Hypertherm®

XPR® Web Interface and PCB Firmware Updates

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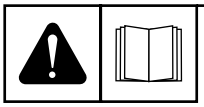

ENGLISH

WARNING! Before operating any Hypertherm equipment, read the safety instructions in your product's manual, the *Safety and Compliance Manual* (80669C), *Waterjet Safety and Compliance Manual* (80943C), and *Radio Frequency Warning Manual* (80945C). Failure to follow safety instructions can result in personal injury or in damage to equipment.

Copies of the manuals can come with the product in electronic and printed formats. Electronic copies are also on our website. Many manuals are available in multiple languages at www.hypertherm.com/docs.

BG (БЪЛГАРСКИ/BULGARIAN)

ПРЕДУПРЕЖДЕНИЕ! Преди да работите с което и да е оборудване Hypertherm, прочетете инструкциите за безопасност в ръководството на вашия продукт, „Инструкция за безопасност и съответствие“ (80669C), „Инструкция за безопасност и съответствие на Waterjet“ (80943C) и „Инструкция за предупреждение за радиочестота“ (80945C).

Продуктът може да е съпроводен от копия на ръководствата в електронен и в печатен формат. Тези в електронен формат са достъпни също на уебсайта ни. Много ръководства са налице на няколко езика на адрес www.hypertherm.com/docs.

CS (ČESKY/CZECH)

VAROVÁNÍ! Před uvedením jakéhokoli zařízení Hypertherm do provozu si přečtěte bezpečnostní pokyny v příručce k produktu a v *Manuálu pro bezpečnost a dodržování předpisů* (80669C), *Manuálu pro bezpečnost a dodržování předpisů při řezání vodním paprskem* (80943C) a *Manuálu varování ohledně rádiových frekvencí* (80945C).

Kopie příruček mohou být součástí dodávky produktu, a to v elektronické i tištěné formě. Elektronické kopie jsou k dispozici i na našich webových stránkách. Mnoho příruček je k dispozici v různých jazycích na stránce www.hypertherm.com/docs.

DA (DANSK/DANISH)

ADVARSEL! Inden Hypertherm udstyr tages i brug skal sikkerhedsinstruktionerne i produktets manual og i *Manual om sikkerhed og overholdelse af krav* (80669C), *Manual om sikkerhed og overholdelse af krav for vandstråleskæring* (80943C), og *Manual om radiofrekvensadvarsel* (80945C), gennemlæses.

Kopier af manualerne kan leveres med produktet i elektronisk og trykt format. Elektroniske kopier findes også på vores hjemmeside. Mange manualer er tilgængelige på flere sprog på www.hypertherm.com/docs.

DE (DEUTSCH/GERMAN)

WARNUNG! Bevor Sie ein Hypertherm-Gerät in Betrieb nehmen, lesen Sie bitte die Sicherheitsanweisungen in Ihrer Bedienungsanleitung, das *Handbuch für Sicherheit und Übereinstimmung* (80669C), das *Handbuch für Sicherheit und Compliance bei Wasserstrahl-Schneidanlagen* (80943C) und das *Handbuch für Hochfrequenz-Warnung* (80945C).

Bedienungsanleitungen und Handbücher können dem Gerät in elektronischer Form oder als Druckversion beiliegen. In elektronischer Form liegen sie auch auf unserer Website vor. Viele Handbücher stehen in verschiedenen Sprachen auf www.hypertherm.com/docs zur Verfügung.

ES (ESPAÑOL/SPANISH)

¡ADVERTENCIA! Antes de operar cualquier equipo Hypertherm, lea las instrucciones de seguridad del manual de su producto, del *Manual de seguridad y cumplimiento* (80669C), del *Manual de seguridad y cumplimiento en corte con chorro de agua* (80943C) y del *Manual de advertencias de radiofrecuencia* (80945C).

El producto puede incluir copias de los manuales en formato digital e impreso. Las copias digitales también están en nuestra página web. Hay diversos manuales disponibles en varios idiomas en www.hypertherm.com/docs.

ET (EESTI/ESTONIAN)

HOIATUS! Enne Hyperthermi mis tahes seadme kasutamist lugege läbi toote kasutusjuhendis olevad ohutusjuhised ning *Ohutus- ja vastavusjuhend* (80669C), *Veejoa ohutuse ja vastavuse juhend* (80943C) ja *Raadiosageduse hoiatusjuhend* (80945C). Ohutusjuhiste eiramine võib põhjustada vigastusi ja kahjustada seadmeid.

Juhiste koopiad võivad tootega kaasas olla elektrooniliselt või trükituna. Elektroonilised koopiad on saadaval ka meie veebilehel. Paljud kasutusjuhendid on erinevates keeltes saadaval veebilehel www.hypertherm.com/docs.

FI (SUOMI/FINNISH)

VAROITUS! Ennen minkään Hypertherm-laitteen käyttöä lue tuotteen käyttöoppaassa olevat turvallisuusohjeet, *turvallisuuden ja vaatimustenmukaisuuden käsikirja* (80669C), vesileikkauksen *turvallisuuden ja vaatimustenmukaisuuden käsikirja* (80943C) ja *radiotaajuusvaroitusten käsikirja* (80945C).

Käyttöoppaiden kopiot voivat olla tuotteen mukana sähköisessä ja tulostetussa muodossa. Sähköiset kopiot ovat myös verkkosivustollamme. Monet käyttöoppaat ovat myös saatavissa useilla kielillä www.hypertherm.com/docs.

FR (FRANÇAIS/FRENCH)

AVERTISSEMENT! Avant d'utiliser tout équipement Hypertherm, lire les consignes de sécurité du manuel de votre produit, du *Manuel de sécurité et de conformité* (80669C), du *Manuel de sécurité et de conformité du jet d'eau* (80943C) et du *Manuel d'avertissement relatif aux radiofréqunces* (80945C).

Les exemplaires des manuels qui accompagnent le produit peuvent être sous forme électronique ou papier. Les manuels sous forme électronique se trouvent également sur notre site Internet. Plusieurs manuels sont offerts en plusieurs langues à www.hypertherm.com/docs.

GR (ΕΛΛΗΝΙΚΑ/GREEK)

ΠΡΟΕΙΔΟΠΟΙΗΣΗ! Πριν θέσετε σε λειτουργία οποιονδήποτε εξοπλισμό της Hypertherm, διαβάστε τις οδηγίες ασφαλείας στο εγχειρίδιο του προϊόντος και στο *εγχειρίδιο ασφάλειας και συμμόρφωσης* (80669C), στο *εγχειρίδιο ασφάλειας και συμμόρφωσης του waterjet* (80943C) και στο *εγχειρίδιο προειδοποιήσεων για τις ραδιοσυχνότητες* (80945C).

Το προϊόν μπορεί να συνοδεύεται από αντίγραφα των εγχειριδίων σε ηλεκτρονική και έντυπη μορφή. Τα ηλεκτρονικά αντίγραφα υπάρχουν επίσης στον ιστότοπό μας. Πολλά εγχειρίδια είναι διαθέσιμα σε διάφορες γλώσσες στο www.hypertherm.com/docs.

HU (MAGYAR/HUNGARIAN)

VIGYÁZAT! Mielőtt bármilyen Hypertherm berendezést üzemeltetne, olvassa el a biztonsági információkat a termék kézikönyvében, a *Biztonsági és szabálykövetési kézikönyvben* (80669C), a *Vízsugaras biztonsági és szabálykövetési kézikönyvben* (80943C) és a *Rádiófrekvenciás figyelmeztetéseket tartalmazó kézikönyvben* (80945C).

A termékhez a kézikönyv példányai elektronikus és nyomtatott formában is mellékelve lehetnek. Az elektronikus példányok webhelyünkön is megtalálhatók. Számos kézikönyv áll rendelkezésre több nyelven a www.hypertherm.com/docs weboldalon.

ID (BAHASA INDONESIA/INDONESIAN)

PERINGATAN! Sebelum mengoperasikan peralatan Hypertherm, bacalah petunjuk keselamatan dalam manual produk Anda, *Manual Keselamatan dan Kepatuhan* (80669C), *Manual Keselamatan dan Kepatuhan Jet Air* (80943C), dan *Manual Peringatan Frekuensi Radio* (80945C). Kegagalan mengikuti petunjuk keselamatan dapat menyebabkan cedera pribadi atau kerusakan pada peralatan.

Produk mungkin disertai salinan manual atau petunjuk dalam format elektronik maupun cetak. Salinan elektronik juga tersedia di situs web kami. Berbagai manual tersedia dalam beberapa bahasa di www.hypertherm.com/docs.

IT (ITALIANO/ITALIAN)

AVVERTENZA! Prima di usare un'attrezzatura Hypertherm, leggere le istruzioni sulla sicurezza nel manuale del prodotto, nel *Manuale sulla sicurezza e la conformità* (80669C), nel *Manuale sulla sicurezza e la conformità Waterjet* (80943C) e nel *Manuale di avvertenze sulla radiofrequenza* (80945C).

Copie del manuale possono accompagnare il prodotto in formato cartaceo o elettronico. Le copie elettroniche sono disponibili anche sul nostro sito web. Molti manuali sono disponibili in diverse lingue all'indirizzo www.hypertherm.com/docs.

JA (日 本語/JAPANESE)

警告！Hypertherm 機器を操作する前に、この製品説明書にある安全情報、「安全とコンプライアンスマニュアル」(80669C)、「ウォータージェットの安全とコンプライアンス」(80943C)、「高周波警告」(80945C) をお読みください。

説明書のコピーは、電子フォーマット、または印刷物として製品に同梱されています。電子コピーは当社ウェブサイトにも掲載されています。説明書の多くは www.hypertherm.com/docs にて複数の言語でご用意しています。

KO (한국어/KOREAN)

경고! Hypertherm 장비를 사용하기 전에 제품 설명서와 안전 및 규정 준수 설명서(80669C), 워터젯 안전 및 규정 준수 설명서(80943C) 그리고 무선 주파수 경고 설명서(80945C)에 나와 있는 안전 지침을 읽으십시오.

전자 형식과 인쇄된 형식으로 설명서 사본이 제품과 함께 제공될 수 있습니다. 전자 사본도 Hypertherm 웹사이트에서 보실 수 있으며 설명서 사본은 www.hypertherm.com/docs 에서 여러 언어로 제공됩니다.

NE (NEDERLANDS/DUTCH)

WAARSCHUWING! Lees voordat u Hypertherm-apparatuur gebruikt de veiligheidsinstructies in de producthandleiding, in de *Veiligheids- en nalevingshandleiding* (80669C) in de *Veiligheids- en nalevingshandleiding voor waterstralen* (80943C) en in de *Waarschuwingshandleiding radiofrequentie* (80945C).

De handleidingen kunnen in elektronische en gedrukte vorm met het product worden meegeleverd. Elektronische versies zijn ook beschikbaar op onze website. Veel handleidingen zijn in meerdere talen beschikbaar via www.hypertherm.com/docs.

NO (NORSK/NORWEGIAN)

ADVARSEL! Før du bruker noe Hypertherm-utstyr, må du lese sikkerhetsinstruksjonene i produktets håndbok, *håndboken om sikkerhet og samsvar* (80669C), *håndboken om vannjet sikkerhet og samsvar* (80943C), og *håndboken om radiofrekvensadvarsler* (80945C).

Eksemplarer av håndbøkene kan følge med produktet i elektronisk og trykt form. Elektroniske eksemplarer finnes også på nettstedet vårt. Mange håndbøker er tilgjengelig i flere språk på www.hypertherm.com/docs.

PL (POLSKI/POLISH)

OSTRZEŻENIE! Przed rozpoczęciem obsługi jakiegokolwiek systemu firmy Hypertherm należy się zapoznać z instrukcjami bezpieczeństwa zamieszczonymi w podręczniku produktu, w p*odręczniku bezpieczeństwa i zgodności* (80669C), *podręczniku bezpieczeństwa i zgodności systemów strumienia wody* (80943C) oraz *podręczniku z ostrzeżeniem o częstotliwości radiowej* (80945C).

Do produktu mogą być dołączone podręczniki użytkownika w formie elektronicznej i drukowanej. Kopie elektroniczne znajdują się również w naszej witrynie internetowej. Wiele podręczników jest dostępnych w różnych językach pod adresem www.hypertherm.com/docs.

PT (PORTUGUÊS/PORTUGUESE)

ADVERTÊNCIA! Antes de operar qualquer equipamento Hypertherm, leia as instruções de segurança no manual do seu produto, no *Manual de Segurança e de Conformidade* (80669C), no *Manual de Segurança e de Conformidade do Waterjet* (80943C) e no *Manual de Advertência de radiofrequência* (80945C).

Cópias dos manuais podem vir com o produto nos formatos eletrônico e impresso. Cópias eletrônicas também são encontradas em nosso website. Muitos manuais estão disponíveis em vários idiomas em www.hypertherm.com/docs.

RO (ROMÂNĂ/ROMANIAN)

AVERTIZARE! Înainte de utilizarea oricărui echipament Hypertherm, citiți instrucțiunile de siguranță din manualul produsului, *manualul de siguranță și conformitate* (80669C), *manualul de siguranță și conformitate Waterjet* (80943C) și din *manualul de avertizare privind radiofrecvența* (80945C).

Produsul poate fi însoțit de copii ale manualelor în format tipărit și electronic. Exemplarele electronice sunt disponibile și pe site-ul nostru web. Numeroase manuale sunt disponibile în mai mult limbi la adresa: www.hypertherm.com/docs.

RU (РУССКИЙ/RUSSIAN)

БЕРЕГИСЬ! Перед работой с любым оборудованием Hypertherm ознакомьтесь с инструкциями по безопасности, представленными в руководстве, которое поставляется вместе с продуктом, в *Руководстве по безопасности и соответствию* (80669C), в *Руководстве по безопасности и соответствию для водоструйной резки* (80943C) и *Руководстве по предупреждению о радиочастотном излучении* (80945C).

Копии руководств, которые поставляются вместе с продуктом, могут быть представлены в электронном и бумажном виде. Электронные копии также доступны на нашем веб-сайте. Целый ряд руководств доступны на нескольких языках по ссылке www.hypertherm.com/docs.

SK (SLOVENČINA/SLOVAK)

VÝSTRAHA! Pred použitím akéhokoľvek zariadenia od spoločnosti Hypertherm si prečítajte bezpečnostné pokyny v návode na obsluhu vášho zariadenia a v *Manuáli o bezpečnosti a súlade s normami* (80669C), *Manuáli o bezpečnosti a súlade s normami pre systém rezania vodou* (80943C) a v *Manuáli s informáciami o rádiofrekvencii* (80945C).

Návod na obsluhu sa dodáva spolu s produktom v elektronickej a tlačenej podobe. Jeho elektronický formát je dostupný aj na našej webovej stránke. Mnohé z návodov na obsluhu sú dostupné vo viacjazyčnej mutácii na stránke www.hypertherm.com/docs.

SL (SLOVENŠČINA/SLOVENIAN)

OPOZORILO! Pred uporabo katerekoli Hyperthermove opreme preberite varnostna navodila v priročniku vašega izdelka, v *Priročniku za varnost in skladnost* (80669C), v P*riročniku za varnost in skladnost sistemov rezanja z vodnim curkom* (80943C) in v *Priročniku Opozorilo o radijskih frekvencah* (80945C).

Izvodi priročnikov so lahko izdelku priloženi v elektronski in tiskani obliki. Elektronski izvodi so na voljo tudi na našem spletnem mestu. Številni priročniki so na voljo v različnih jezikih na naslovu www.hypertherm.com/docs.

SR (SRPSKI/SERBIAN)

UPOZORENJE! Pre rukovanja bilo kojom Hyperthermovom opremom pročitajte uputstva o bezbednosti u svom priručniku za proizvod, *Priručniku o bezbednosti i usaglašenosti* (80669C), *Priručniku o bezbednosti i usaglašenosti Waterjet tehnologije* (80943C) i *Priručniku sa upozorenjem o radio-frekvenciji* (80945C).

Уз производ се испоручују копије приручника у електронском или штампаном формату. Електронске копије су такође доступне на нашем веб-сајту. Многи приручници су доступни на више језика на адреси www.hypertherm.com/docs.

SV (SVENSKA/SWEDISH)

VARNING! Läs häftet säkerhetsinformationen i din produkts *säkerhets- och efterlevnadsmanual* (80669C), *säkerhets- och efterlevnadsmanualen för Waterjet* (80943C) och *varningsmanualen för radiofrekvenser* (80945C) för viktig säkerhetsinformation innan du använder eller underhåller Hypertherm-utrustning.

Kopior av manualerna kan medfölja produkten i elektroniskt och tryckt format. Elektroniska kopior finns också på vår webbplats. Många manualer finns på flera språk på www.hypertherm.com/docs.

TH (ภาษาไทย/THAI)

คำเตือน! ก่อนการใช้งานอุปกรณ์ของ Hypertherm ทั้งหมด โปรดอ่านคำแนะนำด้านความปลอดภัยในคู่มือการใช้สินค้า คู่มือด้านความปลอดภัยและการปฏิบัติตาม (80669C), คู่มือด้านความปลอดภัยและการปฏิบัติตามสำหรับการใช้หัวตัดระบบวอเตอร์เจ็ต (80943C) และ คู่มือคำเตือนเกี่ยวกับความถี่วิทยุ (80945C) การไม่ปฏิบัติตามคำแนะนำด้านความปลอดภัยอาจส่งผลให้เกิดการบาดเจ็บหรือเกิดความเสียหายต่ออุปกรณ์

สำเนาคู่มือทั้งในรูปแบบอิเล็กทรอนิกส์และแบบสิ่งพิมพ์จะถูกแนบมาพร้อมกับผลิตภัณฑ์ สำเนาคู่มือในรูปแบบอิเล็กทรอนิกส์ของผลิตภัณฑ์และสำเนาคู่มือต่าง ๆ ในหลากหลายภาษานั้นยังมีให้บริการบนเว็บไซต์ www.hypertherm.com/docs ของเราอีกด้วย

TR (TÜRKÇE/TURKISH)

UYARI! Bir Hypertherm ekipmanını çalıştırmadan önce, ürününüzün kullanım kılavuzunda, *Güvenlik ve Uyumluluk Kılavuzu'nda* (80669C), *Su Jeti Güvenlik ve Uyumluluk Kılavuzu'nda* (80943C) ve *Radyo Frekansı Uyarısı Kılavuzu'nda* (80945C) yer alan güvenlik talimatlarını okuyun.

Kılavuzların kopyaları, elektronik ve basılı formatta ürünle birlikte verilebilir. Elektronik kopyalar web sitemizde de yer alır. Kılavuzların birçoğu www.hypertherm.com/docs adresinde birçok dilde mevcuttur.

VI (TIẾNG VIỆT/VIETNAMESE)

CẢNH BÁO! Trước khi vận hành bất kỳ thiết bị Hypertherm nào, hãy đọc các hướng dẫn an toàn trong hướng dẫn sử dụng sản phẩm của bạn, *Sổ tay An toàn và Tuân thủ* (80669C), *Sổ tay An toàn và Tuân thủ Tia nước* (80943C), và *Hướng dẫn Cảnh báo Tần số Vô tuyến* (80945C). Không tuân thủ các hướng dẫn an toàn có thể dẫn đến thương tích cá nhân hoặc hư hỏng thiết bị.

Bản sao của sổ tay có thể đi kèm với sản phẩm ở định dạng điện tử và in. Bản điện tử cũng có trên trang web của chúng tôi. Nhiều sổ tay có sẵn bằng nhiều ngôn ngữ tại www.hypertherm.com/docs .

ZH-CN (简 体中文/CHINESE SIMPLIFIED)

警告！ 在操作任何海宝设备之前，请阅读产品手册、《安全和法规遵守手册》(80669C)、《水射流安全和法规遵守手册》 (80943C) 以及 《射频警告手册》(80945C) 中的安全操作说明。

随产品提供的手册可提供电子版和印刷版两种格式。电子版本同时也在我们的网站上提供。很多手册有多种语言版本，详见 www.hypertherm.com/docs.

ZH-TW (繁 體中文/CHINESE TRADITIONAL)

警告！在操作任何 Hypertherm 設備前，請先閱讀您產品手冊內的安全指示，包括 《安全和法規遵從手冊》(80669C) 、《水刀安全和法規遵從手冊》(80943C)，以及 《無線電頻率警示訊號手冊》(80945C)。

電子版和印刷版手冊複本可能隨產品附上。您也可以前往我們的網站下載電子版手冊。我們的網站上還以多種語言形式提供多種手冊，請造訪 www.hypertherm.com/docs 。

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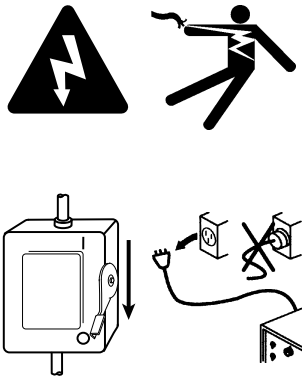
1 Update the XPR firmware

Introduction

⚠ WARNING



ELECTRIC SHOCK CAN KILL

Disconnect electrical power before doing installation or maintenance.

The line-disconnect switch must REMAIN in the OFF position until all installation or maintenance steps are complete.

In the United States, use a “lock out/tag out” procedure until installation or maintenance is complete. In other countries, follow the appropriate national and local safety procedures.

Refer to the *Safety and Compliance Manual* (80669C) for more safety information.

⚠ WARNING

ELECTRIC SHOCK CAN KILL

The plasma power supply contains dangerous electric voltages that can seriously injure or kill you.

Even if the plasma power supply is turned OFF, you can still get a serious electric shock if the plasma power supply remains connected to an electric power source.

Use extreme caution if you do diagnosis or maintenance tasks when the plasma power supply remains connected to an electric power source and the outer cover or panels are removed.

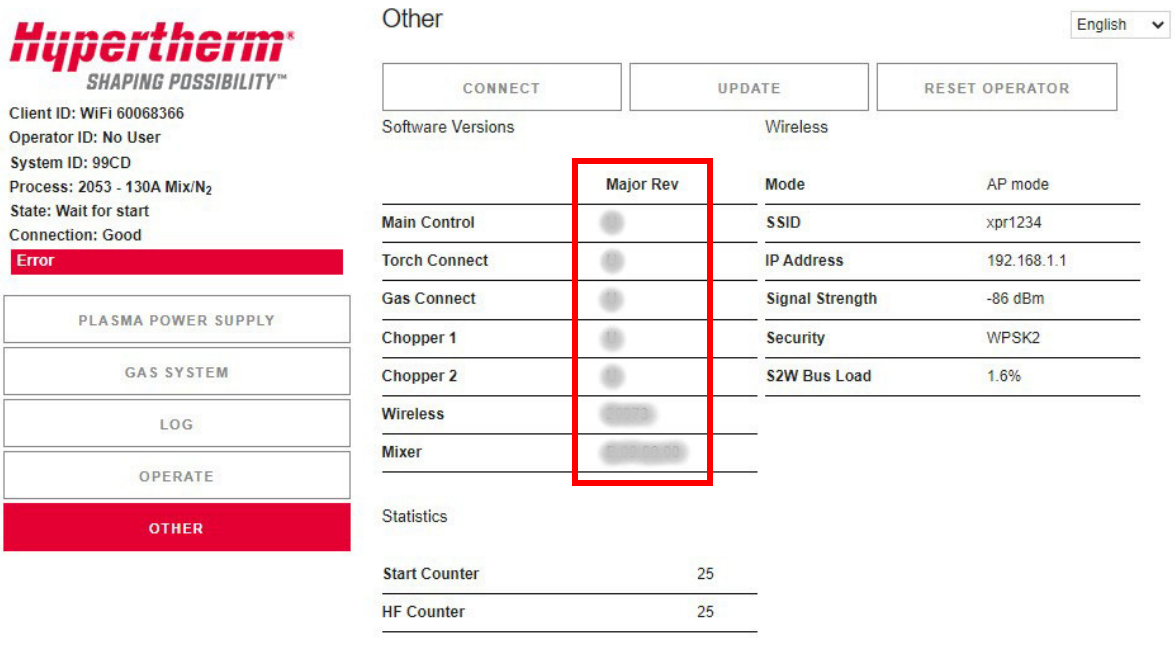
Purpose

These procedures update the XPR web interface and printed circuit board (PCB) firmware in the XPR cutting system.

How to know if you need to update the XPR web interface or PCB firmware

If the versions of the XPR web interface and PCB firmware on the website are newer than the versions that you have on your XPR cutting system, you need to update both the XPR web interface and the PCB firmware. If you need to update both, first update the XPR web interface, then update the PCB firmware.

To find the versions of the XPR web interface and PCB firmware that you have, go to the **Other** tab. Refer to the **Major Rev** (revision) column.



The XPR web interface shows different fields for different XPR models. The screen shown is for reference only.

You must have an authorized Xnet account to access the XPR web interface and the PCB firmware update files. If you do not see the firmware update files, contact your cutting machine supplier or regional Hypertherm Technical service team. To find the versions of the XPR web interface and PCB firmware on the website:

1. Go to www.hypertherm.com.
2. Go to **Support** > **Software Support** > **XPR firmware updates**.
3. Compare the version shown on this web page to the highest major version of firmware on the **Other** tab in XPR web interface.
4. If the version on the **Other** tab in the XPR web interface is lower than the version shown on the web page or in Firmware versions table on page 46, update the firmware.

For example, if the web page shows that the current version is R, and the XPR web interface shows the highest major version is N, update the firmware.

Update the XPR web interface firmware

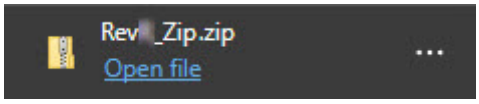
You can only update the XPR web interface firmware over a wireless connection through a WiFi network.

Tools and materials needed

- Wireless Internet access
- An authorized Xnet account
- Chrome™ Internet browser
- Laptop computer that is connected to the XPR web interface. You can use any wireless device to update firmware, but Hypertherm recommends a laptop computer for best results.

Procedure

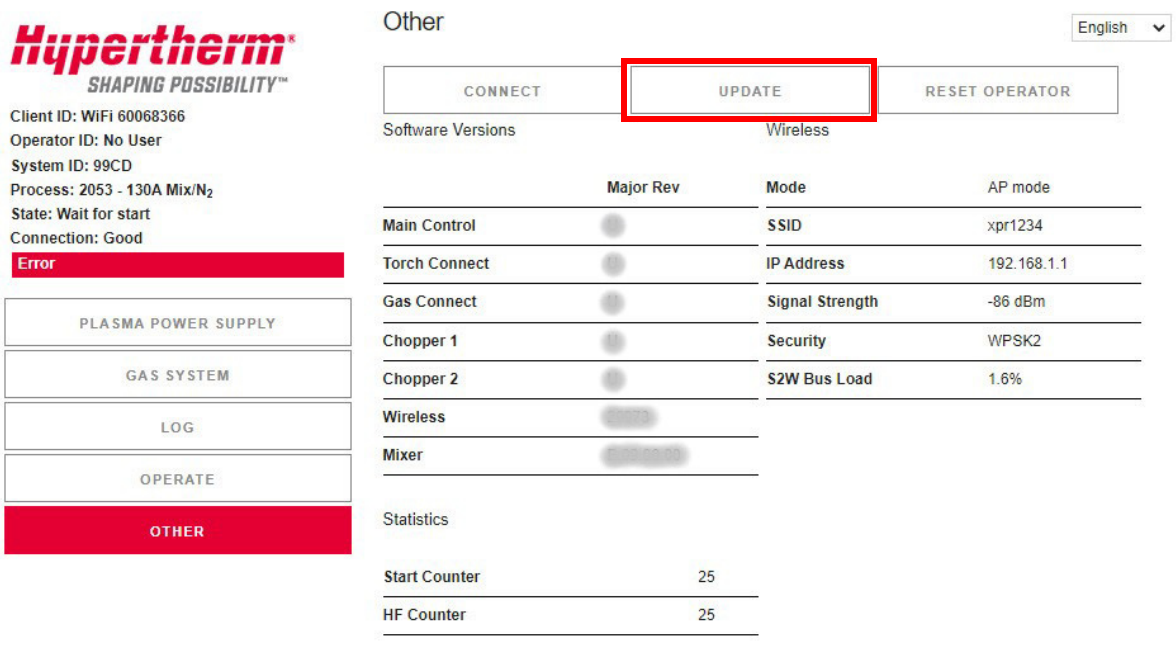
1. Go to www.hypertherm.com.
2. Go to **Support** > **Software Support** > **XPR firmware updates**.
3. Use the link at the bottom of the web page to download the firmware files.
4. Log in to Xnet, if necessary.
5. The File Download window or bar shows for the XPR firmware *.zip file. Choose **Open**.



6. Extract the *.zip file to your device.
7. Make sure that you have consumables installed in the torch.
8. Supply power to the cutting system:
   a. Set the line-disconnect switch to the ON position.
   b. Make sure that the remote ON-OFF switch is ON.
   c. Make sure that the power-indicator LED on the plasma power supply, TorchConnect console, and gas connect console is illuminated.
9. Use Chrome Internet browser to connect to the cutting system with the XPR web interface.

   For more information about how to connect, refer to *How to connect to the plasma power supply with the XPR web interface* in your *XPR Instruction Manual*.

10. From the XPR web interface, select **Other** > **Update**.



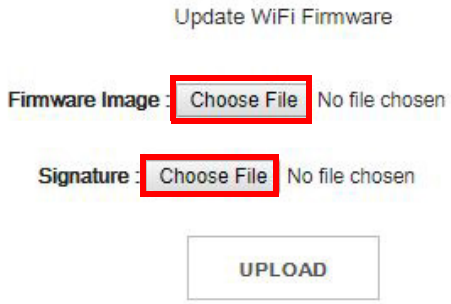
The XPR web interface shows different fields for different XPR models. The screen shown is for reference only.

11. Under **Update WiFi Firmware,** select **Choose File** for **Firmware Image**.

12. Browse for the WiFi Firmware Image file (gs2011_s2w.bin) file on your device and select **Open**.

13. Under **Update WiFi Firmware,** select **Choose File** for **Signature**.

14. Browse for the WiFi Signature file (signature.bin) on your device and select **Open**.



15. Select **Upload**.

16. Wait for the firmware update to complete. This can take a few minutes. The browser automatically refreshes and shows if the update was successful. If the update was not successful, refer to Recover from an unsuccessful XPR web interface firmware update on page 25.

17. Close the browser.

18. Remove the power from the cutting system:

a. Set the line-disconnect switch to the OFF position.

b. Make sure that the power-indicator LED on the plasma power supply, TorchConnect™ console, and gas connect console is not illuminated.

19. Wait at least 1 minute.

20. Supply power to the cutting system:
    a. Set the line-disconnect switch to the ON position.
    b. Make sure that the power-indicator LED on the plasma power supply, TorchConnect console, and gas connect console is illuminated.

21. Use Chrome Internet browser with the XPR web interface to connect to the XPR cutting system.

    For more information about how to connect, refer to *How to connect to the plasma power supply with the XPR web interface* in your *XPR Instruction Manual*.

22. Go to the **Other** tab in the XPR web interface to compare the version listed next to **Wireless** to the current version. Refer to Firmware versions table on page 46.
    - If the versions are the same, the firmware updated correctly.
    - If the versions are different, the firmware did not update correctly. Refer to Recover from an unsuccessful XPR web interface firmware update on page 25.

Update the XPR PCB firmware

Before you update the PCB firmware, you must update the XPR web interface firmware.

These procedures update the firmware on the main control PCB and chopper PCB in the plasma power supply, the control PCB in the gas connect console, and the control PCB in the TorchConnect console.

Decide which method to use to update the XPR PCB firmware

Table 1 – PCB firmware upgrade methods

PCB firmware update method	Firmware version currently installed		
	< G	G – M	M or >
Primary (recommended)	USB memory stick	Wireless network	Wireless network
Secondary	N/A	USB memory stick	USB memory stick
If enabled by the CNC manufacturer or cutting machine supplier	N/A	N/A	FoE, FoS

You can use different methods to update the PCB firmware based on the currently installed firmware version. Refer to Table 1.

This document describes 2 methods to update the PCB firmware:

- Update the XPR PCB firmware with the XPR web interface on page 14. This is the primary (recommended) method to update the PCB firmware.
- Update the XPR PCB firmware with a USB memory stick on page 20. This is the secondary method to update the PCB firmware. Use this method, if your XPR cutting system is not connected to the XPR web interface.

If enabled by the CNC manufacturer or cutting machine supplier, you can use firmware over EtherCAT (FoE) or firmware over serial (FoS) to update your PCB firmware. For more information, contact your cutting machine supplier. For EDGE® Connect CNCs, refer to *Update XPR Firmware through Phoenix over EtherCAT* (810720).

Update the XPR PCB firmware with the XPR web interface

To upgrade the XPR PCB firmware over a wireless connection through a WiFi network with the XPR web interface, revision G (Rev G) or later of the XPR firmware must already be installed. Refer to Table 1 – PCB firmware upgrade methods on page 13.

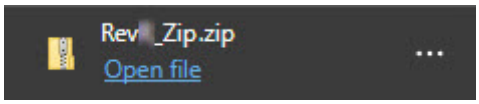
This is the primary (recommended) method to update the PCB firmware.

Tools and materials needed

- Wireless Internet access
- An authorized Xnet account
- Chrome™ Internet browser
- Laptop computer that is connected to the XPR web interface. You can use a wireless device to update firmware, but Hypertherm recommends a laptop computer for best results.

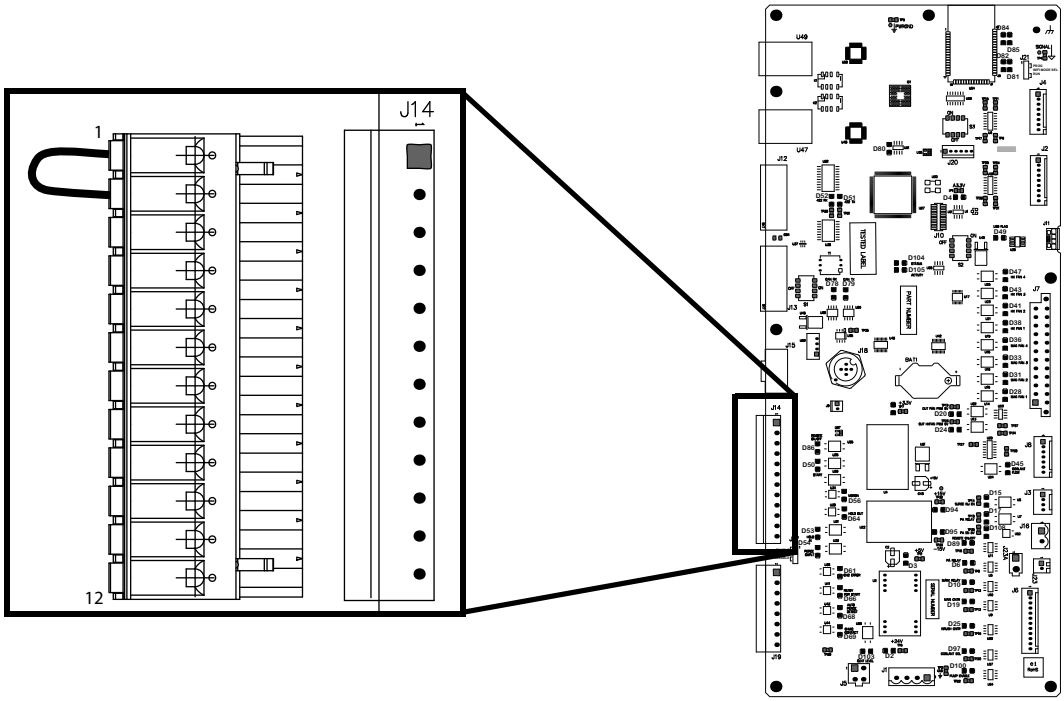
Procedure

1. Make sure that you update the XPR web interface firmware first. Refer to Update the XPR web interface firmware on page 10.
2. Go to www.hypertherm.com.
3. Go to **Support** > **Software Support** > **XPR firmware updates**.
4. Use the link at the bottom of the web page to download the firmware files.
5. Log in to Xnet, if necessary.
6. The File Download window or bar shows for the XPR firmware *.zip file. Choose **Open**.



7. Extract the *.zip file to your device.
8. Make sure that you have consumables installed in the torch.
9. Supply power to the cutting system.
10. Set the remote ON-OFF switch to ON.

You can use a jumper between pin 1 and 2 of the J14 remote ON-OFF connector (208373) on the main control PCB (141322) to make sure that the remote ON-OFF is ON. This can help successfully update the PCB firmware.



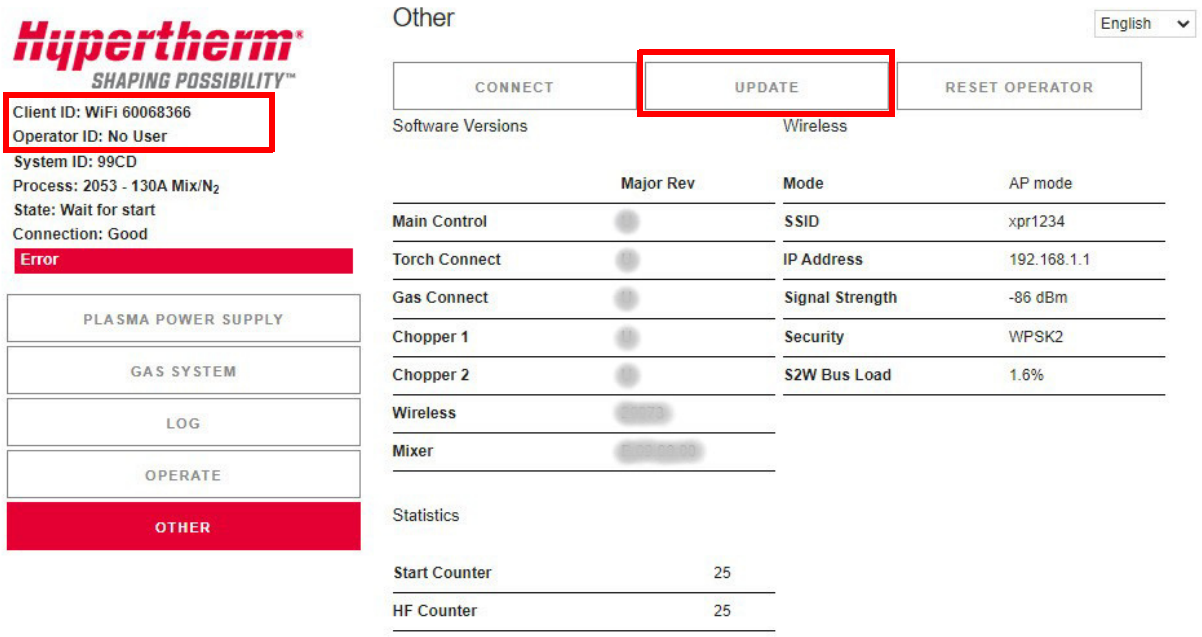
11. Make sure that the power-indicator LED on the plasma power supply, gas connect console, and TorchConnect console is illuminated green.

12. Use Chrome Internet browser to connect to the cutting system with the XPR web interface.

For more information about how to connect, refer to *How to connect to the plasma power supply with the XPR web interface* in your *XPR Instruction Manual*.

13. Look at the **Client ID** and **Operator ID** in the XPR web interface. Do one of the following:

    - If **Client ID** shows your network information and **Operator ID** shows **No User**, from the XPR web interface, select **Other** > **Update**, then go to step 14.



    - If **Client ID** does not show network information and **Operator ID** does not show **No User**, use the following steps to reset the connection to the XPR web interface:

    a. Disconnect all wireless devices from the XPR cutting system.

    b. Close the XPR web interface.

    c. Set the line-disconnect switch to the OFF position.

    d. Wait at least 1 minute.

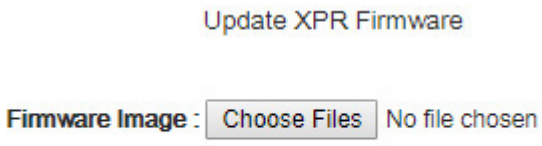
    e. Set the line-disconnect switch to the ON position.

    f. Connect only your wireless device to the XPR cutting system.

    g. Open the XPR web interface in the Chrome browser.

    h. If the connection does not reset, repeat steps a – g.

14. Select **Choose Files** under **Update XPR Firmware**.

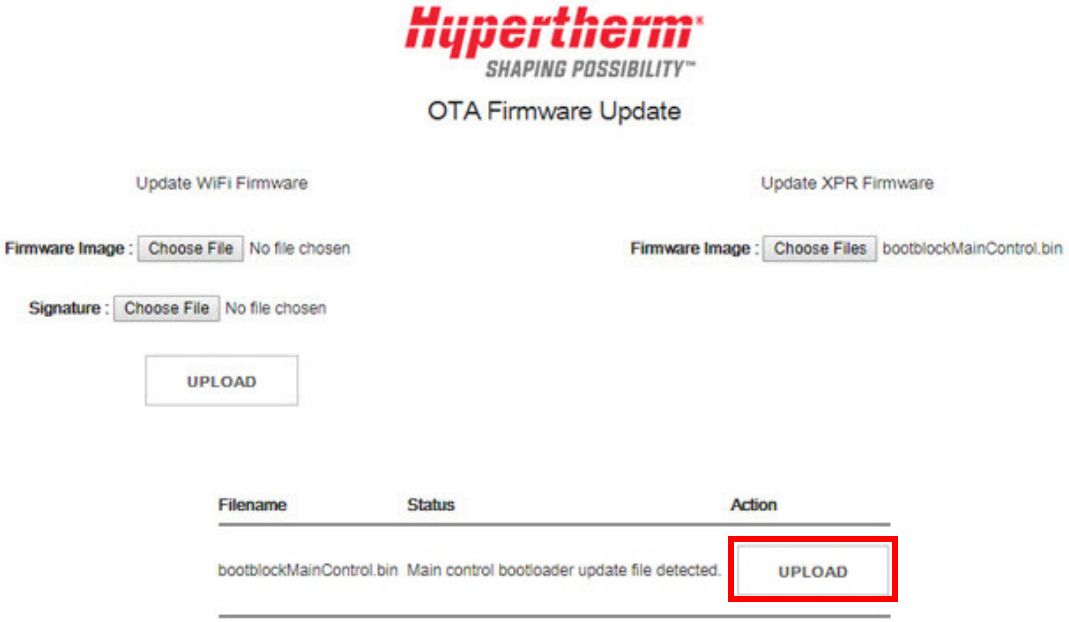


15. Browse for the files on your device, and select all of the downloaded PCB firmware files.

16. Select **Open**. It can be necessary to wait approximately 5 minutes for the files to open.

17. Locate the file Main Control Board Bootloader (bootblockMainControl.bin) in the list.

18. Select **Upload**.



19. Wait for the firmware update to complete. This can take a few minutes. The XPR web interface automatically shows if the update was successful.

20. Locate the file Main Control Board (405ZGMainControl.bin) in the list.

21. Select **Upload**.

22. Wait for the firmware update to complete. This can take a few minutes. The XPR web interface automatically shows if the update was successful.

23. Close the browser.

24. Remove the power from the cutting system:

- **a.** Set the line-disconnect switch to the OFF position.
- **b.** Make sure that the power-indicator LED on the plasma power supply, TorchConnect console, and gas connect console is not illuminated.

25. Wait at least 1 minute.

26. Supply power to the cutting system:

- **a.** Set the line-disconnect switch to the ON position.
- **b.** Make sure that the power-indicator LED on the plasma power supply, TorchConnect console, and gas connect console is illuminated.

27. Use Chrome Internet browser with the XPR web interface to connect to the XPR cutting system.

For more information about how to connect, refer to *How to connect to the plasma power supply with the XPR web interface* in your *XPR Instruction Manual*.

28. Go to the **Other** tab in the XPR web interface to compare the version listed next to **Main Control** to the current version. Refer to Firmware versions table on page 46.
    - If the versions are the same, the firmware updated correctly.
    - If the versions are different, the firmware did not update correctly. Refer to Recover from an unsuccessful XPR PCB firmware update on page 29.

29. Repeat step 21 - step 22 on page 17 for each of the following bootloader files. Do **not** select **Upload** for more than 1 file at a time. Always upload the bootloader file first for each component. Make sure that the file names that you select are the same as the following file names:
    - bootblockBMP.bin
    - bootblockMeter.bin
    - bootblockSmartChopper.bin

30. Repeat step 21 - step 22 on page 17 for the each of the following 405ZG.bin files. Do **not** select **Upload** for more than 1 file at a time. Always upload the 405ZG file after the bootloader file for each component. Make sure that the file names that you select are the same as the following file names:
    - 405ZGBmpConsole.bin
    - 405ZGMeteringConsole.bin
    - 405ZGSmartChopper.bin

    It can be helpful to write down the names of the files as you upload them.

31. Close the browser.

32. Remove the power from the cutting system:
    a. Set the line-disconnect switch to the OFF position.
    b. Make sure that the power-indicator LED on the plasma power supply, TorchConnect console, and gas connect console is not illuminated.

33. Wait at least 1 minute.

34. Supply power to the cutting system:
    a. Set the line-disconnect switch to the ON position.
    b. Make sure that the power-indicator LED on the plasma power supply, TorchConnect console, and gas connect console is illuminated.

35. Use Chrome Internet browser with the XPR web interface to connect to the XPR cutting system.

    For more information about how to connect, refer to *How to connect to the plasma power supply with the XPR web interface* in your *XPR Instruction Manual*.

36. Go to the **Other** tab in the XPR web interface to compare the version listed next to each component to the current version. Refer to Firmware versions table on page 46.

- If the versions are the same, the firmware updated correctly.
- If the versions are different, the firmware did not update correctly. Refer to Recover from an unsuccessful XPR PCB firmware update on page 29.

Update the XPR PCB firmware with a USB memory stick

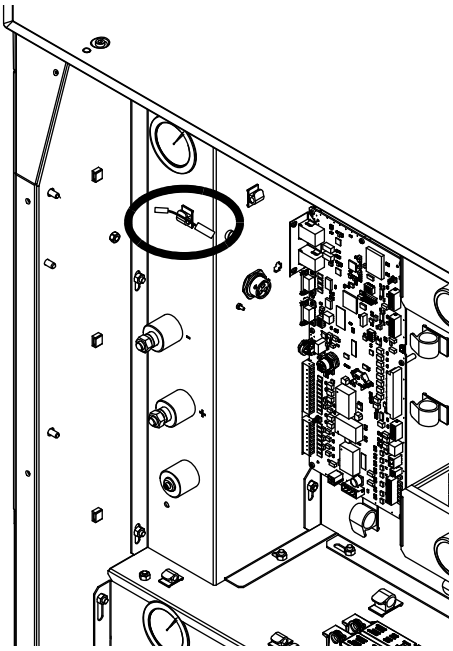
Use this procedure if your XPR cutting system is not connected to a WiFi network. You can use the USB memory stick that came with the XPR cutting system.

This is the secondary method to update the PCB firmware.

Tools and materials needed

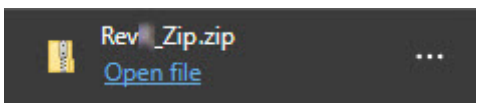
- Internet access
- An authorized Xnet account
- FAT32-formatted, USB memory stick (maximum 4 GB)
- USB adapter cable (223291) (included inside the plasma power supply as shown)

  USB memory sticks vary. You may need to try different USB memory sticks to find one that works. Best results come from USB memory sticks that are under 2 GB.



Procedure

1. Make sure that you update the XPR web interface firmware first. Refer to Update the XPR web interface firmware on page 10.
2. Go to www.hypertherm.com.
3. Go to **Support** > **Software Support** > **XPR firmware updates**.
4. Use the link at the bottom of the web page to download the firmware files.
5. Log in to Xnet, if necessary.
6. The File Download window or bar shows for the XPR firmware *.zip file. Choose **Open**.



7. Extract the *.zip file to the root of a FAT32-formatted, USB memory stick.

   The bootloader files cannot be updated with this method. To update bootloader files, refer to Update the XPR PCB firmware with the XPR web interface on page 14.

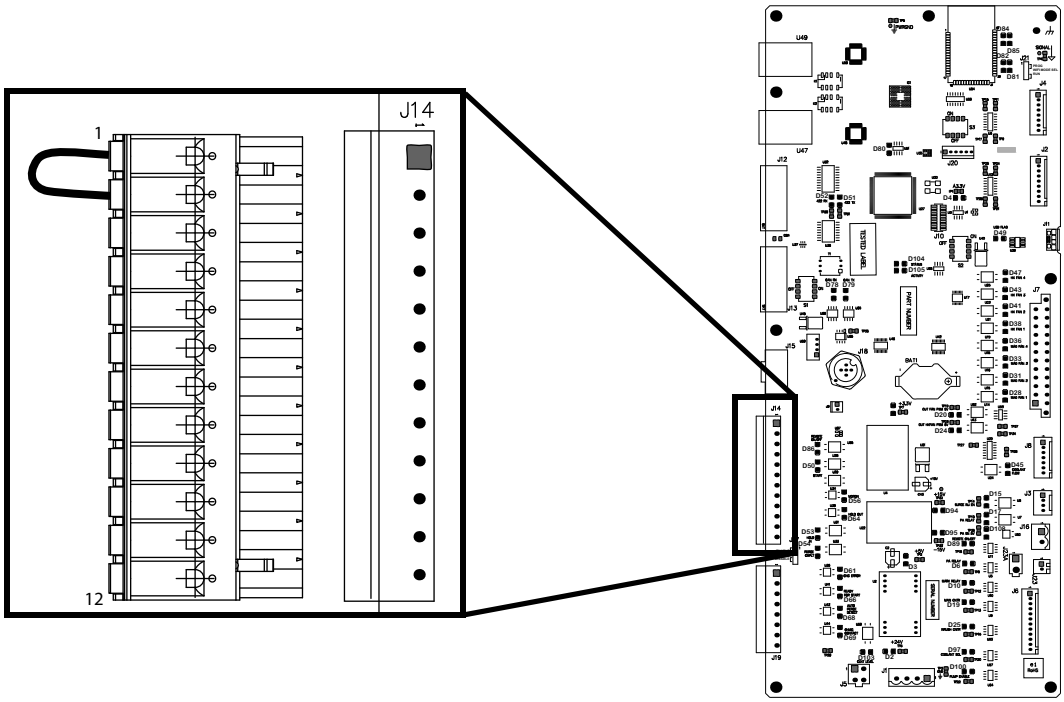
8. Remove the power from the cutting system:
   a. Set the line-disconnect switch to the OFF position.
   b. Make sure that the power-indicator LED on the plasma power supply, TorchConnect console, and gas connect console is not illuminated.

9. Remove the control-side panel.

10. Use a USB adapter cable to connect a USB memory stick to the micro-USB connector on the main control PCB in the plasma power supply. Refer to Figure 1 on page 22 for connector location.

11. Set the remote ON-OFF switch to ON.

    You can use a jumper between pin 1 and 2 of the J14 remote ON-OFF connector (208373) on the main control PCB (141322) to make sure that the remote ON-OFF is ON. This can help successfully update the PCB firmware.



12. Supply power to the cutting system.

⚠ WARNING

ELECTRIC SHOCK CAN KILL

To avoid electric shock do not touch anything inside of the plasma power supply.

Voltages present throughout the cutting system can cause injury or death.

All work requiring removal of the plasma power supply outer cover or panels must be done by a qualified technician.

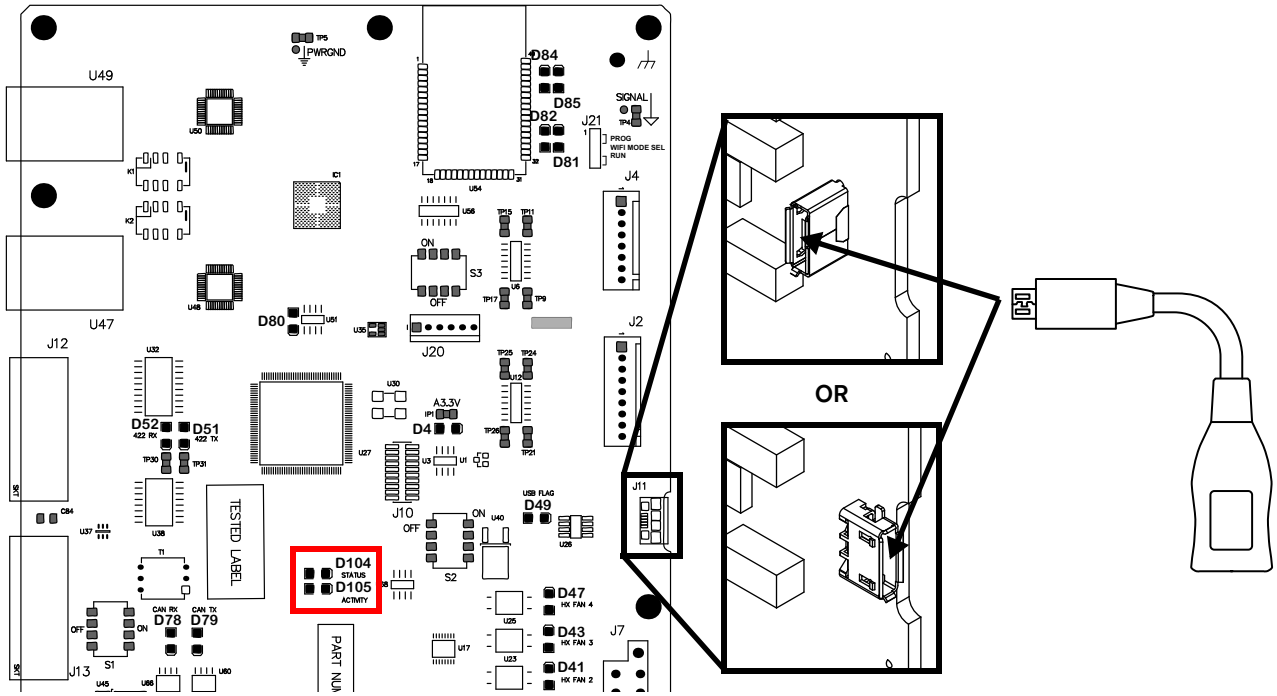
13. Make sure that the power-indicator LED on the plasma power supply, gas connect console, and TorchConnect console is illuminated green.

14. Wait 15 minutes. The Status LED (D104) and Activity LED (D105) on the main control PCB indicate if the update is in-progress or is complete. The following will occur:

- During the update, the Status LED (D104) on the main control PCB in the plasma power supply is ON and the Activity LED (D105) blinks.
- When the update is complete, the Status LED (D104) on the main control PCB in the plasma power supply blinks twice continuously (blink, blink, pause, blink, blink, pause).

If the LEDs do not blink correctly, refer to The LEDs on the main control PCB do not blink correctly on page 37.

Figure 1 – Main control PCB micro-USB connector and LED location



15. Remove the power from the cutting system.:
    a. Set the line-disconnect switch to the OFF position.
    b. Make sure that the power-indicator LED on the plasma power supply, gas connect console, and TorchConnect console is not illuminated.
16. Remove the USB memory stick from the main control PCB in the plasma power supply.
17. Put the USB adapter cable into the wire clip inside the plasma power supply.
18. Install the control-side panel.
19. Make sure that you have consumables installed in the torch.
20. Supply power to the cutting system:
    a. Set the line-disconnect switch to the ON position.
    b. Make sure that the power-indicator LED on the plasma power supply, TorchConnect console, and gas connect console is illuminated.
21. Use Chrome Internet browser with the XPR web interface to connect to the XPR cutting system.

    For more information about how to connect, refer to *How to connect to the plasma power supply with the XPR web interface* in your *XPR Instruction Manual*.

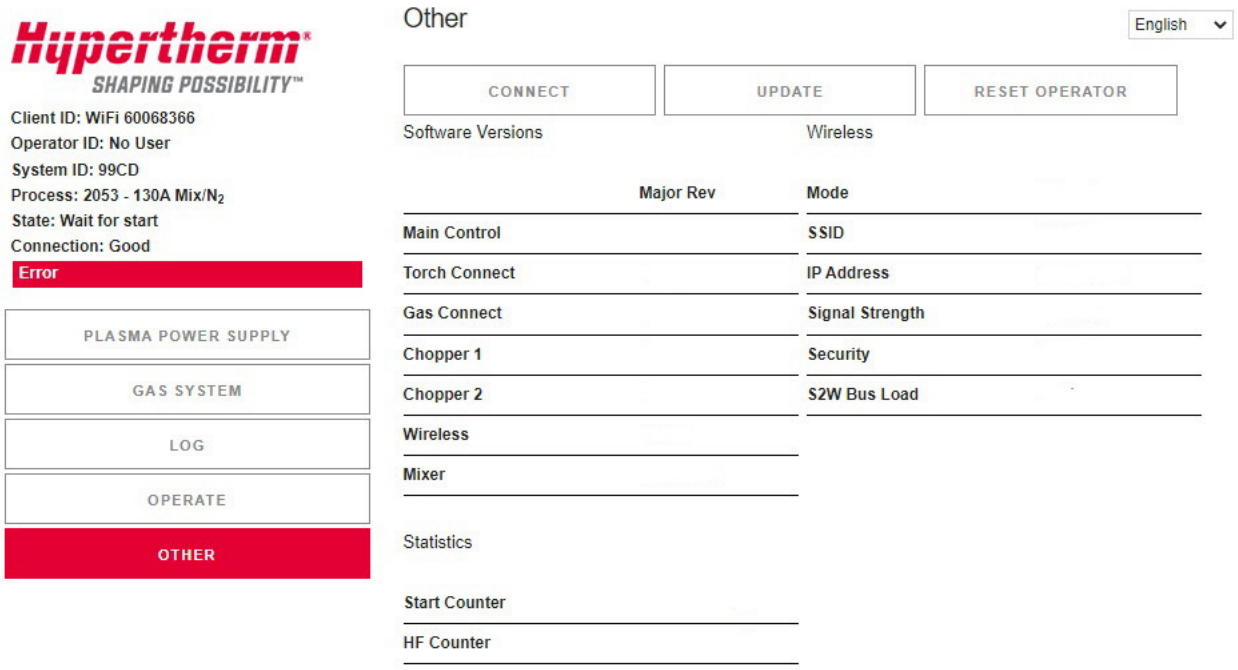
22. Use your CNC or go to the **Other** tab in the XPR web interface to compare the version listed next to each component to the current version. Refer to Firmware versions table on page 46.
    - If the versions are the same, the firmware updated correctly.
    - If the versions are different, the firmware did not update correctly. Refer to Recover from an unsuccessful XPR PCB firmware update on page 29.

2 Troubleshooting

Recover from an unsuccessful XPR web interface firmware update

This procedure recovers an XPR wireless signature that was not successfully updated.

If the wireless signature was not updated successfully, the web interface is blank or shows the old versions under **Major Rev** (revision).



1. Make sure that the XPR cutting system that you want to connect to is on the list of available wireless devices. Refer to The device that you want is not shown or making the connection is not easy on page 42.

2. Make sure that the XPR cutting system is broadcasting the wireless connection. If the XPR cutting system is not broadcasting the wireless connection, reset the wireless module. Refer to Reset the wireless module on page 27.

3. If the XPR cutting system is broadcasting the wireless connection, use Chrome Internet browser to connect to the cutting system with the XPR web interface.

   For more information about how to connect, refer to *How to connect to the plasma power supply with the XPR web interface* in your *XPR Instruction Manual*.

4. Go to the **Other** tab in the XPR web interface to look at the version listed next to **Wireless**. If the version is blank, the firmware versions do not align.

   a. If you have an EtherCAT network and communication (SureCut™/Full Suite Installations):

   - Use the EDGE Connect XPR diagnostics screen to look at the firmware versions.
   - If the wireless version is older than the main control PCB version, refer to Firmware versions table on page 46 to align the wireless and main control PCB firmware versions. It is possible that the wireless communication method is not available.
   - Use the USB method to align the main control PCB firmware with the wireless version. After the firmware versions align, update the XPR web interface firmware. Refer to Update the XPR web interface firmware on page 10.

   b. If you have a CNC that communicates with serial communication and discrete signals:

   - Use the USB method to downgrade the main control PCB firmware to the original version to recover the wireless connection.
   - After the wireless connection is recovered, update the XPR web interface firmware. Refer to Update the XPR web interface firmware on page 10.

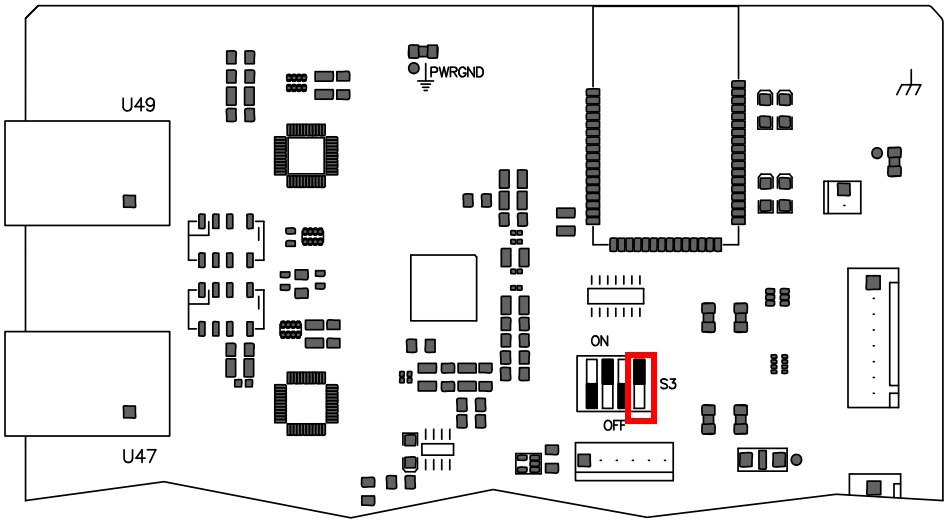
5. After you update the XPR web interface firmware, update the XPR PCB firmware. Refer to Update the XPR PCB firmware on page 13.

6. If you cannot connect to the XPR web interface, contact your cutting machine supplier or regional Hypertherm Technical Service team.

Reset the wireless module

1. Remove the power from the cutting system:
   a. Set the line-disconnect switch to the OFF position.
   b. Make sure that the power-indicator LED on the plasma power supply is not illuminated.
2. Remove the control-side panel of the plasma power supply.
3. On the main control PCB, set position 4 on DIP switch S3 to the ON position.

   This disables the wireless connection.



4. Supply power to the cutting system:
   a. Set the line-disconnect switch to the ON position.
   b. Make sure that the power-indicator LED on the plasma power supply is illuminated.

⚠ WARNING

ELECTRIC SHOCK CAN KILL

The plasma power supply contains dangerous electric voltages that can seriously injure or kill you.

Use extreme caution if you do service or maintenance work on a plasma power supply when it is connected to an electric power source and the outer cover or panels are removed.

5. Wait 30 seconds.
6. Remove the power from the cutting system:
   a. Set the line-disconnect switch to the OFF position.

b. Make sure that the power-indicator LED on the plasma power supply is not illuminated.

7. Set position 4 on DIP switch S3, located on the main control PCB, to the OFF position. This enables the wireless connection. Install the control-side panel of the plasma power supply.

8. Supply power to the cutting system:

a. Set the line-disconnect switch to the ON position.

b. Make sure that the power-indicator LED on the plasma power supply is illuminated.

9. Wait 30 seconds.

The wireless module is now reset to the factory default settings.

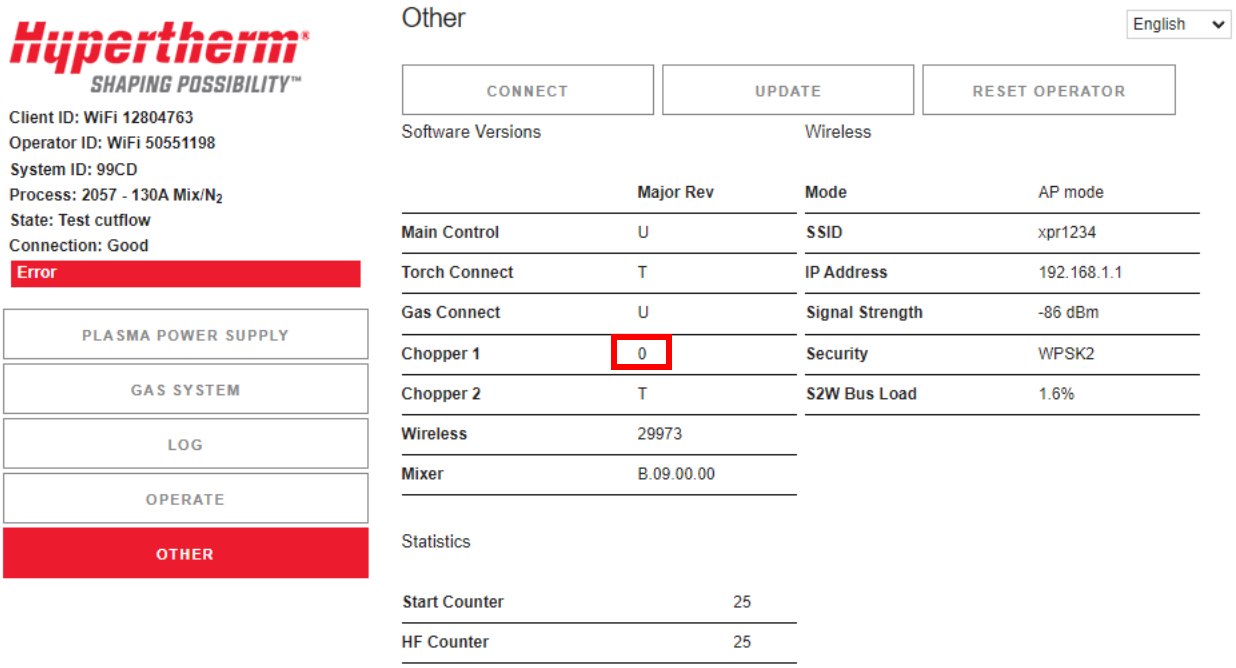
While power is removed, set position 4 on DIP switch S3 to ON and OFF a few times before following the reset wireless module instructions.

Monitor the wireless LEDs D84 (WiFi L1) and D85 (WiFi L2) or D81 (WiFi TX) and D82 (WiFi RX) on the main control PCB to make sure that there is TX/RX activity and that the wireless connection was not disabled.

Recover from an unsuccessful XPR PCB firmware update

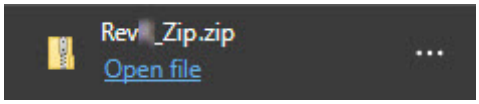
This procedure recovers and updates PCB firmware that was not successfully updated.

If a PCB was not updated successfully, the XPR web interface shows **0** under **Major Rev** (revision).



The XPR web interface shows different fields for different XPR models. The screen shown is for reference only. This screen shows that Chopper 1 did not update correctly.

1. Identify the PCB that you need to update.
2. If you do not have the firmware files on a USB memory stick, do the following:
   a. Go to www.hypertherm.com.
   b. Go to **Support** > **Software Support** > **XPR firmware updates**.
   c. Use the link at the bottom of the web page to download the firmware files.
   d. Log in to Xnet, if necessary.
   e. The File Download window or bar shows for the XPR firmware *.zip file. Choose **Open**.



   f. Extract the *.zip file to the root of a FAT32-formatted, USB memory stick.

3. Remove the power from the cutting system:
   a. Set the line-disconnect switch to the OFF position.
   b. Make sure that the power-indicator LED on the plasma power supply, TorchConnect console, and gas connect console is not illuminated.
4. Remove the necessary panels to access the PCB that you need to update.
5. Use a USB adapter cable to connect the same USB memory stick to the micro-USB connector on the PCB that you need to update. The following figures show the locations of the micro-USB connector on each PCB:
   - Plasma power supply main control PCB – Figure 2 on page 30
   - Plasma power supply chopper PCB – Figure 3 on page 31
   - Gas connect console control PCB – Figure 4 on page 31
   - TorchConnect console control PCB – Figure 5 on page 32

Figure 2 – Plasma power supply main control PCB (141322)

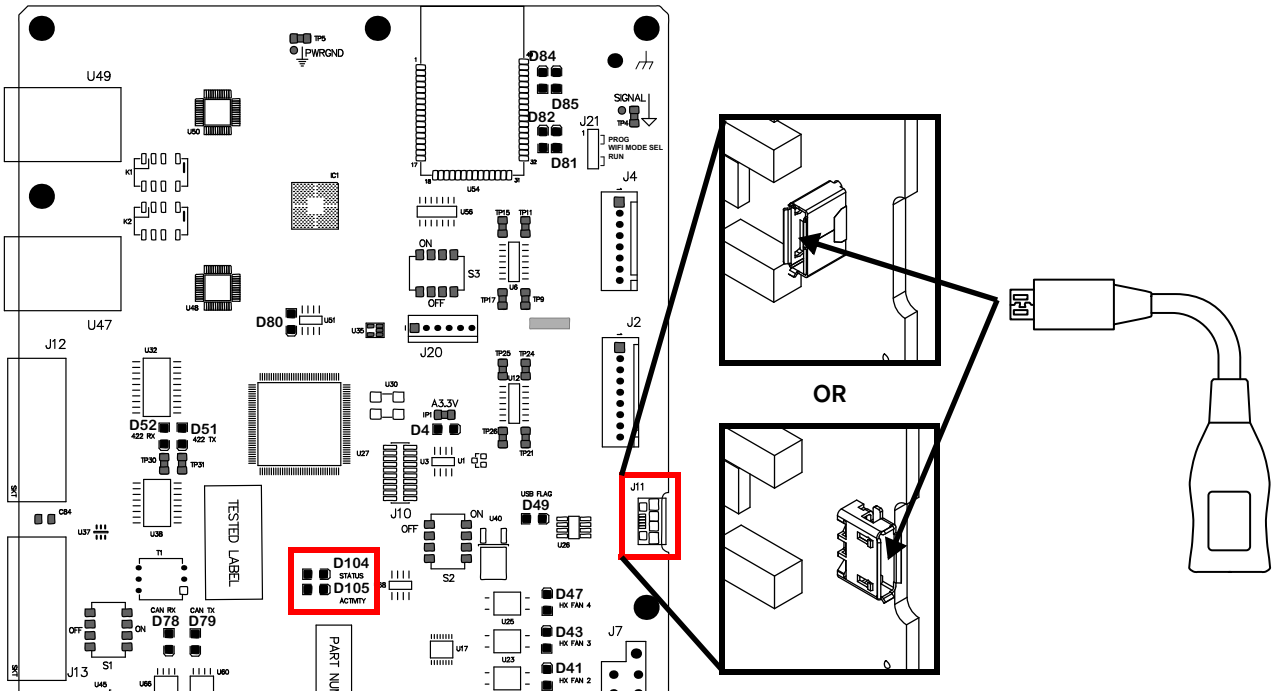


Figure 3 – Plasma power supply chopper PCB (141319)

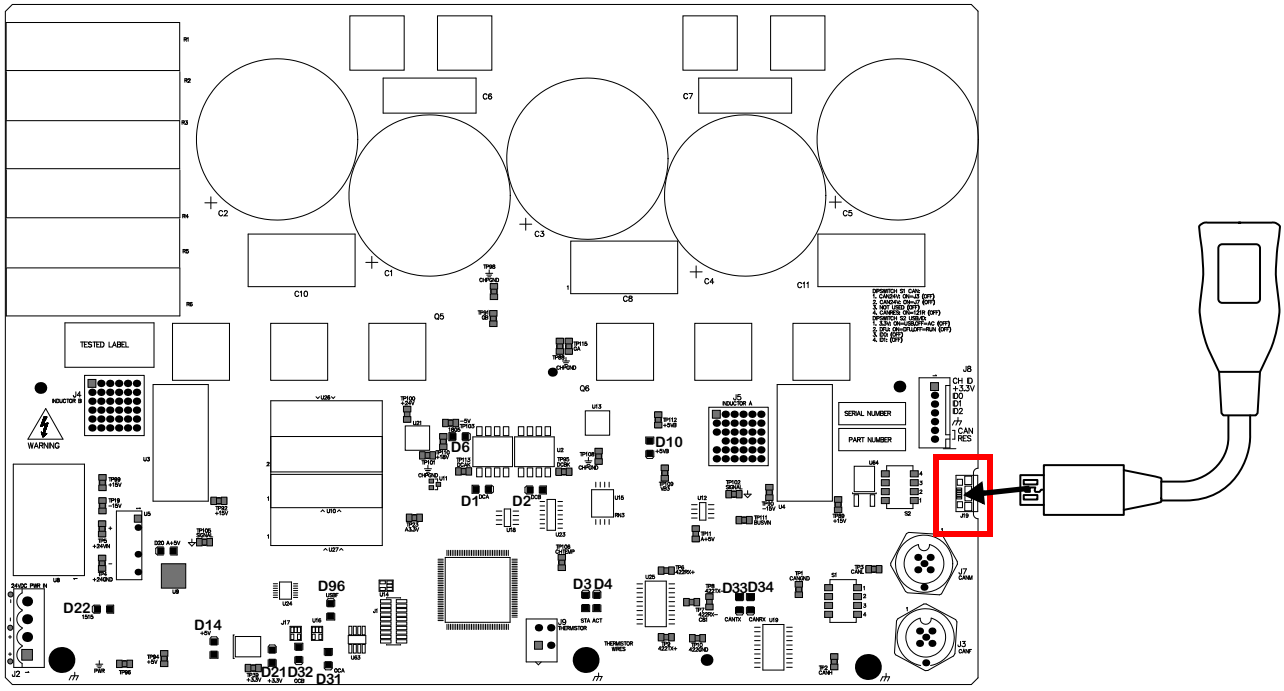


Figure 4 – Gas connect console control PCB (141375)

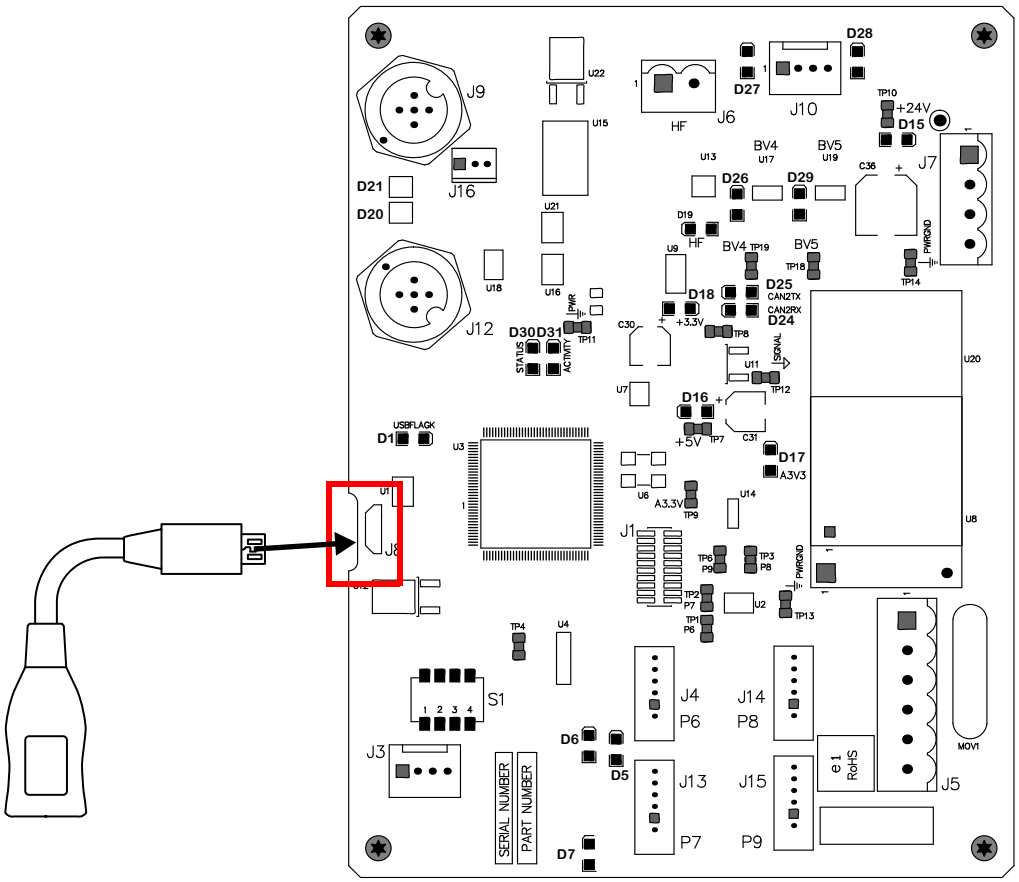
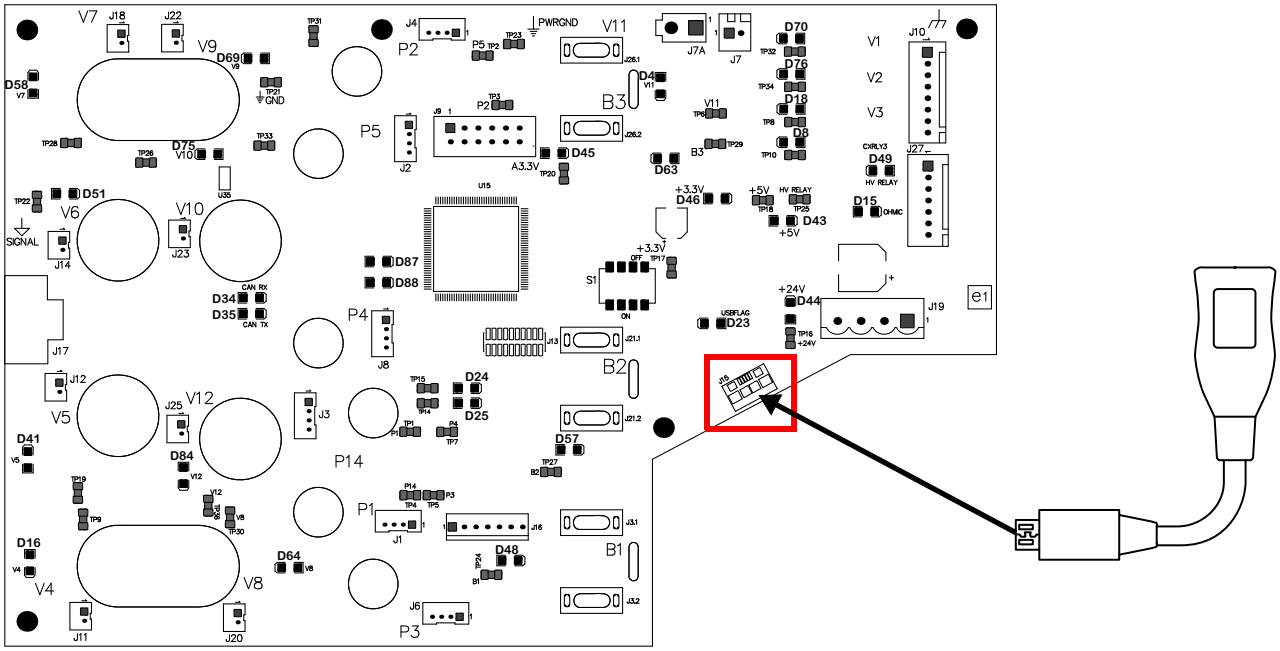


Figure 5 – TorchConnect console control PCB (141334)



6. Supply power to the cutting system.
7. Wait 2 minutes. The following will occur:
   - During the update, the Status LED on the PCB is ON and the Activity LED blinks.
   - When the update is complete, the Status LED on the PCB blinks twice continuously (blink, blink, pause, blink, blink, pause).
8. Remove the power from the cutting system:
   a. Set the line-disconnect switch to the OFF position.
   b. Make sure that the power-indicator LED on the plasma power supply, TorchConnect console, and gas connect console is not illuminated.
9. Remove the USB memory stick from the PCB.
10. Put the USB adapter cable into the wire clip inside the plasma power supply.
11. Install the panel that you removed.
12. Make sure that you have consumables installed in the torch.

13. Supply power to the cutting system:
    a. Set the line-disconnect switch to the ON position.
    b. Make sure that the power-indicator LED on the plasma power supply, TorchConnect console, and gas connect console is illuminated.

14. Use Chrome Internet browser with the XPR web interface to connect to the XPR cutting system.

    For more information about how to connect, refer to *How to connect to the plasma power supply with the XPR web interface* in your *XPR Instruction Manual*.

15. Use your CNC or go to the **Other** tab in the XPR web interface to compare the version listed next to each component to the current version. Refer to Firmware versions table on page 46.
    - If the versions are the same, the firmware updated correctly.
    - If the versions are different, the firmware did not update correctly. Contact your cutting machine supplier or regional Hypertherm Technical Service team.

Additional troubleshooting symptoms

Node name change

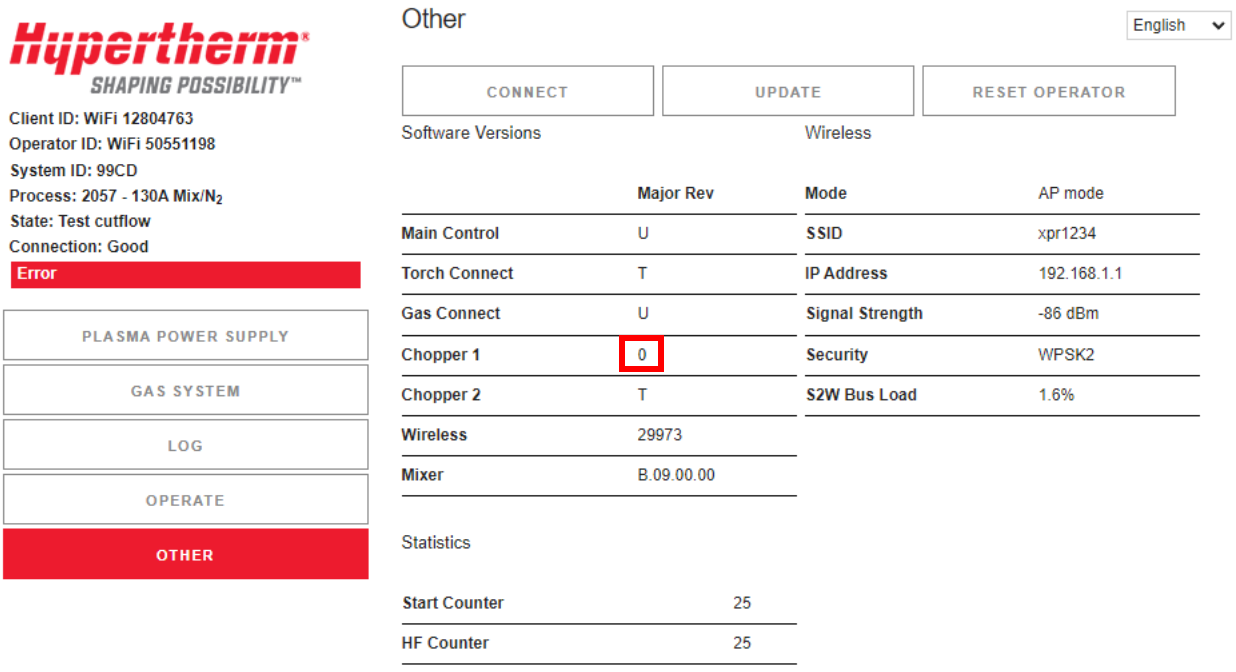
The node name changed after XPR web interface firmware update. For example the node name is now XPRA951, and it was XPRA950.

Suggested actions

1. Remove the power from the cutting system:
   a. Set the line-disconnect switch to the OFF position.
   b. Make sure that the power-indicator LED on the plasma power supply, TorchConnect console, and gas connect console is not illuminated.
2. Wait at least 1 minute.
3. Supply power to the cutting system:
   a. Set the line-disconnect switch to the ON position.
   b. Make sure that the power-indicator LED on the plasma power supply, TorchConnect console, and gas connect console is illuminated.

The main control PCB firmware updates, but other components do not

The main control PCB firmware updates, but the gas connect console, TorchConnect console, or chopper does not update.



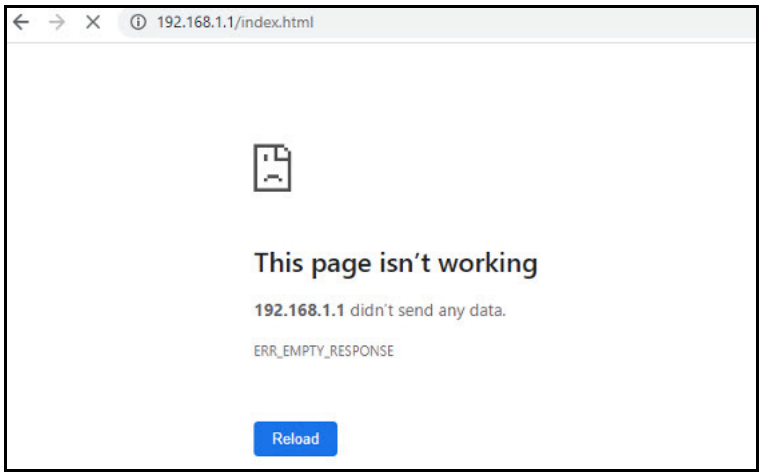
The XPR web interface shows different fields for different XPR models. The screen shown is for reference only. This screen shows that Chopper 1 did not update correctly.

Suggested action

Refer to Recover from an unsuccessful XPR PCB firmware update on page 29.

You can connect to the XPR wireless, but cannot connect to the XPR web interface

You can see and connect to the XPR wireless connection, but cannot connect to the XPR web interface.



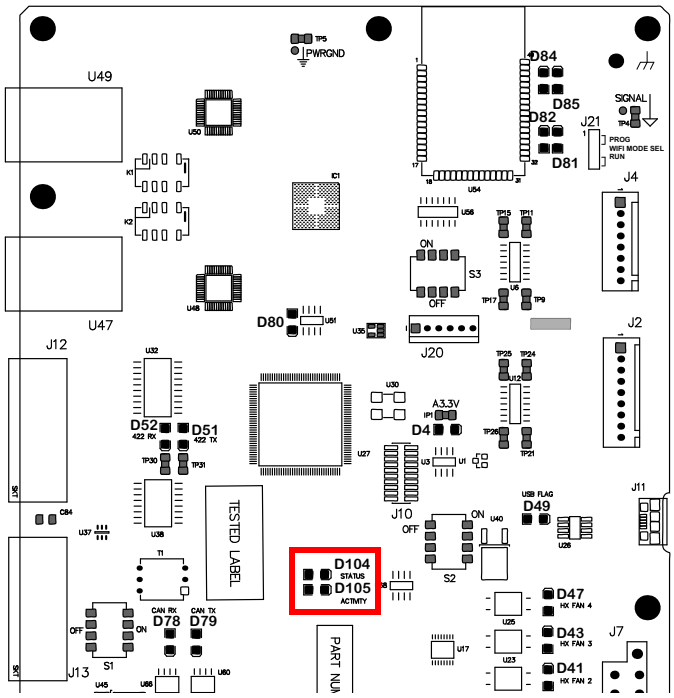
Suggested actions

1. Remove the power from the cutting system:
   a. Set the line-disconnect switch to the OFF position.
   b. Make sure that the power-indicator LED on the plasma power supply, TorchConnect console, and gas connect console is not illuminated.
2. Wait at least 1 minute.
3. Supply power to the cutting system:
   a. Set the line-disconnect switch to the ON position.
   b. Make sure that the power-indicator LED on the plasma power supply, TorchConnect console, and gas connect console is illuminated.
4. Use Chrome Internet browser to connect to the cutting system with the XPR web interface.

   For more information about how to connect, refer to *How to connect to the plasma power supply with the XPR web interface* in your *XPR Instruction Manual*.

The LEDs on the main control PCB do not blink correctly

The LEDs on the main control PCB do not blink correctly during the update.



Suggested actions

1. Remove the power from the cutting system:
   a. Set the line-disconnect switch to the OFF position.
   b. Make sure that the power-indicator LED on the plasma power supply, TorchConnect console, and gas connect console is not illuminated.
2. Wait at least 1 minute.
3. Supply power to the cutting system:
   a. Set the line-disconnect switch to the ON position.
   b. Make sure that the power-indicator LED on the plasma power supply, TorchConnect console, and gas connect console is illuminated.
4. Update the XPR PCB firmware again. Refer to Update the XPR PCB firmware on page 13.

The USB memory stick is not accepted for a firmware update

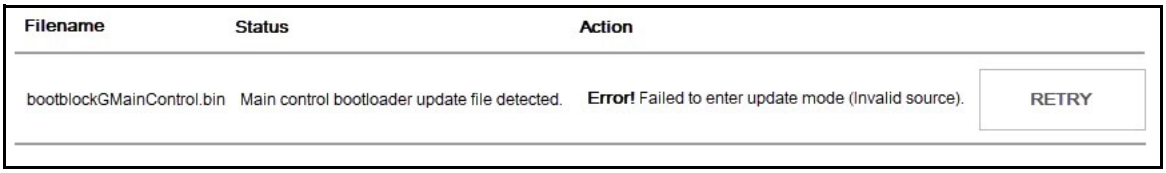
- The USB memory stick is not compatible with the XPR cutting system for updating firmware.
- The firmware files are not in the root of the USB memory stick.

Suggested actions

1. Use a different USB memory stick. The USB memory stick must be FAT32-formatted and a maximum of 4 GB.
2. Make sure that the firmware files are in the root of the USB memory stick.
3. Update the XPR PCB firmware again. Refer to Update the XPR PCB firmware on page 13.

The bootloader files do not update over wireless

The bootloader files do not update when you use the wireless method to update the XPR PCB firmware. The bootloader update error shows in the XPR web interface.



Suggested actions

1. Make sure that the XPR cutting system that you want to connect to is on the list of available wireless devices. Refer to The device that you want is not shown or making the connection is not easy on page 42.
2. Remove the power from the cutting system:
   a. Set the line-disconnect switch to the OFF position.
   b. Make sure that the power-indicator LED on the plasma power supply, TorchConnect console, and gas connect console is not illuminated.
3. Wait at least 1 minute.
4. Supply power to the cutting system:
   a. Set the line-disconnect switch to the ON position.
   b. Make sure that the power-indicator LED on the plasma power supply, TorchConnect console, and gas connect console is illuminated.
5. Use Chrome Internet browser with the XPR web interface to connect to the XPR cutting system.

   For more information about how to connect, refer to *How to connect to the plasma power supply with the XPR web interface* in your *XPR Instruction Manual*.

6. If not updated, upload the wireless and bootloader file again.
7. Wait for the firmware update to complete. This can take a few minutes. The XPR web interface automatically shows if the update was successful.
8. Close the browser.
9. Remove the power from the cutting system:
   a. Set the line-disconnect switch to the OFF position.
   b. Make sure that the power-indicator LED on the plasma power supply, TorchConnect console, and gas connect console is not illuminated.
10. Wait at least 1 minute.
11. Supply power to the cutting system:
   a. Set the line-disconnect switch to the ON position.
   b. Make sure that the power-indicator LED on the plasma power supply, TorchConnect console, and gas connect console is illuminated.
12. Use Chrome Internet browser with the XPR web interface to connect to the XPR cutting system.

    For more information about how to connect, refer to *How to connect to the plasma power supply with the XPR web interface* in your *XPR Instruction Manual*.

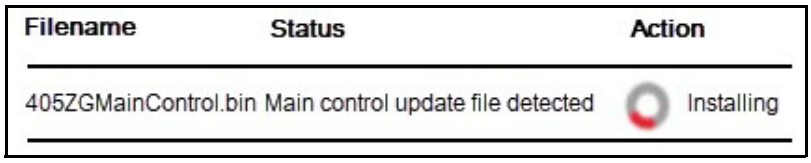
13. Go to the **Other** tab in the XPR web interface to compare the version listed next to each component to the current version. Refer to Firmware versions table on page 46.
    - If the versions are the same, the firmware updated correctly.
    - If the versions are different, the firmware did not update correctly. Refer to Recover from an unsuccessful XPR PCB firmware update on page 29.

Suggested action

Refer to Recover from an unsuccessful XPR PCB firmware update on page 29.

The firmware update freezes during installation

The firmware update freezes when the XPR web interface shows **Installing** under **Action**. The XPR cutting system lost wireless connectivity during the update.

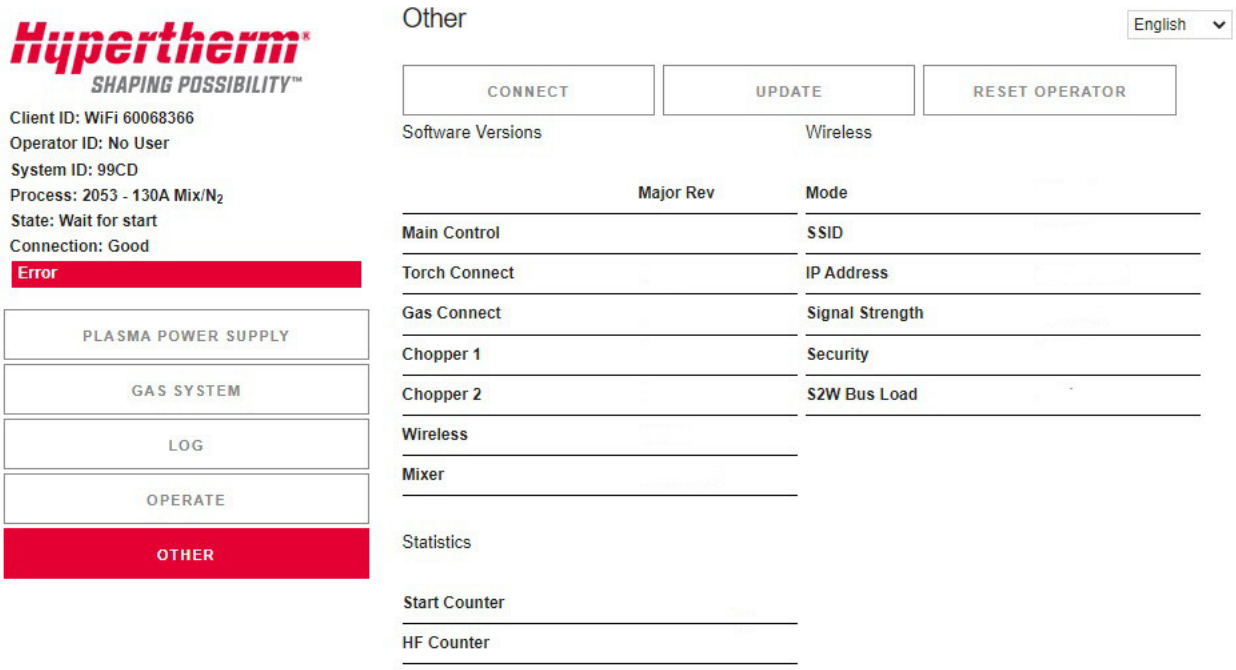


Suggested actions

1. Reconnect to the XPR web interface.
2. Go to the **Other** tab in the XPR web interface to compare the version listed next to each component to the current version. Refer to Firmware versions table on page 46.
   - If the versions are the same, the firmware updated correctly.
   - If the versions are different, the firmware did not update correctly. Update those components again. Refer to Update the XPR PCB firmware with the XPR web interface on page 14.

All versions are blank after a firmware downgrade

On the **Other** tab, all versions show blank after a firmware downgrade.



Suggested actions

1. Remove the power from the cutting system:
   a. Set the line-disconnect switch to the OFF position.
   b. Make sure that the power-indicator LED on the plasma power supply, TorchConnect console, and gas connect console is not illuminated.
2. Wait at least 1 minute.
3. Supply power to the cutting system:
   a. Set the line-disconnect switch to the ON position.
   b. Make sure that the power-indicator LED on the plasma power supply, TorchConnect console, and gas connect console is illuminated.
4. Use Chrome Internet browser with the XPR web interface to connect to the XPR cutting system.

   For more information about how to connect, refer to *How to connect to the plasma power supply with the XPR web interface* in your *XPR Instruction Manual*.

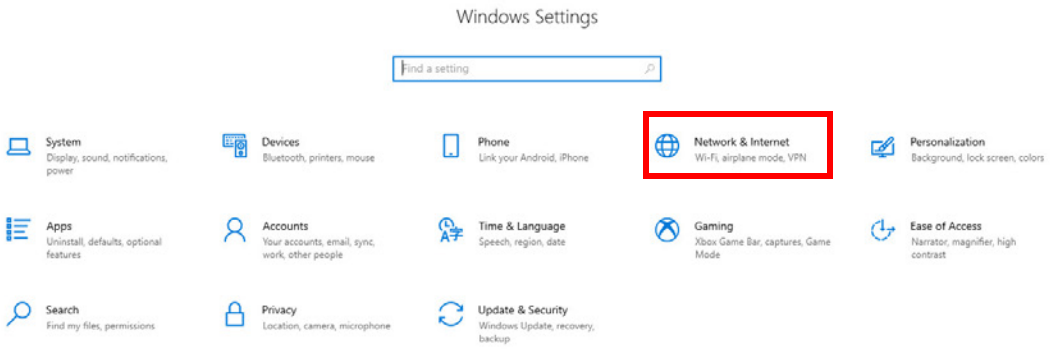
5. Update the XPR web interface firmware. Refer to Update the XPR web interface firmware on page 10.

The device that you want is not shown or making the connection is not easy

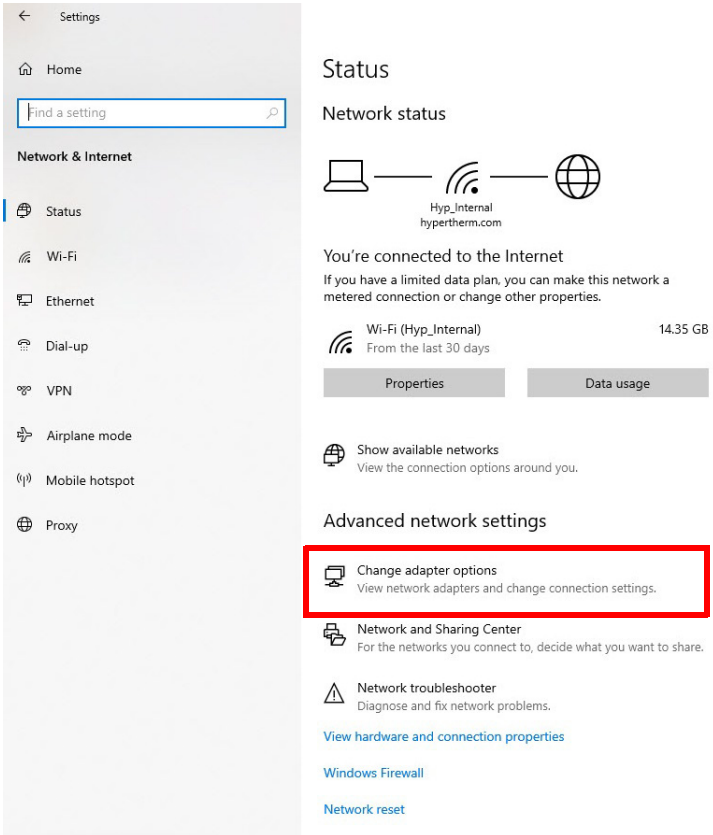
You want to make a wireless connection to an XPR cutting system but the cutting system that you want is not shown or making the connection is not easy.

These steps are specific to Microsoft® Windows™ 10.

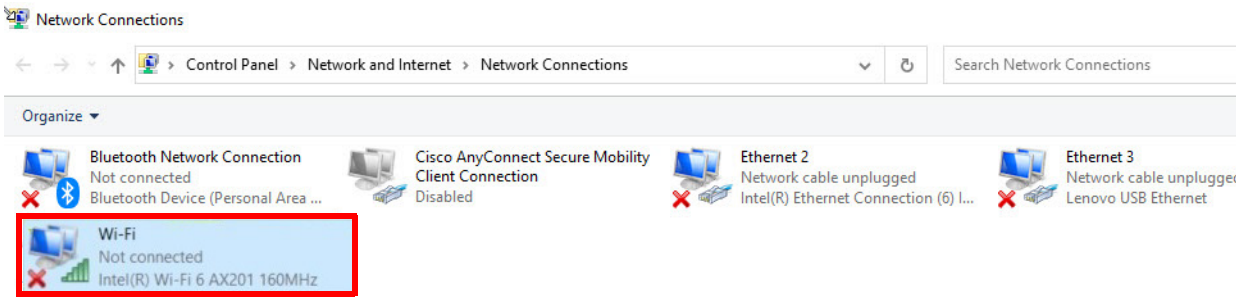
1. Select **Settings** to go to the Windows Settings screen.
2. Select **Network & Internet**.



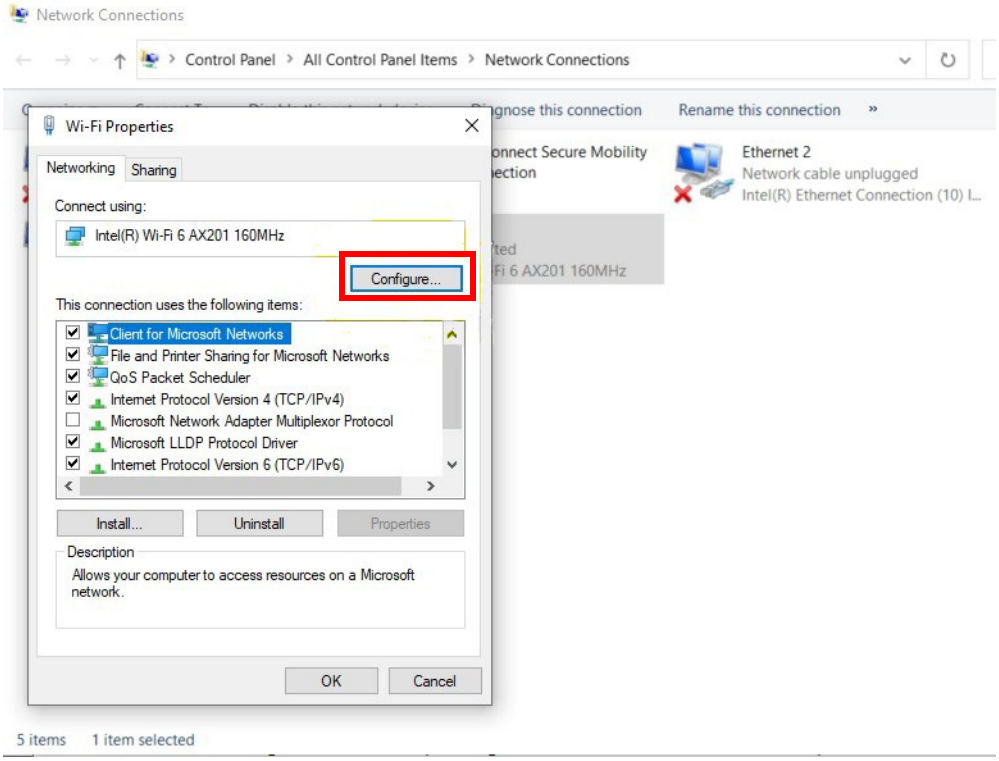
3. Select **Change adapter options** to go to the Network Connections screen.



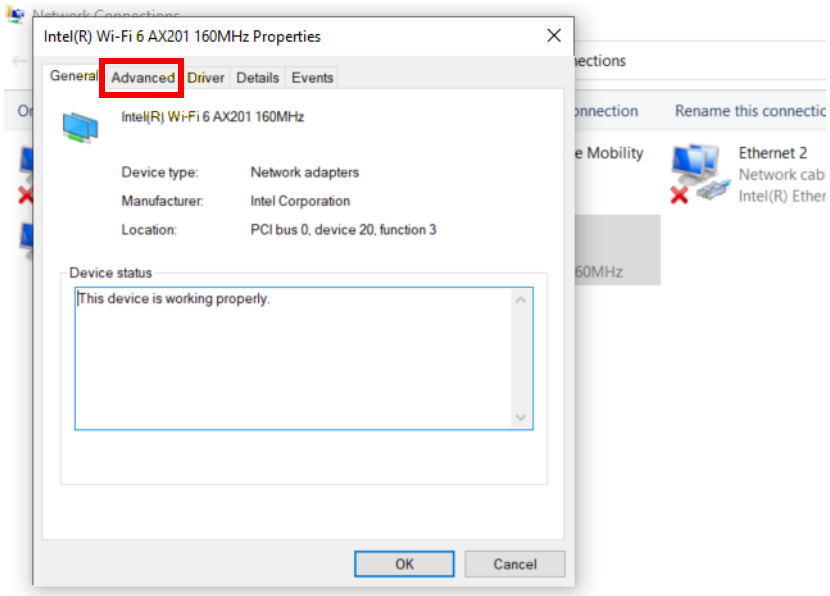
4. Right-click on **Wi-Fi** and select **Properties** to go to the Wi-Fi Properties screen.



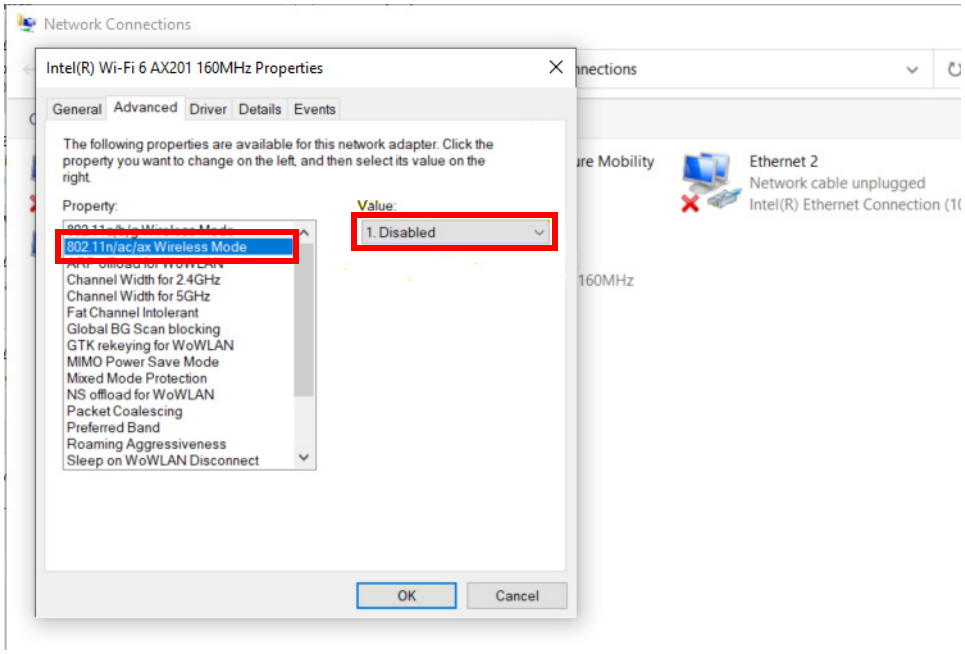
5. Select **Configure**.



6. Select the **Advanced** tab.



7. In the Property dropdown list, select **802.11n Wireless Mode** and in the Value dropdown list, select **Disabled**. This disables the 802.11n/ac/ax wireless mode and enables the 802.11a/b/g wireless mode that shows available wireless devices.



After finding and connecting to the XPR cutting system that you want, it can be necessary to go to the Wi-Fi Properties screen and enable the 802.11n/ac/ax wireless mode again for faster wireless connections.

3 Firmware versions

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Firmware versions table

Firmware version	Wireless image and signature	Main control		TorchConnect console		Gas connect console		Chopper	
		405ZG	Bootloader	405ZG	Bootloader	405ZG	Bootloader	405ZG	Bootloader
V	30067	V, 889	U, 887	U, 301	U, 301	U, 263	U, 263	U, 288	U, 288
U	30067	U, 887		U, 301		U, 263		U, 288	
T	29658	T, 867	M, 777	T, 298	M, 270	T, 259	M, 244	T, 281	M, 234
S	29131	R, 826		M, 270		P, 253		S, 269	
R	29131	R, 826		M, 270		P, 253		P, 254	
P	27537	P, 825		M, 270		P, 253		P, 254	
N	27537	N, 803		M, 270		J, 193		J, 216	
M	27537	M, 777		M, 270		J, 193		J, 216	
L	26308	L, 936	H, 616	J, 246	H, 227	J, 193	H, 188	J, 216	H, 212
K	26308	K, 702		J, 246		J, 193		J, 216	
J	26153	J, 692		J, 246		J, 193		J, 216	
H	25413	H, 616		H, 227		H, 188		H, 212	
G	24095	G, 542	D, 388	G, 207	D, 154	G, 173	D, 102	G, 197	D, 155
F	22311	F, 472		F, 180		E, 122		E, 169	
E	21493	E, 458		E, 175		E, 122		E, 169	
D	19497	D, 388		D, 154		D, 102		D, 155	

Firmware version descriptions

Firmware version	Released date	Updates
V	December 2022	▪ Add changes to support European idle-state power-consumption requirements specified in IEC 60974-1 Edition 6.0.
U	May 2022	▪ Decrease EEPROM write cycles. ▪ Add "Reset Operator" button to webpage. ▪ Implement CorePlus. ▪ Add fix for Error 540. ▪ Add fix for incorrect reporting of smart error data on EtherCAT. ▪ Change webpage formatting. ▪ Increase reliability of uploads with USB drives. ▪ Enable gas leak test for Core and CorePlus gas consoles. ▪ Add process ID 2029 to improve start reliability for 80 A N_2/H_2O underwater cutting.
T	July 2021	▪ Change how CAN-timeout codes are reported. ▪ Add Pump Timeout Time command to set a pump timeout value. ▪ Add Release Source command to improve firmware-update process. ▪ Remove Minor Revision information from the Other page in the web user interface (Minor Revision information remains available on the Update page).
S	April 2021	▪ Improve chopper reliability.
R	November 2020	▪ Release the 220 A process that includes 220 A True Hole™. ▪ Improve reliability for non-ferrous cutting. This includes aluminum 60 A N_2/N_2, stainless steel N_2/H_2O, and aluminum 170 A N_2/N_2. ▪ Improve gas-flow diagnostics for process control in the XPR web interface.
P	June 2020	▪ Improve CAN bus error handling. Specifically, turn OFF all outputs if a CAN bus failure occurs to improve system control during hard faults. ▪ Increase process offset limits for most gas pressures. Increase process offset limits for marking and cutting currents for improved cutting and marking control optimization.
N	April 2020	▪ Change Mix I2C diagnostic-code behavior to be a warning except with mixed-gas processes. ▪ Resolve false Node reset errors (691). ▪ Stop the cut on a lost current error. ▪ Add 784, Main 24 V high, for 24 VDC high voltage error. ▪ Stop the cut or prevent start on a 745, Low Speed-MagFan 2, alert. ▪ Resolve inductor 4 temperature scaling reporting error.
M	June 2019	▪ Add FoE (firmware over EtherCAT) and FoS (firmware over serial). ▪ Change TorchConnect console solenoid valve duty cycle. ▪ Increase initialization time for USB memory sticks to support more USB memory sticks. ▪ Decrease XPR web interface refresh rate from 2 seconds to 0.5 seconds.

Firmware version	Released date	Updates
L	March 2019	▪ Add ohmic contact for vented water injection (VWI™) processes. ▪ Eliminate false-failure messages that occur during XPR web interface firmware update.
K	November 2018	▪ Make sure that F5 HyDefinition™ (HDi) processes are enabled in VWI gas connect consoles. ▪ Resolve issues from firmware version J.
J	October 2018	▪ Release 50 A True Hole processes. ▪ Enable 170 A 0.75 inch and 130 A 0.25 inch True Hole processes. ▪ Upgrade OptiMix gas connect console operation support. ▪ Fix XPR web interface server crash and RS-422 multi-drop issues.
H	June 2018	▪ Enable wireless firmware updates. ▪ Change the threshold for the coolant solenoid fault. ▪ Improve gas system checks and error handling. ▪ Enable fan speed error checks. ▪ Improve error handling on chopper over-temp (560, 561) and main-control diagnostic codes.
G	January 2018	▪ Change CAN-message handling for solenoid valve (V11) functionality. ▪ Improve CAN-message handling during rampup and rampdown. ▪ Add a check of pierce gases during gas purge before the arc starts.
F	August 2017	▪ Improve 130 A O_2/Air and 130 A True Hole process to reduce double arcing. ▪ Improve when active gas lines are highlighted, add translations, and improve operate-menu filter setting stability in the XPR web interface. ▪ Add multiple serial commands.
E	June 2017	▪ Add argon (Ar) marking processes. ▪ Improve XPR web interface design. ▪ Improve leak test and purge processes. ▪ Change diagnostic code descriptions for clarity.