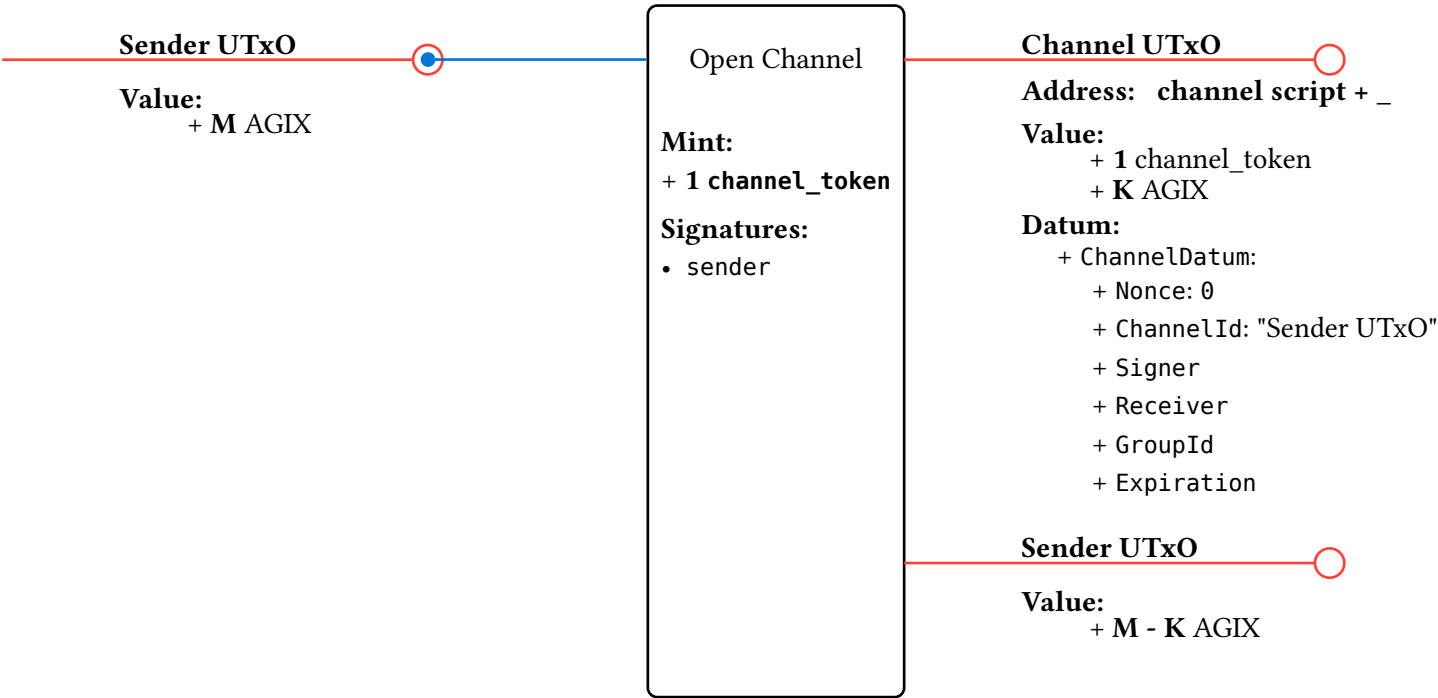


# Open Channel



## Note:

channel\_token = "channel script" + "channel id"

Sender opens a channel with K AGIX

## Extend and/or AddFunds Channel

Channel UTxO

Update

Address: channel script + \_

Value:

- + 1 channel\_token
- + M AGIX

Datum:

- + ChannelDatum:
- + Nonce
- + ChannelId
- + Signer
- + Receiver
- + GroupId
- + Expiration

Update Channel

Signatures:

- user

Channel UTxO

Address: channel script + \_

Value:

- + 1 channel\_token
- + M + K AGIX

Datum:

- + ChannelDatum:
- + Nonce
- + ChannelId
- + Signer
- + Receiver
- + GroupId
- + Expiration'

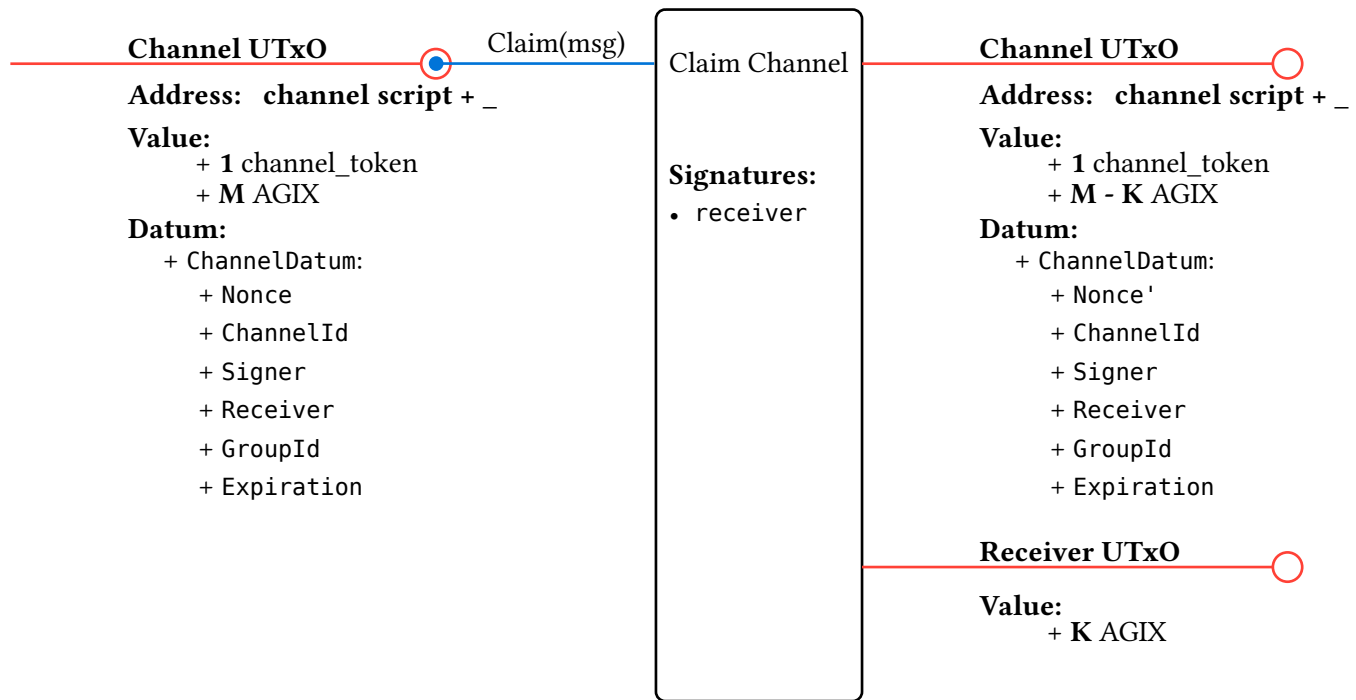
**Note:**

$\text{Expiration} \leq \text{Expiration}'$

$0 \leq K$

user must be sender when extending the channel

## Claim Channel



### Note:

msg is signed by the signer

Nonce' = Nonce + 1

## Claim Multiple Channels

**Channel UTxO (Sender<sub>1</sub>)**    Claim(msg)

**Address:** channel script + \_

**Value:**

- + 1 channel\_token\_1
- + M AGIX

**Datum:**

- + ChannelDatum:
- + Nonce\_1
- + ChannelId\_1
- + Signer\_1
- + Receiver\_1
- + GroupId\_1
- + Expiration\_1

**Channel UTxO (Sender<sub>2</sub>)**    Claim(msg<sub>2</sub>)

**Address:** channel script + \_

**Value:**

- + 1 channel\_token\_2
- + N AGIX

**Datum:**

- + ChannelDatum:
- + Nonce\_2
- + ChannelId\_2
- + Signer\_2
- + Receiver\_2
- + GroupId\_2
- + Expiration\_2

Claim Channel

**Mint:**

- 1 channel\_token\_2

**Signatures:**

- receiver

**Channel UTxO (Sender<sub>1</sub>)**

**Address:** channel script + \_

**Value:**

- + 1 channel\_token
- + M - K<sub>1</sub> AGIX

**Datum:**

- + ChannelDatum:
- + Nonce<sub>1</sub>'
- + ChannelId\_1
- + Signer\_1
- + Receiver\_1
- + GroupId\_1
- + Expiration\_1

**Sender<sub>2</sub> UTxO**

**Address:** sender<sub>2</sub> address + \_

**Value:**

- + N - K<sub>2</sub> AGIX

**Receiver UTxO**

**Value:**

- + K<sub>1</sub> + K<sub>2</sub> AGIX

**Note:**

msg is signed by the signer<sub>1</sub>

msg<sub>2</sub> is signed by the signer<sub>2</sub>

Nonce<sub>1</sub>' = Nonce<sub>1</sub> + 1

# Close Channel

