

a2b

MyM
micro master

MyM-3S Micro Master Installation Guide



English

design for TV

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1 Introduction

Thank you for purchasing an A2B Electronics product. The MyM-3S is a revolutionary solution for reception and modulation of satellite transmitted TV-content into an analogue format suited for small SMATV networks where cost efficiency and high quality is required. The MyM-3S receives DVB-S and DVB-S2 transmissions.

The MyM-3S unit is delivered with hardware and software that supports DVB-S/S2 reception, MPEG2/MPEG4 decoding, DSB RF modulation with NICAM or A2 audio, IP control and management.

The MyM-3S can be upgraded for enhanced functionality by software upgrades.

Software upgrades are available from A2B Electronics web site.

A2B Electronics AB

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Visit our web site www.a2b.se for more information.



The screenshot shows the A2B Electronics website. At the top left is the logo "a2b design for TV". A navigation menu includes Home, Products, News, Company, Support, Contact, Partners, Documentation, Pictures, and WISI. The main content area features a large banner for the "CHAMELEON" product line, with a colorful chameleon and a photograph of the hardware unit. Below the banner are three smaller images: a rack of Chameleon units, a rack of EXM series units, and a rack of MyM-3S units. To the right of the EXM units is a "NEWS" section with a headline "MyM-3S Micro Head End now available" dated 2011-09-26. The text describes the product's capabilities for SMATV and hospitality applications, mentioning features like low cost, high performance, and ease of use. It also notes that the MyM-3S receives 2 satellite transponders and converts 3 programs to analogue PAL or SECAM RF. A "Read more" link is provided.

Chameleon

The Chameleon is a single HW product line. The Chameleon products are HE modules, and each Chameleon has the capability to do all the processing from input to output; RF/IP reception, demodulation, decryption, PSI/SI processing and generation, (re) multiplexing, encapsulation/modulation and HD downscaling.

Each Chameleon have "double channel" capacity; double tuners, multiple TS processing, double modulators with up to 4 audio RF outputs (OAM).

EXM series

The EXM series includes EXX-200 which is a satellite processor with DVB-S and DVB-S2 tuner, EXX-200 that is a terrestrial processor for DVB-T and ECX-200 including a cable processor. Analogue VSB, COFDM, QAM or IPTV outputs are available in all units.

All units can be upgraded with sw options for IPTV in, Simulcrypt, CryptoLite and BISS encryption.

[Read more](#)

NEWS

MyM-3S Micro Head End now available
2011-09-26

When analogue switch over happens not only in terrestrial networks, but also over satellite the new MyM-3S is the perfect solution for SMATV and hospitality applications where low cost, high performance and ease of use are essential.

MyM-3S receives 2 satellite transponders and converts 3 programs to analogue PAL or SECAM RF on the output.

Product information

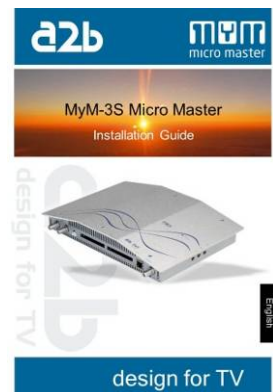
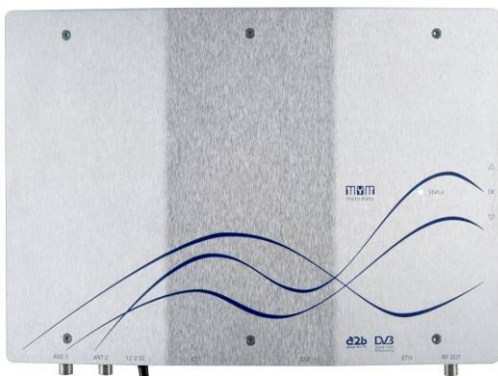
[Read more](#)

2 Unpacking the unit

The following items are included in the package:

<u>Amount</u>	<u>Description</u>
1	MyM-3S Micro Master
1	Installation guide
1	Power supply 12 VDC

Every unit is quality controlled by us before delivery. Should any items be missing when unpacking, please contact our support service (see page 20 for contact info).



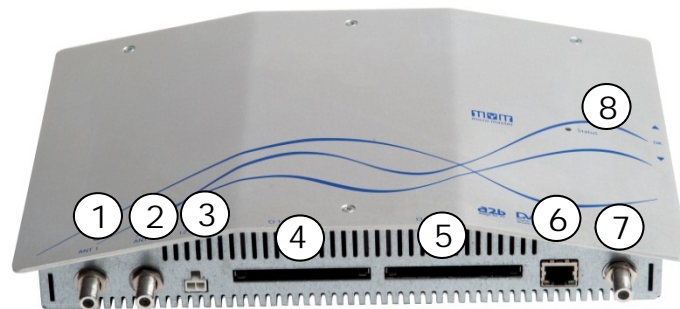
Important information about power supply to MyM-3S unit

To avoid problems with the MyM-3S it is important to use the supplied power supply. Operation with other types of power supplies will void the warranty. (See picture to the right).

NOTE! Never connect two MyM-3S units to one power supply. This may cause damage to your MyM-3S.



3 Connections and indications



- | | |
|-----------------------|---|
| 1. Satellite input 1 | Connect one satellite (LNB) input here (tuner 1 for output Ch1 and output Ch 2) |
| 2. Satellite input 2 | Connect second satellite (LNB) input here (tuner 2 for output Ch 3). |
| 3. Power connector | Connect the supplied power supply to this connector |
| 4. Common Interface 1 | Insert a Common Interface module into this slot (Supports decryption for Channel 1 and 2) |
| 5. Common Interface 2 | Insert a Common Interface module into this slot (Supports decryption for Channel 3) |
| 6. Ethernet port | RJ-45 port for 10/100 baseT Ethernet. Connect your PC to this port for management and upgrades. |
| 7. RF-output | Combined 3 channel RF-output for connection to your SMATV network. |
| 8. Indicator LED | Status indicator |

4 IP settings

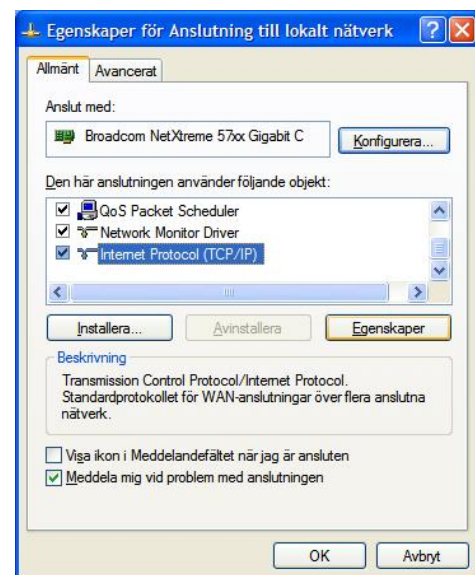
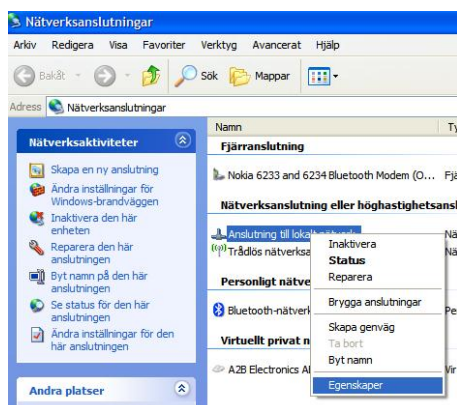
The MyM-3S has an embedded web server allowing standard web browsers (Internet Explorer, Firefox, Opera etc.) to connect to the unit for settings and management. No controller software is needed. The MyM-3S has by default a static IP address for connecting your PC to the unit.

The MyM-3S is delivered with the default IP address: 192.168.0.20. 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



TCP/IP settings for Windows XP (setting your PC to 192.168.0.19)

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

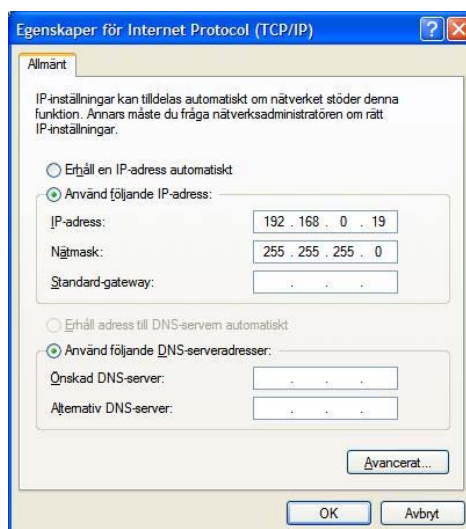


In Properties select [Internet protocol (TCP/IP)] and [Properties].

4 IP settings (continued)

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].

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



Connecting your PC to the MyM-3S

Connect the MyM-3S to the supplied DC power supply.

See section 6 for installation.

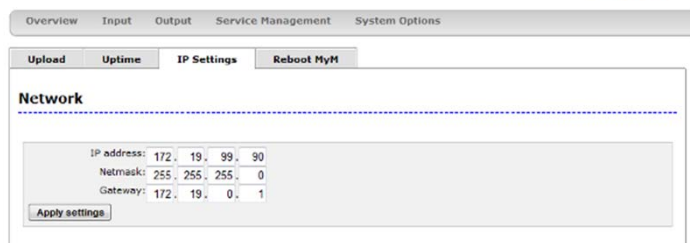
Next connect your PC to the MyM-3S with a network cable.

Start your web browser (Internet Explorer, Firefox, Opera etc.) and write the IP address 192.168.0.20 in the address field of your browser.

Settings of IP address

Click the [**System options**] menu and then press [**IP Settings**] to set a new IP address, Netmask and Gateway for the MyM-3S.

MyM Web Control Interface



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5 Menus and settings

All necessary settings can be made in the web GUI via a web browser. When first connection is made with the MyM-3S 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.

MyM Web Control Interface



The screenshot shows the 'Current Settings' page of the MyM Web Control Interface. It features a navigation bar with 'Overview' and 'System Options'. Below the navigation bar, there are two tabs: 'Current settings' and 'Software options'. The 'Current Settings' section is divided into three sub-sections: 'Module identification', 'Configuration', and 'Status'. The 'Module identification' section displays fields for Serial number (0420011030700033), Hardware revision (1211), Name (MyM 3T buttons), Description (SVT1, SVT2, 24Corren), and User interface mode (Buttons+Limited web-UI). The 'Configuration' section shows Firmware version (2.1), Bootloader version (0230), and Tuner (DVB-T). The 'Status' section indicates Tuner1 locked (Yes), Tuner2 locked (Yes), and Uptime (4d 11h 6m 34s). The 'Network' section shows IP Address (172.18.99.92), Network (255.255.0.0), and Gateway (172.19.0.1). An 'Edit' button is located below the 'Module identification' section.

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MyM Web Control Interface

By clicking on **[Edit]** you are able to write a **[Name]** and **[Description]** of the unit.

The screenshot shows the 'Edit' page for the 'Module identification' section. It features a navigation bar with 'Overview', 'Input', 'Output', 'Service Management', 'CI', and 'System Options'. Below the navigation bar, there are two tabs: 'Current settings' and 'Software options'. The 'Current Settings' section is divided into two sub-sections: 'Module identification' and 'Edit'. The 'Module identification' section displays fields for Serial number (0420010111000037), Hardware revision (1212), Name (THOR), and Description (TV4,TV4Film,TV3(S)). The 'Edit' section contains input fields for Name (THOR) and Description (TV4,TV4Film,TV3(S)), along with 'Cancel' and 'Save' buttons.

[Software options]

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

MyM Web Control Interface



The screenshot shows the 'Software options' page of the MyM Web Control Interface. It features a navigation bar with 'Overview', 'Input', 'Output', 'Service Management', 'CI', and 'System Options'. Below the navigation bar, there are two tabs: 'Current Settings' and 'Software options'. The 'Software options' section is currently empty, showing only the text 'MyM Basic'.

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

5 Menus and settings (continued)

5.2 Input settings

As the MyM-3S contains 2 separate tuners, start by selecting either **[Tuner 1]** or **[Tuner 2]**. Select the modulation type you want to receive. By selecting DVB-S2 you also can select between QPSK, 8PSK or 16 QAM. Set the Polarisation. Voltage, FEC and 22 kHz tone should normally be set to "Auto" if you have connected the MyM-3S to a Universal LNB or a switch with same functionality as a Universal LNB.

MyM Web Control Interface



Overview Input Output Service Management CI System Options

Tuner 1 Tuner 2

Tuner 1 (Channel 1, 2)

Locked: Yes
Level: -34.0 dBm
C/N: 12.0 dB

Satellite settings

System:	DVBS	▼
Modulation:	QPSK	▼
Polarisation:	Horizontal	▼
FEC:	Auto	▼
Voltage:	Auto	▼
22 kHz tune:	Auto	▼
Symbol rate(kBd):	22000	Set
Transponder frequency (MHz):	10862	Set

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Finally enter the correct Symbol rate and press **[Set]** and then enter the Transponder frequency and press **[Set]**. The available services will now be presented in the **[Service Management]** menu. We suggest that you consult: <http://en.kingofsat.net/> or another web site for correct parameters for the services you intend to use.

The input level should be higher than -65 dBm, preferably more than -50 dBm and max -25 dBm and C/N should read more than 10 dB.

Note! Inverted spectrum is sometimes used in C-band transmissions and is set automatically by auto detection.

5 Menus and settings (continued)

5.3 Output settings

Modulation/ Band

Start the output setup by selecting which band you want to use. You can select VHF-7, VHF-8 and UHF. VHF-7 and VHF-8 corresponds to 7 and 8 MHz bandwidth. After selection press **[Set]**.

Frequency

For each of the 3 possible output channels, set the desired output channel or frequency.

Channel Indicator Name

You can set the "Channel Indicator name" by your personal preference. The Channel Indicator will enable you to detect on a TV-screen which programs that are transmitted from the MyM-3S. Press **[Set]** after each entering.

National Subtitle/Type

Set type of subtitling to Normal or for Hearing Impaired or None. National settings enables language and regional settings depending of the region the MyM-3 S is installed in, or which parameters you want to use for the output.

Language

Select subtitling language. Depends of received languages in the satellite signal.

Priority

Set DVB or Teletext subtitling as default selection.

MyM Web Control Interface



Overview Input Output Service Management CI System Options

Modulation National Advanced

Modulation

Band

Select Band: VHF-7 [Set]
VHF-8
UHF

Channel 1	Channel 2	Channel 3
Channel name: S11	Channel name: S13	Channel name: S15
Frequency (MHz): 231.25	Frequency (MHz): 245.25	Frequency (MHz): 259.25

Channel Indicator Name

Channel 1 [MYM-1] [Set] Channel 2 [MYM-2] [Set] Channel 3 [MYM-3] [Set]

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MyM Web Control Interface



Overview Input Output Service Management CI System Options

Modulation National Advanced

National

Subtitle

Type: None
Language: Swedish
Priority: Teletext
Auto conversion: Off
Teletext charset: 0

Audio

Audio language: English

Audio level

Channel 1	Channel 2	Channel 3
Audio Level (dB): -3	Audio Level (dB): -3	Audio Level (dB): -3

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5 Menus and settings (continued)

5.3 Output settings continued

Auto conversion

Converts subtitling to fit actual picture aspect ratio.

Teletext Charset

Select appropriate characters for selected language.

Audio/ Audio language

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

Audio level

This setting allows to equalise the difference in sound level between different programs. Settings can be done between +6 and -6 dB.

Advanced/ Aspect ratio

Set correct picture format of the programs transmitted from the MyM-3S.

Video standard

Select your regional video standard.

Audio system

Set your regional audio standard.

Channel Indication

Select to transmit the Channel Indicator names as set up under [Output/Modulation]

MyM Web Control Interface



Overview Input Output Service Management CI System Options

Modulation National Advanced

National

Subtitle

Type: None
Language: Swedish
Priority: Teletext
Auto conversion: Off
Teletext charset: 0

Audio

Audio language: English

Audio level

Channel 1	Channel 2	Channel 3
Audio Level (dB): 3	Audio Level (dB): -3	Audio Level (dB): -3

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MyM Web Control Interface



Overview Input Output Service Management CI System Options

Modulation National Advanced

Advanced

Aspect ratio: 4:3
Video Standard: PAL 625
Audio System: Nicam B/G
Channel indicator: Off
Loophrough: On

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5 Menus and settings (continued)

5.4 Service Management

The MyM-3S contains 2 separate DVB-S/S2 tuners and totally 3 services can be selected for each of output channels, named **[CH-1]**, **[CH-2]** and **[CH-3]**.

The list of services presents all received services from both tuner inputs.

When one program (service) is selected, the box in front of the program name changes colour to green.

The service list gives following information:

Selected service Green colour indication

Service name Program name

Provider Name of satellite operator

Input Indicates from which antenna input the service is received

SID Service ID number (as received)

Hanglock Shows if a service is encrypted or not.

Type Show symbol for type of service

MyM Web Control Interface



Overview Input Output Service Management CI System Options

Services

Service Selection

Ch-1	Ch-2	Ch-3	Type	Name	Provider	Input	SID
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		TV4	Telenor	Ant 1	1602
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		TV11	Telenor	Ant 1	2107
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Sjuan	Telenor	Ant 1	2108
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		TV4 Film	Telenor	Ant 1	2704
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		TV4 Sport	Telenor	Ant 1	2707
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		TV4 Fakta	Telenor	Ant 1	2710
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		SVTB/SVT24	Telenor	Ant 1	2703
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Kunskapskanalen	Telenor	Ant 1	2706
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		2799	Telenor	Ant 1	2799
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		SVT24	Telenor	Ant 1	3012
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		TV3 (S)	Telenor	Ant 2	3407
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		TV3 (S) S1	Telenor	Ant 2	3414
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Kanal 5 Stockholm	Telenor	Ant 2	403
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		TNT7	Telenor	Ant 2	3402
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Kanal 9	Telenor	Ant 2	3403
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Kanal 5 Mitt/Norr	Telenor	Ant 2	3408
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Kanal 5 Väst	Telenor	Ant 2	3409
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Kanal 5 Syd	Telenor	Ant 2	3410

NOTE! To detect whether a Common Interface module and smart card actually decrypts the programs is only possible by watching the outgoing signal on a TV-set tuned to the correct frequency.

5 Menus and settings (continued)

5.5 CI menu

The MyM-3S contains 2 CI (Common Interface). CI 1 decrypt services for output Ch1 and Ch2. The CI 2 decrypt services for output Ch 3. 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 on. If changes are made and does not work, you can get the default settings again by a click on the "Reset" button and a click on the "Save" button.

MyM Web Control Interface



Overview Input Output Service Management CI System Options

CI-1 CI-2

CI-1 (Channel 1, 2)

Enter menu

[Advanced settings *](#)

Card insert poll interval (ms):	100
Module reply timeout (ms):	1000
Module poll interval (ms):	100
Min delay between PMT's (ms):	100
Min delay between sends (ms):	150

Use "update" command:

Decrypt video:

Decrypt audio:

Decrypt subtitle/teletext:

Decrypt other:

Save Reset

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5 Menus and settings (continued)

5.6 System options

Upload/Upgrade

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

The procedure of downloading a new software looks as described below:

- 1.Download the appropriate file from our web page to your PC.
- 2.Browse for the file in the MyM-3S User Interface.
- 3.Press **[Upload]** and when the message **[Upload completed]** are shown you make a power restart of the unit.

The Upload menu shows current files downloaded into the units and can be useful when contacting A2B support.

MyM Web Control Interface



File	Version	Build	Removal
UI for M2	M2RELEASE1	2.0-RC4	0.300 [delete]
Translations			1.020 [delete]
Audio DSP	M2RELEASE1		1.000 [delete]
Video DSP	M2RELEASE1		1.000 [delete]
FPGA	M2RELEASE1		1.000 [delete]
Firmware for M2	M2RELEASE1	2.0-RC4	0.550 [delete]

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Uptime

The Uptime menu gives statistics of uptime and possible re-starts. The log can be cleared in order to have a “clean sheet” after installation.

MyM Web Control Interface



Current uptime: 0d 0h 50m 4s
Restart note: Unknown
Number of restarts: 0

[Clear log](#)

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5 Menus and settings (continued)

5.6 System options (continue)

IP settings

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.

In case you have forgotten your IP-address please consult the A2B support web site and download free of charge our tool "IP-supporter". This tool finds all MyM-3S and their respective IP-addresses available in your network.

Also remember to press **[Apply settings]** when ready.

MyM Web Control Interface



Overview Input Output Service Management CI System Options

Upload Uptime IP Settings Reboot MyM

Network

IP address:	192	168	0	20
Netmask:	255	255	255	0
Gateway:	192	168	0	1

Apply settings

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Reboot MyM

Pressing **[Reboot unit]** re-starts the MyM-3S. All settings are preserved so no settings or programs will be lost.

MyM Web Control Interface



Overview Input Output Service Management CI System Options

Upload Uptime IP Settings Reboot MyM

Reboot MyM

Reboot unit

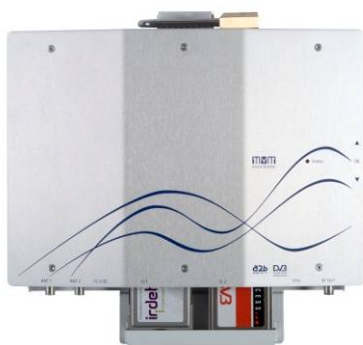
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6 Installation and configuration

The MyM-3S can be installed either as a stand alone unit directly on the wall or by the use of a dedicated MyM Security Wall Mount (part number 702800.10). The MyM Security Wall Mount secures both the MyM and CAM-modules with a locking function to avoid loss of CAM's and smart cards in public places.

Before connecting power to the MyM-3S, 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.

Connect the power supply and make all necessary settings as described in section 4 and 5.



Installation in MyM Security Wall Mount.

Accessories



MyM Security
Wall Mount kit
Art no:
702800.10

7 Technical specification MYM-3S

2 x DVB-S/S2 Satellite Receiver

Input frequency	950 - 2150 MHz
Symbol rate	1-45 Msymbols/s
Connectors	Type F female, 75 Ω
Input level	-65 to -25 dBm
LNB voltage	Auto, off or 13/18V
LNB current	200 mA per input
22kHz to LNB	Auto, on or off
FEC	Auto

3 x MPEG Decoder – Video - audio

Video standard	MPEG2 MP@ML, MPEG4 h.264 AVC MP@L3
Audio standard	AAC HE or MPEG 1 layer II
Picture aspect ratio	Letterbox, Anamorphic
Teletext	VBI
Subtitling	Teletext or DVB subtitling

3 x Modulator

Modulation standard	PAL B/G, I, D/K, SECAM (DSB)
Audio	FM-mono, NICAM stereo and A2/A2* stereo
Output channels	Double side band from 160 – 862 MHz.
Output level	Typ. 80 dBμV, fixed 5 dB
Built-in aerial amplifier	
RF output connector	Type F female, 75 Ω

Decryption

Decryption Interface	2 x Common Interface (PCMCIA 5VDC)
Decryption type	Single or Multidecryption CAM's supported
CI 1 slot	Decryption for output Ch1 and Ch2
CI 2 slot	Decryption for output Ch3

Miscellaneous

AC Power supply	230 VAC typ (94-264VAC)
AC power consumption	Typ. 18 W ex. LNB load
DC output power	12 VDC +/- 10%
DC power consumption	Typ. 15 W ex. LNB load
Ethernet port	Setup and update
Setup	Web based GUI
Dimension	301x215x53 mm (excl. connectors)
Weight	Approx. 900 g
Operating temperature	-20 to +45°C non condensing

MyM Web Control Interface



The screenshot displays the MyM Web Control Interface with the following sections:

- Current Settings** (Selected): Overview, System Options
- Module identification**:
 - Serial number: 0420011030700033
 - Hardware revision: 1211
 - Name: MyM ST buttons
 - Description: SVT1, SVT2, 24C000n
 - User interface mode: Buttons+Limited Web-UI
- Configuration**:
 - Firmware version: 2.1
 - Bootloader version: 0230
 - Tuner: DVB-T
- Status**:
 - Tuner1 locked: Yes
 - Tuner2 locked: Yes
 - Uptime: 42 11h 5m 34s
- Network**:
 - IP Address: 172.19.98.92
 - Netmask: 255.255.0.0
 - Gateway: 172.19.0.1

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Example of MyM Web GUI

8 Declaration of Conformity

The document for Declaration of Conformity is available for download from www.a2b.se.



Further information at www.a2b.se.

9 Abbreviations

DVB	Digital Video Broadcasting (Standardization body)
MPEG-2	Compression format for digital TV
MPEG-4	Compression format for digital TV (SD and HD)
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
DHCP	Dynamic Host Configuration Protocol is a protocol used by networked devices (<i>clients</i>) to obtain the parameters necessary for operation in an Internet Protocol network. This protocol reduces system administration workload, allowing devices to be added to the network with little or no manual configuration.
Common Interface	Connector for a PCMCIA module used for decrypting encrypted TV programs. 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)
8 PSK	Eight Phase Shift Keying (digital modulation method)
FEC	Forward Error corection (digital error correction method for digital transmissions)
C/N	Carrier to Noise ratio (defines the difference in dB between digital signal and noise level)
AAC-HE	Digital sound compression standard
VBI	Vertical Blanking Interval. Part in video signal non-visible
CAM	Conditional Access Module (see above Common Interface)



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