

RFXtrx

USB RF transceiver

User guide



www.rfxcom.com

1. Table of Contents

| | | |
|--------|---|----|
| 1. | Table of Contents..... | 2 |
| 2. | RFXtrx general information..... | 3 |
| 2.1. | RFXtrx315 supported protocols..... | 3 |
| 2.1.1. | RFXtrx315 configured for 310MHz..... | 3 |
| 2.1.2. | RFXtrx315 configured for 315MHz..... | 3 |
| 2.1.3. | RFXtrx868X..... | 3 |
| 2.2. | RFXrec433, RFXtrx433, RFXtrx433E supported protocols..... | 4 |
| 2.2.1. | By function..... | 4 |
| 2.2.2. | Alphabetic list..... | 8 |
| 2.3. | undec on..... | 13 |
| 2.4. | Sensitivity influenced by enabled protocols..... | 14 |
| 2.5. | RF range reduction..... | 15 |
| 2.6. | Home Automation software..... | 15 |
| 2.7. | Dimensions..... | 15 |
| 2.8. | Electrical..... | 15 |
| 2.9. | Environmental conditions..... | 15 |
| 3. | Install the USB driver..... | 16 |
| 4. | Run RFXflash on Linux under Mono..... | 16 |
| 5. | RFXmngtr test program..... | 17 |
| 5.1. | Receiver..... | 18 |
| 5.2. | Transmitter..... | 19 |
| 6. | Flash update of the RFXtrx..... | 20 |
| 6.1. | Update firmware in the RFXtrx..... | 20 |
| 6.2. | Update firmware in the RFXtrx step by step..... | 21 |
| 7. | RFXtrx433 special device codes..... | 23 |
| 7.1. | Remote commands..... | 23 |
| 7.1.1. | X10 RF Remote..... | 23 |
| 7.1.2. | ATI Remote Wonder..... | 24 |
| 7.1.3. | ATI Remote Wonder Plus..... | 25 |
| 7.1.4. | Medion Remote..... | 26 |
| 7.2. | Harrison address conversion to switch settings..... | 27 |
| 7.3. | Flamingo, AB400, IMPULS, Sartano, Brennenstuhl switch settings..... | 28 |
| 7.4. | Energenie 5-gang 429.950..... | 29 |
| 7.5. | Phenix, IDK YC-4000S switch settings..... | 30 |
| 7.6. | HE105 switch settings..... | 31 |
| 7.7. | HQ COCO-20..... | 32 |
| 7.8. | MDREMOTE V106, V107..... | 33 |
| 7.9. | MDREMOTE V108, EKAB-10KRF..... | 33 |
| 7.10. | Aoke relay..... | 33 |
| 7.11. | SEAV TXS4..... | 34 |
| 7.12. | How to find the dx.com RGB LED strip driver ID..... | 34 |
| 7.13. | How to find the dx.com RGB LED strip driver ID (rev. 2)..... | 34 |
| 7.14. | How to find the Eurodomest ID..... | 34 |
| 8. | Blyss commands..... | 35 |
| 9. | Somfy RTS..... | 35 |
| 10. | BlindsT6..... | 36 |
| 11. | Lucci Air fan..... | 36 |
| 12. | Transmit undecoded ARC commands..... | 37 |
| 13. | Known Lighting4 devices..... | 38 |
| 13.1. | Proluxx projection screen..... | 38 |
| 13.2. | Kingpin (KP100) projection screen..... | 38 |
| 13.3. | Mercury remote control mains sockets..... | 38 |
| 13.4. | Conrad 034911 sockets..... | 38 |
| 14. | FAQ..... | 39 |
| 14.1. | Receive has stopped suddenly but transmit works..... | 39 |
| 14.2. | Can I increase the receive/transmit range of the RFXtrx?..... | 39 |
| 14.3. | The RFXtrx USB connection disconnects sometimes..... | 39 |

| | | |
|-------|--|----|
| 14.4. | I have a 433.92MHz sensor/remote but this device is not received..... | 39 |
| 14.5. | The wall plug is switched by the remote. The remote is received but the RFXtrx does not switch the module..... | 39 |
| 15. | EC Declaration of Conformity..... | 40 |
| 16. | Warning:..... | 41 |
| 17. | License..... | 41 |
| 18. | Copyright notice..... | 41 |
| 19. | Revision history..... | 42 |

2. RFXtrx general information

The RFXtrx transceivers and RFXrec receivers are communicating over an USB port with the Home Automation application. The RFXtrx/rec is powered by the USB port.

At startup the RFXtrx enters for 2 seconds the boot loader (red LED is on) and after this it starts the receive/transmit firmware. If valid (decode-able) packets are received the yellow LED will blink.

The RFXtrx315 and the RFXrec433 are mainly for use in the US. The RFXtrx315 can receive US X10 lighting and security sensors or US Visonic PowerCode sensors at 315MHz.

The RFXrec433 can receive weather sensors of different brands at 433.92MHz.

The RFXtrx433 is a transceiver (transmitter+receiver) and can receive and control a large number of sensors and other devices.

The RFXtrx433E is an extended RFXtrx433 transceiver.

Note: the listed protocols and brands are supported!

2.1. RFXtrx315 supported protocols

2.1.1. RFXtrx315 configured for 310MHz

| Protocol | Protocol | receive | transmit |
|-----------------|----------|---------|----------|
| US X10 lighting | X10 | Y | Y |
| US X10 security | X10 | Y | Y |

2.1.2. RFXtrx315 configured for 315MHz

| Protocol | Protocol | receive | transmit |
|---|----------|---------|----------|
| Aoke relay - http://www.aliexpress.com/store/product/whose-sale-prices-DC12V10A-Learning-Code-Wireless-Remote-Control-Switch-System-1-Receiver-and-1-Transmitter/1211856_1774391429.html | - | - | Y |
| Keeloq (unencrypted part only) | Keeloq | Y | - |
| Visonic CodeSecure (unencrypted part only) | Visonic | Y | - |
| Visonic PowerCode | Visonic | Y | Y |

2.1.3. RFXtrx868X

| Protocol | Protocol | receive | transmit |
|--|----------|---------|----------|
| FS20 | - | Y | Y |
| Itho CVE RFT | - | - | Y |
| Keeloq (unencrypted part only) | Keeloq | Y | Y |
| Visonic CodeSecure (unencrypted part only) | Visonic | Y | - |
| Visonic PowerCode | Visonic | Y | - |

2.2. RFXrec433, RFXtrx433, RFXtrx433E supported protocols

2.2.1. By function

| Curtains, shades, projection screen, awning, gate openers |
|--|
| A-OK blind motors (RF01,AC114,AC123 controlled) - http://www.motorisationplus.com/ |
| ASA ETR blind motors - http://www.asa-mingardi.org/en/home.php |
| ASP blind motors - http://www.asp-distribution.com/site%20volet/voletrenovation.aspx |
| BOFU blind motors - http://www.bofumotor.com/ |
| BTX blind motors - http://www.btxinc.com |
| Brel blind motors - http://www.brel-motors.nl/webshop/motoren/ |
| Chamberlain CS4330CN http://www.chamberlain24.de/epages/es122868.sf/en_GB/?ObjectPath=/Shops/es122868/Products/RA4336 |
| Confexx CNF24-2435 |
| Dolat DLM-1 controlled motors - http://www.dolat.com.cn/product1.asp?id=538 |
| Dooya blind motors, remotes tested: DC305,DC306,DC307,DC313,DC1650,DC1651 |
| Ematronic - http://www.ematronic.com/moteurs-volet-roulant/ |
| ESMO blind motors |
| Forest blind/curtain motors - http://www.forestgroup.nl/index_nl.html |
| Harrison curtain - http://www.harrison.nl/home2.htm |
| Hasta blind motors - http://www.hasta.se/ |
| JVS screens - http://www.screen-discount.nl/ |
| Kingpin KP100 projection screen |
| Louvolite one touch motorised blinds |
| Luxaflex (RFXtrx433E only) - http://www.luxaflex.se/produkter/luxaflex/rullgardiner/ |
| Media Mount Projector screen |
| Motolux - http://www.motolux.com.au/ |
| Proluxx projection screen |
| Quotidom - http://www.quotidom.com/moteur-tubulaire-radio-quotidom-10-ou-20-nm-volet-roulant-ou-store-banne.html |
| RAEX blind motor (YR1326 controlled) |
| RohrMotor24 RMF blind motors - http://www.rohrmotor24.eu/rohrmotor24 |
| RollerTrol blind motors - http://rollertrol.com/ |
| Simu (RFXtrx433E only) - http://www.simu.com/ |
| Somfy (RFXtrx433E only) - http://www.somfy.co.uk/ |
| Sunpery blind motors |
| YOODA blind motors - http://www.sukcesgroup.pl |

| Temperature, humidity, weather sensors |
|---|
| Alecto – WS1200, WS1700, WS3500, WS4500 |
| Auriol – H13726 |
| Banggood – SKU174397 http://www.banggood.com/433MHz-Wireless-Weather-Station-Digital-Thermometer-Humidity-Sensor-p-965559.html |
| Cresta |
| Digimax |
| Hama – EWS1500 |
| Hideki weather sensors |
| Honeywell – TF-ATS34C |
| Inovalley SM80 with plant probes - http://www.inovalley.com/detail.php?item_id=289 |
| La Crosse |
| Lexibook – SM883 |
| Maverick ET-732, ET-733 BBQ/Smoke temperature |
| Meade – TS33F-M, TS34C-M http://www.meade.com/products/weatherstations/sensors.html |
| Meteoscan – W155, W160 |
| NEXUS – I008T |
| mi.sol WH2 http://www.ebay.com/itm/Transmitter-for-Wireless-Weather-Station-wireless-temperature-sensor-/121664060899 |
| Opus XT300 /Imagintronix Soil sensor http://www.plantcaretools.com/en/webshop/wireless-moisture-sensor-en-detail http://www.ebay.co.uk/itm/Wireless-Soil-Moisture-Sensor-/251380900939?pt=UK_Home_Garden_Garden_Plants_Fertiliser_CV&hash=item3a8778244b |
| Oregon Scientific / Huger |
| Prego P-8426 http://www.sunmarket.fi/tuote.asp?TID=11990 |
| Proove –TSS320 & TSS330 fridge/freezer thermometer & outdoor sensors 311346,311501 |
| RFXSensor |
| RUBICSON – stektermometer 48659, 48695 -pool sensor p48019 |
| Sunvic TLX1206 |
| Sunvic TLX7506 |
| TechnoLine/Proficell http://www.elv.de/output/controller.aspx?cid=74&detail=10&detail2=27621 - TX95-TH |
| TFA |
| UPM/Esic (very short receiving range) |
| Ventus – WS155 |
| Viking |
| WT0122 pool thermometer |
| Xiron –EN6 |

Appliance modules, dimmers, relays, LED controllers

| |
|--|
| ANSLUT (learning mode) |
| Aoke relay http://www.aliexpress.com/store/product/whose-sale-prices-DC12V10A-Learning-Code-Wireless-Remote-Control-Switch-System-1-Receiver-and-1-Transmitter/1211856_1774391429.html |
| Avantek |
| ByeByeStandBy |
| Blyss lighting – http://www.castorama.fr/store/Prise-telecommandee-et-telecommande-BLYSS---Interieur-prod4470026.html |
| Brennenstuhl |
| Chacon – http://www.chacon.be/ |
| CoCo – http://www.coco-technology.com/en/home/ |
| Conrad RSL2 – http://www.conrad.com/ce/en/product/640466/FUNK-STECKDOSENSCHALTER-RSLR2 |
| DI.O – http://www.di-o.be/ |
| DomiaLite |
| Ebode |
| ELRO AB400/AB600 – http://www.elro.eu/en/products/cat/home-automation/home-control1 |
| Energenie ENER010 – 429.935, 5-gang 429.950 - https://energenie4u.co.uk/ |
| Etekcity – http://etekcity.com/p-300-5-pack-wireless-remote-control-outlet-switch-set-with-2-remote-controls-zap-5lx.aspx |
| Eurodomest NL – Action |
| Everflourish EMW100 |
| Flamingo |
| Flamingo FA500D FA500DSS |
| Home Confort – http://www.home-confort.net/en |
| HomeEasy EU – http://www.elro.eu/en/products/cat/home-automation/ |
| HomeEasy UK (including HE105 relay) – http://www.homeeasy.eu/ |
| HQ COCO-20 |
| Ikea Koppla |
| Impuls – NL – Action |
| Intertechno – http://www.intertechno.at/ |
| Kambrook RF3672 – http://www.bunnings.com.au/kambrook-4-piece-indoor-powerpoint-kit-with-remote-control_p7030054 |
| KlikAanKlikUit – http://www.klikaanklikuit.nl/home/ |
| Legrand CAD radio – http://docdif.fr.grpleg.com/general/legrand-fr/NP-FT-GT/FA181DFR.pdf |
| LightwaveRF – http://www.lightwaverf.co.uk/ |
| Livolo - http://www.livolo-france.com/fr/ http://nl.aliexpress.com/w/wholesale-livolo-touch-switch.html |
| Maplin http://www.maplin.co.uk/p/remote-controlled-mains-socket-set-single-n78ka (use Lighting1 – COCO GDR2) |
| MDremote LED dimmer V106, V107, V108, EKAB-10KRF - www.ultraleds.co.uk - http://www.ledstripkoning.nl/accessoires/dimmers-wit/draadloze-dimmer-10-knops-rf/ |
| Mercury appliance modules – http://mercury.avsl.com/product?range=ME5124 |
| NEXA – http://www.nexa.se/ |
| ORNO |
| OTIO |
| Phenix |
| Philips SBC SP370 series |
| PROmax |
| Proove - http://proove.se/ |
| RGB LED strip driver dx.com - http://www.dx.com/ order nbr: 130913 (new TRC02 not supported) , 67412 |
| RisingSun |
| Sartano |
| Siemens (UK) |
| Waveman |
| X10 RTS10 / RFS10 |
| X10 lighting |
| Xdom |

| Door/window, smoke and other security sensors |
|---|
| Aidebao security |
| Alecto – SA30 smoke detector |
| AliExpress sensors with EV1572 or PT2262 (PT2262 is preferred) |
| Atlantic security |
| Chacon KD101 smoke detector |
| Chuango security |
| Eminent security |
| Flamingo KD101 smoke detector FA20RF, FA21RF |
| Meiantech security |
| NEXA KD101 smoke detector |
| Oregon MSR939 https://www.redealer.de/multimedia/home-living/wetterstationen/bewegungssensor-msr939/a-200667/ |
| Visonic CodeSecure |
| Visonic PowerCode |
| X10 security |

| Remotes |
|------------------------|
| ATI Remote Wonder |
| ATI Remote Wonder Plus |
| ATI Remote Wonder II |
| SEAV TXS4 |
| X10 PC Remote |

| Chimes |
|--|
| 1byOne Easy Chime |
| Byron SX chime - http://www.chbyron.eu/Byron/ByronSXRange/68/89/ |
| Byron MP001 |
| Chacon |
| Envivo – ENV1348 |
| HomeEasy |
| KlikAanKlikUit |
| Profiles PAC-326R Belcanto |
| SelectPlus200689101 & SelectPlus200689103 (Action NL) |

| Power, gas water metering |
|---|
| Cartelectronic TIC and Encoder - http://www.cartelectronic.fr/ |
| cent-a-meter |
| Electrisave |
| OWL CM113, CM180, CM119, CM160, CM180, CM180i - http://www.theowl.com/ |
| Revolt NC5461 - http://www.pearl.de/a-NC5462-5452.shtml |
| RFXMeter |

| Specials |
|--|
| 1byone Wireless Home Security Driveway Alarm http://www.1byone.co.uk/Home-Security/Alarms/O00QH-0511 |
| DEA receivers http://www.deasystem.com/en/accessory/7/receivers (unencrypted only) |
| Lucci Air Fan - http://www.lucciair.com/ |
| Mertik Maxitrol – Fire Place controllers |
| Oregon Scientific Body weight scales – BWR101, BWR102, GR101 |
| Prego P-8426 – sauna temperature sensor http://www.sunmarket.fi/tuote.asp?TID=11990 |
| Smartwares radiator valve http://www.homewizard.nl/smartwares-draadloze-radiatorkraan.html |
| Siemens SF01 - LF959RA50/LF259RB50/LF959RB50 extractor hood |
| Wave Design extractor hood |
| X10 Ninja/Robocam – camera motor |

2.2.2. Alphabetic list

Important notes:

- Ext and Ext2 firmware will not operate in the RFXtrx433.
- RFXrec firmware is equal to RFXtrx433 – Type1 firmware without the transmit functions.
- Protocol enabling is only necessary for receive. Transmit protocols are always enabled.

| Device | Type 1 | Type 2 | Ext | Ext2 | Protocol | rec | xmit |
|---|--------|--------|-----|------|------------------------------------|-----|------|
| 1byone Driveway Alarm - http://www.1byone.co.uk/Home-Security/Alarms/O00QH-0511 | - | Y | Y | Y | ByronSX | Y | Y |
| 1byone Easy Chime | - | Y | Y | Y | ByronSX | Y | Y |
| A-OK blind motors RF01 - http://www.motorisationplus.com/ | Y | Y | - | Y | BlindsT2 | Y | Y |
| A-OK blind motors AC114,AC123 - http://www.motorisationplus.com/ | Y | Y | - | Y | BlindsT3 | Y | Y |
| Aidebao security | Y | Y | Y | Y | Meiantech | Y | Y |
| Alecto – SA30 smoke detector | Y | - | Y | - | Oregon | Y | Y |
| Alecto – WS1200 | Y | Y | Y | Y | LaCrosse | Y | - |
| Alecto – WS1700 and compatibles, WS3500, WS4500 | - | - | Y | Y | Rubicson | Y | - |
| ANSLUT (learning mode) | Y | Y | Y | Y | AC | Y | Y |
| Aoke relay - http://www.aliexpress.com/store/product/whose-sale-prices-DC12V10A-Learning-Code-Wireless-Remote-Control-Switch-System-1-Receiver-and-1-Transmitter/1211856_1774391429.html | Y | Y | Y | Y | Lighting5 Aoke or Lighting1 ARC | N | Y |
| ASA ETR blind motors - http://www.asa-mingardi.org/en/home.php | - | - | Y | Y | RFY | N | Y |
| ASP blind motors - http://www.asp-distribution.com/site%20volet/voletrenovation.aspx | Y | Y | - | Y | BlindsT11 | Y | Y |
| ATI Remote Wonder | Y | - | - | - | ATI | Y | Y |
| ATI Remote Wonder Plus | Y | - | - | - | ATI | Y | Y |
| ATI Remote Wonder II (only available in hardware version 1.0) | Y | - | - | - | ATI | Y | - |
| Atlantic security | Y | Y | Y | Y | Meiantech | Y | Y |
| Auriol H13726 | - | - | Y | Y | Rubicson | Y | - |
| Auriol Z31055B-TX | - | - | - | Y | Rubicson | Y | - |
| Avantek | - | - | Y | Y | Lighting5 *Lighting4 | Y* | Y |
| Banggood – SKU174397 | - | - | Y | Y | Rubicson | Y | - |
| ByeByeStandBy | Y | Y | Y | Y | ARC | Y | Y |
| Byron SX chime - http://www.chbyron.eu/Byron/ByronSXRange/68/89/ | Y | Y | Y | Y | ByronSX | Y | Y |
| Byron MP001 chime | - | - | Y | Y | Chime Byron MP001 | N | Y |
| Blyss lighting - http://www.castorama.fr/store/Prise-telecommandee-et-telecommande-BLYSS---Interieur-prod4470026.html | Y | Y | Y | - | AE | Y | Y |
| BOFU blind motors - http://www.bofumotor.com/ * = receive only in Type2 used to get the remote ID. | Y | Y | Y | Y | BlindsT0 | Y* | Y |
| Brennenstuhl | Y | Y | Y | Y | Lighting4 | Y | Y |
| Brel blind motors – http://www.brel-motors.nl/webshop/motoren/ | Y | Y | Y | Y | BlindsT6 | N | Y |
| BTX blind motors – http://www.btxinc.com | - | Y | - | - | BlindsT9 | N | Y |
| Cartelectronic TIC and Encoder - http://www.cartelectronic.fr/ | - | - | - | Y | ATI/cartelectronic | Y | N |
| cent-a-meter | Y | Y | Y | - | Oregon | Y | - |
| Chacon (learning mode) - http://www.chacon.be/ | Y | Y | Y | Y | AC | Y | Y |
| Chacon (with address code wheels) | Y | Y | Y | Y | ARC | Y | Y |
| Chacon EMW200 | Y | Y | Y | - | Lighting1 | N | Y |

| | | | | | | | |
|---|----|---|----|----|--|---|---|
| Chacon 54660 (equal COCO GDR2) | Y | Y | Y | Y | EMW200 Lighting1 COCO GDR2 | N | Y |
| Chacon KD101 smoke detector | Y | Y | Y | Y | always on | Y | Y |
| Chamberlain CS4330CN http://www.chamberlain24.de/epages/es122868.sf/en_GB/?ObjectPath=/Shops/es122868/Products/RA4336 | - | - | Y | - | BlindsT8 | N | Y |
| Chuango * decoded as X10 in ext firmware | Y | Y | Y | Y* | Lighting4 | Y | Y |
| CoCo (learning mode) - http://www.coco-technology.com/en/home/ | Y | Y | Y | Y | AC | Y | Y |
| CoCo (with address code wheels) | Y | Y | Y | Y | ARC | Y | Y |
| CoCo GDR2 (equal Chacon 54660) | Y | Y | Y | Y | Lighting1 COCO GDR2 | N | Y |
| Confexx CNF24-2435 | - | - | - | Y | BlindsT12 | N | Y |
| Conrad RSL2 - http://www.conrad.com/ce/en/product/640466/FUNK-STECKDOESCHALTER-RSLR2 | Y | Y | - | Y | RSL | Y | Y |
| Conrad RSL sensors | - | Y | - | - | RSL | Y | Y |
| Conrad RSL2 motion/door-window sensors | - | Y | - | - | RSL | Y | Y |
| Cresta - TX-320, TS34C, anemometer, UV sensor, rain sensor | Y | Y | Y | Y | Hideki | Y | - |
| DEA receivers (unencrypted) http://www.deasystem.com/en/accessory/7/receivers | - | - | Y | - | KeeLoq | Y | Y |
| Digimax | Y | Y | Y | - | X10 | Y | - |
| DI.O (learning mode) - http://www.di-o.be/ | Y | Y | Y | Y | AC | Y | Y |
| DI.O (with address code wheels) | Y | Y | Y | Y | ARC | Y | Y |
| Dolat DLM-1 controlled motors - http://www.dolat.com.cn/product1.asp?id=538 | - | Y | - | - | BlindsT10 | N | Y |
| DomiaLite (with address code wheels) | Y | Y | Y | Y | ARC | Y | Y |
| Dooya blind motors, emulate remotes: DC305,DC306,DC307,DC313,DC1650,DC1651 | Y | Y | Y | Y | BlindsT6 | N | Y |
| Ebode | Y | Y | Y | Y | X10 | Y | Y |
| Electrisave | Y | Y | Y | - | Oregon | Y | - |
| ELRO AB400 - http://www.elro.eu/en/products/cat/home-automation/home-control1 | Y | Y | Y | - | Lighting4 | Y | Y |
| ELRO AB600 | Y | Y | Y | Y | ARC | Y | Y |
| Ematronic RF01 - http://www.ematronic.com/moteurs-volet-roulant/ | Y | Y | - | Y | BlindsT2 | Y | Y |
| Ematronic AC114, AC123 - http://www.ematronic.com/moteurs-volet-roulant/ | Y | Y | - | Y | BlindsT3 | Y | Y |
| Eminent * decoded as X10 in ext firmware | Y | Y | Y | Y* | Lighting4 | Y | Y |
| Energenie - https://energenie4u.co.uk/ - ENER010 – 429.935, 5-gang 429.950 | Y | Y | Y | - | Lighting1 Energenie Energenie5 | N | Y |
| Envivo – Chime ENV1348 | - | - | Y | - | Chime Envivo | N | Y |
| ESMO blind motors | Y | Y | Y | Y | BlindsT6 | N | Y |
| Etekcitey – http://etekcity.com/p-300-5-pack-wireless-remote-control-outlet-switch-set-with-2-remote-controls-zap-5lx.aspx | Y | Y | Y | - | Lighting1 Energenie5 | N | Y |
| Eurodomest (NL – Action) * ARC only | Y* | Y | Y* | Y* | Lighting1 ARC Or Lighting5 Eurodomest | N | Y |
| Everflourish EMW100 | Y | Y | Y | - | Lighting5 EMW100 | N | Y |
| Flamingo | Y | Y | Y | Y | Lighting4 | Y | Y |
| Flamingo FA500D FA500DSS | - | - | - | Y | IT | N | Y |
| Flamingo KD101 smoke detector FA20RF, FA21RF | Y | Y | Y | Y | always on | Y | Y |
| Forest blind/curtain motors - http://www.forestgroup.nl/index_nl.html | Y | Y | Y | Y | BlindsT7 | N | Y |
| HAMA EWS1500 | - | - | Y | Y | Rubicson | Y | - |
| Harrison curtain | Y | Y | Y | Y | Curtain Harrison | N | Y |

| | | | | | | | | |
|---|---|---|---|---|----------------------------|----|---|--|
| - http://www.harrison.nl/home2.htm | | | | | | | | |
| Hasta new blind motors - http://www.hasta.se/ * = receive only in Type2 used to get the remote ID. | Y | Y | Y | Y | BlindsT0 | Y* | Y | |
| Hasta old blind motors | Y | Y | - | - | BlindsT1 | Y | Y | |
| Hideki weather sensors | Y | Y | Y | Y | Hideki | - | - | |
| Home Confort lighting - http://www.home-confort.net/en | - | - | Y | - | HomeConfort | Y | Y | |
| HomeEasy EU (learning mode) - http://www.elro.eu/en/products/cat/home-automation/ | Y | Y | Y | Y | HE EU | Y | Y | |
| HomeEasy UK – HE105 - http://www.homeeasy.eu/ | Y | Y | Y | Y | Thermostat2 HE105 | N | Y | |
| HomeEasy UK (learning mode) | Y | Y | Y | Y | AC | Y | Y | |
| HomeEasy UK (with address code wheels) | Y | Y | Y | Y | ARC | Y | Y | |
| Honeywell - TF-ATS34C | Y | Y | Y | Y | Hideki | - | - | |
| HQ COCO-20 | - | - | Y | Y | Lighting1 HQ COCO20 | N | Y | |
| Ikea Koppla | Y | - | - | - | Lighting3 | N | Y | |
| Impuls (NL – Action) | Y | Y | Y | Y | Lighting1 Impuls | N | Y | |
| Inovalley SM80 with plant probes - http://www.inovalley.com/detail.php?item_id=289 | - | - | Y | Y | Rubicson | Y | - | |
| Intertechno (learning mode) - http://www.intertechno.at/ | Y | Y | Y | Y | AC | Y | Y | |
| Intertechno (with address code wheels) | Y | Y | Y | Y | ARC | Y | Y | |
| JVS screens - http://www.screen-discount.nl/ | Y | Y | Y | Y | BlindsT6 | N | Y | |
| Kambrook RF3672 – http://www.bunnings.com.au/kambrook-4-piece-indoor-powerpoint-kit-with-remote-control_p7030054 | - | Y | Y | - | Lighting2 Kambrook | N | Y | |
| Kingpin KP100 projection screen | Y | Y | Y | Y | Lighting4 | N | Y | |
| KlikAanKlikUit (learning mode) - http://www.klikaanklikuit.nl/home/ | Y | Y | Y | Y | AC | Y | Y | |
| KlikAanKlikUit (with address code wheels) | Y | Y | Y | Y | ARC | Y | Y | |
| La Crosse - TX2, TX3, TX3P, TX4, TX7, TX17, WS2300 | Y | Y | Y | Y | LaCrosse | Y | - | |
| Legrand CAD radio | - | - | Y | - | Lighting5 LeGrand CAD | - | Y | |
| Lexibook - SM883 | Y | Y | Y | Y | Hideki | Y | - | |
| LightwaveRF - http://www.lightwaverf.co.uk/ | Y | Y | Y | Y | AD | Y | Y | |
| Livolo - http://www.livolonederland.nl/ - http://www.livolo-France.com/fr/ - http://nl.aliexpress.com/w/wholesale-livolo-touch-switch.html | Y | Y | Y | Y | Lighting5 Livolo | N | Y | |
| Louvolite one touch motorised blinds * = receive only in Type2 used to get the remote ID. | Y | Y | Y | Y | BlindsT0 | Y* | Y | |
| Lucci Air fan – http://www.lucciair.com/ | - | - | Y | - | Fan LucciAir | N | Y | |
| Luxaflex – http://www.luxaflex.se/produkter/luxaflex/rullgardiner/ | - | - | Y | Y | RFY | N | Y | |
| Maplin http://www.maplin.co.uk/p/remote-controlled-mains-socket-set-single-n78ka | Y | Y | Y | Y | Lighting1 COCO GDR2 | N | Y | |
| Maverick ET-732/733 BBQ/Smoke temperature | Y | Y | Y | Y | Hideki | Y | - | |
| MDremote LED dimmer V106 - www.ultraleds.co.uk | Y | Y | Y | Y | Lighting5 MDRemote V106 | N | Y | |
| MDremote LED dimmer V107 - www.ultraleds.co.uk | Y | Y | Y | Y | Lighting5 MDRemote V107 | N | Y | |
| MDremote LED dimmer V108, EKAB-10KRF - http://www.ledstripkoning.nl/accessoires/dimmers-wit/draadloze-dimmer-10-knops-rf/ | Y | Y | Y | Y | Lighting5 MDRemote V108 | N | Y | |
| Meade – TS33F-M, TS34C-M http://www.meade.com/products/weatherstations/sensors.html | Y | Y | Y | Y | Hideki | Y | - | |
| Media Mount Projector screen | - | Y | - | - | Lighting4 | N | Y | |

| | | | | | | | |
|--|----|---|----|---|---------------------------|----|---|
| Meiantech security | Y | Y | Y | Y | Meiantech | Y | Y |
| Mercury appliance modules - http://mercury.avsl.com/product?range=ME5124 | Y | Y | Y | Y | Lighting1 Energenie5 | N | Y |
| Mertik Maxitrol Fire Place controllers - G6R-H4T1, G6R-H4T5, G6R-H4T ,G6R-H4TB, G6R-H4T21-Z22 | Y | Y | Y | Y | Mertik | Y | Y |
| Meteoscan W155,W160 | - | - | Y | Y | Rubicson | Y | - |
| Motorlux blinds motor | Y | Y | - | Y | BlindsT3 | - | Y |
| mi.sol WH2 http://www.ebay.com/itm/Transmitter-for-Wireless-Weather-Station-wireless-temperature-sensor-/121664060899 | Y | Y | Y | Y | FineOffset | Y | - |
| NEXA (learning mode) - http://www.nexa.se/ | Y | Y | Y | Y | AC | Y | Y |
| NEXA (with address code wheels) | Y | Y | Y | Y | ARC | Y | Y |
| NEXA KD101 smoke detector | Y | Y | Y | Y | always on | Y | Y |
| NEXUS - I008T | Y | Y | Y | Y | Hideki | Y | - |
| Opus XT300 /Imagintronix Soil sensor http://www.plantcaretools.com/en/webshop/wireless-moisture-sensor-en-detail http://www.ebay.co.uk/itm/Wireless-Soil-Moisture-Sensor-/2513809009399?pt=UK_Home_Garden_Plants_Fertiliser_CV&hash=item3a8778244b | Y | Y | Y | Y | XT300 | Y | - |
| ORNO | Y | Y | Y | Y | AC | Y | Y |
| Oregon Scientific / Huger BBQ and weather sensors - AW129, AW131, BTHGN129, BTHR918, BTHR918N, BTHR968, EW109, PCR800, RGR126, RGR682, RGR918, RGR928, RTGN318, RTGR328N, RTGR328N, RTGR368N, RTGR383, RTHN318, STR918, STR928, ,TGHN800, TGHN801, THC138, THC238, THC268, THGN122NX, THGN123N, THGN132ES, THGN132N, THGN500, THGR122(N/NX), THGR228(N/NF), THGR238, THGR268, THGR328N, THGR810, THGR918, THGR928, THGRN228NX, THN122N, THN129, THN132N, THR128, THR138, THR288(N/NF), THRN122N, THWR288A, THWR800, UV138, UVN128, UVN800, UVR128, WGR800, WGR918, WTGR800, WTGR800 | Y | Y | Y | Y | Oregon | Y | - |
| Oregon Scientific weighting scales - BWR101, BWR102, GR101 US BWR101, BWR102 in RFXrec | Y | - | Y | Y | Oregon | Y | - |
| Oregon MSR939 https://www.redealer.de/multimedia/home-living/wetterstationen/bewegungssensor-msr939/a-200667/ | - | - | Y | - | Oregon | Y | - |
| OTIO Lighting | Y | Y | - | Y | RSL | Y | Y |
| OWL – CM113 | Y | Y | Y | - | Oregon | Y | - |
| OWL - http://www.theowl.com/ - CM119, CM160, CM180, CM180i | Y | Y | Y | Y | Oregon | Y | - |
| Phenix | Y | Y | Y | Y | Lighting4 | Y | Y |
| Philips SBC SP370 series | - | Y | - | - | Lighting1 Philips SBC | N | Y |
| Prego P-8426 http://www.sunmarket.fi/tuote.asp?TID=11990 | Y | Y | Y | - | X10 | Y | - |
| Profiles PAC-326R Belcanto | Y | Y | Y | Y | ByronSX | Y | Y |
| Proluxx projection screen | Y | Y | Y | Y | Lighting4 | N | Y |
| PROmax | - | - | - | Y | IT | N | Y |
| Proove –TSS320 & TSS330 fridge/freezer thermometer & outdoor sensors 311346,311501 | Y | Y | Y | Y | FineOffset or Rubicson | Y | - |
| Quotidom – http://www.quotidom.com/moteur-tubulaire-radio-quotidom-10-ou-20-nm-volet-roulant-ou-store-banne.html | Y | Y | Y | Y | BlindsT6 | N | Y |
| RAEX blind motor (YR1326 controlled) | - | Y | - | - | BlindsT4 | Y | Y |
| Revolt NC5461 - http://www.pearl.de/a-NC5462-5452.shtml | - | Y | - | - | RSL | Y | - |
| RFXSensor | Y | Y | Y | Y | X10 | Y | - |
| RFXMeter | Y | Y | Y | Y | X10 | Y | - |
| RGB LED strip driver dx.com - http://www.dx.com/ order nbr: 130913, (new TRC02 NOT supported) | Y* | Y | Y* | - | AD | Y* | Y |

| | | | | | | | | |
|--|---|---|---|---|-------------------------|----|---|--|
| - http://www.dx.com/ order nbr: 67412 * = receive only in Type2 used to get the RGB remote ID. | | | | | | | | |
| RGB432W LED controller | Y | Y | Y | - | Lighting5 RGB432W | N | Y | |
| RisingSun | Y | Y | Y | Y | Lighting4 | Y | Y | |
| RUBICSON - stektermometer 48659, 48695 -pool sensor p48019 | Y | - | Y | Y | Rubicson | Y | - | |
| RohrMotor24 RMF blind motors - http://www.rohrmotor24.eu/rohrmotor24 | Y | Y | Y | Y | BlindsT6 | N | Y | |
| RollerTrol blind motors - http://rollertrol.com/ * = receive only in Type2 used to get the remote ID. | Y | Y | Y | Y | BlindsT0 | Y* | Y | |
| Sartano | Y | Y | Y | Y | Lighting4 | Y | Y | |
| SEAV TXS4 | - | - | - | Y | FAN SEAV TXS4 | N | Y | |
| SelectPlus200689101 & SelectPlus200689103 (Action NL) | - | Y | Y | Y | ByronSX | Y | Y | |
| Siemens SF01 LF959RA50/LF259RB50/LF959RB50 extractor hood | - | Y | - | - | Fan SF01 | N | Y | |
| Siemens (UK) | Y | Y | Y | Y | AD | Y | Y | |
| Simu / RTS (RFXtrx433E only) – http://www.simu.com/ | - | - | Y | Y | RFY | N | Y | |
| Smartwares radiator valve - http://www.homewizard.nl/smartwares-draadloze-radiatorkraan.html | - | - | Y | Y | Radiator1 Smartwares | N | Y | |
| Somfy / RTS - http://www.somfy.co.uk/ | - | - | Y | Y | RFY | N | Y | |
| Sunperly blind motors | - | Y | - | - | BlindsT9 | N | Y | |
| Sunvic TLX1206 | Y | Y | Y | - | X10 | Y | Y | |
| Sunvic TLX7506 | Y | Y | Y | - | X10 | Y | - | |
| TechnoLine/Proficell http://www.elv.de/output/controller.aspx?cid=74&detail=10&detail2=27621 - TX95-TH | Y | - | Y | Y | Rubicson | Y | - | |
| TFA - TS15C, TS34C, external temperature sensor 30.3133, anemometer 30.3149, UV sensor, rain sensor 30.3148, pool sensor 30.3160 | Y | Y | Y | Y | Hideki | Y | - | |
| TFA - pool sensor 30.3056.10, 30.3216.20 | - | - | - | Y | Oregon | Y | - | |
| UPM/Esic (very short receiving range) - WT260,WT260H,WT440H,WT450,WT450H,WDS500, RG700 | Y | - | - | - | Hideki | Y | - | |
| Ventus WS155 | - | - | Y | Y | Rubicson | Y | - | |
| Viking - 02035, 02038, 02811 | Y | Y | Y | Y | FineOffset | Y | - | |
| Visonic CodeSecure | Y | Y | Y | Y | Visonic | Y | - | |
| Visonic PowerCode | Y | Y | Y | Y | Visonic | Y | - | |
| Wave Design extractor hood | Y | Y | Y | Y | Fan SF01 | N | Y | |
| Waveman | Y | Y | Y | Y | Lighting1 Waveman | N | Y | |
| Westinghouse fan 7226640 | - | - | - | Y | Fan | N | Y | |
| WT0122 pool sensor | - | - | Y | - | FineOffset | Y | - | |
| YOODA blind motors - http://www.sukcesgroup.pl | Y | Y | Y | Y | BlindsT6 | N | Y | |
| X10 Ninja/Robocam | - | Y | - | - | X10 | Y | Y | |
| X10 PC Remote | Y | - | - | - | X10 | Y | Y | |
| X10 RTS10 / RFS10 | Y | Y | Y | Y | X10 | Y | Y | |
| X10 lighting | Y | Y | Y | Y | X10 | Y | Y | |
| X10 security | Y | Y | Y | Y | X10 | Y | Y | |
| Xdom | Y | Y | Y | Y | X10 | Y | Y | |
| Xiron – EN6 | Y | - | Y | Y | Rubicson | Y | - | |

2.3. *undec on*

This parameter is for internal use by RFXCOM only!!!

If new sensor types are released they will most probably not be decoded by the RFXtrx firmware. For this reason we have added the option to enable receive of undecoded messages. This function is only to enable RFXCOM to add this new sensor type in the firmware if possible. If “undec on” is enabled in normal use the application will receive a lot of undecoded messages mostly as a result of RF noise or disturbed RF packets.

Important: For normal use “undec on” should be disabled

2.4. Sensitivity influenced by enabled protocols

The sensitivity of the receiver part is highly influenced by the number of protocols enabled. Lesser protocols enabled will make the receiver more sensitive for the enabled protocols.

There are a few protocols that will reduce or even eliminate receiving of other protocols if enabled.

For example:

If the AD (LightwaveRF, Siemens) protocol is enabled it can stop receiving of Meiantech / Atlantic, Oregon 3.0, Visonic and Mertik.

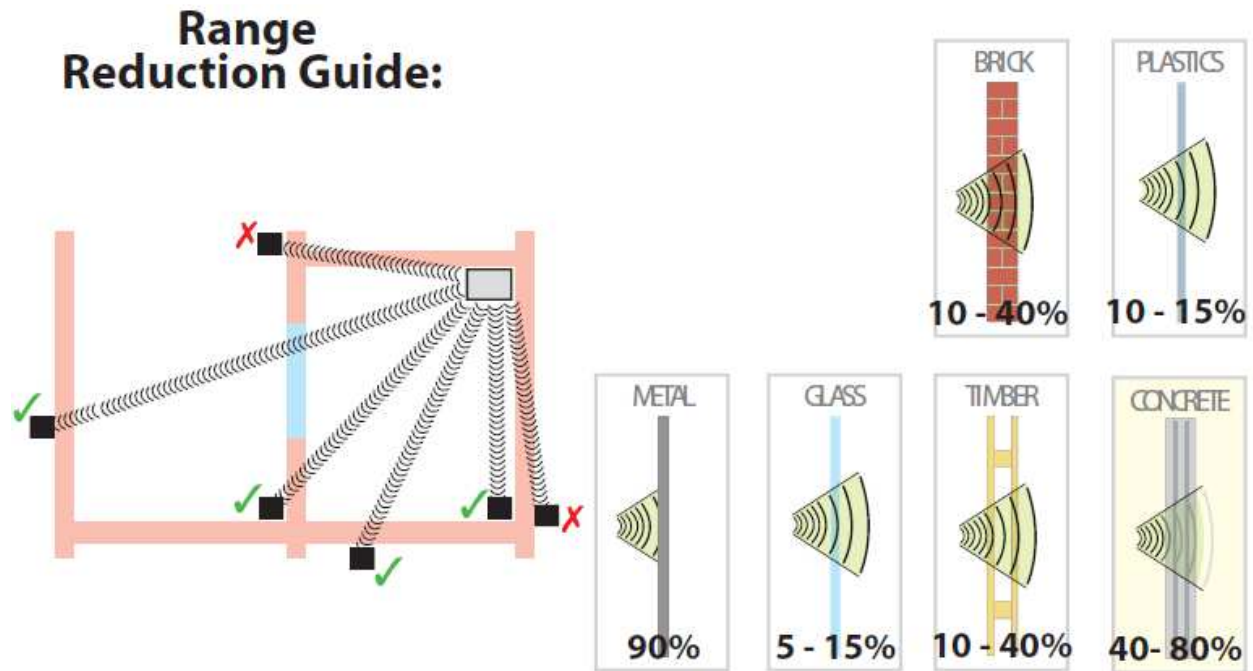
All other protocols are disabled if BlindsT0 is enabled.

| | X10 | ARC | AC | HomeEasy EU | Meiantech/Atlantic | Oregon 1.0 | Oregon 2.1 | Oregon 3.0 / OWL | ATI | Visonic/Keeloq | Mertik | AD (LWRF) | Hideki/UPM | La Crosse | FS20 | ProGuard | BlindsT0 | BlindsT1/T2/T3/T4 | AE (Blyss) | Rubicson/Alecto | FineOffset/Viking | Lighting4 | RSL/Revolt | Byron SX | Imagintronic/Opus | HomeConfort |
|--------------------|-----|-----|----|-------------|--------------------|------------|------------|------------------|-----|----------------|--------|-----------|------------|-----------|------|----------|----------|-------------------|------------|-----------------|-------------------|-----------|------------|----------|-------------------|-------------|
| X10 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ARC | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AC | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HomeEasy EU | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Meiantech/Atlantic | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oregon | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ATI | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Visonic/Keeloq | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mertik | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AD (LWRF) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hideki/UPM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| La Crosse | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FS20 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ProGuard | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BlindsT0 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BlindsT1/T2/T3 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AE (Blyss) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rubicson | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FineOffset/Viking | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lighting4 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RSL | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Byron SX | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Imagintronic | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HomeConfort | | | | | | | | | | | | | | | | | | | | | | | | | | |

Green = enabled by default

2.5. RF range reduction

The RF signals operating distance is reduced when the signal has to pass through walls.



2.6. Home Automation software

For the list of Home Automation software that supports the RFXtrx see the web site www.rfxcom.com

2.7. Dimensions

The dimensions of the RFXtrx/RFXrec are: 83.5 x 42 x 15 mm
Total height from bottom to antenna top is 122mm

The dimensions of the RFXtrx433E are: 83 x 59 x 22 mm
Total height from bottom to antenna top is 130mm

2.8. Electrical

The RFXtrx is powered by the 5 Volt of the USB interface.

Operating current;

Receive mode: 28 mA (0.14Watt)
Transmit mode: 45 mA

The RFXtrx Radiated RF power is 10dBm max.

2.9. Environmental conditions

Normal operating: 15°C to 35°C
Absolute min-max temperature: -10°C to 55°C

3. Install the USB driver

The RFXtrx has the FTDI FT232R USB interface chip installed.

The USB drivers are available at <http://www.ftdichip.com/Drivers/VCP.htm>

4. Run RFXflash on Linux under Mono

Open a Terminal screen in Linux (Ctrl-Alt-T)

Execute once:

Install Mono:

```
[sudo] apt-get install mono-runtime
```

Install VisualBasic support under Mono:

```
[sudo] apt-get install libmono-microsoft-visualbasic8.0-cil
```

If the USB device is created as ttyACMx you will need to create a link between /dev/ttyACMx and a serial port /dev/ttySx.

This is not necessary if the device is created as /dev/ttyUSBx !!

```
[sudo] ln -sf /dev/ttyACM1 /dev/ttyS3
```

Note: sudo must be entered without brackets []. sudo is required if not running as super user.

Launch the RFXflash.exe program.

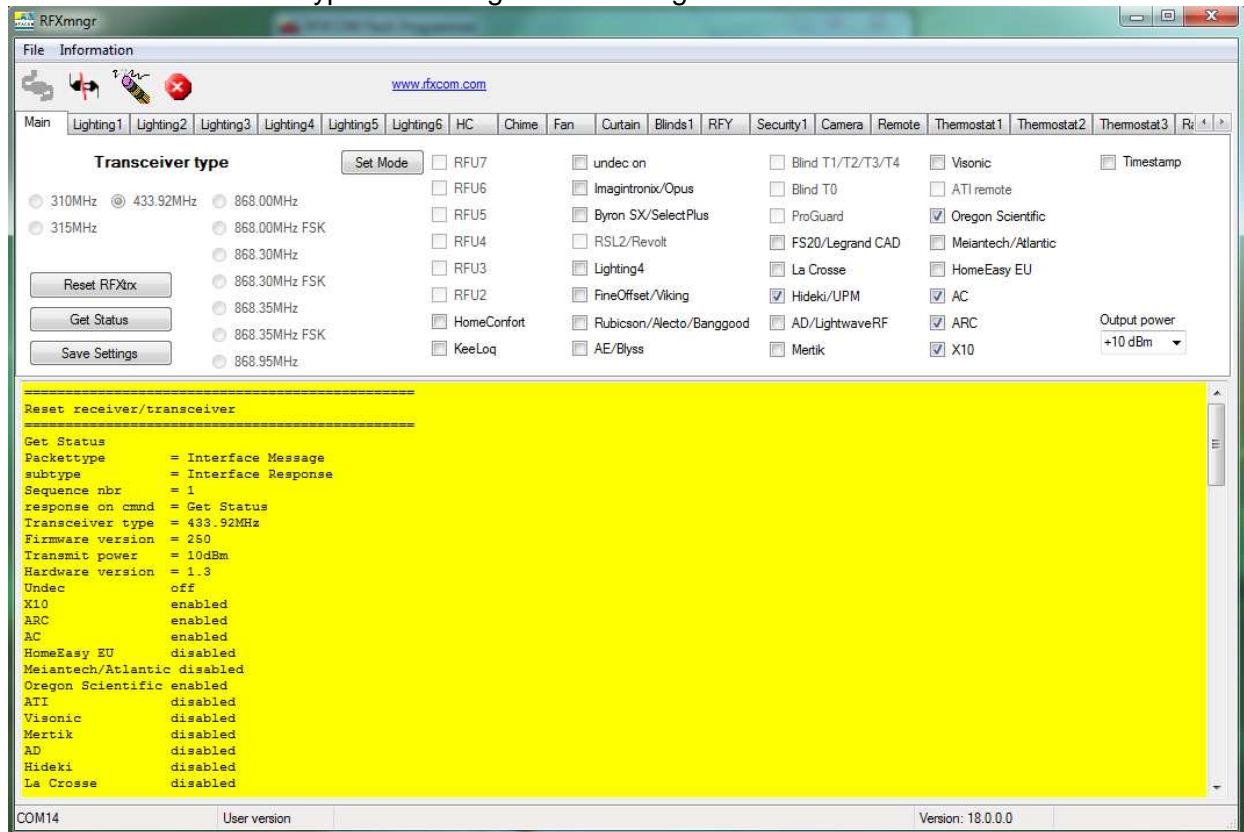
```
[sudo] mono RFXflash.exe
```

Note: RFXmngnr does not operate under mono!

5. RFXmngnr test program

The RFXmngnr program supports decoding of received data and allows you to transmit commands.

After the connection the RFXmngnr program transmits a Reset and Get Status command so that it will know the RFXtrx type and configuration settings:



Transmitter protocols are always enabled but receiver protocols can be disabled. This is very useful because the receiver will become more sensitive when protocols not used are disabled. So select only the protocols to be used, click **Set mode** and click **Save Settings**.

Note that these settings are lost in Type1 and Type2 firmware after an update and need to be set again.

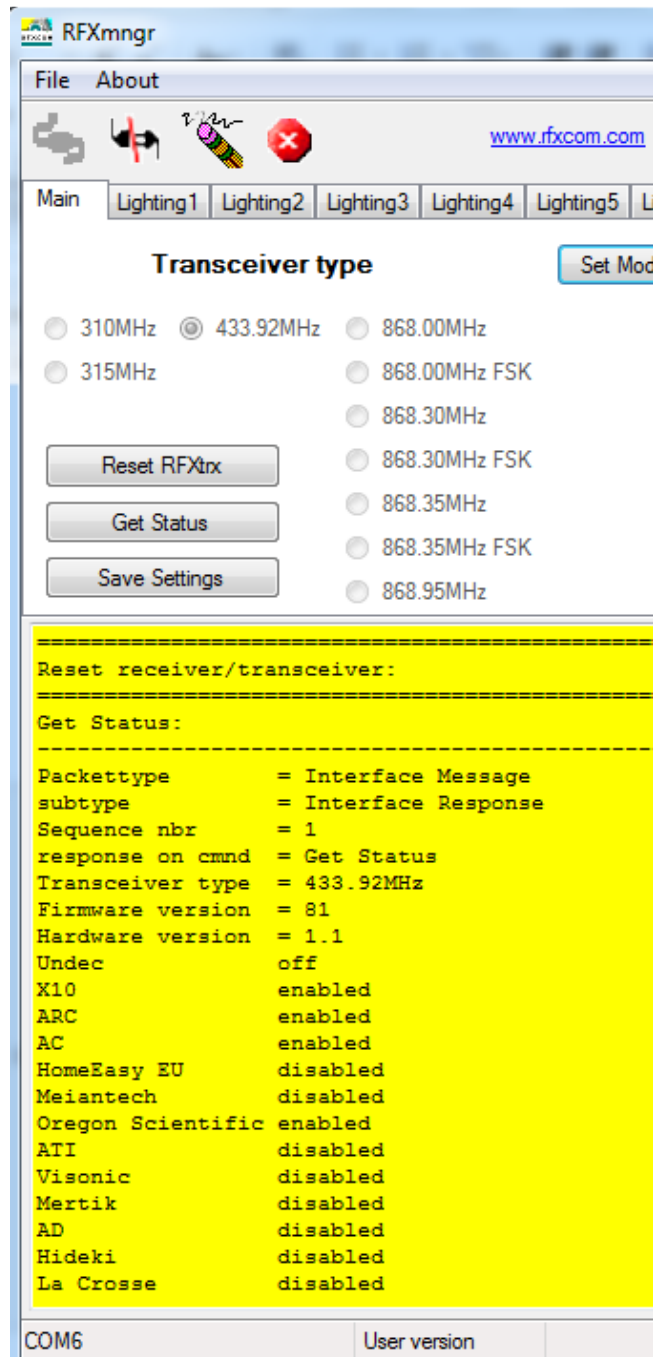
5.1. Receiver

The RF protocols to be received can be configured on the Main tab at **Set Mode**. Click **Save Settings** to save the selected protocols in non-volatile memory of the RFXtrx. This configuration is now restored every time after a power up.

Note that these settings are lost after a firmware update and need to be set again.

Note: Protocol enabling is only necessary for receive. Transmit protocols are always enabled.

The received RF data is decoded and displayed in the yellow window.



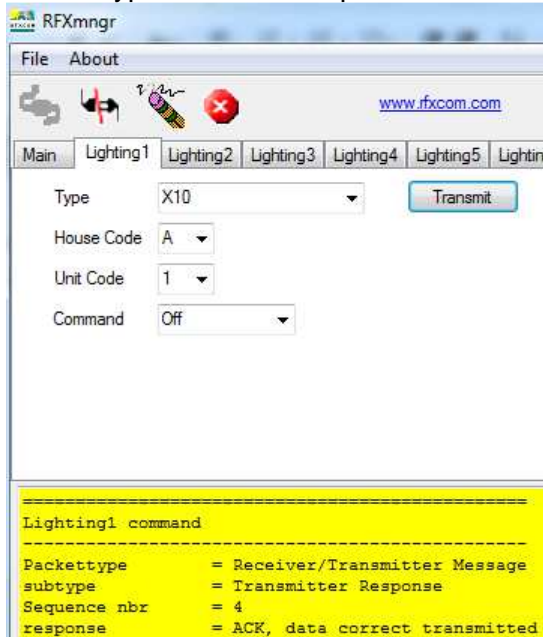
5.2. Transmitter

The tabs after the Main tab are used to send commands to the transmitter.

For example Lighting1 is used to send X10, ARC and some more.

Note: Protocol enabling is only necessary for receive. Transmit protocols are always enabled.

Select Type to see which protocols are supported on the different tabs.



The transmitted commands are displayed in the yellow window including the acknowledge send by the RFXtrx, in the example above “ACK, data correct transmitted”.

6. Flash update of the RFXtrx

6.1. Update firmware in the RFXtrx

Firmware is flashed in the RFXtrx using this procedure:

1. Depending on the RFXtrx type download the latest RFXtrx315_yy.hex, RFXrec433_yy.hex or RFXtrx433_yy.hex firmware file.
2. Connect the RFXtrx to a Windows system or Linux under MONO
3. Stop any program that is connected to the RFXtrx.
4. Start the RFXflash program (version 4.0.0.0 or higher)
5. Select the USB RFXtrx COM port or TCP/IP port and click the CONNECT button, (the red LED on the RFXtrx should switch on now)
6. Load the correct.hex firmware file for your RFXtrx,
7. Click the WRITE button,
8. Click the Normal Execution mode button.

IMPORTANT:

1. Do not interrupt the flash procedure when started.
2. It can happen that the flash procedure ends with a pop-up screen indicating errors. Just disconnect the RFXtrx and start again at step 5 until the flash procedure is finished without errors.

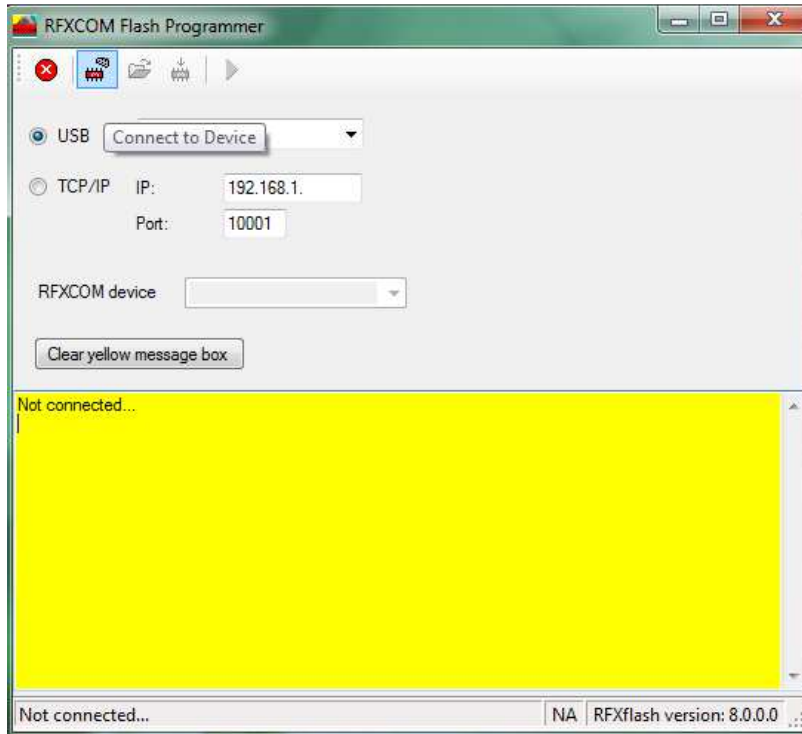
If the red LED does not switch on if you click the CONNECT button:

1. Check if you have selected the correct USB COM port.
2. If you have flashed the RFXtrx before and interrupted the flash procedure it is possible that the RFXtrx does not enter the flash state. Contact support@rfxcom.com for help.

Note: Receiver Settings are lost in Type1 and Type2 firmware after an update and have to be set again.

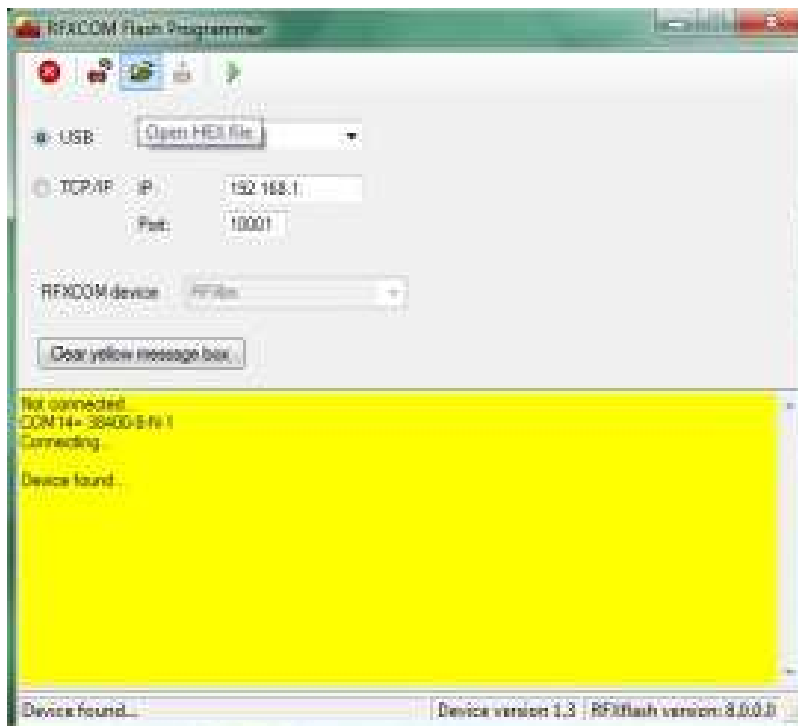
6.2. Update firmware in the RFXtrx step by step

- Click the Connect to Device button.

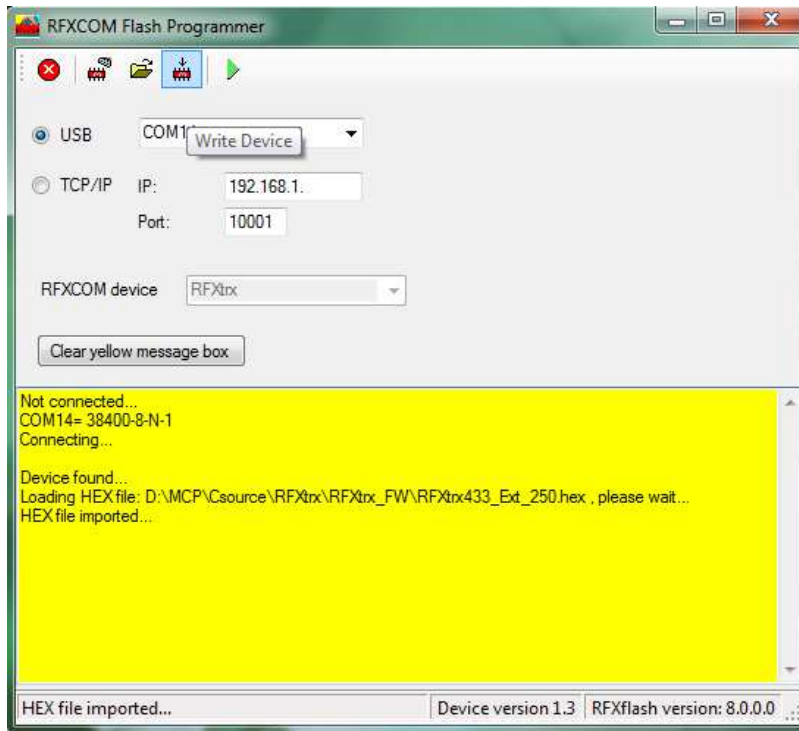


The RFXtrx will automatically switch from normal mode to the bootloader now.

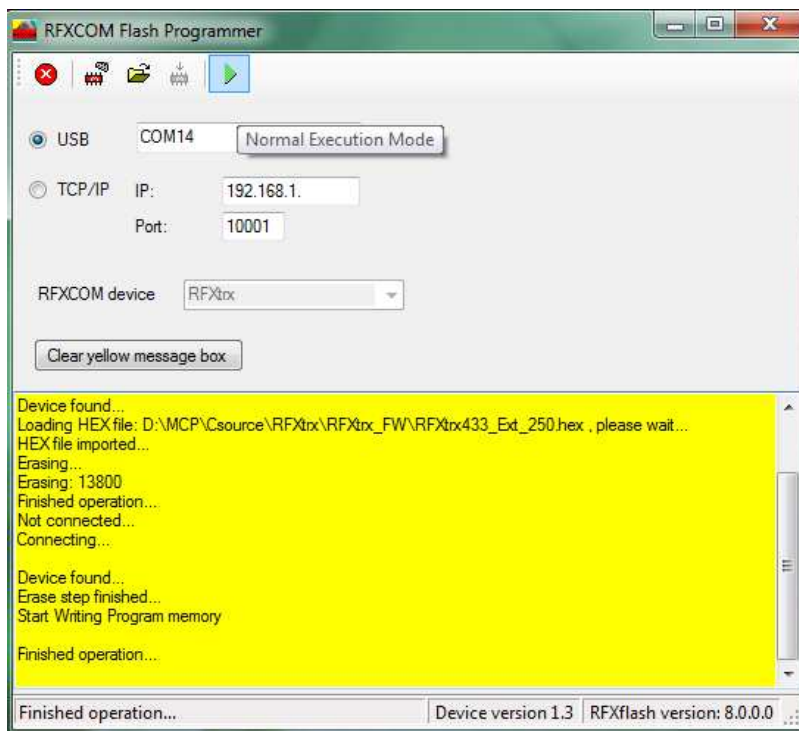
- Click the Open HEX file button and load the RFXtrx yyy_xx .hex file
Be sure to load the latest firmware file for the RFXtrx.
 yyy indicates the RFXtrx frequency, so load the RFXtrx433 for an RFXtrx433!
 xx indicates the firmware version.



- Click the Write device button and the RFXtrx is flashed.



- Click on the Normal Execution Mode button to set the RFXtrx to running mode.



Note: Receiver Settings are lost in Type1 and Type2 firmware after an update and have to be set again.

7. RFXtrx433 special device codes

7.1. Remote commands

7.1.1. X10 RF Remote

| Dec | Hex | Button |
|-----|-----|-------------------|
| 2 | 02 | 0 |
| 18 | 12 | 8 |
| 34 | 22 | 4 |
| 56 | 38 | Rewind |
| 58 | 3A | Info |
| 64 | 40 | CHAN+ |
| 66 | 42 | 2 |
| 82 | 52 | Ent |
| 96 | 60 | VOL+ |
| 98 | 62 | 6 |
| 99 | 63 | Stop |
| 100 | 64 | Pause |
| 112 | 70 | Cursor-left |
| 113 | 71 | Cursor-right |
| 114 | 72 | Cursor-up |
| 115 | 73 | Cursor-down |
| 116 | 74 | Cursor-up-left |
| 117 | 75 | Cursor-up-right |
| 118 | 76 | Cursor-down-right |
| 119 | 77 | Cursor-down-left |
| 120 | 78 | left mouse |
| 121 | 79 | left mouse-End |
| 123 | 7B | Drag |
| 124 | 7C | right mouse |
| 125 | 7D | right mouse-End |
| 130 | 82 | 1 |
| 146 | 92 | 9 |
| 160 | A0 | MUTE |
| 162 | A2 | 5 |
| 176 | B0 | Play |
| 182 | B6 | Menu |
| 184 | B8 | Fast Forward |
| 186 | BA | A+B |
| 192 | C0 | CHAN- |
| 194 | C2 | 3 |
| 201 | C9 | Exit |
| 209 | D1 | MP3 |
| 210 | D2 | DVD |
| 211 | D3 | CD |
| 212 | D4 | PC / Shift-4 |
| 213 | D5 | Shift-5 |
| 214 | D6 | Shift-Ent |
| 215 | D7 | Shift-Teletext |
| 216 | D8 | Text |
| 217 | D9 | Shift-Text |
| 224 | E0 | VOL- |
| 226 | E2 | 7 |
| 242 | F2 | Teletext |
| 255 | FF | Record |

7.1.2. ATI Remote Wonder

| Dec | Hex | Button | 56 | 38 | |
|-----|-----|---------------|-----|----|-------------------|
| 0 | 00 | A | 57 | 39 | edit image |
| 1 | 01 | B | 58 | 3A | Full screen |
| 2 | 02 | power | 112 | 70 | DVD Audio |
| 3 | 03 | TV | 113 | 71 | Cursor-left |
| 4 | 04 | DVD | 114 | 72 | Cursor-right |
| 5 | 05 | ? | 115 | 73 | Cursor-up |
| 6 | 06 | Guide | 116 | 74 | Cursor-down |
| 7 | 07 | Drag | 117 | 75 | Cursor-up-left |
| 8 | 08 | VOL+ | 118 | 76 | Cursor-up-right |
| 9 | 09 | VOL- | 119 | 77 | Cursor-down-right |
| 10 | 0A | MUTE | 120 | 78 | Cursor-down-left |
| 11 | 0B | CHAN+ | 121 | 79 | V |
| 12 | 0C | CHAN- | 124 | 7C | V-End |
| 13 | 0D | 1 | 125 | 7D | X |
| 14 | 0E | 2 | | | X-End |
| 15 | 0F | 3 | | | |
| 16 | 10 | 4 | | | |
| 17 | 11 | 5 | | | |
| 18 | 12 | 6 | | | |
| 19 | 13 | 7 | | | |
| 20 | 14 | 8 | | | |
| 21 | 15 | 9 | | | |
| 22 | 16 | txt | | | |
| 23 | 17 | 0 | | | |
| 24 | 18 | snapshot ESC | | | |
| 25 | 19 | C | | | |
| 26 | 1A | ^ | | | |
| 27 | 1B | D | | | |
| 28 | 1C | TV/RADIO | | | |
| 29 | 1D | < | | | |
| 30 | 1E | OK | | | |
| 31 | 1F | > | | | |
| 32 | 20 | <- | | | |
| 33 | 21 | E | | | |
| 34 | 22 | v | | | |
| 35 | 23 | F | | | |
| 36 | 24 | Rewind | | | |
| 37 | 25 | Play | | | |
| 38 | 26 | Fast forward | | | |
| 39 | 27 | Record | | | |
| 40 | 28 | Stop | | | |
| 41 | 29 | Pause | | | |
| 44 | 2C | TV | | | |
| 45 | 2D | VCR | | | |
| 46 | 2E | RADIO | | | |
| 47 | 2F | TV Preview | | | |
| 48 | 30 | Channel list | | | |
| 49 | 31 | Video Desktop | | | |
| 50 | 32 | red | | | |
| 51 | 33 | green | | | |
| 52 | 34 | yellow | | | |
| 53 | 35 | blue | | | |
| 54 | 36 | rename TAB | | | |
| 55 | 37 | Acquire image | | | |

7.1.3. ATI Remote Wonder Plus

| Dec | Hex | Button | Dec | Hex | Button |
|-----|-----|--------------------|-----|-----|--------------------|
| 0 | 00 | A | 35 | 23 | F |
| 1 | 01 | B | 36 | 24 | Rewind |
| 2 | 02 | power | 37 | 25 | Play |
| 3 | 03 | TV | 38 | 26 | Fast forward |
| 4 | 04 | DVD | 39 | 27 | Record |
| 5 | 05 | ? | 40 | 28 | Stop |
| 6 | 06 | Guide | 41 | 29 | Pause |
| 7 | 07 | Drag | 42 | 2A | TV2 |
| 8 | 08 | VOL+ | 43 | 2B | Clock |
| 9 | 09 | VOL- | 44 | 2C | TV |
| 10 | 0A | MUTE | 45 | 2D | VCR |
| 11 | 0B | CHAN+ | 46 | 2E | RADIO |
| 12 | 0C | CHAN- | 47 | 2F | TV Preview |
| 13 | 0D | 1 | 48 | 30 | Channel list |
| 14 | 0E | 2 | 49 | 31 | Video Desktop |
| 15 | 0F | 3 | 50 | 32 | red |
| 16 | 10 | 4 | 51 | 33 | green |
| 17 | 11 | 5 | 52 | 34 | yellow |
| 18 | 12 | 6 | 53 | 35 | blue |
| 19 | 13 | 7 | 54 | 36 | rename TAB |
| 20 | 14 | 8 | 55 | 37 | Acquire image |
| 21 | 15 | 9 | 56 | 38 | edit image |
| 22 | 16 | txt | 57 | 39 | Full screen |
| 23 | 17 | 0 | 58 | 3A | DVD Audio |
| 24 | 18 | Open Setup Menu | 112 | 70 | Cursor-left |
| 25 | 19 | C | 113 | 71 | Cursor-right |
| 26 | 1A | ^ | 114 | 72 | Cursor-up |
| 27 | 1B | D | 115 | 73 | Cursor-down |
| 28 | 1C | FM | 116 | 74 | Cursor-up-left |
| 29 | 1D | < | 117 | 75 | Cursor-up-right |
| 30 | 1E | OK | 118 | 76 | Cursor-down-right |
| 31 | 1F | > | 119 | 77 | Cursor-down-left |
| 32 | 20 | Max/Restore Window | 120 | 78 | Left Mouse Button |
| 33 | 21 | E | 121 | 79 | V-End |
| 34 | 22 | v | 124 | 7C | Right Mouse Button |
| | | | 125 | 7D | X-End |

7.1.4. Medion Remote

| Dec | Hex | Button | 54 | 36 | |
|-----|-----|---------------|-----|----|-------------------|
| 0 | 00 | Mute | 55 | 37 | rename TAB |
| 1 | 01 | B | 56 | 38 | Acquire image |
| 2 | 02 | power | 57 | 39 | edit image |
| 3 | 03 | TV | 58 | 3A | Full screen |
| 4 | 04 | DVD | 112 | 70 | DVD Audio |
| 5 | 05 | Photo | 113 | 71 | Cursor-left |
| 6 | 06 | Music | 114 | 72 | Cursor-right |
| 7 | 07 | Drag | 115 | 73 | Cursor-up |
| 8 | 08 | VOL- | 116 | 74 | Cursor-down |
| 9 | 09 | VOL+ | 117 | 75 | Cursor-up-left |
| 10 | 0A | MUTE | 118 | 76 | Cursor-up-right |
| 11 | 0B | CHAN+ | 119 | 77 | Cursor-down-right |
| 12 | 0C | CHAN- | 120 | 78 | Cursor-down-left |
| 13 | 0D | 1 | 121 | 79 | V |
| 14 | 0E | 2 | 124 | 7C | V-End |
| 15 | 0F | 3 | 125 | 7D | X |
| 16 | 10 | 4 | | | X-End |
| 17 | 11 | 5 | | | |
| 18 | 12 | 6 | | | |
| 19 | 13 | 7 | | | |
| 20 | 14 | 8 | | | |
| 21 | 15 | 9 | | | |
| 22 | 16 | txt | | | |
| 23 | 17 | 0 | | | |
| 24 | 18 | snapshot ESC | | | |
| 25 | 19 | DVD MENU | | | |
| 26 | 1A | ^ | | | |
| 27 | 1B | Setup | | | |
| 28 | 1C | TV/RADIO | | | |
| 29 | 1D | < | | | |
| 30 | 1E | OK | | | |
| 31 | 1F | > | | | |
| 32 | 20 | <- | | | |
| 33 | 21 | E | | | |
| 34 | 22 | v | | | |
| 35 | 23 | F | | | |
| 36 | 24 | Rewind | | | |
| 37 | 25 | Play | | | |
| 38 | 26 | Fast forward | | | |
| 39 | 27 | Record | | | |
| 40 | 28 | Stop | | | |
| 41 | 29 | Pause | | | |
| 44 | 2C | TV | | | |
| 45 | 2D | VCR | | | |
| 46 | 2E | RADIO | | | |
| 47 | 2F | TV Preview | | | |
| 48 | 30 | Channel list | | | |
| 49 | 31 | Video Desktop | | | |
| 50 | 32 | red | | | |
| 51 | 33 | green | | | |
| 52 | 34 | yellow | | | |
| 53 | 35 | blue | | | |

7.2. Harrison address conversion to switch settings

The address used is converted to the address selected in the Harrison curtain motor using the table below.

| switch | 1 | 2 | 3 | 4 | | 5 | 6 | 7 | 8 |
|--------|---|---|---|---|----|---|---|---|---|
| | H | H | H | H | | X | X | X | X |
| A | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| B | 0 | 1 | 1 | 1 | 2 | 0 | 0 | 0 | 1 |
| C | 0 | 1 | 0 | 0 | 3 | 0 | 0 | 1 | 0 |
| D | 0 | 1 | 0 | 1 | 4 | 0 | 0 | 1 | 1 |
| E | 1 | 0 | 0 | 0 | 5 | 0 | 1 | 0 | 0 |
| F | 1 | 0 | 0 | 1 | 6 | 0 | 1 | 0 | 1 |
| G | 1 | 0 | 1 | 0 | 7 | 0 | 1 | 1 | 0 |
| H | 1 | 0 | 1 | 1 | 8 | 0 | 1 | 1 | 1 |
| I | 1 | 1 | 1 | 0 | 9 | 1 | 0 | 0 | 0 |
| J | 1 | 1 | 1 | 1 | 10 | 1 | 0 | 0 | 1 |
| K | 1 | 1 | 0 | 0 | 11 | 1 | 0 | 1 | 0 |
| L | 1 | 1 | 0 | 1 | 12 | 1 | 0 | 1 | 1 |
| M | 0 | 0 | 0 | 0 | 13 | 1 | 1 | 0 | 0 |
| N | 0 | 0 | 0 | 1 | 14 | 1 | 1 | 0 | 1 |
| O | 0 | 0 | 1 | 0 | 15 | 1 | 1 | 1 | 0 |
| P | 0 | 0 | 1 | 1 | 16 | 1 | 1 | 1 | 1 |

H H H H = House code

X X X X = device code

Switch position in the motor:

Up = 1

Middle = not used!!!!

Down = 0

Examples:

If you assign the address E7 (1000 0110) to the curtain motor then set the switches to: 1=up, 2=down, 3=down, 4=down, 5=down, 6=up, 7=up, 8=down

If you assign the address A2 (0110 0001) to the curtain motor then set the switches to: 1=down, 2=up, 3=up, 4=down, 5=down, 6=down, 7=down, 8=up

7.3. Flamingo, AB400, IMPULS, Sartano, Brennenstuhl switch settings

Use type ELRO AB400D

Note that the HC (House Code A-P) is the house code used in programs and has no direct relation with the A,B,C,D,E buttons on the remotes!

```

    1 2 3 4   <== switches
HC=====
A   0 0 0 0
B   0 0 0 1
C   0 0 1 0
D   0 0 1 1
E   0 1 0 0
F   0 1 0 1
G   0 1 1 0
H   0 1 1 1
I   1 0 0 0
J   1 0 0 1
K   1 0 1 0
L   1 0 1 1
M   1 1 0 0
N   1 1 0 1
O   1 1 1 0
P   1 1 1 1

    5 A B C D E           5 A B C D E   <== switches
    5 6 7 8 9 10        5 6 7 8 9 10   <== OR switches
DC=====DC=====
1   0 0 0 0 0 0   33  0 0 0 0 0 1
2   0 0 0 1 0 0   34  0 0 0 1 0 1
3   0 0 1 0 0 0   35  0 0 1 0 0 1
4   0 0 1 1 0 0   36  0 0 1 1 0 1
5   0 1 0 0 0 0   37  0 1 0 0 0 1
6   0 1 0 1 0 0   38  0 1 0 1 0 1
7   0 1 1 0 0 0   39  0 1 1 0 0 1
8   0 1 1 1 0 0   40  0 1 1 1 0 1
9   1 0 0 0 0 0   41  1 0 0 0 0 1
10  1 0 0 1 0 0   42  1 0 0 1 0 1
11  1 0 1 0 0 0   43  1 0 1 0 0 1
12  1 0 1 1 0 0   44  1 0 1 1 0 1
13  1 1 0 0 0 0   45  1 1 0 0 0 1
14  1 1 0 1 0 0   46  1 1 0 1 0 1
15  1 1 1 0 0 0   47  1 1 1 0 0 1
16  1 1 1 1 0 0   48  1 1 1 1 0 1
17  0 0 0 0 1 0   49  0 0 0 0 1 1
18  0 0 0 1 1 0   50  0 0 0 1 1 1
19  0 0 1 0 1 0   51  0 0 1 0 1 1
20  0 0 1 1 1 0   52  0 0 1 1 1 1
21  0 1 0 0 1 0   53  0 1 0 0 1 1
22  0 1 0 1 1 0   54  0 1 0 1 1 1
23  0 1 1 0 1 0   55  0 1 1 0 1 1
24  0 1 1 1 1 0   56  0 1 1 1 1 1
25  1 0 0 0 1 0   57  1 0 0 0 1 1
26  1 0 0 1 1 0   58  1 0 0 1 1 1
27  1 0 1 0 1 0   59  1 0 1 0 1 1
28  1 0 1 1 1 0   60  1 0 1 1 1 1
29  1 1 0 0 1 0   61  1 1 0 0 1 1
30  1 1 0 1 1 0   62  1 1 0 1 1 1
31  1 1 1 0 1 0   63  1 1 1 0 1 1
32  1 1 1 1 1 0   64  1 1 1 1 1 1

```

Examples:

```

A1   0000000000
A15  0000111000
N2   1101000100
N11  1101101000

```

0 = switch off

1 = switch on

7.4. Energenie 5-gang 429.950

To know the codes to use open the remote and check the 1 to 5 jumpers connected. If a jumper connection is open it is a 1. If connected it is a 0 (zero)

| | 1 | 2 | 3 | 4 | jumper setting in the remote |
|---------|---|---|---|---|------------------------------|
| HC===== | | | | | |
| A | 0 | 0 | 0 | 0 | |
| B | 0 | 0 | 0 | 1 | |
| C | 0 | 0 | 1 | 0 | |
| D | 0 | 0 | 1 | 1 | |
| E | 0 | 1 | 0 | 0 | |
| F | 0 | 1 | 0 | 1 | |
| G | 0 | 1 | 1 | 0 | |
| H | 0 | 1 | 1 | 1 | |
| I | 1 | 0 | 0 | 0 | |
| J | 1 | 0 | 0 | 1 | |
| K | 1 | 0 | 1 | 0 | |
| L | 1 | 0 | 1 | 1 | |
| M | 1 | 1 | 0 | 0 | |
| N | 1 | 1 | 0 | 1 | |
| O | 1 | 1 | 1 | 0 | |
| P | 1 | 1 | 1 | 1 | |

If jumper 5 is open (1) than add 5 to the remote code.

Examples:

| Jumper | Button Code | |
|-----------|-------------|----|
| 1 2 3 4 5 | | |
| 1 0 0 0 0 | 1 | I1 |
| 1 0 0 0 1 | 1 | I6 |

7.5. Phenix, IDK YC-4000S switch settings

Use type ELRO AB400D

Note that the HC (House Code A-P) is the house code used in programs and has no direct relation with the A,B,C,D,E buttons on the remotes!

```
HC  switch
    1 2 3 4
=====
A   0 0 0 0
B   0 0 0 1
C   0 0 1 0
D   0 0 1 1
E   0 1 0 0
F   0 1 0 1
G   0 1 1 0
H   0 1 1 1
I   1 0 0 0
J   1 0 0 1
K   1 0 1 0
L   1 0 1 1
M   1 1 0 0
N   1 1 0 1
O   1 1 1 0
P   1 1 1 1
```

```
DC  switch
    5 A B C D
=====
1   0 0 0 0 0
2   0 0 0 1 0
3   0 0 1 0 0
4   0 0 1 1 0
5   0 1 0 0 0
6   0 1 0 1 0
7   0 1 1 0 0
8   0 1 1 1 0
9   1 0 0 0 0
10  1 0 0 1 0
11  1 0 1 0 0
12  1 0 1 1 0
13  1 1 0 0 0
14  1 1 0 1 0
15  1 1 1 0 0
16  1 1 1 1 0
17  0 0 0 0 1
18  0 0 0 1 1
19  0 0 1 0 1
20  0 0 1 1 1
21  0 1 0 0 1
22  0 1 0 1 1
23  0 1 1 0 1
24  0 1 1 1 1
25  1 0 0 0 1
26  1 0 0 1 1
27  1 0 1 0 1
28  1 0 1 1 1
29  1 1 0 0 1
30  1 1 0 1 1
31  1 1 1 0 1
32  1 1 1 1 1
```

7.6. HE105 switch settings

| Unitnr | HE105 switches | | | | |
|--------|----------------|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 | 0 | 1 |
| 2 | 0 | 0 | 0 | 1 | 0 |
| 3 | 0 | 0 | 0 | 1 | 1 |
| 4 | 0 | 0 | 1 | 0 | 0 |
| 5 | 0 | 0 | 1 | 0 | 1 |
| 6 | 0 | 0 | 1 | 1 | 0 |
| 7 | 0 | 0 | 1 | 1 | 1 |
| 8 | 0 | 1 | 0 | 0 | 0 |
| 9 | 0 | 1 | 0 | 0 | 1 |
| 10 | 0 | 1 | 0 | 1 | 0 |
| 11 | 0 | 1 | 0 | 1 | 1 |
| 12 | 0 | 1 | 1 | 0 | 0 |
| 13 | 0 | 1 | 1 | 0 | 1 |
| 14 | 0 | 1 | 1 | 1 | 0 |
| 15 | 0 | 1 | 1 | 1 | 1 |
| 16 | 1 | 0 | 0 | 0 | 0 |
| 17 | 1 | 0 | 0 | 0 | 1 |
| 18 | 1 | 0 | 0 | 1 | 0 |
| 19 | 1 | 0 | 0 | 1 | 1 |
| 20 | 1 | 0 | 1 | 0 | 0 |
| 21 | 1 | 0 | 1 | 0 | 1 |
| 22 | 1 | 0 | 1 | 1 | 0 |
| 23 | 1 | 0 | 1 | 1 | 1 |
| 24 | 1 | 1 | 0 | 0 | 0 |
| 25 | 1 | 1 | 0 | 0 | 1 |
| 26 | 1 | 1 | 0 | 1 | 0 |
| 27 | 1 | 1 | 0 | 1 | 1 |
| 28 | 1 | 1 | 1 | 0 | 0 |
| 29 | 1 | 1 | 1 | 0 | 1 |
| 30 | 1 | 1 | 1 | 1 | 0 |
| 31 | 1 | 1 | 1 | 1 | 1 |

7.7. HQ COCO-20

Note that the HC (House Code A-P) is the house code used in programs and has no direct relation with the A,B,C,D,E buttons on the remotes!

6 7 8 9 <== switches in module

HC=====

```
A 0 0 0 0
B 0 0 0 1
C 0 0 1 0
D 0 0 1 1
E 0 1 0 0
F 0 1 0 1
G 0 1 1 0
H 0 1 1 1
I 1 0 0 0
J 1 0 0 1
K 1 0 1 0
L 1 0 1 1
M 1 1 0 0
N 1 1 0 1
O 1 1 1 0
P 1 1 1 1
```

10 1 2 3 4 5

10 1 2 3 4 5 <== switches in module

DC=====DC=====

```
1 0 0 0 0 0 0 33 1 0 0 0 0 0
2 0 0 0 0 0 1 34 1 0 0 0 0 1
3 0 0 0 0 1 0 35 1 0 0 0 1 0
4 0 0 0 0 1 1 36 1 0 0 0 1 1
5 0 0 0 1 0 0 37 1 0 0 1 0 0
6 0 0 0 1 0 1 38 1 0 0 1 0 1
7 0 0 0 1 1 0 39 1 0 0 1 1 0
8 0 0 0 1 1 1 40 1 0 0 1 1 1
9 0 0 1 0 0 0 41 1 0 1 0 0 0
10 0 0 1 0 0 1 42 1 0 1 0 0 1
11 0 0 1 0 1 0 43 1 0 1 0 1 0
12 0 0 1 0 1 1 44 1 0 1 0 1 1
13 0 0 1 1 0 0 45 1 0 1 1 0 0
14 0 0 1 1 0 1 46 1 0 1 1 0 1
15 0 0 1 1 1 0 47 1 0 1 1 1 0
16 0 0 1 1 1 1 48 1 0 1 1 1 1
17 0 1 0 0 0 0 49 1 1 0 0 0 0
18 0 1 0 0 0 1 50 1 1 0 0 0 1
19 0 1 0 0 1 0 51 1 1 0 0 1 0
20 0 1 0 0 1 1 52 1 1 0 0 1 1
21 0 1 0 1 0 0 53 1 1 0 1 0 0
22 0 1 0 1 0 1 54 1 1 0 1 0 1
23 0 1 0 1 1 0 55 1 1 0 1 1 0
24 0 1 0 1 1 1 56 1 1 0 1 1 1
25 0 1 1 0 0 0 57 1 1 1 0 0 0
26 0 1 1 0 0 1 58 1 1 1 0 0 1
27 0 1 1 0 1 0 59 1 1 1 0 1 0
28 0 1 1 0 1 1 60 1 1 1 0 1 1
29 0 1 1 1 0 0 61 1 1 1 1 0 0
30 0 1 1 1 0 1 62 1 1 1 1 0 1
31 0 1 1 1 1 0 63 1 1 1 1 1 0
32 0 1 1 1 1 1 64 1 1 1 1 1 1
```

Examples:

Switch 6 7 8 9 0 1 2 3 4 5

```
=====
A1 0 0 0 0 0 0 0 0 0 0
A15 0 0 0 0 1 1 1 0 0 0
N2 1 1 0 1 0 0 0 1 0 0
N11 1 1 0 1 1 0 1 0 0 0
```

0 = switch off

1 = switch on

7.8. MDREMOTE V106, V107

This MDREMOTE has been tested.

<http://www.ultraleds.co.uk/mini-dimmer-with-rf-remote-control-12-or-24v-dc-12a-maximum.html>

The RFXtrx433 can only transmit MDREMOTE commands.

Procedure to find the ID of the MDREMOTE: In RFXmngnr enable the X10 protocol and enable "Undec on". Press a button on the MDREMOTE remote.

The undecoded message contains the ID in the 2nd and 3rd byte, for example:

UNDECODED NEC:20AF6801D1

The 2 bytes after 20 is the MDREMOTE ID, in this example AF 68

7.9. MDREMOTE V108, EKAB-10KRF

This MDREMOTE has been tested.

- <http://www.ledstripkoning.nl/accessoires/dimmers-wit/draadloze-dimmer-10-knops-rf/>

Procedure to find the ID of the MDREMOTE: In RFXmngnr enable the Lighting4 protocol and enable "Undec on". Press a button on the MDREMOTE remote.

The undecoded message contains the ID in the 2nd and 3rd byte, for example:

UNDECODED ARC:201A0703FCFC

The 2 bytes after 20 is the MDREMOTE ID, in this example 1A 07

7.10. Aoke relay

The Aoke 12V DC - 315MHz or 433.92MHz 1 channel relay is available at www.aliexpress.com store No.110758. Indicate clearly the required frequency when ordering!

The 1 channel learning relays can be used, see the picture below.

For example, for 1 relay:

http://www.aliexpress.com/store/product/DC12V-1CH-wireless-switch-remote-control-system-remote-control-switch-for-guard-door-window-curtain/110758_936534863.html

or for 6 relays:

http://www.aliexpress.com/store/product/ak-DC12V-1CH-RF-rocker-switch-livolo-switch-system-in-china-j-12a-108d-smart-house/110758_1007306574.html



The jumper next to the learning button defines to operating mode:
Open = momentary
1-2 = toggle mode
2-3 = on/off mode (to be used with the RFXtrx)

7.11. SEAV TXS4

The ID can be found using RFXmng and enable only ByronSX and undec on.

Or calculate the ID:

A SW1 switch on = 1

```
|-----SW1-----|
 1 2 3   4 5 6 7   8 9 10
0 x x x | x x x x | x x x 0 | 0 1 0 1
```

For example SW1 = **on off on off on off on off on off**

The ID will become:

```
|-----SW1-----|
 1 2 3   4 5 6 7   8 9 10
0 1 0 1 | 0 1 0 1 | 0 1 0 0 | 0 1 0 1  this is hex: 5 5 4 5
```

7.12. How to find the dx.com RGB LED strip driver ID

Valid for the TRC02 remote with 2 batteries.

Flash the RFXtrx433 with Type2 firmware to be able to receive the remote ID in RFXmng. In RFXmng enable only the LightwaveRF (AD) protocol.

```
-----
Packettype = Lighting5
subtype    = RGB TRC02
Sequence nbr = 5
ID         = FCC48B
Command    = On
Signal level = 8
```

The ID is: FC C4 8B

If necessary flash the RFXtrx433 back to Type1 or ext if Type2 does not support devices you need. (See chapter 2.2)

7.13. How to find the dx.com RGB LED strip driver ID (rev. 2)

Valid for the TRC02 remote with 3 batteries and ebay.com 191481664563.

In RFXmng enable only the Lighting4 protocol.

```
-----
Packettype = Lighting4
subtype    = PT2262
Sequence nbr = 29
Code       = 161C84
```

The ID is: 16 1C

7.14. How to find the Eurodomest ID

You can assign a random ID to the Eurodomest. If you want to use the same ID as the remote you can find the ID of the remote using RFXmng.

Start RFXmng and enable only the Lighting4 protocol.

Press a button on the remote and you will receive a message like:

```
-----
Packettype = Lighting4
subtype    = PT2262
Sequence nbr = 12
Code       = 6DFE0F
```

The ID is: 6 DF E0

Note: Eurodomest can also be controlled using ARC.

8. Blyss commands

Some Blyss devices, like the Blyss motors, require a special command sequence number. To simplify it; 0,1,2,3,4,0,1,...

This sequence number is normally created by the Blyss remote but now also by the RFXtrx433.

If you use a Blyss remote and the application (Domoticz, DomotiGa, Homeseer...) does not sync with the received Blyss command you will see that you need to send multiple commands with the RFXtrx433 before the Blyss device will respond.

For example,

The Blyss remote transmits with the sequence numbers 0,1,2

If the RFXtrx433 transmits now with sequence number 0 it will not be seen by the Blyss device as a valid command and at the time the RFXtrx433 transmits the commands 1,2,3 the command will be detected as valid when it receives the command with sequence number 3.

The same is true for the remote. If you transmit commands with the RFXtrx433 and after that with a Blyss remote you need to transmit several commands with the remote before the Blyss device responds.

I guess the same behaviour will show if you use multiple Blyss remotes.

9. Somfy RTS

Somfy RTS* devices can only be controlled by the RFXtrx433E. (not with the RFXtrx433)

The RFXtrx433E version is an RFXtrx433 with additional hardware to enable the RFY protocol used to control Somfy RTS.

The 433.42MHz transmitter in the RFXtrx433E is used for a reliable control of the Somfy RTS devices over a large distance and through walls.

The RFXtrx433E 433.92MHz transmitter is used to control all other devices.

To pair the Somfy RTS device:

- Select a unique ID and unitcode for the RFXCOM RFY device.
- Disconnect power from all Somfy RTS devices except the device to pair.
- Press the Program button > 2 seconds on the original Somfy remote until the Somfy device responds.
- Transmit a Program command with the RFXtrx433E. The Somfy RTS device should respond indicating the pair command was successful.

The RFXCOM RFY remote is registered in the RFXtrx433E by sending a Program command.

Up to 40 RFXCOM RFY remotes can be registered in the RFXtrx433E.

Remotes can be erased from the RFXtrx433E using the RFXmngnr program.

The Somfy RTS device can be controlled by any application as long as the same ID and Unit Code are used.

For example if the RTS device is paired using RFXmngnr with ID=1 02 03 and Unit Code 1, the RTS device can be controlled with Homeseer using the same ID and unit code.

* Somfy RTS are registered trademarks of Somfy System, Inc.

10. BlindsT6

To add a RFXtrx433(E) BlindsT6 device to the blinds motor:

1. press the "program" button twice on the original remote ==> 2 beeps
2. transmit the "confirm" command with the RFXtrx433(E) ==> 5 beeps

11. Lucci Air fan

Select the ID for switch settings:

| ID | Remote switches | | | |
|----|-----------------|---|---|---|
| | 1 | 2 | 3 | 4 |
| 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 | 1 |
| 2 | 0 | 0 | 1 | 0 |
| 3 | 0 | 0 | 1 | 1 |
| 4 | 0 | 1 | 0 | 0 |
| 5 | 0 | 1 | 0 | 1 |
| 6 | 0 | 1 | 1 | 0 |
| 7 | 0 | 1 | 1 | 1 |
| 8 | 1 | 0 | 0 | 0 |
| 9 | 1 | 0 | 0 | 1 |
| A | 1 | 0 | 1 | 0 |
| B | 1 | 0 | 1 | 1 |
| C | 1 | 1 | 0 | 0 |
| D | 1 | 1 | 0 | 1 |
| E | 1 | 1 | 1 | 0 |
| F | 1 | 1 | 1 | 1 |

0 = ON

12. Transmit undecoded ARC commands.

Plug-in modules or other equipment with a PT2262 can be controlled using Lighting4. There are a lot of brands using the PT2262 and some of them use the same timing (350) as used by the ARC devices but a different protocol definition.

Messages will be received as undecoded ARC messages if the protocol definition does not match the definition of the ARC protocol. Remote commands are received as ARC commands with a wrong house and device code and/or command code or as undecoded ARC messages if "undec on" is enabled. Decoding of these remotes is therefore not possible because they overlap the ARC protocol partly. But transmitting these commands is possible using the Lighting4 command.

So if we receive this command UNDECODED ARC:18014403:
(18 is not used)

hex to binary table

```

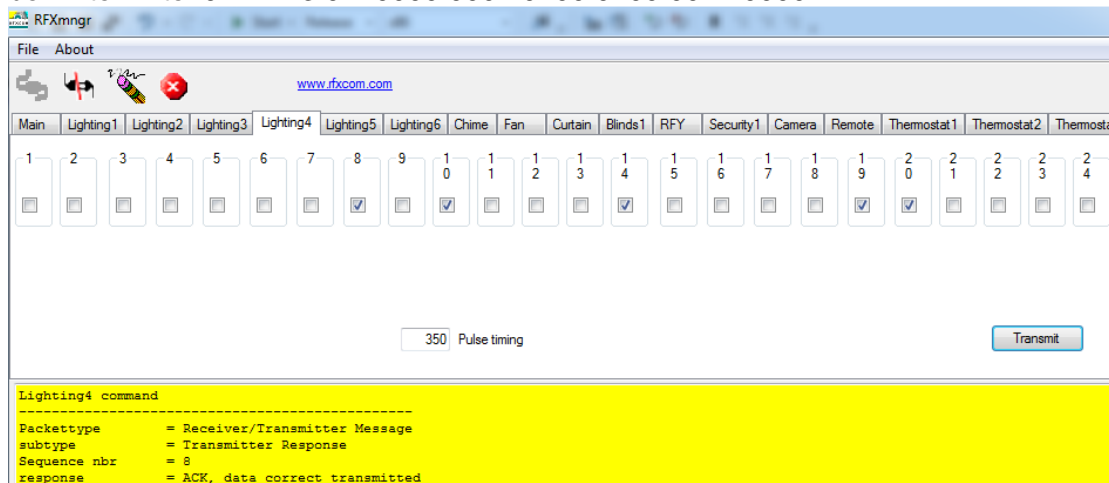
0=0 0 0 0
1=0 0 0 1
2=0 0 1 0
3=0 0 1 1
4=0 1 0 0
5=0 1 0 1
6=0 1 1 0
7=0 1 1 1
8=1 0 0 0
9=1 0 0 1
A=1 0 1 0
B=1 0 1 1
C=1 1 0 0
D=1 1 0 1
E=1 1 1 0
F=1 1 1 1
  
```

0 1 4 4 0 3 = selection box 0000 0001 0100 0100 0000 0011
Not selected = 0, box selected = 1

And the Lighting4 command contains the same "undec code" 01 44 03:
Lighting4 command:09 13 00 04 **01 44 03** 01 5E 00
pulse timing is 350 = hex 015E

Another example:

For this command UNDECODED ARC:18014430 set on the Lighting4 tab in RFXmng selection box 1 to 24 to 0 1 4 4 3 0 = 0000 0001 0100 0100 0011 0000



13. Known Lighting4 devices

13.1. Proluxx projection screen

Use Lighting4 with a pulse timing of 360

```
UP      1110 1101 0101 1001 0101 0010      ED 59 52
STOP    1110 1101 0101 1001 0101 1000      ED 59 58
DOWN    1110 1101 0101 1001 0101 0100      ED 59 54
RESET   1110 1101 0101 1001 0101 0001      ED 59 51
```

13.2. Kingpin (KP100) projection screen

Use Lighting4 with a pulse timing of 1040

```
UP          1110 0001 0100 0010 0010 0010      E1 42 22
STOP        1110 0001 0100 0010 0010 0100      E1 42 24
DOWN        1110 0001 0100 0010 0010 1000      E1 42 28
PROGRAM     1110 0001 0100 0010 0010 0001      E1 42 21
```

13.3. Mercury remote control mains sockets

<http://mercury.avsl.com/product?range=ME5124>

Use Lighting4 with a pulse timing of 188

```
1 OFF  01000100010101010011 1100
1 ON    01000100010101010011 0011

2 OFF  01000100010101011100 1100
2 ON    01000100010101011100 0011

3 OFF  01000100010101110000 1100
3 ON    01000100010101110000 0011

4 OFF  01000100010111010000 1100
4 ON    01000100010111010000 0011

5 OFF  01000100011101010000 1100
5 ON    01000100011101010000 0011
```

13.4. Conrad 034911 sockets

<http://www.conrad.nl/ce/nl/product/034911/Draadloze-schakelaarset-5-delig>

Use Lighting4 with a pulse timing of 425

Off = last 2 digits: 00

ON = last 2 digits: 01

```
Group  Unit
I      1 OFF  00 01 01 01 00 01 01 01 01 01 01 00
II     1 OFF  01 00 01 01 00 01 01 01 01 01 01 00
III    1 OFF  01 01 00 01 00 01 01 01 01 01 01 00
IV     1 OFF  01 01 01 00 00 01 01 01 01 01 01 00

I      1 OFF  00 01 01 01 00 01 01 01 01 01 01 00
I      2 OFF  00 01 01 01 01 00 01 01 01 01 01 00
I      3 OFF  00 01 01 01 01 01 01 00 01 01 01 00
I      4 OFF  00 01 01 01 01 01 01 01 00 01 01 00

I      1 OFF  00 01 01 01 00 01 01 01 01 01 01 00
I      1 ON   00 01 01 01 00 01 01 01 01 01 01 01
```

14. FAQ

14.1. Receive has stopped suddenly but transmit works.

Most probably a sensor is transmitting constantly. This could be for example an X10 MS13 motion sensor or weather sensor with almost empty battery. Or an outside weather sensor filled with water. Or a remote with a button pressed.

Test the RFXtrx with a remote or sensor on another location (> 1km away) using RFXmngn on a Windows system or laptop.

14.2. Can I increase the receive/transmit range of the RFXtrx?

First check chapter 2.5 for the best place for the RFXtrx antenna.

The switch board is not the best place for the RFXtrx because of all metal objects that will absorb or reflect the RF signals.

It is also advised to place the RFXtrx far away from PC's, routers, Raspberry PI ... because of the RF noise those products produce and this will reduce the receive range very much.

You can connect another 50ohm 70cm/433MHz antenna with more gain.

For example <http://www.ebay.com/itm/290979680030>

Install this antenna on a metal plate of at least 30 cm for optimum result.

14.3. The RFXtrx USB connection disconnects sometimes.

This happens mostly on Raspberry PI with a low quality power supply. Solution is to use a powered USB hub with a good quality power supply.

It can also happen if the USB cable is running along a power cable and a power device is switched on that produces a high power spike like TL. Solution is to separate the USB cable from all other cables and/or use a powered USB hub with a good quality power supply.

14.4. I have a 433.92MHz sensor/remote but this device is not received.

Besides the frequency the used protocol and modulation type is also important.

See chapter 2 for the list of supported devices.

14.5. The wall plug is switched by the remote. The remote is received but the RFXtrx does not switch the module.

The remote transmits several protocols. The protocol used by the wall plug is not received by the RFXtrx but some other protocols are received.

Solution:

For the HomeEasy EU- HE8xx series: reset the module to remove all paired remotes and pair the module with the RFXtrx433E and one of remote codes that is received.

For IT modules FA500/PROmax: Pair the RFXtrx433E with the module using an IT device and select a random ID. The received remote code can be used to know if the module is switched by the remote.

15. EC Declaration of Conformity

EC Declaration of Conformity

RFXCOM declares that the product:

RFXtrx

Brand: RFXCOM Type: RFXtrx433E

conforms with the essential requirements and other relevant provisions of the following directives and complies with the following standards applied:

| | |
|-------------------------|--|
| R&TTE Directive 99/5/EC | EN 300 220-1 V2.3.1 (2010-02) EN 300 220-2 V2.3.1 (2010-02) |
|-------------------------|--|

| | |
|----------------------------------|-----------------------|
| Low-voltage Directive 2006/95/EC | IEC 60950-1 (2005-12) |
|----------------------------------|-----------------------|

| | |
|---------------------------|--|
| EMC Directive 2004/108/EC | EN 301 489-1 V1.9.2 (2011-09) EN 301 489-3 V1.4.1 (2002-08) |
|---------------------------|--|

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19. Revision history

- Version 0.0 – August 18, 2011
Initial version.
- Version 1.0 – October 30, 2011
RFXflash under Mono added.
- Version 2.0 – December 30, 2011
Updated for the production version with FTDI USB chip
- Version 2.1 – January 18, 2012
Link for ACM to serial port added in Linux instruction.
EC Declaration of Conformity added
- Version 2.2 – February 8, 2012
Protocols overview added
Screen dumps updated
- Version 2.3 – February 16, 2012
Novatys planned
- Version 2.4 – February 25, 2012
General information updated
- Version 2.5 – March 1, 2012
Chapter added how to run RFXmngn or RFXflash on Linux.
- Version 2.6 – March 14, 2012
Code tables added
Cresta, UPM added
- Version 2.7 – March 15, 2012
Flash procedure updated
- Version 2.8 – March 31, 2012
Phenix table added
- Version 2.9 – March 31, 2012
AB400 and Phenix address extended
- Version 2.10 – April 16, 2012
Linux USB - tty configuration updated
- Version 2.11 – May 14, 2012
List of supported protocols updated.
- Version 2.12 – June 8, 2012
Chapter added how to run RFXmngn or RFXflash on Mac OS
- Version 2.13 – July 15, 2012
List of supported protocols updated
- Version 2.14 – August 4, 2012
List of enabled protocols influence added
RFXtrx315 added
- Version 2.15 – August 18, 2012
Enabled protocols table changed
- Version 2.16 – August 26, 2012
Rubicon stektermometer added
ATI Remote Wonder II added
- Version 2.17 – August 28, 2012
Table “sensitivity influenced” updated
- Version 2.18 – September 18, 2012
Chapter 2.3 updated: BlindsT0 disables all other protocols
- Version 2.19 – September 25, 2012
RFXFlash version required changed to 4.0.0.0
- Version 2.20 – September 28, 2012
RF range reduction guide added
- Version 2.21 – October 18, 2012
BlindsT2 and BlindsT3 added
- Version 2.22 – October 24, 2012
Sartano added
- Version 2.23 – October 31, 2012

Sensitivity table updated

Version 2.24 – November 7, 2012
Protocol table extended with the protocols to enable for receive

Version 2.25 – November 14, 2012
HE105 switch settings added

Version 2.26 – November 28, 2012
undec on explained

Version 2.27 – December 4, 2012
Use of Lighting4 commands for undec ARC
Brennenstuhl added

Version 2.28 – December 18, 2012
Receiver tab removed from RFXmngnr

Version 2.29 – December 27, 2012
Lighting4 receive added

Version 2.30 – January 1, 2013
Raex motor added

Version 3.00 – January 4, 2013
RFXtrx433 Type1/Type2 firmware added

Version 3.01 – February 4, 2013
Supported protocols list updated

Version 4.00 – February 21, 2013
Chapter 8 - Lighting4 screen updated for RFXmngnr 11.0.0.0
Known Lighting4 chapter added

Version 4.01 – March 13, 2013
Receive of LaCrosse sometimes influenced by enabled Hideki

Version 4.02 – June 8, 2013
MDREMOTE LED dimmer added
Conrad RSL2 added
Energenie added

Version 4.03 – September 27, 2013
How to find the MDREMOTE ID (chapter 7.6)
WS1200 added
Byron SX Chime added

Version 4.04 – November 15, 2013
Maverick ET-732 added
Alecto SA30 added
Oregon EW109 added
Revolt added

Version 4.05 – December 5, 2013
Blyss command explanation added.
Lighting4 - Mercury added
Lighting5 – dx.com RGB LED controller added

Version 4.06 – December 27, 2013
Chapter 2.2 updated

Version 4.07 – February 10, 2014
Chapter 7.8 added: how to find the dx.com RGB LED strip driver ID

Version 4.08 – March 20, 2014
ARC and Oregon3.0 updated in table 2.4.
Energenie 5-gang 429.950 added

Version 4.09 – April 4, 2014
BlindsT6 - DC106, YOODA, Röhrlmotor24 RMF added

Version 4.10 – April 7, 2014
BlindsT7 - Forest added

Version 4.11 – April 28, 2014
RGB LED – clarified AD is LightwaveRF

Version 4.12 – May 21, 2014
Kambrook RF3672 added
RFY protocol added

Somfy programming instructions added
Supported protocol list RFXtrx433 updated.
Protocol list by function added

Version 4.13 – May 31, 2014
Opus TX300/Imagintronix Soil sensor added

Version 4.14 – June 18, 2014
Prega sensor added
Conrad 34911 Lighting4 coding added

Version 4.15 – June 25, 2014
Kambrook, Rubicson, Viking supported in ext firmware
Number of RFY remotes increased from 16 to 30

Version 4.16 – June 29, 2014
RFXmngn cannot be used on Linux

Version 4.17 – July 3, 2014
CoCo GDR2 added

Version 4.18 – July 14, 2014
Opus TX300 link added

Version 4.19 – July 25, 2014
Aoke relay added

Version 4.20 – August 25, 2014
Enabling protocols clarified.

Version 4.21 – September 5, 2014
Meade sensors added
Oregon BTHGN129 sensor added

Version 4.22 – September 18, 2014
Eurodomest added (NL - Action)
Byron MP001 added
WT0122 added
Procedures added to find the Eurodomest and TRC02 ver2 ID

Version 4.23 – September 24, 2014
Proove TSS330 fridge/freezer sensor added

Version 4.24 – October 9, 2014
BlindsT0 added in ext firmware
Alecto WS1700 and compatibles added

Version 4.25 – December 13, 2014
Smartwares radiator valve added
Proove TSS320 sensor added

Version 4.26 – January 2, 2015
SelectPlus200689101 White Chime (Action NL) added

Version 4.27 – January 6, 2015
SelectPlus200689103 Black Chime (Action NL) added

Version 4.28 – January 7, 2015
Proove outdoor sensors 311346 & 311501 added
Etekcity Wireless Remote Control Outlet Switch (US)

Version 5.00 – January 10, 2015
Copyright message updated
License chapter added
RFXmngn information updated

Version 5.01 – February 27, 2015
Chapter 2.5 Lighting4 receive is reduced with HomeEasy EU enabled.
Chamberlain tubular motor added
Sunpery blind motors added
DEA Systems receivers added
Envivo ENV-1348 chime added
Alecto WS4500 added

Version 5.02 – March 18, 2015
 1byOne Easy Chime added
 BTX blind motors added
 Dolat DLM-1 blind motors added
 OTIO added

Version 5.03 – March 19, 2015
 TFA 30.3160 pool sensor added

Version 5.04 – April 14, 2015
 Chapter 4 updated with restrictions on Lighting4
 Siemens SF01 LF959RA50/LF259RB50/LF959RB50 extractor hood added
 Maplin N78KA added

Version 5.05 – May 2, 2015
 Dooya blind motors added
 Louvolite one touch motorised blinds added
 Alecto WS3500 added

Version 5.06 – May 4, 2015
 Current dx.com TRC02 LED drivers have a different protocol and are not supported.

Version 5.07 – June 1, 2015
 WH2 temperature humidity sensor added
 RGB LED controller <http://www.ebay.com/itm/191481664563> (maybe dx.com 227892)

Version 5.08 – July 31, 2015
 Oregon MSR939 added
 ESMO blind motors added
 Brel blind motors added
 Blinds T6 type motors now also supported in Ext firmware
 Supported devices table 2.2.2. updated

Version 5.09 – Aug 12, 2015
 Luxaflex blind motors added

Version 5.10 – Aug 17, 2015
 JVS screen motors added
 Livolo NL link added

Version 5.11 – Aug 31, 2015
 ASA motors added

Version 5.12– Sept 14, 2015
 Home Confort added

Version 5.13– Oct 2, 2015
 Oregon GR101 received in Type1 firmware
 Conrad RSL sensors received in Type2 firmware

Version 5.14– Oct 7, 2015
 Quotidom blinds motor added

Version 5.15– Nov 06, 2015
 Banggood temp-hum sensor added
 Legrand CAD radio added

Version 5.16– Nov 26, 2015
 Proluxx codes corrected

Version 5.17– Dec 24, 2015
 RFXflash procedure updated
 Rubicson pool sensor 48.019 added
 Inovalley SM80 plant sensor added
 Lucci Air fan added

Version 5.18– Jan 1, 2016
 1byone Drive Way alarm added

Version 5.19– Feb 6, 2016
 Avantek added
 ASP blinds motors BlindsT11 added
 Maverick ET-733 added
 Profiles PAC-326R Belcanto chime added
 HQ COCO-20 added

Version 5.20– Feb 18, 2016
BlindsT12 Confexx CNF24-2435 added
IT FA500, PROmax... added
Ext2 fimware overview added in chapter 2
Auriol Z31055B-TX added
Chuango, Eminent security sensors added

Version 5.21– May 6, 2016
Cartelectronic TIC and Encoder added
FAQ chapter added

Version 5.22– May 14, 2016
Corrected: TX95 is using the Rubicson protocol
MDRemote V108 added

Version 5.23– June 10, 2016
Motolux blinds motor added
Auriol H13726, Hama EWS1500, Meteoscan W155/W160, Ventus WS155 added
FAQ updated

Version 5.24– June 21, 2016
Seav TXS4 added

Version 5.25– Aug 6, 2016
ORNO added

Version 5.26– Sept 6, 2016
Added: How to find the SEAV TXS4 ID

Version 5.27– Oct 09, 2016
Westinghouse fan 7226640 added
THN129 added
TFA 30.3056 pool sensor added