also potentially produce serious burns. Care should be exercised when using water around exposed power connections. Ensure that all power to the system has been shut off before disassembling and cleaning the components of the AVCS (MINI).

C**AUTION**

Use of a damp cloth is authorized for cleaning the case and cables but care should be exercised to ensure that water does not get into the connection of the cables or the electrical components. Damage or corrosion may result from water contamination, if water gets into the connections, blow the connections out with compressed air, or allow to air dry before connecting back to equipment.

SERVICE

1. Verify that the AVCS (MINI) has been shut down and the power source has been disconnected.
2. Disconnect all cables from the AVSC and accessory devices.
3. Inspect all cables for damaged wiring or connectors.
4. Clean the body of the wiring using a damp lint free cloth.
5. Use compressed air to clean dust and debris from the ends of the connections.
6. Replace all dust covers on cable ends.
7. If storing roll cables and secure with cable ties to prevent tangling of cables when stored.
8. Store or reconnect cables as needed.

END OF TASK

CLEANING THE AVCS (MINI) AP-25 SPEAKERS – SERVICE

INITIAL SETUP:

Tools and Special Tools
Sponge/Rag/paper towels

References

Materials/Parts
Water
De-natured Alcohol
Cable Ties

Equipment Condition
Equipment Powered Down
Power Source Disconnected

WARNING

Voltage sources, in addition to being an electrical shock hazard, may also potentially produce serious burns. Care should be exercised when using water around exposed power connections. Ensure that all power to the speaker has been shut off before disconnecting and cleaning the AP 25 Speakers.

CAUTION

Use of a damp cloth is authorized for cleaning the case and cables but care should be exercised to ensure that water does not get into the connection of the cables or the electrical components. Damage or corrosion may result from water contamination, if water gets into the connections, blow the connections out with compressed air, or allow to air dry before connecting back to equipment.

SERVICE

1. Verify that the AVCS (MINI) has been shut down and the power source has been disconnected.
2. Disconnect the RCA and power cables from speaker.
3. Inspect speaker RCA and power cables for damaged wiring or connectors.
4. Clean the body of the wiring using a damp lint free cloth.
5. Use compressed air to clean dust and debris from the ends of the connections.
6. Clean the body of the speaker using an Electronic anti-Static/Alcohol Free Cleaning Wipe.
7. If storing roll cable and secure with cable ties to prevent tangling of cables when stored.
8. Store or reconnect cables as needed.

END OF TASK

END OF WORK PACKAGE

CHAPTER 5

SUPPORTING INFORMATION FOR AVCS (MINI)

SUPPORTING INFORMATION
AVCS (MINI)
COMPONENTS OF END ITEM (COEI) LIST

INTRODUCTION

Scope

This work package lists COEI and BII for the **AVCS (MINI)** to help you inventory items for safe and efficient operation of the equipment.

General

The COEI and BII information is divided into the following lists:

Components of End Item (COEI). This list is for information purposes only and is not authority to requisition replacements. These items are part of the shelter. As part of the end item, these items must be with the end item whenever it is issued or transferred between property accounts. Items of COEI are removed and separately packaged for transportation or shipment only when necessary. Illustrations are furnished to help you find and identify the items.

Explanation of Columns in the COEI List

Column (1) Illus Number. Gives you the number of the item illustrated.

Column (2) National Stock Number (NSN). Identifies the stock number of the item to be used for requisitioning purposes.

Column (3) Description, Part Number/(CAGEC). Identifies the Federal item name (in all capital letters) followed by a minimum description when needed. The stowage location of COEI and BII is also included in this column. The last line below the description is the part number and the Commercial and Government Entity Code (CAGEC) (in parentheses).

Column (4) Usable on Code. When applicable, gives you a code if the item you need is not the same for different models of equipment.

Code	Used on
NA	NA
NA	NA

Column (5) (U/I). Unit of Issue (UI) indicates the physical measurement or count of the item as issued per the National Stock Number shown in column (2).

Column (6) Qty Rqr. Indicates the quantity required.

COMPONENTS OF END ITEM

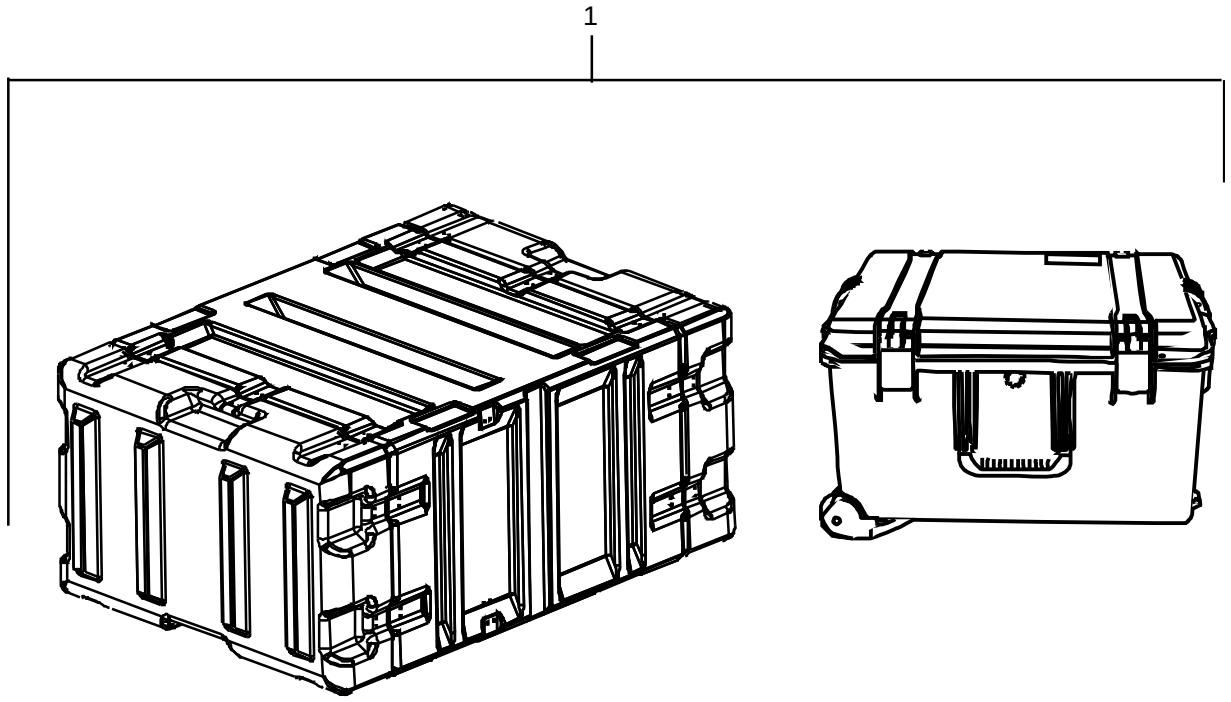


Figure 1. Components of End Item.

Table 1. Components of End Item.

(1) Illus Number	(2) National Stock Number	(3) Description, Part Number/(CAGEC)	(4) Usable on Code	(5) U/I	(6) Qty Rqr
1		DC2E, AV MINI SYSTEM BP300A011, (0WFM3)	NA	EA	1

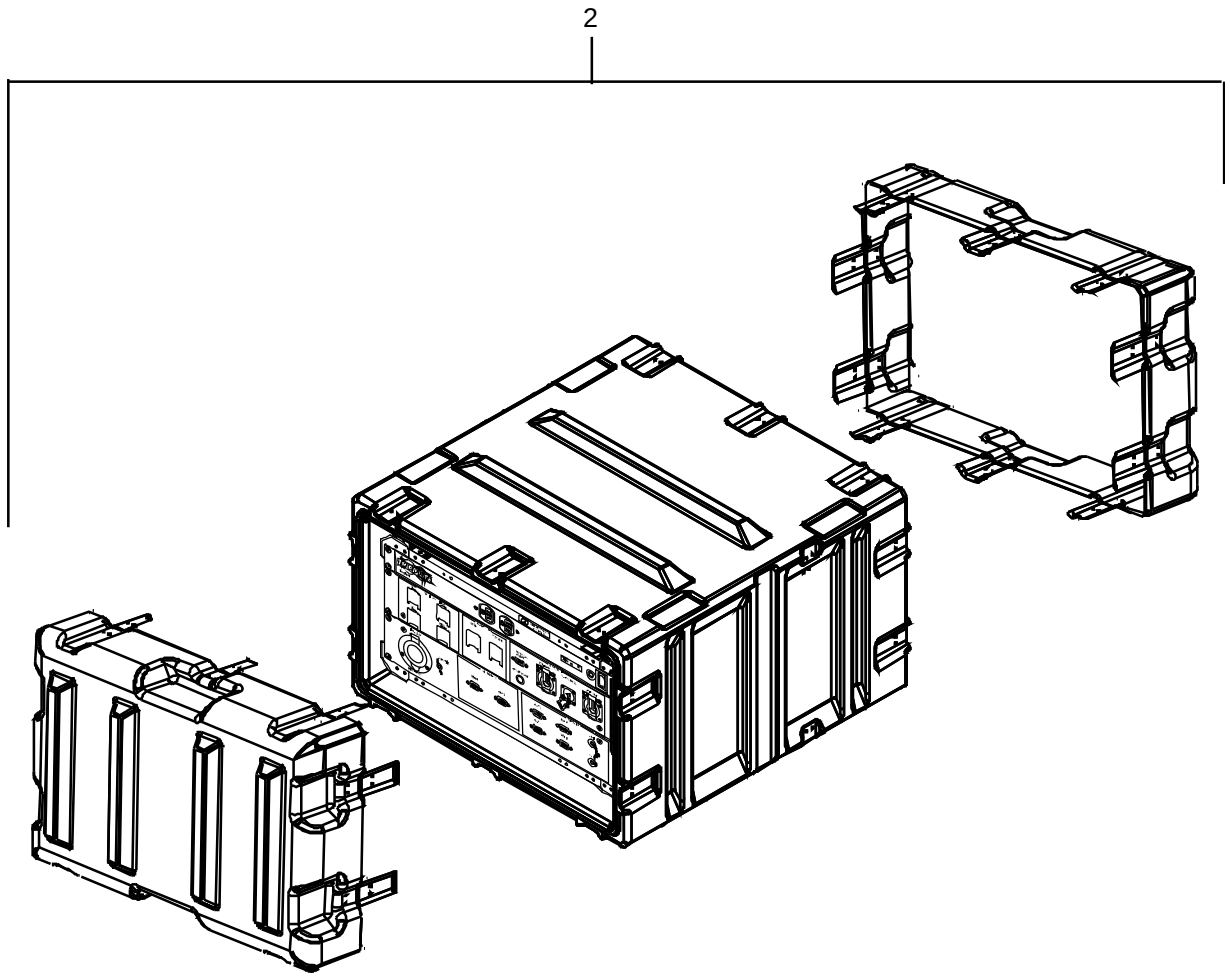


Figure 1. Components of End Item - Continued.

Table 1. Components of End Item - Continued.

(1) Illus Number	(2) National Stock Number	(3) Description, Part Number/(CAGEC)	(4) Usable on Code	(5) U/I	(6) Qty Rqr
2		AV CASE BP300A012, (0WFM3)	NA	EA	1

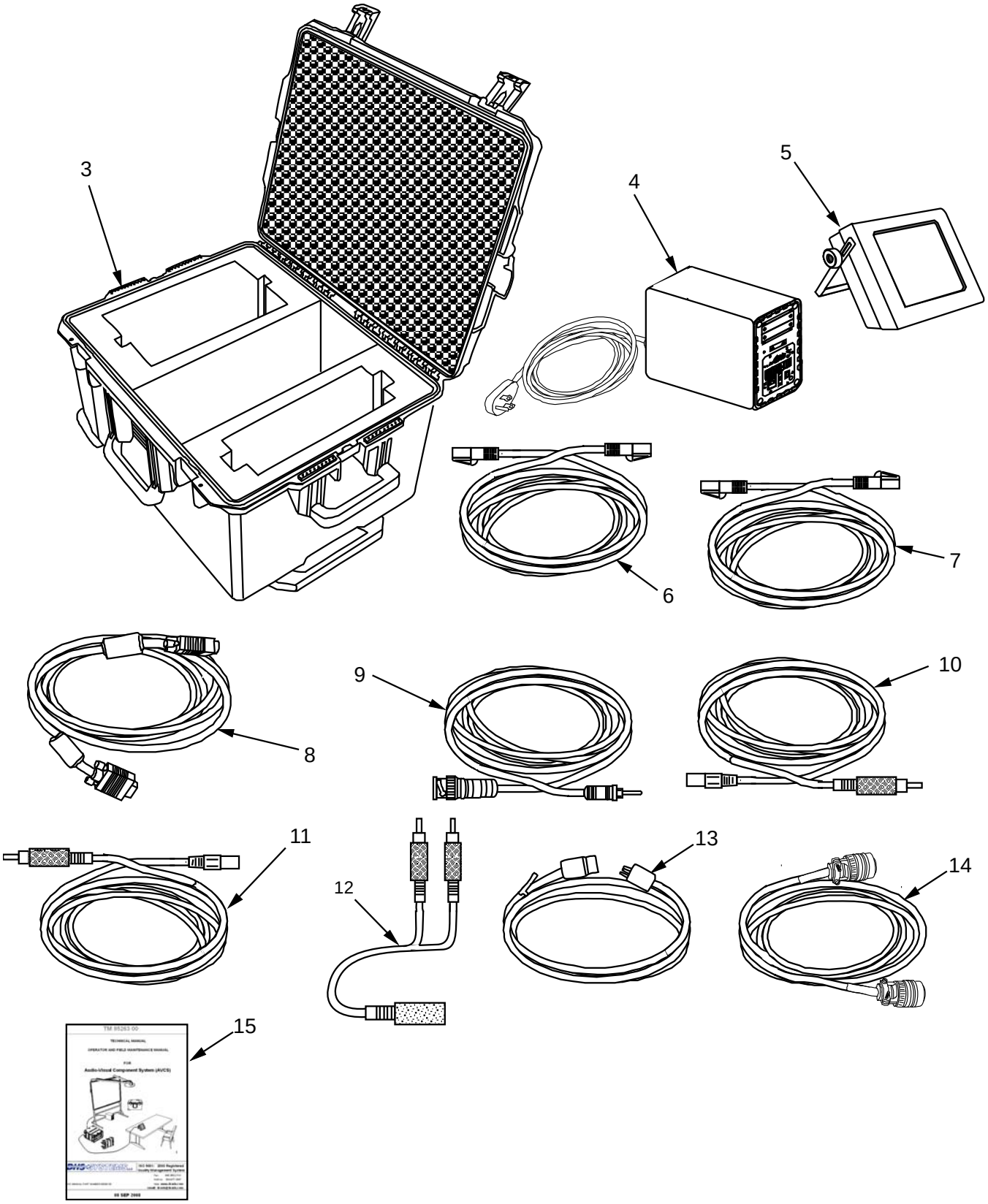


Figure 1. Components of End Item – Continued.

Table 1. Components of End Item – Continued.

(1) Illus Number	(2) National Stock Number	(3) Description, Part Number/(CAGEC)	(4) Usable on Code	(5) U/I	(6) Qty Rqr
3		Accessory Case BP900A278, (0WFM3)	NA	EA	1
4		Speaker, Powered, 110/220VAC, W/Bracket & Power Cable, BP900A156, (0WFM3)	NA	EA	1
5		Touchpanel, 10.4” Custom BP900A013, (0WFM3)	NA	EA	1
6		Cable, RJ45 (M/M) BLK, 25 ft BP900A026, (0WFM3)	NA	EA	1
7		Cable, RJ11, M/M) 25 ft BP900A258, (0WFM3)	NA	EA	1
8		Cable, HD15 (M/M) 25 ft BP900A027, (0WFM3)	NA	EA	4
9		Cable, BNC (M) RCS(M) 6 ft BP900A239, (0WFM3)	NA	EA	1
10		Cable, XLR(M) RCA(M) 6 ft BP900A241, (0WFM3)	NA	EA	1
11		Cable, XLR(F) RCA(M) 12 ft BP900A242, (0WFM3)	NA	EA	1
12		Cable, RCA(M) X2 RCA(F) 3 in BP900A243, (0WFM3)	NA	KT	1
13	**6150-01-552-6419**	Cable, Light Lead 60Hz, 15 ft T295116, (0WFM3)	NA	EA	1
14		Cable, CRESNET, TOUCHPANEL BP900A009, (0WFM3)	NA	EA	1
15		TECHNICAL MANUAL TM 95236-00, (0WFM3)	NA	EA	1

END OF WORK PACKAGE

DHS SYSTEMS LLC LIMITED WARRANTY

DHS Systems LLC warrants that all DRASH® (Deployable Rapid Assembly SHelter) products purchased hereunder will be free from defects in materials and workmanship. This warranty shall extend to the ultimate user as well as original equipment purchasers and shall be valid for the elapsed time beginning with the date of shipment according to the following schedule:

WARRANTY SCHEDULE

Deployable Command & Control Equipment (DC2E): 12 Months with the following exceptions;

- **Deployable Command & Control Equipment (DC2E) Cables: 30 Days**
- **Deployable Command & Control Equipment (DC2E) Lamps: 500 Hours / 90 Days**
- **Deployable Command & Control Equipment (DC2E) Touch Panels: 90 Days**

The liability of DHS Systems LLC under this warranty is limited to the repair or replacement of any defective part or component due to a material defect or substandard workmanship. Damage due to excessive wear and tear, improper use or carelessness is not covered under this limited warranty.

Furthermore, it should be understood that this warranty does not constitute a guarantee that the products under warranty identified in the Schedule above will function without following instructions, including reading of the Operators Manual, and following proper maintenance procedures as well as using reasonable care for the periods stated in the above Schedule. On-site repair without prior discussion and approval from DHS Systems may void the warranty.

Warranty claims must contain a detailed explanation of the defect and be supported by summary extracts of pertinent service and maintenance records if applicable. DHS Systems LLC shall have the right to examine the alleged defect and may require the claimant, at the claimant's expense, to return the product for such an examination. If DHS Systems' personnel are required to visit the claimant's site to confirm any alleged defect, all expenses for travel and accommodations may be charged to the claimant.

Subject to the above stated total warranty period(s), any warranty claims must be filed with DHS Systems LLC within 5 business days after the alleged defect has been identified. All claims must be mailed or faxed to the following:

DHS SYSTEMS LLC

5855 Endeavor Way

Tanner, AL 35671

Attn: Customer Service

Phone: 877-463-7274 Fax: 256-774-1567 email: cutomersupport@drash.com