Software Release Notes MS25376-0001

S25376-0001 Apr-06



Hand Held Controller Firmware ST101679V1 R4A





MANUAL REVISION HISTORY

REV	DATE	REASON FOR CHANGE	
-	Apr. 2006	Initial Release	

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1. INTRODUCTION

This document provides information for the R4A release of the Mobile Hand Held Controller software.

The Hand Held Controller (HHC), part number CU101239V1, is an optional piece of terminal equipment that provides a display, microphone, and full radio control suite into an integrated, hand held package. The HHC communicates with the radio over the 485 bus using the X328 DRP protocol. Inputs from the HHC consist of a keypad matrix, ON/OFF-VOLUME Control and a flash programming interface used to flash the application program. The LCD has a 3X12 display providing conformation of user to radio interaction. The HHC provides compatible features of those implemented in the ORION[®] Control Head.

2. COMPATIBILITY

The following chart shows the minimum software version of radios or systems that is compatible with this release of Hand Held Controller software.

RADIO/SYSTEM	SOFTWARE VERSION
JAGUAR [®] 725 Mobile	R1B
Orion Mobile 256K Orion Mobile 512K	R33 R41A
M7100 Mobile	R1B
700P RU101219	R1B
700P KRD103161	R4A
M-RK™ 256K M-RK 512 K	R32B R40A
P7100/P5100 Vehicular Chargers	R4A
ProGrammer TM	R10A R10A

3. FEATURES/ENHANCEMENTS

The following features were added in this release of software.

3.1 M-RK COMPUTABILITY

The HHC can now communicate with M-RK through the Enhanced Vehicular Charger/485 bus interface.

3.2 MENU/SYSTEM DOWN KEY SWAP

The Menu key and System Down key have been interchanged in order to match the layout of the JAGUAR radio.

Before Modification:



After Modification:



3.3 FIX HKSW – SCAN FUNCTION

The hookswitch status was not being correctly reported to the radio at power up. This problem has been resolved.

4. INSTALLATION PROCEDURES

The following are installation procedures for the HHC Software.

- 1. Install Flash Development Toolkit. If the Flash Development Toolkit is already installed skip step 1.
 - A. Insert the install CD in the CD-ROM drive.
 - B. Install FDT based on your target operating system:
 - Windows[®] 98: Navigate to Drive Letter:\WINDOWS 98 Double click on the file (fdt2_2.zip).
 - Windows 95: Navigate to Drive Letter:\WINDOWS 95 Double click on the file (fdt2_2.zip).
 - Windows NT: Navigate to Drive Letter:\WINDOWS NT Double click on the file (fdt2_2.zip).
 - C. Run the EXE fdt2_2.zip.exe by double clicking on the file. Accept all defaults.
- 2. Connect peripherals to Hand Held Controller Programming Interface Adapter, TQ3414.
 - A. Connect the Serial cable to the available COM port on the PC. Connect the other end to the HHC Interface Adapter.
 - B. Apply12 VDC to the Programming Interface Adapter.
 - C. Connect the HHC to the Programming Interface Adapter.



Figure 1: FLASH Programming Interface Adapter

3. FLASH the HHC software.

A. Run the FDT software.



Note: Example shown is for Windows NT

B. Do not create a new workspace at this time (Click Cancel).

Welcome to the FLASH Development Toolkit 💦 😤 🗙		
ie	Create a new Workspace	
<u> </u>	 Open an existing Workspace Open an exisiting Image file 	
	OK	Cancel

C. Open the hex file you wish to program (*.mot). Select **File** from the main menu then **Open**.



D. Browse to the location where the hex file (*.mot) file is located and open it.

🌮 FLASH Development Toolkit 2.2	×
Eile Edit View Project Device Image Iools Window Help	
Image: Image	
No Workspace Image: Constraint of the second s	

E. Select **Device** from the main menu then **Download** (Filename). The filename will contain the name of your hex file.



F. You will be asked to link the hex file to a new project. Select Yes.

FLASH D)evelopment Toolkit 2.2 🛛 🕅
	This file cannot be downloaded until it is associated with a project.
-	Would you like to like to create a project?
	<u>Y</u> es <u>N</u> o

G. Enter Workspace name and click OK.

New Workspace	? ×
Workspace Name: 	Create workspace directory
C:\Program Files\Hitachi\FD)T2.2\Workspaces\
	OK Cancel

H. You will be asked if you would like to run the Project Wizard to load the new workspace. Select **Yes.**

FLASH V	Vorkspace Manager 🛛 🛛 🔀
?	You have created a new Workspace. Would you like to run the Project Wizard to add a Project to the Workspace?
	<u>Yes</u> <u>N</u> o

I. Enter your generic Project Name and select Next>.



J. Select H8/3064F and click on Next>.

Choose Device And Kernel	The FLASH Development	nt Toolkit supports a numb	×
Workspace 'Industrial Ce Display Device Image Target files	FLASH devices. Select the device you v Select Device: H8/30 Protocol Compiler Kernel Path	64F	t from the list Other
Motor Control Motor Control Device Image 27 91 08 14 19 Device Image 27 91 08 14 19 Device mot 28 92 08 19 Device mot 29 94 08 19 Device mot 20 94 08 19 Device mot 20 94 08 19 Device Motor 20 94 08 19 Device Statement	Kernel Version	1_2_00	
5 47 EE 84 80 83 CE 87 15	•	<u>Back</u> <u>N</u> ext >	▶ Cancel

K. Select the COM port and click on Next>.

Communications Port		×
Workspace and Da FF 58 Workspace Industrial Co Workspace Industrial Co Display Device Imager I Device Imager LCD.motifies on Sep 59 LCD.motifies and Sep 59 LCD.motifies and LCD.motifies a	The FLASH Development Toolkit supports connection through the standard PC Serial port and the USB port. Use this page to select your desired communications port. All settings may be changed after the project is created. Select port:	
1 ST 0A 33 S Comms.mot 1 Motor Control 2 A Device Image 5 Comms.mot 1 Device Image 5 Comms.mot 1 Device Image 5 Comms.mot 1 Device Image 5 Comms.mot 5	The Baud Rate setting specifies a suitable speed for serial connection based on the device characteristics and the Target clock. The default baud rate is set up for use with a standard HMSE Evaluation Board. If you have a different clock on your Target you may need to select a different speed.	
E 5D 9A DE A5 65 64 85 97 8 24 D4 4D 75 54 AD 2D F6 3 8 4F EF 84 B0 8 <u>3 6F 85 1E 6</u>	Select Baud rate: 38400	
	< <u>B</u> ack <u>N</u> ext > Cancel	

L. Enter 10 MHz clock frequency and click Next>.

evice Settings		
Workspace 40 DA FF 5B	Please enter the specific device opt [H8/3064F] using [Pro	tions based on: tocol B]
Workspace Industrial Ce Display Device Inage Target files	Enter the CPU crystal frequency for the selected device:	10.00 Mhz
A 75 ES BI TS Keyboard.m 55 SA 33-15 Comms.mot 6 D Motor Control	Enter the clock mode for the selected device:	NONE
F E6 80 Target files of a start files of	Select the multiplier for the Main clock frequency (CKM):	1 🗸
6 50 36 70 1431 444 45 97 8 24 D4 40 75 54 AD 20 76 8 47 EF 84 80 83 67 97 15 1	Select the multiplier for the Peripheral clock frequency (CKP):	Y
	< Back	Next > Cancel

M. Select BOOT Mode and Direct Connection then click Next>.

Workspace Industrial Ce Workspace Industrial Ce Display Device Image Target files LCD.moti Set Set Set Set Set Set Set Set Set Set	The FLASH Development Toolkit can connect to your device in a number of different ways. All the options on this page may be changed after the Project has been created. Select Connection: © BOOT Mode C USER Program Mode For BOOT Program mode the Target device erases its FLASH prior to connection. The Toolkit downloads programming kernels to the device as required.
Provide Image 0 EF 4 (2) 0 EF 4 (2) 0 EF 4 (2) 0 EF 4 (2) 0 EF 5 (2) 0 EF 6 (2)	Select Interface: Direct Connection Kernel already resident The Target device must be waiting in BOOT SCI mode, the Toolkit will perform the remainder of the boot sequence automatically.
	< <u>B</u> ack <u>N</u> ext > Cancel

N. Select Automatic protection and standard messaging then click Finish>.

Programming Options	The FLASH Development Toolkit offers a device protection system, plus an advanced messaging level for use with hardware and kernel development. What level of device protection would you like? Protection Automatic O Interactive O None When programming the device, any blocks found to have been written previously will automatically be erased. What level of messaging would you like? Messaging Standard O Advanced	×
	Messaging Standard C Advanced The Toolkit will display messages pertaining to general purpose use.	
	< <u>B</u> ack Finish Cancel	

O. Connect to the device by selecting **Device** from the main menu and then **Connect to Device**. If the device fails to connect, cycle power and try again.

W Microsol	ft Word - Flash Installation F	Procedures			_ <u>6 ×</u>
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	8 6 7 8	Connect to Device	Alt+C	y abc 晶 倍 🔊 🕎 🕇 test	
		Erase FLASH blocks	Alt+R		
	Workspace Test: 1 Pro	Upload Image Blank check	Alt+U Alt+B		
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P. Click on the *.mot file under target file to ensure the hex file (.mot) is resident in the programming window.

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× Downloading main kernel	C:\Program Files\Hitachi\FDT2.2\Kernels\ProtB\3064\hitachi\1_2_00
Main kernel download comp Connection complete	plete
Connection Complete	
For Help, press F1	COM2: Connected
Torriop, proser i	

Q. Select **Image** from the main menu and then **Download** to load the flash.





A complete users manual can be found on the following web site:

http://www.hmse.com/products/fdt/support.htm

5. TECHNICAL SUPPORT

M/A-COM's Technical Assistance Center (TAC) resources are available to help you with overall system operation, maintenance, upgrades, and product support. TAC is your point of contact when you need technical questions answered.

Product specialists, with detailed knowledge of product operation, maintenance, and repair, provide technical support via a toll-free telephone number (in North America). Support is also available through mail, fax, and e-mail.

For more information about technical assistance services, contact your sales representative, or call the Technical Assistance Center directly at:

North America:	800-528-7711
International:	434-385-2400
FAX:	434-455-6712
e-mail:	tac@tycoelectronics.com

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Printed in U.S.A.