# Release Notes

# IRG-3401

## Release History

| Upgrade Package | Comprising: | | Release Date | User Manual for this release (Grass Valley document #) |
|---|---|---|---|---|
| | Firmware Version | Software Version | | |
| 1.0.9 | 1.0.9.10 | 1.0.1 | 2018.06.08 | M945-9900-100 |
| 1.0.8 | 1.0.8.236 | 1.0.1 | 2016.11.09 | M945-9900-100 |
| 1.0.7 | 1.0.7.221 | 1.0.1 | 2016.10.11 | M945-9900-100 |
| 1.0.6 | 1.0.6.213 | 1.0.1 | 2016.10.05 | M945-9900-100 |
| 1.0.5 | 1.0.5.202 | 1.0.1 | 2016.09.09 | M945-9900-100 |
| 1.0.4 | 1.0.4.198 | 1.0.1 | 2016.08.18 | M945-9900-100 |
| 1.0.1 | 1.0.1 | 1.0.1 | 2016.01.26 | M945-9900-100 |
| 1.0.0 | 1.0.0 | n/a | 2013.09.06 | M945-9900-100 |
| 0.0.1 | 0.0.1 | n/a | 2013.07.31 | M945-9900-100 |

**NOTES**: The iControl compatibilities shown below are officially supported by Grass Valley. Earlier versions may also work, with bugs or limited features.

The Reference number (Ref#) given for each feature or bug in these Release Notes refers to internal Grass Valley documentation.

# Release Notes

## UPGRADE PACKAGE: 1.0.9

**Firmware version:** 1.0.9

**Release date:** 2018.06.08

**iControl compatibility:** 5.00+

**iControl Solo compatibility:** 6.00+

**RCP-200 compatibility:** NA

**Hardware compatibility:** This upgrade package applies to all existing hardware assemblies.

### ENHANCEMENTS & NEW FEATURES

| Ref # | Description |
|---|---|
| | |

### BUGS FIXED IN THIS RELEASE

| Ref # | Description |
|---|---|
| IRG-246 | **In IP to ASI, the card could accumulate some delay over time**<br>We've had a customer where the card could accumulate up to 2 seconds in a week. |

### KNOWN BUGS & LIMITATIONS

| Ref # | Description |
|---|---|
| IRG-1 | **Ethernet types and protocols supported**<br>This version of the IRG-3401 only supports the following protocols: *ARP* ; *IPv4* ; *ICMP* ; *IGMP* ; *UDP* and *TCP*. |
| IRG-99 | **Power outage or card removal during upgrade**<br>Be careful not to unplug the card from the frame until the upgrade process is completed. Doing so (or a power outage when the update is in progress) may lead to corruption causing boot-up problems. This limitation should be fixed in the next release. |

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| IRG-124 | **Ethernet port configuration**<br>To avoid confusion and various network problems, the IP addresses of card`s two Ethernet ports should not be set in the same subnet. |
| IRG-176 | **Maximum throughput accepted by the card**<br>We estimate the maximum throughput that could be handled correctly by the card`s twelve gateways at 800Mbps. We strongly recommend not exceeding it. Doing so may lead to loss of packets. |
| IRG-191 | **Backup port status on the Ethernet side**<br>It is not possible to get the various stream statuses of the Ethernet *backup* port while using the *Main* port. In any case, only the statuses of the "*in use"* port will be displayed to the user. |
| IRG-213 | **FEC packets not present in ethernet port mirroring**<br>When the Ethernet side is used as output and with port redundancy active, UDP packets carrying transport streams are transmitted simultaneously on both Ethernet ports (main and backup). This is called port mirroring. However, when FEC is used, the FEC packets won't be transmitted on the backup port. The stream will consequently be seen as a UDP-type stream on this port. This will be fixed in a future release. |

# Release Notes

## UPGRADE PACKAGE: 1.0.8

**Firmware version:** 1.0.8

**Release date:** 2016.11.09

**iControl compatibility:** 5.00+

**iControl Solo compatibility:** 6.00+

**RCP-200 compatibility:** NA

**Hardware compatibility:** This upgrade package applies to all existing hardware assemblies.

### ENHANCEMENTS & NEW FEATURES

| Ref # | Description |
|---|---|
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### BUGS FIXED IN THIS RELEASE

| Ref # | Description |
|---|---|
| IRG-242 | **Stream presence status could remain "present" even in absence of a valid stream.**<br>In rare situations, it may happen with previous version only that a loss of stream on this IP side was not detected by the card. |

### KNOWN BUGS & LIMITATIONS

| Ref # | Description |
|---|---|
| IRG-1 | **Ethernet types and protocols supported**<br>This version of the IRG-3401 only supports the following protocols: *ARP* ; *IPv4* ; *ICMP* ; *IGMP* ; *UDP* and *TCP*. |
| IRG-99 | **Power outage or card removal during upgrade**<br>Be careful not to unplug the card from the frame until the upgrade process is completed. Doing so (or a power outage when the update is in progress) may lead to corruption causing boot-up problems. This limitation should be fixed in the next release. |

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| IRG-124 | **Ethernet port configuration**<br>To avoid confusion and various network problems, the IP addresses of card`s two Ethernet ports should not be set in the same subnet. |
| IRG-176 | **Maximum throughput accepted by the card**<br>We estimate the maximum throughput that could be handled correctly by the card`s twelve gateways at 800Mbps. We strongly recommend not exceeding it. Doing so may lead to loss of packets. |
| IRG-191 | **Backup port status on the Ethernet side**<br>It is not possible to get the various stream statuses of the Ethernet *backup* port while using the *Main* port. In any case, only the statuses of the "*in use"* port will be displayed to the user. |
| IRG-213 | **FEC packets not present in ethernet port mirroring**<br>When the Ethernet side is used as output and with port redundancy active, UDP packets carrying transport streams are transmitted simultaneously on both Ethernet ports (main and backup). This is called port mirroring. However, when FEC is used, the FEC packets won't be transmitted on the backup port. The stream will consequently be seen as a UDP-type stream on this port. This will be fixed in a future release. |

# Release Notes

## UPGRADE PACKAGE: 1.0.7

**Firmware version:** 1.0.7.221

**Release date:** 2016.10.05

**iControl compatibility:** 5.00+

**iControl Solo compatibility:** 6.00+

**RCP-200 compatibility:** NA

**Hardware compatibility:** This upgrade package applies to all existing hardware assemblies.

### ENHANCEMENTS & NEW FEATURES

| Ref # | Description |
|---|---|
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### BUGS FIXED IN THIS RELEASE

| Ref # | Description |
|---|---|
| IRG-240 | **Unanswered IGMP query**<br>Under certain circumstance, IGMP query sent by the switch was not answered correctly by the card causing the switch port to momentarily stop the streaming sent to the card. This was obviously reported as a transport stream sync loss by the IRG-3401 card. |
| IRG-239 | **Wrong timeout value for streams received from IP**<br>The timeout value that was applied to the IP received streams has been modified to be more tolerant with the « bursty » sources and avoid faulty stream loss detection. |

### KNOWN BUGS & LIMITATIONS

| Ref # | Description |
|---|---|
| IRG-1 | **Ethernet types and protocols supported**<br>This version of the IRG-3401 only supports the following protocols: *ARP* ; *IPv4* ; *ICMP* ; *IGMP* ; *UDP* and *TCP*. |

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| IRG-99 | **Power outage or card removal during upgrade**<br>Be careful not to unplug the card from the frame until the upgrade process is completed. Doing so (or a power outage when the update is in progress) may lead to corruption causing boot-up problems. This limitation should be fixed in the next release. |
| IRG-124 | **Ethernet port configuration**<br>To avoid confusion and various network problems, the IP addresses of card`s two Ethernet ports should not be set in the same subnet. |
| IRG-176 | **Maximum throughput accepted by the card**<br>We estimate the maximum throughput that could be handled correctly by the card`s twelve gateways at 800Mbps. We strongly recommend not exceeding it. Doing so may lead to loss of packets. |
| IRG-191 | **Backup port status on the Ethernet side**<br>It is not possible to get the various stream statuses of the Ethernet *backup* port while using the *Main* port. In any case, only the statuses of the "*in use"* port will be displayed to the user. |
| IRG-213 | **FEC packets not present in ethernet port mirroring**<br>When the Ethernet side is used as output and with port redundancy active, UDP packets carrying transport streams are transmitted simultaneously on both Ethernet ports (main and backup). This is called port mirroring. However, when FEC is used, the FEC packets won't be transmitted on the backup port. The stream will consequently be seen as a UDP-type stream on this port. This will be fixed in a future release. |

# Release Notes

## UPGRADE PACKAGE: 1.0.6

**Firmware version:** 1.0.6.213

**Release date:** 2016.10.05

**iControl compatibility:** 5.00+

**iControl Solo compatibility:** 6.00+

**RCP-200 compatibility:** NA

**Hardware compatibility:** This upgrade package applies to all existing hardware assemblies.

### ENHANCEMENTS & NEW FEATURES

| Ref # | Description |
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### BUGS FIXED IN THIS RELEASE

| Ref # | Description |
|---|---|
| IRG-234 | **BPDU messages from cards shutting down ports on switch.**<br>Under certain timing conditions, corruption was observed upon reception of BPDU messages sent from the switch. This corruption was causing the card to response while it shouldn't and the switch to close this port thinking of a loop in the network topology. |

### KNOWN BUGS & LIMITATIONS

| Ref # | Description |
|---|---|
| IRG-1 | **Ethernet types and protocols supported**<br>This version of the IRG-3401 only supports the following protocols: *ARP* ; *IPv4* ; *ICMP* ; *IGMP* ; *UDP* and *TCP*. |
| IRG-99 | **Power outage or card removal during upgrade** |

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| | Be careful not to unplug the card from the frame until the upgrade process is completed. Doing so (or a power outage when the update is in progress) may lead to corruption causing boot-up problems. This limitation should be fixed in the next release. |
| IRG-124 | **Ethernet port configuration**<br>To avoid confusion and various network problems, the IP addresses of card`s two Ethernet ports should not be set in the same subnet. |
| IRG-176 | **Maximum throughput accepted by the card**<br>We estimate the maximum throughput that could be handled correctly by the card`s twelve gateways at 800Mbps. We strongly recommend not exceeding it. Doing so may lead to loss of packets. |
| IRG-191 | **Backup port status on the Ethernet side**<br>It is not possible to get the various stream statuses of the Ethernet *backup* port while using the *Main* port. In any case, only the statuses of the "*in use"* port will be displayed to the user. |
| IRG-213 | **FEC packets not present in ethernet port mirroring**<br>When the Ethernet side is used as output and with port redundancy active, UDP packets carrying transport streams are transmitted simultaneously on both Ethernet ports (main and backup). This is called port mirroring. However, when FEC is used, the FEC packets won't be transmitted on the backup port. The stream will consequently be seen as a UDP-type stream on this port. This will be fixed in a future release. |

# UPGRADE PACKAGE: 1.0.5

**Firmware version:** 1.0.5.202

**Release date:** 2016.09.09

**iControl compatibility:** 5.00+

**iControl Solo compatibility:** 6.00+

**RCP-200 compatibility:** NA

**Hardware compatibility:** This upgrade package applies to all existing hardware assemblies.

## ENHANCEMENTS & NEW FEATURES

| Ref# | Description |
|---|---|

## BUGS FIXED IN THIS RELEASE

| Ref # | Description |
|---|---|
| IRG-229 | **After reboot, output is corrupted when card is set to stream in CBR mode.**<br>The tolerance calculation for ASI output following the redistribution done in CBR mode was faulty causing the observed corruption. |
| IRG-230 | **IRG3401 does not show correct fw version in the panel.**<br>This was caused by an erroneous handling of the version number internally but was not affecting the behavior of the card. |

## KNOWN BUGS & LIMITATIONS

| Ref # | Description |
|---|---|
| IRG-1 | **Ethernet types and protocols supported**<br>This version of the IRG-3401 only supports the following protocols: *ARP* ; *IPv4* ; *ICMP* ; *IGMP* ; *UDP* and *TCP*. |
| IRG-99 | **Power outage or card removal during upgrade**<br>Be careful not to unplug the card from the frame until the upgrade process is completed. |

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| | Doing so (or a power outage when the update is in progress) may lead to corruption causing boot-up problems. This limitation should be fixed in the next release. |
| IRG-124 | **Ethernet port configuration**<br>To avoid confusion and various network problems, the IP addresses of card`s two Ethernet ports should not be set in the same subnet. |
| IRG-176 | **Maximum throughput accepted by the card**<br>We estimate the maximum throughput that could be handled correctly by the card`s twelve gateways at 800Mbps. We strongly recommend not exceeding it. Doing so may lead to loss of packets. |
| IRG-191 | **Backup port status on the Ethernet side**<br>It is not possible to get the various stream statuses of the Ethernet *backup* port while using the *Main* port. In any case, only the statuses of the "*in use"* port will be displayed to the user. |
| IRG-213 | **FEC packets not present in ethernet port mirroring**<br>When the Ethernet side is used as output and with port redundancy active, UDP packets carrying transport streams are transmitted simultaneously on both Ethernet ports (main and backup). This is called port mirroring. However, when FEC is used, the FEC packets won't be transmitted on the backup port. The stream will consequently be seen as a UDP-type stream on this port. This will be fixed in a future release. |

# Release Notes

## UPGRADE PACKAGE: 1.0.4

**Firmware version:** 1.0.4.198

**Release date:** 2016.08.18

**iControl compatibility:** 5.00+

**iControl Solo compatibility:** 6.00+

**RCP-200 compatibility:** NA

**Hardware compatibility:** This upgrade package applies to all existing hardware assemblies.

### ENHANCEMENTS & NEW FEATURES

| Ref# | Description |
|---|---|

### BUGS FIXED IN THIS RELEASE

| Ref # | Description |
|---|---|
| IRG-228 | **The IRG-3401 is identifying itself as an mrouter (multicast router)**<br>This results in the Cisco switch directing all multicast traffic to the card and overloading its Network port. |
| IRG-231 | **“Not Ready” state in iControl when using CPU-ETH2 v224**<br>Sometimes the IRG-3401 would not be initialized correctly by CPU-ETH2 v224. This would translate in the iControl status of the card being reported as “Not Ready”. |
| IRG-232 | **Sometimes, the ETH link is down at power up**<br>Result: there is no IP and no ASI output until the re-insertion of the SFP. This happens with the ETH cable plugged-in. |
| IRG-233 | **IGMP "Leave" message not sent when switching gateway mode from IP->ASI to ASI->IP**<br>Not sending the “Leave” message causes the switch to continue sending the multicast stream to the card and thus wasting bandwidth. |

## KNOWN BUGS & LIMITATIONS

| Ref # | Description |
|---|---|
| IRG-229 | **In "IP->ASI" direction and CBR mode, the ASI output can be distorted**<br>The distortion on screen is caused by TS errors in the ASI output stream. These errors occur when we change IP source. The frequency of occurrence is around once every 10 changes of IP source. |
| IRG-1 | **Ethernet types and protocols supported**<br>This version of the IRG-3401 only supports the following protocols: *ARP* ; *IPv4* ; *ICMP* ; *IGMP* ; *UDP* and *TCP*. |
| IRG-99 | **Power outage or card removal during upgrade**<br>Be careful not to unplug the card from the frame until the upgrade process is completed. Doing so (or a power outage when the update is in progress) may lead to corruption causing boot-up problems. This limitation should be fixed in the next release. |
| IRG-124 | **Ethernet port configuration**<br>To avoid confusion and various network problems, the IP addresses of card`s two Ethernet ports should not be set in the same subnet. |
| IRG-176 | **Maximum throughput accepted by the card**<br>We estimate the maximum throughput that could be handled correctly by the card`s twelve gateways at 800Mbps. We strongly recommend not exceeding it. Doing so may lead to loss of packets. |
| IRG-191 | **Backup port status on the Ethernet side**<br>It is not possible to get the various stream statuses of the Ethernet *backup* port while using the *Main* port. In any case, only the statuses of the "*in use"* port will be displayed to the user. |
| IRG-213 | **FEC packets not present in ethernet port mirroring**<br>When the Ethernet side is used as output and with port redundancy active, UDP packets carrying transport streams are transmitted simultaneously on both Ethernet ports (main and backup). This is called port mirroring. However, when FEC is used, the FEC packets won't be transmitted on the backup port. The stream will consequently be seen as a UDP-type stream on this port. This will be fixed in a future release. |

# PREVIOUS RELEASES

## UPGRADE PACKAGE: 1.0.1

**Release date:** 2016.01.26

**iControl compatibility:** 5.00+

**iControl Solo compatibility:** 6.00+

**RCP-200 compatibility:** NA

**Custom software compatibility:** NA

**Hardware compatibility:** This upgrade package applies to all existing hardware assemblies.

### ENHANCEMENTS & NEW FEATURES

| Ref# | Description |
|---|---|
| | **N/A** |

### BUGS FIXED IN THIS RELEASE

| Ref # | Description |
|---|---|
| IRG-221 | **Arp request not processed after IRG-3401 reboots**<br>When configured using unicast addresses, the card streaming was not restarting by itself after a reboot. The user needs to press the apply button for the streaming to restart. This issue is now resolved and the streaming restart by itself after a reboot in unicast mode. Multicast mode was unaffected by this bug. |

### KNOWN BUGS & LIMITATIONS

| Ref # | Description |
|---|---|
| IRG-1 | **Ethernet types and protocols supported**<br>This version of the IRG-3401 only supports the following protocols: *ARP* ; *IPv4* ; *ICMP* ; *IGMP* ; *UDP* and *TCP*. |

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| IRG-99 | **Power outage or card removal during upgrade**<br>Be careful not to unplug the card from the frame until the upgrade process is completed. Doing so (or a power outage when the update is in progress) may lead to corruption causing boot-up problems. This limitation should be fixed in the next release. |
| IRG-124 | **Ethernet port configuration**<br>To avoid confusion and various network problems, the IP addresses of card`s two Ethernet ports should not be set in the same subnet. |
| IRG-176 | **Maximum throughput accepted by the card**<br>We estimate the maximum throughput that could be handled correctly by the card`s twelve gateways at 800Mbps. We strongly recommend not exceeding it. Doing so may lead to loss of packets. |
| IRG-191 | **Backup port status on the Ethernet side**<br>It is not possible to get the various stream statuses of the Ethernet *backup* port while using the *Main* port. In any case, only the statuses of the "*in use"* port will be displayed to the user. |
| IRG-213 | **FEC packets not present in ethernet port mirroring**<br>When the Ethernet side is used as output and with port redundancy active, UDP packets carrying transport streams are transmitted simultaneously on both Ethernet ports (main and backup). This is called port mirroring. However, when FEC is used, the FEC packets won't be transmitted on the backup port. The stream will consequently be seen as a UDP-type stream on this port. This will be fixed in a future release. |

# Release Notes

## UPGRADE PACKAGE: 1.0.0

**Release date:** 2013-09-06

**iControl compatibility:** 4.44 build 518 and up

**iControl Solo compatibility:** 4.44 build 518 and up

**RCP-200 compatibility:** NA

**Custom software compatibility:** NA

**Hardware compatibility:** This upgrade package applies to all existing hardware assemblies.

### ENHANCEMENTS & NEW FEATURES

| Ref# | Description |
|---|---|
| | **N/A** |

### BUGS FIXED IN THIS RELEASE

| Ref # | Description |
|---|---|
| IRG-158 | **Input buffer for the IP to ASI direction**<br>The IRG-3401 is now able to receive streams with jitter from the IP side and output it in conformance with the specifications on the ASI side as long as the jitter on the IP side stays within the Pro-MPEG Code of Practice #3 specification. |
| IRG-160 | **Inaccurate statistics in the network tab**<br>The Statistics tab has been modified and the info located there is now reliable. |
| IRG-167 | **Issues with RTP + FEC**<br>Previous issue with RTP and FEC causing loss of packets has been corrected and this mode can now be used efficiently. |
| IRG-194 | **Host messages received on Ethernet port 2 (backup port)**<br>This limitation present in the previous release has now been removed and host messages can now be sent and received from the backup port. |

## KNOWN BUGS & LIMITATIONS

| Ref # | Description |
|---|---|
| IRG-1 | **Ethernet types and protocols supported**<br>This version of the IRG-3401 only supports the following protocols: *ARP* ; *IPv4* ; *ICMP* ; *IGMP* ; *UDP* and *TCP*. |
| IRG-99 | **Power outage or card removal during upgrade**<br>Be careful not to unplug the card from the frame until the upgrade process is completed. Doing so (or a power outage when the update is in progress) may lead to corruption causing boot-up problems. This limitation should be fixed in the next release. |
| IRG-124 | **Ethernet port configuration**<br>To avoid confusion and various network problems, the IP addresses of card`s two Ethernet ports should not be set in the same subnet. |
| IRG-176 | **Maximum throughput accepted by the card**<br>We estimate the maximum throughput that could be handled correctly by the card`s twelve gateways at 800Mbps. We strongly recommend not exceeding it. Doing so may lead to loss of packets. |
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| IRG-213 | **FEC packets not present in ethernet port mirroring**<br>When the Ethernet side is used as output and with port redundancy active, UDP packets carrying transport streams are transmitted simultaneously on both Ethernet ports (main and backup). This is called port mirroring. However, when FEC is used, the FEC packets won't be transmitted on the backup port. The stream will consequently be seen as a UDP-type stream on this port. This will be fixed in a future release. |

# Release Notes

## UPGRADE PACKAGE: BETA 0.0.1 BUILD 129

**Release date:** 2013-07-31

**iControl compatibility:** 4.43

**Hardware compatibility:** This upgrade package applies to all existing hardware assemblies.

### ENHANCEMENTS & NEW FEATURES

| Ref# | Description |
|---|---|
| | **N/A** |

### BUGS FIXED IN THIS RELEASE

| Ref # | Description |
|---|---|
| | **N/A** |

### KNOWN BUGS & LIMITATIONS

| Ref # | Description |
|---|---|
| IRG-99 | **Power outage or card removal during upgrade**<br>Be careful not to unplug the card from the frame until the upgrade process is completed. Doing so (or a power outage when the update is in progress) may lead to corruption causing boot-up problems. |
| IRG-124 | **Ethernet port configuration**<br>To avoid confusion and various network problems, the IP addresses of card`s two Ethernet ports should not be set in the same subnet. |
| IRG-158 | **Input buffer for the IP to ASI direction**<br>When the streams received from IP contains too much jitter or are too “bursty”, the IRG-3401 may not be able to output it on the ASI side correctly. The bitrate of the ASI output feed by |

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| | this IP socket will vary a bit more than what it should. Improvements are left to do and they are planned for the next phase. |
| IRG-160 | **Inaccurate statistics in the network tab**<br>Most of the statistics under the "*Network – Statistics"* tab are stuck at 0 or displayed invalid numbers. None of the information displayed in this tab should be considered for now. This should be fixed for the next phase. |
| IRG-167 | **Issues with RTP + FEC**<br>We actually have some issues with the FEC (forward error correction) that causes loss of packets and we suggest not using the RTP with FEC enabled with this version. This should be fixed for the next release. |
| IRG-176 | **Maximum throughput accepted by the card**<br>We estimate the maximum throughput that could be handled correctly by the card`s twelve gateways at 800Mbps. We still have some validation to do regarding this limit but we strongly recommend not exceeding it with this release. Doing so may lead in loss of packets. |
| IRG-194 | **Host messages received on Ethernet port 2 (backup port)**<br>Due to some limitations that should be fixed for the next release, we had to restrict the ability of Ethernet port 2 (backup port) to receive and answer to host messages received from the network. (for example, the PING command) |