



Advanced Simulation Technology inc.
500 A Huntmar Park Drive
Herndon, Virginia 20170 U.S.A.
Tel. (703)471-2104 • Fax. (703)471-2108
www.asti-usa.com

ASTi DACs

Dialogue Communications System

Quick Start Guide

Document: DOC-01-DACS-DCS-1

Product Name: DACS Dialogue Communications System

ASTi ASTi DACS Dialogue Communications System Quick Start Guide

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ASTi

500 A Huntmar Park Drive

Herndon, VA 20170

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1. 0. Purpose

This document provides quick-start instructions related to:

- ASTi hardware installation including: DACS, RIU and audio and control ancillaries
- System software initialization and configuration
- Handheld Terminal / control device operation.

Also refer to these ASTi resources for complete product information:

- DACS Operation and Maintenance Manual:
<http://www.asti-usa.com/support/document/pdfs/dacsom4b.pdf>
- Model Builder Reference Guide:
http://www.asti-usa.com/support/document/pdfs/mbref_4a.pdf
- RIU Technical Guide:
<http://www.asti-usa.com/support/document/pdfs/riu41tge.pdf>
- Handheld Terminal User Guide:
<http://www.asti-usa.com/support/document/pdfs/hhtr.pdf>
- Application Notes:
<http://www.asti-usa.com/support/appnotes/index.html>
- FAQs:
<http://www.asti-usa.com/support/faq/index.html>
- Equipment Repair / Return Procedure:
<http://www.asti-usa.com/cgi-bin/WebKit.cgi/rma/>
- To locate ASTi information not listed here, use SEARCH ASTi, available at:
<http://www.asti-usa.com>

2.0. Dialogue System Configuration

The Dialogue system is pre-configured by ASTi to include a custom software model, which realizes a simulated communications matrix comprised of Radios and Operators. The model is hosted on an ASTi Digital Audio Communications System (DACS). The system is software-reconfigurable: the user defines each operators' transmit or receive access to specific radios. During runtime, the operators can change their comms access by pressing keys on the ASTi Handheld Terminal device.

ASTi Digital Audio Communications System (DACS) - Integrates operator stations with networked simulated radios

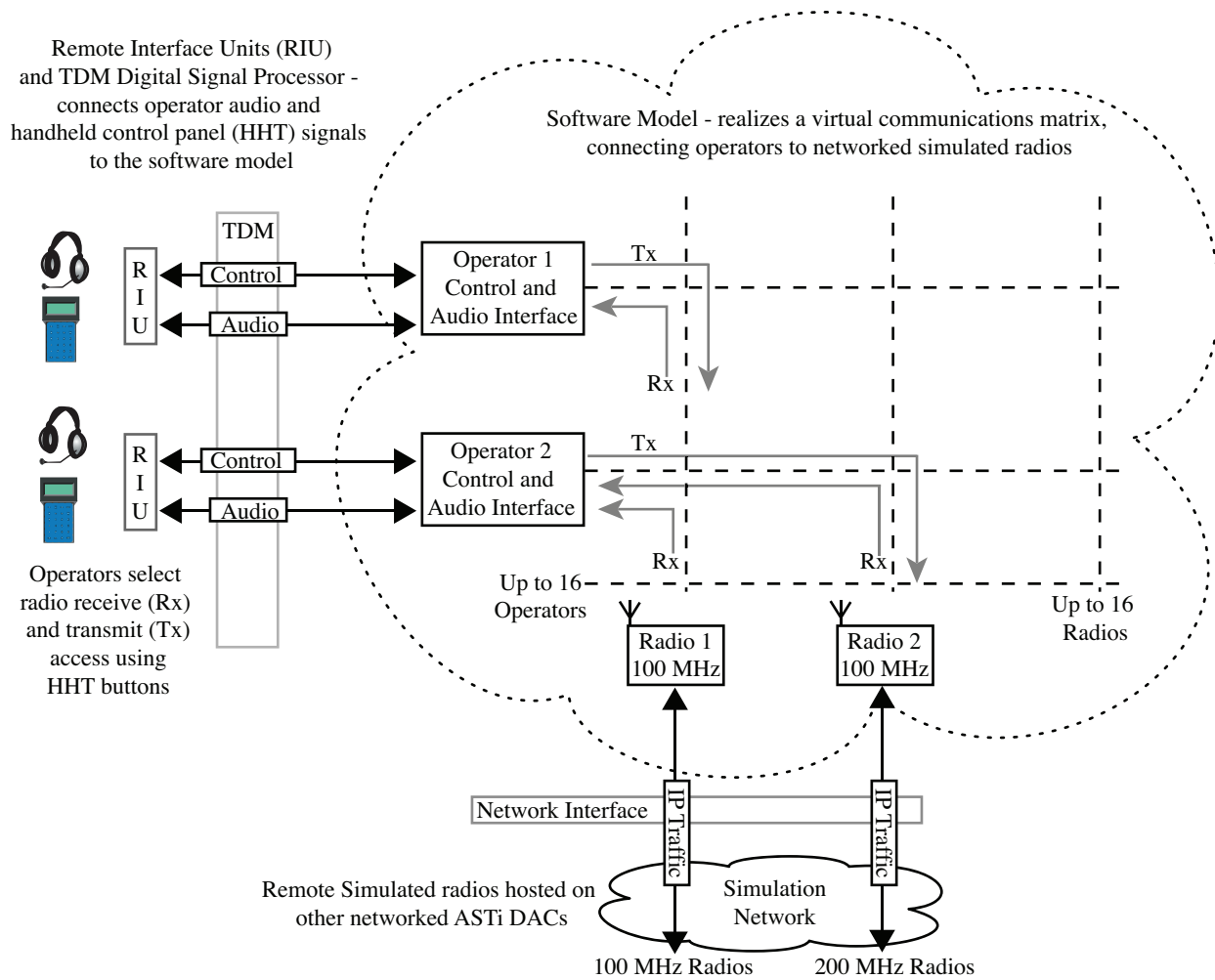


Figure 1: Functional diagram of ASTi Dialogue comms system, showing operator / radio matrix

2.1. ASTi Radios

The simulated radios are configured in the custom software model, which was originally developed by ASTi engineers and pre-installed on the system prior to delivery. As shipped, the custom model provides the communications assets shown in this table.

Radio #	Type	DIS Network & Radio Parameters [1]	Radio Parameters [2]
1	Network Radio	User configurable	User configurable
2	Network Radio	User configurable	User configurable
3	Network Radio	User configurable	User configurable
4	Network Radio	User configurable	User configurable
5	Network Radio	User configurable	User configurable
6	Network Radio	User configurable	User configurable
7	Network Radio	User configurable	User configurable
8	Network Radio	User configurable	User configurable
9	Network Radio	User configurable	User configurable
10	Network Radios	User configurable	User configurable
11	Network Radios	User configurable	User configurable
12	Network Radios	User configurable	User configurable
13	Network Radios	User configurable	User configurable
14	Network Radios	User configurable	User configurable
15	Network Radios	User configurable	User configurable
16	Network Radios	User configurable	User configurable

Table 1: Radio Communication Assets

Note 1: DIS network parameters and DIS IDs are set using system software. Refer to Chapter 4 for details.

Note 2: See following page for internal radio parameters.

To Set This Parameter	Use This Software File
DIS IP Address, Subnet Mask, Broadcast/ multi-cast Address, etc.	If not using Remote Management System (RMS) to control the DACS: use Configuration File (C:\MBUILDER\USERS\MODELS\DEFAULT.CFG) If using RMS: use C:\CONFIG.SYS
DIS IDs (Site, Host, Entity, Radio IDs and Exercise #)	C:\MBUILDER\USERS\MODELS\DEFAULT.INI
Radio Tuned Frequency, Secure / Plain, Modes	C:\MBUILDER\USERS\MODELS\DEFAULT.INI

Table 2: Setting Parameters

Note 3: As shipped, radios are preset with the internal parameters shown in the following table. Radios may be software re-configured by modifying the custom model. Refer to the Model Builder Reference Manual for information about internal radio settings. The radios' tuned frequency is set using the software INI file. See Chapter 4 for details.

Parameter	Value
Modulation	FM
Type	Generic (Single Channel)
Encoding	MuLaw
Ranging	Over the Horizon
Frequency	User settable
Crypto	Plain Text
Geographic Location	Center of the earth (x,y,z = 0,0,0). Radios may be geographically located using manual (hard-coded) settings, host controls or by entity attach. See the Model Builder Reference Guide for more information.

Table 3: Preset Internal Parameters

3. 0. Hardware Installation

3.1. DACS Node

The DACS physical connectors are as shown in Figure 2. For more information, please reference the production system drawing provided with the DACS documentation.

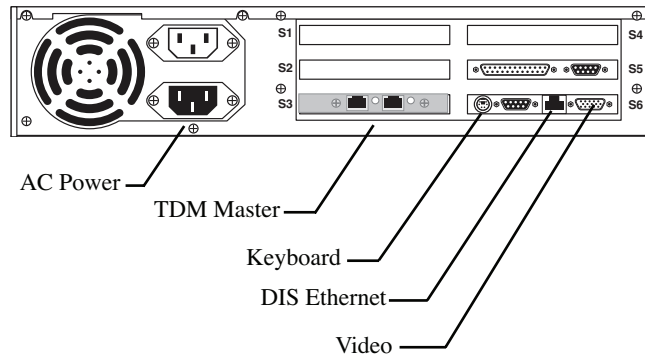


Figure 2: DACS Node Interfaces

3.2. Installation Notes

Numbers 1 through 8 are cross-referenced in Figure 3, the system installation diagram. Table 1 provides a summary of RIU - operator connections.

1. **ASTi DACS**, PN ND-2U-TC1-F1-FD (refer to DACS Operation & Maintenance Manual for complete information about installation and operation).
 - A. Connect to 110 / 200 VAC, 50/60 Hz using provided power cord (not shown).
 - B. Connect to customer furnished video and keyboard (not shown).
 - C. Connect to DIS network using customer furnished Cat 5 cable.
2. **TDM Ring** (refer to the RIU Technical Guide for complete installation guidance):
 - A. The TDM ring is comprised of customer-furnished Category 5 or Category 6 patch cables. Cable is wired straight through. Use only premium quality unshielded twisted pair, preferably pre-manufactured assemblies.
 - B. Combined length of all Cat 5 cables in the TDM ring must not exceed 500 feet. Layout the TDM ring to achieve the shortest cable length.
 - C. DACS/TDM card and RIUs feature two RJ-45 jacks. You can plug the Cat 5 cables into either jack - there is not an input or output designation.
3. **ASTi Remote Interface Unit**, Part Number RIU-V41.
 - A. Set addresses as shown in Installation map on page 3. Address rotary switch is located on panel face.
 - B. Connect to 5 VDC power supply (provided).
 - C. Connect to Headset, PTT, HHT (as shown). Speakers may replace headsets and PTTs for monitor-only stations.
 - D. For clarity, ancillary connections are only shown for RIU address 1.
4. **ASTi Audio Cable Assembly**, Part Number CA-D9M-X4F-25-B: connect as shown.
5. **ASTi PTT / Headphone Junction Box**, Part Number PTT-01-002: connect as shown.
6. **Telex Headset** (Part Number HS-PH-xxR), connect as shown
7. **ASTi Handheld Terminal Serial Cable**, Part Number CA-RJ12-RJ12-7-B: connect as shown.
8. **ASTi Handheld Terminal** (Radio Communications Control Panel), Part Number HHT-01, connect as shown.

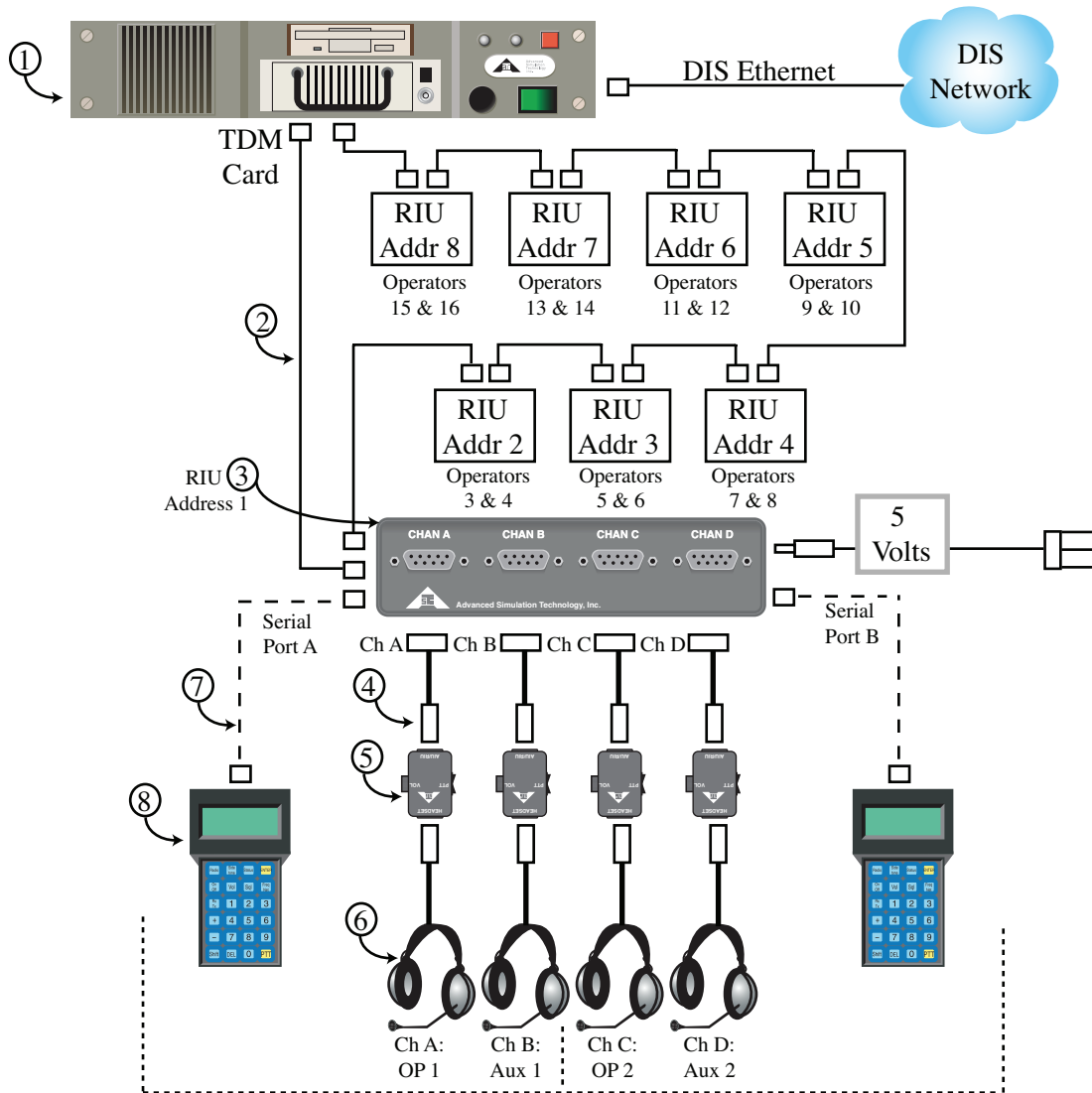


Figure 3: Hardware Installation, DACS, RIUs and Audio-Control Devices

3.3. Summary of RIU - Operator Connections

Operator Number note: Operator Numbers referenced in this table match the operator numbers in INI file commands. See section 3.0 for INI file details. Grey text shows additional operator positions (optionally available).

Operator Number	RIU Address	RIU Channel, Audio-PTT Primary (Auxiliary) [1]	Serial Port: HHT
1	1	A (B)	A
2	1	C (D)	B
3	2	A (B)	A
4	2	C (D)	B
5	3	A (B)	A
6	3	C (D)	B
7	4	A (B)	A
8	4	C (D)	B
9	5	A (B)	A
10	5	C (D)	B
11	6	A (B)	A
12	6	C (D)	B
13	7	A (B)	A
14	7	C (D)	B
15	8	A (B)	A
16	9	C (D)	B

Table 4: Summary of RIU - Operator Connections

Note 1: Primary RIU channel provides an interface for these operator ancillaries: Headset (mic and phones), Push to Talk switch, Speaker.

Auxiliary channel provides an interface for a speaker or headphone (phones only) for use with monitor.

Primary and auxiliary channels provide the same output audio stream, which is selected by HHT device settings.

4.0. Software Files

4.1. Re-Loading Custom Model Files

To re-install the customer-specific application software files:

1. Insert the ASTi furnished custom model floppy diskette into the DACS.
2. At the command line, type "A:\INSTALL"
3. Follow prompts.
4. The following customer-specific application files are included. They have already been configured and installed prior to shipment. These files reside in the working directory on the DACS (C:\MBUILDER\USER\MODELS):
5. Complete the system cold start instructions that are provided in the ASTi DACS Operation and Maintenance Manual.

Filename	Description	User Modifiable?
DEFAULT.CFG	Configuration file: specifies which model, INI, and path files to load. Specifies DACS IP address and other network and DIS settings. Note - if you are using ASTi Remote Management System (RMS) to control the DACS, use C:\CONDFIG.SYS to assign DIS IP address and subnet mask. See Telestra RMS User Guide for details	Yes
DEFAULT.INI	Initialization file: edit this file to: preset operator access to specific comms assets (who can talk and listen to which radios) and to preset tuned frequencies for radios.	Yes
<FILE-NAME>.MDL	Model file: binary file storing comms simulation data.	No
DEFAULT.PTH	Control path file: defines internal control paths between software modules.	No

IMPORTANT NOTE: The system configuration (DEFAULT.CFG) and initialization (DEFAULT.INI) files are the **ONLY** user configurable software files included with this system. All other files are embedded and should **NOT** be modified. Modifications to any software other than the CFG and INI files could disable the system and necessitate a complete software re-load.

Modify the command lines in these text files using the text editor provided with the DACS (command is: EDIT <FILENAME.EXT>). Save the changes to this file using ALT-F-S and exit using ALT-F-X. Press F2 to save and F4 to quit.

4.2. Configuration (CFG) File Commands

IMPORTANT: The first step toward successful setup and integration of an ASTi comms system is coordination between all ASTi sites to ensure that all system-level communications parameters are defined, including: a common DIS exercise ID number, common DIS receive and transmit port numbers.

The Basics:

A. System-level DIS configuration commands are stored in a pre-installed file called DEFAULT.CFG. These commands are executed when the file is automatically loaded at system startup. The user can customize the system configuration by modifying the commands in the file.

Note: If you are using ASTi Remote Management System (RMS) to control the DACS, use C:\CONFIG.SYS to assign DIS IP address and subnet mask. See Telestra RMS User Guide for details.

B. **IMPORTANT:** The DEFAULT.CFG file also contains system level commands that are embedded and should not be modified by the user. These command lines are clearly marked in the file. Modification of these critical commands could disable the system, necessitating a reload of the factory version DEFAULT.CFG file.

C. To customize DIS network configuration and select voice compression types you must use the DOS Edit application to open, modify and save the DEFAULT.CFG file. The general procedure for customizing the DEFAULT.CFG file is (the commands, filenames and directory paths are denoted in upper-case letters for clarity - command sequences are not case sensitive):

1. From the C:\MBUILDER\USER\MODELS prompt,
2. Enter: EDIT DEFAULT.CFG
3. Create a backup of the current DEFAULT.CFG. Enter: ALT-F-A, DEFAULT.BAK
4. Open the file, DEFAULT.CFG. Enter: ALT-F-O, DEFAULT.CFG
5. As needed, customize the commands.
 - a. Command Form. Each configuration command consists of a single line in the form: `COMMAND = PARAMETER(S)`
 - b. Change command line parameters using standard DOS Edit procedures.
6. After completing file customization, save the file and exit the Edit application: Enter: ALT-F-S and ALT-F-X, respectively.
7. The configuration commands will be executed when the ASTi system is restarted (by entering MB at the command prompt or pressing the RED reset button on the DACS).

D. Automatic System Defaults. Command lines that are preceded by a semi-colon are disabled, that is they are ignored when the DEFAULT.CFG is loaded at system startup. The ASTi system automatically assigns default values to the parameters of any command that has been disabled.

1. For example: if the command line to set the DIS broadcast IP address is entered as `DIS:BROADCAST_IP = 192.30.80.255`, the system will ignore the command and load the standard default value of `255.255.255.255`. System default values for each command are listed in the next section.
2. Some critical commands should never be disabled. These critical commands are clearly marked in the file.

E. ASTi Model Builder software includes monitor screens that present the system DIS configuration. After making changes to the DEFAULT.CFG file and before using the ASTi system it is recommended that you check the monitor screens to ensure that system settings are correct. See the Model Builder Reference Manual for details on software monitor screens.

F. In case problems result from customizing the DEFAULT.CFG file:

1. Use the DEFAULT.BAK file that you created to restore the system. To restore the backup file, delete the problem DEFAULT.CFG, then rename the backup file:

At the prompt, type: `del default.cfg` and press "Enter"

At the prompt, type: `ren default.bak default.cfg` and press "Enter"

2. You can also restore the system to its factory configuration by using the DOS COPY command to copy the original DEFAULT.CFG file from the Model Installation diskette to the working directory: Enter:

```
A:\COPY DEFAULT.CFG C:\MBUILDER\USER\MODELS
```

Basic Commands

A. The DEFAULT.CFG file contains commands to preset the ASTi node's DIS configuration.

Presets include:

1. Local IP address
2. Subnet Mask
3. DIS UDP Transmit and Receive Port addresses
4. Broadcast IP address
5. DIS Site and Host IDs
6. Voice Compression Type for DIS Transmission (see Section 7B)
7. The DIS Exercise ID is set using the initialization file, SYN.INI. See Section 9 for details.

B. Setting the DIS IP address

1. Description: Each ASTi node on the DIS network must have a unique DIS IP address. The Local IP address is used as the source IP address for all IP packets on the DIS port.
2. Syntax: DIS:LOCAL_IP= <IP ADDRESS>, where: <IP ADDRESS> =
YYY.YYY.YYY.YYY The range of each field is 0 to 255.
3. Default: The ASTi system will assign an IP address that is derived from the (unique) physical layer address of the Ethernet adapter card.

C. Setting the DIS Subnet Mask

1. Description: The subnet mask bits, in combination with the Broadcast IP, determine the IP Broadcast addresses.
2. Syntax: DIS:SUBNET_MASK= <MASK>, where: <MASK> = YYY.YYY.YYY.YYY, range of each field is 0 to 255.
3. Default: The ASTi system assigns the correct IP subnet mask value, based on the network class (Class A, B, C or D) of the IP address.

D. Setting the DIS Broadcast IP address:

1. Description: This command sets the outgoing destination address for packets on the DIS port.
2. Syntax: DIS:BROADCAST_IP= <IP ADDRESS>, where: <IP ADDRESS> =
YYY.YYY.YYY.YYY, range of each field is 0 to 255.
3. Default: 255.255.255.255

E. Setting the DIS UDP Port numbers to the same value, using one command:

1. Description: All of the inter-communicating ASTi nodes on the DIS network must share common DIS transmit (Tx) and receive (Rx) UDP Port numbers. This command sets the Rx and Tx ports to the same value.
2. Syntax: DIS:UDP_PORT= <UDP PORT NUMBER>, where: <UDP PORT NUMBER> = YYYYY, integer, range is 0 to 65535
3. Default: RX and TX Ports = 53000

F. Setting the DIS UDP Port numbers independently:

1. Description: All of the ASTi nodes on the DIS network must share common DIS transmit (Tx) and receive (Rx) UDP Port numbers. This pair of commands sets the Rx and Tx ports independently.
2. Syntax: DIS:TX_UDP_PORT= <UDP TX PORT NUMBER> and DIS:RX_UDP_PORT= <UDP RX PORT NUMBER>, where:
<UDP TX PORT NUMBER> and
<UDP RX PORT NUMBER> = YYYYY, integer, range is 0 to 65535.
3. Default: RX and TX Ports = 53000

G. Setting the DIS Site and Host values:

1. Description: Each ASTi node on the data network must have a unique set of DIS Site and Host values.
2. Syntax: DIS:SITE= <SITE ID> and DIS:HOST= <HOST ID>, where:
<SITE ID> and <HOST ID> = YYYY, integer, range is 1 to 9999.
3. Default: Unless defined in the command line, the Site and Host IDs are automatically derived from the Local IP address. The Site ID is defined as the third field from the Local IP address and the Host ID is defined as the fourth field of the Local IP address. For example: if the Local IP address is: 192.133.120.12, then the default Site ID is 120 and the default Host ID is 12.

4.2. Initialization (INI) File Commands And Basic HHT Operation

Main use: (1) Set initial state of operators' access to comms assets (network radios) and (2) set initial tuned frequencies of radios.

The INI file is also used to set many other operator and radio parameters. Refer to the Handheld Terminal User Guide for additional information. A complete INI file sample is provided in Appendix A.

THE BASICS

(1) Operator - Radio Mode Command: preset each operator's receive and transmit access to specific comms net.

Syntax: `TERMINAL:OPER_RADIO_MODE = [OPERATOR#],<COMMS#>,<ACCESS>`

Where:

[OPERATOR#]: Fixed values for operator assignments (1-2). DO NOT CHANGE!

<COMMS#>: Specifies which radio the operator will access.

Range: 1 - 16, for Radios 1 - 16.

<ACCESS>: Operator's access state to the comms asset.

Three choices: RX_TX for transmit & receive, RX for receive only and OFF for no access.

<LOCK STATUS>: Enter "LOCK" to disable the operator's ability to change the RX/TX mode using HHT buttons. Delete "LOCK" to enable the operator's ability to change RX/TX mode using HHT buttons.

Hint: If an operator will be receiving from multiple radios, and using HHT buttons to select one radio for transmission, use the RX command (not the RX_TX command) to set initial reception states. Only use the RX_TX command if the operator is going to transmit from one radio - and not change this selection. Using this procedure will eliminate the possibility that an operator will simultaneously transmit from multiple radios.

Example - preset Operator 1 to receive Radio 2: `TERMINAL:OPER_RADIO_MODE =1,2,RX`

(2) Radio Frequency Command: set network radio tuned frequencies.

Syntax: `TERMINAL:RADIO_FREQ_SQL=[COMMS#],<FREQUENCY>`

where: [COMMS#] = 1-16, for Radios 1 - 16. DO NOT CHANGE!

<FREQUENCY> = DIS Frequency, Range: 1 to 2³² (~ 4.29 Ghz). Use spaces as separators in frequencies - do not commas. Use frequencies 1 - 3000 Hz for range-less intercom performance.

Example - preset Radio 2 to 100MHz: `TERMINAL:RADIO_FREQ_SQL=2, 100 000 000`

EXAMPLE APPLICATION: A simplified INI file example follows:

Radio 1: tune to 101 MHz

Radio 2: tune to 102 MHz

Radio 3: tune to 103 MHz

Radio 4: tune to 104 MHz

Operator 1: receive access to Radio 1 and receive access to Radio 3 *

Operator 2: receive access to Radio 2 and receive access to Radio 3 and Radio 4 *

* In this example, we need to allow the operators to use the HHT keypad for radio transmission selection. Operators select transmission source 1 through 16 by sequentially pressing two keys: 0,1 through 1,6. They continue to receive from all of the initial sources.

Use these INI file commands (comments follow semicolons):

`TERMINAL:RADIO_FREQ_SQL=1,101 000 000 ;Radio 1 = 101 MHz`

`TERMINAL:RADIO_FREQ_SQL=2,102 000 000 ;Radio 2 = 102 MHz`

`TERMINAL:RADIO_FREQ_SQL=3,103 000 000 ;Radio 3 = 103 MHz`

`TERMINAL:RADIO_FREQ_SQL=4,104 000 000 ;Radio 4 = 104 MHz`

`TERMINAL:OPER_RADIO_MODE=1,1,RX ;Operator 1, Receive Radio 1`

`TERMINAL:OPER_RADIO_MODE=1,3,RX ;Operator 1, Receive Radio 3`

`TERMINAL:OPER_RADIO_MODE=2,2,RX ;Operator 2, Receive Radio 2`

`TERMINAL:OPER_RADIO_MODE=2,3,RX ;Operator 2, Receive Radio 3`

`TERMINAL:OPER_RADIO_MODE=2,4,RX ;Operator 2, Receive Radio 4`

Example, continued:

Schematically, the configuration looks like this when the system is started:

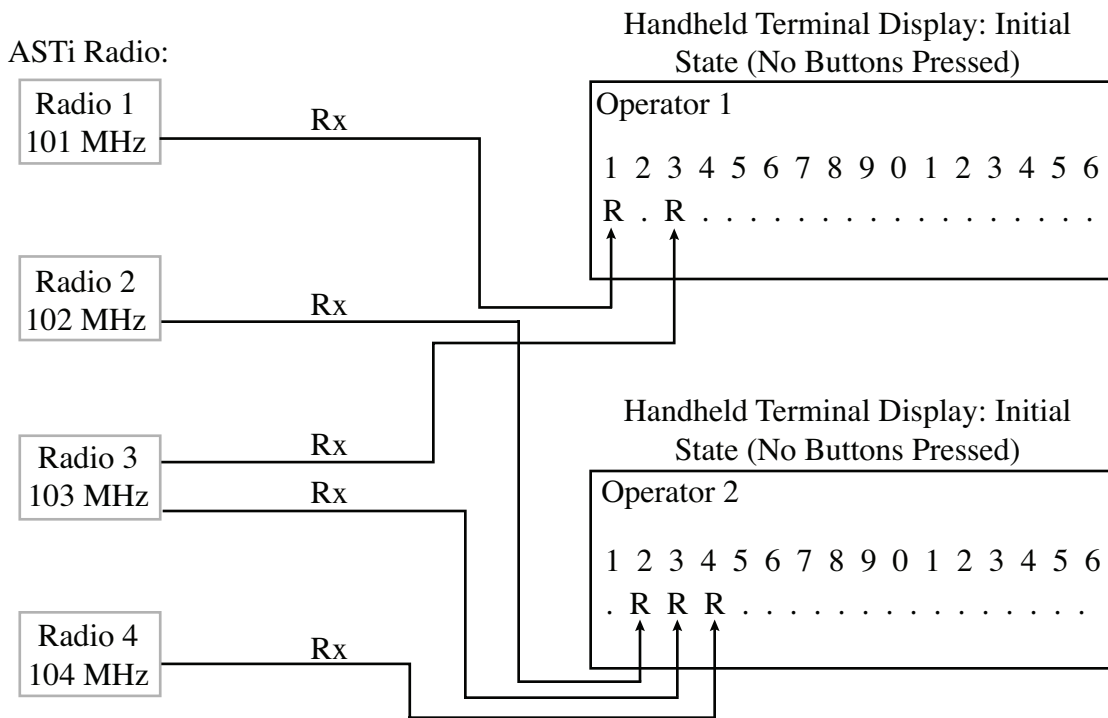


Figure 4: Schematic diagram of example comms configuration, initial state

Example, continued:

Next:

Operator 1 presses 0, 1 to talk on Radio 1. He continues to monitor Radio 3.

Operator 2 presses 0, 2 to talk on Radio 2. She continues to monitor Radios 3 and 4.

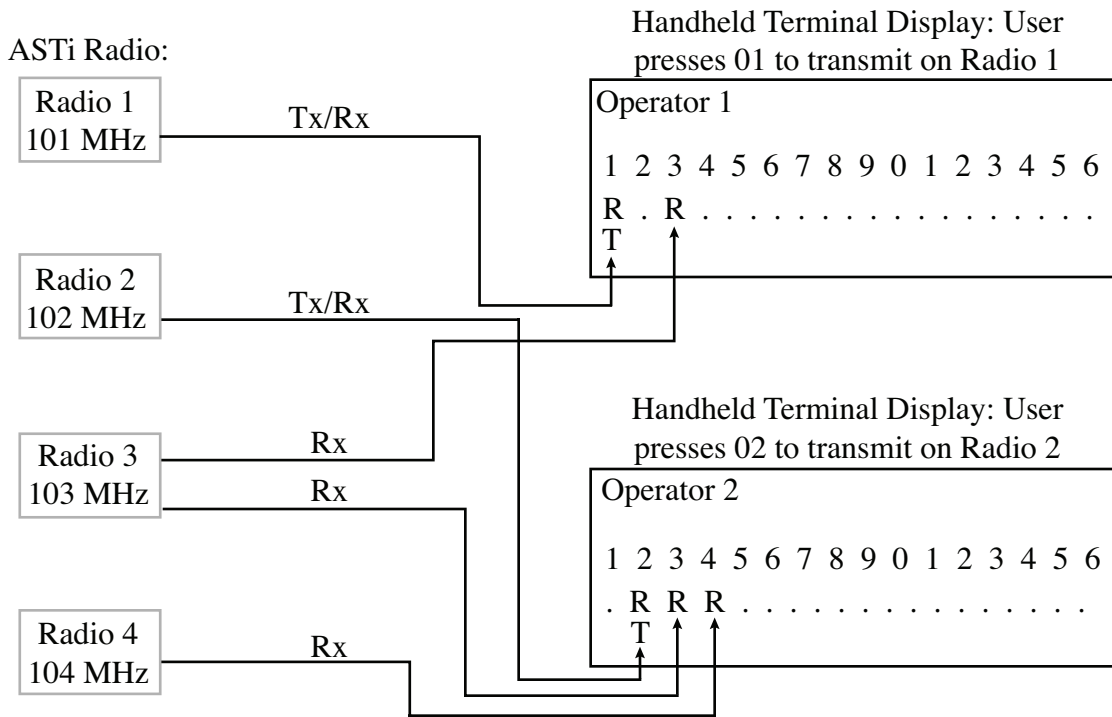


Figure 5: Schematic diagram of example comms configuration, operators select radio transmission

Example, continued:

Lastly:

Operators 1 and 2 both press 0, 3 and share transmit and receive access to Radio 3. They continue to monitor other selected Radios.

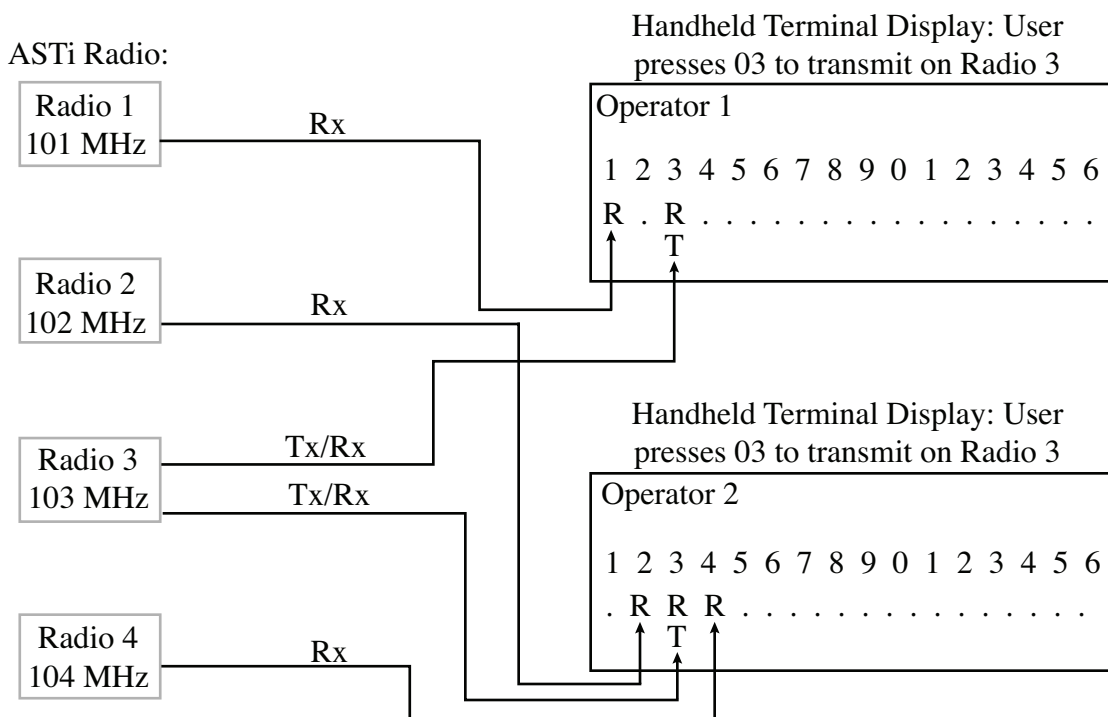


Figure 6: Schematic diagram of example comms configuration. Operators share radio transmit / receive access to same radio

Multiple INI Files

It may be convenient to maintain a library of INI files that contain most commonly used operator - comms net configurations. To use INI files, the user must ensure that INI file has a unique name. Furthermore, the user needs to modify DEFAULT.CFG file to load the correct INI file prior to system startup. The command in DEFAULT.CFG that loads the INI file is:

```
dll1=dialogue.dll, [FILENAME].ini,2
```

The user would simply substitute the name of the desired INI files for [FILENAME].

Appendix A: Sample Configuration File

See the Model Builder Reference Guide for complete CFG file information.

Semicolon usage:

1. Use leading semicolons for comment lines.
2. Use leading semicolons to disable commands.
3. Use semicolons after commands to provide in-line comments.

```

;-----
; TITLE: Configuration File, Sample
; FILE NAME: DEFAULT.CFG
;
;-----
; REVISION HISTORY:
;
; DATE REV BY NOTES
; 6/28/05 Orig MC Sample 2 Operator, 2 Radio Model
;-----
; DESCRIPTION:
; This CFG file contains the commands used to pre-set the DACS
; system-level parameters, including: IP addresses*, subnet masks*,
; UDP ports and Site and Host IDs. Consult the Model Builder Reference
; manual for complete configuration command information and usage.
;
; * When DACS is managed by a Telestra RMS, the Local_IP and Subnet addresses
; are set in the C:\CONFIG.SYS file. See notes below and read the Telestra
; RMS user guide.
;
;-----
; SEE ALSO:
; Commands to modify the operator Hand Held Terminal (HHT) pre-sets and DIS
; Exercise ID are contained in a separate file, called [File].INI. Consult
; the ASTi HHT User Guide for details about the use of the INI file

```

; and the HHT.

;

; -----

; CAUTION:

; The CFG and INI files are the ONLY user configurable software files
; included with TOC system. All other files are embedded and should
; NOT be modified. Modifications to any software other than the CFG and
; INI files could disable the system and necessitate a complete software
; re-load.

;

; -----

; USER COMMANDS:

; Modify the values in the command lines located directly after the syntax
; lines to pre-set the system-level parameters. You must delete the semi-
; colon preceding the command line to activate the commands. Commands with
; a preceding semicolon are not activated - the system automatically sets
; these values to default settings. See the Model Builder Reference Manual for details about
; default settings.

;

; Save changes to this file using ALT-F-S and exit using ALT-F-X.

;

; -----

; DESCRIPTION: Pre-Set the DIS Broadcast IP Address

; SYNTAX: DIS:BROADCAST_IP=<IP ADDRESS>, where:

; <IP ADDRESS> = YYY.YYY.YYY.YYY, range of each field is 0 to 255.

;

;DIS:BROADCAST_IP=255.255.255.255

;

; -----

; DESCRIPTION: Pre-Set the Local IP Address of the DACS

; SYNTAX: DIS:LOCAL_IP=<IP ADDRESS>, where:

```
; <IP ADDRESS> = YYY.YYY.YYY.YYY, range of each field is 0 to 255.
;
; NOTE: When Telestra RMS is used to manage a DACS, the Local_IP and
; Subnet_Mask are set in the C:\CONFIG.SYS file. In this case, the
; CFG file commands for Local_IP and Subnet_Mask MUST BE disabled.
;
;
;DIS:LOCAL_IP=164.217.101.133
;
; -----
; DESCRIPTION: Pre-Set the DIS IP Subnet Mask of the DACS
; SYNTAX: DIS:SUBNET_MASK=<MASK>, where:
; <MASK> = YYY.YYY.YYY.YYY, range of each field is 0 to 255.
; NOTE: If this command is disabled, the system will automatically set
; the Subnet Mask value, based on the network class of the Local IP address.
;
; NOTE: When Telestra RMS is used to manage a DACS, the Local_IP and
; Subnet_Mask are set in the C:\CONFIG.SYS file. In this case, the
; CFG file commands for Local_IP and Subnet_Mask MUST BE disabled.
;
;DIS:SUBNET_MASK=255.255.255.0
;
; -----
; DESCRIPTION: Pre-Set the DIS UDP TX and RX Ports to the same value
; SYNTAX: DIS:UDP_PORT=<UDP PORT NUMBER>, where:
; <UDP PORT NUMBER> = YYYYYY, range: 0 to 65535
;
;DIS:UDP_PORT=1000
;
; -----
```

```
; DESCRIPTION: Pre-set the DIS UDP TX and RX ports to different values
; SYNTAX: DIS:TX_UDP_PORT=<UDP TX PORT NUMBER>
; SYNTAX: DIS:RX_UDP_PORT=<UDP RX PORT NUMBER>, where:
; <UDP TX PORT NUMBER> & <UDP RX PORT NUMBER> = YYYYYY, range: 0 to 65535.
;
;DIS:TX_UDP_PORT=3000
;DIS:RX_UDP_PORT=3500
;
;-----
; DESCRIPTION: Pre-Set the default system-level DIS Site and Host values.
; SYNTAX: DIS:SITE=<SITE ID>
; SYNTAX: DIS:HOST=<HOST ID>, where:
; <SITE ID> and <HOST ID> = YYYY, range: 1 to 9999.
;
DIS:Site=111
DIS:Host=222
;
;*CAUTION*: FOLLOWING COMMANDS ARE REQUIRED FOR CORRECT SYSTEM
OPERATION
;
model1=2o2r.mdl
cell=on
cell:paths=default.pth
dll1 = dialogue.dll,default.ini,4
model_rate=60
dis = on
;
;END CFG FILE
```

Appendix B: Sample INI File

Refer to the Handheld Terminal User Guide for complete INI file information.

Semicolon usage:

4. Use leading semicolons for comment lines.
5. Use leading semicolons to disable commands.
6. Use semicolons after commands to provide in-line comments.

```
; TITLE: Initialization File for ASTi HHT-based comm system.
; FILE NAME: DEFAULT.INI
; PURPOSE: Provides initialization commands for the operator Hand Held
;           Terminals and radios (including DIS IDs and frequencies).
;
; -----
; REVISION HISTORY:
;
; Date      Rev   By    Notes
; 07.16.05  Orig  CEM   Sample: 2 operator, 2 radio model
;
; -----
; DESCRIPTION:
; This initialization file is used to define the Handheld Terminal pre-sets
; and the DIS Exercise ID for ASTi Handheld Terminal systems.
; Consult the ASTi Handheld Terminal manual for details about the HHT and
; INI file.
;
; -----
; SEE ALSO:
; Commands to preset the system level DIS parameters (IP addresses) are
; contained in a separate file, named DEFAULT.CFG. Consult the Model
; Builder manual for details about the use of the CFG file.
;
```

```
; -----  
; CAUTION:  
; The CFG and INI files are the ONLY user configurable software files  
  
; included with this system. All other files are embedded  
; and should NOT be modified. Modifications to any software other than the  
; CFG and INI files could disable the system and necessitate a complete  
; software re-load.  
;  
; -----  
; USER COMMANDS:  
; Modify the values in the command lines located directly after the syntax  
; lines to change HHT and DIS exercise ID presets. Save the changes to  
; this file using ALT-F-S and exit using ALT-F-X.  
;  
; -----  
; DESCRIPTION: set radio DIS Tune Frequency.  
;  
; SYNTAX: TERMINAL:RADIO_FREQ_SQL=[RADIO #],<FREQUENCY> where:  
;  
; [RADIO #] = System radio # (1-16). DO NOT CHANGE!  
;  
; <FREQUENCY> = DIS Frequency, Range: 1 to 2E+64  
;  
TERMINAL:RADIO_FREQ_SQL=1,30 000 000      ;set Radio 1 to 30 MHz  
TERMINAL:RADIO_FREQ_SQL=2,31 000 000      ;set Radio 2 to 31 MHz  
;  
; DESCRIPTION: Set DIS ID fields for each radio  
; DESCRIPTION: set the Exercise ID  
; SYNTAX: TERMINAL:RADIO_EXERCISE = [RADIO #],<EXERCISE> where:  
; [RADIO #] = Fixed value for each interface. DO NOT CHANGE!
```

```
; <EXERCISE> = DIS exercise, Range: 1 to 255
;
; DESCRIPTION: set the Site and Host IDs

; SYNTAX: TERMINAL:RADIO_SITE_HOST = [RADIO #],<SITE>, <HOST>
; where:
; [RADIO #] = Fixed value for each interface. DO NOT CHANGE!
; <SITE>, <HOST> = DIS Site and Host, Range: 1 to 255
;
; DESCRIPTION: set the Entity ID
; SYNTAX: TERMINAL:RADIO_ENTITY = [RADIO #],<ENTITY> where:
; [RADIO #] = Fixed value for each interface. DO NOT CHANGE!
; <ENTITY> = DIS Entity, Range: 1 to 255
;
; DESCRIPTION: set the Radio ID
; SYNTAX: TERMINAL:RADIO_DIS_ID = [RADIO #],<RADIO_ID>
; [RADIO #] = Fixed value for each interface. DO NOT CHANGE!
; <RADIO_ID> = DIS Radio ID
, Range: 1 to 255
;
; NOTE - for this specific application: don't use Radio_Site_Host command.
; Site and Host IDs (for all radios) are set in Default.cfg file.
;
; Radio 1
TERMINAL:RADIO_EXERCISE_ID=1,1 ;Sets Radio 1 to Exercise 1
;TERMINAL:RADIO_SITE_HOST=1,1,1 ;Command disabled. See the CFG file DIS: com-
mands
TERMINAL:RADIO_ENTITY_ID=1,1 ;Sets Radio 1 to Entity ID 1
TERMINAL:RADIO_DIS_ID=1,1 ;Sets Radio 1 to Radio ID 1
;
; Radio 2
```



```

TERMINAL:RADIO_EXERCISE_ID=2,1
;TERMINAL:RADIO_SITE_HOST=2,1,1
TERMINAL:RADIO_ENTITY_ID=2,1
TERMINAL:RADIO_DIS_ID=2,2
;-----
;
; DESCRIPTION: Assign Operator Names
; Note: Operator name will appear on HHT display.
;
; SYNTAX: TERMINAL:OPER_IDENT=[OPERATOR #],<OPERATOR NAME>
; Where [OPERATOR #] is system operator # (1-16) - DON'T CHANGE
; <OPERATOR NAME> is operator name (up to 12 characters), use _ in place of spaces.
;
TERMINAL:OPER_IDENT=1,TESTDIRECTOR
TERMINAL:OPER_IDENT=2,OBSERVER
;
;-----
;
; DESCRIPTION: preset the operator's receive and transmit status for each
; DIS Radio.
; SYNTAX: TERMINAL:OPER_RADIO_MODE = [OP],[RADIO],<MODE>,<LOCK STA-
TUS>,
; where:
; [OP]: Fixed values for operator assignments (1-2). DO NOT CHANGE!
;
; [RADIO]: Fixed values, Radios 1 -4. DO NOT CHANGE!
;
; <MODE>: Enter "OFF" for no Transmit or Receive, "RX" for Receive Only
; and "RX_TX" for Transmit and Receive.
;
; <LOCK STATUS>: Enter "LOCK" to disable the operator's ability to change

```

```
; the RX/TX mode using HHT buttons. Delete "LOCK" to enable the
; operator's ability to change RX/TX mode using HHT buttons.
;
;---- OPERATOR 1 -----
TERMINAL:OPER_RADIO_MODE=1,1,RX_TX    ;Set Operator 1 to receive and transmit on
Radio 1
TERMINAL:OPER_RADIO_MODE=1,2,OFF,LOCK ;Set Operator 1 to no access on Radio 2
;
;---- OPERATOR 2 -----
TERMINAL:OPER_RADIO_MODE=2,1,OFF,LOCK ;Set Operator 2 to no access on Radio 1
TERMINAL:OPER_RADIO_MODE=2,2,RX_TX    ;Set Operator 2 to receive and transmit on
Radio 2
;
; Limit HHT Display to show only 2 radios
TERMINAL:OPER_MAXRADIOS=1,2
TERMINAL:OPER_MAXRADIOS=2,2
;
; END INI FILE
```