

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

tampering with the **CDQPrima** settings by unauthorized persons. 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 port lock-out.

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, 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. 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** 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 can be used to set the permission level to 5. The **CSU** command is used to logon at permission level 7 and the **CPW** command is used to logon at permission level 9 (the highest). Logging on at factory level requires a factory supplied password.

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

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

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. A summary of each command group is shown by executing **HELP xx** where **xx** is a number between 1 and 34.

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.

**!note:**

#### 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 required by the internal terminal adapter is *not* lost.

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

You will note that the factory default settings do not include and 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:

- System loopback
- Audio source
- Encoder and decoder algorithm
- Encoder and decoder line format
- Encoder bit rate
- Encoder sampling rate
- Encoder algorithm mode
- Installed 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.

### 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' 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

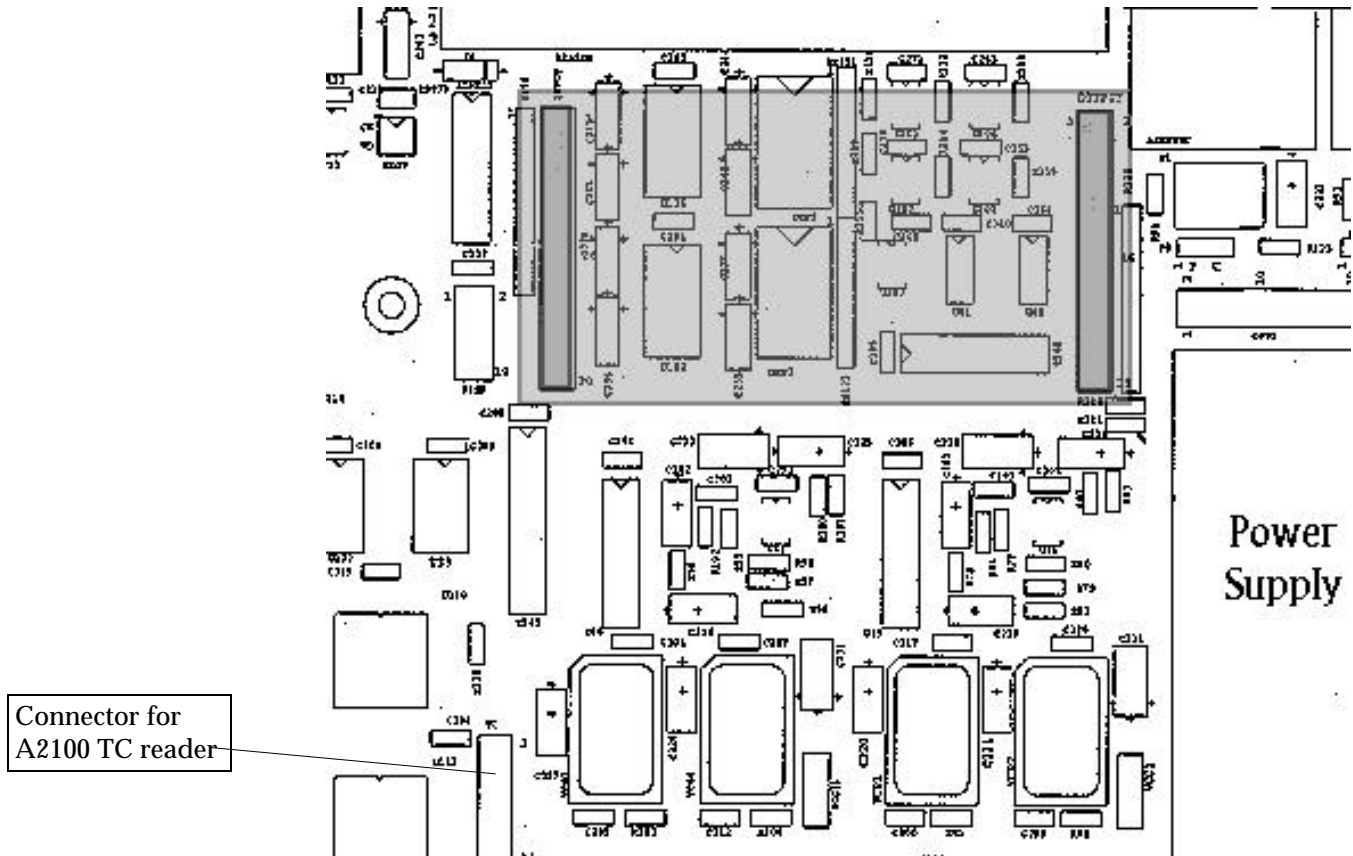
The A1100 (4 inputs and outputs) and the A1200 (8 inputs and outputs) boards are user installable, any your **CDQPrima** can be upgraded with these options at any time. The rear-panel connectors that support the relays and inputs are standard on all **CDQPrima** models, and no driver software is required 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 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 area of the figure below indicates where this board is installed. The rear panel is towards the top of the picture. The relay board is

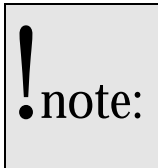
installed with the relays on the right and the IC's on the left, looking down. Be careful that the connectors line up exactly with the headers on the **CDQPrima** motherboard.



**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.



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**.

#### 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

<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.

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 6.29 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. If a PC is not available, software can be downloaded over the same ISDN line used for audio transmission.

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. 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.

<b>Item</b>	<b>Revision</b>	<b>Class</b>
<b>CP</b>	630	Command processor
<b>CPX</b>	630	Command processor
<b>DSPD</b>	629	MUSICAM decoder
<b>DSPV</b>	14	VU DSP
<b>DSPE</b>	629	MUSICAM encoder
<b>DSPR</b>	629	Reed-Solomon DSP
<b>DSPDX</b>	629	MUSICAM decoder
<b>DSPVX</b>	105	VU DSP
<b>DSPEX</b>	629	MUSICAM encoder
<b>DSPRX</b>	2	Reed-Solomon DSP
<b>DSPDXX</b>	629	MUSICAM decoder
<b>DL3R</b>	2	Layer 3 R-S DSP
<b>DSPEXX</b>	102	MUSICAM encoder
<b>DSPRXX</b>	2	Reed-Solomon DSP
<b>G722E</b>	629	G.722 encoder
<b>G722D</b>	23	G.722 decoder
<b>DL3E</b>	102	Layer 3 encoder
<b>DL3EX</b>	102	Layer 3 encoder
<b>DL3D</b>	106	Layer 3 decoder
<b>DL3DX</b>	106	Layer 3 decoder
<b>DL3DXX</b>	106	Layer 3 decoder
<b>DL3SX</b>	105	Layer 3
<b>DL3SXX</b>	105	Layer 3

**Table 9-2 Revision 6.29 module software versions**

Please note that a full software upgrade takes almost two hours, and requires factory passwords. Do not start an upgrade when MUSICAM USA or CCS Europe cannot be reached for these passwords.

#### 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 P can be any model. An IBM compatible PC is required. Please contact MUSICAM USA for instructions.