

# Rubidium Series TCC70XS Series Standalone Systems

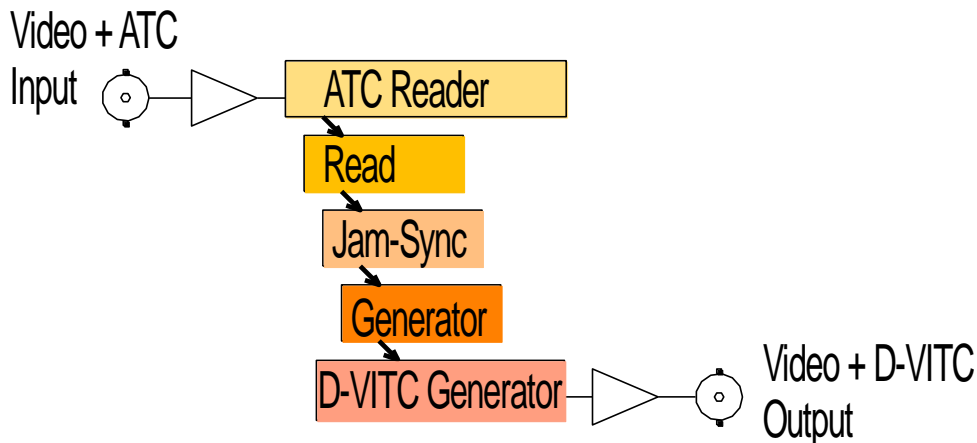


## ATC to D-VITC Converter

Rubidium 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 **XT/XV** Rubidium module.



Select the module according to the video standard you are using:

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

*Please remember that D-VITC is specified for SD digital video only!*

### Step 1:

## Load Factory Settings: Preset a Basic Configuration

Activate the **Profile** page and select: Profile: **Factory Settings**

Click on the **OK** button.



### Step 2:

## Activate/Deactivate Functions

Activate the **Functions** page and activate/deactivate as shown:



Jam	Generate	D-VITC Generate	ANC Generate	Video
Connection	Functions	Profile	System	Keys
			Read	ANC Read
	Edit	Use		
System	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Keys	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Read	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
LTC Read	<input type="checkbox"/>	<input type="checkbox"/>		
D-VITC Read	<input type="checkbox"/>	<input type="checkbox"/>		
ANC Read	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Jam	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Generate	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
LTC Generate	<input type="checkbox"/>	<input type="checkbox"/>		
D-VITC Generate	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
ANC Generate	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Link	<input type="checkbox"/>	<input type="checkbox"/>		
Video	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Insert	<input type="checkbox"/>	<input type="checkbox"/>		
Serial	<input type="checkbox"/>	<input type="checkbox"/>		

- We suggest that you deactivate the **Use** check-boxes of all functions you are presently not using.
- We suggest that you deactivate the **Edit** check-boxes of all functions after the installation process. That avoids unintentional operating and malfunctions.

**Step 3:**

## ATC Time Code Reader Configuration

Activate the **ANC Read** page and select:

### ATC

**Frame Rate:** If you have always the same frame rate at the input, please fix it accordingly. Frame rate of time code input should be equal to the frame rate of time code output and equal to the picture rate of the video signal. If you are working with different video formats (NTSC, PAL), select "Auto", in this case the frame rate of the incoming ATC will be detected automatically.

**LTC:** "Enable", if ATC\_LTC should be converted to D-VITC; else "disable".

**VITC:** "Enable", if ATC\_VITC should be converted to D-VITC; else "disable".

Connection	Functions	Profile	System	Keys	Read
ANC Read	Jam	Generate	D-VITC Generate	Video	

ATC

Frame Rate

LTC

VITC



Step 4:

# Time Code Reader Configuration

Activate the **Read** page and select:

**Frame Rate:** If you have always the same frame rate at the input (24/25/30/30 drop), please fix it accordingly. Frame rate of time code input should be equal to the frame rate of time code output and equal to the picture rate of the video signal. If you are working with different video formats (NTSC, PAL), select "Auto", in this case the frame rate of the incoming time code will be detected automatically.

**Priority:** All "Off" except **ATC VITC Read** or **ATC LTC Read** with highest priority. If both time code will be selected the priority may be different.

**MTD:** "Source = Off".

**User:** "Mode = Off".

ANC Read	Jam	Generate	D-VITC Generate		Video
Connection	Functions	Profile	System	Keys	Read

Frame Rate

Priority	Off	Low	...	High	
ATC VITC Read	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	High
ATC LTC Read	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	
D-VITC Read	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" 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



**Step 5:**

## Set Sync Mode and Frame Rate of the Time Code Generator

Activate the **Generate** page and select:

**Frame Rate:** If you are working with one frame rate only, please fix it accordingly. Frame rate of time code output should be equal to the picture rate of the video signal.

If you are working with different video formats, select "Follow Video"; in this case the frame rate of the time code output will follow the picture rate of the video.

**Sync:** "Video".

The screenshot shows the 'D-VITC Generate' configuration window. The 'Generate' tab is selected. The 'Frame Rate' is set to 25, and the 'Automatic' dropdown menu is set to 'Follow Video'. The 'Sync' dropdown menu is set to 'Video', and the 'PPS' dropdown menu is set to 'Rising Edge'. The 'Generator' section shows 'Time' as 10:00:00 and 'User' as 00000000.

**Step 6:**

## Activate the Jam-Sync Mode

Activate the **Jam** page and select:

**Mode:** "Continuous" - if the time addresses of the D-VITC output should continuously be generated in an up-counting manner.

"Cont. 1 Frame" or "Cont. Wheel" - if the D-VITC time should stop in case of an ATC failure or in case of a "still" time code input.

**Values:** "Time, User".

**Use Offset:** Not activated – unless you explicitly have to do an offset correction.

The screenshot shows the 'D-VITC Jam' configuration window. The 'Jam' tab is selected. The 'Mode' dropdown menu is set to 'Continuous', and the 'Values' dropdown menu is set to 'Time, User'. The 'Wheel' is set to 8. The 'Use Offset' checkbox is unchecked. The 'Offset' is set to 0:00:00. A 'Single Jam' button is visible at the bottom.



**Step 7:**

## D-VITC Generator Configuration

Activate the **D-VITC Generate** page and select:

### Line Select

**Mode:** Select the lines in which D-VITC should be generated.

### Blanking

Selected lines can be blanked, this removes a D-VITC from the video signal. Lines which are selected for blanking and for D-VITC (see "Line Select" above) will be blanked before the D-VITC will be generated.

Connection	Functions	Profile	System	Keys	Read	ANC Read
Jam	Generate	D-VITC Generate		ANC Generate	Video	

Line Select	
Mode	Lines
1st Line	14
2nd Line	14

Blanking	
Mode	Lines
1st Line	14
2nd Line	14

TC Bypass

### TC Bypass

Enable the following automatic mode: Only in case that there is no D-VITC present in the incoming video, the D-VITC generator will be enabled. If there is already a D-VITC, then no new D-VITC will be inserted. For this feature, the D-VITC reader has to be enabled.



**Step 8:**

## Optionally: Remove D-VITC out of the Video Channel

Activate the **ANC Generate** page and select:

Connection	Functions	Profile	System	Keys	Read	ANC Read
Jam	Generate	D-VITC Generate	ANC Generate	Video		

ATC		Line	TC Bypass	All Fields
LTC	Off	10	<input type="checkbox"/>	<input type="checkbox"/>
VITC	Off	9	<input type="checkbox"/>	<input checked="" type="checkbox"/>
All ATC	Mark for Deletion		<input checked="" type="checkbox"/>	

**Mark for Deletion:**

Checking this box will mark all ATC data packets for deletion. The data packets are still present and at the same location, but the data content will not be evaluated anymore.

**Step 9:**

## Configuration of the Video Channel

Activate the **Video** page and select:

**System:** Fix it according to your application.

If you are working with different video formats, select "Auto".

**Insert Enable:** Check this box only in case you want to have a visible window inserted onto the video screen.

Connection	Functions	Profile	System	Keys	Read
D-VITC Read	Jam	Generate	D-VITC Generate	ANC Generate	Video

System	SD 625 / 50
Channel	On
Width	10 Bit
Insert Enable	<input type="checkbox"/>



**Step 10:**

## Optionally: Select LED Functions to Watch Status Information

Activate the **Keys** page and select:

LED SIGNAL: "Gen Sync Status" indicates the status of the video synchronization:

LED lights up during video lock.

LED flashes slowly during the fine trim procedure.

LED flashes fast if video synchronization is lost.

LED SET: "Jam" indicates the status of the Jam-Sync mode:

LED lights up = Generator accepts reader input time code.

LED flashes = Generator does not accept or receive the reader time code.

The screenshot shows the 'Keys' configuration page with the following settings:

Section	Item	Value
Function Keys	F1	No Operation
	F2	No Operation
	F3	No Operation
	F4	No Operation
LED	OPER	OPER
	SIGNAL	Gen Sync Status
	SET	Jam
	ERROR	ERROR
GPI	GPI 1	No Operation
	GPI 2	No Operation
	GPI 3	No Operation
	GPI 4	No Operation
	GPI 5	No Operation
	Pulse Duration	500ms





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