



RUB GB Master black burst and tri-level Generator

Features

- Highly accurate analog black burst and tri-level generation (PAL/NTSC/HDTV)
- Two video outputs Internal reference oscillator
- Synchronizes to 10 MHz
- Synchronizes to PPS
- SNMP functionalities
- Optional features:
VITC generator High quality oscillator

The GB module of the RUBIDIUM Series serves as a versatile master black burst and tri-level generator.

Das GB-Modul aus der RUBIDIUM-Serie dient als vielseitiger Master- black burst und tri-level Generator.

Gen-locked to a system reference, the GB module delivers video signals in a highly accurate manner. With the included input and output connections the unit was intended for a standalone functionality, or as a component of a comprehensive generator system.

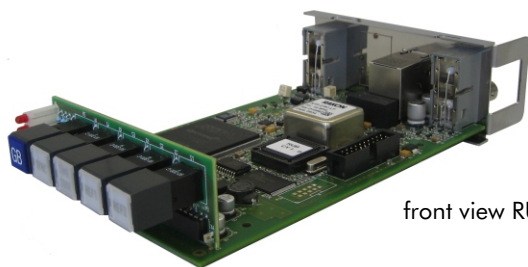
Verkoppelt mit einer Systemreferenz liefert das GB Modul hochgenaue, analoge Videosignale. Mit den gegebenen Anschlüssen ist sowohl ein eigenständiger Betrieb, als auch der Einsatz als Komponente eines umfassenden Generatorsystems vorgesehen.

The GB's main task is controlling external SPGs with the aid of GPS and 10 MHz signals.

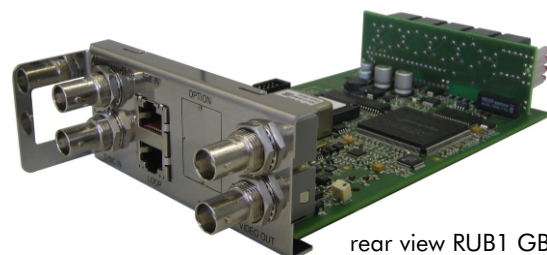
Hauptaufgabe ist die Kupplung externer SPG's gesteuert von GPS und 10 MHz.

That way, in addition to the Timecode, Wordclock, and NTP reference signals, the RUBIDIUM System can provide black burst and tri-level from a single source as well.

Das RUBIDIUM-System kann somit zusätzlich zu den Timecode-, Wordclock- und NTP-referenzsignalen auch black burst und tri-level aus einer Quelle zur

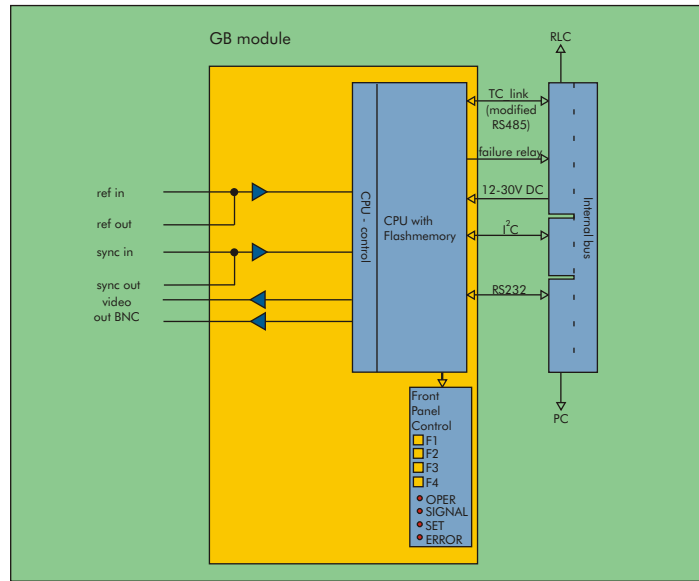


front view RUB1 GB



rear view RUB1 GB





Typical applications for the professional use are e.g.:

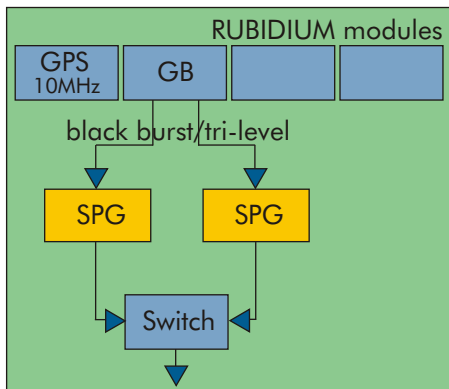
Typische Anwendungen im professionellen Bereich sind z.B.:

Synchronizing redundant studio SPGs with analog video

In case of a signal loss, redundant SPGs automatically changeover the video channel. While being synchronized to a 10MHz pulse, this can cause image interferences. Those interferences can be avoided by feeding the generator system with black burst or tri-level. That way the picture phase is synchronized as well.

Die Synchronisation redundanter Studio-SPGs mit analogem Video

Im Fall eines Signalausfalls wird bei redundanten SPGs der Videokanal automatisch umgeschaltet. Dies kann bei einer Synchronisation auf 10MHz zu Störungen im Bild führen. Werden die Generatoren nun mit Blackburst oder Tri-Level verkoppelt, wird auch die Bildphase synchronisiert, wodurch Störungen vermeidbar sind.



redundant SPGs controlled by the GB module bound to GPS and 10 MHz

Securing the video distribution in case of a signal loss

The GB module will still generate highly accurate video signals, even if a signal loss occurs. The reference can be a 10MHz, or a PPS pulse.

Die Sicherung des Studiotaktes auch bei Signalausfall

Wird das GB-Modul durch einen 10 Mhz oder PPS-Puls gesteuert, um einen Master-Blackburst zu verteilen, so kann das Modul auch bei einem Referenzausfall weiterhin hochgenaue, analoge Videosignale generieren.

Generating black burst and tri-level with a compact system

As a self-contained, compact generator system, one or several GB modules can be used in a mobile way during your production.

Die Verteilung von Blackburst und Tri-Level als kompaktes System

Als eigenständiges, kompaktes Generatorsystem können ein, oder mehrere GB-Module auch mobil für die Produktion verwendet werden.



RUBIDIUM GB module in H1 housing



Configuration and software updates are done using the USB port at the back of the housing by default.

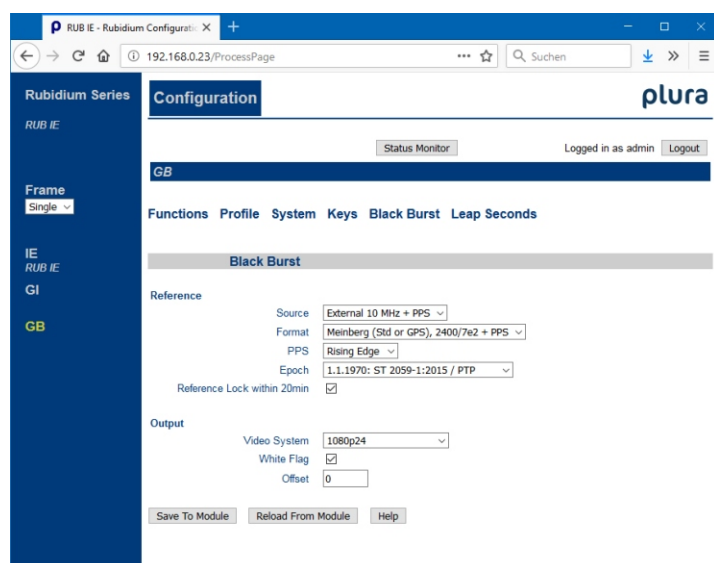
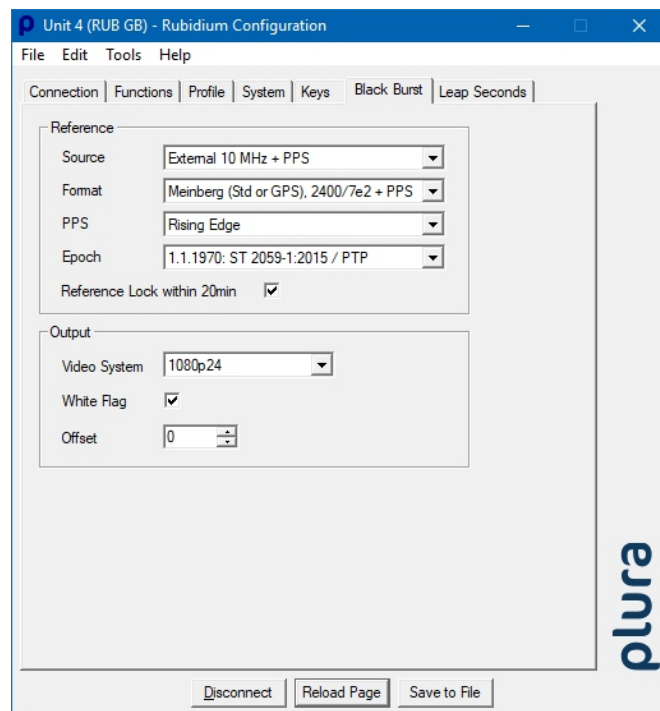
Die Konfiguration und Software-Updates geschehen standardmäßig über den USB-Port am Gehäuse.

In conjunction with an IE module, all adjustments can be dealt with via a standard web browser. That way SNMP functionalities and status monitoring are activated as well.

In Verbindung mit einem IE-Modul können alle Einstellungen auch über einen Web-Browser vorgenommen werden. Funktionen wie SNMP-Überwachung und Status-monitoring werden somit ebenfalls verfügbar.

The four front buttons of the module are freely programmable. Different profiles, e.g., can comfortably be selected by the push of a button.

Die Funktionen der vier Fronttasten können frei zugeordnet werden. Verschiedene Profile können z.B. komfortabel per Tastendruck abgerufen werden.



GB specifications

Sync

Connector

BNC (IEC169-8), 75 Ω

Sync: Signal Input = 10 MHz

Format

10 MHz, sinusoidal

Signal level

0,8-5 Vpp

Video output 1+2

Connector

BNC (IEC169-8), 75 Ω

Output impedance

75 Ω

Format

PAL 625/50,8 Field Ident Pulse at line 7 selectable-see below
 NTSC 525/60, 4 Field Ident Pulse at line 10 selectable- see below
 HDTV 720p23.98, HDTV 720p24, HDTV 720p25,
 HDTV 720p29.97, HDTV 720p30, HDTV 720p50,
 HDTV 720p59.94, HDTV 720p60, HDTV 1035i29.97 or psf,
 HDTV 1035i30 or psf, HDTV 1080i23.98 or psf, HDTV 1080i24 or
 psf, HDTV 1080i25 or psf, HDTV 1080i29.97 or psf, HDTV 1080i30
 or psf, HDTV 1080p23.98, HDTV 1080p24, HDTV 1080p25,
 HDTV1080p29.97, HDTV 1080p30

Signal level

1V ± 2%

8 Field Ident Pulse

This white pulse is aligned to colour field 1. It occurs at line 7 every 8 fields and identifies the 8 field sequence in the video system PAL. It can be switched off.

Level: 100% white (+700 mV)

Width: 20 μs

Start: 12 μs after horizontal reference

4 Field ident pulse

This white pulse is aligned to colour field 1. It occurs at line 10 every 4 fields and identifies the 4 field sequence in the video system NTSC. It can be switched off.

Level: 96 IRE (+685 mV)

Width: 20 μs

Start: 12 μs after horizontal reference

VITC input/output

According to SMPTE 266M-2002

PPS IN

Connector

Pin RJ45 REF and LOOP

Characteristic

Typical input signal: 5V impulse

Input impedance: ≈100 kΩ

Input "Low": -2,0 to 1,7V

Input "High": +2,8 to +12,0V

RXD IN

Connector

Pin 2 RJ45 REF and LOOP

Characteristic

Typical input signal: RS232

Input impedance: ≥ 30 kΩ

Input "Low": -15,0 to 1,0V

Input "High": +2,8 to +15,0V

Frequency: 0 to 1 MHz

Others

Operating voltage

12 - 30 VDC

Power Consumption

Max. 4 W

Weight

0.28 kg approx.

Dimensions

2 circuit boards (WxD) 100 x 160 mm/3.94 x 6.30 inch

Rear panel RUB1: 103 x 44 mm/4.06 x 1.73 inch

Rear Panel RUB 3: 8HP, 3RU

Environmental characteristics, operating

Temp.: 5°C-40°C, relative humidity: 30%-85% non condensing

Environmental characteristics, non operating

Temp.: -10°C-+60°C, relative humidity: 5%-95% non condensing

Product ordering ID GB modules

RUB1 GB

Blackburst module for RUBIDIUM Series 1 (1 RU)

RUB3 GB

Blackburst module for RUBIDIUM Series 3 (3 RU)

Option GB-V

VITC generator

Option GB-HQ

High quality oscillator

Accuracy of oscillator versions

(only applicable in free-running mode)

Stability standard

+/- 1.2 ppm

Stability high quality

+/- 0.3 ppm

Ageing standard

+/- 1.0 ppm, 1st year

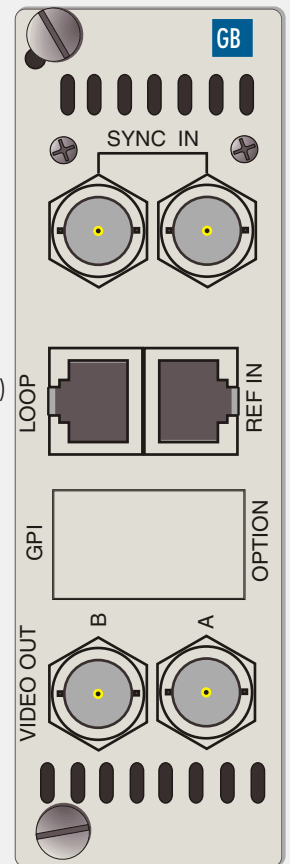
Ageing high quality

+/- 0.7 ppm, 1st year

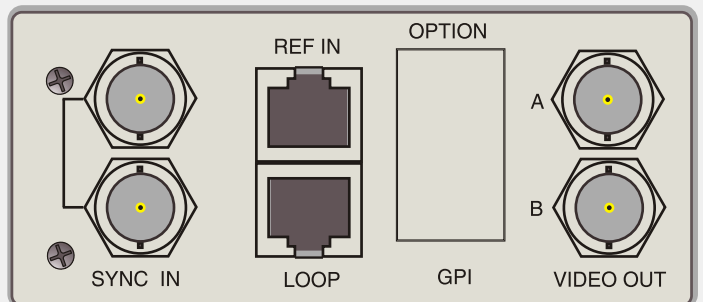
+/- 4.0 ppm, 10 years

The RUBIDIUM modules must be used in conjunction with a RUBIDIUM housing and a RUBIDIUM power supply, please see our overview leaflet for more information.

We reserve the right to modify specifications without notice.



RUBIDIUM GB H3 rear panel



RUBIDIUM GB H1 rear panel

