

## Using The MultiMPU Device Driver

The **MultiMPU** device driver is a Windows library that allows Windows Multimedia applications to access Roland MPU-401 and compatible MIDI interface cards.

Features of the **MultiMPU** driver

Setting up the **MultiMPU** driver

Using the **MultiMPU** with other device drivers

## Why Use MultiMPU?

The **MultiMPU** driver provides a number of features not found in other Roland MPU-401 drivers:

- Access multiple (up to 10) MPU compatible cards, for a maximum of 160 MIDI channels,
- Merge MIDI inputs to record more than one musician in real-time,
- Echo MIDI output from the **MultiMPU** driver into another application,
- Use multiple Windows applications at the same time - with both MIDI play-back and record,
- Specially written routines to ensure error-free MIDI Thru with all Windows MIDI applications.

## Using MultiMPU with other device drivers

The **MultiMPU** driver only accesses the MPU compatible cards you specify using the 'Setup' dialog box in the Windows Control Panel and does not interfere with any other hardware installed on your machine - but it does require access to system-wide resources such as interrupt (or IRQ) signals and I/O port settings. If you having any trouble using the driver you should check that:

- No two interface cards (not just the MPU cards) are using the same IRQ numbers as each other,
- No two interface cards (not just the MPU cards) are using overlapping port numbers as each other - an MPU card uses the port as entered and one the above (i.e. if you specifit port 330, port 331 is used as well),
- No other system library (such as another device driver) is trying to use the same I/O ports or IRQ numbers. This can usually be determined by checking the 'Setup' of the driver using the Windows Control Panel or by reading the driver documentation. If this is the case, use the Windows Control Panel to change the driver settings, or remove the driver. In particular, you should remove old Roland MPU-401 drivers.

If you're still having difficulty, it may be due to a Windows Enhanced Mode driver (sometimes called Virtual Device Drivers or VxD's). These need special attention because the 'Remove' button in the Windows Control Panel does not remove Enhanced Mode drivers. These are listed in the SYSTEM.INI under a section called [386Enh]. To modify the SYSTEM.INI file, use the Windows utility 'SYSEDIT' (use the File-Run menu from the File Manager or Program Manager), or the DOS 5 (or later) 'EDIT' command. The SYSTEM.INI will probably be in your normal Windows directory, for example 'C:\WINDOWS\SYSTEM.INI'. Before modifying your SYSTEM.INI file you should keep a copy of the original by copying it to another file name (such as 'SYSTEM.OLD').

Under the section headed [386Enh], the lines starting with 'device=' are those that refer to Enhanced Mode device drivers. Conflicting drivers will probably be called '???MPU???.386', where the question marks represent any letter or number. For example, the **MultiMPU** Enhanced mode driver is call VLWAMPU.386. You can prevent the driver being used without having to remove it from the SYSTEM.INI file by preceding the line with a semi-colon. For example to remove an old driver called 'OLDMPU.386' change the line from:

```
device=OLDMPU.386
```

to:

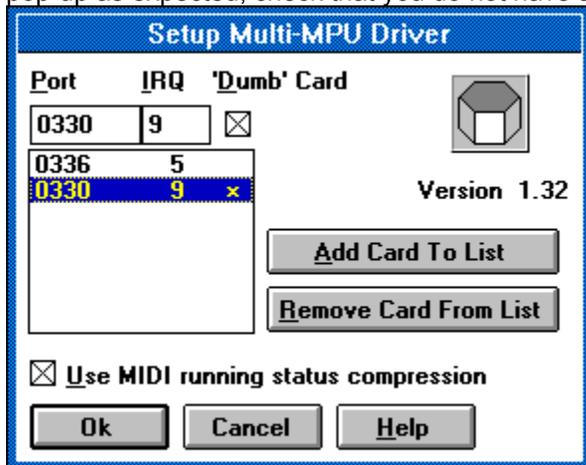
```
; device=OLDMPU.386
```

## Setting up the MultiMPU driver

For the driver to be able to access your Roland MPU-401 compatible cards, you must inform the driver of which IRQ and I/O port assignments the card is set to use. You can do this from the driver's setup dialog window.

To start the dialog window, start the Windows Control Panel (which is usually found inside the Program Manager in the program group called 'Main') and double-click with the left mouse button on the icon labelled 'Drivers'.

To set up the **MultiMPU** driver, select it from the list of drivers and press the 'Setup' button. If the **MultiMPU** driver is not listed, press the 'Add' button instead of the setup button. If the dialog does not pop-up as expected, check that you do not have any older conflicting drivers installed in your system.



To use the dialog, type in the I/O port and IRQ numbers in the boxes below the prompts. If your card only supports MPU-401 UART compatibility (for example the SoundBlaster 16, Orchid SoundWave 32, some Sound Galaxy or Okey Dokey cards) check the 'Dumb' option. Finally press the 'Add' button - the setup will be transferred to the list. If you're not sure what the settings are, try the default settings for most interface cards of 330 (for the I/O port) and 9 (for the IRQ number). If you add incorrect values, select the incorrect line from the list and press the 'Remove' button. Once all your MPU setups are in the list, press the 'OK' button.

The 'Use MIDI running status compression' makes the driver send compressed MIDI data to your MIDI hardware. This is more efficient, but may not be supported by certain older keyboards and synthesizers. Un-check the box if your synthesizer or keyboard is not playing correctly.

After making your selection(s), you may be asked to re-start Windows. This is necessary to ensure that the driver can gain access to the IRQ and I/O port specified. If you choose not to re-start Windows remember that the driver will not function properly until you next leave and re-start Windows.

