

# Video-Digitalisierer Grabstar PRO

Artikelnummer: DNT000001

Bedienungsanleitung



Bitte lesen Sie diese Bedienungsanleitung vor der Installation und Inbetriebnahme komplett durch und bewahren Sie die Bedienungsanleitung für späteres Nachlesen auf. Wenn Sie das Gerät anderen Personen zur Nutzung überlassen, übergeben Sie auch diese Bedienungsanleitung.

- USB-Kabel für Netzteilanschluss
- AV-Kabel (3,5-mm-Klinkestecker-auf-3x-Cinch/RCA-Stecker)
- HDMI-Kabel
- Bedienungsanleitung

## 1. Funktion

Der Video-Digitalisierer ermöglicht das einfache Aufnehmen und Abspielen von analogen und digitalen Videoquellen auf ein USB-Speichermedium oder eine SD-Speicherkarte sowie den Anschluss eines PCs, eines TV-Gerätes/Monitors oder einer Spielekonsole. Somit kann man mit dem Video-Digitalisierer Inhalte von analogen Medien, z. B. von einem Videorecorder, digitalisieren sowie digitale Medien, wie z. B. Videospielverläufe von Spielekonsolen aufzeichnen und abspielen. Über einen Mikrofon-/Headset-Anschluss können Videoaufzeichnungen auch in Echtzeit kommentiert werden. So kann man z. B. Videoaufnahmen ohne Ton nachträglich mit Erläuterungen versehen.

- Speichert Aufnahmen direkt auf SD/SDHC-Speicherkarte\* (bis 128 GB), USB-Stick (bis 128 GB) oder externe USB-Festplatte (bis 4 TB) – unterstützt FAT32, NTFS\*\*, exFAT\*\*
- Verarbeitet PAL- und NTSC-Formate
- Aufnahmeauflösungen @ 60 fps: HDMI: 480p, 720p, 1080p, Analog (AV): 720x576p, 720x480p, 640x480p
- Video-Ausgabeformat: MP4
- Großes 8,9-cm-Farbdisplay (3,5") für Kontrolle/Wiedergabe der Aufnahmen
- Integrierter Videoplayer kann digitalisierte Aufnahmen direkt am TV (via HDMI) wiedergeben (HDMI-Passthrough)
- Integrierter Geräterautsprecher für Tonwiedergabe
- Zeichnet auch von Spielekonsolen (z. B. Playstation 4, Xbox One) und TV-Receivern auf (ohne HDCP-Kopierschutz)\*\*\*
- Überträgt auf Wunsch Aufnahmen auch via USB-Verbindung an den PC
- Live-Streaming-Funktion: streamt Aufnahmen (z. B. Gameplay) auch direkt auf Videoportale, z. B. Youtube (mit z. B. OBS oder XSplit)
- Mikrofonanschluss – fügen Sie den Quellen Live-Kommentare hinzu
- Betrieb via Netzteil (5 VDC, 2A) oder Akku möglich (3000-mAh-LiPo-Akku)

\* Bei Speichermedien in SD-Kartenform beachten Sie bitte, dass ab 64 GB und aufwärts, nur exFAT und NTFS verwendet werden kann.

\*\* MAC-Nutzer sollten hierzu beachten, dass NTFS und exFAT kein von MacOS unterstütztes Dateiformat ist und das Speichermedium keine Inhalte aufzeigen wird, wenn NTFS oder exFAT als Dateiformat gewählt wurde. Linux-Nutzer müssen selbiges beachten. Wählen Sie bitte als Dateiformat bei der Formatierung des Speichermediums FAT32.

\*\*\* Wir weisen darauf hin, dass eine Umgehung des HDCP-Kopierschutzes nach § 95a UrhG unzulässig ist. Wenn ein HDMI-Splitter bis Version 1.3b dem HDMI-Digitalisierer vorgeschaltet wird, kann der HDCP-Kopierschutz evtl. wirkungslos werden. Daher darf das Gerät grundsätzlich nicht in einer solchen Kombination betrieben werden.

## 2. Bestimmungsgemäßer Einsatz, Lieferumfang

Der Video-Digitalisierer Grabstar PRO ist für die Stand-alone-Digitalisierung von analogen und digitalen A/V-Daten, PC-Streaming und Speicherung auf bzw. Abspielen von SD-Karte sowie USB-Speichermedien vorgesehen. Jeder andere Einsatz ist nicht bestimmungsgemäß und führt zu Gewährleistungs- und Haftungsausschluss. Dies gilt auch für Umbauten und Veränderungen.

### Lieferumfang:

- Video-Digitalisierer Grabstar PRO
- IR-Fernbedienung
- 5-V-Netzteil

## 3. Betriebs-, Wartungs- und Sicherheitshinweise



**Warnung:** Wird verwendet, um Sicherheitshinweise zu kennzeichnen oder um Aufmerksamkeit auf besondere Gefahren und Risiken zu lenken.



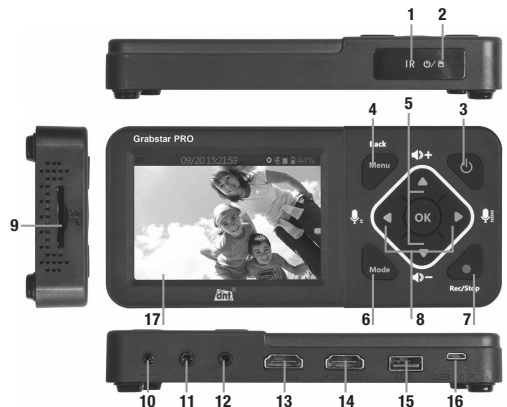
**Hinweis:** Wird verwendet, um zusätzliche Informationen oder wichtige Hinweise zu kennzeichnen.

- Verpackungsmaterial nicht achtlos liegen lassen! Plastikfolien/-tüten, Styropor-teile etc. könnten für Kinder zu einem gefährlichen Spielzeug werden.
- Die Geräte sind kein Spielzeug. Sie dürfen nicht im Zugriffsbereich von Kindern aufbewahrt oder betrieben werden.
- Starke mechanische Beanspruchungen wie Druck oder Vibration sind zu vermeiden.
- Das Gerät nur mit einem trockenen Leintuch reinigen, das bei starken Verschmutzungen leicht angefeuchtet sein darf. Zur Reinigung keine löse-mittelhaltigen Reinigungsmittel verwenden. Darauf achten, dass keine Feuchtigkeit in das Geräteinnere gelangt.
- Das Gerät darf nur in trockenen Innenräumen und nur mit der in den technischen Daten aufgeführten Stromversorgung betrieben werden.

**Bei Sach- oder Personenschäden, die durch unsachgemäße Handhabung oder Nichtbeachten der Sicherheitshinweise und der Bedienungsanleitung verursacht werden, übernehmen wir keine Haftung. In solchen Fällen erlischt jeder Gewährleistungsanspruch! Für Folgeschäden übernehmen wir keine Haftung.**

**Öffnen Sie das Gerät nicht, unternehmen Sie keine Reparaturversuche, nehmen Sie keine Umbauten oder Veränderungen vor – dies führt zum Verlust des Gewährleistungsanspruchs. Für Folgeschäden übernehmen wir keine Haftung.**

## 4. Übersicht, Beschreibung



1 Fernbedienungsempfänger (Infrarot)

2 Betriebsanzeige:

*Blau:* Gerät eingeschaltet

*Blau blinkend:* Speicherplatz des Speichermediums bald erschöpft

*Rot blinkend:* Akku leer, baldmöglichst laden

*Rot:* Akku lädt (Gerät abgeschaltet)

## Bedientasten:

- 3 **Power:** >2 s drücken – Einschalten; bei eingeschaltetem Gerät: kurz (<2s) drücken – Bildschirm ein/aus; länger (2 bis <10 s) drücken – Ausschalt-/Stand-by-Dialog; länger als 10 s drücken – sofort ausschalten
- 4 **Menu/Back:** Anwählen/Verlassen von Menü
- 5 **Vol+/Mix+:** Pegeleinstellung Lautsprecher/Kopfhörer
- 6 **Mode:** Kurz drücken zum Umschalten zwischen Aufnahme-/Foto- und Wiedergabe-/Vorschaumodus; länger drücken zum Löschen einer aktuell im Wiedergabe-Vorschaumodus angewählten Datei
- 7 **Rec/Stop:** Kurz drücken zum manuellen Starten einer Aufnahme im Aufnahme-Vorschaumodus; Länger drücken zur Aufnahme eines Einzelbildes im Vorschaumodus
- 8 **Navigationstasten/Mikrofonpegel-Einstellung**
- 9 **SD-Kartenslot:** Slot für die Aufnahme einer SD-Karte
- 10 **DC Input 5V/2A:** Netzteilanschluss
- 11 **Kopfhörer-/Headset-/Mikrofonanschluss**
- 12 **AV IN:** Klinkenbuchse für AV-Eingang (Composite, L/R-Audio)
- 13 **HDMI IN:** HDMI-Eingang
- 14 **HDMI OUT:** HDMI-Ausgang
- 15 **USB:** USB-2.0-Buchse (Typ A) für USB-Speichermedium
- 16 **USB To PC:** Micro-USB-Anschluss/PC-Anschluss für USB-PC-Modi
- 17 **LC-Display:** Kontrolldisplay für Aufnahmevorschau und Wiedergabe



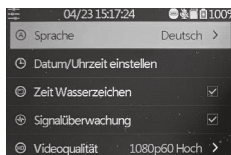
<b>Rec:</b>	An/Aus
<b>Stop:</b>	Aufnahme starten
<b>OK:</b>	Aufnahme/Wiedergabe stoppen
<b>Micro:</b>	Mikrofonpegel einstellen
<b>Volume:</b>	Lautsprecherlautstärke einstellen
<b>Cursor:</b>	Cursortasten für die Menüsteuerung
<b>OK:</b>	Auswahlbestätigung in einem Menü
<b>Menu:</b>	Hauptmenü anwählen/verlassen
<b>Back:</b>	Einen Menüpunkt verlassen
<b>Image:</b>	Einzelbild speichern im Aufnahme-Vorschaumodus
<b>Image:</b>	Lautsprecher stummschalten
<b>Image:</b>	Mikrofon stummschalten
<b>Image:</b>	Direktanwahl Wiedergabemenü
<b>Image:</b>	A/V-Quellenwahl (HDMI oder A/V)
<b>Image:</b>	Anwahl des Menüs zur zeitgesteuerten Aufnahme
<b>Image:</b>	Speichermedienauswahl
<b>Image:</b>	Umschalten Aufnahme/Fotomodus/Wiedergabe;
<b>Image:</b>	lange drücken: Löschen im Wiedergabemodus
<b>Image:</b>	Menüsprache auswählen
<b>Image:</b>	Aufnahmequalität auswählen

Das Gerät stoppt eine Aufnahme, sobald der gewählte Speicher voll ist. Der Recorder zeichnet im MP4-Format (H.264) auf und kann auch nur MP4-Dateien im Playback-Modus wiedergeben. Stellen Sie die richtige Aufzeichnungsaufösung entsprechend der jeweiligen Videoquelle ein.

## Anschluss und Inbetriebnahme

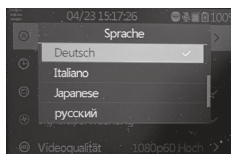
- Ziehen Sie die Displayschutzfolie vom Grabstar PRO ab.
- Schließen Sie das Netzteil an den DC-Anschluss (10) an.
- Schließen Sie die Videoquelle an den HDMI-Eingang (13) oder A/V-Eingang (12) an.
- Schließen Sie an den HDMI-Ausgang (14) einen HDMI-Monitor/TV-Gerät an.
- Schließen bzw. stecken Sie ein USB-Massenspeichermedium (Stick/Festplatte) an den USB-Anschluss (15) an bzw. legen Sie eine SD-Karte (9) bis zum Einrasten ein. Achten Sie dabei darauf, dass die Kontakte nach oben (Bedienfeld) zeigen. Nicht mit Gewalt einschieben!

## Geräteeinstellungen (Setup)

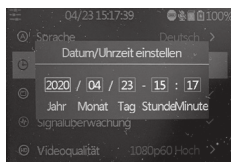


- Wählen Sie das Hauptmenü mit der Taste „MENU“ an. Mit den Pfeiltasten und der Menu-/Back-Taste bewegen Sie sich durch die Menüs, mit den Pfeiltasten **▼** und **▲** stellen Sie Werte ein und mit der OK-Taste bestätigen Sie Einstellungen:

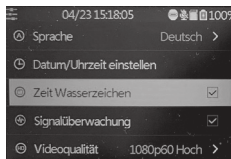
## Sprache: Menüsprache einstellen.



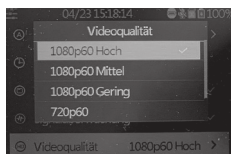
## Datum/Uhrzeit einstellen: Datum und Zeit für das System einstellen.



## Zeit/Wasserzeichen: Auswahl, ob der Zeitstempel in Aufnahmen integriert sein soll.



## Videoqualität HDMI: Auswahl der HDMI-Aufnahmeauflösung: 1080/60p (drei Qualitätsstufen) - 720/60p - 480/60p Die Bitraten betragen entsprechend 30/22/18/12/4 Mbps.



(die Aufnahme-Datei wird bei der Auswahl „1080p60 Hoch“ die höchste Aufnahmequalität aufweisen und die größte Datei erzeugen)



### Hinweis

Bei Anschluss einer Festplatte an den USB-Port muss diese mit einem eigenen Netzteil versorgt werden – das mit dem Grabstar PRO mitgelieferte Netzteil ist für die Versorgung einer externen Festplatte nicht ausgelegt.



### Hinweis

Bitte überprüfen Sie stets, ob Sie die aktuellste Firmware-Version verwenden. Im Gerätemenü des Grabstar PRO können Sie Ihre aktuelle Firmware-Version einsehen. Die aktuellste Geräte-Firmware finden Sie auf der Hersteller-Webseite [www.dnt.de](http://www.dnt.de)



### Hinweis

Sofern Sie den HDCP-Schutz bei der Quelle deaktiviert haben, (z.B. in den Menü-Einstellungen der Spielekonsolen) können Sie keine Video-Streamingportale nutzen. Hierfür muss die HDCP-Verschlüsselung wieder aktiviert werden!

## 5. Bedienung



### Bitte beachten:

Als Speicherkarte sollte eine SD-Speicherkarte oder microSD-Speicherkarte mit entsprechenden SD-Kartenadapter der Klasse 10 zum Einsatz kommen, um eine störungsfreie Aufzeichnung zu gewährleisten. Von HDCP-geschützten Videoquellen ist keine Aufnahme möglich. Bei Aufzeichnungen werden die Dateinamen automatisch generiert nach dem Muster: Datum+index.mp4. Der Grabstar PRO unterstützt die Dateisysteme FAT32, NTFS und exFAT. Ist ein Aufnahme-Datei länger als 4 GB, wird es automatisch in mehrere max. 4 GB lange Files unterteilt. Es darf immer nur ein Speichermedium (SD-Karte oder USB-Speicher) im Grabstar PRO eingesetzt sein. Bitte vermeiden Sie entsprechend das zeitgleiche einsetzen von SD-Karte und USB-Speicher!

## Videoqualität AV:



Auswahl der AV-Aufnahmeauflösung: 640x480, Im Modus „Auto-Erkennung“ wird die optimale Auflösung durch den Grabstar PRO automatisch gewählt und die Aufnahme in dem Format 720x576 oder 720x480 gespeichert. Eine Einflusnahme bezüglich des Formates bei der Auto-Erkennung ist nicht möglich.

## Videoquelle: Auswahl der Videoquelle, HDMI oder AV (Composite/Audio).



**Hinweis:** Beim AV-Input wird die Aufnahmeauflösung (576p oder 480p) gemäß originaler Quelldatei automatisch gewählt.

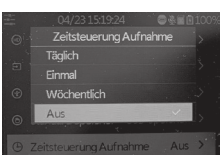
**USB Modus:** Auswahl, ob der Digitalisierer im *Host Mode*, also als Signalquelle für angeschlossene USB-Speichermedien (SD-Karte, USB-Speicher), oder im *Device Mode* (hier werden Signalquellen und angeschlossene Speicher am PC als Streamingquelle bzw. externes Speichermedium genutzt) arbeiten soll.



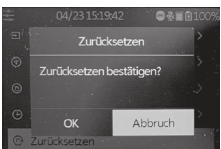
**Standard-Speicher:** Auswahl, welcher externe Speicher (SD-Karte oder USB-Speicher) als Standard-Speicher genutzt werden soll. Ist eine Speicherart nicht vorhanden, erfolgt eine automatische Umschaltung auf die jeweils andere Speicherart.



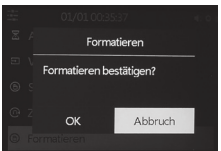
**Zeitsteuerung Aufnahme** Auswahl der periodischen automatischen Aufnahme: täglich, einmal, wöchentlich. Weitere Hinweise siehe „Aufnahmefunktion“.



**Zurücksetzen:** Zurücksetzen des Gerätes auf den Auslieferungszustand.



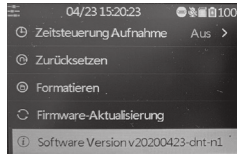
**Formatieren:** Formatierung des Speichermediums.



**Firmware-Aktualisierung:** Hier erfolgt das Aufspielen einer neuen Firmwareversion, sofern vorhanden.



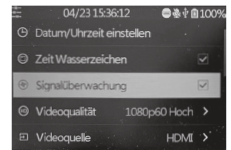
**Software-Version:** Anzeige der aktuellen Firmwareversion.



- Gehen Sie nach Abschluss der Einstellungen wieder mit der Taste „MENU“ zurück zur Video-Voransicht.

## Signalüberwachung

Der Grabstar PRO ist in der Lage, die Aufnahme bei fehlenden/fehlerhaften Quellensignalen zu pausieren. Die Deaktivierung dieser Funktion hat zur Folge, dass die Aufnahme erst nach Beenden durch den Nutzer gestoppt wird und wird aus diesem Grund nur dann empfohlen, wenn sich das Quellmedium in schlechtem/fehlerbehaftetem Zustand befindet.

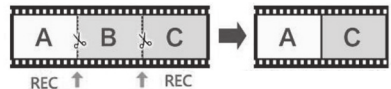


## Aufnahmefunktion

- Kontrollieren Sie zunächst, ob Videoquelle und Speicher angeschlossen sind (siehe „Anschluss und Inbetriebnahme“).

### 1. Manuelle Aufnahme

- Starten Sie die Aufnahme mit der Taste „Rec/Stop“ am Gerät bzw. der Taste „Rec“ an der Fernbedienung. Die Aufnahmezeit wird oben links angezeigt.
- Stoppen Sie die Aufnahme mit der Taste „Rec/Stop“ am Gerät bzw. der Taste „Stop“ an der Fernbedienung.
- Sie können während der Aufnahme unerwünschte Inhalte der Ausgangsaufnahme herauszuschneiden. Dazu drücken Sie während der Aufnahme am Beginn der herauszuschneidenden Passage kurz die Taste „OK“, jetzt blinkt die Aufnahmezeitanzeige. Am Ende der herauszuschneidenden Passage drücken Sie nochmals kurz die Taste „OK“, jetzt wird die Aufzeichnung fortgesetzt.



### Hinweis:



HDCP-geschützte Inhalte können nicht aufgenommen werden.

### 2. Automatische zeitgesteuerte Aufnahme

**Bitte beachten:** Die zeitgesteuerte Aufnahme kann nur erfolgen, wenn das Gerät eingeschaltet ist. Das Gerät stoppt eine Aufnahme, sobald der Speicher voll ist.

- Kontrollieren Sie zunächst, ob ein Speicher angeschlossen ist (siehe „Anschluss und Inbetriebnahme“).
- Gehen Sie mit der Taste „MENU“ in das Hauptmenü und dort in das Menü „Zeitsteuerung Aufnahme“.
- Wählen Sie dort eine der Optionen „Täglich“ (täglich wiederholend), „Einmal“

(einmal), „Wöchentlich“ (wöchentlich wiederholend) an:

- Täglich: Stellen Sie Start- und Endzeit ein.
- Einmal: Stellen Sie Aufnahme datum, Start- und Endzeit ein.
- Wöchentlich: Markieren Sie den gewünschten Tag und stellen Sie Start- / Endzeit ein.
- Wöchentlich Kontrollkästchen von links nach rechts: Sonntag, Montag, Dienstag, Mittwoch, Donnerstag, Freitag, Samstag
- Bestätigen Sie die jeweilige Einstellung durch Anklicken von „OK“.
- Die Option „Aus“ deaktiviert den automatischen Aufnahme modus. Ist der automatische Aufnahme modus aktiv, wird dies durch ein Weckersymbol angezeigt.
- Ist eine automatische Aufnahme komplett, verschwindet das Weckersymbol im Display.



#### Hinweis:

HDCP-geschützte Inhalte können nicht aufgenommen werden.

#### Abspielfunktion

- Kontrollieren Sie zunächst, ob der eben genutzte Speicher angeschlossen ist (siehe „Anschluss und Inbetriebnahme“).
- Die Wiedergabe kann entweder über das Gerät selbst oder einen per HDMI angeschlossenen Monitor/Fernseher erfolgen. Ist ein Monitor angeschlossen, bleibt das Display des Grabstar PRO bei der Videoausgabe abgeschaltet.
- Gehen Sie zunächst mit der Taste „Playback“ auf der Fernbedienung in den Wiedergabemodus.
- Wählen Sie hier die gewünschte Datei aus der angezeigten Liste aus und starten Sie die Wiedergabe mit der Taste „OK“.
- Der Wiedergabefortschritt wird in einer Balkengrafik im Display angezeigt.
- Mit den Pfeiltasten ▼ und ▲ können Sie die Wiedergabelautstärke einstellen.
- Mit den Pfeiltasten ◀ und ▶ können Sie das Abspielen vorwärts und rückwärts beschleunigen („vor-/zurückspulen“). Mit „OK“ halten Sie die Wiedergabe an.

#### Nutzung des Grabstar PRO am PC

- Verbinden Sie PC und Video-Digitalisierer mit einem USB-Kabel (Micro-USB-Stecker-auf-USB2.0-Stecker)
- Es erscheint bei ordnungsgemäßer Verbindung das PC-Menü im Display:



- **USB Speicher Modus:** Der PC erkennt den Grabstar PRO als Wechsel daten träger und man kann die Files verwalten (Kopieren, Löschen, Verschieben, etc.)
- **PC Speicher Modus:** Sie können damit die verfügbaren Quellen (HDMI/Cinch AV) via USB-Anbindung (im Gerätemanager als flash drive einrichten) auf die interne Festplatte des PCs aufzeichnen lassen.
- **PC Streaming Modus:** Hier kann der Grabstar PRO Videos, die an den Eingängen HDMI oder A/V anliegen, direkt zum PC streamen. Mit einer freien Live-Stream-Software wie z. B. OBS/XSplit können Sie auch Videos direkt auf ein Videoportal , wie z.B. YouTube streamen.



#### Bitte beachten

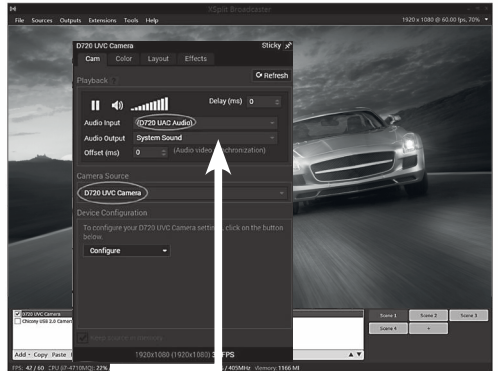
Für das Streaming benötigen Sie einen entsprechend der Vorgaben des Streamingprogramms leistungsfähigen Computer, der leistungsfähige Direct3D-Beschleunigung erlaubt. Anderenfalls erhalten Sie eine Fehlermeldung und es ist kein Streamen möglich. Beide hier in Kurzform beschriebenen Programme sind vom Produktangebot unabhängig und lediglich als Empfehlung zu sehen, zu der eine kurze Einführung gegeben wird. Die Programme können jederzeit modifiziert werden. Lesen Sie für die detaillierte Bedienung die jeweils vorhandenen Manuals auf den Support-Seiten der Programmanbieter durch. Alle Rechte der Programmanbieter liegen bei diesen. Datum der Beispielaufnahmen: Januar 2019

#### Streamen mit XSplit

- Gehen Sie auf die Webseite: <https://www.xsplit.com/broadcaster> und laden Sie dort die Windows-Software „XSplit Broadcaster“ herunter.
- Installieren Sie das Programm auf Ihrem PC.
- Je nach vorhandener Software auf Ihrem PC kann das Programm Sie während der Installation auffordern, weitere Softwarebestandteile zu laden und zu installieren.
- Um das Programm einsetzen zu können, müssen Sie sich bei XSplit registrieren. Gehen Sie dazu auf der XSplit-Webseite auf „Sign Up“ und „Register“. Geben Sie dort Ihre E-Mail-Adresse an, legen Sie ein Passwort fest, und Sie erhalten wenig später eine Registrierungs-Mail, in der Sie die Registrierung bestätigen.
- Bei dem nun folgenden Programmstart werden Sie aufgefordert, die eingerichteten Zugangsdaten einzugeben, bevor das Programm startet.
- Ist das Programm gestartet, wählen Sie hier unter „Sources/Quellen/Add“ und „Webcam, capture card, video devices“ Ihr Gerät (D720) aus:



- Stellen Sie unter „Settings“ noch den Audioeingang ein, auch hier wählen Sie unter „Audio Input“ Ihr Gerät (D720) aus. Auch hier muss unter „Camera Source“ Ihr Gerät (D720) ausgewählt werden:



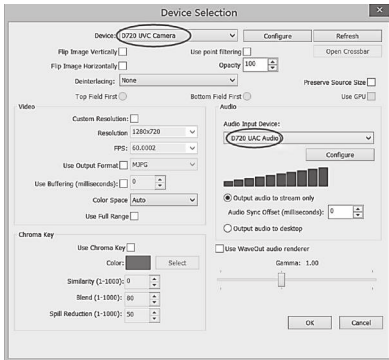
- Vergeben Sie für den Stream einen Scene-Namen und wählen Sie vor dem Start des Streamings diese Szene an.
- Weitere Bedienhinweise finden Sie in der Hilfefunktion des Programms bzw. im Supportbereich von XSplit sowie im jeweils mit dem Stream versorgten Medium.

#### Streamen mit OBS

- Gehen Sie auf die Webseite: <https://obsproject.com/de> und laden Sie dort die Software „OBS Studio“ herunter. Es stehen Versionen für MS Windows, Mac OS und Linux zur Verfügung. Beachten Sie die Hinweise im Download-bereich zu Ihrer jeweiligen Betriebssystemversion.
- Installieren Sie das Programm auf Ihrem Rechner.
- Je nach vorhandener Software auf Ihrem Rechner kann das Programm Sie während der halbautomatisch ablaufenden Installation (Auto-Configuration Wizard) auffordern, weitere Softwarebestandteile zu laden und zu installieren. Diese können auch später über „Tools → Auto-Config Wizard“ nachinstalliert werden.
- Wählen Sie Ihr Gerät (D720) über „Settings → Audio“ und „Aux Audio Device“ zunächst als Audioquelle aus.



- Wählen Sie dann über „Sources → + (add, Video Capture Device) Ihr Gerät (D720)“ als Videoquelle aus.



- Geben Sie unter „Scene Collection“ einen Namen für den Stream ein.
- Testen Sie dann den Stream für mehrere Minuten bei aktiviertem Grabstar PRO (im PC Streaming Mode) unter „Settings → Output“ und „Start Streaming“, um zu kontrollieren, ob das Streamen stabil auch über längere Zeit funktioniert.



- Das Programm ist ein Open-Source-Programm und in der ständigen Weiterentwicklung. Deshalb finden Sie aktuelle und detaillierte Bedienungshinweise in der Hilfefunktion des Programms bzw. im Help-Bereich von OBS sowie im jeweils mit dem Stream versorgten Medium.

## 6. Firmware-Update

- Kopieren Sie das Update-File in das Grundverzeichnis einer SD-Speicherkarte oder eines USB-Speichers, den Sie an den Grabstar PRO anschließen.
- Schalten Sie das Gerät ein, es erscheint, wenn Sie die Firmware auf eine SD-Karte kopiert haben, automatisch das Update-Fenster. Für USB-Speicher wählen Sie die Firmware-Update-Option im Hauptmenü manuell an und starten das Update von dort.
- Starten Sie mit Bestätigung/OK.
- Unterbrechen Sie während des Upgrades keinesfalls die Stromversorgung oder die Verbindung zum Datenspeicher.
- Nach erfolgreichem Update startet das Gerät neu.



## 7. Fehlerhinweise

- **Kein Bild auf dem Display**
  - Kontrollieren Sie den Anschluss und die Ausgabe der Videoquelle.
  - Gibt die Videoquelle ein HDCP-geschütztes Signal aus, so schalten Sie dort HDCP (falls möglich) ab.
  - Bei Wiedergabe und Anschluss eines Bildschirms an den HDMI-Ausgang bleibt das Display abgeschaltet.

- **Gerät erkennt Speichermedium nicht**
  - Es kann sein, dass das Speichermedium nicht mit FAT32, NTFS oder exFAT formatiert ist, z. B. wenn es zuvor in einer Digitalkamera benutzt wurde. Formatieren Sie es über einen PC mit einem kompatiblen Dateisystem.

- Neue Speicherkarten formatieren Sie über den internen Menüpunkt „Formatieren“. Für das Formatieren von USB-Festplatten hoher Kapazität empfehlen wir die Nutzung des Freeware-Tools „Guiformat“ und die Formatierung im exFAT- oder NTFS-Format.

**Mac OS Anwender** müssen beachten, dass das exFAT sowie NTFS Format nicht gelesen werden können. **Linux Anwender** sind hiervon ebenfalls betroffen, können sich aber im Internet über diverse Lösungsansätze sowie Tools informieren. Die hier genannten Formate beziehen sich auf einen Windows Client/Computer.

**Bild bleibt beim Aufnehmen stehen („friert ein“)**  
Drücken Sie die Ein-/Aus-Taste für 10 s, und das Gerät startet neu.

**Keine Tonausgabe**  
Kontrollieren Sie, ob die Mute-Funktion aktiviert ist und ein ausreichender Pegel eingestellt ist.

**Aufgenommene Datei lässt sich nicht abspielen / Datei wird als korrupt ausgewiesen**  
Bitte überprüfen Sie den Firmwarestand des Gerätes. Dieses Problem wurde mit der Firmware-Version v20200602-dnt behoben. Die aktuellsten Firmware-Updates finden Sie auf [www.dnt.de](http://www.dnt.de).

**Keine Files beim Abspielen zu finden**  
Dies kann sein, wenn man Files extern aufgespielt hat. Video-Files müssen sich im Ordner „Video“ befinden.

**Externe USB-Festplatte funktioniert nicht**  
Betreiben Sie USB-Festplatten nur, wenn das Netzteil des Grabstar PRO angeschlossen ist, der Akku kann im Stand-alone-Modus nicht genug Strom bereitstellen. 3,5"-Festplatten müssen mit ihrem eigenen Netzteil betrieben werden.

**PC findet das Gerät nicht als externen Speicher**  
Kontrollieren Sie, ob am Gerät die Option „PC Storage Mode“ eingestellt ist.

**PC findet das Gerät nicht als Streaming-Quelle**

- Kontrollieren Sie, ob am Gerät die Option „PC Streaming Mode“ eingestellt ist.
- Kontrollieren Sie die USB-PC-Verbindung und am PC (Systemsteuerung → Gerätemanager/Audiogeräte verwalten), ob das Gerät von diesem als externes Audio-/Videogerät (D720) erkannt und eingestellt wird. Oft, vor allem bei Laptops, werden hier nur die internen Mikrofone/Kameras eingestellt, die Einstellung muss manuell geändert werden. Meist ist die Auswahl auch in den Streaming-Programmen möglich.

**Ton und Bild werden nicht synchron gestreamt bzw. „ruckeln“ auf dem PC**  
Hier kann die Hardwareausstattung (CPU, Speicher, Ton- und Bild-Hardware) nicht genug Leistung erbringen, setzen Sie einen aktuellen, leistungsfähigen PC mit Hardware-Grafikbeschleuniger und aktuellem Audiotreiber ein.

**Ton und Bild werden nicht synchron auf dem Grabstar PRO wiedergegeben**  
Dies kann an der benötigten internen Umrechnungszeit von hoch aufgelösten Videos auf die Bildschirmgröße des Displays liegen. Vermeiden Sie deshalb das Abspielen von HD-Videos und nutzen Sie den HDMI-Ausgang.

## 8. Pflege und Wartung

Reinigen Sie das Gerät nur mit einem weichen trockenen Leinentuch. Bei starken Verschmutzungen kann dieses leicht angefeuchtet sein. Reinigen Sie das Gerät nicht mit lösungsmittelhaltigen Reinigungsmitteln! Das Gerät ist danach sorgfältig mit einem Tuch zu trocknen. Darauf achten, dass keine Feuchtigkeit in das Geräterinnere gelangt.

## 9. Technische Daten

**Aufnahmemedien:**.....SD-Speicherkarte/USB-Stick, max. 128 GB, USB-Festplatte max. 4 TB (mit eigener Stromversorgung), File-Systeme FAT32/NTFS/exFAT (max. 4 GB/File)  
**Aufnahmeformat:**.....MP4 (H.264), Speicherbedarf bis 150 MB/min  
**Aufnahmeauflösungen:** ...Lokal @60 fps: 1920x1080p, 1280x720p, 720x480p  
PC: 1920x1080p (30 fps), 1280x720 (60 fps)  
Bitraten: 30/22/18/12/4 Mbps  
Analog (AV): 720x576p, 720x480p, 640x480p  
**Eingänge:**.....Composite (A/V): PAL/NTSC; HDMI, Audio (Mikrofon/Headset)  
**Ausgänge:**.....HDMI, Micro-USB (PC)  
**Unterstützte Eingangsaufösungen:** .....  
HDMI: 1920x1080p 60/50/30/25/24 fps, 1920x1080i 60/50 fps, 1280x720p 60/50 fps, 720x576p 50 fps, 720x480p 60 fps  
Analog/AV: 720x576i/50Hz (625 Zeilen), 720x480i/60Hz (525 lines)  
**Ausgangs-Auflösungen HDMI-Port:**.....1280x720p (60 fps) (Playback-Modus); 1920x1080p (Loop-Through im Streaming-Modus)  
**Spannungsversorgung:**.....Netzteil 5 VDC, 2 A, interner Akku, Li-Po, 3,7 V  
**Abmessungen (B x H x T):**.....160 x 25 x 75 mm  
**Gewicht:**.....218 g

## 10. Netzteil-Angaben

	Wert und Genauigkeit	Einheit
Name Hersteller	SHENZHEN QI XIN ELECTRONICS CO., LTD	-
Modellkennung	YNQX12G050200VU	-
Eingangsspannung	115-230	V
Eingangswechselstromfrequenz	50/60	Hz
Ausgangsspannung	5,0	V
Ausgangsstrom	2,0	A
Ausgangsleistung	10,0	W
Durchschnittliche Effizienz im Betrieb	(230V/50Hz) 81.230 ; (115V/60Hz) 82.066	%
Effizienz bei geringer Last (10%)	(230V/50Hz) 78.321 ; (115V/60Hz) 82.428	%
Leistungsaufnahme bei Nulllast	(230V/50Hz) 0.059 ; (115V/60Hz) 0.026	W
Umgebungstemperaturbereich	0-35	°C

## 11. Konformitätserklärung

Hiermit erklärt die dnt Innovation GmbH, Maiburger Straße 29, 26789 Leer, Deutschland, dass sich das Gerät

„dnt Video-Digitalisierer Grabstar PRO“

in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 2014/30/EU befindet. Die Konformitätserklärung kann unter folgender Adresse gefunden werden: [www.dnt.de](http://www.dnt.de)

## 12. Entsorgung

### Gerät nicht im Hausmüll entsorgen!

Elektronische Geräte sind entsprechend der Richtlinie über Elektro- und Elektronik-Altgeräte über die örtlichen Sammelstellen für Elektronik-Altgeräte zu entsorgen!



## 13. Kontakt

Sie haben Fragen zum Produkt oder zur Bedienung?  
Unser **Technischer Kundendienst** erteilt Ihnen gerne umfassende und qualifizierte Auskünfte: E-Mail: [support@dnt.de](mailto:support@dnt.de)

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Version 2, June 1991

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2. Ausgabe Deutsch 03/2021

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DNT000001-03/2021, Version 2.2

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**Importeur: dnt Innovation GmbH**  
**Mauburger Straße 29 · 26789 Leer · Germany**  
**www.dnt.de**



# Video-Digitizer Grabstar PRO

Article-Number: DNT000001

User manual



Please read these instructions before installing and commissioning and retain the instructions for later usage. If you hand over the device for usage to other people, also hand over this user manual.

- USB cable for power supply
- A/V cable (3.5 mm jack to 3x Cinch/RCA socket)
- HDMI cable
- User manual.

## 1. Function

The video digitizer enables the easy recording and playback of analogue and digital video sources on USB storages or SD memory cards, as well as connection to a PC, a TV or a gaming console. You can use the digitizer to digitize A/V-recordings from analogue media, for example from a video recorder or camcorder. The recording and playback of gameplay is possible as well. Using a microphone or headset, you can comment on recorded gameplay scenes in real-time. This way, you can add your explanations and comments after recording the material.

- Saves recordings directly to a SD/SDHC memory card\* (up to 128 GB), USB stick (up to 128 GB) or external USB hard drive (up to 4 TB) – supports FAT32, NTFS\*\*, exFAT\*\*
- Works with PAL and NTSC formats
- Recording resolutions: HDMI: 480p, 720p, 1080p @ 60 fps  
Analogue (AV): 720x576p, 720x480p, 640x480p
- 8.9 cm colour display (3.5") for checking/playback of recordings
- Video format: MP4
- Integrated video player, which is able to display digitized recordings directly on TV (using HDMI passthrough)
- Integrated device speakers
- Records scenes from game consoles (e.g. Playstation 4, Xbox One) and TV receivers (without HDCP copy protection)\*\*\*
- Transmits recordings via USB connection to a PC
- Live-streaming function: Streams recordings (e.g. gameplay) directly to video-sharing platforms, e.g. YouTube (with OBS or XSplit)
- Microphone input – add live commentary to your recordings
- Operates via power adapter (5 V<sub>DC</sub>, 2A) or battery (integrated 3000-mAh-lithium-polymer battery).

\* SD cards with a file volume of 64 GB and bigger can just be used with exFAT and NTFS format.

\*\* MAC users should note that NTFS or exFAT is not supported by MacOS and the storage medium will show no content if NTFS or exFAT is selected as the file format. This also concerns Linux users. Please select FAT32 as the file format for formatting the storage medium.

\*\*\* We point out that circumvention of the HDCP copy protection is prohibited according to § 95a UrhG. If an HDMI splitter up to version 1.3b is connected to the HDMI digitizer, the HDCP copy protection may become ineffective. Therefore, the device is not allowed to be used in such a combination.

## 2. Intended usage, delivery

The video digitizer Grabstar PRO is intended for the stand-alone digitization of analogue and digital A/V data, PC streaming and storage on or playback from SD memory card and USB storage media. Any other use is not in accordance with the intended purpose and leads to exclusion of warranty and liability. This also applies to conversions and changes on the device.

### Content of Delivery:

- Video Digitizer Grabstar PRO
- IR remote
- 5 V<sub>DC</sub> Power supply

## 3. Operating, maintenance and safety instructions



**Warning:** This sign is used to mark safety instructions or to draw attention to special dangers and risks.

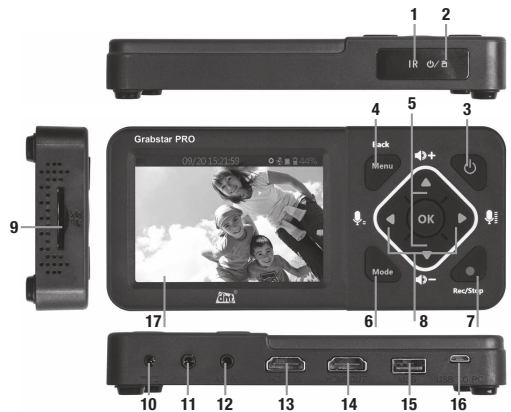


**Notification:** This sign is used to indicate additional information or important notes.

- Do not leave packaging material lying around carelessly! Plastic foils/bags, polystyrene parts, etc. could become a dangerous toy for children.
- The devices are no toys. They should not be kept or operated in an area accessible to children.
- Avoid heavy mechanical stress such as pressure or vibration.
- Only clean the device with a dry linen cloth, which can be slightly damp if the device is heavily soiled. Do not use solvent-based cleaning agents for cleaning. Make sure that no moisture gets inside the device.
- The device may only be operated in dry indoor areas and only with the power supply specified in the technical data section.

**We accept no liability for damage to property or personal injury caused by improper handling or failure to observe the safety and operating instructions. In such cases, all warranty claims expire. We do not accept liability for further damages. Do not open the device, do not attempt to repair it. Do not make any modifications or changes – this will invalidate the warranty.**

## 4. Overview, description



- 1 Remote control receiver (infrared)
- 2 Operating display:  
Blue: Device switched on  
Flashing blue: Storage space in the storage medium low  
Flashing red: Battery empty, charge as soon as possible  
Red: Charging battery (device switched off)

## Control buttons:

- 3 Power: press for >2 s – Turns on the device;  
With device switched on: press briefly (<2 s) – Display on/off; press longer (2 s to <10 s) – Turns off the device / activates Stand-by dialogue;  
Press for longer than 10 s – Turns off the device immediately
- 4 Menu/Back: Select / Exit menus
- 5 Vol+/Mix-: Level adjustment for loudspeaker/headphone
- 6 Mode: Briefly press to switch between record, photo and playback preview mode;  
Press and hold to delete a file currently selected in playback preview mode
- 7 Rec/Stop: Briefly press to manually start a recording in the recording preview mode; Press and hold to take a single picture in preview mode
- 8 Navigation buttons and level adjustment for the microphone
- 9 SD card slot: Slot for an SD card
- 10 DC Input 5V/2A: power supply connection
- 11 Headset/Microphone jack (3.5 mm)
- 12 AV IN: Jack socket (3.5 mm) for A/V input (composite, L/R audio)
- 13 HDMI IN: HDMI input
- 14 HDMI OUT: HDMI output
- 15 USB: USB port for USB storage medium
- 16 USB To PC: Micro-USB socket/PC-connection port
- 17 LC-Display: Control display for recording preview and playback

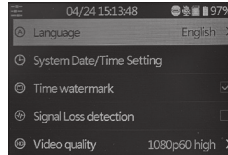


	<b>On/Off:</b>	On/Off
	<b>Rec:</b>	Start recording
	<b>Stop:</b>	Stop recording/Playback
	<b>Stop:</b>	Adjust the microphone level
	<b>Stop:</b>	Adjust speaker volume
	<b>Stop:</b>	Cursor keys for menu control
	<b>OK:</b>	Confirmation of selection in a menu
	<b>Menu:</b>	Select/Exit main menu
	<b>Back:</b>	Leave a menu
	<b>Back:</b>	Save a single image in recording preview mode
	<b>Mute:</b>	Mute speaker
	<b>Mute:</b>	Mute microphone
	<b>Playback:</b>	Selection of playback menu
	<b>Source:</b>	A/V source selection (HDMI / A/V)
	<b>Schedule:</b>	Selection of menu for time-controlled recording
	<b>SD/USB:</b>	Storage media selection
	<b>Mode:</b>	Switching record / photo mode / playback; Long press: delete in playback mode
	<b>Language:</b>	Select menu language
	<b>Record Quality:</b>	Select recording quality

## Connection and setup

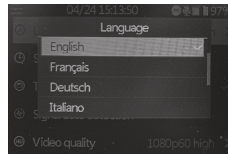
- Remove the screen protector from the Grabstar PRO.
- Connect the power supply to the DC connection (10).
- Connect the video source to the HDMI input (13) or A/V input (12).
- Connect a HDMI monitor or TV to the HDMI output (14).
- Connect or insert a USB mass-storage medium (stick/hard disk) to the USB port (15) or insert an SD memory card (9) until it clicks into place.  
Make sure that the contacts point upwards (control panel).  
Do not insert by force!

## Device settings (Setup)

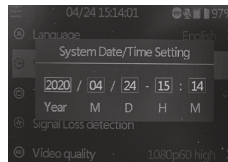


- Select the main menu with the “MENU” button. Use the arrow buttons and the menu/back button to move through the menus.  
Use the arrow buttons ▼ and ▲ to set values and confirm your settings with the OK button.

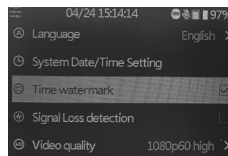
### Language: Set menu language.



### Set date/time: Set the date and time for the system.



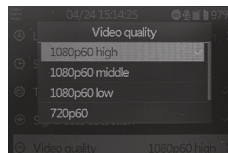
### Time/watermark: Select whether the time stamp should be used in the recording or not.



### Video quality HDMI: Selection of HDMI recording resolution:

1080p (in 3 quality levels) – 720p – 480p.

The bit rates are accordingly 30/22/18/12/4 Mbps.



(i.e. „1080p high“ recording will create larger files for best video quality)



### Note

When connecting an external hard drive to the USB port, it has to be supplied with its own power supply - the power supply included with the Grabstar PRO is not designed to supply an external hard drive.



### Note

Please always check whether you are using the latest firmware version. You can check your current firmware version in the Grabstar PRO device menu. The latest device firmware can be found on the manufacturer's website [www.dnt.de](http://www.dnt.de).



### Note

If you have deactivated the HDCP protection at the source (e.g. in the menu Game console settings) you cannot use video-streaming portals. For this, the HDCP encryption must be reactivated!

## 5. Operation



### Please note:

An SD/SDHC memory card or microSD-card with with a class 10 SD-adapter should be used as a memory card to ensure trouble-free recording. It is not possible to record from HDCP-protected video sources. The file names of recordings are automatically generated according to the pattern: date + index.mp4.  
The Grabstar PRO supports the FAT32, NTFS and exFAT file systems. If a recording file is bigger than 4 GB, it is automatically divided into several max. 4 GB files.

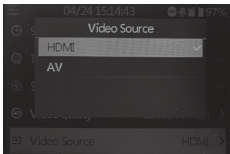
Only one storage medium (SD card or USB storage device) may be used in the Grabstar PRO at a time. Please avoid using the SD card and USB storage device at the same time!

### Video quality AV:



Video quality AV: 640x480. In the „Auto-Detection“ mode, the optimal resolution is automatically selected by the Grabstar PRO and the recording is saved in the format 720x576 or 720x480. It is not possible to influence the format during auto-detection mode.

**Video source:** Select the video source, HDMI or A/V (composite / audio).



**Note:** AV input will automatically choose the recording resolution due to it's original source (576p or 480p)

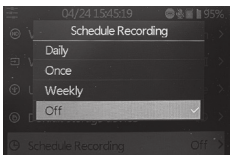
**USB mode:** Selection of whether the digitizer is utilized in host mode, i.e. as a signal source for connected USB storage media (SD card, USB storage) or in device mode (hereby signal sources are used as streaming sources or external storage media on PC).



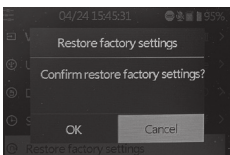
**Standard memory:** Selection of which external memory (SD card or USB storage) should be used as standard memory. If one of the alternatives is not available, the system automatically switches to the available storage type.



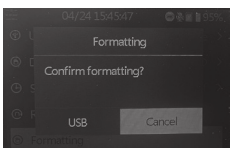
**Time-controlled recording:** Selection of the periodic automatic recording: daily, once, weekly. For further information, see "Recording function".



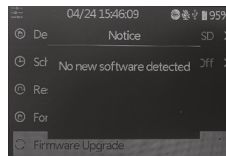
**Reset:** Reset the device to the delivery state.



**Format:** Format the storage medium.



**Firmware update:** A new firmware version can be installed here, if available.



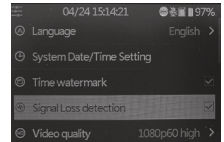
**Software version:** Displays the current software version.



- After completing the setup, go back to the video preview with the "MENU" button.

### Signal loss detection

The Grabstar PRO is able to pause the recording in the event of missing/faulty source signals. The deactivation of this function means that the recording can only be stopped after the user has manually finished/stopped his recording and is therefore only recommended if the source medium is in poor/faulty condition/quality.

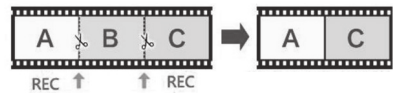


### Recording function

First, check whether the video source and storage is connected (see "Connection and Setup").

#### 1. Manual recording

- Start the recording with the "Rec/Stop" button on the device or the "Rec" button on the remote control. The recording runtime is shown in the top left.
- Stop the recording with the "Rec/Stop" button on the device or the "Stop" button on the remote control.
- You can cut out unwanted content from the original recording during the recording process. To do this, briefly press the "OK" button at the beginning of the passage to be cut out, the recording-time display now flashes. At the end of the passage to be cut out, briefly press the "OK" button again, now the recording continues.



HDCP-protected sources cannot be recorded!

#### 2. Automatically controlled recordings

**Please note:** Time-controlled recording can only take place when the device is switched on. The device stops recording as soon as the memory is full.

- First, check whether a storage medium is connected (see "Connection and Setup").
- Use the "MENU" button to go to the main menu and then to the "Time control recording" menu.
- Select one of the options "Daily" (repeating daily), "Once" (once), "Weekly".
- Check boxes from left to right (weekly): Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday.
- Daily: Set the start and end time.

- Once: Set the recording date, start and end time.
- Weekly: Mark the desired day and set the start/end time.
- Confirm the respective setting by clicking "Confirm".
- The "Off" option deactivates the automatic recording mode.
- If the automatic recording mode is active, it is indicated by an alarm symbol on the display.
- If an automatic recording is complete, the alarm symbol disappears from the display.

**Note:** HDCP-protected content cannot be recorded.

### Playback function

- First, check whether the previously used storage is connected (see "Connection and Setup").
- Playback can take place either via the device itself or on a monitor/TV connected via HDMI. If a monitor is connected, the display of the Grabstar PRO remains switched off during video output.
- Go to Playback mode with the "Playback" button on the remote control.
- Select the desired file from the displayed list and start playback with the "OK" button.
- The playback progress is shown with a bar graph on the display.
- You can adjust the playback volume with the arrow buttons ▼ and ▲.
- With the arrow buttons ◀ and ▶ you can accelerate the playback forwards and backwards ("fast forward/rewind"). Stop playback by pressing the "OK" button.

### Using the Grabstar PRO on the PC

Connect the video digitizer with the PC via a micro USB cable. If the connection is successful, the PC menu appears on the display:



- **USB Storage Mode:** The PC recognizes the Grabstar PRO as a removable disk and you can manage the files (copy, delete, move, etc.)
- **PC Storage Mode:** You can directly save the recorded source media to the internal PC memory.
- **PC Streaming Mode:** The Grabstar PRO can stream videos that are connected to the HDMI or AV inputs directly to the PC. With free live stream software such as OBS or XSplit, you can also stream videos directly to a video-sharing platform such as YouTube.

**Please note:** For streaming, you need a computer that is able to run in accordance with the specifications of the streaming program and which supports Direct3D acceleration. Otherwise, you will get an error message and you will be unable to use the streaming function. Both of the programs which are briefly described in this manual are independent of the product range and should only be seen as a recommendation, for which a brief introduction is given. The programs can be modified at any time. Read the respective manuals available on the support pages of the program providers for more detailed information. All rights of the program providers are reserved by them. Date of sample recordings: January 2019.

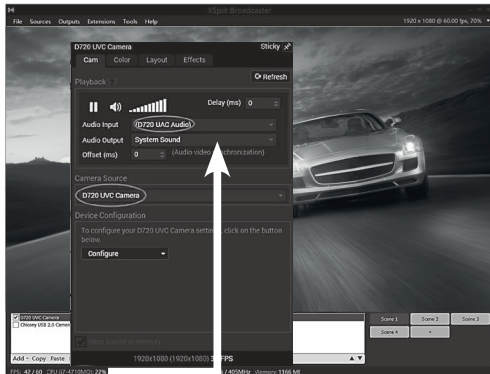
### Stream with XSplit

- Go to the website: <https://www.xsplit.com/broadcaster> and download the Windows software "XSplit Broadcaster".
- Install the program on your PC.
- Depending on the software available on your PC, the program may ask you to load and install additional software components during installation.
- To use the program, you have to register with XSplit. To do this, go to "Sign Up" and "Register" on the XSplit website. Enter your email address there, set a password and you will receive a registration email, in which you can confirm the registration.
- When starting the program, you will be asked to enter the access data you have set up. After entering the access data, the program starts.

- Once the program has started, select your device (D720) under "Sources" and "Webcam, capture card, video devices":



- Go to audio input "Settings". Again select your device (D720) under "Audio Input". Your device (D720) should also appear under "Camera Source":



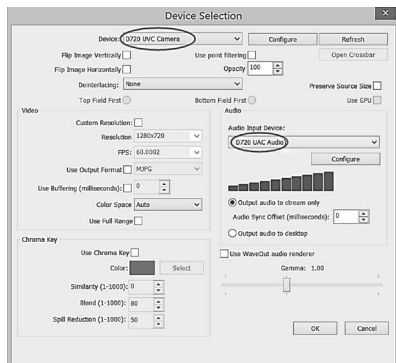
- Assign a scene name for the stream before starting to stream.
- Further operating instructions can be found in the help function of the program or in the support area of XSplit, as well as in the medium supplied with the stream (e.g. YouTube, Twitch, etc.)

### Stream with OBS

- Go to the website: <https://obsproject.com/dem> and download the "OBS Studio" software. Versions for MS Windows, Mac OS and Linux are available. Please note the information in the download area for your respective operating system version.
- Install the program on your PC.
- Depending on the software on your computer, the program may ask you to load and install additional software components during the installation (Auto-Configuration Wizard). These can also be installed later via "Tools → Auto-Config Wizard".
- Mark your device (D720) via "Settings → Audio" and "Aux Audio Device" as an audio source.



- Then select your device (D720) as a video source via "Sources → + (add, Video capture Device)".



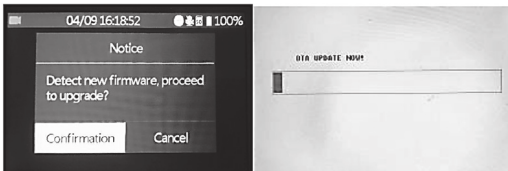
- Enter a name for the stream under "Scene Collection".
- Test the stream for several minutes with an activated Grabstar PRO (in PC streaming mode) under "Settings → Output" and "Start Streaming", to check whether the stream is stable over a longer period of time.



- The program is an open source program and constantly evolving. That is why you will find current and detailed operating instructions in the help function of the program or in the help area of OBS as well as in the medium supplied with the stream (e.g. YouTube, Twitch, etc.).

## 6. Firmware update

- Copy the update file into the basic directory of an SD memory card or a USB storage medium that you connect to the Grabstar PRO.
- Switch on the device. The update window appears automatically if you have copied the firmware to an SD card. For USB storage, manually select the firmware update option in the main menu and start the update from there.
- Start with "Confirm".
- Do not interrupt the power supply or the connection to the data storage device during the update.
- After a successful update, the device automatically restarts.



## 7. Error notifications

### No picture on the display

- Check the connection and output of the video source.
- If the video source outputs an HDCP-protected signal, switch off the HDCP (if possible).
- The display remains switched off during playback when the device is connected to a monitor/TV via the HDMI output.

### Device does not recognize storage medium

- The storage medium may not be formatted with FAT32, NTFS or exFAT, e.g. if it was previously used in a digital camera. Format it using a PC with a compatible file system.
- You can format new memory cards via the internal menu "Format". For formatting high-capacity USB hard drives, we recommend using the freeware tool "Guiformat" and formatting the hard drive in FAT32 format.

**Mac OS users** must note that the exFAT and NTFS formats cannot be used. **Linux users** are also affected by this, but can use various solutions and tools on the Internet. The formats mentioned here refer to a Windows client / computer.

### Picture freezes while recording

Press the On/Off button for 10 s and the device will restart.

### No sound output

Check whether the mute function is activated and if a sufficient sound level is set.

### No files found for playback

This can be the case if you have uploaded files externally. Video files must be stored in the folder "Video".

### External USB hard drive not working

Only operate USB hard drives if the power supply of the Grabstar PRO is connected. The battery may not be able to provide enough power in stand-alone mode. 3.5" hard disks must be operated with their own power supply.

### PC does not find the device as external storage

Check whether the "PC storage mode" option is activated on the device.

### PC does not find the device as a streaming source

- Check whether the option "PC streaming mode" is activated on the device.
- Check the USB-PC connection and check whether on the PC (Control Panel → Device Manager/Manage Audio devices) the device is recognized and set as an external A/V device (D720). Often, especially with laptops, only the internal microphones / cameras are set. The setting must then be changed manually. The selection is usually also possible in the streaming programs.

### Sound and images are not streamed synchronously / appear "jerky" on PC

The hardware equipment (CPU, memory, sound and image hardware) cannot provide enough performance. Use a current PC with a sufficient hardware graphics accelerator and current audio driver.

### Sound and images are not reproduced synchronously on the Grabstar PRO

This may be due to the internal conversion time required from high-resolution videos to the screen size of the display. Therefore, avoid playing HD videos and use the HDMI output.

### Recorded file is corrupted and not playable

Please check the firmware of your device and update it. You can find the firmware update on [www.dnt.de](http://www.dnt.de). This problem was solved by firmware version v20200602-dnt

## 8. Care and maintenance

Only clean the device with a soft, dry, linen cloth. If the device is very dirty, the cloth can be slightly damp. Do not clean the device with cleaning agents containing solvents. The device must then be carefully dried with a cloth. Make sure that no moisture gets inside the device.

## 9. Technical data

**Recording media:**.....SD memory card/USB stick, max. 128 GB, USB hard device max. 4 TB (with its own power supply), File-Systems FAT32/NTFS/exFAT (max. 4 GB/File)

**Recording format:**.....MP4 (H.264), memory up to 150 MB/min

**Recording resolutions:**.....Local @60 fps: 1920x1080p, 1280x720p, 720x480p  
 PC: 1920x1080p (30 fps), 1280x720p (60 fps)  
 Bit rate: 30/22/18/12/4 Mbps

Analogue (AV): 720x576p, 720x480p, 640x480p

**Inputs:**.....Composite (A/V); PAL/NTSC; HDMI, Audio (Microphone/Headset)

**Output:**.....HDMI, Micro-USB (PC)

**Supported input resolutions:**.....  
 HDMI: 1920x1080p 60/50/30/25/24 fps, 1920x1080i 60/50 fps, 1280x720p 60/50 fps, 720x576p 50 fps, 720x480p 60 fps  
 Analogue/AV: 720x576i/50Hz (625 lines), 720x480i/60Hz (525 lines)

**Output resolutions HDMI-Port:**.....1280 x 720p (60 fps)(Playback Mode); 1920 x 1080p (Loop-Through in streaming mode)

**Power supply:**.....Power adapter 5 Vdc, 2 A, internal battery, Li-Po, 3,7 V

**Dimensions (W x H x D):**.....160 x 25 x 75 mm

**Weight:**.....218 g

## 10. Power supply details

	Value and Accuracy	Unit
Manufacturer name	SHENZHEN QI XIN ELECTRONICS CO., LTD	—
Model identifier	YNQX12G050200VU	—
Input voltage	115–230	V
Input AC frequency	50/60	Hz
Output voltage	5.0	V
Output current	2.0	A
Output power	10.0	W
Average active efficiency	(230V/50Hz) 81.230; (115V/60Hz) 82.066	%
Efficiency at low load (10%)	(230V/50Hz) 78.321; (115V/60Hz) 82.428	%
No-load power consumption	(230V/50Hz) 0.059; (115V/60Hz) 0.026	W
Supported temperature range	0–35	°C

## 11. Declaration of conformity

dnt Innovation GmbH, Maiburger Straße 29, 26789 Leer, Germany, hereby declares that the device

"dnt Video Digitizer-Grabstar PRO"

is in accordance with the essential requirements and other relevant provisions of Directive 2014/30/EU. The declaration of conformity can be found at the following link: [www.dnt.de](http://www.dnt.de)

## 12. Disposal

### Do not dispose of this device through domestic waste!

Electronic devices have to be disposed of in accordance with the directive of waste for electrical and electronic equipment via the local collection points for old electronic devices!



## 13. Contact

Do you have any questions about the product? Our technical customer service will be happy to provide you with comprehensive and qualified information: Email: [support@dnt.de](mailto:support@dnt.de)

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Version 2, June 1991

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