

Etc.

The worlds most powerful codec has feature that set it into a class of its own.

9. What's Left

On-line help, software upgrades, security, Resetting factory defaults, user profiles and option are just a few of the topics discussed in this chapter.

9.1 Security

<Common><Logon><Factory> <Security><Logon><Factory>	CPW	Security	Log in as factory user
<Common><Logon><Sup User> <Security><Logon><Super User>	CSU		Log in as super user
<Common><Logon><User> <Security><Logon><User>	CUP		Log in as user
<Maint><Security><Lock Out> <Security><Lock Out>...	MLK		Set access to the <i>CDQPrima</i>
	MPC		Set access level of single command
<Maint><Security><SUserPwd> <Security><Passwords>	MSU		Change super user password
<Maint><Security><User Pwd>	MUP		Change user password

<Security><Passwords>			
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There may be instances where it is desirable to lock-out any unauthorized use of the codec. For example, a remote broadcast, where the codec is in the open, you do not want people pressing any buttons that may affect the broadcast.

Your codec offers a variety of security provisions. Access to individual commands or user interfaces may be restricted unless the user is “logged on.” This feature has been implemented to prevent unauthorized persons from tampering with the codec settings. The user can operate at one of 4 levels of permission:

1. Normal (not logged on, permission level 1)
2. User (logged on via **CUP** command, permission level 5)
3. Super User (logged on via **CSU** command, permission level 7)
4. Factory (logged on via **CPW** command, permission level 9)

The lowest security level is 1 and the highest level is 9. The various logon commands are used to set the security level for the logged in user. To logoff (return permission level to 1), any of the following commands may be used:

```
CUP 0
CSU 0
CPW 0
```

Or use the keypad sequence

```
<Common><Logoff> (CDQPrima)
<Security><Logoff> (Prima LT)
```

A user logs on via a port, and is only logged on to that port. The available ports are

1. Front panel keypad
2. Front panel remote control port
3. Rear panel remote control port
4. Inband remote control
5. Digital Interface 1

There may be a different user accessing the codec from each of these ports and each of these users may have logged in at a different security level. Thus, the security system is implemented per access port, enabling individual port lockout.

If no logon is performed, then the user is classified as Normal and has a security level of 1. This means that he/she may access any level 0 or 1 commands. There are certain commands that require a higher level of access. To execute these commands, one of the various login commands (**CWP**, **CSU** or **CUP**) must be executed.

It is possible, via the **MLK** command

```
<Maint><Security><Lock Out> (CDQPrima)
<Security><Lock Out> (Prima LT),
```

to increase the security level of *all* commands accessed through a *single* port individually by 1, in effect, locking out a user through that port unless they are logged in. This means that commands that previously required a security level of 1 now require a security level of at least 2. The **MLK** command can be used to “Lock Out” normal users from any of the ports. For example, the **MLK** command could be used to raise the priority of the front panel keypad access while leaving normal access via the remote control port. This would require anyone to log on when accessing the codec via the front panel but remote control access would be unrestricted. The **CPW**, **CSU** and **CUP** (logon) commands are always accessible even if the **MLK** command has been used to restrict access to a control port. Again, these features are implemented to prevent unauthorized operation of the codec.

Individual commands can be locked out using the **MPC** command. For example, it is possible to lock out any user not logged on from changing the bit rate while still having access to all other commands. This feature is only accessible from a terminal but can affect any port.

If no logon command is issued, then the permission level is set to 1. The **CUP** command

```
<Common><Logon><User> (CDQPrima)
<Security><Logon><User> (Prima LT)
```

can be used to set the permission level to 5. The **CSU**

```
<Common><Logon><Sup user> (CDQPrima)
<Security><Logon><Super User> (Prima LT)
```

command is used to logon at permission level 7 and the **CPW** command

```
<Common><Logon><Factory> (CDQPrima)
<Security><Logon><Factory> (Prima LT)
```

is used to logon at permission level 9 (the highest). Logging on at factory level requires a factory supplied password.

The **MUP** command

```
<Maint><Security><User Pwd> (CDQPrima)
<Security><Passwords><User> (Prima LT)
```

is used to display and change the user password and requires level 4 or higher permission to execute. The **MSU** command

```
<Maint><Security><SUser Pwd> (CDQPrima)
<Security><Passwords><Super User> (Prima LT)
```

is used to display and change the super-user password and requires level 6 or higher permission to execute.

The factory password is entered by the **CPW** command and is obtained directly from MUSICAM USA or CCS Europe. This password will remain in effect for 1 hour and then the permission level will be reset to 1. To obtain the *factory* password, execute the command

```
CPW ?
```

or

```
<Common><Logon><Factory> (CDQPrima)
<Security><Logon><Factory> (Prima LT)
```

(Don't hit the enter button, use the up-arrow to exit)

This will print the previous password. Call MUSICAM USA or CCS Europe and request a new *factory* password. The representative will ask for the previous password and then provide the new password. This permission level is only valid for 1 hour, until the codec is rebooted, or until the


```
CPW 0
```

command is executed.

If the **CUP** or the **CSU** command is executed successfully (and thus the unit is at a security level higher than 1) and the codec is re-booted, the permission level existing before the boot is restored. If the **CPW** command was executed successfully and the factory permission level is in effect and codec is re-booted, the lowest permission level (1) will be set upon power up.

9.2 On Line Help

On Line help is available to those people using either a remote control terminal or the Windows Remote Control program. There is no on line help available from the internal keypad.

N/A	CQQ		Print command summary for common commands
N/A	DQQ		Print command summary for decoder commands
N/A	EQQ		Print command summary for encoder commands
N/A	HELP		Print all help commands
N/A	MQQ		Print command summary for maintenance commands

There are four categories of commands. These are:

- Common commands
- Decoder commands
- Encoder commands
- Maintenance commands

Executing **CQQ**, **DQQ**, **EQQ** or **MQQ** lists a command summary for each of the command groups.

```

00>HELP ?
 1 - Async Ancillary data           21 - Speed Dialing
 2 - Bit Error Rate Detector        22 - Status and Level Display
 3 - Decoder                        23 - Status
 4 - Digital Interface              24 - System Setup
 5 - Encoder                        25 - TA Dial
 6 - Encoder Header                 26 - Test
 7 - Front Remote Control           27 - Time Code
 8 - Headphones                     28 - Timing
 9 - Help                           29 - Miscellaneous
10 - Hot Keys                       30 - Download/Boot
11 - Loop Back                      31 - Sync Ancillary Data
12 - Maintenance                   32 - Extended Inputs
13 - Out Of Frame Detector          33 - Internal Buzzer
14 - Peak Detector                  34 - TA Configure
15 - cdqPRIMA Logic Language
16 - Quiet Detector
17 - Psychoacoustic Parameter Adjustment
18 - Remote Control
19 - Security
20 - Software Maintenance

HELP h1(1..34) for all commands in catetory
OK
    
```

Figure 9-1 Codec help menu

The commands are arranged in functional groups and these groups are displayed by executing the **HELP ?** command. A sample of the help

menu is shown above. Executing **HELP xx** where **xx** is a number between 1 and 34 shows a summary of each command group.

Each command has its own help screen. This help is displayed by typing **HELP cmd** or **cmd HELP** where **cmd** is any three-character command.

When using the Windows Remote Control program, in addition to the on line command syntax help discussed above, there is extensive configuration and programming help available.

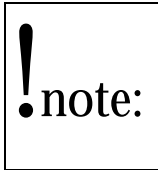


Figure 9-2 Sample Windows Remote Control help screen

9.3 Factory Defaults And User Profiles

<Common><General><Set dflts>	CDF	Setup, Default System	Set default parameters
<System Setup><Defaults> <Set defaults>			

<Common><<User Prof>	CPU	DC	Save or load user profile
<System Setup><User Profile>			



It may sometimes be necessary to re-boot your codec. Re-booting is as simple as turning the codec off and then on again. The codec remembers the last configuration loaded, and will re-boot using the last known configuration. **Please remember that if an invalid configuration was loaded before the re-boot, then the same invalid configuration will be loaded after the re-boot.**

9.3.1 Resetting Factory Defaults

It may sometimes be necessary to bring your codec back to a factory default configuration. Although not likely, it is possible to configure your codec in such a way that it may not function properly. For example, it is possible to configure ancillary data to ignore remote control. It is usually easier to start over by reloading factory defaults than to figure out what is wrong with the configuration.

Factory defaults can be reloaded from the keypad or by issuing a '1' reset. This will restore all factory default settings and will restore a default configuration that is known to work. The complete list of factory default settings can be found in the Appendix C, an abbreviated list is shown below. **After a '1' reset, your codec will be configured in loopback, 256 kb/s¹, and will have no DIF modules installed.** Information that is required by the internal terminal adapter is *not* lost.

Parameter	Value
Loopback bitrate (CBR)	256 kb/s
Bitrate (EBR, DBR)	256 kb/s
Algorithm (EAL, DAL)	MPEGL2
Mode (EAM)	joint stereo
Sampling rate (ESR)	48
Encoder line format (ELI)	L1
Decoder set to independent (DIN)	NO
Loopback (CSL)	LB
User password (MUP)	A
Super-user password (MSU)	A
Sine detector	OFF

¹ **Prima LT** will be configured at 128 kb/s, 2-Line operation.

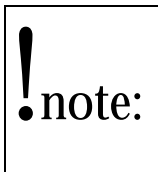
Parameter	Value
DIF installed	None
Keypad beeper	ON
Cooling fan	ON

Table 9-1 Summary of factory default settings

To perform a '1' reset, turn the codec on while holding the '1' button. Continue to hold the '1' button until the display flashes "PARAMETER RESET REQUEST" and then release the '1' button. This message will only appear for about a second so you must keep your eyes on the display. The codec will continue the boot cycle, but will load all factory default settings. During the boot cycle the display must flash "RESETTING DEFAULT PARAMETERS". If it does not say this during the boot cycle, use the keypad sequence

<Common><General><Set dflts> (**CDQPrima**)
 <System Setup><Defaults><Set Defaults> (**Prima LT**)

to reset defaults after the codec has completed its boot cycle..



You will note that the **factory default settings do not include any digital interface modules**. You must now re-enter what type of DIF modules are installed. Note, that if you are using an internal terminal adapter you must tell the codec that it is installed,

<Common><Dig I/F><Def I/F> (**CDQPrima**)
 <Interface> (**Prima LT**)

but the TA parameters (SPID, ID, etc.) do not need to be re-entered.

9.3.2 Creating A User Profile

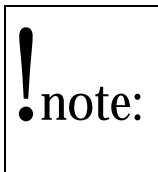
It is not always desirable to reset all factory defaults as described above. For example, you may always want a certain configuration to be loaded when resetting defaults. Another example is you may always want a terminal adapter to be recognized after a reset.

The User Profile is just such a mechanism for creating a set of user defaults that can be reloaded instead of the factory defaults. Creating a User Profile is easy, just configure your codec and save the configuration. The User Profile overwrites and saves the following factory default parameters:

- System loopback state
- Audio source
- Encoder and decoder algorithm

When creating a User Profile, be sure to have a valid configuration loaded before saving.

Encoder and decoder line format
 Encoder and decoder bit rate
 Encoder sampling rate
 Encoder algorithm mode
 Installed digital interface modules (DIFs)
 Fan state
 Buzzer state
 Display contrast



Please note that it is possible to save an invalid configuration or to blank the display using user profiles. We recommend saving a User Profile immediately after a factory default reset. Then configure any DIFs used, set up and test the configuration you want to save, and only after you are sure it works, re-save the User Profile. Saving a user profile is easy. Use the **CPU** command or use the keypad sequence

<Common><User Profile><Save> (**CDQPrima**)
 <System Setup><User Profile><Save> (**Prima LT**).

9.3.3 Reloading User Defaults (User Profile)

In an operation similar to resetting the factory defaults, the User Profile can be used to reset to the user defaults. Instead of holding the '1' key while applying power, hold the 'U' (8) button down while turning the codec on. Release the button only after the display flashes "RESET PARAMETER REQUEST". Similarly, you can issue the **CPU** command or use the keypad sequence

<Common><User Profile><Load> (**CDQPrima**)
 <System Setup><User Profile><Load> (**Prima LT**).

9.4 Option Installation

Several options are available for your codec and include SMPTE Time Code, opto-isolators and relays and optical digital audio I/O.

9.4.1 A1000 AES/EBU Digital Audio I/O

AES/EBU digital audio is standard on **CDQPrima** models 120, 210, 220 and 230 as well as the **Prima LT Plus**. Digital audio I'O is available as an option on **CDQPrima** model 110 and the **Prima LT**. This option is not field installable, and the codec must be returned to MUSICAM USA for installation.

9.4.2 A1100 And A1200 Optical Isolated Control Inputs And Relay Outputs

The A1100 (4 inputs and outputs) and the A1200 (8 inputs and outputs) boards are user installable, any your **CDQPrima** or **Prima LT Plus** can be upgraded with these options at any time. The rear-panel connectors that support the relays and inputs are standard on all **CDQPrima** and **Prima LT Plus** models, and no driver software is required to operate these modules. Due to space limitations, the **CDQPrima** 100 Series models can only accept the 4-input/output A1100 option. Either the A1100 or the 8-input/output A1200 can be installed in any **CDQPrima** 200 Series model or the **Prima LT Plus**. The **Prima LT** does not support these options.



!note:

Installation of these circuit boards requires that you open the codec. Please note that it is necessary to remove a DIF module to gain access to a cover screw on the **CDQPrima**. Also note that the codec contains many static sensitive devices, and that proper grounding procedures should be followed.

The shaded are of the figure below indicates where this board is installed. The rear panel is towards the top of the picture. The relay board is installed with the relays on the right and the IC's on the left, looking down. Be careful that the connectors line up exactly with the headers on the codec motherboard.

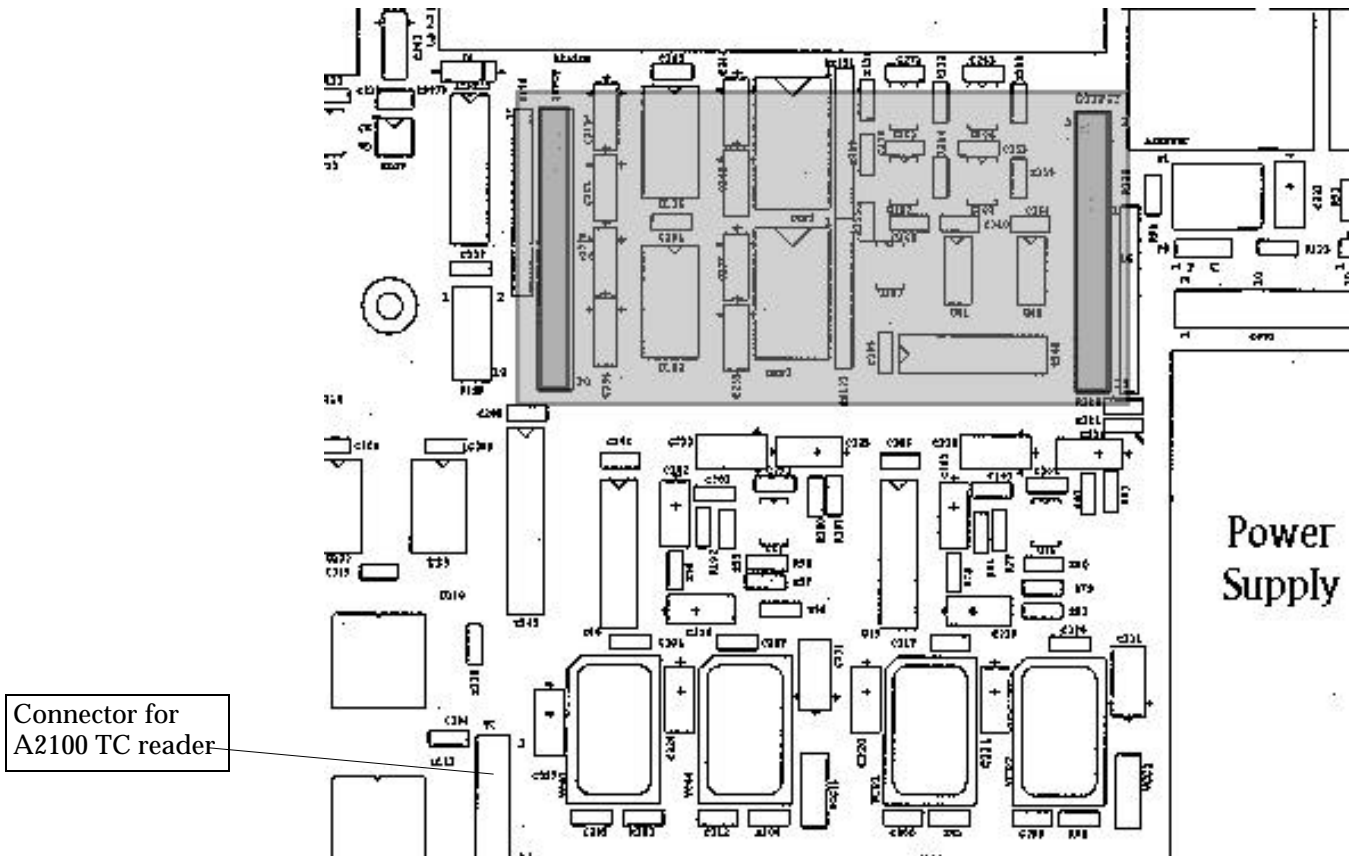


Figure 9-3 Opto-Relay Circuit Board Installation

9.4.3 A2100 SMPTE Time Code Reader/Generator

The A2100 SMPTE Time Code reader/generator is available for the **Prima LT Plus** and all **CDQPrima** 200 Series models, and is user installable. No additional software is required to support time code.



Installation of this circuit board requires that you open the codec. Please note that it is necessary to remove a DIF module to gain access to a cover screw on the **CDQPrima**. Also note that the codec contains many static sensitive devices, and that proper grounding procedures should be followed. The circuit card mounts directly to the rear panel after the cover plate is removed. The cable gets attached to the codec motherboard as shown on the above figure. Pin 1 is towards the rear of the codec.

Unfortunately, the SMPTE Time Code signal 'sense' used by readers/generators has not been standardized, and it may be necessary

to reverse the phase of the time-code input and output to the external devices.

9.4.4 A1300 Optical Digital Audio I/O

Any 200 Series **CDQPrima** can be equipped with industry standard Optical AES/EBU or S/PDIF digital audio input and output. The **CDQPrima** must be returned to the factory for installation. This option is not available on any **Prima LT** model.

9.5 Software Maintenance, and Upgrading, Version and serial Numbers

<Common><General><Set deflts> <System Setup><Defaults> <Set Dflts>	CDF	Setup, Default system	Reload all factory default settings
<Common><General><Serial No>	CSX	DC	Print Prima serial number
<Common><General><Version> <System Setup><S/W Version>	CVN	Help	Print software version number
<Maint><Status><Ver Num>	MVN	DC	Print software version number with checksum values.

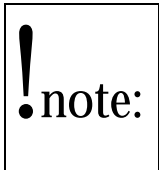
If any single feature can be highlighted that sets the **CDQPrima** and **Prima LT** codecs apart from all other codecs available today, it is the ability to easily upgrade not only the control software, but also the software controlling the audio compression algorithms. The software that controls all processors within the codec, including the powerful control processor and all DSPs, is contained in non-volatile flash-RAM. This allows the software to be easily updated as advances are made, without having to return the codec to the factory.

The current command processor version is always displayed after the codec boots, and this and all other software module versions can be displayed at any time using the **MVN** or **CVN** commands. Please remember that not all software modules have the same version number.

Upgrading your codecs software is easy, and requires only an IBM compatible PC and a remote control cable (see Appendix A). Windows

is not required since all downloads are performed from the DOS prompt. MAC download routines are not available, and we have found that Windows emulation programs for the MAC do not work for this application.

To determine if new software is available, contact MUSICAM USA or CCS Europe. You can also log on to our Web Page at www.musicamusa.com and follow the links to Technical Support for the *CDQPrima* or *Prima LT* and check the current software version. **Remember that for the *CDQPrima*, the most up-to-date software version depends on the serial number.** You can download the most current versions right from our Web Page! If you do not have Internet access, we will be happy to send you an upgrade kit on your request.



Please note that a full software upgrade takes over one hour, and may require factory passwords. Do not start an upgrade when MUSICAM USA or CCS Europe cannot be reached for these passwords.

When calling for factory support or passwords, we may need to know the serial number of your codec. On 200 series models, the serial number is on the back and on 100 series models it is on the bottom. You can also use the **CSX** command

<Common><General><Serial No>

to get the serial number. The serial number will be displayed only if it has been factory programmed.