MyM micro master

WISI

MyM Pro Installation Guide

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1. INTRODUCTION

Thank you for purchasing an A2B Electronics product. The MyM Pro is a revolutionary solution for reception and modulation both from satellite, terrestrially or IP transmitted TV content into an analogue format suited for small SMATV networks where cost efficiency and high quality is required.

The MyM Pro has a multifunctional tuner that receives DVB-S/S2, DVB-T/T2, DVB-C and IP transmissions.

The MyM Pro unit is delivered with hardware and software that supports MPEG2/MPEG4 decoding, HD downscaling, DSB RF modulation with NICAM or A2 audio, IP control and management.

The MyM Pro can be upgraded for enhanced functionality by software upgrades. Future Software upgrades will be available from web site.

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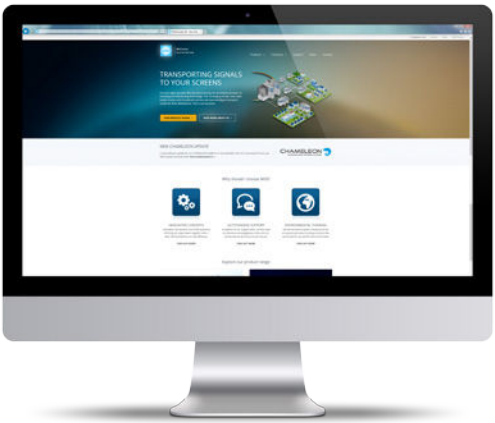
Visit our website www.wisi.se for more information.



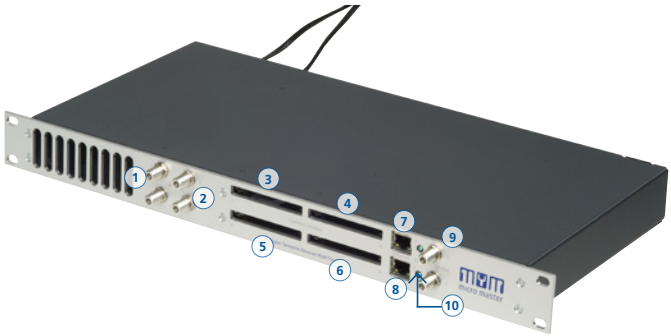
2. UNPACKING THE UNIT

The following items are included in the package:

Amount	Description
1	MyM Pro 3 or 6
1	Quick Giude

Every unit is quality controlled by us before delivery. Should any items be missing when unpacking, please contact our support service (see page 3 for contact info).

3. CONNECTIONS AND INDICATIONS



1.	**Antenna inputs 1:1 and 2:1**	Connect the satellite/terrestrial/cable signal for Ch1 and Ch2 or for all three output channels here.
2.	**Antenna input 1:2 and 2:2**	Connect the satellite/terrestrial signal for Ch3 here (Source duplication mode OFF).
3.	**Common Interface 1:1**	Insert a Common Interface module into this slot (Supports decryption for Channel 1 and 2)
4.	**Common Interface 1:2**	Insert a Common Interface module into this slot (Supports decryption for Channel 3)
5.	**Common Interface 2:1**	Insert a Common Interface module into this slot (Supports decryption for Channel 4 and 5)
6.	**Common Interface 2:2**	Insert a Common Interface module into this slot (Supports decryption for Channel 6)
7.	**Ethernet port 1:1**	RJ-45 port for 10/100 baseT Ethernet. Connect your PC to these ports for management, IP input and upgrades.
8.	**Ethernet port 2:1**	
9.	**RF-output(s) 1:1-3 and 2:4-6**	Combined 3 channel RF outputs for connection to your SMATV network
10.	**Indicator LED(s)**	Status indicator

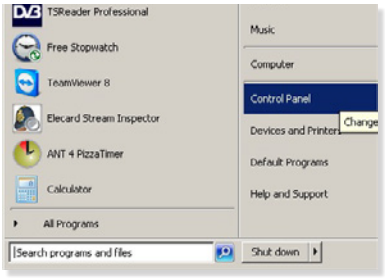
4. IP SETTINGS

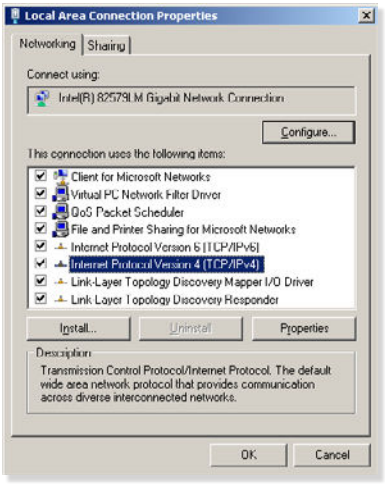
The MyM Pro has an embedded web server allowing a web browser to connect to the unit for settings and management.

No controller software is needed, The MyM Pro has by default static IP address(es) for connecting your PC to the unit.

The MyM Pro is delivered with the default IP address: 192.168.0.20 for port 1 and 192.168.0.21 for port 2 in a MICRON 6.

First time installation requires that you set a static IP address on your computer. For example set your PC to IP address: 192.168.0.19 and Net mask: 255.255.255.0.





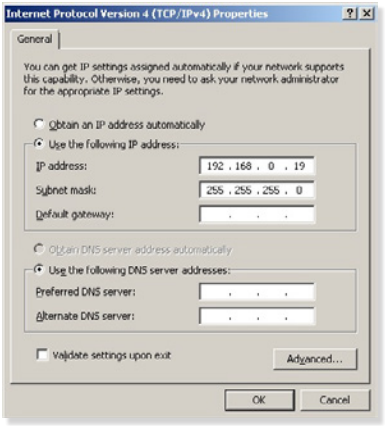
4.1 TCP/IP SETTINGS FOR WINDOWS XP

Select "Start", "Control panel" and "Network connections". Next select "Network and Internet settings". "Right click" on [Settings for local network] and select [Properties].

In Local Area Connection Properties select [Internet protocol (TCP/IP)] and [Properties].

Select [Use this IP address] and write: 192.168.0.19 and select [Net mask] 255.255.255.0. Click [OK] and then click [Close].

For PC with other Operating Systems (OS) than Windows, please consult the Owners manual for your PC for [IP/Network settings].



4.2 CONNECTING YOUR PC TO THE MYM PRO

Connect the MyM Pro power cords to a wall outlet. See section 6 for installation.

Next connect your PC to the MyM Pro with a network cable.

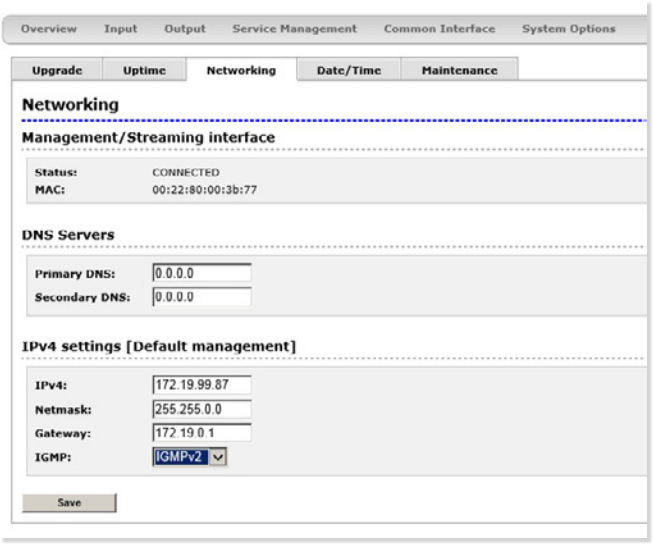
Start your web browser and write the IP address 192.168.0.20 and 192.168.0.21 for second port* in the address field of your browser.

4.3 SETTINGS OF IP ADDRESS

Click the [System options] menu and then press [Networking] to set a new IP address, Netmask and Gateway for the MyM Pro. Also DNS servers can be chosen.

IGMP setting shall be in accordance to that version that is used in the network (IP in).

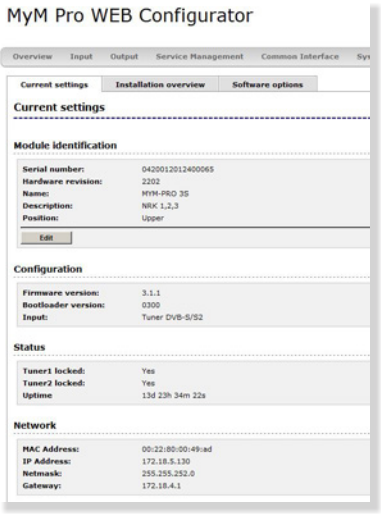
Click [SAVE] after settings are done.



*) MyM Pro 6

5. MENUES AND SETTINGS

All necessary settings can be made in the web GUI via a web browser. When first connection is made with the MyM Pro following overview menu will appear.



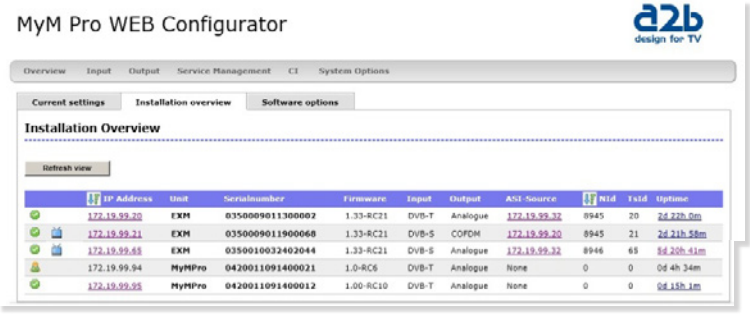
5.1 OVERVIEW MENU

CURRENT SETTINGS

Contains information of current input and output signals, if the tuners are locked to a signal, firmware version, bootloader version, hardware revision, serial number and current IP Network settings. A Name and Description can be written by click on the Edit button.

INSTALLATION OVERVIEW

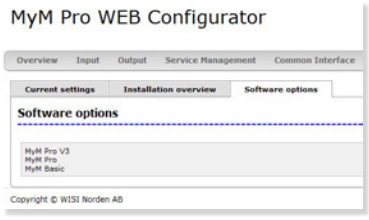
In this menu you can see all MyM Pro units when connected to a switch and also see EXM/OXM units that are connected to the same switch.



SOFTWARE OPTIONS

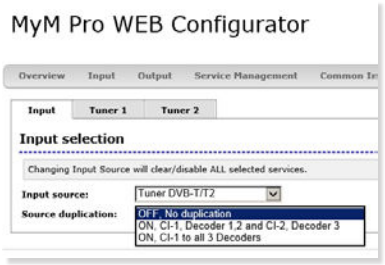
In this menu you can see which software options that are activated.

To continue with settings click the [Input] name in the banner.



5.2 INPUT SETTINGS

As the MyM Pro contains "multituner" start by selecting either DVB-T/T2, DVB-S/S2, DVB-C or IP input. After that you choose [Tuner 1] or/and [Tuner 2] for settings of the tuner parameters also depending on choice of [Source duplication] that can be either OFF or ON with both CI used or ON with only one CI chosen for both Ch1, Ch2 and Ch3 out.

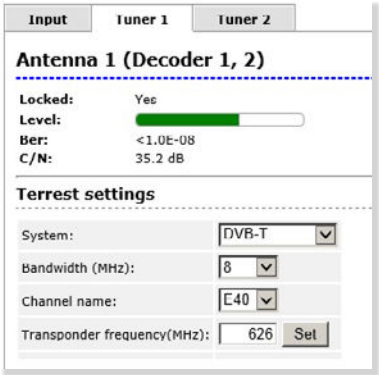


With source duplication ON, only Tuner 1 is in use.

5.2.1 DVB-T/T2 RECEPTION

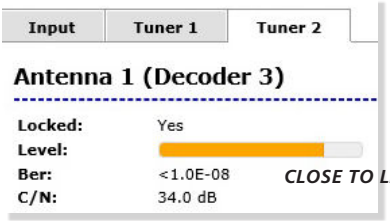
For receiving from terrestrial, start with chosing Tuner DVB-T/T2 as [Input source]. Tuner 1 provides the service list for RF output Ch1 and Ch2. Tuner 2 provides the service list for RF output Ch3. The tuner can also be "Disabled".

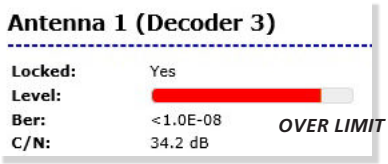
[Bandwidth] can be selected between 6, 7 or 8 MHz. Select input channel from [Channel name] scroll list or write the center frequency of the wanted Mux and press [Set]. You can see if Tuner is locked. [Level] shall show a green bar to be correct. If the bar is Orange or Red the input level is out of recommended window (too low or too high).



If you have a MyM Pro 6 proceed with next two tuners [Tuner 3] and [Tuner 4] after moving the TP cable to the other RJ 45 port (if not using switch). Tuner 3 provides the service list for RF output Ch4 and Ch5. Tuner 4 provides the service list for RF output Ch6.

Do not press [Set] if channel is chosen from the scroll list

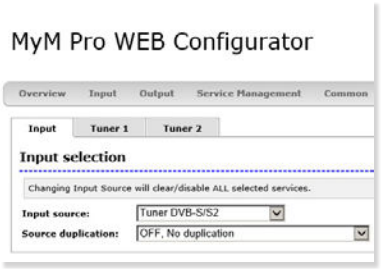




5.2.2 DVB-S/S2 RECEPTION

For receiving from satellite, start with chosing Tuner DVB-S/S2 as [Input source].Tuner 1 provides the service list for RF output Ch1 and Ch2. Tuner 2 provides the service list for RF output Ch3 when Source duplication is chosen as OFF.

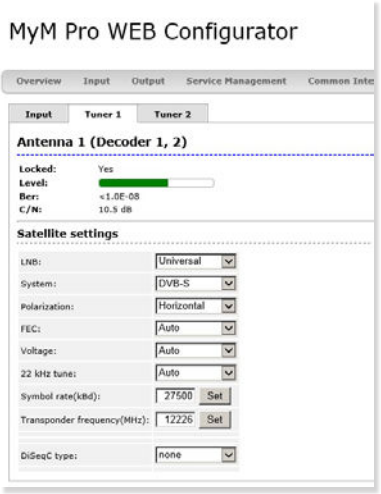
With source duplication ON, only Tuner 1 is in use.



Select the actual Input parameters for the satellite transponder you receive.After the tuner has locked you can read the values for [Locked], [Level] and [C/N].

[Level] shall show a green bar to be correct. If the bar is Orange or Red the input level is out of recommended window (too low or too high).

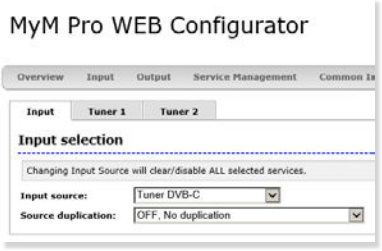
If you have an MyM Pro 6 proceed with next two tuners [Tuner 3] and [Tuner 4] after moving the TP cable to the other RJ 45 port (if not using switch). Tuner 3 provides the service list for RF output 4 and 5. Tuner 4 provides the service list for RF output 6.



5.2.3 DVB-C RECEPTION

For receiving from cable, start with choosing Tuner DVB-C as [Input source].Tuner 1 provides the service list for RF output Ch1 and Ch2. Tuner 2 provides the service list for RF output Ch3 when Source duplication is chosen as OFF.

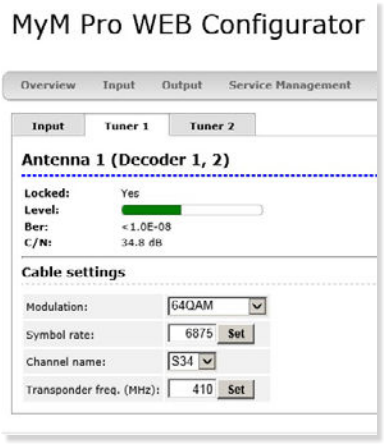
With source duplication ON, only Tuner 1 is in use.



Select the actual Input parameters for the QAM signal you receive.After the tuner has locked you can read the values for [Locked], [Level] and [C/N].

[Level] shall show a green bar to be correct. If the bar is Orange or Red the input level is out of recommended window (too low or too high).

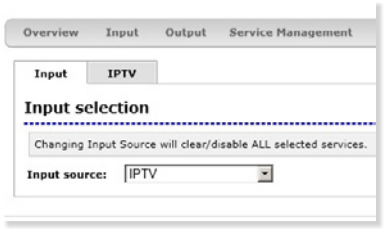
If you have a MyM Pro 6 proceed with next two tuners [Tuner 3] and [Tuner 4] after moving the TP cable to the other RJ 45 port (if not using switch). Tuner 3 provides the service list for RF output 4 and 5. Tuner 4 provides the service list for RF output 6.



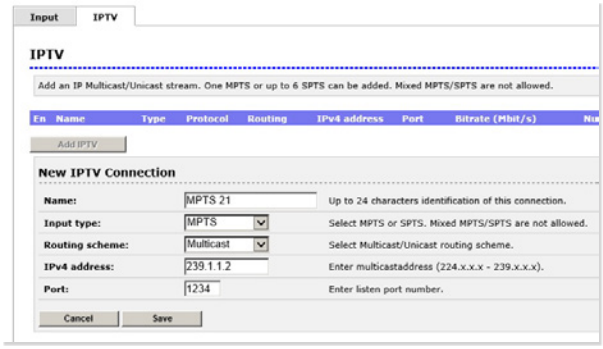
5.2.4 IPTV RECEPTION

For receiving from IPTV, start with chosing IPTV as [Input source].With this Input the Source duplication is ON, and only CI 1 is used for decryption of 1 MPTS input or 3 SPTS's input.

Decryption of SPTS's is only working if only one CAT is used.



Select the actual Input parameters for the IPTV signal you receive. You can receive either one MPTS or three SPTS's. After saving, you can see information of the received IPTV signal(s).



5.3 OUTPUT SETTINGS

5.3.1 MODULATION

BAND

Start the output setup by selecting which band you want to use. You can select [VHF-7/8 CCIR], [VHF-8 OIR] , [UHF-7 CCIR] or [UHF-8]. After selection press [Set].

FREQUENCY

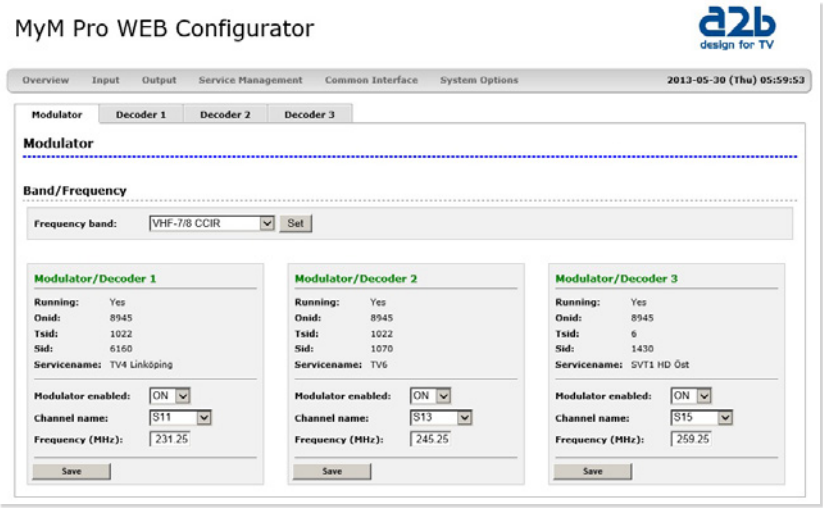
For each of the 3 (or 6) possible RF output channels, set the desired output channels by using [Channel name] scroll list or write the frequency.

If only A/V out shall be used one must first set Modulator to ON to be able to do decoder settings and after that Modulators can be switched OFF.

[Modulator enabled] can be set to "OFF" to switch off the RF out.

There is receiving information of Running status, ONID, TSID and SID for each Modulator/Decoder after that Services has been selected in the Service management.

The MyM Pro provides DSB modulation so you can't use adjacent channels.



5.3.2 DECODER SETTINGS

VIDEO STANDARD

Selection possible to made according to scroll list.

Reboot is needed after change of Video Standard

VIDEO CONVERSION

Ignore will give the same format out as in the received transmission.Letterbox gives correct picture format both on 16:9 and 4:3 TV set's.Pan & scan and Forced will crop the picture in horizontal direction.

Combined will crop both in horizontal and in vertical direction.

WSS CONFIGURATION

Setting for this is depending on what settings connected TV set's have. Setting of WSS is also depending on setting of [Video conversion].

AUDIO LANGUAGE

Select which language to receive and transmit on the outgoing programs.

PREFFERED AUDIO TYPE

If both MPEG-1 and MPEG-2/HE-AAC sound is transmitted one can choose what type that shall be prio 1.

A/V AUDIO LEVEL

This setting allows to equalise the difference in sound level between different programs. Settings can be done between +6 and -6 dB for the audio outputs on back panel.

SUBTITLING

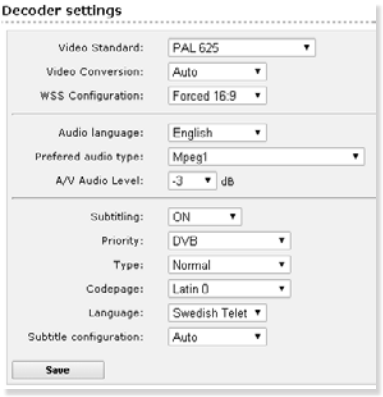
Subtitling can be switched ON/OFF and with subtitling ON, there is a choice for DVB/Teletext [Priority]. If same language

[Type] can be chosen as Normal or Hearing impaired.

[Codepage] can be changed for different character set.

[Language] can be chosen between languages that is in the received PMT. If there is no subtitling only "None" will be present.

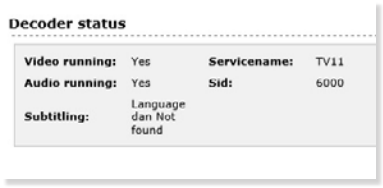
[Subtitle configuration] have the choices: None, Auto, In picture, and Out of picture.



Always click on Save after changes are made. Sometimes a reboot is required to start the subtitling process

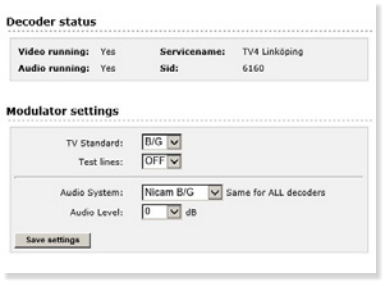
5.3.3 DECODER STATUS

Shows status of Video, Audio, Servicename and SID and Subtitling.



5.3.4 MODULATOR SETTINGS

In this menu you can do settings for [TV Standard], [Test lines], [Audio System] and [Audio level].



Audio level is not subcarrier level.

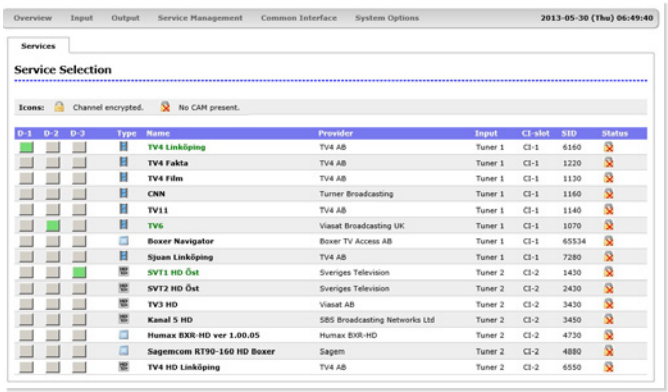
5.4 SERVICE MANAGEMENT

The MyM Pro 3 contains two and for MyM Pro 6 four separate tuners and totally 3 or 6 services can be selected for each of the output channels, named [D-1], [D-2] and [D-3] and for MyM Pro 6 also [D-4], [D-5] and [D-6].

The list of services presents all received services from both tuner inputs. Service from Tuner 1 is named "Tuner 1" and services from Tuner 2 is named "Tuner 2" respectively "Tuner 3" and "Tuner 4" in a MyM Pro 6.

When one program (service) is selected, the box in front of the program name changes colour to green. Also the Name of the service will come green when decoding is running for both Audio and Video. The service list gives following information:

Selected service	Green colour indication
Type	Shows type of service (MPEG-2, MPEG-4, Data etc.).
Name	Program name.
Provider	Name of operator.
Input	Indicates what tuner input the service is received from.
CI-slot	Shows what CI slot that is used for the service.
SID	Service ID number (as received).
Status	Shows if a CAM is inserted.



To detect whether a Common Interface module and smart card actually decrypts the programs this can be done by monitor the colour of the Name of the chosen service that will be RED until decryption works and than turn to GREEN. Both video and audio must be OK for GREEN indication!

5.5 CI MENU

The MyM Pro 3 contains 2 CI (Common Interface) and MyM Pro 6 contains 4 CI (Common interface). [CI-1] decrypts services for output D-1 and D-2 and also for D-3 if [Source duplication], "ON, CI1 to all 3 decoders" in the Input menu is chosen . The [CI-2] decrypt services for output D-3 in Source duplication mode OFF and "ON, CI1 to D1 and D2 and CI 2 to D3".

In MyM Pro 6 [CI-3] decrypt services for output D-4 and D-5 and also for D-6 if [Source duplication], "ON, CI3 to all 3 decoders" in the Input menu is chosen. The [CI-4] decrypt services for outputD-6.In menu you get information about CAM and card.

In the Advanced settings menu you can change timing settings for the used CAM if there is a need for changing that. After a change is made the [Save] button must be clicked. If changes are made and does not work, you can get the default settings again by a click on the [Restore defaults] button and a click on the [Save settings] button.

NOTE 1: Change in this menu is ONLY for advanced users.

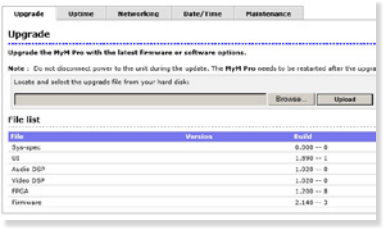
NOTE 2: If one change CAM to another CA system (i.e. from NDS to Conax) the unit needs to be rebooted. Decryption may take some seconds before it starts.

NOTE 3: For timeshare channels it might be necessary to change settings for "update","add" command or timings.

NOTE 4: Some CAM have a high initial power consumption. If one see problem at startup, change the "Power on startup delay to value 45000 for CAM 1 and 50000 for CAM 2.

5.6 SYSTEM OPTIONS

UPGRADE



The Upgrade menu is used to be able to download software Upgrades or future software functionality.

The procedure of downloading a new software shall be done as in "Upgrade instructions" because that could change from one to another FW version.

The Upgrade menu shows current files downloaded into the units and can be useful when contacting WISI support.

UPTIME

The Uptime menu gives statistics of uptime and possible restarts. The log can be cleared by click on [Clear log].

To get correct restart date and time, make sure that settings in Date &Time menu are correct

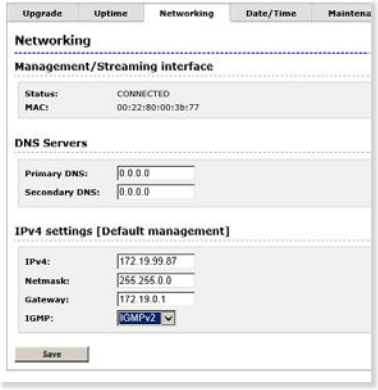
NETWORKING

This section shows current IP-address, Netmask and Gateway settings.

Remember to change settings if the default IP address is used by other devices in your network. There is also settings for [DNS Servers]. Settings for [DNS Servers] must be done if NTP server is used as Time source.

IGMP setting shall be same as used in network (IP in use).

In case you have forgotten your IP-address please consult the WISI support web site and download free of charge our tool "IP-supporter"(can be downloaded from www.wisi.se).



This tool finds all MyM Pro and their respective IP addresses available in your network.

Click on [Save] after changes are made.

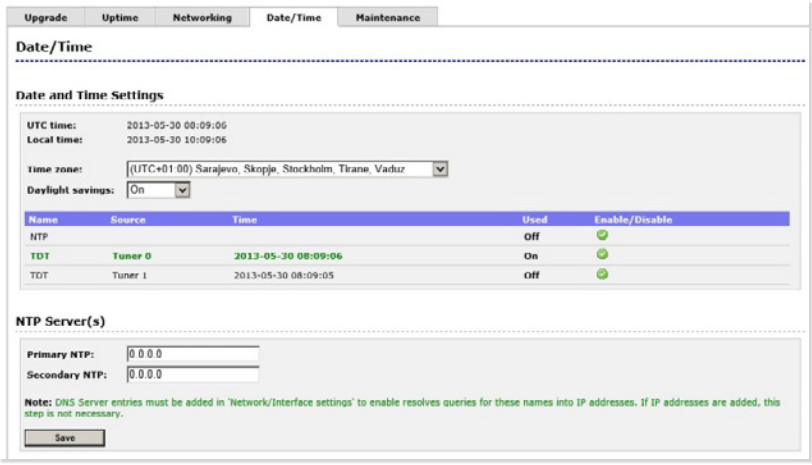
DATE/TIME

In this menu there are settings for [Time zone], used source for TDT and settings for [NTP Server]. By clicking on Enable/Disable icon one can change the used Time source for TDT (and TOT if present in the received TS).

If NTP server is used, DNS server address must be chosen in Networking menu

MAINTENANCE

In maintenance menu you can store a backup file of the configuration in the MyM Pro by click on [Backup] that can be useful if unit has to be swapped or if multiple installations are made with the same settings. Use [Browse] and [Restore] for upload of a saved backup file.[Factory reset] can be made. There is a click button for [Restart] of the unit via the web interface.

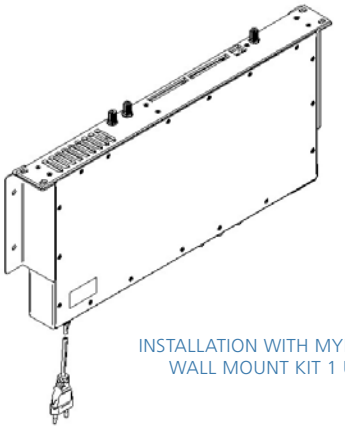


6. INSTALLATION & CONFIGURATION

The MyM Pro can be installed either as a stand alone unit directly on the wall by the use of a dedicated MyM Pro Wall Mount brackets (part number 702800.10) or in an 19 inch cabinet.

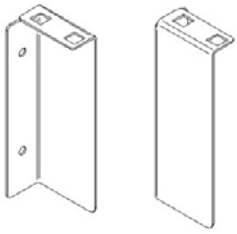
Before connecting power to the MyM Pro, make sure that all other connections have been made. A coaxial cable of good quality with an F-connector should be connected to the Antenna input and another one from the RF output to the SMATV network.

Make all necessary settings as described in section 4 and 5.



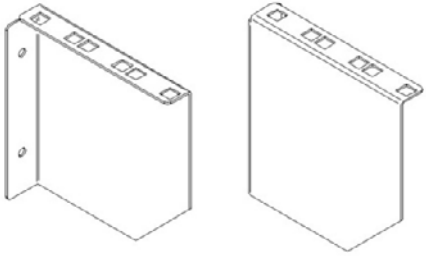
INSTALLATION WITH MYM PRO 3 WALL MOUNT KIT 1 UNIT.

ACCESSORIES



MyM Pro Wall Mount kit 1 unit including screws and nuts

Art no: 121401.10



MyM Pro Wall Mount kit 3 units (for two MyM and one switch) including screws and nuts.

Art no: 121403.10

7. TECHNICAL SPECIFICATION

Multi Standard Tuners	
MyM Pro 3	2 individually selectable tuners* 2 Type F female, 75 Ω connectors
MyM Pro 6	4 individually selectable tuners* 4 Type F female, 75 Ω connectors

*) Available modes as described adjacently.

DVB-S / S2 Satellite Receivers	
Input frequency	925 – 2175 MHz
Input level	-65 to -25 dBm
Symbol rates	1.0 – 45 Mbaud (max 100 Mbit/s)
Spectral inversion	Yes, selectable
LNB voltage	Auto, Off or 13/18V, programmable
22kHz to LNB	Auto, On or Off, programmable
DVB compliance	DVB-S (EN 300 421) DVB-S2 (EN 302 307)
DiSEqC	Supporting control of up to 4 sat. sources

DVB-T/T2 Terrestrial Receivers	
Input frequency	43 –1002 MHz
Input level (DVB-T)	-70 to -30 dBm 1)
Input level (DVB-T2)	-70 to -30 dBm 2)
Bandwidth (DVB-T)	6/7/8 MHz
Bandwidth (DVB-T2)	5/6/7/8 MHz
DVB compliance	DVB-T (EN 300 744) DVB-T2 (ETSI EN 302 755)

1) QEF reception with test signal: 8k, 64 QAM, ¼ guard interval, 2/3 FEC

2) QEF reception with test signal: 32K, 256-R QAM, 1/16 guard interval, 64k LPDC, code rate 2/3, PP4, BW-8MHz, SISO

DVB-C Cable Receivers	
Input frequency	43 –1002 MHz
Input level	-60 to -30 dBm 1)
Bandwidth	8 MHz
Symbol rate	1 – 7.2 Mbaud
DVB compliance	DVB-C (EN 300 429 / ITU J.83 Annex A/C)

1) QEF reception with test signal: 64 QAM, C/N 26dB

IPTV Receivers	
IPTS receiver interface	**MyM Pro 3** 1 IPTS receiver interface **MyM Pro 6** 2 IPTS receiver interfaces
Connectors	**MyM Pro 3** 1 RJ45 10/100Base-T/Tx connector* **MyM Pro 6** 2 RJ45 10/100Base-T/Tx connectors*
Capacity per receiver	1MPTS or 1- 6 SPTS(CBR or VBR)
Total capacity per receiver	< 45 Mbit*

*) Shared with control. Simultaneous control traffic reduces the receiver capacity correspondingly.

MPEG Decoder – Video / Audio	
Supported formats video	MPEG-2 MP@ML, MPEG-2 MP@HL, up to MPEG-4 H.264 AVC, HiP level 4
Supported formats audio	MPEG-1 layer II, HE-AAC
Aspect Ratio	Letterbox, Pan/Scan, or conversion combined (14:9) programmable, WSS
Teletext Subtitling	Teletext or DVB subtitling

Decryption interfaces	
MyM Pro 3	2 Common Interface slots
MyM Pro 6	4 Common Interface slots
Multidecryption	Yes

RF Modulators	
Number of modulators	**MyM Pro 3** 3 output channels **MyM Pro 6** 6 output channels
Modulation standards	PAL B/G, I, D/K, SECAM, Double side band
Modulation audio	FM mono, NICAM stereo, A2/A2* stereo
Channel frequency	160 – 862 MHz
Connectors	**MyM Pro 3** 1 Type F female, 75 Ω connector **MyM Pro 6** 2 Type F female, 75 Ω connectors
Level	Typ. 80 dBµV, fixed

Miscellaneous	
Setup	Web based GUI
Operating temperature	0 to +45°C non condensing
Dimensions	383x220x44 mm (excluding connectors)
Weight	**MyM Pro 3** Approximately 2.6 kg **MyM Pro 6** Approximately 3.2 kg

Power requirements	
Power supply	94-264VAC, 50/60 Hz
MyM Pro 3	Power consumption Typ. 18 W Single Europlug (CEE 7/16)
MyM Pro 6	Power consumption Typ. 36 W Dual Europlug (CEE 7/16) Split power supply design, not fully redundant. Three output channels operate per plug.

8. DECLARATION OF CONFORMITY

The document for Declaration of Conformity is available for download from www.wisi.se.

Further information at www.wisi.se.

9. ABBREVATIONS

DVB	Digital Video Broadcasting (Standardization body).
MPEG-2	Compression format for digital TV.
MPEG-4	MPEG-4
DSB	Double Side Band (RF modulation occupying 2 channels).
NICAM	Digital sound format for analogue TV transmission.
IP	Internet Protocol (defines how data is packetized for Internet broadcast).
DVB-S	Modulation format (QPSK) for satellite transmission of digital TV.
DVB-S2	Modulation format (QPSK or 8PSK) for satellite transmission of digital TV.
DVB-T	Modulation format (2k or 8k) for terrestrial transmission.
DVB-T2	Modulation format (8k) for terrestrial transmission. Higher capacity compared to DVB-T.
DVB-C	Modulation format for cable transmission.
IPTV	Internet Protocol TV transport stream
DHCP	Dynamic Host Configuration Protocol is a protocol used by networked devices (clients) to obtain the parameters necessary for operation in an Internet Protocol network.
Common Interface	Connector for a PCMCIA module used for decrypting encrypted TV programs. (CAM Modules should comply with the DVB CI standard).
SD	Standard definition TV (576i in Europe).
SMS	Service Management System (system for handling smartcards).
SMATV	Satellite Master Antenna TV.
A2	Dual sound analogue stereo audio.
LNB	Low Noise Block (outdoor unit for sat. Reception).
GUI	Graphical User Interface.
QAM	Quadrature Amplitude Modulation (digital modulation method).
QPSK	Quadrature Phase Shift Keying (digital modulation method).
8PSK	Eight Phase Shift Keying (digital modulation method).
FEC	Forward Error correction (digital error correction method for digital transmissions).
C/N	Carrier to Noise ratio (defines the difference in dB between the analog/digital signal and the noise level.
AAC-HE	Digital sound compression standard.
VBI	Vertical Blanking Interval. Part in video signal non-visible.
AC-3	Dolby Digital sound

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