

Etc.

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

## 9. What's Left

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

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

Your **CDQPrima** 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 **CDQPrima** 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      <Common><Logon><User>
CSU 0      <Common><Logon><Sup User>
CPW 0      <Common><Logon><Factory>

```

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 **CDQPrima** 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>,
```

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 maintenance personnel to log on when accessing the **CDQPrima** 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 **CDQPrima**.

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>

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

<Common><Logon><Sup user>

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

<Common><Logon><Factory>

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 Pwdr>

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

<Maint><Security><SUser Pwdr>

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

&lt;Common&gt;&lt;Logon&gt;&lt;Factory&gt;

**(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 new password is only valid for 1 hour, until the **CDQPrima** 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 **CDQPrima** 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 **CDQPrima** 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

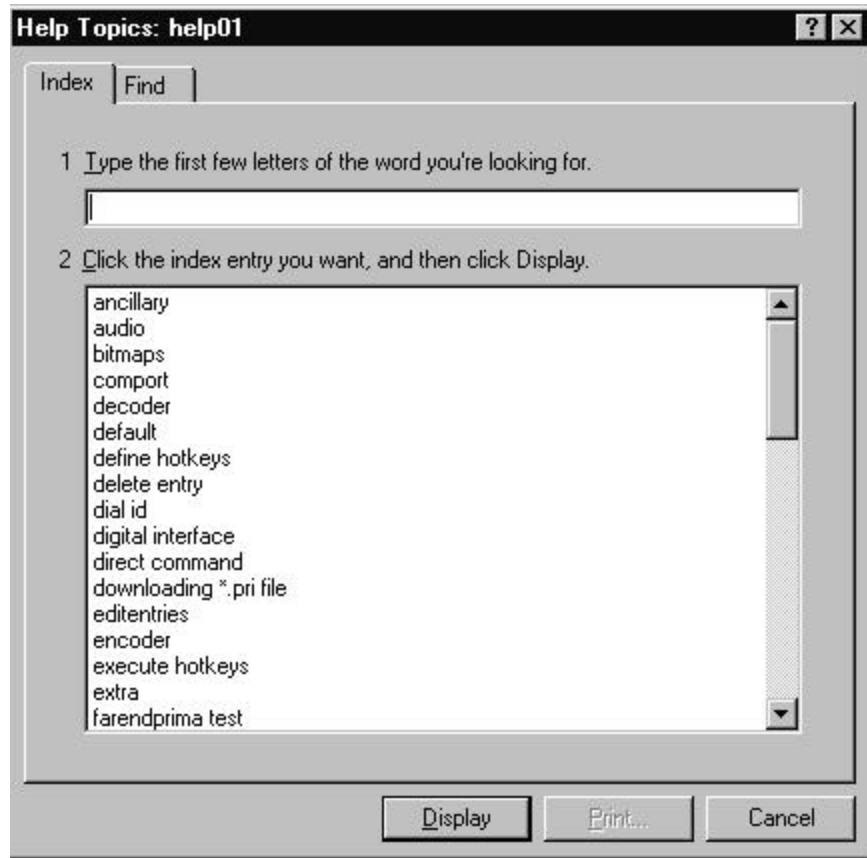
```

**Figure 9-1 CDQPrima 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.

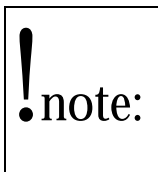
When using the Windows Remote Control program, in addition to the on line command syntax help discussed above, there is extensive configuration and programming help available.



**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
<Common><<User Prof>>	CPU	DC	Save or load user profile



It may sometimes be necessary to re-boot the **CDQPrima**. Re-booting is as simple as turning the **CDQPrima** off and then on again. The **CDQPrima** 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 **CDQPrima** back to a factory default configuration. Although not likely, it is possible to configure your **CDQPrima** 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 CDQPrima will be configured in loopback, 256 kb/s, 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

**Table 9-1 Summary of factory default settings**

To perform a '1' reset, turn the **CDQPrima** 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 **CDQPrima** 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>

to reset defaults after the **CDQPrima** has completed its boot cycle..

**!note:**

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 **CDQPrima** that it is installed,

<Common><Dig I/F><Def I/F>,

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 the **CDQPrima** and save the configuration. The User Profile overwrites and saves the following factory default parameters:

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

- System loopback state
- Audio source
- Encoder and decoder algorithm
- Encoder and decoder line format
- Encoder and decoder bit rate
- Encoder sampling rate
- Encoder algorithm mode
- Installed DIFs
- Fan state
- Buzzer state
- Display contrast

**!note:**

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 command or use the keypad sequence

<Common><User Profile><Save>.

### 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 **CDQPrima** 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>.

## 9.4 Option Installation

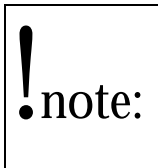
Several options are available for your **CDQPrima** codec and include SMPTE Time Code, opto-isolators and relays and optical digital audio I/O.

### 9.4.1 A1000 AES/EBU Digital Audio I/O

AES/EBU digital audio is standard on all **CDQPrima** models except the 110. This option is not field installable, and the **CDQPrima** must be returned to MUSICAM USA for installation.

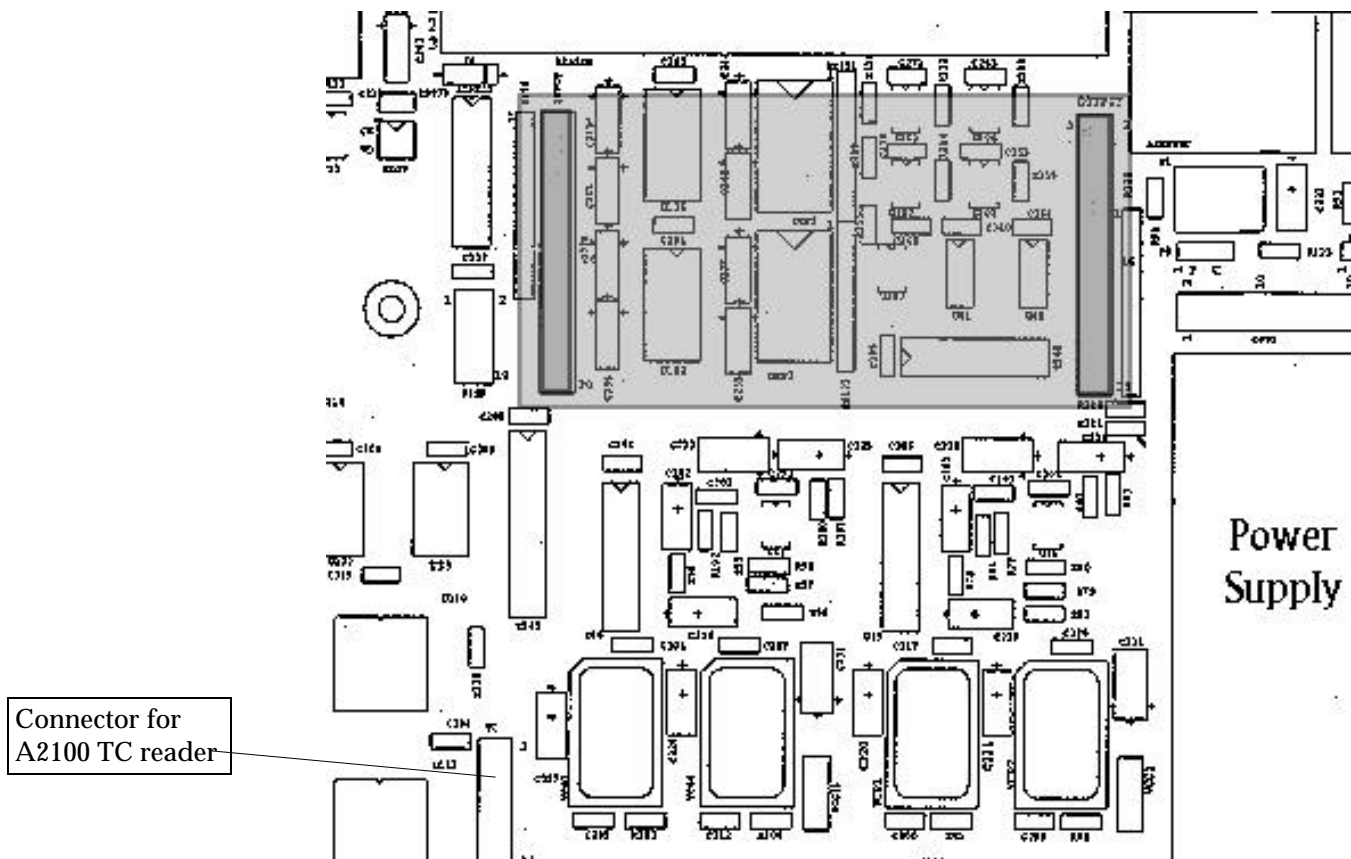
### 9.4.2 A1100 And A1200 Optical Isolated Control Inputs And Relay Outputs

The A1100 (4 inputs and outputs) and the A1200 (8 inputs and outputs) boards are user installable, any your **CDQPrima** can be upgraded with these options at any time. The rear-panel connectors that support the relays and inputs are standard on all **CDQPrima** 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.



Installation of these circuit boards requires that you open the **CDQPrima**. Please note that it is necessary to remove a DIF module to gain access to a cover screw. Also note that the **CDQPrima** 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 **CDQPrima** 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 all 200 Series models, and is user installable. No additional software is required to support time code.

**!note:**

Installation of this circuit board requires that you open the **CDQPrima**. Please note that it is necessary to remove a DIF module to gain access to a cover screw. Also note that the **CDQPrima** 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 **CDQPrima** motherboard as shown on the above figure. Pin 1 is towards the rear of the **CDQPrima**.

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.

### 9.5 Software Maintenance, and Upgrading, Version and serial Numbers

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

If any single feature can be highlighted that sets the **CDQPrima** apart from all other codecs available today, it is the **CDQPrima's** 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 **CDQPrima**, 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 **CDQPrima** to the factory.

The current command processor version is always displayed after the **CDQPrima** 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. Table 9-2 is a list of the correct versions for all modules of Rev 6.32 software.

Upgrading your **CDQPrima's** 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](http://www.musicamusa.com) and follow the links to Technical Support for the **CDQPrima** and check the current software version. **Remember that the most up-to-date software version depends on the serial number of your CDQPrima.** 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.

Item	Revision	Class
CP	632	Command processor
CPX	632	Command processor
DSPD	632	MUSICAM decoder
DSPV	14	VU DSP
DSPE	632	MUSICAM encoder
DSPR	632	Reed-Solomon DSP
DSPDX	632	MUSICAM decoder
DSPVX	105	VU DSP
DSPEX	632	MUSICAM encoder
DSPRX	2	Reed-Solomon DSP
DSPDXX	632	MUSICAM decoder
DL3R	2	Layer 3 R-S DSP
DSPEXX	102	MUSICAM encoder
DSPRXX	2	Reed-Solomon DSP
G722E	632	G.722 encoder
G722D	632	G.722 decoder
DL3E	102	Layer 3 encoder
DSPDS	632	MUSICAM decoder
DL3EX	102	Layer 3 encoder
DL3D	106	Layer 3 decoder
DL3DX	106	Layer 3 decoder
DL3DXX	106	Layer 3 decoder
DL3SX	105	Layer 3
DL3SXX	105	Layer 3

**!**note:

**Table 9-2 Revision 6.32 module software versions**

**Please note that a full software upgrade takes over one hour, and requires 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 **CDQPrima**. 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.

#### 9.5.1 Far-End **CDQPrima** Software Upgrades

Upgrading the software in a **CDQPrima** located thousands of miles away is as easy as if the **CDQPrima** was in front of you. With any **CDQPrima** model that has a front panel remote control port (models 120, 220 or 230) all you need to do is connect to a far end **CDQPrima** to upgrade it. You do not even have to have the most recent software on your local **CDQPrima**. The far end **CDQPrima** can be any model. An IBM compatible PC is required. Please contact MUSICAM USA for instructions.

**Please note that if an ideal, error-free ISDN connection cannot be supported for at least three hours, far-end download should not be attempted. MUSICAM USA will not perform ISDN downloads for this reason.**