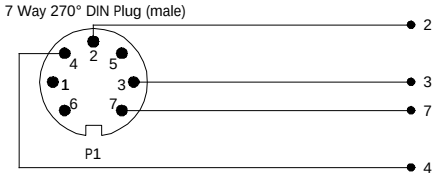
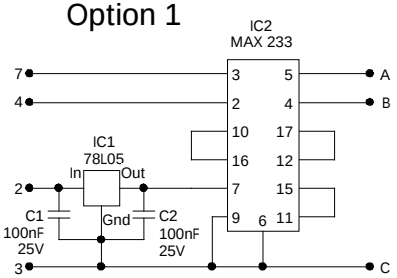
mc 3030



Option 1



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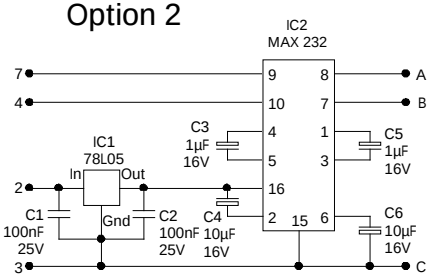
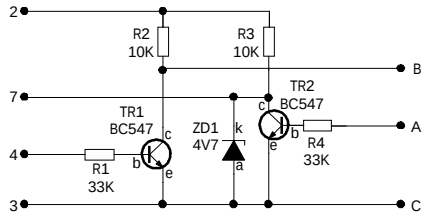
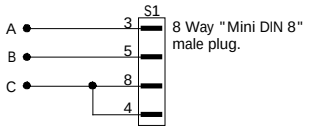


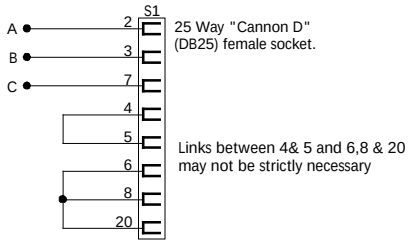
Option 3



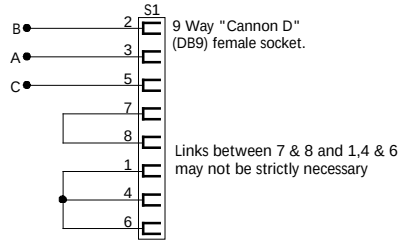
Macintosh



PC 25W



PC 9W



Instructions

- All components should be widely available at your favourite electronics store.
- Choose output connector option for your Mac or PC (right column)
  (Note: I strongly suggest using a pre-wired Mini DIN 8 plug for the Mac)
- Choose circuit preference (centre column) - Option 1,2 or 3
  (note: All 3 are OK on PC, opt 2 has been tested on Mac - opt 1 should also be OK)
- You have no option on the mc 3030 DIN connector !
- Build circuit on perf/strip board, or make a PCB if you like. If using a 25W DB connector, then you may be able to keep the components inside the connector shell. Otherwise, build it in a small plastic box. For security and signal quality, keep the lead length between circuit and the mc 3030 as short as possible (about 2 metres - 6 feet).
- When wiring up the DIN plug, match the pin numbers to the circuit. Similarly, match the output pin letters to the output connector.
- Double, then triple check your wiring - but then you would have anyway - wouldn't you ?

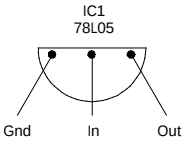
While every care has been taken in the design and drawing of this schematic, mistakes DO and CAN happen - the onus is on YOU to ensure all is well.

FYI - Pin assignments on mc 3030

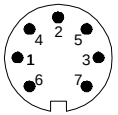
1 Charger Input (+)
2 Voltage from Power Switch (+)
3 Ground (-)
4 I/O - Trainer Signal - Tacho Input
5 Trainer (RF disable) - strap to Gnd (3) to enable trainer on 4, and switch off RF module.
6 N/A
7 Tacho enable - strap to Gnd (3) to enable tacho signal on 4.

Acknowledgement is given to Geoff Sokoll and others for the information in this diagram.

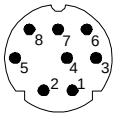
Device Pinouts
(viewed from underside)



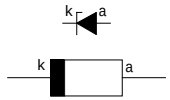
7 Way 270° DIN Plug (male)
(from rear of plug)



Mini DIN 8 Plug (male)
(from rear of plug)



ZD1 4.7v Zener



DATE
16 June 2000 v1.3

DRAWN BY
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sMPX v1.0

What is sMPX ?

sMPX is a computer application that will communicate with a Multiplex PROFI mc3030 r/c transmitter to allow the user to upload and download data via the serial port.
sMPX is dual platform - Macintosh (PPC) or PC (Windows 95/98/ME).

The unregistered version will only save or export the first five model memories. While it will import/open a full backup, you will not be able to save or export. Similarly, while you will be able to shuffle memories, you will not be able to export them back to the Tx.

Features

- Single memory import.
- Back-up set import (99 memories).
- Save memories to disc as single memory or back-up set (99 memories).
- Export saved memory(ies) to Tx.
- Export single memory from a saved back-up or imported set.
- Change name of model during export (upper AND lower case characters !!!)
- Shuffle transmitter memories around (a real pain to do from the keypad !)
- Display control assignments and values for each memory.
- Display servo assignments and values for each memory.
- User Mixers import
- Save User Mixers to disc.
- Export User Mixers to Tx.
- Display general information about Tx (operating time, owner name etc).
- Copy window data to your favourite word processor for printing, or...
- Print window data directly from the menu.
- sMPX now saves/exports servo limits and servo slow values.
- sMPX files have some compatibility with other similar programs currently on the market.
- Take and replace a snapshot of program memory.
- Change owner name without having to return to dealer. NEW FEATURE

Since v1.0b3, sMPX file formats have changed. Previous versions of sMPX did not save servo limits and slow values with model memories (you can still open previously saved versions, but the limits and slow values will be the default values).

The Cable

Firstly, you will need to construct an interface cable - details are given in the accompanying file "sMPX Cable.PDF". It is NOT rocket science, anyone with a modicum of skills should be able to obtain the parts locally to build one. There are three versions shown on the drawing - two have been tried on the Mac, all have been tried on the PC. Options are there for the Mini DIN 8 connector for Mac, DB25 or DB9 for PC - choose the parts that suit your computer. If you have difficulty with this, contact the electronics guru in your club. Failing this, I have considered producing cables myself (but I find it a pain) - however, if you email me with your requirements, I can probably arrange payment through www.uksharereg.com if sufficient of you ask (it WILL be cheaper to build it yourself 'though :-)

Note that USB is not supported - if you have an iMac (or similar) USB only system, then you will need to purchase a Keyspan (or similar) USB to serial adapter. This has tested out OK on the following Macs - iMac, iBook,Blue G3,G4 and G4 Cube. I have not tested USB with the PC version. If you have tried this, please let me know.

If you have a cable for the PROFI mc 4000 software or Cockpit series, then this will also work with sMPX.

The Software

sMPX has currently been tested with v3.7 GB3.5 mc 3030 firmware.

sMPX is actually written on a Macintosh, but I have the ability to cross-compile to the PC, so have offered this option also. As with most Macintosh applications, you really shouldn't need to read the readme to get going - however, for those that do, here are some simple instructions...

1 Connect up the Tx to your computer using the special cable.

2 Switch on the Tx (removing the Tx module beforehand will conserve a lot of battery power if you want to play with the software).

3 Open the sMPX application.

4 Choose Edit - Preferences and select the serial port that you will use. sMPX will warn you if that port is in use by another application - just select another. While you are in preferences, fill in the registration details I mailed you when you purchased this software (or leave it blank - sMPX is fully functional) - see purchase details below.

5 Click OK in preferences, and it will save this information for future use.

6 Choose Tx - Check Comms - this will test the link between your computer and the Tx (it always does this before attempting to export or import data). If it fails, check your cable/connections or serial port choice.

Start

I would HIGHLY recommend at this point, that you do a full back-up of all your data (program and model memory) before continuing!!

To do this, from the Tx menu, choose Import - in the dialog panel, select Back-Up and click OK - sMPX will import the memories down the serial link. From the File menu, select Save As and save this back-up to your preferred filename. I would suggest that you now lock this file and make a copy to another medium (floppy/zip/MO). If you wish to back-up your User Mixers, then repeat the same procedure, only this time choosing User Mixers from the dialog.

From the Tx menu, choose Recover... - in the dialog panel, select Create... sMPX will import the program memory from your Tx (the operating system of your Tx) - after importing, you will be prompted to save this file - again, copy it to another medium for safe keeping.

Now, if anything drastic happens, you're all safely backed up !!!

In the main, sMPX is self-explanatory however, here is a short explanation of the menus...

File Menu

Open	Opens a previously saved Single, Back-Up or User Mixer file.
Open Other	(Mac version only) - As Open, allows opening of files created on other platforms.
Page Setup	Sets page size preferences for printing (Mac version only).
Print	Prints contents of current window.
Save As	Saves Single memory, Back-Up memories or User-Mixers (you should ensure that you have either imported some data from the Tx first or opened a previously saved file, otherwise it will warn you that there is nothing to save). sMPX saves data in three filetypes - .MOD for a single model memory, .ALL for a complete back-up or .MIX for user mixers. Mac users do not need to worry about extensions of course ! If you have more than one window open (say Mixer and Memory), then it will save the frontmost window, just activate the other window if that is the data you wish to save. If there are no windows open, then there is nothing to save of course ! If the active window contains back-up data, then a dialogue will appear allowing the user to either save a complete back-up, or one model from the back-up set.
Quit	Quits the sMPX application.

Edit Menu

Cut	Cuts the selected text (actually, it won't, it'll copy - the data is read-only)!. If text in either the Get Info, Memory, or Mixer windows is selected, then this will copy the selected text.
Copy	Copies the selected text. If text in either the Get Info, Memory, or Mixer windows is selected, then this will copy the selected text - useful for pasting model data into your favourite text processor for printing.
Paste	Pastes any Cut or Copied text.
Preferences	Presents the user with the Preferences dialogue. Select the preferred serial port and enter user registration data here. Data will be saved for future use.

Tx Menu

Get Info	Gets general information about the Tx - Owner, date of manufacture etc.
Import	Presents the user with a dialog panel allowing import of either a single model memory, a complete back-up or just the user mixers.

Export	Presents the user with a dialog panel allowing the user to export a single model memory, a full back-up or the user mixers. If the current memory window contains a full back-up, then you can export a single memory from this back-up set by choosing a memory from the pop-up menu. Before exporting a single memory, you may wish to change the model name by typing in a replacement in the Model Name editfield (lower and upper case are allowed here - something that you can't do from the Tx keypad !) - the name MUST be 8 characters, the field will only allow specific alpha-numeric characters (if you can't type it, you can't have it !).
Shuffle Memories	Firstly, this will import all the memories in your Tx, and present you with a listbox containing the model names and their repespective location (1 to 99). To move the memories around, just click and drag the selected memory to another location. When finished, just click OK, and it will then load the re-ordered memories back to the Tx. Known "bug" in the PC version - when dragging a memory above or below the listbox, rather than the list increasing or decreasing incrementally, it will jump to the beginning or end - just scroll up or down a page at a time instead.
Recover	The mc 3030 can be configured in various languages and versions of operating system at manufacture. In the event that some catastrophe happens (Lithium backup battery dies, act of God, cosmic rays etc) you may lose this data. Indications of a problem are messages like "32K Free" or "Data loss imminent - return to manufacturer" displayed on the Tx screen. sMPX allows you to make a backup of your operating system (Create...) and reload it back to the Tx (Replace...) in the event of a problem. Obviously, you have to make a backup before you get any of these problems !!! A test backup is included in the "Test Models" folder for those of you that haven't (English version GB3.5).
Change Owner	Presents a dialog panel, allowing the user to change the owner name that is indicated on the bottom line of the display. Lower and upper case are allowed here - something that you can't do from the Tx keypad ! - the name MUST be 16 characters long, the field will only allow specific alpha-numeric characters (if you can't type it, you can't have it !).
Check Comms	Checks to see if the serial link between Tx and computer is OK.
About sMPX	Gives general details about the program - version, registered user's name etc. This item will be under the Apple menu on the Macintosh (where it should be of course !)

Purchase

sMPX is shareware, if you find it useful, then please register it at ..
http://www.uksharereg.com/smpx.html
It's only 20GBP (about 30$ US). Your support will allow sMPX to evolve. Registered users will of course be entitled to any future upgrades.

Finally...

I have made every attempt to ensure that this software operates correctly, and does not damage either the data, the Tx or your computer. However, none of us are infallible, and mistakes are easily made (see disclaimer below). If you find any "bugs" in the software or documentation, or would like to see any extra features in sMPX, then please email me at ...
neil@sea-gull.demon.co.uk

I would like to take this opportunity to thank Geoff Sokoll for his input into this project - without which, it would never have been finished - thanks Geoff !!

Best regards

Neil Gillies

Release Information

v1.0b1	31 May 2000	First release
v1.0b2	3 Jun 2000	Fixed bug in Win32 version where sMPX would not save data. Fixed cosmetic Win32issue with Shuffle Memories window where model listbox was not refreshed after importing memories. Set data panels on Info, Memory and Mixer windows to read-only (caused confusion with user thinking that Tx data could be edited). Fixed bug with Open Other in Mac version, where opening cross platform mixer file would cause crash. Fixed bug where control centre values > 10.9% would casue a crash on Import or Open. Fixed bug with control centre values being displayed incorrectly. Changed this readme file to Acrobat (PDF) for cross-platform compatibility. Updated the cable drawing to clarify some issues for electronically-impaired folks.
v1.0b3	23 Jul 2000	Added feature to print data windows. Fixed bug in option 2 of the cable drawing - pin 15 of the IC should have been connected to ground. Fixed bug in cable drawing - DB9 connector - pins 2 & 3 swapped. Changed file format of sMPX due to new feature of importing/saving servo limits and servo slow values. Fixed bug with unknown modulation type - PCM Fixed servo counter bug where servo number wouldn't increment after unused servo position. Fixed small cosmetic bug with mem display showing extra CR's Added Print feature. Fixed bug with Gx switch allocation indicating incorrectly. Fixed bug in timer display, where timer secs could indicate >59.
v1.0b4	26 Sep 2000	Added "Recover" feature to allow backing-up/replacement of program memory. Fixed printing bug in PC version where program would crash. Removed annoying message box when importing :-)
v1.0	22 Oct 2000	Added "Change Owner" feature. Fixed obscure bug where a momentary switch being allocated to the timer was wired normally closed rather than normally open - switch now reads either "Sn MO" or "Sn MC" - switch n momentary open/closed. Full release version 1.0.

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