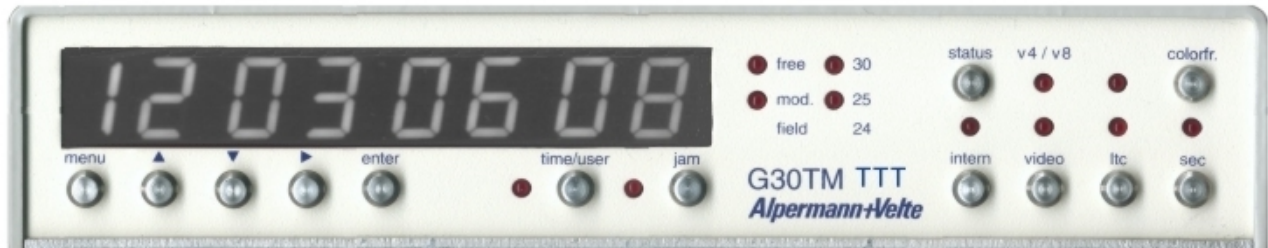


# AV - G 30 TM

## Option „MTD“ of the Master Timecode Generator

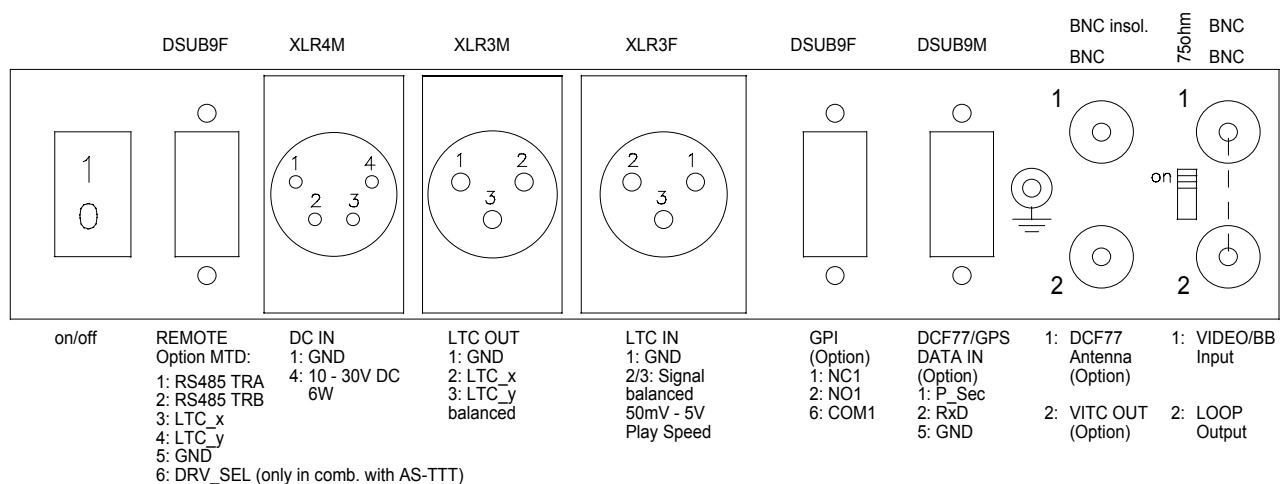


### 1. Description

With this option, G 30 TM simultaneously serves as master timecode generator and central unit of the MTD clock system (Time Timer Timecode System).

The RS485 serial interface is part of the unit, a LTC reader is optional.

The connectings at the rear will be add by a 9-pins female DSUB, from this the MTD system gets the LTC and the RS485 communication. The signal DRV\_SEL will only be used in a redundant system consisting of two G30TM-TTT and one TC30AS-TTT, this signal selects one active RS485 driver.



To operate as the central unit of the MTD Time Timer Timecode System, adjust user mode **1 TTT**. The user bits of the generated LTC then are composed of real time and date, five independent times A..E (e.g. stop timers), and the time of the read LTC. In the MTD clock system all times may be displayed and operated. The operational units (MTD-BE or MTD-BTK) communicate with G 30 TM via RS485 serial interface.

All settings of G 30 TM as well as those of the MTD clock system - i.e. settings made via the operational units MTD-BE or MTD-BTK -, are permanently stored even with G 30 TM switched off.

## 2. Stored Data and Factory Settings

All settings made at G 30 TM or via the operational units MTD-BE or MTD-BTK will be saved. The data relevant for the MTD clock system are as follows:

Settings via MTD-BE or MTD-BTK	Factory settings for times								
	A	B	C	D	E	F	H	I	LTC
• Display format (1-8)	1	1	1	1	1	1	7	1	1
• Hyphens (DP, DZ, off)	:	:	:	:	:		.	.	
• Leading zeros on (1)/off (0)	0	0	0	0	0	1	0	0	1
• Leading zeros with zero on (1)/off (0)	0	0	0	0	0	-	-	-	-
• Flashing with negat. values on (1)/off (0)	0	0	0	0	0	-	-	-	-
• Functions selection (UP/DOWN/DIFF...)	UP	UP	UP	UP	UP	-	-	-	-
• Offset	0	0	0	0	0	-	-	-	-
• Down stop (0) or down overflow (1)	1	1	1	1	1	-	-	-	-

For details please refer to the operating instructions MTD-BE or MTD-BTK.

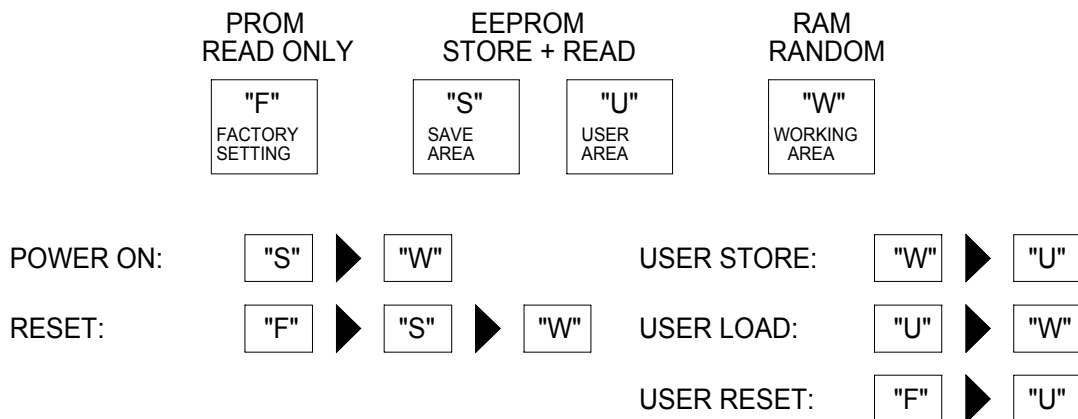
These data may be altogether written into different storage areas. These storage areas are organised as follows:

Area „**F**“: factory settings of G 30 TM; these data are non-erasable stored in the ROM.

Area „**S**“: backup memory, which stores all changes made during current operation. These data are stored in an EEPROM and hence available after power-on.

Area „**U**“: user area, which permits to store a complete system setting separately. These data are stored in an EEPROM as well.

Area „**W**“: actual working store for current operation. RAM area which changes with new settings.



The above diagram shows the storage areas and processes of storage:

1. After power-on „S“ is transferred to „W“ if all data in „S“ are plausible.
2. In case of a storage error, „S“ is overwritten with „F“, then same proceeding as with 1. Functions 2. and 1. will also be executed with the menu function **SET → FACTORY - reset**.
3. In the menu function **SET → U STORE** the actual data may be stored separately.
4. In the menu function **SET → U LOAD** the actual settings may be overwritten with the stored settings.
5. In the menu function **SET → U RESET** the user area is overwritten with the factory values.

### 3. Operation

#### 3.1 Operating as the Central Unit of the MTD Time Timer Timecode System

In menu **SET** select line **USER Mod** and press **enter** key. Now select user mode = **1 TTT**, then press **enter** key again to store this selection. Now G 30 TM operates as the central unit of the MTD Time Timer Timecode System. There is basically no further operation needed, since the clock system is operated with the units MTD-BE or MTD-BTK.

#### 3.2 User Data Area: Storing, Loading, Resetting

The clock system is configured via the operational units MTD-BE or MTD-BTK. These data are sent via serial communication to G 30 TM and are stored there. The user data area permits to store the current configuration and to set up a second one. Operation is made in the **SET** menu:

- **U Store** Use **enter** key to now store all current settings (made at G 30 TM or via external MTD operational units) in a „user“ storage area. During the backup *Store* is displayed, then *U Store* will be displayed again. This operation will cause no disturbance with regard to the current operation.
  
- **U LOAD** Use **enter** key to call all settings of the „user“ storage area. Please note: This will re-start G 30 TM just like power-on!
  
- **U RESET** Use **enter** key to reset the „user“ memory area to the basic settings (factory values). During the backup *Store* is displayed, then *U RESET* will be displayed again. This operation will cause no disturbance with regard to the current operation.

#### 3.3 GPI

When operating as the central unit of the MTD Time Timer Timecode System, the relay function may also be set to the times A or B (please refer to the operating instructions of G 30 TM).

### 4. Function of the LTC Reader (optional)

If the G 30 TM is not operating as the central unit of the MTD Time Timer Timecode System, the LTC reader may serve as a synchronisation source or as a source for the jam-sync function.

If the G 30 TM is operating as the central unit of the MTD Time Timer Timecode System, the read LTC is transferred as the „time F“ into the data of the user bits to enable the MTD displays to display the read LTD. The input LTC at G 30 TM will in this function be accepted as „forward“ or „backward“, within the frequency range (speed range) according to the technical data. It will not be accepted as the synchronisation source or as a source for the jam-sync function, i.e. the **ltc** and **jam** keys are without function if the G 30 TM operates as the central unit of the MTD clock system.