

How To Program M.T.H. Products Using DCS & DCS Software

Locomotives equipped with Proto-Sound 2.0 and the components of the M.T.H. DCS Digital Command System can be reprogrammed with new sounds or software features available via download from the M.T.H. and Proto-Sound 2.0 websites. The following instructions detail how such downloads function and what tools are required to complete the process.

If desired, most M.T.H. Authorized Service Centers can perform the reprogramming for consumers. A service charge may be applicable. See your local service center for more details.

To upload or download new sound files onto any Proto-Sound 2.0 equipped locomotive, or to load a new software revision into your DCS system, you will need the following items:

1. DCS Consumer Loader Software (Version 1.30 - available from www.protosound2.com)

2. A Transformer or power supply to power the DCS Track Interface Unit (TIU).

3. A personal computer with an available com port. If your computer does not have a 9 pin RS232 Com port, but only USB ports, purchase/install a single 9 pin Serial port I/O card, SIIG model 16550 for desktop computers or SIIG model JJ-PCM012 for laptop computers. SIIG models have been verified, equivalent manufacturers single port card may be acceptable.

4. A standard 4-pair telephone handset cord.

5. A standard RS11 male-to-female serial PC cable and if necessary a USB to DB9 Adapter .

6. A 1/8" Stereo Mini-to-Mini Cable.



DOWNLOADING THE SOFTWARE

1. First, download the DCS Consumer Loader Software from www.protosound2.com

To download the Consumer Loader:

- A. Download "V130.exe" by choosing "Download NOW!".
- B. Complete the required fields and follow the onscreen prompts.
- C. When prompted click on the file name and choose the location in your computer to save the file. The file should be saved where it can be easily found, like the Desktop.

2. Next, download the latest version of DCS Software.

To download Version 3.0:

- A. Download "Version 3.0" by choosing "Download NOW!".
- B. Follow the steps in 1B above.

INSTALLING THE SOFTWARE ONTO THE COMPUTER

1. Install the DCS Loader program:

- A. If you agree with the disclaimer, choose "Agree", and then click "Next" at the bottom of the screen.
- B. Read instructions for loader, then choose "Next".
- C. Leave the "Destination Location" at default, which will place a folder on your "C" drive. If there is another place you would rather install, click "browse".
- D. Once loader is installed, finish the operation. There will be a MTH_DCS_Loader icon on your desktop. This is a shortcut to the program, and whenever you wish to use the Loader program, simply double-click on this icon.

2. Installing DCS Version 3.0:

- A. Install "Version 3.0" from the location in which you saved it, by double-clicking the file "dcs3_0.exe"
- B. To unzip the file in order to use it, click "Okay" for the WinZip Self-Extractor.
- C. When you get to the next dialog box, click "Unzip". The file will be saved in your "My MTH files" on your PC's hard drive. If you wish to save it somewhere else, click "Browse". Version 3.0 is now ready for uploading to your DCS handheld or TIU.

USING THE DCS CONSUMER LOADER TO REPROGRAM DCS

Depending upon the consumer loader operation you wish to perform, you will need to choose the appropriate of four loader buttons divided into two color codes; yellow for engine, or blue for system. Pressing the appropriate blue button will kick off the operation to reprogram the DCS TIU or Remote Handheld and prompt the user for each subsequent step. Follow all instructions carefully. To cancel an operation, choose "Cancel". To exit the program, choose "Exit".

In order to reprogram the TIU, a standard RS 232 cable is required. This cable is to be connected between the TIU's PC Connection Port and a COM port on a PC. A Macintosh computer cannot be used to reprogram the DCS system. Laptop computers without an available COM port can use a PC serial port card. M.T.H reports success with SIIG, Inc. Model JJ-PCM012. SIIG can be reached at www.siig.com. To date, USB Com Port adapters have not been reliable and aren't recommended..

The mini-to-mini cable MUST BE A STEREO model. You MUST NOT use any cables that have adapters. M.T.H. p/n 50-1009 or Radio Shack p/n 42-2497 are acceptable models.

1. Making Cable Connections

Follow the instructions below for hooking up the cables. The DCS Loader Program will prompt you step-by-step for each of the loading options as you select them.

- A. The Stereo mini-to-mini cable should be fully plugged into the Proto-Dispatch and Proto-Cast audio jacks on the TIU

B. When power is applied to the TIU, look at the red LED. It should NOT blink or flicker at all. It MUST remain on constant. this indicates that the TIU is in Program Mode

C. If the LED blinks then it means your mini-to-mini cable is not stereo, you have some other adapters on the cable, or you do not have the cable plugged in fully at one or both of the jacks

2. Reprogramming DCS TIU With DCS Software Version 3.0

A. First, reset the TIU and the DCS Remote to their factory settings prior to uploading the new 3.0 software.

B. Close ALL other programs running on the PC.

C. Disconnect All Power to TIU Inputs.

D. Disconnect TIU from the Track(s).

E. Connect TIU 9 pin serial connector to PC.

F. Apply power to either FIXED 1 input or AUX POWER.

G. Run the DCS Loader program.

H. Click on the "Load TIU Code" button.

I. Once this has been done, click "okay". Navigate to the area where you have saved your downloads. For example, if you wish to download "Version 3.0", go to the area where you saved it at the beginning of this tutorial. The process should take approximately 2 minutes.

J. Follow all on-screen prompts.

K. Follow the steps below to load the new DCS Software into the DCS Remote Handheld.

3. Making Cable Connections

A. Ensure the 4 conductors in the bottom of the Remote are all parallel and NOT touching one another. IF they do when you go to load the remote code your remote will power on

B. Ensure the 4 conductors in the bottom of the TIU Remote Input are all parallel and NOT touching one another. IF they do when you go to load the remote code your remote will power on .

4. Reprogramming DCS Remote Handheld With DCS Software Version 3.0

A. Close ALL other programs running on the PC.

B. Disconnect All Power to TIU Inputs

C. Disconnect TIU from the Track(s)

D. Connect TIU 9 pin serial connector to PC

E. Connect Remote to TIU "REMOTE INPUT" jack using a telephone handset cable

- F. Apply power to either FIXED 1 input or AUX POWER
- G. Run the DCS Loader program
- H. Click on the "Load Remote Code" button
- I. Once this has been done, click "okay". Navigate to the area where you have saved your downloads. For example, if you wish to download "Version 3.0", go to the area where you saved it at the beginning of this tutorial. Follow all on-screen prompts. The process should Take approximately 4 minutes.
- J. After reprogramming both the Remote and the TIU, do a factory reset for both prior to operation.

NOTE: When loading the remote code and prompted by the Loader program to hold down the power button on the remote, you should notice that your remote LCD remains blank. Your remote should not power up. If it does check the handset cord cable to ensure it has 4 conductors or inspect the jacks on the TIU and the remote to ensure no pins are touching or bent over. Also, you must remove the mini-to-mini audio cable PRIOR TO loading the remote code. You must also be sure to remove power from the TIU AFTER you have loaded TIU code.

USING THE DCS CONSUMER LOADER TO REPROGRAM LOCOMOTIVES

Depending upon the consumer loader operation you wish to perform, you will need to choose the appropriate of four loader buttons divided into two color codes; yellow for engine, or blue for system. Pressing the appropriate yellow button will kick off the operation to reprogram the sound set in a locomotive or to copy a sound set into your PC. Follow all instructions carefully. To cancel an operation, choose "Cancel". To exit the program, choose "Exit".

1. Uploading A Locomotive Sound Set To The PC

- A. Remove Power to TIU Inputs
- B. Close ALL other programs running on the PC
- C. Place the engine you wish to download data from on the Track
- D. Remove all other engines from the track
- E. Connect TIU Output to Track
- F. Connect TIU 9 pin serial connector to PC
- G. Apply Power to TIU Inputs
- H. Specify Location for file on computer
- I. Give file a name

2. Downloading A Locomotive Sound Set Into A Proto-Sound 2.0 Locomotive

NOTE: Before downloading a sound file to the engine, you SHOULD upload the current sound file from the engine to your PC. If you fail to upload the current engine sound file, it will be overwritten in the downloading process and lost.

Follow the Instructions in Sequence

- A. Remove Power to TIU Inputs
- B. Close ALL other programs running on the PC.
- C. Place the engine you wish to Re-program on the track.
- D. Remove all other engines from the track.
- E. Connect TIU Output to Track
- F. Connect TIU 9 pin serial connector to PC
- G. Apply Power to TIU Inputs

TROUBLESHOOTING

Windows Vista - If you are running Windows Vista, you will need to download a dll file from the Internet in order to get the DCS Loader to function on your computer. For your convenience, we've included a link to the .dll file required on the DCS News page of the Proto-Sound 2.0 website. Look for the article titled: DCS Loader Support for Windows Vista.

Once the .dll has been downloaded, move it to the System 32 folder normally found here:

C:\Program Files\Windows\System32

Once installed, the MTH loader program work with the Vista operating system.