

USB-COM Module

How to Program, Install and Reassign Ports

This procedure is valid for:

4 x RS-422/RS-485 (NMEA) to USB. Isolated.

Internal, preinstalled:	PCA100293-1
External, in case:	HT 00262 OPT-A1
External, open frame:	HT 00267 OPT-A1

4 x RS-232 to USB. Non-isolated.

Internal, preinstalled:	PCA100294-1
External, in case:	HT 00263 OPT-A1

Distribution Statement:

All information contained in this specification is proprietary to Hatteland Display AS
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Revision History

Rev	Created		Approved		Description
	Date	By	Date	By	
01a	2015.09.18	Gunnar Myklebust			First draft.
01b	2015.12.11				Update introduction to clarify. Add A70M, NM10 and GM45 to overview.

1 Introduction

4xRS232 and 4xRS422/RS485 USB COM Modules from Hatteland Display are programmed with a fixed identification number (serial number).

The advantage of using fixed ID is that the system will always recognize the module and remember the last COM port numbers and settings. We can then freely reconnect the module to a different USB connector, or replace a faulty module, without having to reconfigure the com port settings.

The downside is that if two modules with same preconfigured ID number is connected to same unit, there will be a conflict that may cause boot issues or other symptoms.

Preinstalled modules will get serial and fixed COM port number according to Hatteland Display predefined settings. If the operating system was not provided by Hatteland Display, it's up to the customer to setup and re-assign the COM ports if needed.

External modules will, by default, be delivered programmed as External #1. If you wish to connect several modules to the same unit you need to program the additional modules as External #2, #3 etc. We recommend that you mark the reprogrammed modules with the corresponding numbers to avoid mix-up.

A customer pack, *USB-COM_Pack*, with update tool and configuration files is available on Hatteland Display website: http://www.hatteland-display.com/support_accessories_peripherals.php

All tools and scripts referenced in this document is included in this pack.

Please note that some of the scripts requires elevated Administrator rights to function properly.

2 COM Port Number Assignment

To ensure that COM port number is always assigned to the same physical output, we recommend locking it to a specific serial in the main system/backup image.

COM port number will then stay the same, for each defined module, even after moving to a different USB slot or replacing the module,

2.1 Requirements

- Driver must be installed.
 - Run the script *USB-COM_Install.vbs*, from USB-COM_Pack, for automated driver install.
 - Need to be logged in as Administrator for script to work properly.
 - Drivers can be added manually in Device Manager by pointing to the driver folder.
 - Latest driver is available via Windows Update in recent OS versions.
- USB-COM module must be programmed.
 - Refer to chapter 3 for procedure and chapter 4 for programming table.
 - Make sure to use correct config! RS232 and RS422/485 config must not be swapped.

2.2 Procedure

- **Method 1: Device Manager.**
 - Open Device Manager (Press Win Key + R to get up Run window, then type devmgmt.msc)
 - COM module must be connected while you are doing this.
 - Do not assign to a reserved port unless you are positive it is not in use.
 - For each port you want to reassign:
 - Right click and select Properties
 - Select Port Settings – Advanced...
 - Set new port in “COM Port Number” drop down list.
- **Method 2: ReAssignCOMPortNumb.exe tool.**
 - This tool can be used to change port number. You can only reassign to a free port. If you need to force assignment to a reserved port you need to use Method 1.

Verify that the new com port assignment is OK. Refer to chapter 3.1 for procedure.

3 Update USB-COM Module configuration

3.1 Verify USB-COM serial and port numbers

Run the script *USB-COM_Present.vbs* to scan and list serial and port for currently installed COM modules.

Output example:

<i>FTDIBUS\VID_0403+PID_6011+12345A\0000</i>	<i>: USB Serial Port (COM3)</i>
<i>FTDIBUS\VID_0403+PID_6011+12345B\0000</i>	<i>: USB Serial Port (COM4)</i>
<i>FTDIBUS\VID_0403+PID_6011+12345C\0000</i>	<i>: USB Serial Port (COM5)</i>
<i>FTDIBUS\VID_0403+PID_6011+12345D\0000</i>	<i>: USB Serial Port (COM6)</i>

The numbers in bold text shows the current serials. The assigned COM port is listed to the right.

If you can't run the script, you can check manually in Device Manager:

- Open Device Manager
- Locate USB-COM ports and open properties
- Go to Details tab
- Open the dropdown list:
 - o Win 7: Select "Device Instance Path"
 - o Win XP: Select "Device Instance Id"
- You should now see the full port ID including current serial.

3.2 Program USB-COM module

If the module is not programmed with correct configuration file/serial, please follow this procedure.

Config update procedure:

1. Connect the COM Module to the workstation.
 - a. We recommend using a dedicated workstation and program one module at a time.
 - b. If several modules are connected, the MProg tool will load selected config to all and increase the serial number by one for each module.
 - c. **NOTE:** if you use a unit with internal COM module installed from factory, the internal module will be reprogrammed as well!
2. Start MProg 3.5 tool
3. Scan for devices. **Device -> Scan (Ctrl+C)**
4. Load correct template. **File -> Open (Ctrl+O)**
 - a. Refer to overview in Chapter 4 for correct template.
5. Program card. **Device -> Program (Ctrl+P)**
6. Press the **Cycle Device** button (upper right corner) and close MProg tool, or reboot the unit, to load the new device settings.
7. Verify that the module was updated correctly. Ref. chapter 3.1.
8. For external modules we recommend adding a label (EXT #1, #2, #3, #4) to be able to separate them if you ever need to connect more than one module to same unit.

4 Programming table reference

Please refer to the overview below to find correct configuration file for your setup.

Factory image provided with these systems should follow this standard.

The COM port assignment may reset for modules that are not present during SysPrep or First Boot Setup. You may then need to re-assign the COM ports according to this standard or your own preferences.

Abbreviations:

NA = Not Available. This is normally due to physical limitations of how many cards can be mounted.

ND = Not Defined. Meaning COM is not preassigned/locked to the card serial in standard factory image.

Series:

Q87: HT C02 and HT 221 computers.

QM57: HT B22 computer and Series X MMC, 12"/15"/17"/19"/24"/26".

NM10: Series X MMC, 8" & 13"

GM45: Series X MMC, 13"

4.1 USB to 4xRS422/RS485 NMEA Module

Internal: PCA100293-1

External: HT 00262 OPT-A1 and HT 00267 OPT-A1 (open frame)

Module	Config	Serial #	COM # assigned				
			Q87	QM57	A70M	NM10	GM45
Internal #1	RS485_NMEA_V1_BANK1.EPT	12345A-D	41-44	3-6	4-7	8" NA 13" ND	ND
Internal #2	RS485_NMEA_V1_BANK2.EPT	12346A-D	45-48	9-12	NA	NA	NA
Internal #3	RS485_NMEA_V1_BANK3.EPT	12347A-D	49-52	NA	NA	NA	NA
Internal #4	RS485_NMEA_V1_BANK4.EPT	12348A-D	53-56	NA	NA	NA	NA
External #1	RS485_NMEA_V1_BANK1_EXT.EPT	54321A-D	57-60	ND	ND	ND	ND
External #2	RS485_NMEA_V1_BANK2_EXT.EPT	54322A-D	61-64	ND	ND	ND	ND
External #3	RS485_NMEA_V1_BANK3_EXT.EPT	54323A-D	65-68	ND	ND	NA	ND
External #4	RS485_NMEA_V1_BANK4_EXT.EPT	54324A-D	69-72	ND	ND	NA	ND

4.2 USB to 4xRS232 Module

Internal: PCA100294-1
 External: HT 00263 OPT-A1

Module	Config	Serial #	COM # assigned				
			Q87	QM57	A70M	NM10	GM45
Internal #1	RS232-V1-INT-BANK1.EPT	23201A-D	21-24	ND	ND	8" NA 13" ND	ND
Internal #2	RS232-V1-INT-BANK2.EPT	23202A-D	25-28	ND	NA	NA	NA
Internal #3	RS232-V1-INT-BANK3.EPT	23203A-D	NA	NA	NA	NA	NA
Internal #4	RS232-V1-INT-BANK4.EPT	23204A-D	NA	NA	NA	NA	NA
External #1	RS232-V1-EXT-BANK1.EPT	23211A-D	37-40	ND	ND	ND	ND
External #2	RS232-V1-EXT-BANK2.EPT	23212A-D	73-76	ND	ND	ND	ND
External #3	RS232-V1-EXT-BANK3.EPT	23213A-D	77-80	ND	ND	NA	ND
External #4	RS232-V1-EXT-BANK4.EPT	23214A-D	81-84	ND	ND	NA	ND