AQT8-QAM/IP

Quick Guide

ATSC/QAM Transmodulator

Stock #	Model Name	Description
6281B	AQT8-QAM/IP	8x8VSB/QAM Input and QAM/IP Outputs

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Product Introduction

The **AQT8-QAM/IP** allows the user to create a custom IP and QAM output from off-air and/or QAM input sources. The unit accepts eight 8VSB off-air or QAM sources and simultaneously outputs these SPTS and/or MPTS programs in IP and/or QAM. At the same time, the **AQT8-QAM/IP** can be configured in Pass-through mode, which directly maps the demodulated RF port content in MPTS format to IP output.

For off-air applications, the **AQT8-QAM/IP** has a 2:1 Mux Mode feature, which allows you to multiplex two off-air sources to one MPTS for QAM distribution.

The **AQT8-QAM/IP** can accept encrypted QAM sources, and output the encrypted IP transport streams programs in MPTS or SPTS formats, while preserving the MPEG tables (PAT, PMT, PSIP, VCT, and MGT) from the source. The unit allows the user to change the PID, program number, short name, and major/minor channel (PSIP) information on any program.

The **AQT8-QAM/IP** supports up to eight QAM-256 outputs that are agile from 54 to 1002 MHz as long as all eight outputs are kept within a 768 MHz span.

The **AQT8-QAM/IP** features Emergency Alert System (EAS) program switching through either an ASI or IP format EAS input, and terminal block contacts for triggering EAS messages.

Before You Begin

Unpacking the Unit

You will find the following Items in the box:

- AQT8-QAM/IP Model (QTY=1)
- Power Cord with IEC C13 line socket and 3-pin Type B NEMA 5 plug (QTY=1)
- Blonder Tongue part# 515102875A - cross link Ethernet cable assembly (QTY=1)

Step 1: Setup and Install of the Unit

The AQT8 is designed to be installed in a standard 19-inch (483 mm) rack (EIA 310-D, IEC 60297, and DIN 41494 SC48D).

1. To install, secure the unit's front panel to the rack by inserting four (4) machine screws, with cup washers, through the four (4) mounting holes in the front panel. A 1RU open space is recommended above the unit for ventilation.

DO NOT BLOCK THE UNIT'S AIR INTAKE OR AIR DISCHARGE OPENINGS.

Unit performance will be degraded without proper ventilation.
Excessive heat will shorten the life of the unit.

2. To power the unit up, connect the IEC line cord to the receptacle on the rear panel. Then connect the other end to a 120 VAC power outlet. The input power receptacle is equipped with a fuse-holder and fuse (SLO-BLO, 3.0 Amp, 250V).

For safe and reliable operation, the ground pin of the power cord must be grounded properly.

Step 2: Connecting to a PC/Laptop

ETHERNET ACCESS:

Local or remote communication with the unit is only possible through a GUI-based menu via web browser (Chrome or Firefox recommended). Before you can communicate with the unit, you must configure your computer's IP address to be in the same subnet as the unit's default IP address. To do so, follow these steps:

1. Connect one end of the Ethernet cable to the "**GbE Control**" port on the unit's rear-panel interface. Connect the other end of the Ethernet cable to your computer.

Step 2: Connecting to a PC/Laptop (continued)

2 The factory default IP address of the Control port is "**172.16.70.1**". In order to communicate with the Control port, you must first change your computer's IP address.

The following steps explain how to do this for a computer with **Windows 7**, **Windows 8.x** or **Windows 10** operating software:

(a) On your computer, navigate to the "Network and Sharing Center".

(Note: It can be found using the search box in the Start Menu or for Windows 8.x, the Start Screen)

(b) Once open, click on "Change Adapter Settings" on left hand side of the window.

(c) Right-click on the "Local Area Connection", and then click on the "Properties".

(d) A dialog box entitled "Local Area Connection Properties" will appear. In this box, double-click on the "Internet Protocol Version 4 (TCP/IPv4)".

(e) A dialog box entitled "Internet Protocol Version 4 (TCP/IPv4) Properties" will appear. Select the "Use the following IP address" option and enter the following addresses:

IP address: **172.16.70.2**

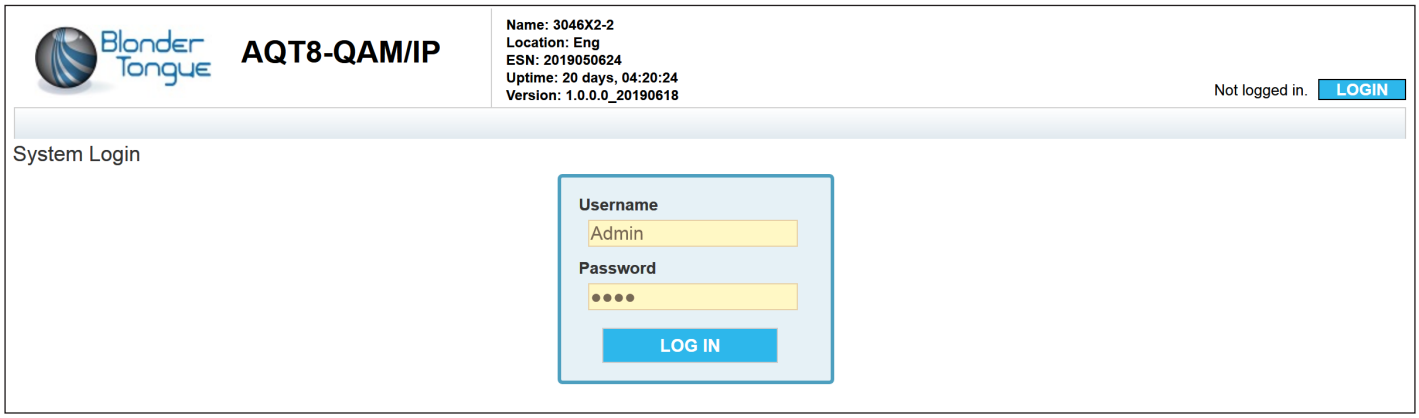
Subnet mask: **255.255.255.0**

No need to enter a value for the Default Gateway.

Click OK to close the dialog box. Your computer is now ready to communicate with the unit.

Step 3: Login to the Unit

An Ethernet Cable should be connected between your PC and the "**GbE Control**" port on the unit. Open a Web browser (Chrome or Firefox recommended) and type **http://172.16.70.1** in to your web browser to view and configure your AQT8. Enter the username "**Admin**" and "**pass**" as the password and click [LOG IN].



Step 4: Basic Configuration

System Status

Once you are logged into the unit, you will be presented with the "**System Status**" page ("**Status**" tab):

This section provides status messages, temperature, and SNR status levels for the system and each RF Input. It displays the general health and unit information at a glance. The information is provided as a quick way to monitor the module or assist with troubleshooting issues that may arise.

The status messages for detected issues can indicate issues that need troubleshooting. Further information on error and other status messages can be obtained using the Event Log. To see a more in-depth log of event messages, click the "**Log**" tab located on the right side of the navigation menu at the top.

Step 4: Basic Configuration (continued)

System Status			
System Status			Ok
System Temperature			131.0°F / 55°C
System Uptime			1 days, 00:45:03
Model Number			AQT8-QAM/IP
Detected Issues			
No issues detected			
RF Input Status			
	Source	RF Channel	SNR
RF Input 1	Common	Ch. 36 / 605 MHz	SNR Ok : 33.3 dB
RF Input 2	Common	Ch. 13 / 213 MHz	SNR Ok : 30.1 dB
RF Input 3	Common	Ch. 26 / 545 MHz	SNR Ok : 31.6 dB
RF Input 4	Common	Ch. 11 / 201 MHz	SNR Ok : 26.4 dB
RF Input 5	Dedicated	Ch. 51 / 387 MHz	SNR Ok : 38.6 dB
RF Input 6	Common	Ch. 7 / 177 MHz	SNR Ok : 28.9 dB
RF Input 7	Dedicated	Ch. 53 / 399 MHz	SNR Ok : 38.2 dB
RF Input 8	Common	Ch. 24 / 533 MHz	SNR Ok : 27.9 dB
IP Output Status			
Link Status: 1000 Mb/S		Link Usage: 101.87 Mb/S (0%)	
TS Source		Output IP:Port	
RF Input 1		239.10.10.13:2001	
TS 1		239.10.10.11:2001	
MTS 1		239.10.10.14:2001	
RF Output Status			
	TS Source	RF Channel	
RF Output 1	RF Input 1	Ch. 2 / 57 MHz	
RF Output 2	TS 1	Ch. 3 / 63 MHz	
RF Output 3	MTS 2	Ch. 4 / 69 MHz	
RF Output 4	RF Input 4	Ch. 5 / 79 MHz	
RF Output 5	RF Input 5	Ch. 6 / 85 MHz	
RF Output 6	RF Input 6	Ch. 7 / 177 MHz	
RF Output 7	RF Input 7	Ch. 8 / 183 MHz	
RF Output 8	TS 2	Ch. 9 / 189 MHz	
System Information			
Serial Number			2019050624
Software Version			1.0.0.1_20190716
Firmware Version			1.4
Modulator Version			1.0

Status Page - Full View

System Settings

The "**System**" tab allows configuration of system settings including unit identification and Ethernet settings for the Control, Data, and EAS Ports. The user can also reboot the unit and upload/download configuration files. Once downloaded, the settings can be applied to the unit or the user can choose to set the unit back to the default factory settings with the click of a button.

The following Ethernet Settings can be changed: IP address, Subnet Mask, and Gateway. IGMP version is available for the EAS port. Click "**Save**" in order to apply new or changed settings.

System Settings Configuration

Default Settings	Download Configuration File
Browse... No file selected.	Load & Apply Configuration File

Reboot

Reboot

General System Configuration

Unit Name	3046X2-2 (4 your eyes only until 8/28/2019)	Unit Location	Eng(Do not change MP settings)

Ethernet Settings Configuration

	IP Address	Subnet Mask	Gateway
Control Port	172.16.130.45	255.255.255.0	172.16.130.254
	IP Address	Subnet Mask	Gateway
Data Port	192.168.6.111	255.255.255.0	192.168.6.254
	IP Address	Subnet Mask	IGMP Version Selection
EAS Port	172.16.80.2	255.255.255.0	IGMPv2

Save

System Page - Full View

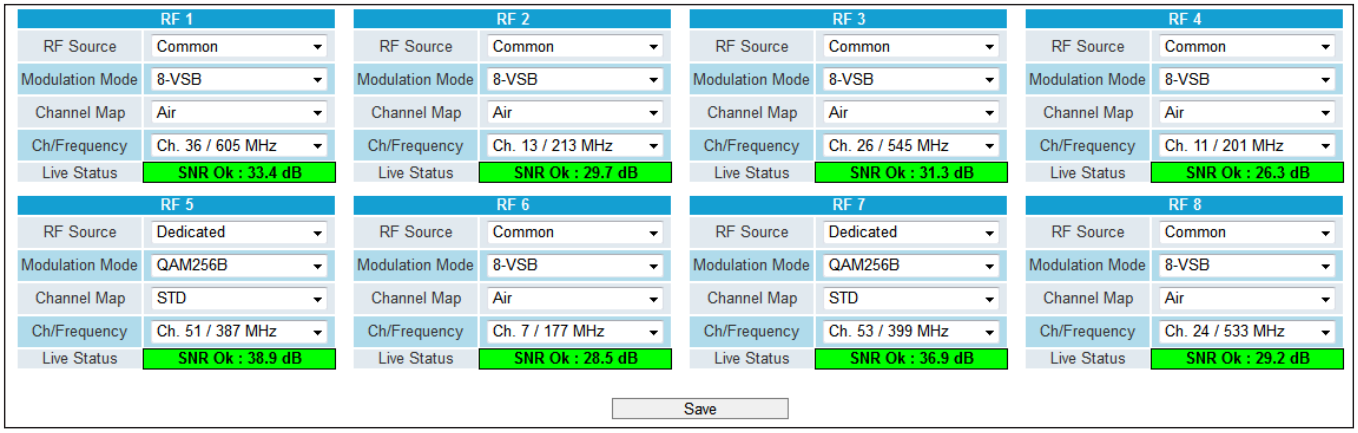
REMINDER:

If the IP Address is changed, the procedure in Step 3 must be repeated using the new IP address in place of the default IP address in order to re-access the control panel.

Step 5: Transmodulator Configuration

RF Input

The "**RF Input**" tab allows set up of the RF Input information. Live Status shows whether or not the RF Input is locked (green background), with displayed SNR information, or "Not Locked" (red background). See below for examples.



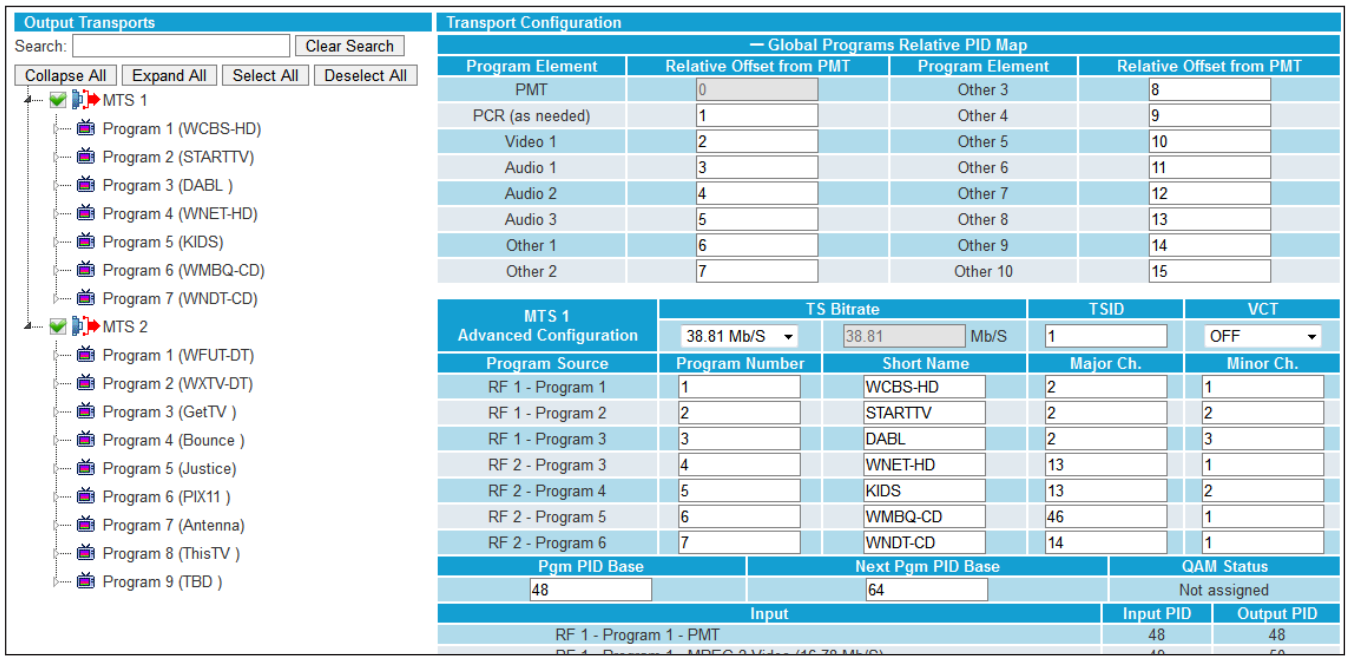
RF Input Page

Multiplexing

The "**Cherry Picking**" tab and "**2:1 Multiplexing**" tab allow the user to set up the transport streams within the unit. The interface controls for both tab sections work very similar for each section but have their specific functions and restrictions.

The sub-tabs under each section are TS Select and TS Config. TS Select will allow the user to choose the programs to add to the TS or MTS. When TS selection has been completed, click on the TS Config tab to set up the transport stream configurations.

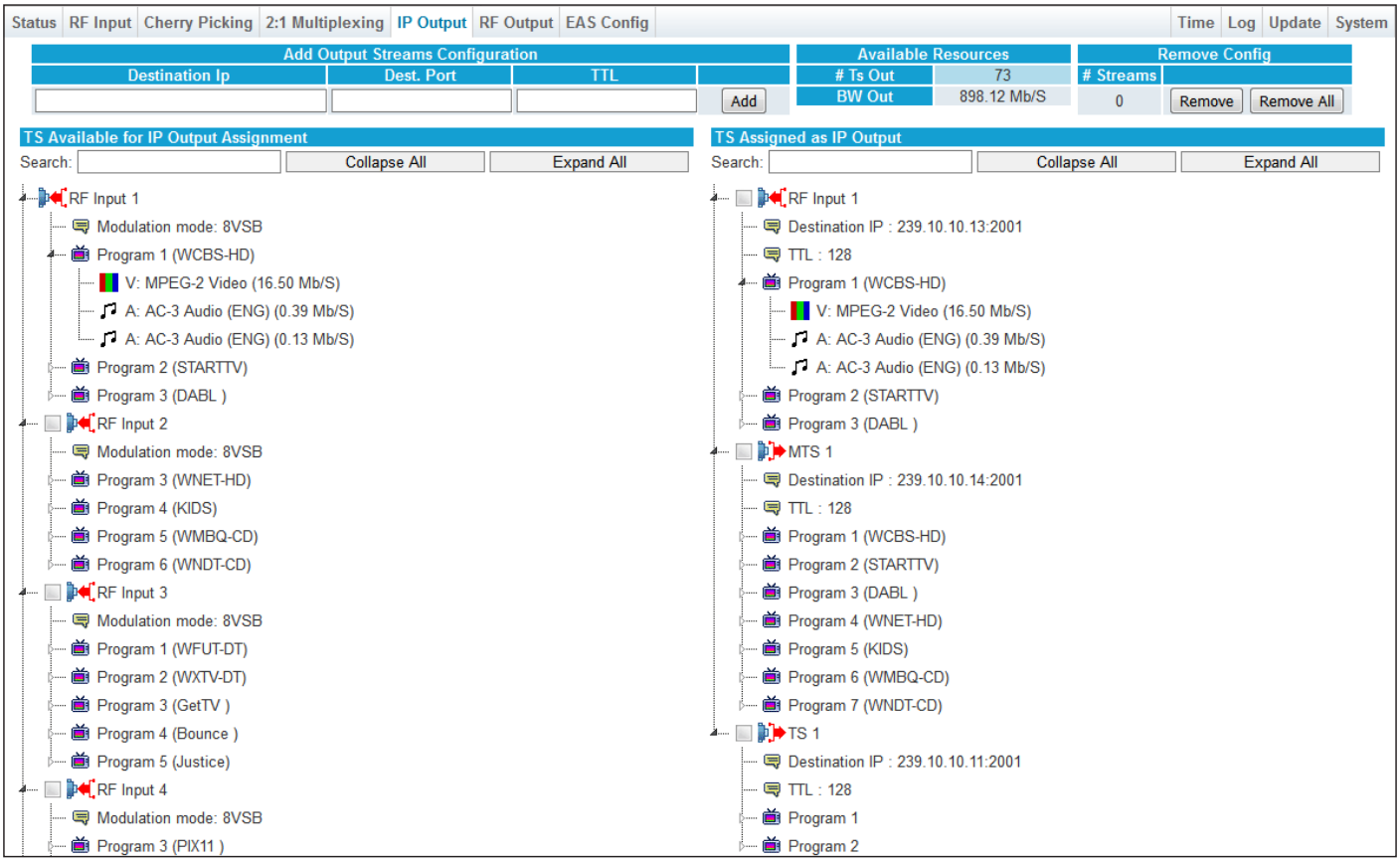
The TS Config has a left-side column which enables the user to select the TS for configuration inclusion. The TS Config settings include: **TSID**, **VCT**, **Program Number**, **Short Name**, **Major Channel**, **Minor Channel**. The **Program PID base** and **Next Program PID Base** options can be toggled on when clicking the + next to "Basic Configuration". In addition, are the Global Programs Relative PID Map settings which allow setup to offset numbers from the PMT.



Cherry Picking - Configuration Settings (example)

Step 6: IP Output

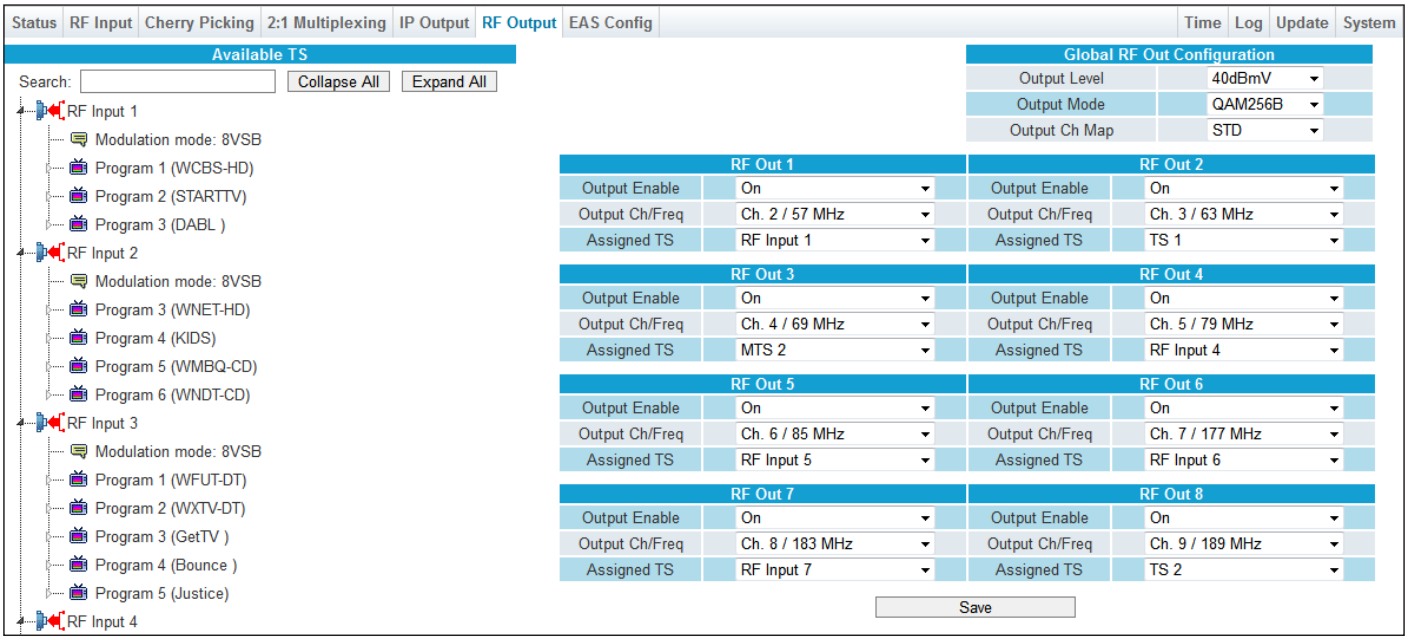
The "**IP Output**" tab allows the user to add and configure up to x64 IP outputs (8vsb or QAM). In addition, it can also output x8 RF to IP pass thrus and x4 2:1 mux MTS. The IP Output can handle up to 1 GB of bandwidth.



IP Output - Configuration Settings (example)

Step 7: RF Output

The "**RF Output**" tab allows the user to **Enable** or **Disable** programs for QAM output as well as configure the **Assigned TS** and **Output Channel Frequency**. Global configurations also include the **Output Level**, **Output Mode**, and **Output Ch Map**.



RF Output - Configuration Settings (example)

Additional Configuration

In addition to the steps in this guide, further configuration of the unit is as follows:

EAS: This tab allows the user to configure the EAS settings for the unit. The EAS trigger is either by Dry contact closure or Voltage. The EAS source can be an IP or ASI input from the rear of the unit.

Time: This tab allows the user to set up the time settings for the unit and event log.

Log: This tab displays system log messages to assist in troubleshooting any issues.

Update: This tab provides a way for the user to update the firmware of the unit.

Admin: This page allows the user to change the login and password of the unit.

Troubleshooting

For technical support please contact us at 1-800-523-6049 between the hours of 8am and 5pm EST.

Please refer to the User Manual for more in-depth information about the unit.

Product and Documentation Updates

Download the latest User Manual (PDF) by visiting our website. Navigate to the product page by entering the full Model Name or Stock Number in the search field. Upon reaching the product page, the "User Manual" download link will be located beneath the product image. **Firmware Updates** are available under "Tech Support" in the "Resources" section of the website. General instructions for the FTP site, as well as updating your firmware, are provided on this page.

Returning Product for Repair (or Credit)

A Return Material Authorization (RMA) Number is required on all products returned to Blonder Tongue, regardless if the product is being returned for repair or credit. Before returning product, please contact the Blonder Tongue Service Department at 1-800-523-6049, Ext. 4256 or visit our website: **www.blondertongue.com** for further information.

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