

# Rubidium Series TCC70XS Series Standalone Systems



## Read and Insert MTD Timer

Rubidium AT/AV/XT/XV and TCC70XS Application Note  
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The following description walks you through the installation and the basic set-up process for your special application of an **AT/AV** or **XT/XV** Rubidium module.

Select the module:

- According to the video standard you are using:

AT/AV: Analogue video (CVBS).

XT/XV: 3G or HD or SD digital video.

- According to the time code format you are using:

AT/XT: LTC time code involved.

AV/XV: No LTC time code involved, only video time codes.

## Generating MTD Timer Data

RUB GT or RUB GL Time Code Generators insert MTD timer information in the binary groups (user bits) of the time code if the “User Mode” has been set to “MTD Data”:

Connection	Functions	Profile	System	Keys	Generate	Reference	Time Zone
Frame Rate	25						
Sync	Video						
Video System	PAL / SECAM 625i / 25						
Sec-Pulse	Rising Edge						
User Mode	MTD Data						

Other Plura units are able to decode these data either reading **LTC** time code or reading a **Telegram** of the Rubidium internal interface “TC\_link”.

The **Telegram** can be used from units located in the same housing as GT/GL or connected via RLC to it. GT/GL must be configured to send this telegram:

Connection	Functions	Profile	System	Keys	Reference	Time Zone	Link
Send Data							
Telegram 1	Gen						
Telegram 2	Off						
Telegram 3	Off						

It is not important which “Telegram” is selected. One “Telegram” is sufficient, it makes no sense to choose more than one “Telegram” to send the same data.



## AV/XV Modules: Reading MTD Timer Data

These modules have no LTC input, so they have to read the “Telegram”.

1. Enable the **Link** function, but “Send Data” has to be switched off for that channel which is used from GT/GL to send the data.

The screenshot shows the 'Link' tab of a software interface. Under the 'Send Data' section, there are three rows for Telegram 1, Telegram 2, and Telegram 3. Each row has a dropdown menu currently set to 'Off'.

2. Enable the **Read** function and select a “High” priority for that “Telegram” which transmits the data. Select “Off” for the other reader inputs.

Select “MTD Source = READ”.

Select “User Mode = MTD Data”.

The screenshot shows the 'Read' tab of a software interface. At the top, 'Frame Rate' is set to 'Auto'. Below is a 'Priority' section with a table of radio buttons. The 'MTD Source' is set to 'Read' and the 'User Mode' is set to 'MTD Data'.

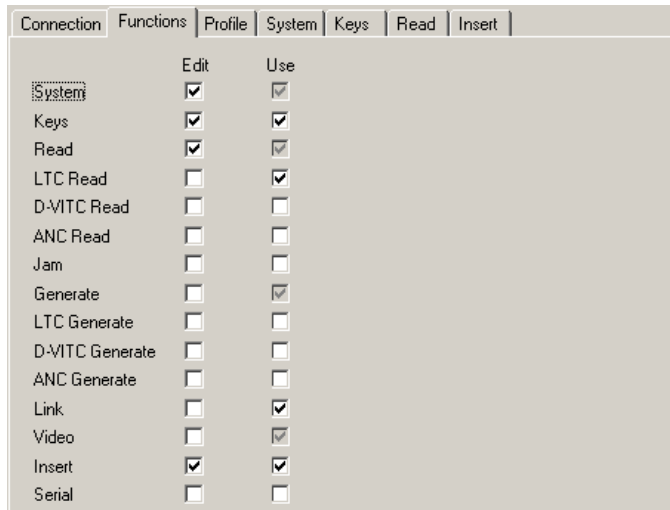
	Off	Low	...	High	
ATC VITC Read	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	High
ATC LTC Read	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
D-VITC Read	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
LTC Read	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	...
Telegram 3	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Telegram 2	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Telegram 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	Low



## AT/XT Modules: Reading MTD Timer Data

These modules can either use the “Telegram” reader or the LTC input. Please refer to the preceding chapter if you want to use the “Telegram” reader. Using the LTC input please follow these steps:

1. Enable the LTC reader: Check the “Use” checkbox at “LTC Read” and the “Edit” checkbox at “Read”:



2. Open the “Read” tab and select a “High” priority of “LTC Read”, select “Off” for the other reader inputs.

Select “MTD Source = READ”.

Select “User Mode = MTD Data”.



Connection | Functions | Profile | System | Keys | **Read** | Insert

Frame Rate

Priority

	Off	Low	...	High	
ATC VITC Read	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	High
ATC LTC Read	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
D-VITC Read	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
LTC Read	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	...
Telegram 3	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Telegram 2	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Telegram 1	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Low

MTD

Source

User

Mode



## AT/AV or XT/XV Modules: Inserting MTD Timer

MTD timer can visibly be inserted onto a video monitor.

Open the "Insert" tab of your configuration tool.

Select "Source = Read".

Select "Format = MTD Time A" or any other MTD timer.

You are free to set any of the other parameters as you like.

The screenshot shows the 'Insert' configuration window of a software tool. The window has several tabs: Connection, Functions, Profile, System, Keys, Read, and Insert. The 'Insert' tab is active. The window is divided into several sections:

- Window:** A dropdown menu set to '1'. A checkbox labeled 'Visible' is checked.
- Values:** A section containing several dropdown menus and text boxes:
  - Pre Text: (empty text box)
  - Source: 'Read'
  - Format: 'MTD Time A'
  - Delimiter: ': (Colon)'
  - Identifier: 'Off'
  - Post Text: (empty text box)
- Position:** A section containing two spinners and a set of navigation buttons:
  - Horizontal: '213'
  - Vertical: '50'
  - Navigation buttons: Up, Down, Left, Right, and a central double-headed arrow button.
- Character:** A section containing a font size dropdown and a color selection:
  - Font: '24'
  - Color: A yellow color swatch with a 'Change...' button.
- Mask:** A section containing a mode dropdown, a border checkbox, and a color selection:
  - Mode: 'Solid'
  - Border: An unchecked checkbox.
  - Color: A blue color swatch with a 'Change...' button.



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