Federal Aviation Administration

Initial En Route Qualification Training

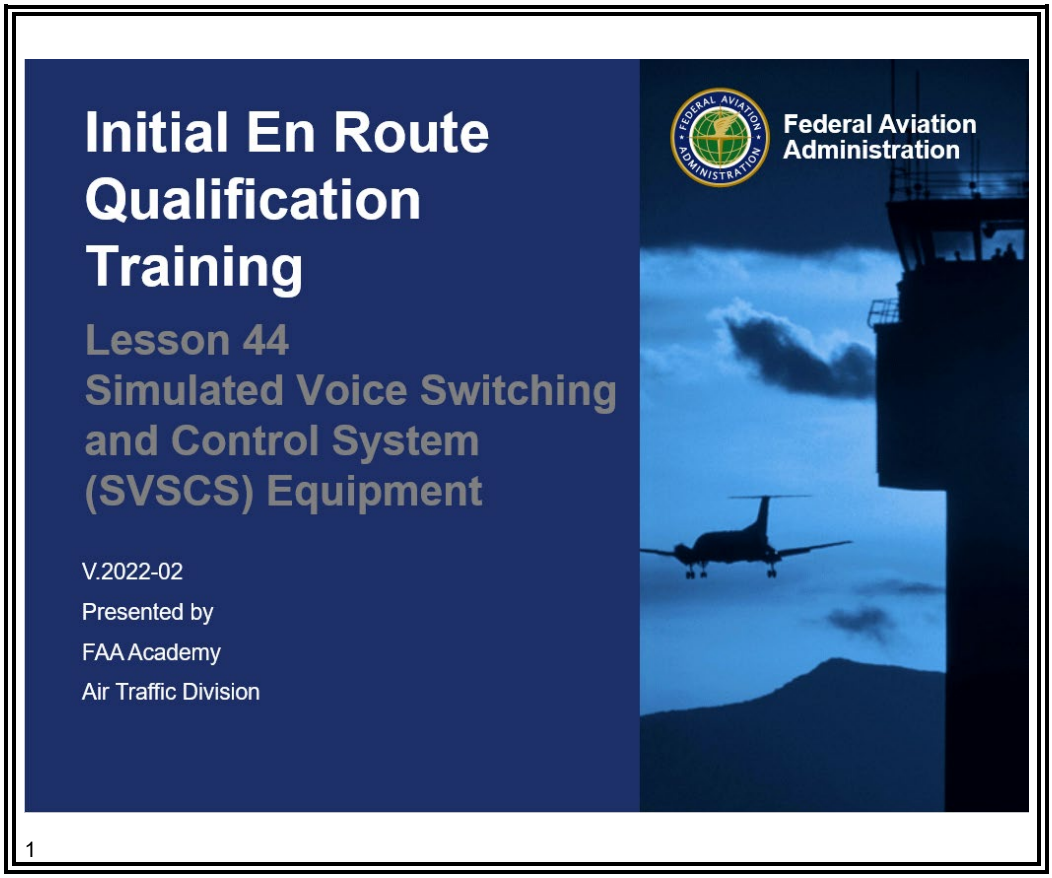
Lesson 44
Simulated Voice Switching and Control System (SVSCS) Equipment

Course 50148001

LESSON PLAN DATA SHEET

COURSE NAME:	INITIAL EN ROUTE QUALIFICATION TRAINING
COURSE NUMBER:	50148001
LESSON TITLE:	SIMULATED VOICE SWITCHING AND CONTROL SYSTEM (SVSCS) EQUIPMENT
DURATION:	2+00 HOURS
DATE REVISED:	2022-02
VERSION:	V.2022-02
REFERENCE(S):	TI 6690.17, VOICE SWITCHING AND CONTROL SYSTEM (VSCS) AIR TRAFFIC CONTROLLER OPERATORS MANUAL
HANDOUT(S):	NONE
EXERCISE(S)/ ACTIVITY(S):	EXERCISE: USING SVSCS EQUIPMENT (TO BE CONDUCTED IN THE LAB)
END-OF-LESSON TEST:	NONE
PERFORMANCE TEST:	NONE
MATERIALS:	NONE
OTHER PERTINENT INFORMATION:	NONE

INTRODUCTION

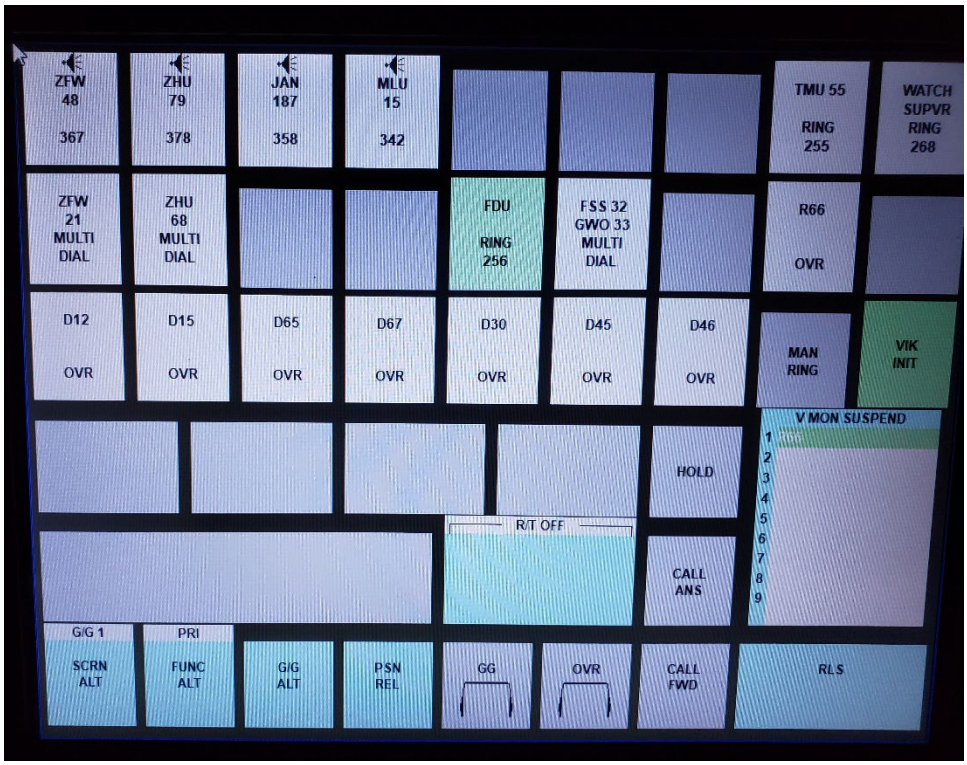


To separate and coordinate, you must first be able to communicate. The ability to communicate with pilots and controllers is the most fundamental aspect of air traffic control.

INTRODUCTION *(Continued)*

Opening Scenario

SIMULATED VOICE SWITCHING AND CONTROL SYSTEM (SVSCS) EQUIPMENT



2

In en route facilities, the Voice Switching and Control System (VSCS) provides air traffic controllers with Air-to-Ground (A/G) and Ground-to-Ground (G/G) voice communication capability. VSCS interfaces with remote radio equipment and facilitates voice connectivity between controllers within the same facility as well as separate facilities. Knowledge of the VSCS is vital for your progression to Certified Professional Controller (CPC).

Purpose

This lesson covers the components, functions, and operation of the Simulated VSCS (SVSCS) located at control positions at the Academy.

INTRODUCTION *(Continued)*

Lesson Objectives

LESSON OBJECTIVES

Given classroom instruction, you will become familiar with:

- Push-to-Talk (PTT) and the priority of parallel headset/handset (HS) jacks
- SVSCS Display Module (VDM) components and functions
- Components and functions of Air-to-Ground (A/G), Ground-to-Ground (G/G), and Utility (UTIL) screens
- SVSCS Indirect Access Keypad (VIK) functions

3

Performance Objectives

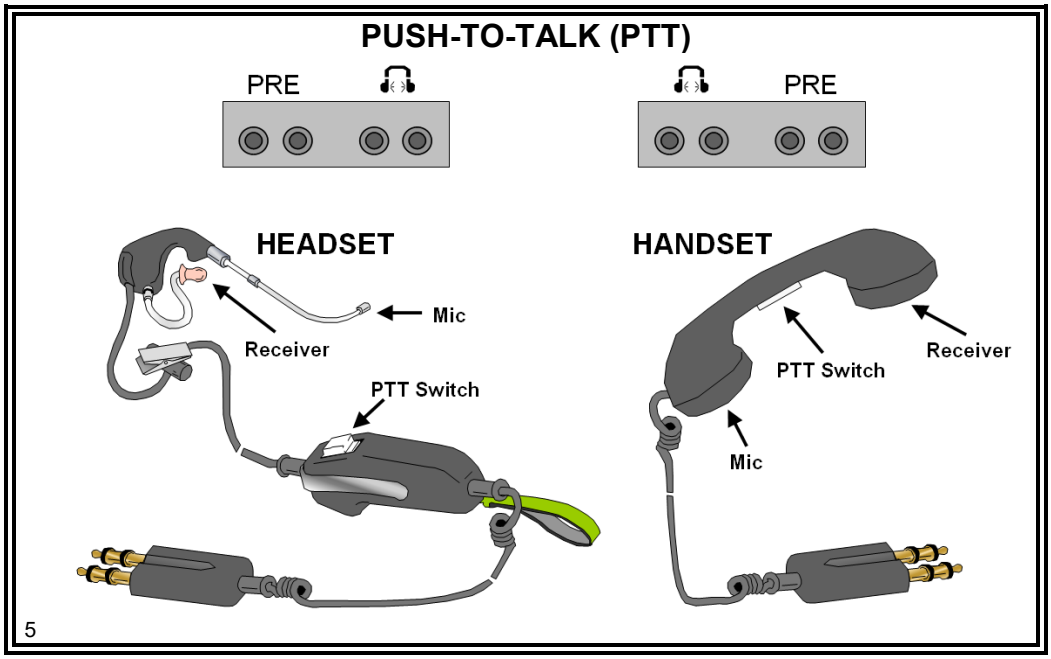
PERFORMANCE OBJECTIVES

Given SVSCS equipment in the lab and in accordance with TI 6690.17, you will place and receive calls and navigate the screens using either the VDM buttons, the VIK, or both as appropriate.

4

PUSH-TO-TALK (PTT)

General
TI 6690.17,
par. 4.4



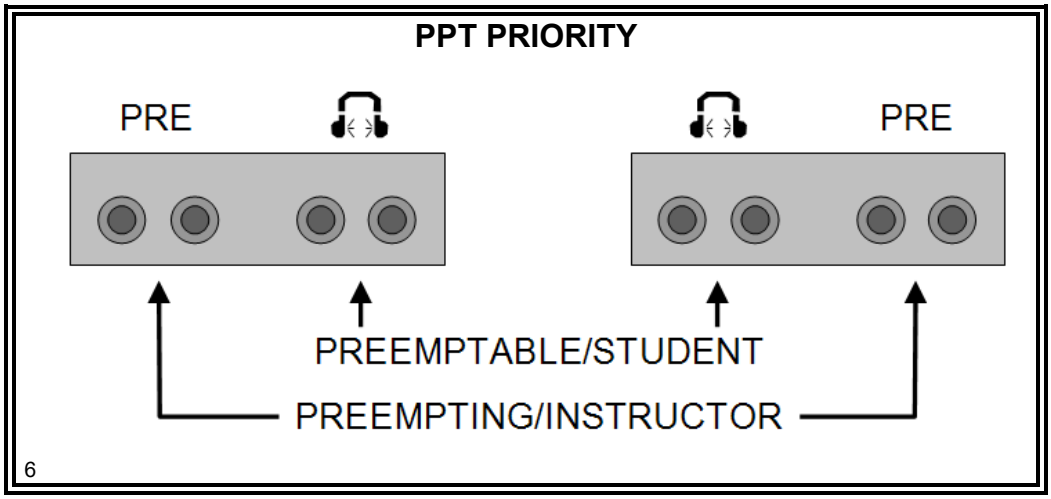
- Push-to-Talk (PTT) activates outgoing A/G or G/G communication once a transmitter is enabled or an active G/G call is established.

- PTT is performed on a(n):

  - HS PTT switch
  - PTT footswitch
  - Emergency PTT button
  - Nonlatching Direct Access (DA) button

PUSH-TO-TALK (PTT) *(Continued)*

PTT Priority



- When multiple headsets/handsets (HSs) are plugged in, other operators at the position are affected by the local PTT priority rules for HS PTT switches and PTT footswitches.

  - The following HS jacks have equal priority when paired:

    – Preemptable and preemptable

    – Preempting and preempting

  - The student is preemptable. The instructor is preempting.
  - When preempting and preemptable HS jacks are paired, the preempting jack has priority.

SVSCS DISPLAY MODULE (VDM)

Alternate Screen (SCRN ALT) Button
TI 6690.17, par. 4.3

⊙ The Alternate Screen (SCRN ALT) button displays any one of six different screens by selecting the appropriate button:

- A/G 1
- A/G 2
- A/G STAT (Status)
- G/G 1
- G/G 2
- UTIL (Utility)

⊙ The SCRN ALT button is available on the primary and alternate function button sets of all VDM screens.

A/G ALT and G/G ALT Buttons and Functions

⊙ The A/G ALT and G/G ALT buttons appear on the A/G and G/G screens respectively.

- The A/G ALT button allows you to toggle between the A/G 1 and A/G 2 screens.
- The G/G ALT button allows you to toggle between the G/G 1 and G/G 2 screens.

AIR-TO-GROUND (A/G) SCREENS

Screen Functions and Buttons

- Two A/G operations screens, A/G 1 and A/G 2, enable operators to access A/G communications resources (VHF and UHF frequencies).
- Buttons specific to the A/G screens are:
  - A/G function buttons
  - Frequency buttons
    - When an unselected frequency button is touched, it becomes three separate buttons.
    - Operators touch frequency buttons to select and control transmitter and receiver states.
  - Emergency frequency buttons
  - Emergency Push-to-Talk (PTT) non-latching buttons
    - These buttons are used by the Radar Controller
      - → At ZAE, the D-side does **not** select frequencies

GROUND-TO-GROUND (G/G) SCREENS

Screen Function and Guidelines

- Two G/G screens enable operators to access G/G communications resources (landlines).
- One call may be active at a time.
  - Highlighted when selected
- Identify your position (D66/JAN LO) to answer all lines.

G/G 1 - Interphone (IP) Call
TI 6690.17, par. 6.4.3

NOTE: G/G 1 is the most important screen as it allows you to communicate with other controllers.

- Used to call other controllers/facilities.
- May be of three types:
  - Ring - Ringing state is displayed at the called position(s)
  - Holler - Loudspeaker paging is active at positions receiving the call
  - Dial - “DIAL CODE #” is displayed on the VIK

SVSCS Indirect Access Keypad (VIK) Functions

- Is used for G/G communications and for controlling equipment at the ATC position.
- Operates similarly to a common telephone keypad.

NOTE: The VIK display will automatically disappear after a set amount of time.

GROUND-TO-GROUND (G/G) SCREENS *(Continued)*

G/G 1 - Button Functions

BUTTONS	FUNCTIONS
Top row	• Holler lines to the facility • Dial lines to TMU and the watch supervisor – Used primarily for handoffs, point outs, and APREQs → The mic is keyed to talk
Second row	• Dial lines using the VIK – Used for FP information → The mic is keyed to talk
Third row	• Override lines – Use R/T ON when receiving a call on these lines – Toggle to R/T OFF to return to monitoring frequencies – If receiving an override call, the sector's button that is calling you will be red. → The mic is keyed when initiating a call → The mic is "hot" when receiving a call

GROUND-TO-GROUND (G/G) SCREENS *(Continued)*

G/G 1 - Radio Transfer (R/T) Switch/ Auxiliary Message Area
TI 6690.17, par. 6.2.8

⊙ When enabled (R/T ON), this feature:

- Is used when receiving an override call so frequencies are **not** heard in the headset in addition to the caller
- Routes all incoming A/G voice at a position to the position's A/G loudspeaker (LS)
- Suspends all current voice monitors (i.e., no longer monitoring frequencies)
- Is activated by touching the Auxiliary Message area

G/G 1 - Override Call

⊙ When a position is overridden:

- The overriding position's ID is displayed in the Auxiliary Message (R/T ON/OFF) area
- An override tone is received in the HS or LS of the overridden position
- The mic changes to an open state ("hot" mic) and **cannot** release the override call
- The overridden controller's voice is transmitted to the overriding position **without** keying PTT
- R/T ON should be selected at the overridden position in order to suspend voice monitors (as well as to route A/G frequencies to the LS)

GROUND-TO-GROUND (G/G) SCREENS *(Continued)*

G/G 1 Function Buttons
TI 6690.17, pars. 3.6.4, 6.2.1, 6.2.6

⊙ These buttons control G/G communications equipment and screen selection and include:

- Ground-to-Ground Alternate (G/G ALT) button
  - Displays the alternate G/G screen
- Position Relief (PSN REL) button
  - Is used during the position relief briefing
  - Enables or disables an open microphone condition while simultaneously enabling or disabling the recording of all operator voice transmissions
    - → At least two HSs must be plugged into the HS jacks to make position relief available

G/G 2 - Voice Monitor (VOICE MON) Index
TI 6690.17, par. 3.6.2

⊙ The rectangle on the right-hand side of the G/G 2 screen indicates the voice monitor status.

- It lists the positions you are listening to
  - The RA Controller selects to hear the Radar Controller, who is monitoring the frequency

UTILITY (UTIL) SCREEN

Functions

- Use this screen to control the volume of the headset and loudspeaker.
- Use either the SCRN ALT or GG RETURN button to go back to the desired screen (G/G 1).

EXERCISE: USING SVSCS EQUIPMENT

Exercise

USING SVSCS EQUIPMENT EXERCISE

Purpose: to practice using SVSCS equipment

Directions: complete the actions listed in the SVSCS Lap Prompt handout.

7

Directions

Sitting at the Radar Associate (RA) position in the lab, complete the actions listed in the SVSCS Lab Prompt handout. An instructor will be available to answer questions or provide assistance as necessary.

IN CONCLUSION

Lesson Review

LESSON REVIEW

The following topics were covered in this lesson:

- Push-to-Talk (PTT)
- SVSCS Display Module (VDM)
- Air-to-Ground (A/G) screens
- Ground-to-Ground (G/G) screens
- Utility (UTIL) screen

8

End-of-Lesson Test

⊙ There is **no** End-of-Lesson Test.